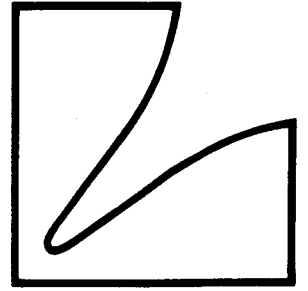
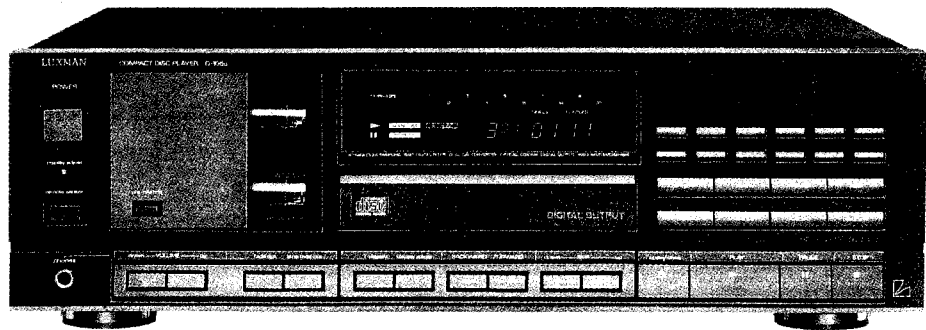


SERVICE MANUAL



Compact Disc Player

D-105U



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Note : ● : For Japanese model only (JA)
▲ : For General Foreign model only (EK)
Others : Common

◆ : For American model only (UZ)
■ : For West German model only (AD)
◇ : For Canadian model only (UQ)
□ : For England model only (AG)

Specifications

CD SECTION

Systems	Optical (Compact Disc System)
Quantizing Bit Number	16 Bit Linear System
Channels	2 Channels, Stereo
Pick-up	Semiconductor Laser Pick-up
Output Voltage	2.1V \pm 1dB
Frequency Response	5~20kHz \pm 1.6dB
T.H.D (1KHz)	0.12%
S/N Ratio	96dB
Dynamic Range	87dB
Separation (1KHz)	82dB
Head-phone Output Voltage (1kHz, 10dB/8ohm)	130mV \pm 1dB
Power Supply	AC100V, 50/60Hz (JA Model Only) AC120/220/240V, 50Hz (EK/AD/AG Model Only) AC120V, 60Hz (UZ/UQ Model Only)
Power Consumption	25W
Semiconductors	25IC's, 26 Transistors, 40 Diodes, 2 Zener Diodes, 2 Vacume Tubes (AD/UZ/AG/UQ Model Only) 25IC's, 26 Transistors, 39 Diodes, 2 Zener Diodes, 2 Vacume Tubes (JA/EK Model Only)
Dimension (W \times H \times D)	438 \times 147 \times 342mm
Weight	8.5kg

COMPACT DISC

Track Pitch	1.6 μ m
Modulation Frequency	44.1MHz
Transfer Rate	4.3218MBit/sec
Dimension	120 \times 1.2mm

Parts Locations and Disassembly Instructions

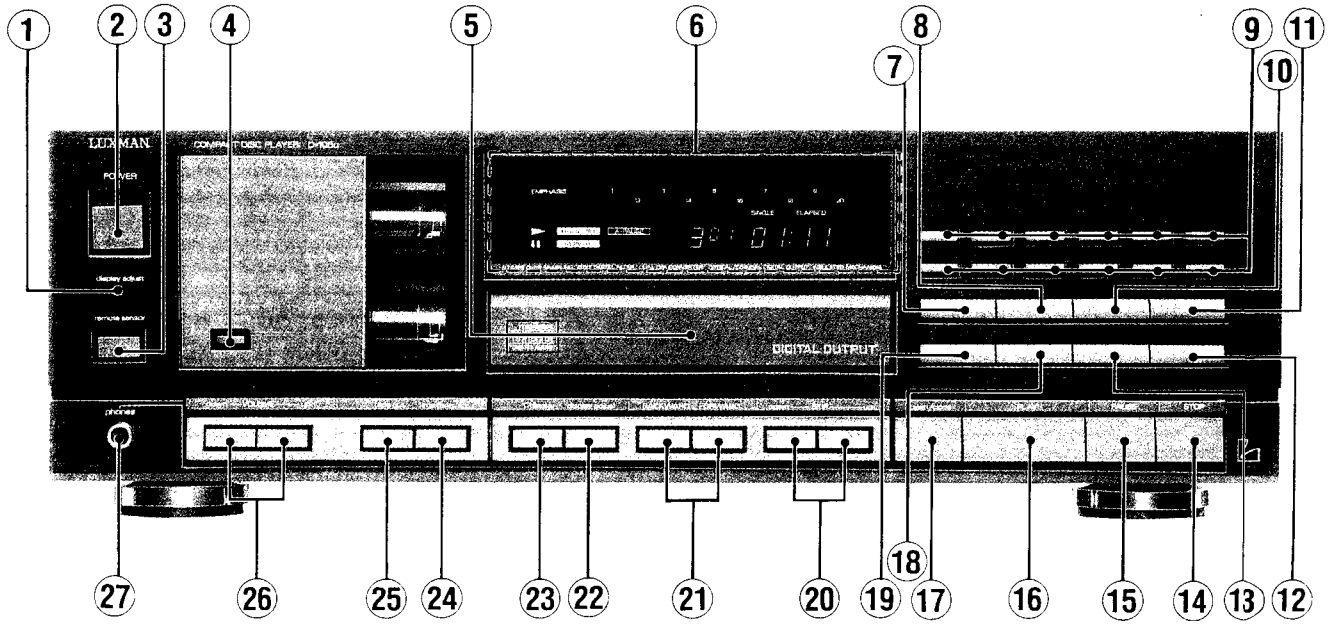


Figure 1 < 1 ☒ >

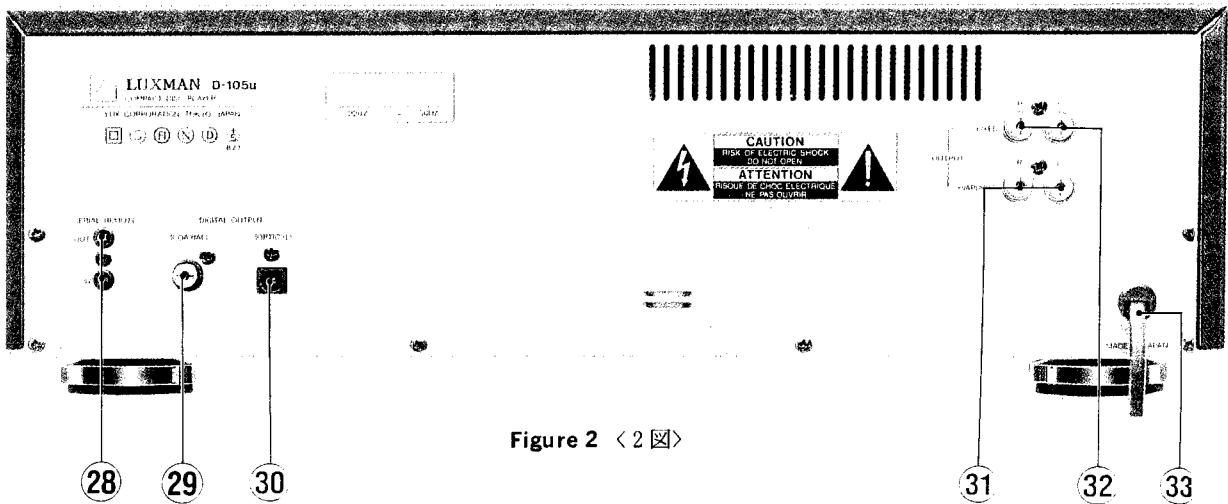
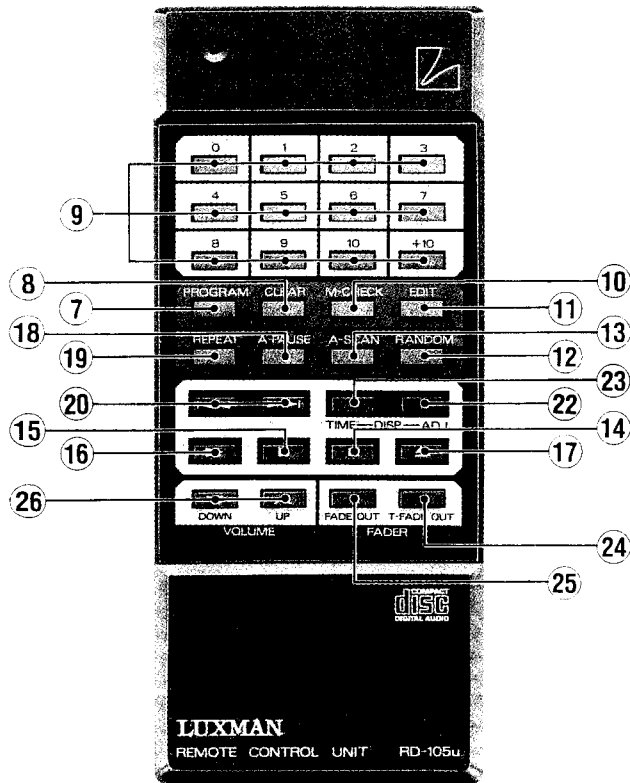


Figure 2 < 2 ☒ >



- ① "display adjust" indicator
- ② POWER button
- ③ "remote sensor"
- ④ "pre-heating" button
- ⑤ Disc tray
- ⑥ Display
- ⑦ "program" button
- ⑧ "clear" button
- ⑨ Number buttons (0 to 10 and +10)
- ⑩ "M-Check" (memory check button)
- ⑪ "edit" button
- ⑫ "random" button
- ⑬ "A-Scan" (auto scan) button
- ⑭ STOP button (■)
- ⑮ PAUSE button (II)
- ⑯ PLAY button (▶)
- ⑰ "open/close" button
- ⑱ "A-pause" (auto pause) button
- ⑲ "repeat" button
- ⑳ SKIPUP/SKIP DOWN buttons (▶▶/◀◀)
- ㉑ FORWARD/BACKWARD buttons (▶▶/◀◀)
- ㉒ DISPLAY ADJUST button
- ㉓ "T-display" button
- ㉔ TIME FADE-OUT button
- ㉕ FADE-OUT button
- ㉖ VOLUME "up/down" buttons (▲ ▼)
- ㉗ "phones" jack
- ㉘ SERIAL REMOTE IN/OUT jacks
- ㉙ DIGITAL OUTPUT (COAX.) jack
- ㉚ DIGITAL OUTPUT (OPT.) jack
- ㉛ VARIABLE OUTPUT R/L jack
- ㉜ FIXED OUTPUT R/L jack
- ㉝ Power cord

Figure 3 < 3 ㉛ >

<Cabinet of Section>

1. Removal of Top Cover

- (1) Remove ten screws marked "●" as shown Figure 4.
- (2) Pull out the top cover in the direction of the arrow as shown in Figure 4.

1. 上蓋の外し方

- (1) 10本のネジ"●"を外します。(4図参照)
- (2) 上蓋を矢印の方向に引き上げて外します。(4図参照)

2. Removal of the Front Panel

- (1) After removing the Top Cover, open the Disk Tray and pull the Tray Panel in the direction as shown in Figure 5.
- (2) Remove the Power switch knob as shown in Figure 5.
- (3) Remove the solder (A) as shown in Figure 6.
Note: Be careful not to damage the parallel wires (29P) when removing the solder (A).
- (4) Remove the three screws marked "○" as shown in Figure 7.
- (5) Remove the hook (A) located in the two places as shown in Figure 6.
- (6) Disconnect all wires connected to the following P.C. Boards: FL/Keyboard P.C. Board, Tube P.C. Board (1)/(2), Remote P.C. Board, Pre-Heat SW. P.C. Board, Head-Phone Jack P.C. Board.
- (7) The Front Panel can now be removed with the following P.C. Boards in place: FL/Keyboard P.C. Board, Tube P.C. Board (1)/(2), Remote P.C. Board, Pre-Heat SW. P.C. Board, Head-Phone Jack P.C. Board, Fade P.C. Board.

2. フロントパネルの外し方

- (1) 上蓋を外した後、ディスクトレイをオープンし、トレイパネルを矢印の方向に外します。(5図参照)
- (2) パワースイッチつまみを外します。(5図参照)
- (3) 半田(A)を外します。(6図参照)
注) 半田(A)を外す際、平行ルワイヤー (29P) が損傷しやすいので十分注意して下さい。
- (4) 3本のネジ (○印) を外します。(7図参照)
- (5) 2箇所のフック(A)を外します。(6図参照)
- (6) FL/Key Board 基板・Tube 基板(1)/(2)・Remote 基板・Pre-Heat SW 基板・Head-Phone Jack 基板以上の基板からつながる全てのワイヤーを外します。
- (7) 以上でフロントパネルはFL/Key Board 基板 Tube 基板(1)/(2)・Remote 基板・Pre-Heat SW 基板・Head-Phone Jack 基板・Fade 基板の各基板が付いた状態で外すことができます。

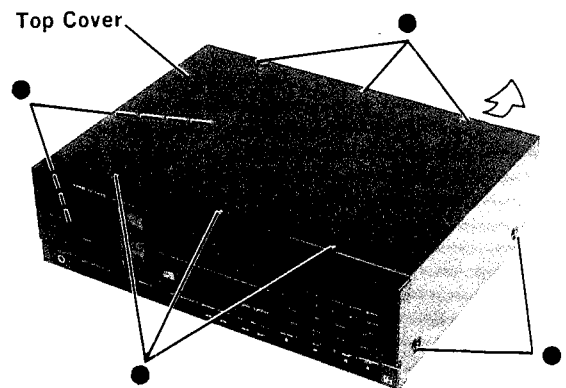


Figure 4 <4図>

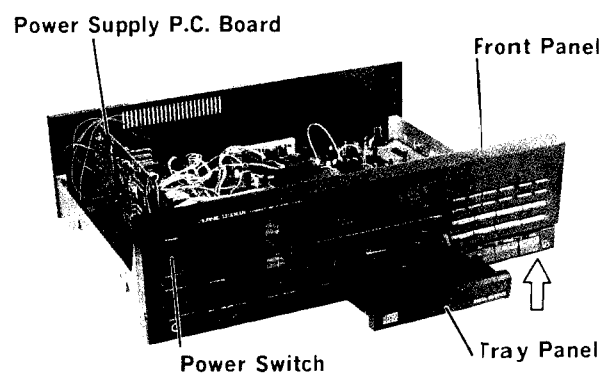


Figure 5 <5図>

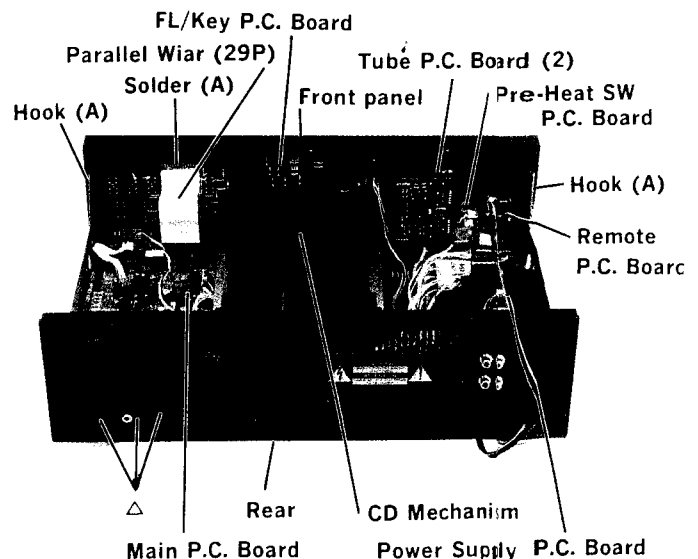


Figure 6 <6図>

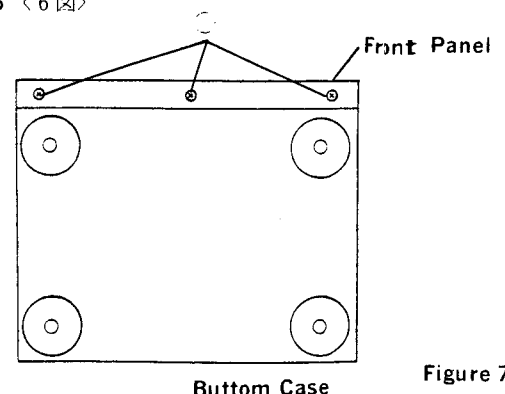


Figure 7 <7図>

3. Removal of the CD mechanism

- (1) After removing the Front Panel remove the five screws marked "X" as shown in Figure 8.
- (2) Disconnect all wires connected to the CD mechanism.
- (3) the CD mechanism can now be removed.

3. CDメカニズムの外し方

- (1) フロントパネルを外した後、5本のネジ(X印)を外します。(8図参照)
- (2) CDメカニズムにつながる全てのワイヤーを外します。
- (3) 以上でCDメカニズムは外れます。

4. Removal of the Main P.C. Board

- (1) After removing the Top Cover, remove the seven screws marked "△" as shown in Figures 6 and 8.
- (2) Hold down on "A" (see Fig. 9) and remove P.C. Board support (C) as shown in Figure 8.
- (3) Disconnect all wires connected to the Main P.C. Board.
- (4) The Main P.C. Board can now be removed.

4. MAIN 基板の外し方

- (1) 上蓋を外した後、7本のネジ(△印)を外します。(6, 8図参照)
- (2) A部を押しながら(9図参照)基板サポート(C)を外します。(8図参照)
- (3) MAIN基板につながる全てのワイヤーを外します。
- (4) 以上でMAIN基板は外れます。

5. Removal of the FL/Keyboard P.C. Board

- (1) After removing the Front Panel, remove the two screws marked "☆" as in Figure 10.
- (2) Remove the hook (D) in the fifteen places as shown in Figure 10.
- (3) Disconnect the 6P connector connected to the Fade P.C. Board.
- (4) The FL/Keyboard P.C. Board can now be removed.

5. FL/Keyboard 基板の外し方

- (1) フロントパネルを外した後2本のネジ(☆印)を外します。(10図参照)
- (2) 15箇所のフック(D)を外します。(10図参照)
- (3) Fade基板につながる1つのコネクタ(6P)を外します。
- (4) 以上でFL/Keyboard基板は外れます。

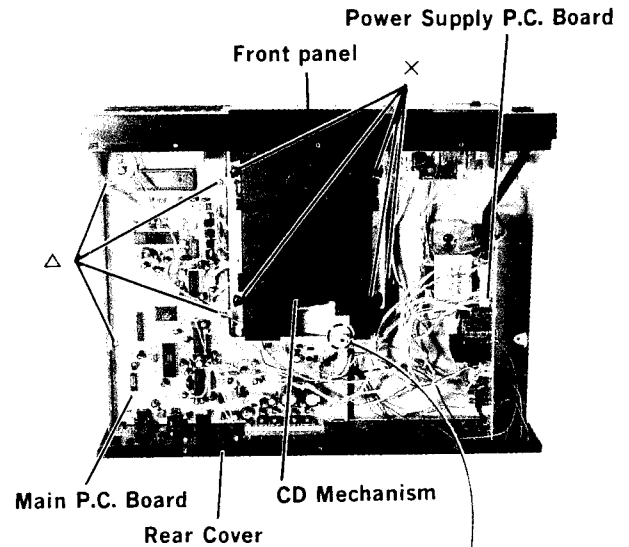


Figure 8 <8図>

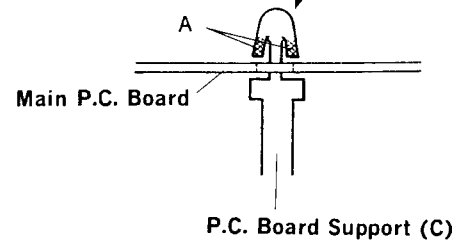


Figure 9 <9図>

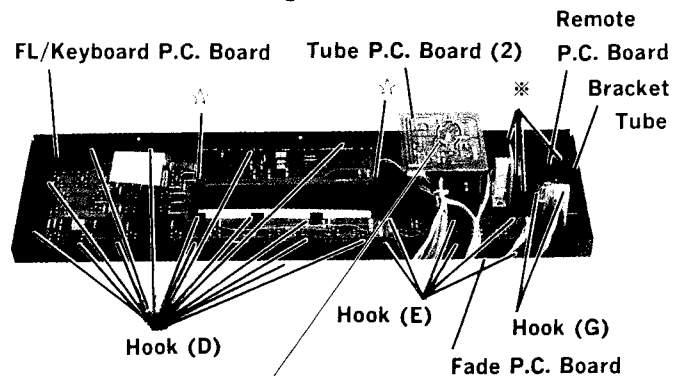


Figure 10 <10図>

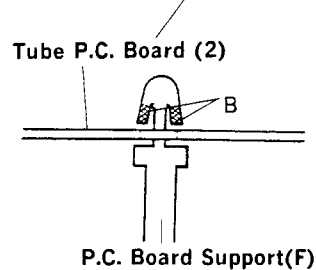


Figure 11 <11図>

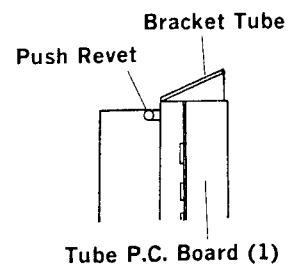


Figure 12 <12図>

6. Removal of the Fade P.C. Board

- (1) After removing the Front Panel, remove the hook (E) in the six places as shown in Figure 10.
- (2) Disconnect the 6P connector connected to the FL/Keyboard P.C. Board.
- (3) The Fade P.C. Board can now be removed.

6. Fade 基板の外し方

- (1) フロントパネルを外した後、6箇所のフック(E)を外します。(10図参照)
- (2) FL/Keyboard 基板につながる1つのコネクタ(6P)を外します。
- (3) 以上で Fade 基板は外れます。

7. Removal of the Tube P.C. Board (2)

- (1) After removing the Front Panel, hold down on "B" (see Fig. 11) and remove the P.C. Board support (F) as shown in Figure 10.
- (2) Disconnect the two 6P connectors connected to the Tube P.C. Board (2).
- (3) The Tube P.C. Board (2) can now be removed.

7. Tube 基板(2)の外し方

- (1) フロントパネルを外した後、B部分を押しながら(11図参照) 基板サポート(F)を外します。(10図参照)
- (2) Tube 基板(1)につながる2つのコネクタ(それぞれ6P)を引き抜きます。
- (3) 以上で Tube 基板(2)は外れます。

8. Removal of the Tube P.C. Board (1)

- (1) After removing the Front Panel and Tube P.C. Board (2), remove the four screws marked "*" and the Tube retainer as shown in Figure 10.
- (2) Remove the Push rivet shown in Figure 12.
- (3) The Tube P.C. Board (1) can now be removed.

8. Tube 基板(1)の外し方

- (1) フロントパネルと Tube 基板(2)を外した後、4本のネジ(※印)を外し、チューブ取付金具を外します。(10図参照)
- (2) 1個のプッシュリベットを外します。(12図参照)
- (3) 以上で Tube 基板(1)は外れます。

9. Removal of the Remote P.C. Board

- (1) After removing the Tube retainer, remove the hook (G) in the two places as shown in Figure 10.
- (2) The Remote P.C. Board can now be removed.

9. Remote 基板の外し方

- (1) チューブ取付金具を外した後、2箇所のフック(G)を外します。(10図参照)
- (2) 以上で Remote 基板は外れます。

<CD Mechanism Section>

1. Removal of Disc Tray

- (1) Pull out the disc tray in the arrow direction by pressing slant position of the disc tray as shown in Figures 13 and 14.
- (2) After disengaging one claw (A), remove the switch arm as shown in Figure 15.
- (3) Spread two claws (B) toward outside at the both sides of the disc tray and draw out the disc tray as shown in Figure 14.

1. ディスクトレイの外し方

- (1) ディスクトレイの斜線部分を押し、ディスクトレイを矢印方向に引き出す。(13, 14図参照)
- (2) 爪(A)を外し、スイッチアームを外します。(15図参照)
- (3) ディスクトレイ両サイドの爪(B)を両外側に押し広げてディスクトレイを引き抜きます。(14図参照)

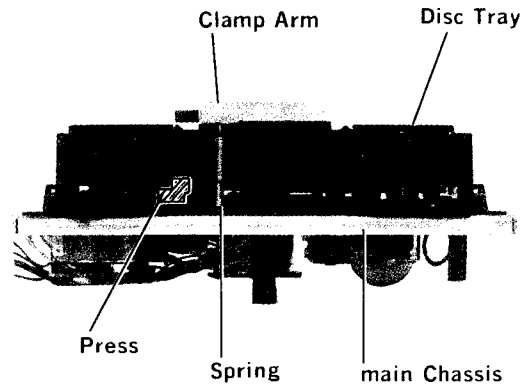


Figure 13 <13図>

2. Removal of Clamp Arm

- (1) Remove one spring between the main chassis and the clamp arm as shown in Figure 13.
- (2) After pulling out the disc tray frontward, remove the clamp arm by pressing one claw (C) as shown in Figure 14.

2. クランプアームの外し方

- (1) メインシャーシとクランプアームとを止めているバネを外します。(13図参照)
- (2) ディスクトレイを前面に引き出した後爪(C)を押しながらクランプアームを外します。(14図参照)

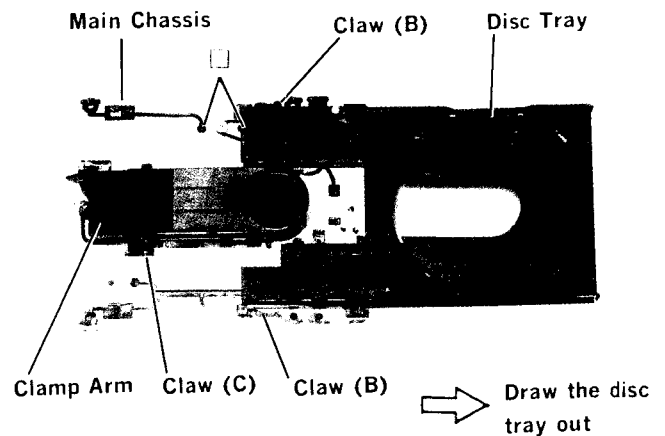


Figure 14 <14図>

3. Removal of Optical Pick-up Arm

- (1) After removing three screws marked "○", remove the sub-chassis as shown in Figure 15.

Note: When three screws are removed, three springs (one is black) appear under the damper bush. When assembling the sub-chassis put the black spring into the place marked "☆".

- (2) While pressing two claws (D) in toward pull out two shafts in the arrow direction as shown in Figure 17.

3. 光学系ピックアップの外し方

- (1) 3本のネジ(○印)を外し、サブシャーシを外します。

注意) 3本のネジを外すとそれぞれのダンパーブッシュの下に3本のバネ(内1本が黒色)があります。サブシャーシ取り付け時には、黒色バネを"☆"色の部分に入れて取り付けて下さい。

(15図参照)

- (2) 2ヶ所の爪(D)を両方共に内側に押しながら、2本のシャフトを矢印の方向に引き抜きます。(17図参照)

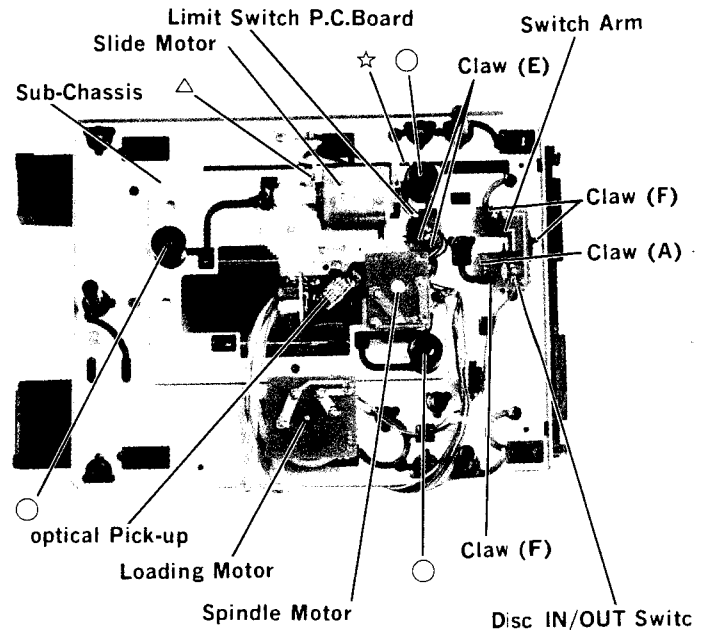


Figure 15 <15図>

4. Removal of Spindle Motor

- (1) By grasping plastic part, lift the disc table straight up without applying pressure to metal part.

Note: For assembling the disc table, insert the disc table with pressure so that the height from the disc table top to the sub-chassis surface becomes $19.9 \pm 0.1\text{mm}$ as shown in Figure 18.

- (2) Remove two screws marked "×" as shown in Figure 17.

4. スピンドルモーターの外し方

- (1) ディスクテーブルを金属部分に負荷をかけないで樹脂の部分をつかみまっすぐ上に引き抜きます。

注意) ディスクテーブルの組立時、サブシャーシ上面からディスクテーブルの上面までの高さ $19.9 \pm 0.1\text{mm}$ の位置に圧入して下さい。(18図参照)

- (2) 2本のネジ(×印)を外します。(17図参照)

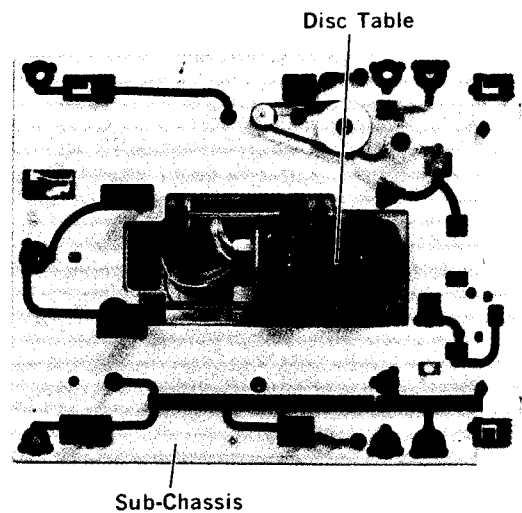


Figure 16 <16図>

5. Removal of Slide Motor

- (1) Remove one screw marked "△" and lift up the motor as shown in Figure 15.

5. スライドモーターの外し方

- (1) 1本のネジ(△印)を外し、上に持ち上げます。(15図参照)

6. Removal of Loading Motor

- (1) Remove one belt and two screws marked "□" as shown in Figure 14.

6. ローディングモーターの外し方

- (1) ベルトを外し、2本のネジ(□印)を外します。(14図参照)

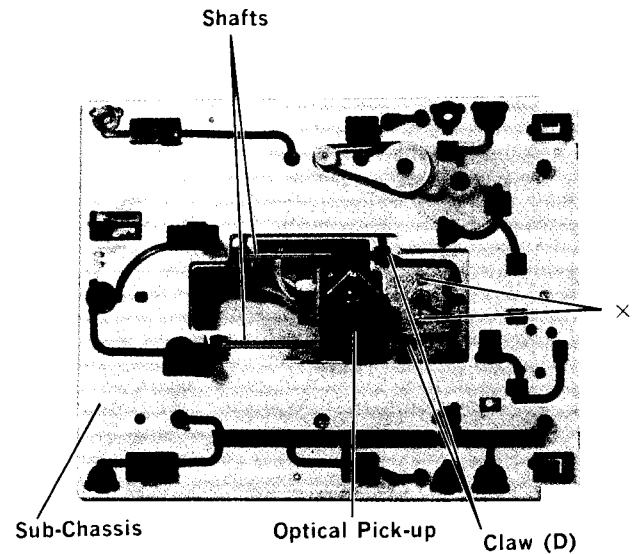


Figure 17 <17図>

7. Removal of Limit Switch P.C. Board

- (1) Remove two claws marked "E" as shown in Figure 15.

7. リミットスイッチ基板の外し方

- (1) 2ヶ所の爪(E)を外します。(15図参照)

8. Removal of Disc IN/OUT Switch P.C.Board

- (1) Remove three claws marked "F" as shown in Figure 15.

8. ディスク IN/OUT スイッチ基板の外し方

- (1) 3ヶ所の爪(F)を外します。(15図参照)

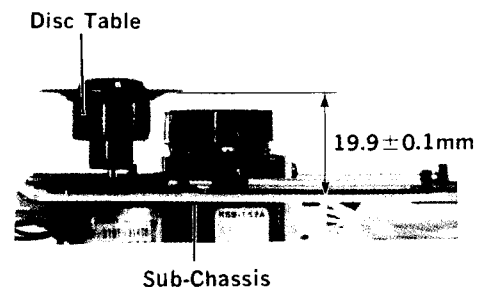


Figure 18 <18図>

〈Service Notes〉

1. Notes on Laser Diode Emission and Focus Search Operation Check

(1) Caution when checking Laser Diode emission.

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

(2) Check of the Laser Diode And Focus Search Operation

With no disc loaded and the disc tray closed, when switching the power on, check that the operation as shown in the below Figure 19 is performed, by observing the objective lens.

- ①Optical pick-up moves in outer-circle and inner-circle directions.
- ②Laser beam emits spreadingly.
- ③The objective lens perform up-and-down three times.

1. レーザーダイオードおよびフォーカスサーチ動作の確認

(1) レーザーダイオードの発光確認時の注意

本機のレーザー光は、光学系ピックアップ内の対物レンズによってディスクの反射面上に焦点を結ぶように集光されています。したがって、レーザーダイオードの発光を確認する時は、対物レンズより30cm以上目を離して下さい。

(2) レーザーダイオードおよびフォーカスサーチ動作のチェック方法

ディスクを入れないでディスクトレイが閉じた状態から、POWERスイッチをONさせた時、対物レンズおよび光学系ピックアップを見て、下記の様な動作が行なわれるか確認する。(19図参照)

- ①光学系ピックアップが外周方向に動き、また内周方向に動く。
- ②レーザー光の拡散した、赤い色が見える。
- ③対物レンズの上下運動。(3回)

Remove the Clamp Arm

(See Disassembly Instruction of Clamp Arm)

クランプアームを取り除く

(クランプアームの分解方法の項参照)

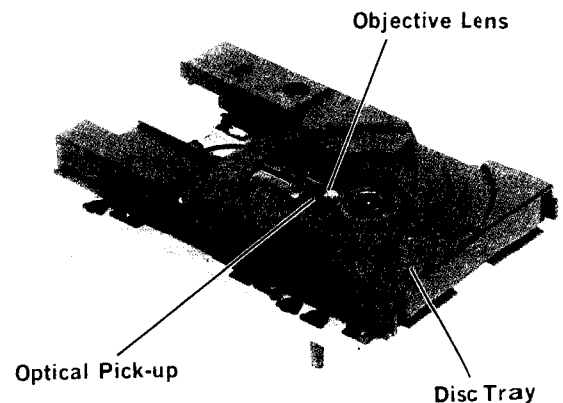


Figure 19 <19図>

2. Caution For Electrostatic Breakdown [Notes on Handling The Base Unit (KSS-152A)]

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc., on clothing and the human body.

The following notes are examples for reference purposes :

- ① Perform repair with ground ring on the hands and a conductive gum mat.
- ② Grasp the slide base when handling.
- ③ When removing the pick-up arm shortcircuit by soldering as shown in the Figure 20 below and then remove the connector.
- ④ When mounting the pick-up arm, after inserting the connector, remove the soldered short-circuiting.

Notes: For making and removing the short-circuit, be sure to use an iron with its metal part grounded or its insulation resistance is higher than 10M ohms (DC 500V), and the tip temperature is lower than 320°C. The soldering and desoldering should be made quickly.

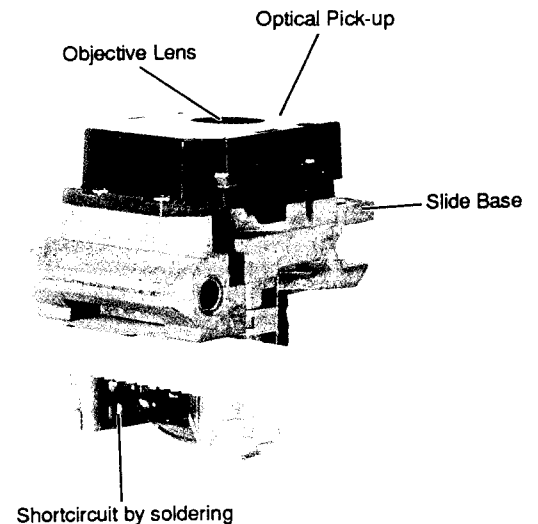


Figure 20 <20図>

2. 静電破壊についての注意

[KSS-152A (光学系ピックアップ) 取扱時の注意]

光学系ピックアップ内のレーザーダイオードは、衣服や人体に帯電した静電荷等で電位差を生じることにより、静電破壊することがあります。静電破壊に対するの注意として下記のことに十分注意して取扱ってください。

- ① 取扱い時には、人体アースおよびアースマットを用いて接地してから作業を行ってください。
- ② 取扱いは、スライドベースを持って行って下さい。
- ③ 取りはずす時、20図のように半田ショートさせてから、コネクタを外して下さい。
- ④ 取付け時、コネクタを差し込んだ後、半田ショートの部分を開放して下さい。

注意) 半田ショートおよび開放時には、金属部分を接地させた半田ゴテか、もしくは通電5分後の絶縁抵抗が10MΩ以上(DC500V)のもので、コテ先温度が320°C以下の半田ゴテを使用してすみやかに行って下さい。

Adjustment Procedures

1. Compact Disc Section

(1) Connections

(1) 接続図

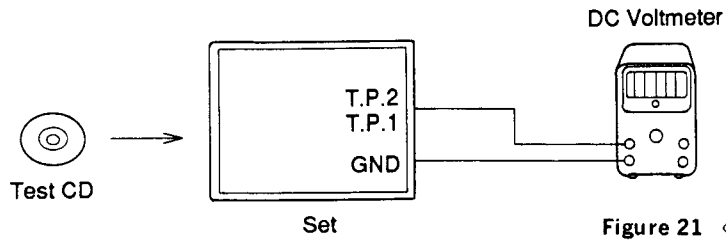


Figure 21 <21図>

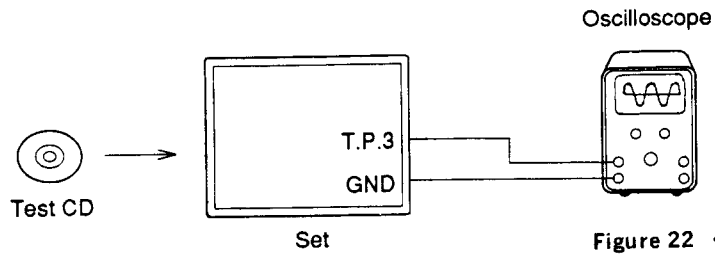


Figure 22 <22図>

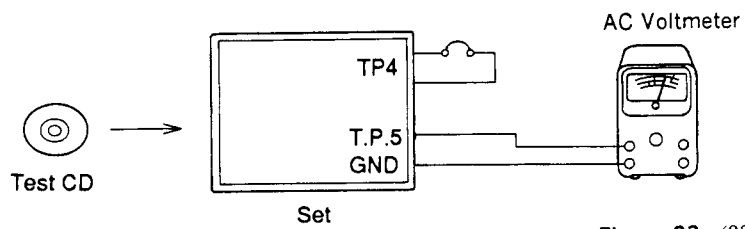


Figure 23 <23図>

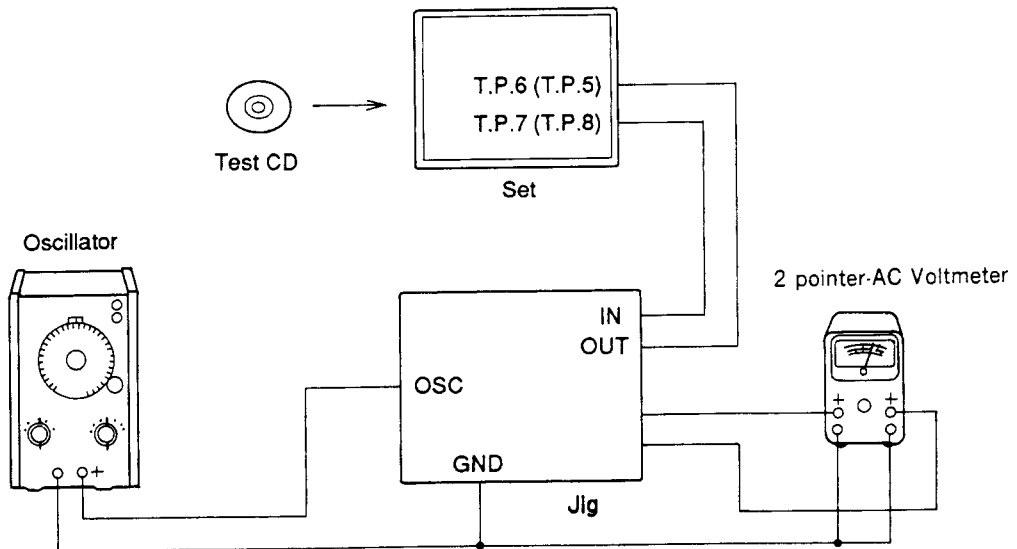


Figure 24 <24図>

(2) Control Settings

Power SwitchON
 Play SwitchON
 OthersOFF

(3) Test CD

Use the 2nd trak on the SONY YEDS-18 CD
 or A-BEX TCD-782 CD.

(4) Adjustment Procedures

Step	Description	Connections	Oscillator	Test Point	Adjustment
1	VCO Adjstment	Figure 21	—	T.P.1 T.P.2	Take measurement of the voltage at the T.P.1. Then adjsut VR202 so that the output voltage at the T.P.2 becomes 1/2 of the voltage at the T.P.1.
2	Focus Bias Adjustment	Figure 22	—	T.P.3	Adjust VR201 so that the waveform of output at the T.P.3 becomes maximum as shown on Fig. 25.
3	Tracking Error Balance Adjustment	Figure 23	—	T.P.4 T.P.5 T.P.6	After shortcircuiting between T.P.4 and T.P.5 and turning VR204 fully counter-clockwise, adjsut VR203 so that the voltage is $0V \pm 50mV$. After the adjustment set VR204 to its center position.
4	Tracking Gain Adjustment	Figure 24	1kHz 100mV	T.P.6 T.P.7	Adjust VR204 so that both arms of the voltmeter come at the same position.
5	Focus Gain Adjustment	Figure 24	1kHz 100mV	T.P.8 T.P.9	Adjust VR205 so that both arms of the voltmeter come at the same position.

(2) スイッチ類のセット位置

電源スイッチON
 プレイスイッチON
 その他のスイッチOFF

(3) 使用テスト CD

SONY YEDS-18 (2曲目) 又は, A-BEX TCD-782 (2曲目)。

(4) 調整方法

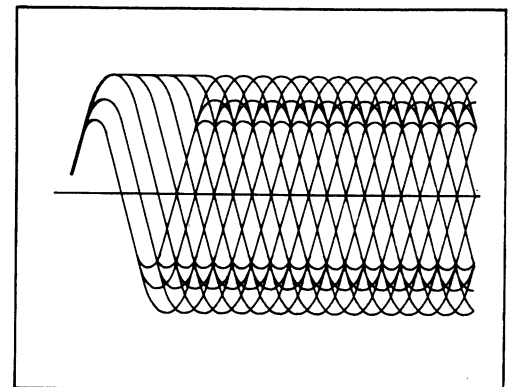


Figure 25 <25図>

順序	調整項目	接続図	オシレーター	テストポイント	調整方法
1	VCO 調整	21図	—	T.P.1 T.P.2	T.P.1の電圧を測定します。次に T.P.2の出力電圧が T.P.1の電圧の1/2になる様に VR202で調整します。
2	フォーカス バイアス調整	22図	—	T.P.3	T.P.3の出力が波形が25図の様に最大になる様に VR201で調整します。
3	トラッキングエラー バランス調整	23図	—	T.P.4 T.P.5 T.P.6	T.P.4, T.P.5の間をショートして VR204を反時計方向にしほりきり, T.P.6の出力電圧が $0V \pm 50mV$ になる様に VR203で調整します。 調整後, VR204を中央付近にもどす事。
4	トラッキング ゲイン調整	24図	1kHz 100mV	T.P.6 T.P.7	2針 AC 電圧計の針が重なる様に VR204で調整します。
5	フォーカス ゲイン調整	24図	1kHz 100mV	T.P.8 T.P.9	2針 AC 電圧計の針が重なる様に VR205で調整します。

Adjustment Location

Main P.C. Board (Component Side) AD/UZ/AG/UQ model

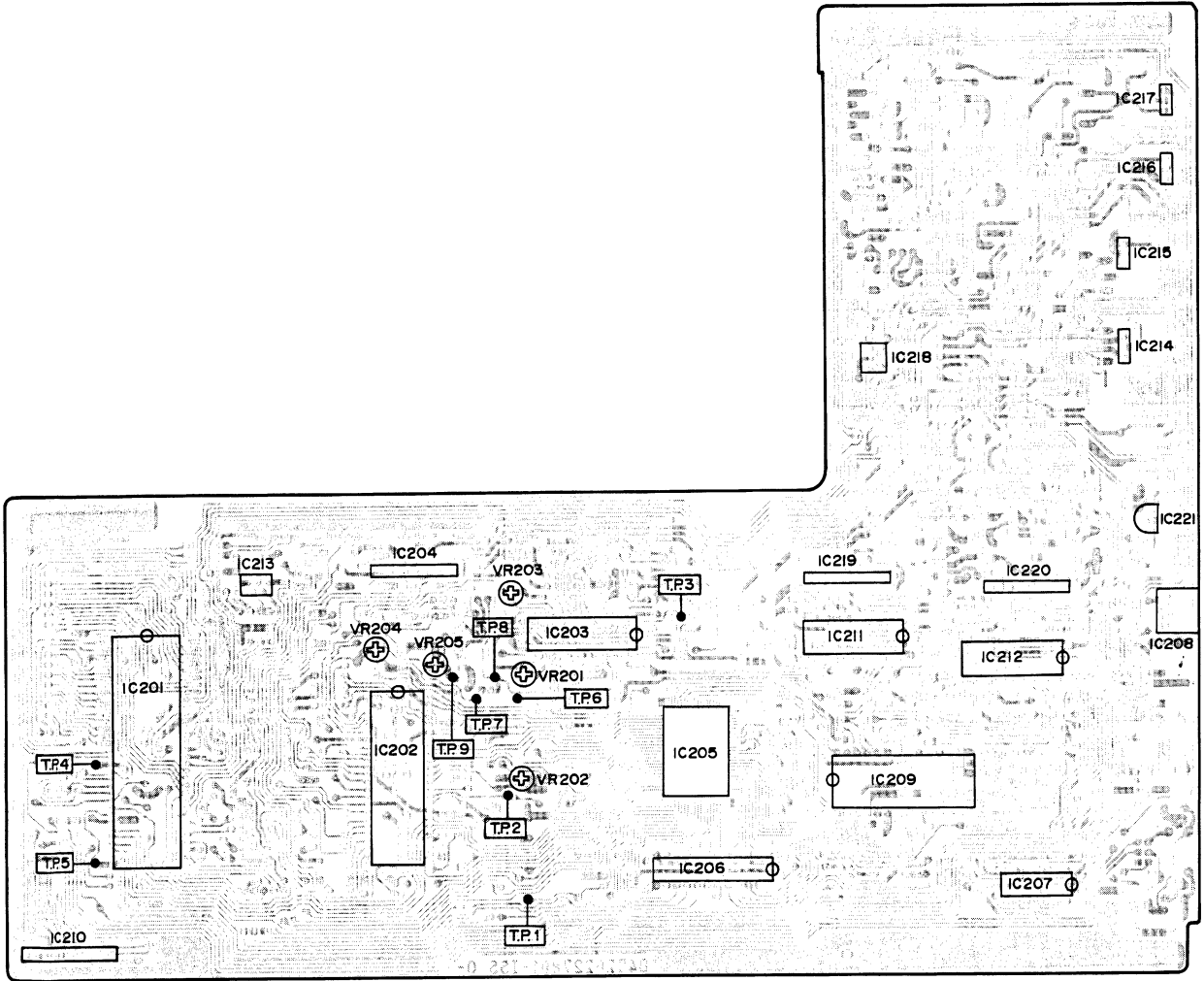


Figure 26 <26図>

Main P.C. Board (Component Side) JA/EK model

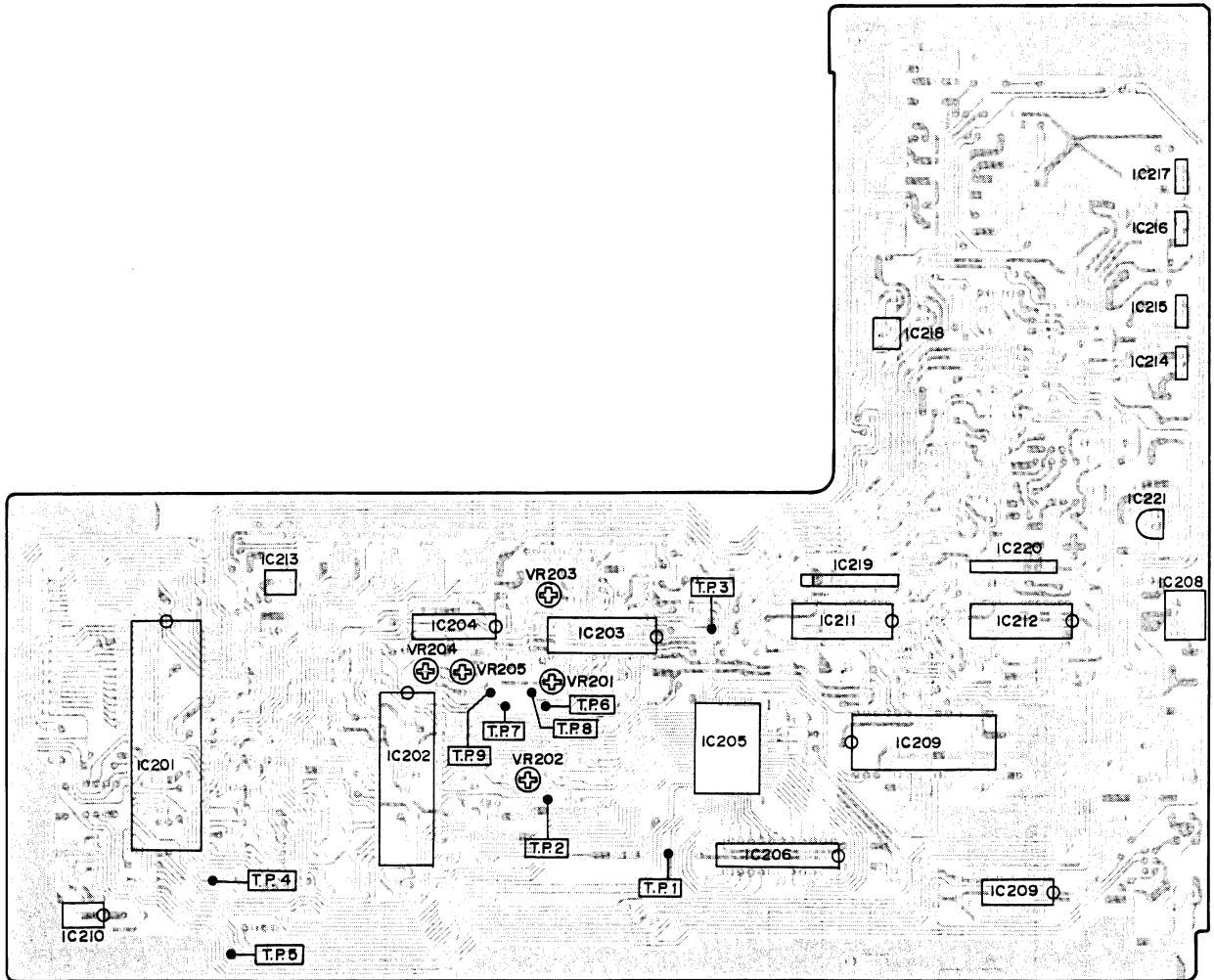
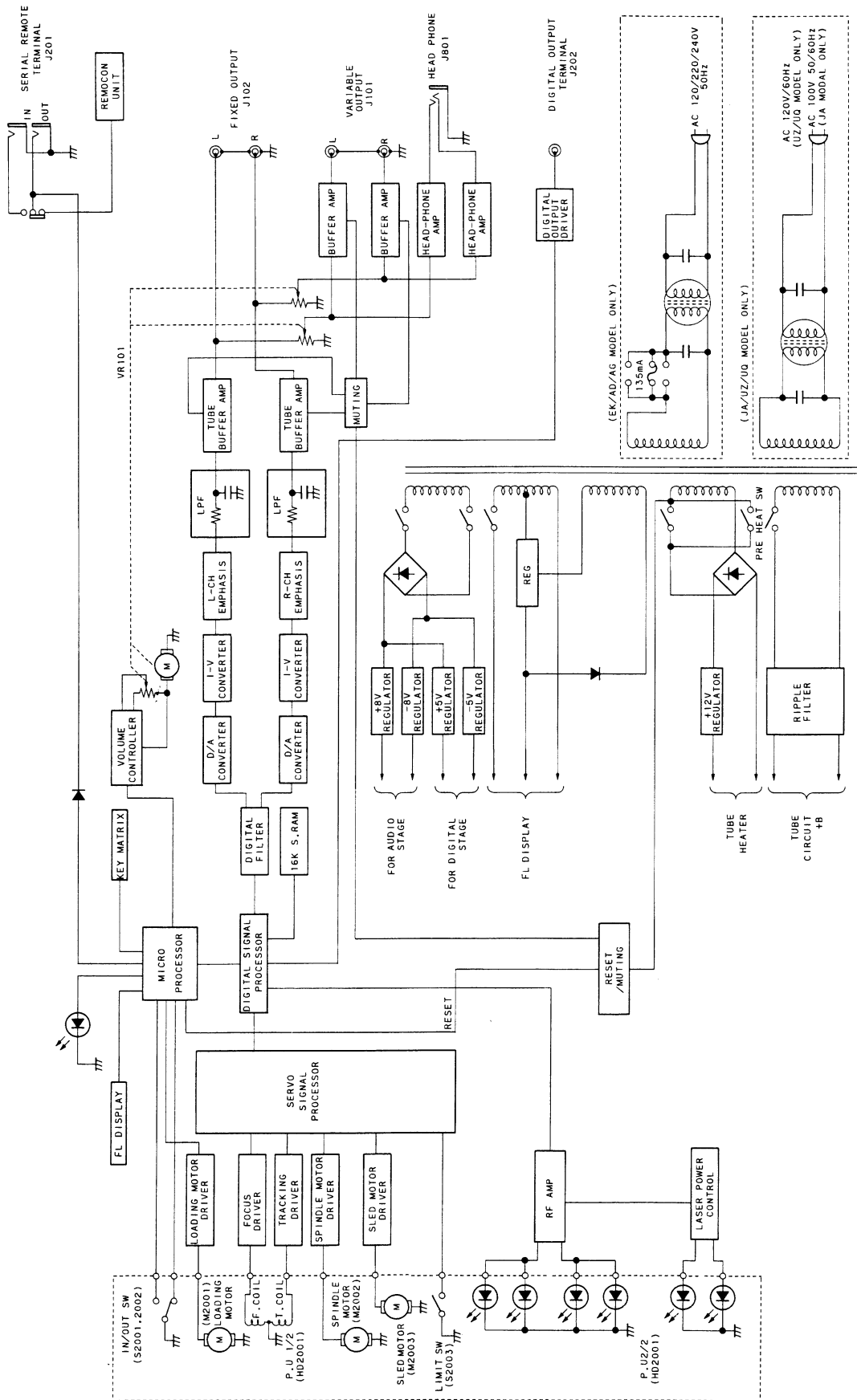


Figure 27 <27図>

Block Diagram



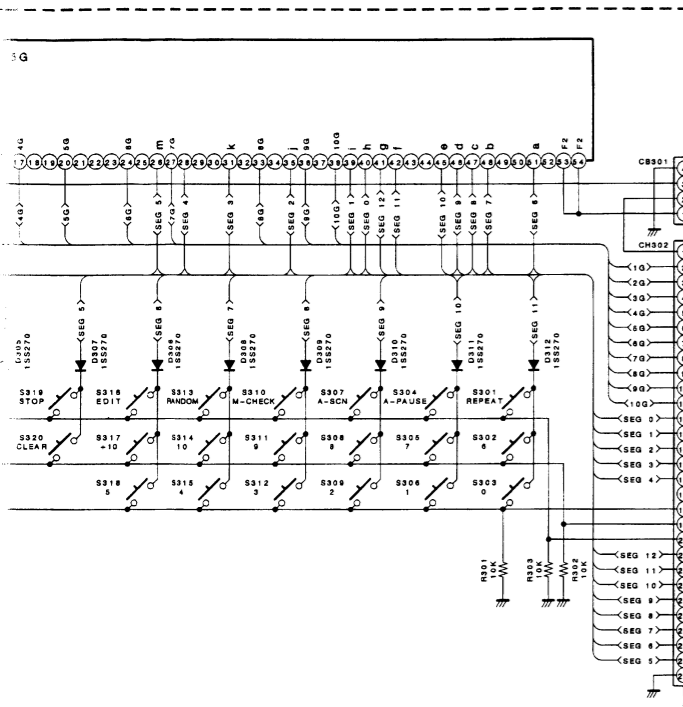
IC105

IC102
IC101

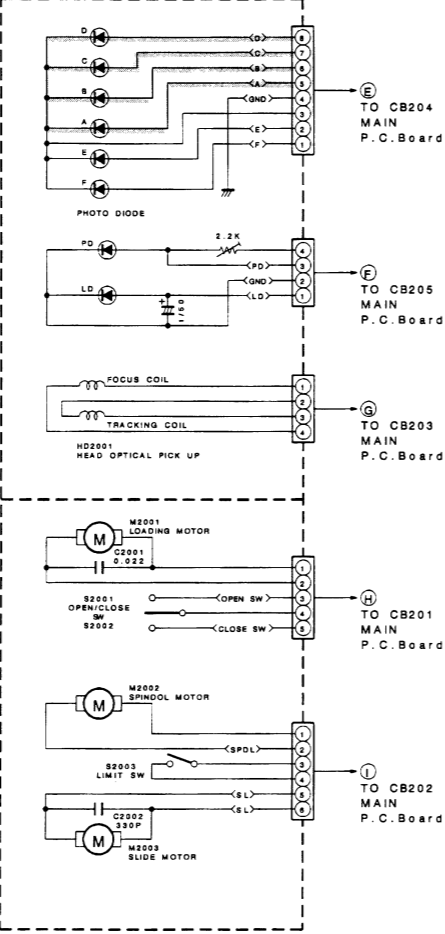
Q101

Q102

Q103 Q105 Q702
Q104 Q106 Q701

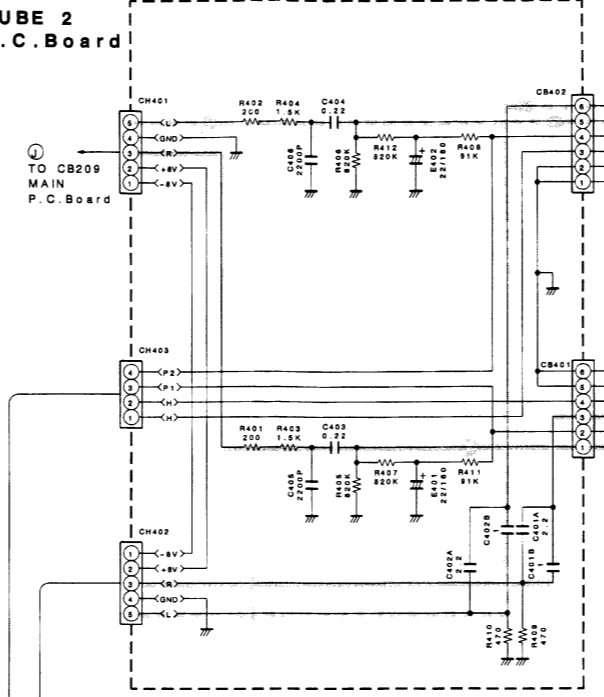


PICK UP

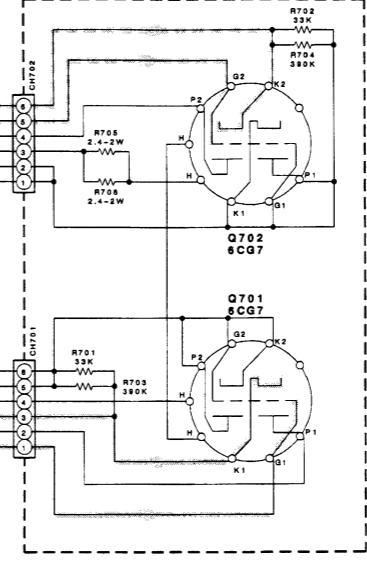


ASS'Y MECHA

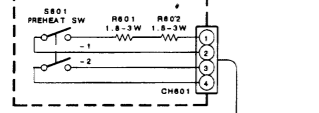
TUBE 2 P.C. Board



TUBE1 P.C. Board

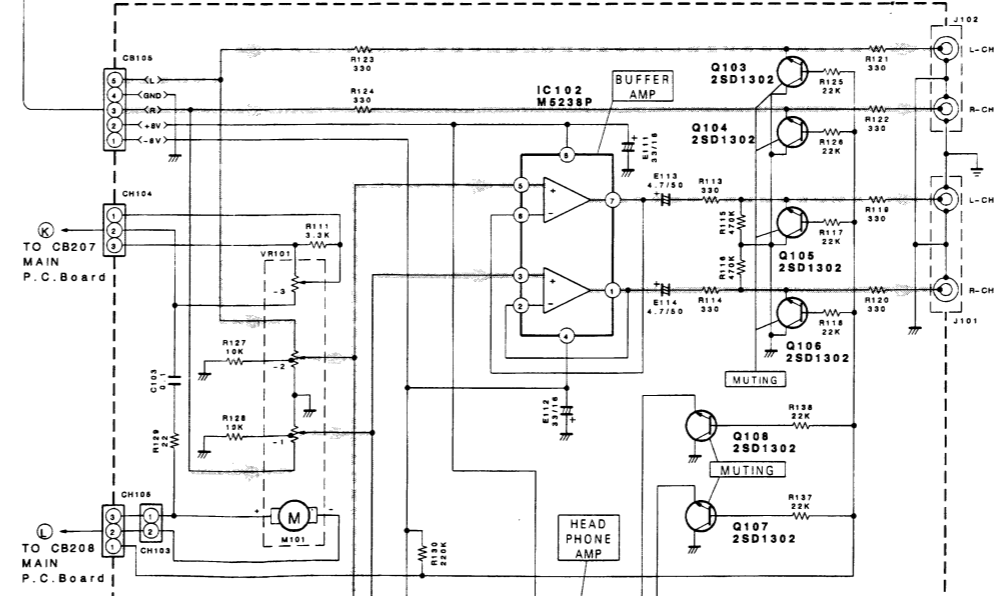
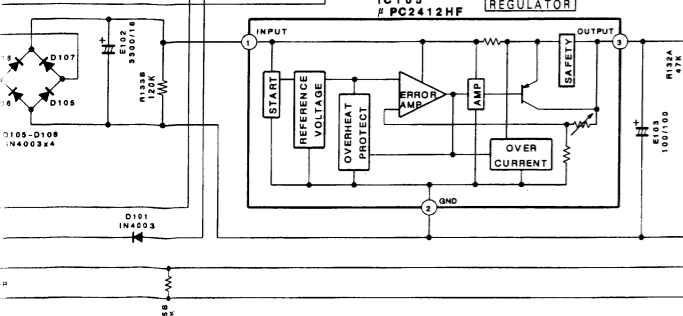
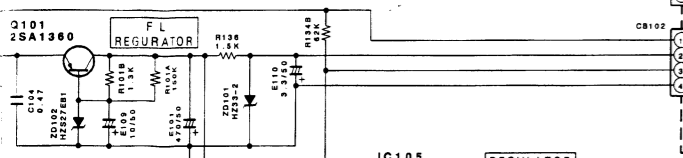


PREHEAT P.C. Board

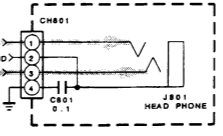


TO CB206 MAIN P.C. Board

TO CB211 MAIN P.C. Board
TO CB210 MAIN P.C. Board



HEAD PHONE P.C. Board



D-105U

Schematic Diagram <D-105U JA/EK>(1/2)

NOTE
 1. All resistance values are in ohms. K=1,000 M=1,000,000
 2. All capacitance values are in microfarads. P=1,000,000

Voltage Measuring Conditions
 1. Power Supply Voltage : AC100V, 50/60Hz (JA model only)
 AC120V/220V/240V, 50Hz (EK model only)
 2. Measuring Meter : Digital Multimeter
 3. Measuring Point Reference : Between Ground
 4. Measuring Conditions : NO Signal Input
 AT Play Mode Test CD
 (Use the 2nd track on the YED-18)

IC'S	IC501	IC105
TRANSISTORS (Q)	Q101	

IC201	IC204	IC203	IC205
1 -29.3V 33 5V	1 -	1 0V	1 2.5V
2 -22.6V 34 1.4V	2 1.1V	2 2.5V	2 2.5V
3 -2.7V 35 4.9V	3 -4.9V	3 0V	3 2.4V
4 -2.7V 36 0V	4 -4.9V	4 2.5V	4 2.4V
5 -22.6V 37 4.8V	5 -4.9V	5 2.8V	5 2.4V
6 -32.8V 38 -	6 -4.9V	6 -4.8V	6 2.4V
7 -32.8V 39 0V	7 -4.9V	7 0V	7 2.4V
8 -32.8V 40 0V	8 -4.9V	8 0V	8 2.4V
9 -32.8V 41 0V	9 -4.8V	9 0V	9 1.9V
10 -32.8V 42 0V	10 -4.8V	10 0V	10 1.9V
11 -32.8V 43 2.2V	11 -4.8V	11 0V	11 1.9V
12 -32.8V 44 -19V	12 0V	12 -0.6V	12 0V
13 -32.8V 45 -19.1V	13 0V	13 -0.4V	13 1.9V
14 -32.8V 46 -18.7V	14 0V	14 0V	14 1.9V
15 -32.8V 47 0V	15 0V	15 -2.2V	15 1.9V
16 0V 48 2.3V	16 4.9V	16 -1.9V	16 1.9V
17 -7.6V 49 2.3V	17 -4.9V	17 2.7V	17 2.7V
18 4.8V 50 0V	18 0V	18 2.8V	18 4.3V
19 -35.8V 51 0V	19 2.3V	19 0V	19 4.3V
20 -7.4V 52 -	20 2.4V	20 0V	20 2.6V
21 0V 53 5V	21 2.4V	21 -4.8V	21 4.3V
22 5V 54 0V	22 2.4V	22 0V	22 2.6V
23 0.4V 55 0V	23 2.3V	23 -1.7V	23 2.8V
24 5V 56 0V	24 2.4V	24 -1.2V	24 4.9V
25 5V 57 -22.2V	25 0V	25 0V	*3 : 1.2~3.5V
26 1.4V 58 -24.2V	26 2.4V	26 2.4V	
27 1.4V 59 -23.8V	27 2.4V	27 2.4V	
28 4.9V 60 -17.1V	28 2.4V	28 4.9V	
29 0V 61 -10.1V	29 2.4V	29 0.2V	
30 4.8V 62 -15.6V	30 2.4V	30 4.9V	
31 -	31 63 -22.5V		
32 5V 64 -29.8V	32 4.9V		

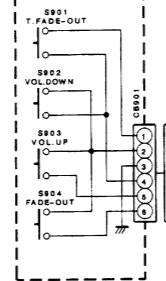
IC208	IC105	IC214	IC215	IC216	IC217	IC221
1 0V	1 15.7V	1 5.7V	1 4.9V	1 7.9V	1 7.8V	1 5V
2 -4.8V	2 0V	2 0V	2 -12.8V	2 0V	2 -12.8V	2 0V
3 2.3V	3 11.9V	3 12V	3 0V	3 12V	3 0V	3 7.9V
4 2.7V	4 0V	4 0V	4 0V	4 0V	4 0V	4 0V
5 2.4V	5 0V	5 0V	5 0V	5 0V	5 0V	5 0V
6 2.4V	6 0V	6 0V	6 0V	6 0V	6 0V	6 0V
7 4.9V	7 0V	7 0V	7 0V	7 0V	7 0V	7 0V
8 2.4V	8 0V	8 0V	8 0V	8 0V	8 0V	8 0V
9 2.4V	9 0V	9 0V	9 0V	9 0V	9 0V	9 0V
10 0V	10 0V	10 0V	10 0V	10 0V	10 0V	10 0V
11 1.5V	11 0V	11 0V	11 0V	11 0V	11 0V	11 0V
12 0V	12 0V	12 0V	12 0V	12 0V	12 0V	12 0V
13 4.9V	13 0V	13 0V	13 0V	13 0V	13 0V	13 0V
14 5V	14 0V	14 0V	14 0V	14 0V	14 0V	14 0V
15 1.4V	15 7.9V	15 7.9V	15 7.9V	15 7.9V	15 12V	15 12V
16 5V	16 0V	16 0V	16 0V	16 0V	16 0V	16 0V
17 0V	17 0V	17 0V	17 0V	17 0V	17 0V	17 0V
18 4.8V	18 0V	18 0V	18 0V	18 0V	18 0V	18 0V
19 0V	19 0V	19 0V	19 0V	19 0V	19 0V	19 0V
20 -	20 0V	20 0V	20 0V	20 0V	20 0V	20 0V
21 -	21 0V	21 0V	21 0V	21 0V	21 0V	21 0V
22 -	22 0V	22 0V	22 0V	22 0V	22 0V	22 0V
23 1.4V	23 12V	23 12V	23 12V	23 12V	23 12V	23 12V
24 0V	24 0V	24 0V	24 0V	24 0V	24 0V	24 0V
25 5V	25 0V	25 0V	25 0V	25 0V	25 0V	25 0V
26 4.9V	26 0V	26 0V	26 0V	26 0V	26 0V	26 0V
27 2.3V	27 0V	27 0V	27 0V	27 0V	27 0V	27 0V
28 4.9V	28 0V	28 0V	28 0V	28 0V	28 0V	28 0V
29 2.7V	29 0V	29 0V	29 0V	29 0V	29 0V	29 0V
30 1.3V	30 0V	30 0V	30 0V	30 0V	30 0V	30 0V
31 1.9V	31 0V	31 0V	31 0V	31 0V	31 0V	31 0V
32 1.9V	32 0V	32 0V	32 0V	32 0V	32 0V	32 0V
33 4.9V	33 7.3V	33 4.9V	33 4.9V	33 4.9V	33 4.9V	33 4.9V
34 1.9V	34 7.4V	34 1.9V	34 1.9V	34 1.9V	34 1.9V	34 1.9V
35 1.9V	35 7.5V	35 1.9V	35 1.9V	35 1.9V	35 1.9V	35 1.9V
36 1.9V	36 7.6V	36 1.9V	36 1.9V	36 1.9V	36 1.9V	36 1.9V
37 1.9V	37 7.7V	37 1.9V	37 1.9V	37 1.9V	37 1.9V	37 1.9V
38 2.4V	38 7.8V	38 2.4V	38 2.4V	38 2.4V	38 2.4V	38 2.4V
39 2.4V	39 7.9V	39 2.4V	39 2.4V	39 2.4V	39 2.4V	39 2.4V
40 2.4V	40 8.0V	40 2.4V	40 2.4V	40 2.4V	40 2.4V	40 2.4V
*2 : 1.2~3.5V						

CAUTION:
 The Δ mark, the symbol numbers in the schematic diagram designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

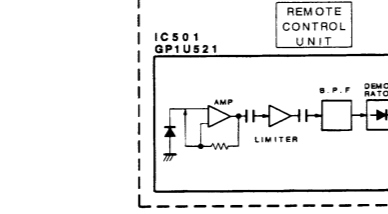
IC202	IC209	IC211	IC212
1 -4.9V	1 2.5V	1 -	1 -
2 -4.9V	2 2.3V	2 -	2 -
3 0V	3 4.9V	3 -	3 -
4 0V	4 4.9V	4 -	4 -
5 0V	5 -	5 -	5 -
6 0V	6 -	6 -	6 -
7 0V	7 -	7 -	7 -
8 0V	8 -	8 -	8 -
9 0V	9 -	9 -	9 -
10 0V	10 -	10 -	10 -
11 1V	11 3.5V	11 3.4V	11 3.4V
12 0V	12 2.3V	12 4.9V	12 4.9V
13 0V	13 3.5V	13 4.9V	13 4.9V
14 0V	14 3.5V	14 4.9V	14 4.9V
15 0V	15 3.9V	15 4.9V	15 4.9V
16 4.9V	16 4.0V	16 2.5V	16 2.5V
17 0V	17 4.1V	17 4.8V	17 4.8V
18 -3.2V	18 4.2V	18 2.5V	18 2.5V
19 0V	19 4.3V	19 4.9V	19 4.9V
20 0V	20 4.4V	20 0V	20 0V
21 0V	21 4.5V	21 1.1V	21 1.1V
22 -4.9V	22 4.6V	22 2.4V	22 2.4V
23 -4V	23 4.7V	23 0V	23 0V
24 4.8V	24 4.8V	24 0V	24 0V
*1 : -0.7~0.9V			

FL/Key Board P.C. Board

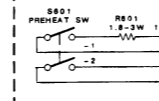
FADE P.C. Board



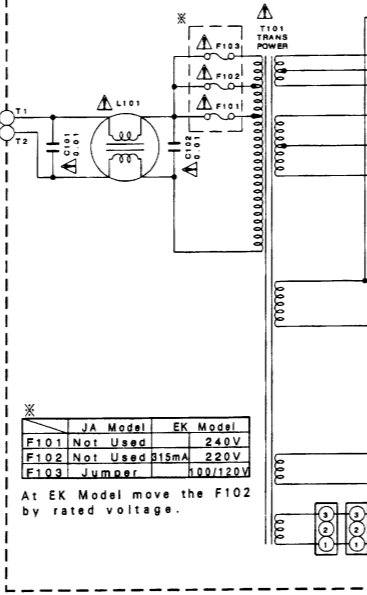
REMOTE P.C. Board



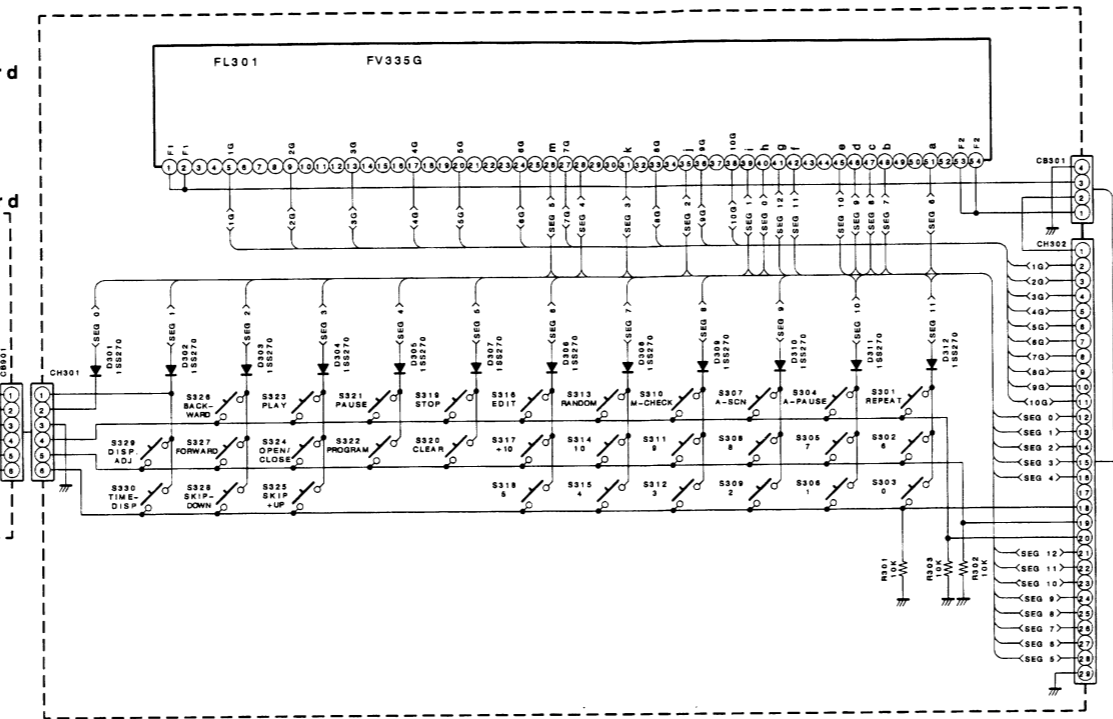
PREHEAT P.C. Board



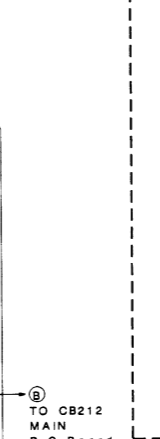
POWER SUPPLY P.C. Board



JA Model EK Model
 F101 Not Used 240V
 F102 Not Used B15mA 220V
 F103 Jumper 100/120V
 At EK Model move the F102 by rated voltage.



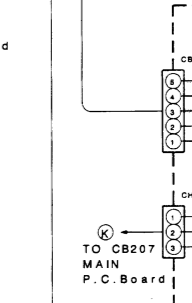
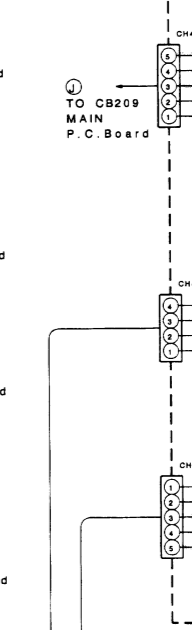
PICK UP



ASS'Y MECHA



TUBE 2 P.C. Board



IC105

IC102
IC101

Q103 Q105 Q702
Q104 Q106 Q701

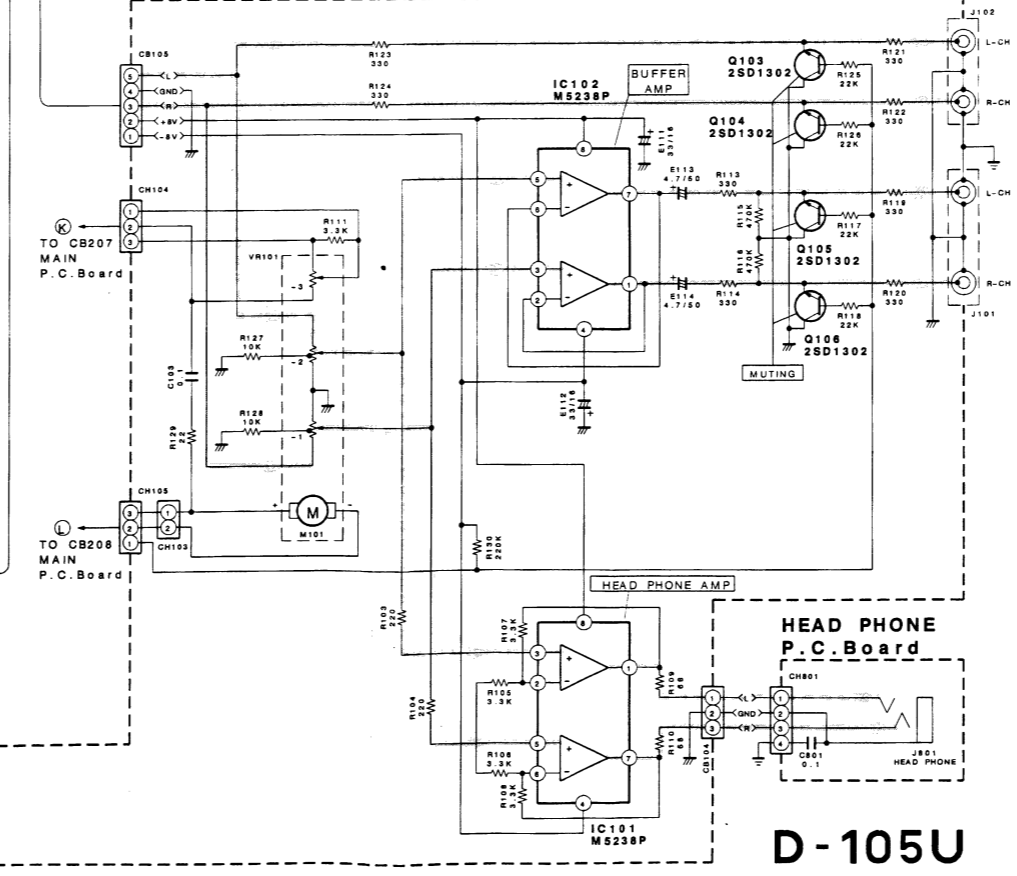
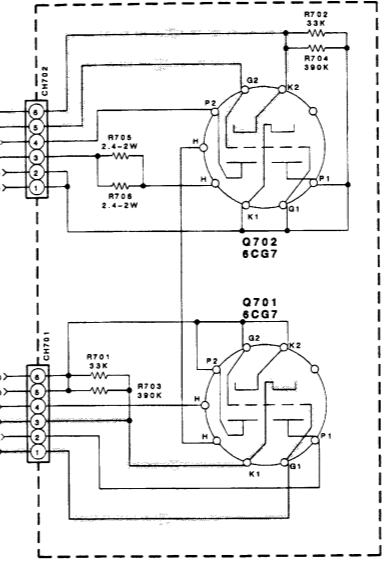
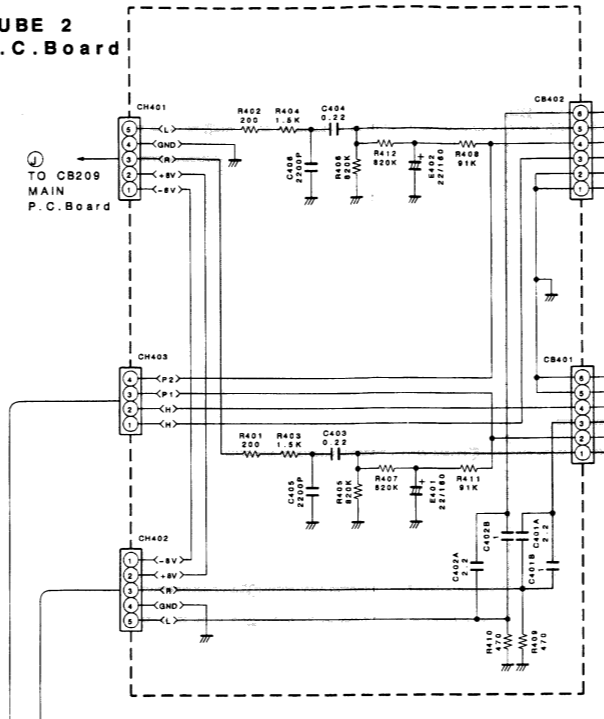
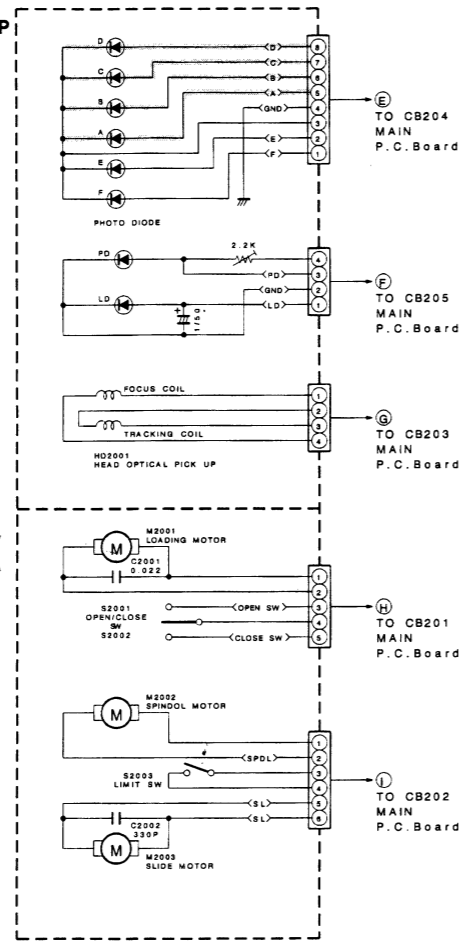
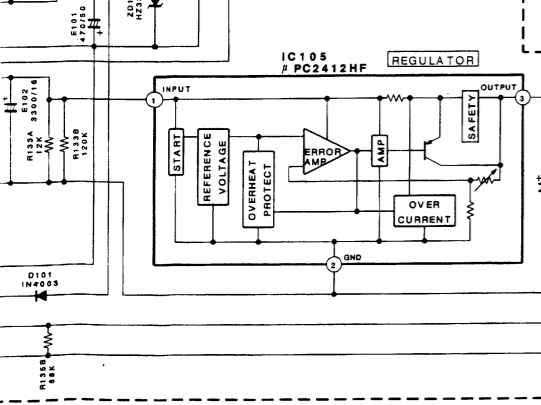
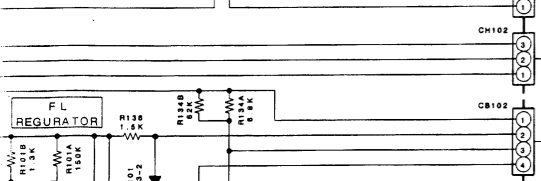
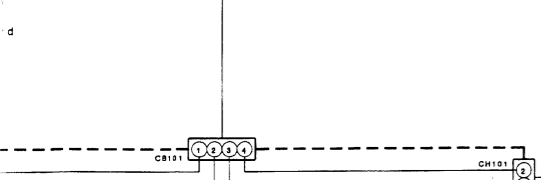
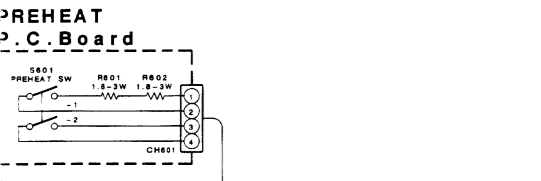
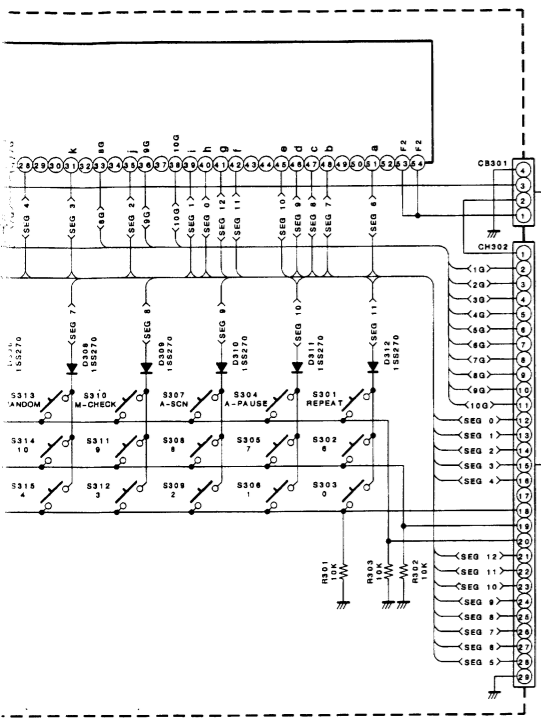
Q102

PICK UP

TUBE 2
P.C. Board

TUBE1 P.C. Board

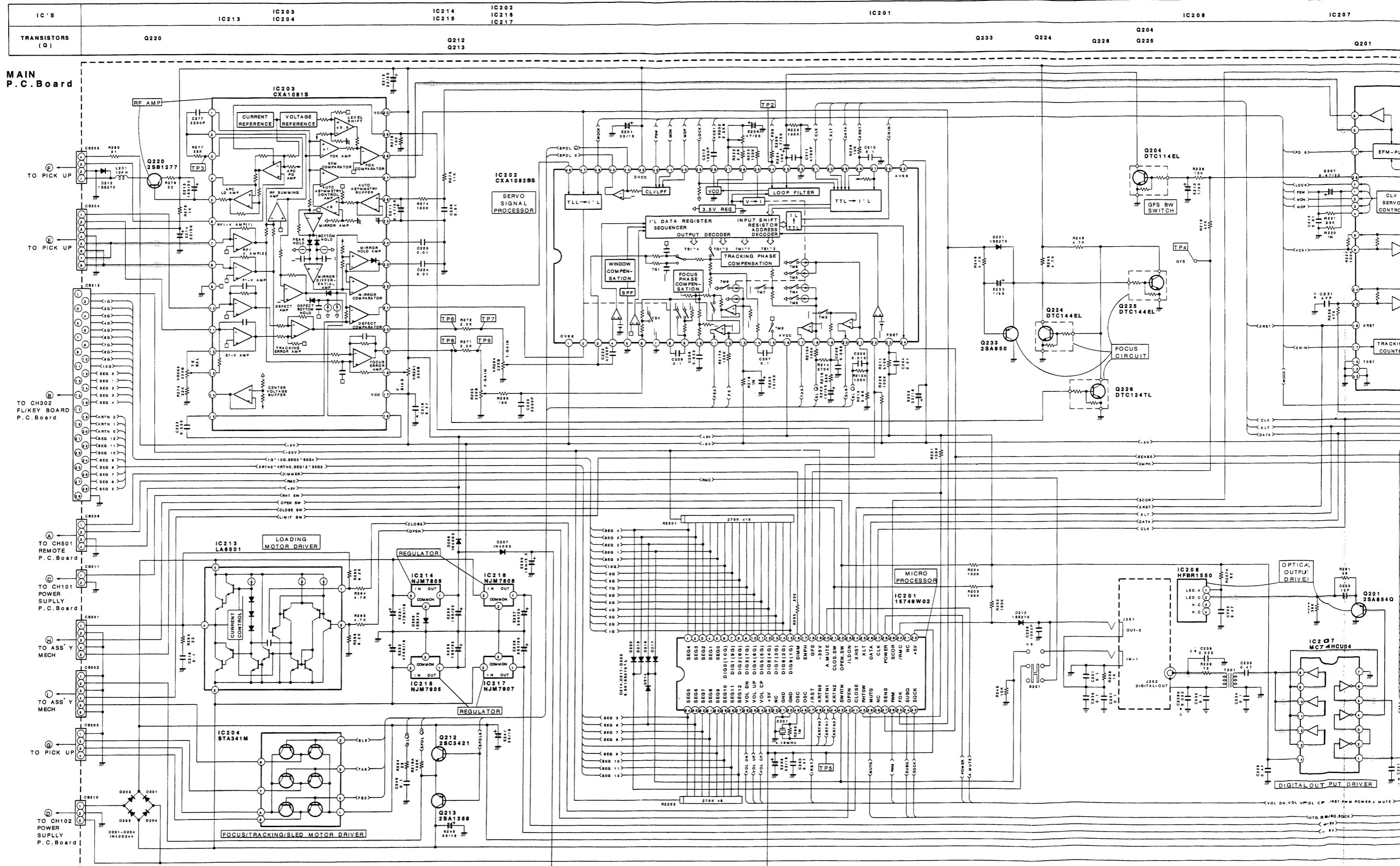
ASS'Y
MECHA

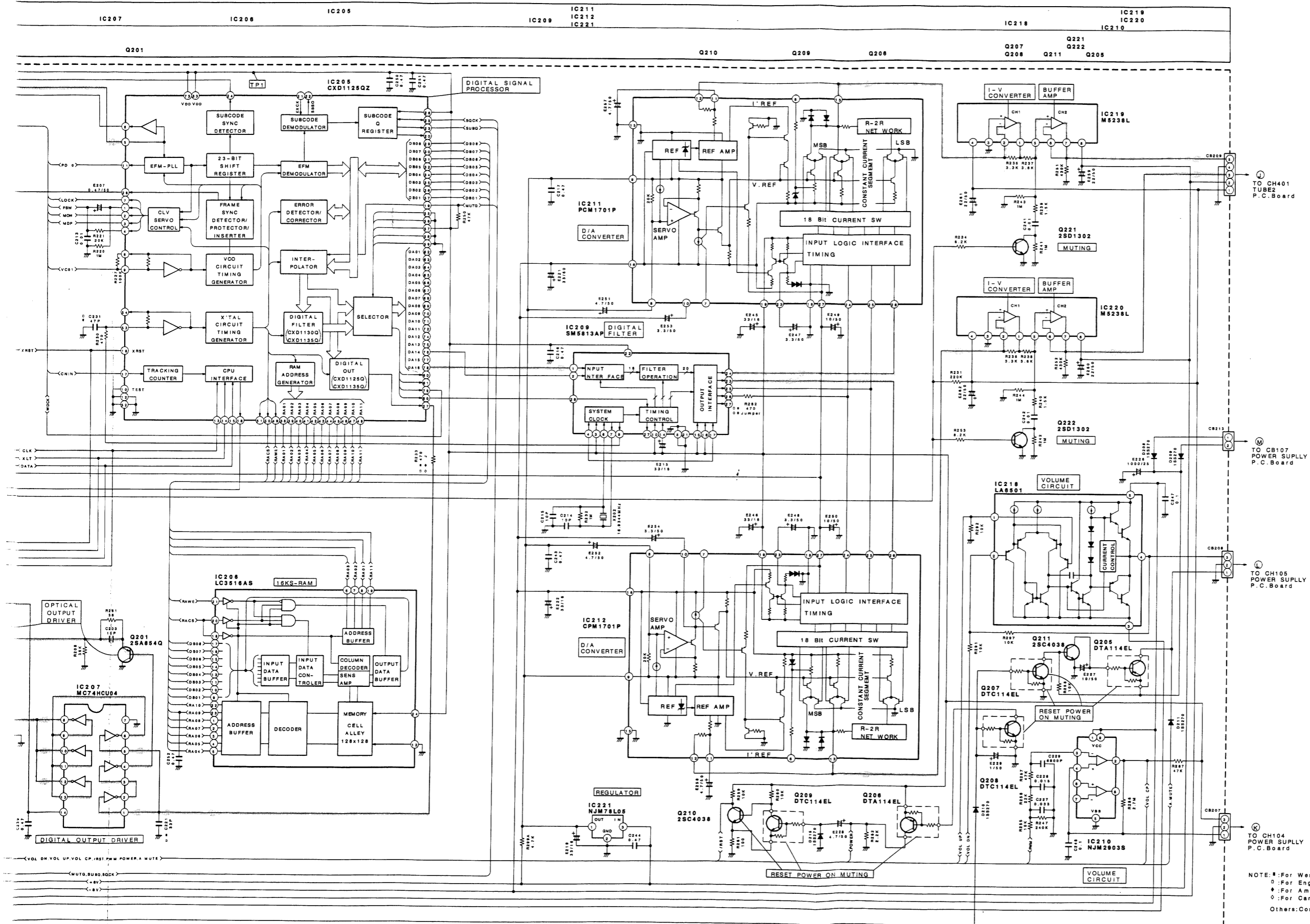


D-105U

E | F | G | H | I | J | K |

Schematic Diagram <D-105U AD/UZ/AG/UQ> (2/2)

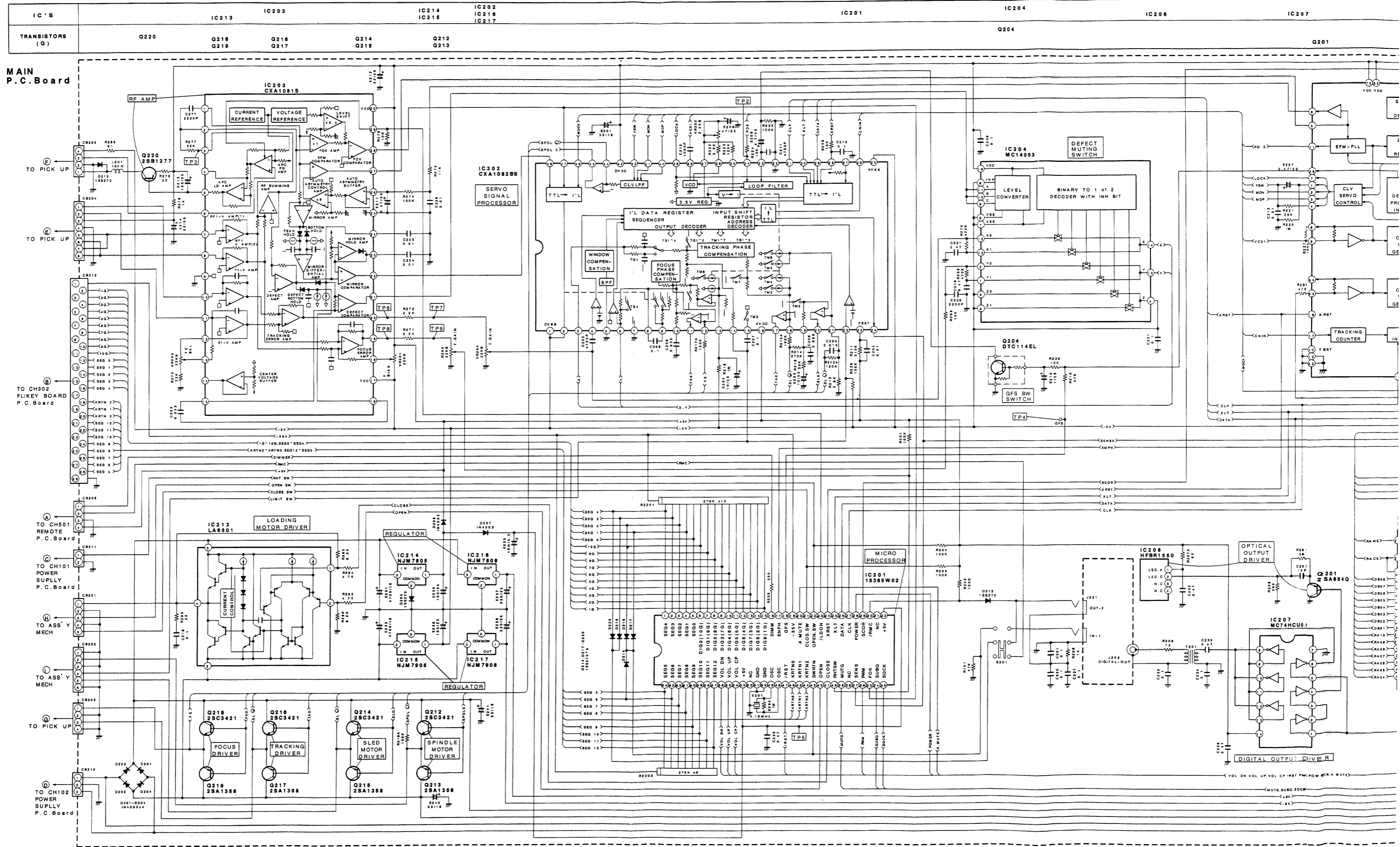


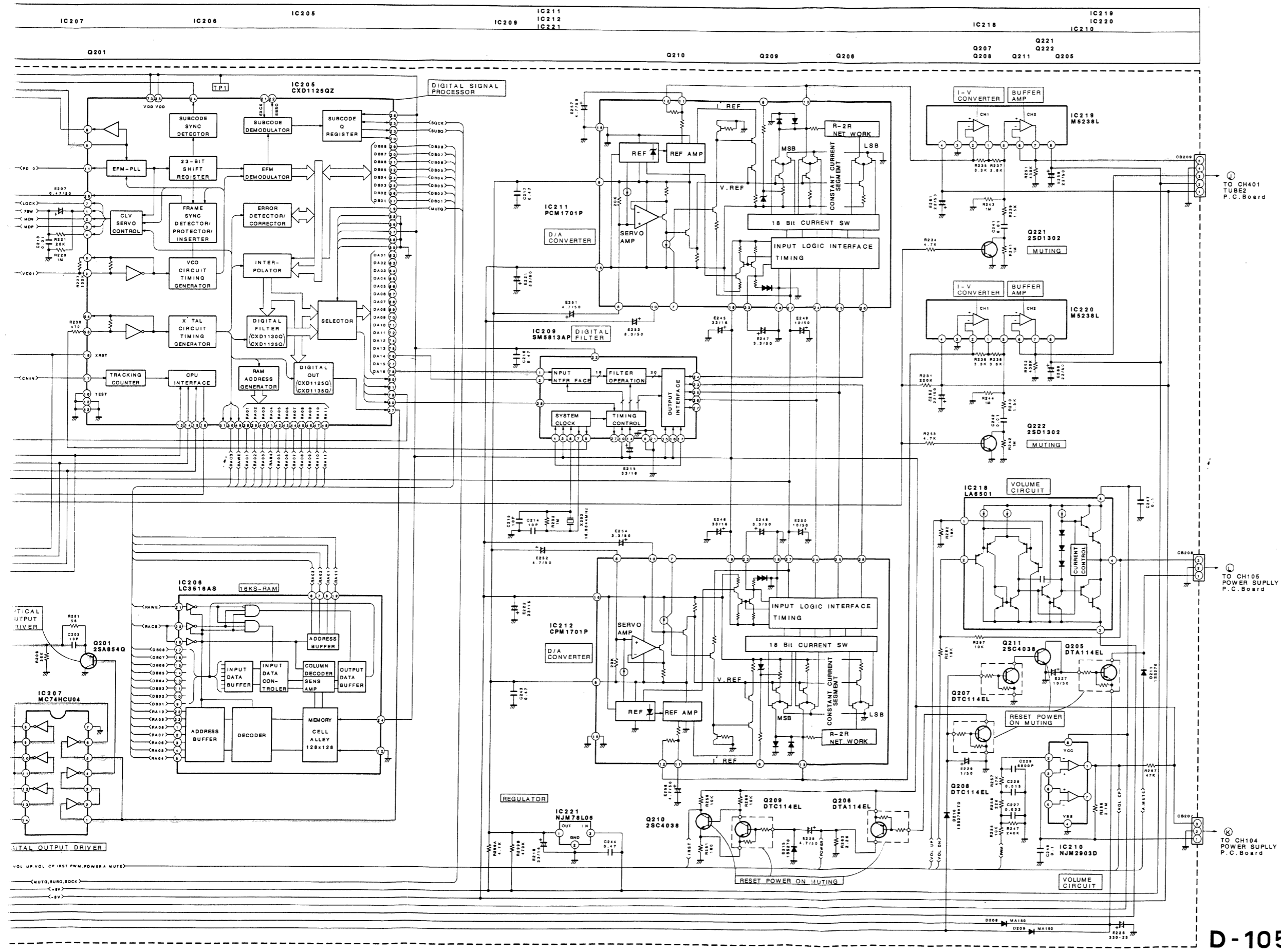


NOTE: * For West German model only (AD)
 0 For England model only (AG)
 # For American model only (UZ)
 @ For Canadian model only (UQ)
 Others: Common

D-105U

Schematic Diagram <D-105U JA/EK> (2/2)



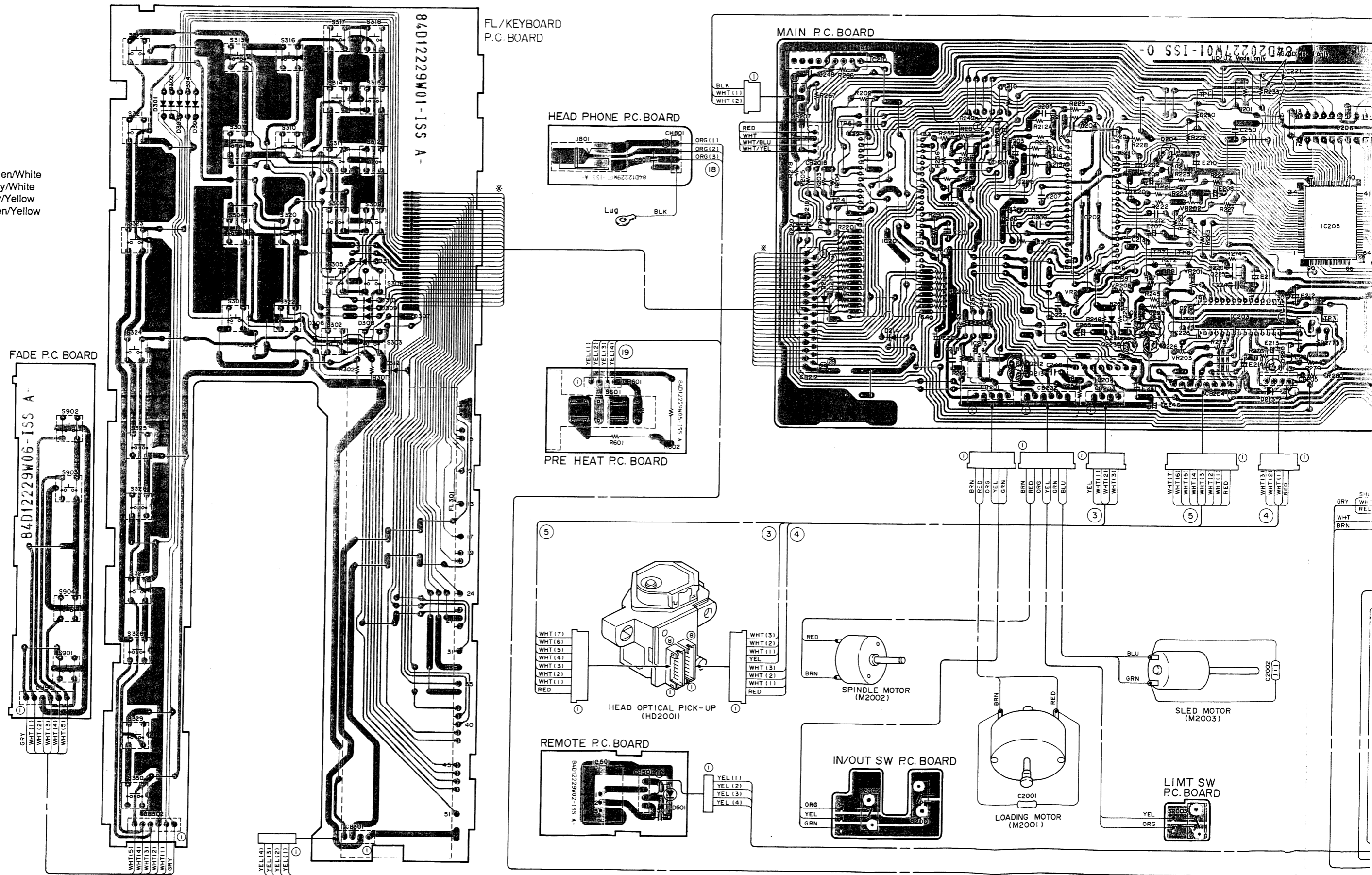


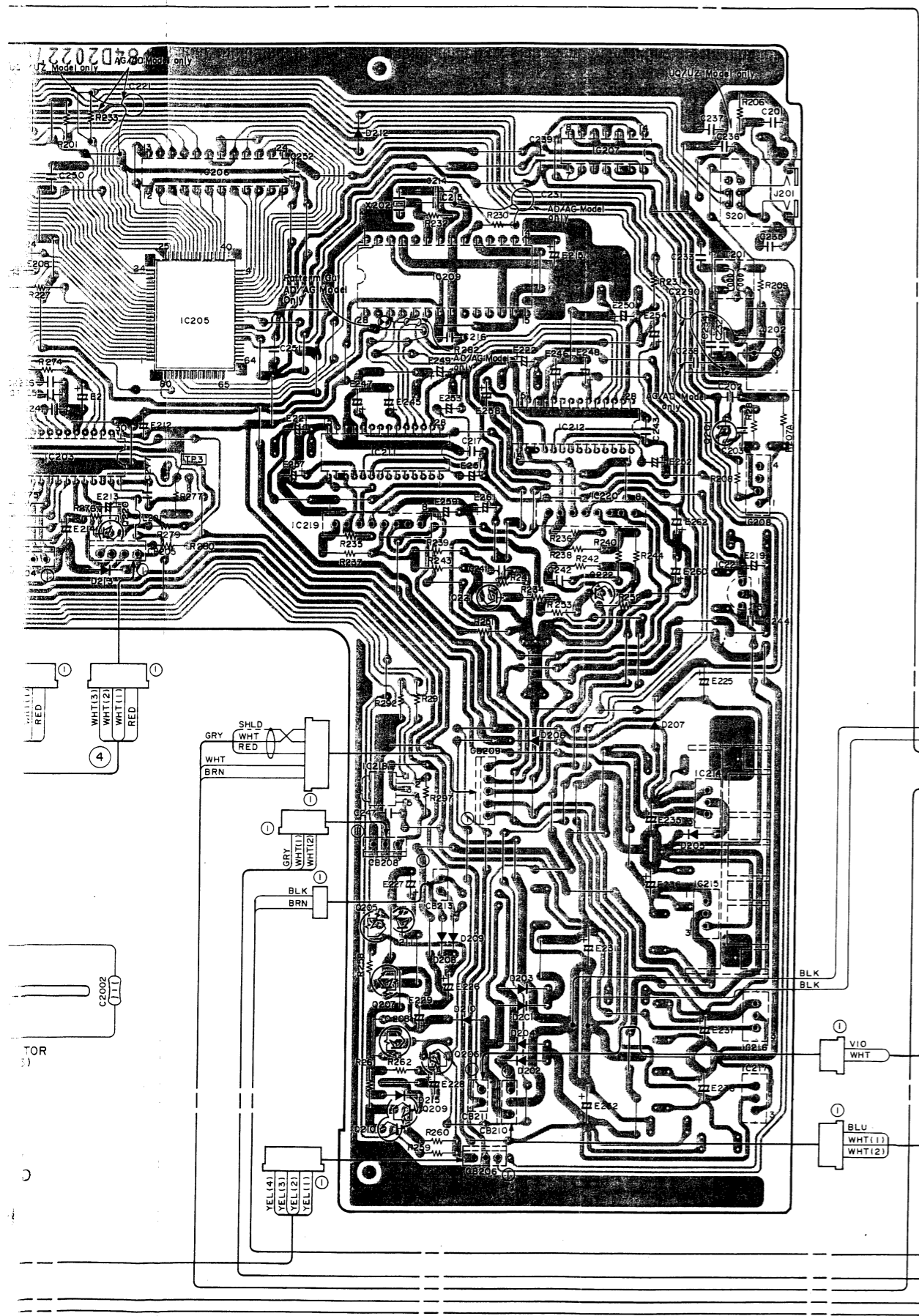
D-105U

H I J K L M N O

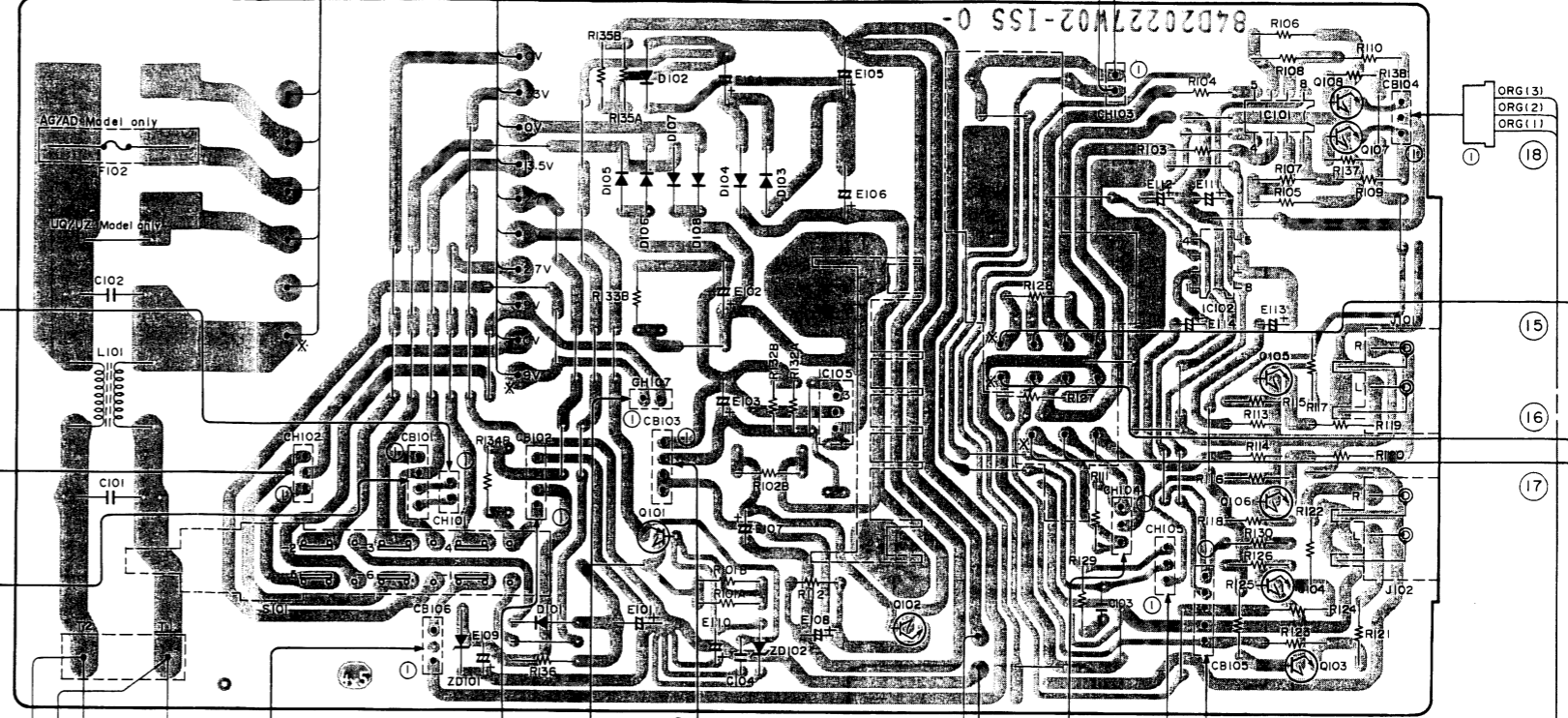
Parts Layout on P.C. Boards and Wiring Diagram (AD/UZ/AG/UQ model)

- BLU.....Blue
- GRN.....Green
- BLK.....Black
- GRY.....Gray
- WHT.....White
- RED.....Red
- BRN.....Brown
- ORG.....Orange
- YEL.....Yellow
- VIO.....Violet
- PNK.....Pink
- GRN/WHT.....Green/White
- GRY/WHT.....Gray/White
- GRY/YEL.....Gray/Yellow
- GRN/YEL.....Green/Yellow
- SHLD.....Shield

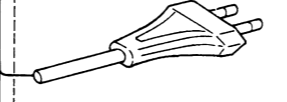




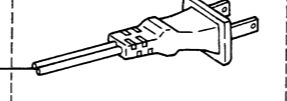
POWER SUPPLY P.C. BOARD



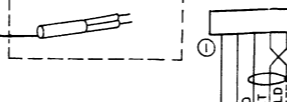
PLUG AC CORD (P801) (AD Model only)



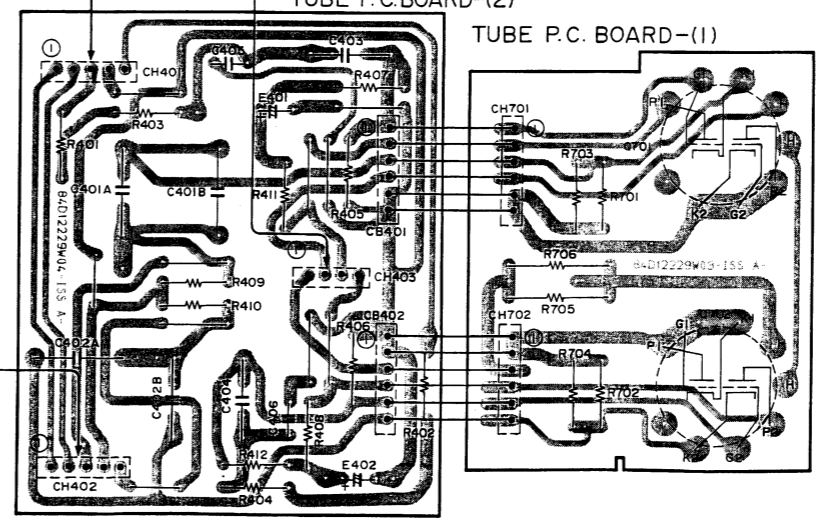
PLUG AC CORD (P801) (UJ/UQ Model only)



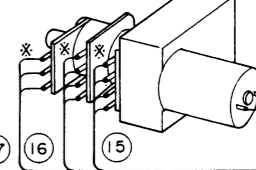
PLUG AC CORD (P801) (AG Model only)



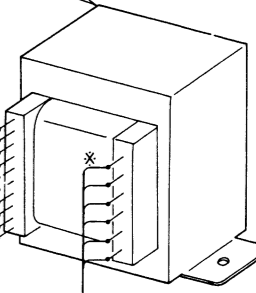
TUBE P.C. BOARD-(2) TUBE P.C. BOARD-(1)



VOLUME (VR101, M101) CONTROL



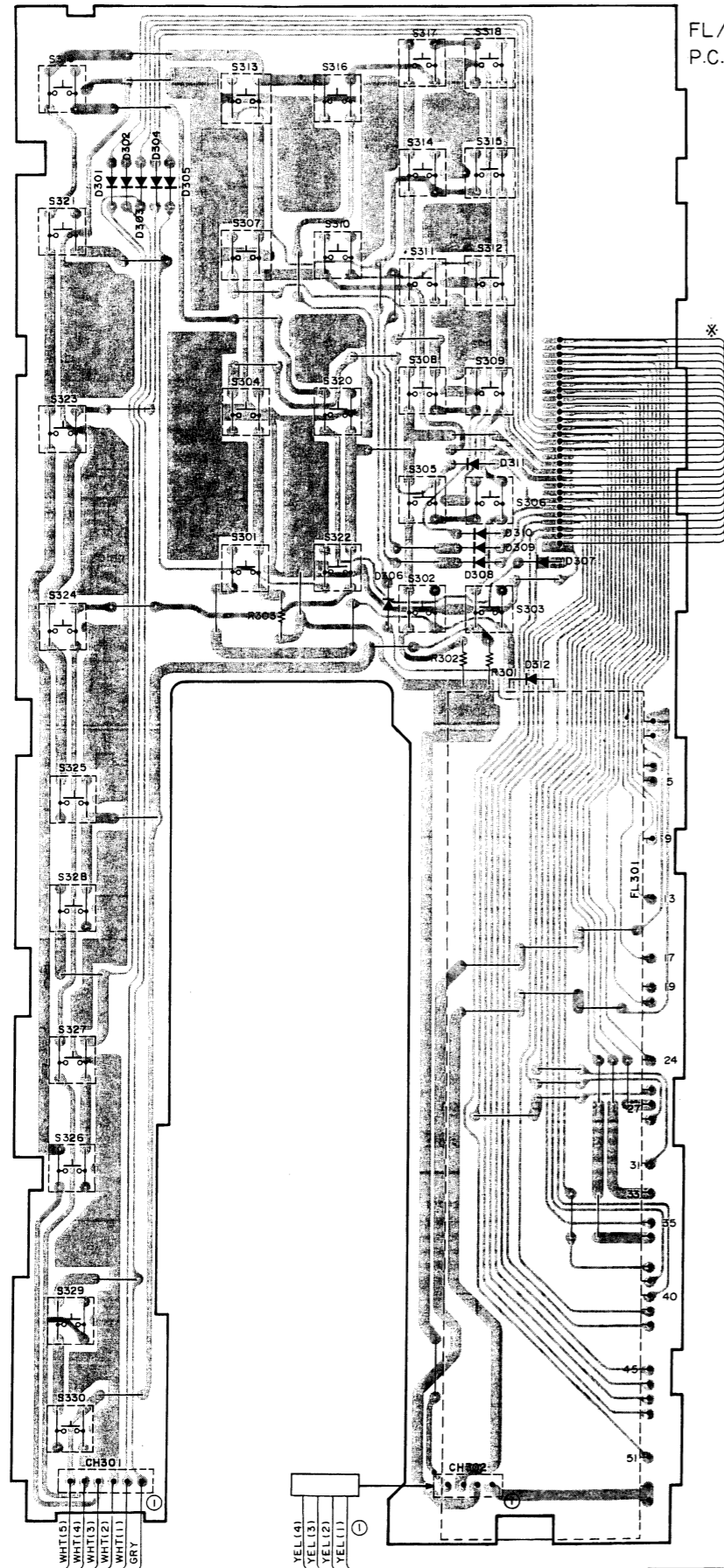
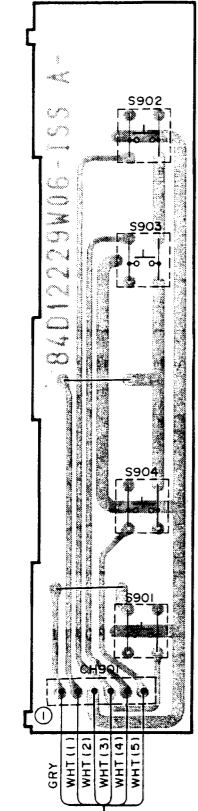
POWER TRANS (T101)



Parts Layout on P.C. Board and Wiring Diagram (JA/EK model)

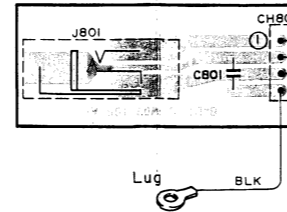
- BLU.....Blue
- GRN.....Green
- BLK.....Black
- GRY.....Gray
- WHT.....White
- RED.....Red
- BRN.....Brown
- ORG.....Orange
- YEL.....Yellow
- VIO.....Violet
- PNK.....Pink
- GRN/WHT.....Green/White
- GRY/WHT.....Gray/White
- GRY/YEL.....Gray/Yellow
- GRN/YEL.....Green/Yellow
- SHLD.....Shield

FADE P.C. BOARD

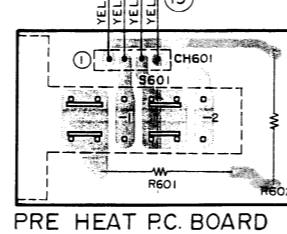


FL/KEYBOARD
P.C. BOARD

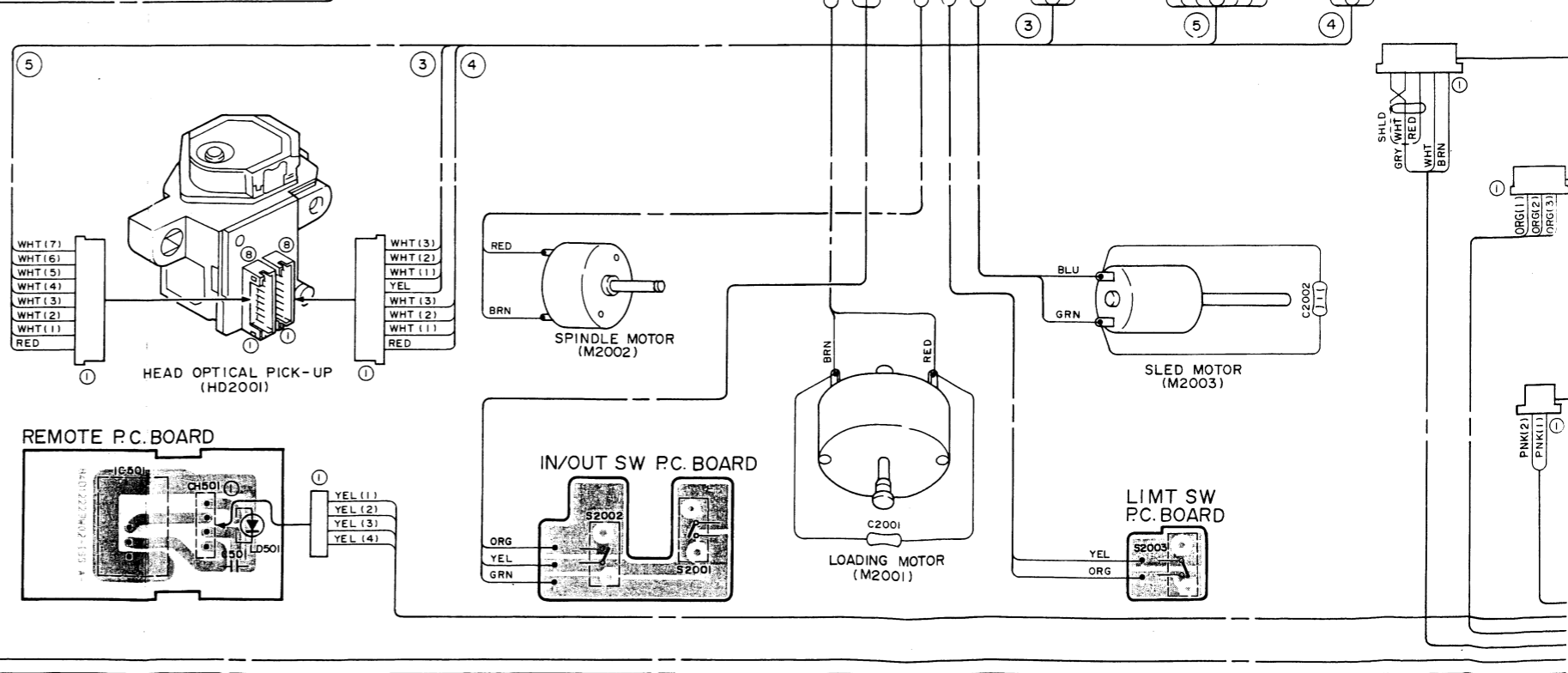
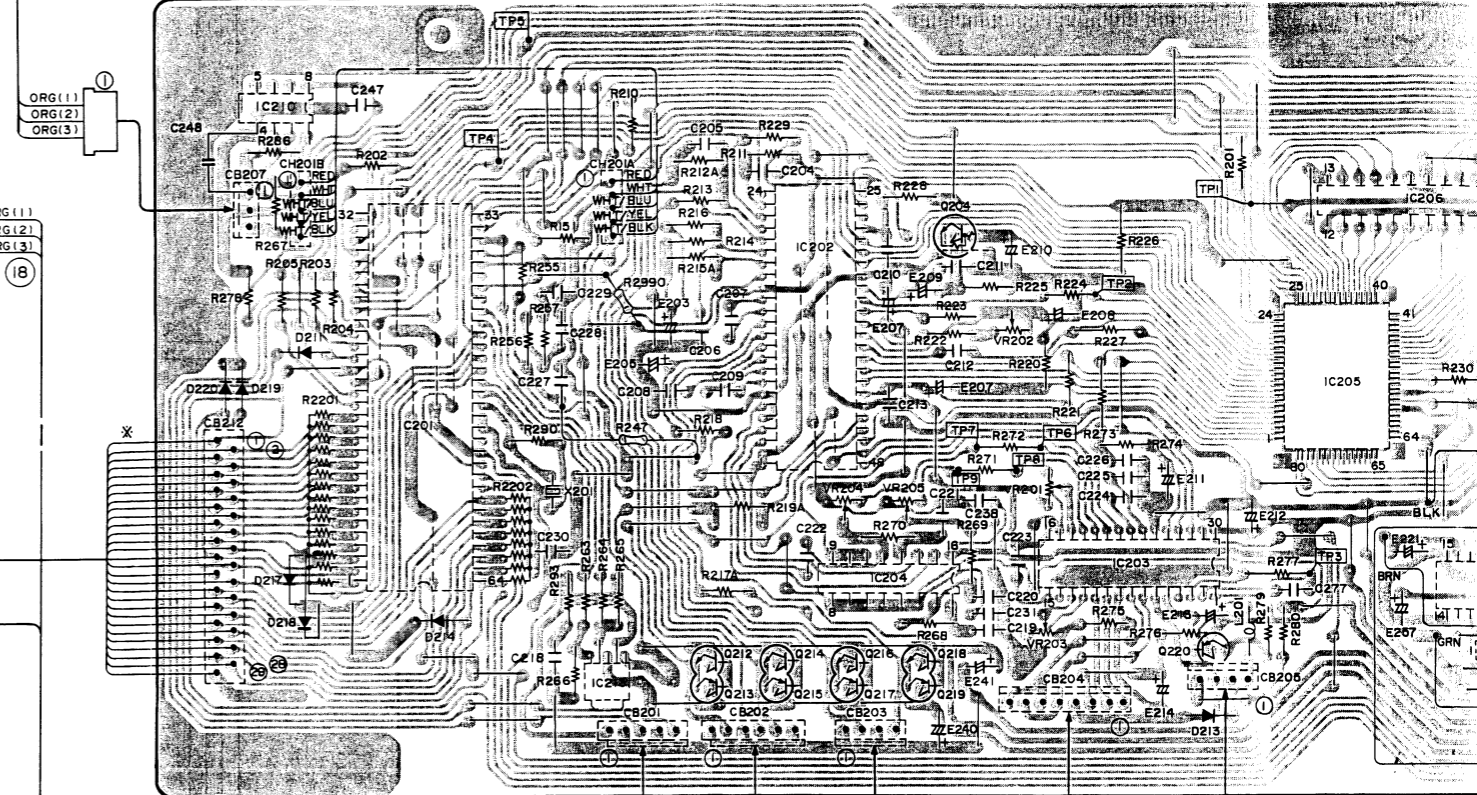
HEAD PHONE P.C. BOARD

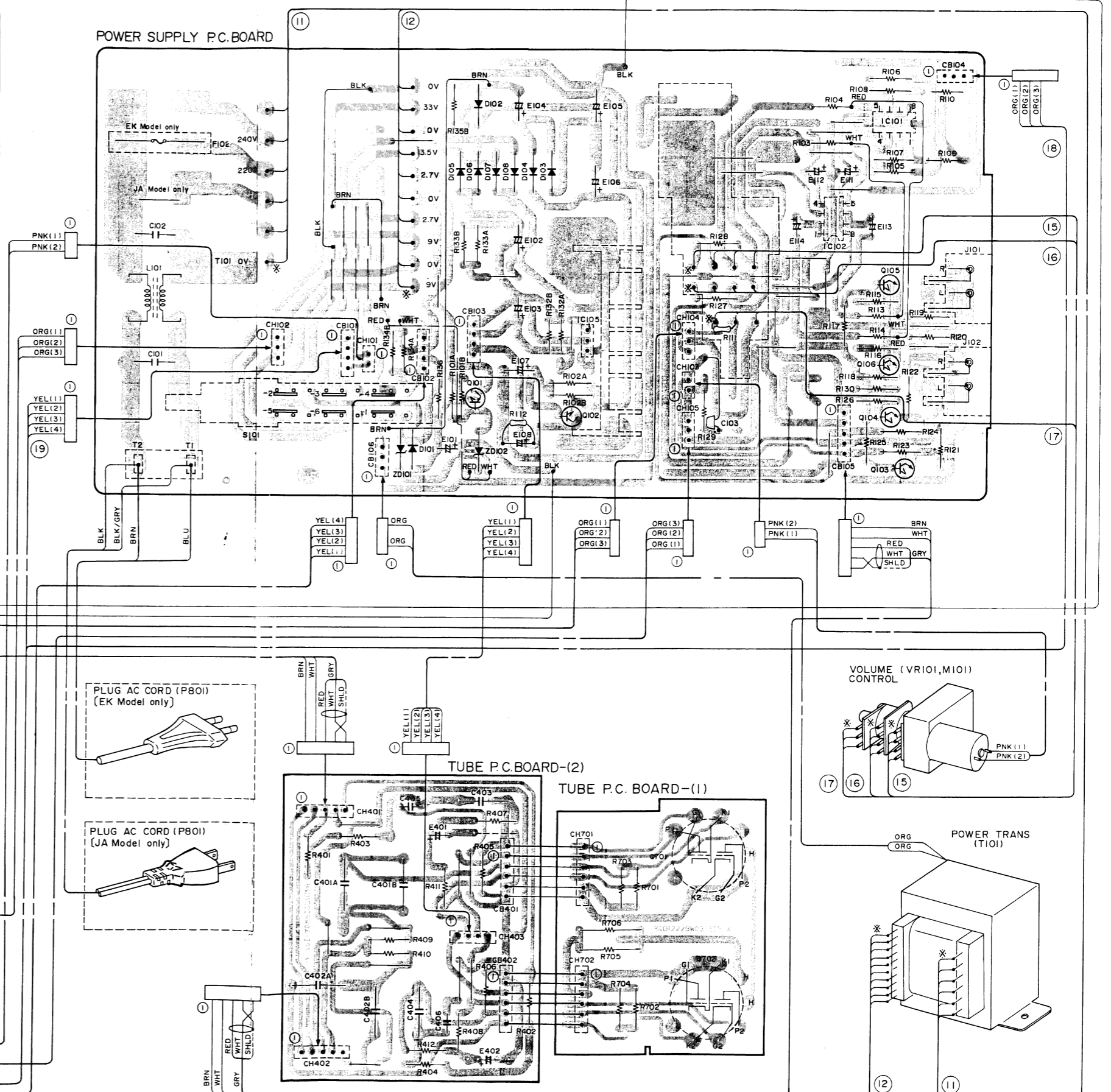
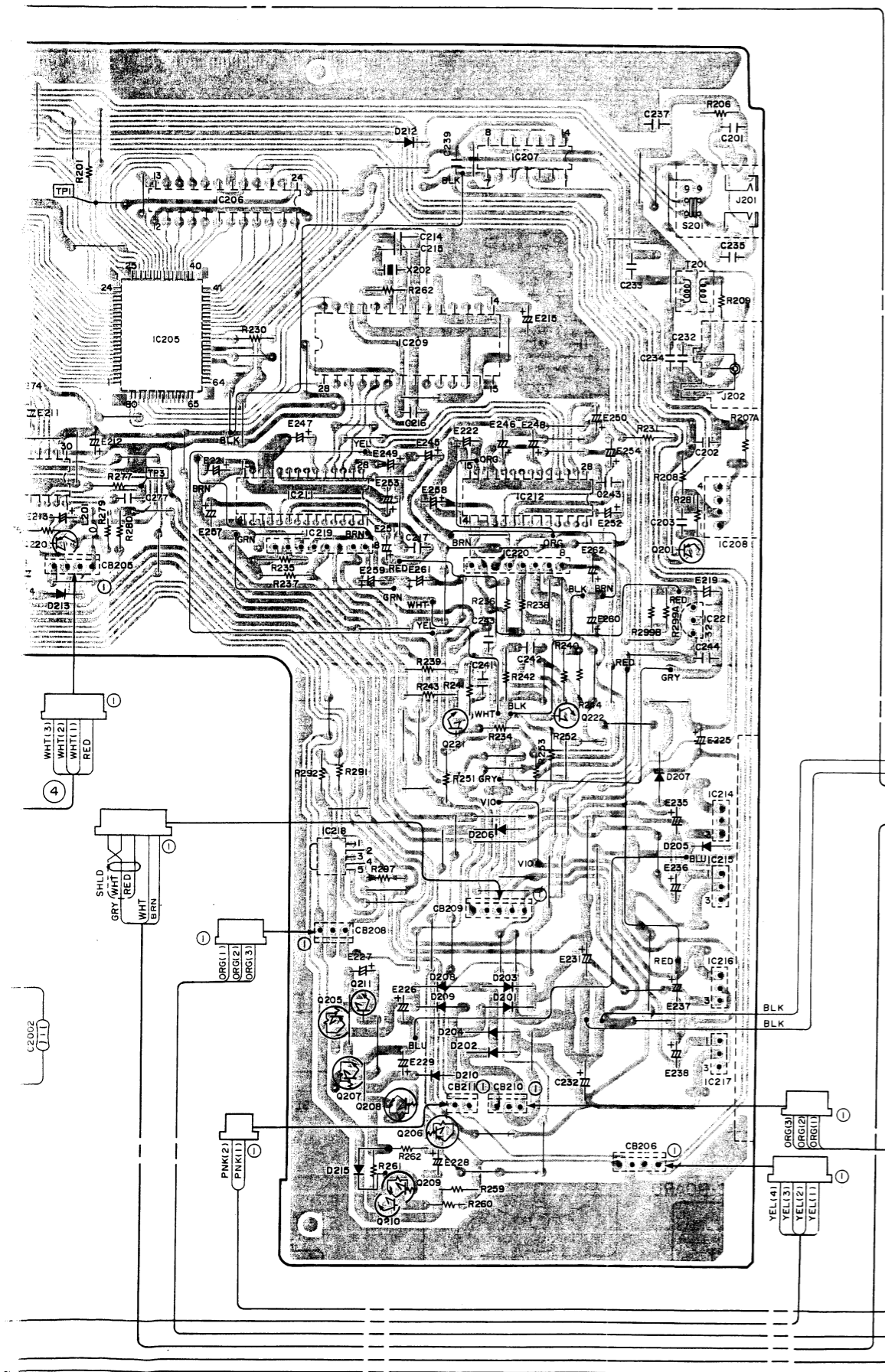


PRE HEAT P.C. BOARD



MAIN P.C. BOARD





Electrical Parts List

Resistor: Carbon resistors under 1/8 watts are not mentioned in the parts list, please confirm them by schematic diagram.
Capacitor: μ F-microfarads. pF-picofarads.

Abbreviations			
Cap.-Capacitor		CER.-Ceramic	
CP.-Chip		ELY.-Electrolytic	
LED.-Light Emitting Diode		MIC.-Mica	
MO.-Metal Oxide Film		MYL.-Mylar	
PP.-Polypropylene		SOL.-Solid	
TAN.-Tantalum		ZEN.-Zenner	

Symbol No	Part No	Description		
Main P.C. Board				
IC's				
●	IC201	51T15365W02	15365W02	
▲	IC201	51T15365W02	15365W02	
◆	IC201	51T15749W02	15749W02	
◇	IC201	51T15749W02	15749W02	
■	IC201	51T15749W02	15749W02	
□	IC201	51T15749W02	15749W02	
	IC202	51T84722F02	CXA1082BS	
	IC203	51T84721F01	CXA1081S	
●	IC204	51T94886F01	MC14053	
▲	IC204	51T94886F01	MC14053	
◆	IC204	51T25098W01	STA341M	
◇	IC204	51T25098W01	STA341M	
■	IC204	51T25098W01	STA341M	
□	IC204	51T25098W01	STA341M	
	IC205	51T84720F01	CXD1125QZ	
	or	51T84719F01	CXD1135QZ	
	IC206	51T84723F01	LC3516AS	
	IC207	51T94890F01	MC74HCU04	
	IC208	51T15608W01	HFBR1550	
	IC209	51T15628W01	SM5813AP	
●	IC210	51T64227F01	NJM2903D	
▲	IC210	51T64227F01	NJM2903D	
◆	IC210	51T62866F01	NJM2903S	
◇	IC210	51T62866F01	NJM2903S	
■	IC210	51T62866F01	NJM2903S	
□	IC210	51T62866F01	NJM2903S	
	IC211	51T16104W01	PCM1701P	
	IC212	51T16104W01	PCM1701P	
	IC213	51T90889F01	LA6501	
	IC214	51T80338F01	NJM7805	
	IC215	51T80339F01	NJM7905	

Symbol No	Part No	Description		
●	IC216	51T15976W01	NJM7808	
▲	IC216	51T15976W01	NJM7808	
◆	IC216	51T15121W02	NJM7808FA	
◇	IC216	51T15121W02	NJM7808FA	
■	IC216	51T15121W02	NJM7808FA	
□	IC216	51T15121W02	NJM7808FA	
	IC217	51T15977W01	NJM7908	
	IC218	51T90889F01	LA6501	
	IC219	51T80136F02	M5238L	
	IC220	51T80136F02	M5238L	
	IC221	51T60969F01	NJM78L05-A	
Transistors				
	Q201	48T73682F01	2SA854Q	
	Q204	48T82763F02	DTC114EL	
	Q205	48T82762F02	DTA114EL	
	Q206	48T82762F02	DTA114EL	
	Q207	48T82763F02	DTC114EL	
	Q208	48T82763F02	DTC114EL	
	Q209	48T82763F02	DTC114EL	
	Q210	48T82758F01	2SC4038	
	Q211	48T82758F01	2SC4038	
	Q212	48T69176F01	2SC3421	
	Q213	48T69177F01	2SA1358	
●	Q214	48T69176F01	2SC3421	
▲	Q214	48T69176F01	2SC3421	
●	Q215	48T69177F01	2SA1358	
▲	Q215	48T69177F01	2SA1358	
●	Q216	48T69176F01	2SC3421	
▲	Q216	48T69176F01	2SC3421	
●	Q217	48T69177F01	2SA1358	
▲	Q217	48T69177F01	2SA1358	
●	Q218	48T69176F01	2SC3421	
▲	Q218	48T69176F01	2SC3421	
●	Q219	48T69177F01	2SA1358	
▲	Q219	48T69177F01	2SA1358	
	Q220	48T82759F01	2SB1277	
	Q221	48T57305F04	2SD1302	
	Q222	48T57305F04	2SD1302	
◆	Q223	48T43526F02	2SA950	
◇	Q223	48T43526F02	2SA950	
■	Q223	48T43526F02	2SA950	
□	Q223	48T43526F02	2SA950	
◆	Q224	48T82763F04	DTC114EL	
◇	Q224	48T82763F04	DTC114EL	

Note: ●: For Japanese model only (JA)
▲: For General Foreign model only (EK)
others: Common

◆: For American model only (UZ)
■: For West Germany model only (4D)
◇: For Canadian model only (UQ)
□: For England model only (AG)

Symbol No	Part No	Description		
■	Q224	48T82763F04	DTC114EL	
□	Q224	48T82763F04	DTC114EL	
◆	Q225	48T82763F04	DTC114EL	
◇	Q225	48T82763F04	DTC114EL	
■	Q225	48T82763F04	DTC114EL	
□	Q225	48T82763F04	DTC114EL	
◆	Q226	48T82763F11	DTC124TL	
◇	Q226	48T82763F11	DTC124TL	
■	Q226	48T82763F11	DTC124TL	
□	Q226	48T82763F11	DTC124TL	
Diodes				
	D201	48S40477U01	1N4003	
	D202	48S40477U01	1N4003	
	D203	48S40477U01	1N4003	
	D204	48S40477U01	1N4003	
	D205	48T84758F01	ISS270ATD	
	D206	48S40477U01	1N4003	
	D207	48S40477U01	1N4003	
●	D208	48T51582F01	MA150	
▲	D208	48T51582F01	MA150	
◆	D208	48T84758F01	ISS270	
◇	D208	48T84758F01	ISS270	
■	D208	48T84758F01	ISS270	
□	D208	48T84758F01	ISS270	
●	D209	48T51582F01	MA150	
▲	D209	48T51582F01	MA150	
◆	D209	48T84758F01	ISS270	
◇	D209	48T84758F01	ISS270	
■	D209	48T84758F01	ISS270	
□	D209	48T84758F01	ISS270	
	D210	48T84758F01	ISS270	
	D211	48T84758F01	ISS270	
	D212	48T84758F01	ISS270	
	D213	48T84758F01	ISS270	
	D214	48T84758F01	ISS270	
	D215	48T84758F01	ISS270	
	D217	48T84758F01	ISS270	
	D218	48T84758F01	ISS270	
	D219	48T84758F01	ISS270	
	D220	48T84758F01	ISS270	
◆	D221	48T84758F01	ISS270	
◇	D221	48T84758F01	ISS270	
■	D221	48T84758F01	ISS270	
□	D221	48T84758F01	ISS270	

Symbol No	Part No	Description		
Capacitors				
	C201	08T57298F01	CER.	0.1 μF
	E201	23T00180L08	ELY.	33 μF/16V
	C202	08T94422F01	CER.	0.47 μF
◆	E202	23T00180L08	ELY.	33 μF/16V
◇	E202	23T00180L08	ELY.	33 μF/16V
■	E202	23T00180L08	ELY.	33 μF/16V
□	E202	23T00180L08	ELY.	33 μF/16V
◆	C203	08S55260F13	CER.	10pF
◇	C203	08S55260F13	CER.	10pF
■	C203	08S55260F13	CER.	10pF
□	C203	08S55260F13	CER.	10pF
●	C203	08S65480F13	CER.	10 μF
▲	C203	08S65480F13	CER.	10 μF
	E203	23T00180L25	ELY.	10 μF/50V
	C204	08T57705F67	MYL.	0.01 μF
	C205	08T57705F69	MYL.	0.015 μF
	E205	23T00180L25	MYL.	10 μF/50V
	C206	08T57851F11	TF.	0.068 μF
◆	E206	23T00180L08	ELY.	33 μF/16V
◇	E206	23T00180L08	ELY.	33 μF/16V
■	E206	23T00180L08	ELY.	33 μF/16V
□	E206	23T00180L08	ELY.	33 μF/16V
	C207	08T57851F13	TF.	0.1 μF
	E207	23T00180L20	ELY.	0.47 μF/50V
	C208	08T57705F73	MYL.	0.033 μF
	E208	23T00180L13	ELY.	47 μF/25V
	C209	08T57851F13	TF.	0.1 μF
	E209	23T00180L24	ELY.	4.7 μF/50V
	C210	08T57851F13	TF.	0.1 μF
	E210	23T00180L21	ELY.	1 μF/50V
	C211	08T57705F63	MYL.	4700pF
	E211	23T00180L20	ELY.	0.47 μF/50V
	C212	08T57705F55	MYL.	1000pF
	E212	23T00180L26	ELY.	22 μF/50V
	C213	08T57705F67	MYL.	0.01 μF
	E213	23T00180L14	ELY.	100 μF/25V
	C214	08T55260F13	CER.	10pF
	E214	23T00180L26	ELY.	22 μF/50V
	C215	08T55260F13	CER.	10pF
	E215	23T00180L08	ELY.	33 μF/16V
	C216	08T94422F01	CER.	0.47 μF
	C217	08T94422F01	CER.	0.47 μF
	C218	08T57851F13	TF.	0.1 μF
●	C219	08T57851F21	TF.	0.47 μF
▲	C219	08T57851F21	TF.	0.47 μF

Note:●:For Japanese model only (JA)
▲:For General Foreign model only (EK)
others:Common

◆:For American model only (UZ)
■:For West Germany model only (AD)
◇:For Canadian model only (UQ),
□:For England model only (AG),

Symbol Na	Part Na	Description		
◆	C219	08T94422F01	CER.	0.47 μF
◇	C219	08T94422F01	CER.	0.47 μF
■	C219	08T94422F01	CER.	0.47 μF
□	C219	08T94422F01	CER.	0.47 μF
	E219	23T00180L08	ELY.	33 μF/16V
	C220	08T57705F59	MYL.	2200pF
●	C221	08T57851F21	TF.	0.47 μF
▲	C221	08T57851F21	TF.	0.47 μF
■	C221	21C45322G16	CER.	33pF
□	E221	23T00180L08	ELY.	33 μF/16V
	C222	08T57705F63	MYL.	4700pF
	E222	23T00180L08	ELY.	33 μF/16V
	C223	08T57705F73	MYL.	0.033 μF
	C224	08T57705F67	MYL.	0.01 μF
	C225	08T57705F67	MYL.	0.01 μF
	E225	23T74513F06	ELY.	18mF/5.5V
	C226	08T57705F67	MYL.	0.01 μF
●	E226	23T00180L16	ELY.	330 μF/25V
▲	E226	23T00180L16	ELY.	330 μF/25V
◆	E226	23T00134L46	ELY.	1000 μF/25V
◇	E226	23T00134L46	ELY.	1000 μF/25V
■	E226	23T00134L46	ELY.	1000 μF/25V
□	E226	23T00134L46	ELY.	1000 μF/25V
	C227	08T57705F73	MYL.	0.033 μF
	E227	23T00180L25	ELY.	10 μF/50V
	C228	08T57705F69	MYL.	0.015 μF
	E228	23T00180L24	ELY.	4.7 μF/50V
	C229	08T57705F65	MYL.	6800pF
	E229	23T00180L21	ELY.	1 μF/50V
	C230	08T94422F01	CER.	0.47 μF
●	C231	08T57298F01	CER.	0.1 μF
▲	C231	08T57298F01	CER.	0.1 μF
■	C231	21C45322G18	CER.	47pF
□	C231	21C45322G18	CER.	47pF
	E231	23T00133L12	ELY.	4700 μF/16V
	C232	08T57298F01	CER.	0.1 μF
	E232	23T00133L12	ELY.	4700 μF/16V
	C233	08T94422F01	CER.	0.47 μF
	C234	08T57298F01	CER.	0.1 μF
◆	E233	23T00180L21	ELY.	10 μF/50V
◇	E233	23T00180L21	ELY.	10 μF/50V
■	E233	23T00180L21	ELY.	10 μF/50V
□	E233	23T00180L21	ELY.	10 μF/50V
	C235	08T57298F01	CER.	0.1 μF
	E235	23T00180L14	ELY.	100 μF/25V
■	C236	08S40805F07	CER.	1000pF
■	C236	08S40805F07	CER.	1000pF

Symbol Na	Part Na	Description		
	E236	23T00180L14	ELY.	100 μF/25V
	C237	08T57298F01	CER.	0.1 μF
●	E237	23T00180L16	ELY.	330 μF/25V
▲	E237	23T00180L16	ELY.	330 μF/25V
◆	E237	23T00181L29	ELY.	330 μF/25V
◇	E237	23T00181L29	ELY.	330 μF/25V
■	E237	23T00181L29	ELY.	330 μF/25V
□	E237	23T00181L29	ELY.	330 μF/25V
■	C238	21C45322G32	CER.	0.022 μF
□	C238	21C45322G32	CER.	0.022 μF
●	C238	08T57298F01	CER.	0.1 μF
▲	C238	08T57298F01	CER.	0.1 μF
●	E238	23T00180L16	ELY.	330 μF/25V
▲	E238	23T00180L16	ELY.	330 μF/25V
◆	E238	23T00181L29	ELY.	330 μF/25V
◇	E238	23T00181L29	ELY.	330 μF/25V
■	E238	23T00181L29	ELY.	330 μF/25V
□	E238	23T00181L29	ELY.	330 μF/25V
	C239	08T94422F01	CER.	0.47 μF
◆	C240	08T57851F13	TF.	0.1 μF
◇	C240	08T57851F13	TF.	0.1 μF
■	C240	08T57851F13	TF.	0.1 μF
□	C240	08T57851F13	TF.	0.1 μF
	E240	23T00180L08	ELY.	33 μF/16V
	C241	08T00151L25	P.P	0.01 μF
	E241	23T00180L08	ELY.	33 μF/16V
	C242	08T00151L25	P.P	0.01 μF
	C243	08T94422F01	CER.	0.47 μF
	C244	08T94422F01	CER.	0.47 μF
	E245	23T00180L08	ELY.	33 μF/16V
	E246	23T00180L08	ELY.	33 μF/16V
	C247	08T57298F01	CER.	0.1 μF
	E247	23T00180L23	ELY.	3.3 μF/50V
	C248	08T57298F01	CER.	0.1 μF
	E248	23T00180L23	ELY.	3.3 μF/50V
	E249	23T00180L25	ELY.	10 μF/50V
◆	C250	08T94422F01	CER.	0.47 μF
◇	C250	08T94422F01	CER.	0.47 μF
■	C250	08T94422F01	CER.	0.47 μF
□	C250	08T94422F01	CER.	0.47 μF
	E250	23T00180L25	ELY.	10 μF/50V
◆	C251	08T94422F01	CER.	0.47 μF
◇	C251	08T94422F01	CER.	0.47 μF
■	C251	08T94422F01	CER.	0.47 μF
□	C251	08T94422F01	CER.	0.47 μF

Note: ●:For Japanese model only (JA)
 ▲:For General Foreign model only (EK)
 others:Common

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 ■:For West Germany model only (AD)
 ◇:For Canadian model only (UQ),
 □:For England model only (AG),

Symbol No	Part No	Description		
◆	E251	23T00180L24	ELY.	4.7 μ F/50V
◇	C252	08T94422F01	CER.	0.47 μ F
■	C252	08T94422F01	CER.	0.47 μ F
□	C252	08T94422F01	CER.	0.47 μ F
	E252	23T00180L24	ELY.	4.7 μ F/50V
	E253	23T00180L23	ELY.	3.3 μ F/50V
	E254	23T00180L23	ELY.	3.3 μ F/50V
	E257	23T00180L24	ELY.	4.7 μ F/50V
	E258	23T00180L24	ELY.	4.7 μ F/50V
	E259	23T00180L26	ELY.	22 μ F/50V
	E260	23T00180L26	ELY.	22 μ F/50V
	E261	23T00180L26	ELY.	22 μ F/50V
	E262	23T00180L26	ELY.	22 μ F/50V
	C277	08T57705F59	MYL.	2200pF
■	C2290	08T44979P10	CER.	0.022 μ F
□	C2290	08T44979P10	CER.	0.022 μ F
Jacks				
	J201	09T84124F01	HEADPHONE	
	S201			
	J202	09T15627W01	PLATE.PH1P	
Coil				
●	L201	24T50508F22	Inductor,10 μ H	
▲	L201	24T50508F22	Inductor,10 μ H	
◆	L201	24T70381F21	Inductor,10 μ H	
◇	L201	24T70381F21	Inductor,10 μ H	
■	L201	24T70381F21	Inductor,10 μ H	
□	L201	24T70381F21	Inductor,10 μ H	
Resistars				
	R2201	06T74182F09	Block 270K ohm \times 15	
	R2202	06T74182F08	Block 270K ohm \times 8	
	VR201	18T15355W15	Variable RH064AC 22K ohm	
	VR202	18T15355W09	Variable RH064AC 2.2Kohm	
	VR203	18T15355W15	Variable RH064AC 22K ohm	
	VR204	18T15355W15	Variable RH064AC 22K ohm	
	VR205	18T15355W15	Varuible RH064AC 22K ohm	
Trans				
	T201	25T94882F01	PULS	
Crystals				
	X201	91T15285W01	Ceramic LOCK 4.19MHz	
	X202	48T84727F02	AT-51 16.9344MHz	

Note:●:For Japanese model only (JA)
▲:For General Foreign model only (EK)
others:Common

Symbol No	Part No	Description		
Power Supply P.C. Board				
IC's				
	IC101	51T80136F01	M5238P	
	IC102	51T80136F01	M5238P	
Transistors				
	Q101	48T64375F01	2SA1360	
	Q102	48T60555F01	2SC3298	
	Q103	48T57305F04	2SD1302	
	Q104	48T57305F04	2SD1302	
	Q105	48T57305F04	2SD1302	
	Q106	48T57305F04	2SD1302	
◆	Q107	48T57805F04	2SD1302	
◇	Q107	48T57805F04	2SD1302	
■	Q107	48T57805F04	2SD1302	
□	Q107	48T57805F04	2SD1302	
◆	Q108	48T57805F04	2SD1302	
◇	Q108	48T57805F04	2SD1302	
■	Q108	48T57805F04	2SD1302	
□	Q108	48T57805F04	2SD1302	
Diodes				
	D101	48S40477U01	1N4003	
	D102	48S40477U01	1N4003	
	D103	48S40477U01	1N4003	
	D104	48S40477U01	1N4003	
	D105	48S40477U01	1N4003	
	D106	48S40477U01	1N4003	
	D107	48S40477U01	1N4003	
	D108	48S40477U01	1N4003	
●	ZD101	48T52740F02	ZEN. HZ33-2	
	ZD102	48T52739F95	ZEN. HZ27-2	
▲	ZD102	48T52739F95	ZEN. HZ27-2	
◆	ZD102	48T68697F72	ZEN. HZS27EB1	
◇	ZD102	48T68697F72	ZEN. HZS27EB1	
■	ZD102	48T68697F72	ZEN. HZS27EB1	
□	ZD102	48T68697F72	ZEN. HZS27EB1	
Capacitors				
●	C101	08T57437F09	CER.	0.01 μ F
▲	C101	08T57437F09	CER.	0.01 μ F
◆	C101	08T00196L01	CER.	0.01 μ F
◇	C101	08T00196L01	CER.	0.01 μ F
■	C101	08T00196L01	CER.	0.01 μ F

◆:For American model only (UZ)
■:For West Germany model only (AD)
◇:For Canadian model only (UQ)
□:For England model only (AG)

Symbol No	Part No	Description		
Capacitors				
□	C101	08T00196L01	CER.	0.01 μF
●	C102	08T57437F09	CER.	0.01 μF
▲	C102	08T57437F09	CER.	0.01 μF
◆	C102	08T00196L01	CER.	0.01 μF
◇	C102	08T00196L01	CER.	0.01 μF
■	C102	08T00196L01	CER.	0.01 μF
□	C102	08T00196L01	CER.	0.01 μF
	E101	23T00133L38	ELY.	470 μF/50V
	E102	23T00181L23	ELY.	3300 μF/16V
●	C103	08T50579F13	TF.	0.1 μF
▲	C103	08T50579F13	TF.	0.1 μF
◆	C103	08T57851F13	TF.	0.1 μF
◇	C103	08T57851F13	TF.	0.1 μF
■	C103	08T57851F13	TF.	0.1 μF
□	C103	08T57851F13	TF.	0.1 μF
	E103	23T00181L73	ELY.	100 μF/100V
◆	C104	08T94422F01	CER.	0.47 μF
◇	C104	08T94422F01	CER.	0.47 μF
■	C104	08T94422F01	CER.	0.47 μF
□	C104	08T94422F01	CER.	0.47 μF
	E104	23T00181L77	ELY.	470 μF/100V
	E105	23T00133L38	ELY.	470 μF/50V
	E106	23T00181L77	ELY.	470 μF/100V
	E107	23T00137L13	ELY.	33 μF/160V
	E108	23T00137L13	ELY.	33 μF/160V
◆	E109	23T00180L25	ELY.	10 μF/50V
◇	E109	23T00180L25	ELY.	10 μF/50V
■	E109	23T00180L25	ELY.	10 μF/50V
□	E109	23T00180L25	ELY.	10 μF/50V
◆	E110	23T00180L23	ELY.	3.3 μF/50V
◇	E110	23T00180L23	ELY.	3.3 μF/50V
■	E110	23T00180L23	ELY.	3.3 μF/50V
□	E110	23T00180L23	ELY.	3.3 μF/50V
	E111	23T00180L08	ELY.	33 μF/16V
	E112	23T00180L08	ELY.	33 μF/16V
	E113	23T00180L24	ELY.	4.7 μF/50V
	E114	23T00180L24	ELY.	4.7 μF/50V
Jacks				
	J101	09T15974W01	2P T6302-D105U	
	J102	09T15974W01	2P T6302-D105U	
Coil				
	L101	24T82315F01	LINE FK08160MH02	
Switch				
	S101	40T15820W01	PUSH POWER (Power)	

Note: ●:For Japanese model only (JA)
 ▲:For General Foreign model only (EK)
 others:Common

Symbol No	Part No	Description		
Volume Control				
VR101 MI01	18T10803W02	Volume, RK16313MA		
Remote P.C. Board				
IC				
	IC501 or	51T16094W01 51T16094W02	GP1U521 GP1U521X	
Capacitor				
●	C501	08T57298F01	CER.	0.1 μF
▲	C501	08T57298F01	CER.	0.1 μF
◆	C501	08T44979P14	CER.	0.1 μF
◇	C501	08T44979P14	CER.	0.1 μF
■	C501	08T44979P14	CER.	0.1 μF
□	C501	08T44979P14	CER.	0.1 μF
LED				
	LD501	48T60947F05	SLH-34VR3F (RED)	
Tube P.C. Board 1				
Resistors				
	R705	06T92261F26	MF. 2.4 ohm 2W	
	R706	06T92261F26	MF. 2.4 ohm 2W	
Tube P.C. Board 2				
Capacitors				
	C401A	08T00019L10	MTL.	2.2 μF
	C401B	08T00019L06	MTL.	1 μF
	E401	23T00137L12	ELY.	22 μF/160V
	C402A	08T00019L10	MTL.	2.2 μF
	C402B	08T00019L06	MTL.	1 μF
	E402	23T00137L12	ELY.	22 μF/160V
	C403	08T00019L02	MTL.	0.22 μF
	C404	08T00019L02	MTL.	0.22 μF
	C405	08T00151L17	P.P	2200pF
	C406	08T00151L17	P.P	2200pF
FL/Key Board P.C. Board				
Diodes				
	D301	48T84758F01	1SS270	
	D302	48T84758F01	1SS270	
	D303	48T84758F01	1SS270	
	D304	48T84758F01	1SS270	
	D305	48T84758F01	1SS270	

◆:For American model only (UZ)
 ■:For West Germany model only (AD)
 ◇:For Canadian model only (UQ)
 □:For England model only (AG)

Symbol No	Part No	Description		
D306	48T84758F01	1SS270		
D307	48T84758F01	1SS270		
D308	48T84758F01	1SS270		
D309	48T84758F01	1SS270		
D310	48T84758F01	1SS270		
D311	48T84758F01	1SS270		
D312	48T84758F01	1SS270		
Switches				
S301	40T83324F11	Tact SKHHAP (REPEAT)		
S302	40T83324F11	Tact SKHHAP (6)		
S303	40T83324F11	Tact SKHHAP (0)		
S304	40T83324F11	Tact SKHHAP (A-PAUSE)		
S305	40T83324F11	Tact SKHHAP (7)		
S306	40T83324F11	Tact SKHHAP (1)		
S307	40T83324F11	Tact SKHHAP (A-SCN)		
S308	40T83324F11	Tact SKHHAP (8)		
S309	40T83324F11	Tact SKHHAP (2)		
S310	40T83324F11	Tact SKHHAP (M-CHECK)		
S311	40T83324F11	Tact SKHHAP (9)		
S312	40T83324F11	Tact SKHHAP (3)		
S313	40T83324F11	Tact SKHHAP (RANDOM)		
S314	40T83324F11	Tact SKHHAP (10)		
S315	40T83324F11	Tact SKHHAP (4)		
S316	40T83324F11	Tact SKHHAP (EDIT)		
S317	40T83324F11	Tact SKHHAP (+10)		
S318	40T83324F11	Tact SKHHAP (5)		
S319	40T83324F11	Tact SKHHAP (STOP)		
S320	40T83324F11	Tact SKHHAP (CLEAR)		
S321	40T83324F11	Tact SKHHAP (PAUSE)		
S322	40T83324F11	Tact SKHHAP (PROGRAM)		
S323	40T83324F11	Tact SKHHAP (PLAY)		
S324	40T83324F11	Tact SKHHAP (OPEN/CLOSE)		
S325	40T83324F11	Tact SKHHAP (SKIP+UP)		
S326	40T83324F11	Tact SKHHAP (BACKWORD)		
S327	40T83324F11	Tact SKHHAP (FORWORD)		
S328	40T83324F11	Tact SKHHAP (SKIP-DOWN)		
S329	40T83324F11	Tact SKHHAP (DISP.ADJ)		
S330	40T83324F11	Tact SKHHAP (TIME-DISP)		
Fade P.C. Board				
S901	40T83324F11	Tact SKHHAP (T.FADE-OUT)		
S902	40T83324F11	Tact SKHHAP (VOL.DOWN)		
S903	40T83324F11	Tact SKHHAP (VOL.UP)		
S904	40T83324F11	Tact SKHHAP (FADE-OUT)		

Symbol No	Part No	Description		
Miscellaneous				
●	C801	08T57298F01	Cap.,	Cer. 0.1 μF
▲	C801	08T57298F01	Cap.,	Cer. 0.1 μF
◆	C801	08T44979P14	Cap.,	Cer. 0.1 μF
◇	C801	08T44979P14	Cap.,	Cer. 0.1 μF
■	C801	08T44979P14	Cap.,	Cer. 0.1 μF
□	C801	08T44979P14	Cap.,	Cer. 0.1 μF
FL301	65T15386W01	FL, Display FV335G		
▲	F102	65T42077U11	Fuse, Semko	315mA
■	F102	65T42077U11	Fuse, Semko	315mA
□	F102	65T42077U11	Fuse, Semko	315mA
IC105	51T16168W01	IC. μPC2412HF		
J801	09T66672F01	J90K, Head Phone		
●	P801	28T67434F01	Plug, AC Cord	
▲	P801	28T43812P04	Plug, AC Cord	
■	P801	28T43812P04	Plug, AC Cord	
□	P801	28T44061F05	Plug, AC Cord	
◆	P801	28T55335F02	Plug, AC Cord	
◇	P801	28T55335F02	Plug, AC Cord	
Q701	65T00091L01	Tube (6CG7)		
Q702	65T00091L01	Tube (6CG7)		
R601	06T92262F23	Res, MF 1.8 ohm 3W		
R602	06T92262F23	Res, MF 1.8 ohm 3W		
S601	40T15685W01	SW. Push (Pre-Heat)		
●	T101	25T16178W01	Trans, Power	
▲	T101	25T16178W02	Trans, Power	
■	T101	25T16178W02	Trans, Power	
□	T101	25T16178W02	Trans, Power	
◆	T101	25T16178W03	Trans, Power	
◇	T101	25T16178W03	Trans, Power	

Note: ● : For Japanese model only (JA)

▲ : For General Foreign model only (EK)

Other : Common

◆ : For American model only (UZ)

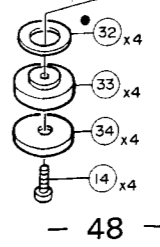
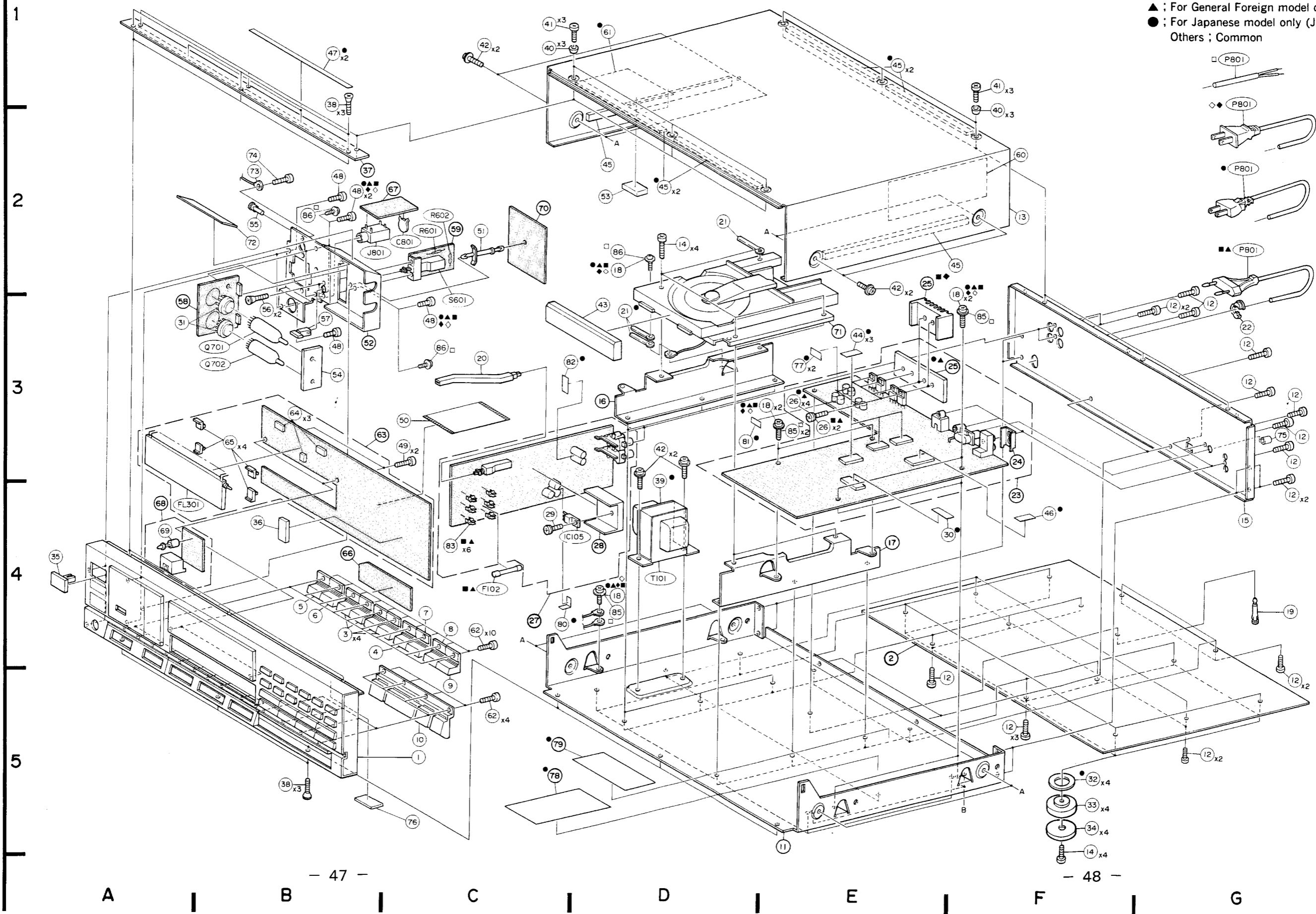
■ : For West Germany model only (AD)

◇ : For Canadian model only (UQ)

■ : For England model only (4G)

Exploded View(Cabinet)

Note :
 ◇ ; For Canadian model only (UQ)
 □ ; For England model only (AG)
 ◆ ; For American model only (UZ)
 ■ ; For West Germany model only (AD)
 ▲ ; For General Foreign model only (EK)
 ● ; For Japanese model only (JA)
 Others ; Common



Packing Assembly Parts List

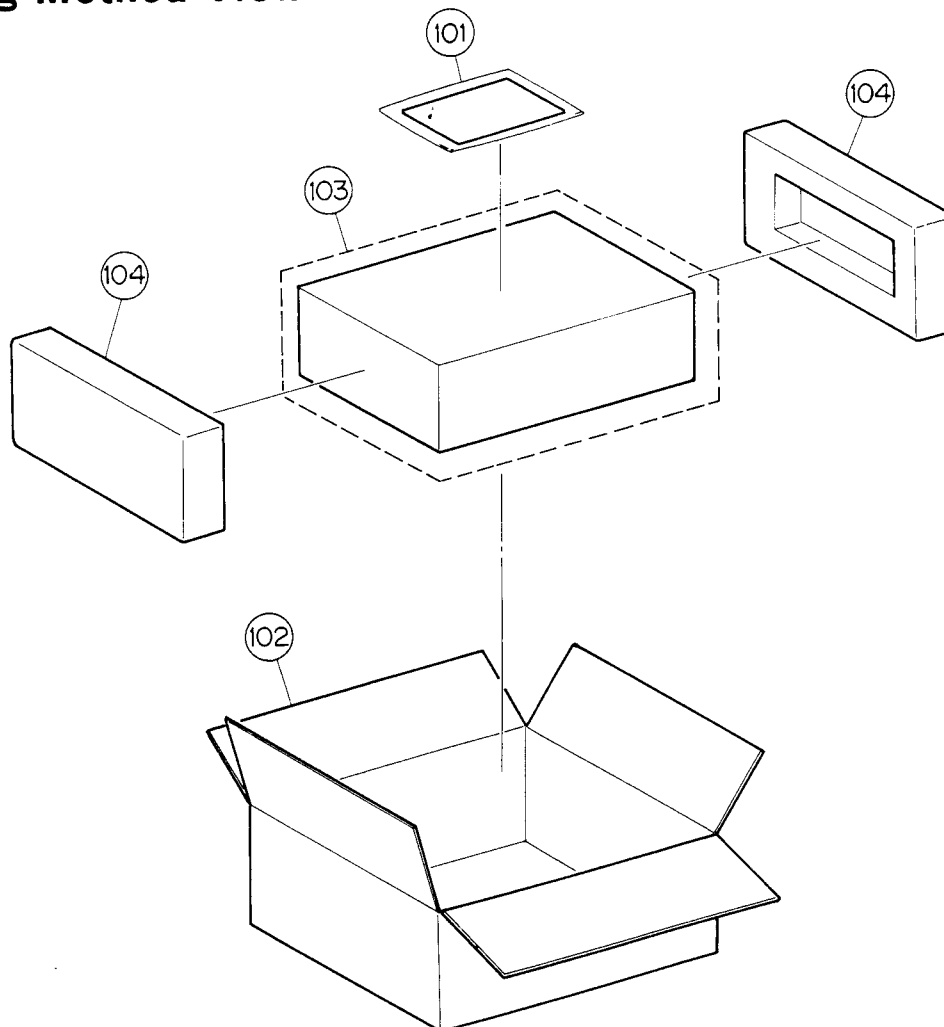
Symbol No	Part No	Description		
●	101-1	68P96552F25	Owners, Manual	
◆	101-1	68P96552F26	Owners, Manual	
◇	101-1	68P96552F27	Owners, Manual	
▲	101-1	68P96552F27	Owners, Manual	
■	101-1	68P96552F27	Owners, Manual	
□	101-1	68P96552F27	Owners, Manual	
	101-2	01T82091F01	Assy., Mini Plug Cord	
●	101-3	01T16150W01	Unit, Remocon	
▲	101-3	01T16150W02	Unit, Remocon	
■	101-3	01T16150W02	Unit, Remocon	
◆	101-3	01T16150W02	Unit, Remocon	
◇	101-3	01T16150W02	Unit, Remocon	
□	101-3	01T16150W02	Unit, Remocon	

Symbol No	Part No	Description		
	101-4	60T58064F01	Battery, SUM-3	
	101-5	28T67347F04	Plug, Output	
◆	101-6	01T84773F01	Fiber, TOCP172-150CB	
◇	101-6	01T84773F01	Fiber, TOCP172-150CB	
■	101-6	01T84773F01	Fiber, TOCP172-150CB	
●	102	56S10005W27	Carton, Packing	
◆	102	56S10005W27	Carton, Packing	
▲	102	56S10005W27	Carton, Packing	
■	102	56S10005W27	Carton, Packing	
□	102	56S10005W27	Carton, Packing	
◇	102	56S10005W28	Carton, Packing	
	103	56B40442T08	Packing, Front Frame	
	104	56D11887W01	Tray, Packing	

Note: ● : For Japanese model only (JA)
 ▲ : For General Foreign model only (EK)
 Others : Common

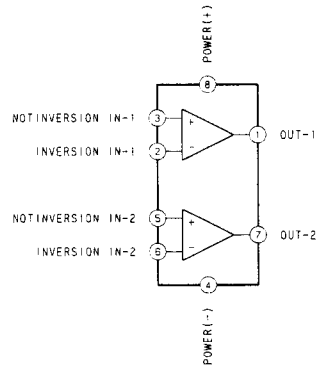
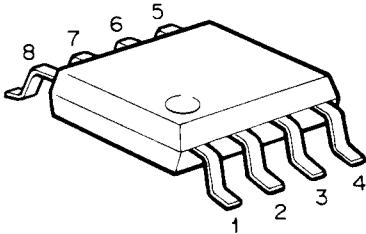
◆ : For American model only (UZ)
 ■ : For West German model only (AD)
 ◇ : For Canadian model only (LQ)
 □ : For England model only (AG)

Packing Method View

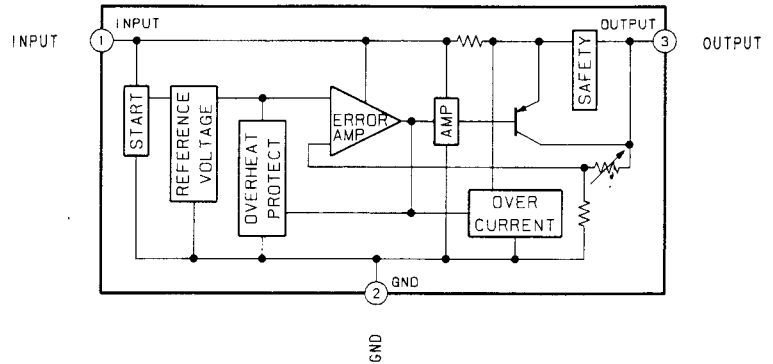
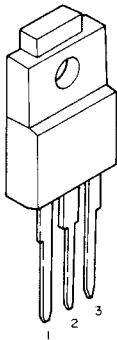


Semi-Conductor Lead Identifications

M5238P : IC101, 102

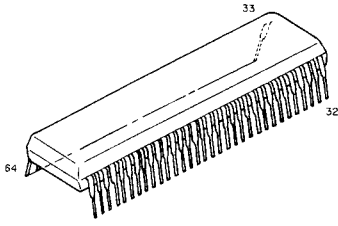


μPC2412HF : IC105



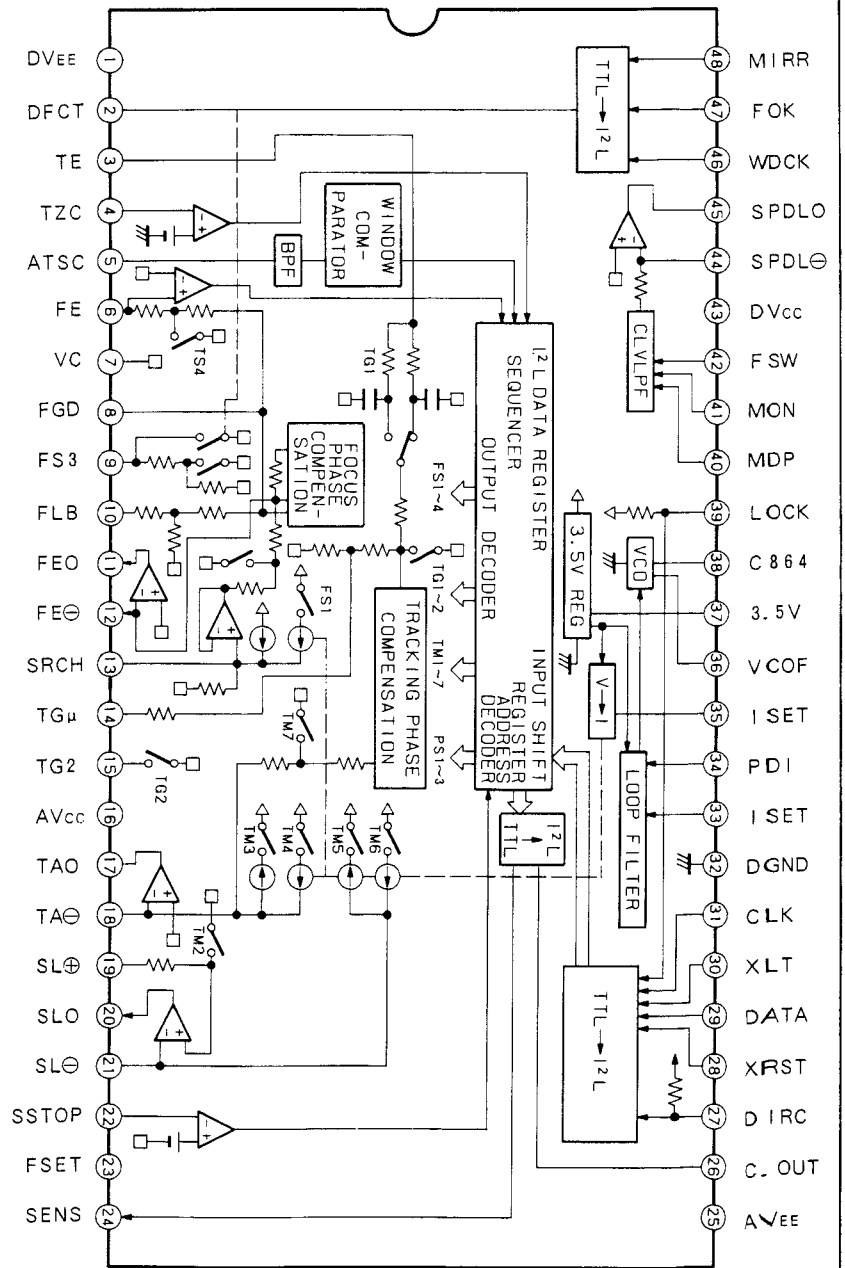
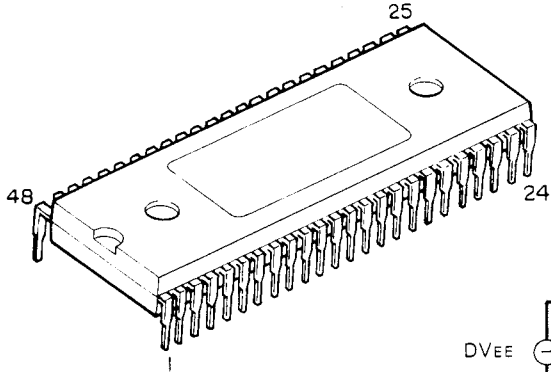
15365W02 : IC201 (JA/EK Model only)

15749W02 : IC201 (AD/UZ/AG/UQ Model only)

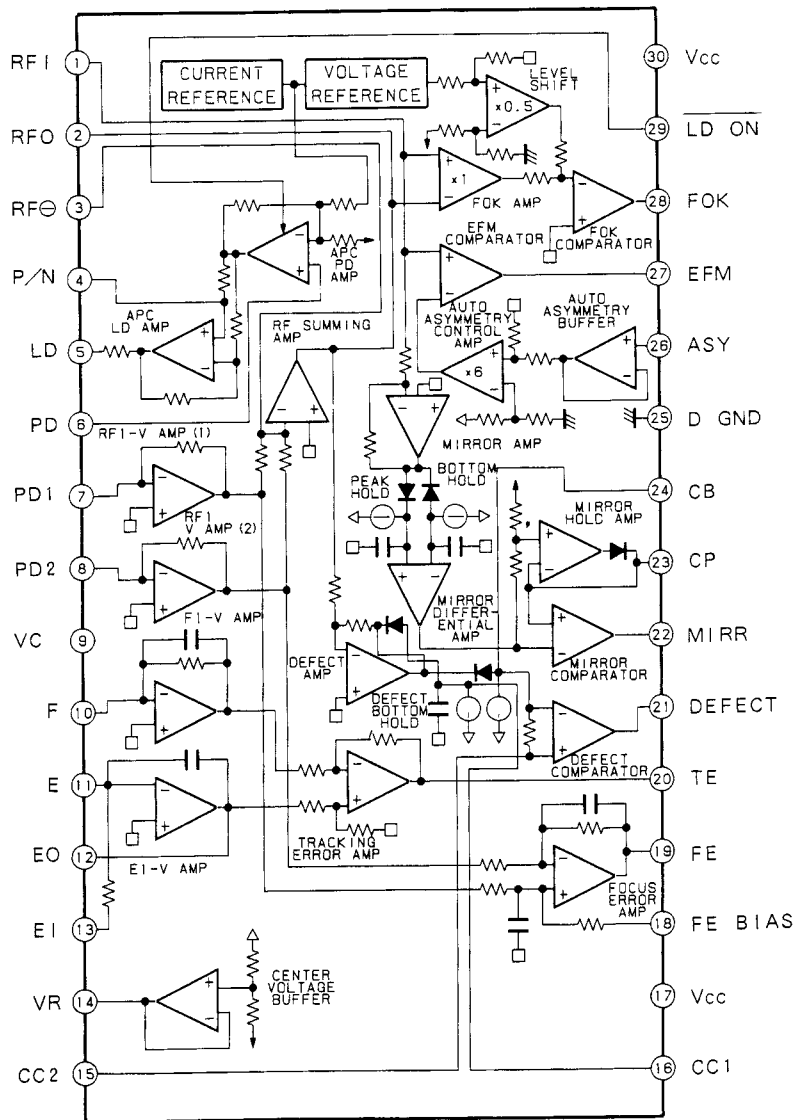
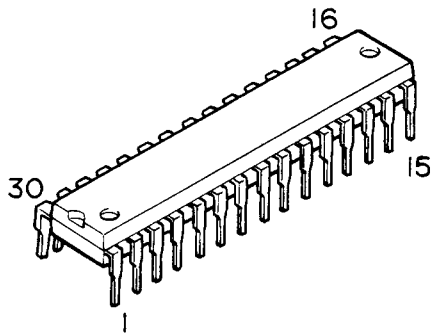


1	SEG4	17	EMPHA	33	SQ CK	49	OSC
2	SEG3	18	GFS	34	SUBQ	50	GND
3	SEG2	19	-35V	35	FOK	51	GND
4	SEG1	20	A.MUTE	36	PWM	52	NC
5	SEG0	21	CLOSE SW	37	SENS	53	+5V
6	DIG0(1G)	22	OPEN SW	38	NC	54	VOL CP
7	DIG1(2G)	23	LD ON	39	MUTE	55	VOL UP
8	DIG2(3G)	24	XRST	40	RHT SW	56	VOL DOWN
9	DIG3(4G)	25	XLT	41	CLOSE	57	SEG12
10	DIG4(5G)	26	DATA	42	OPEN	58	SEG11
11	DIG5(6G)	27	CLK	43	SWRTN	59	SEG10
12	DIG6(7G)	28	POWER	44	KRTN2	60	SEG9
13	DIG7(8G)	29	SCOR	45	KRTN1	61	SEG8
14	DIG8(9G)	30	RMC	46	KRTN0	62	SEG7
15	DIG9(10G)	31	NC	47	RESET	63	SEG6
16	DIMM	32	+5V	48	OSC	64	SEG5

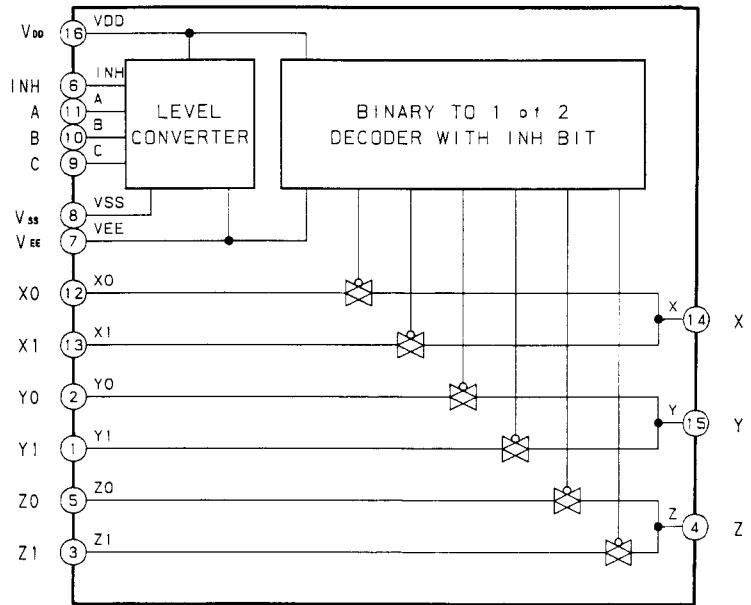
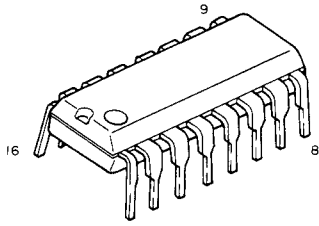
CXA1082BS : IC202



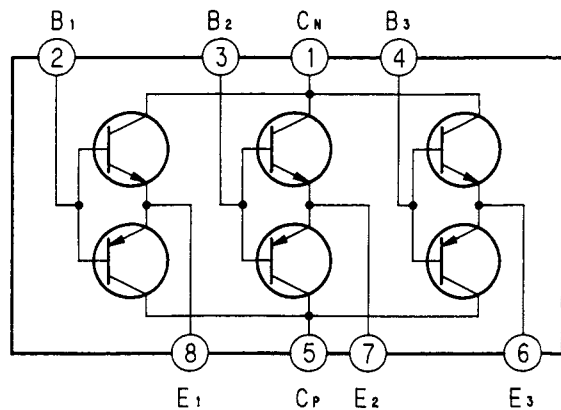
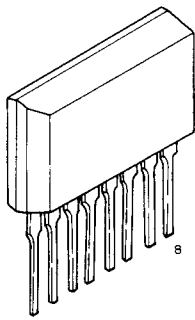
CXA1081S : IC203



MC14053 : IC204 (JA/EK Model only)

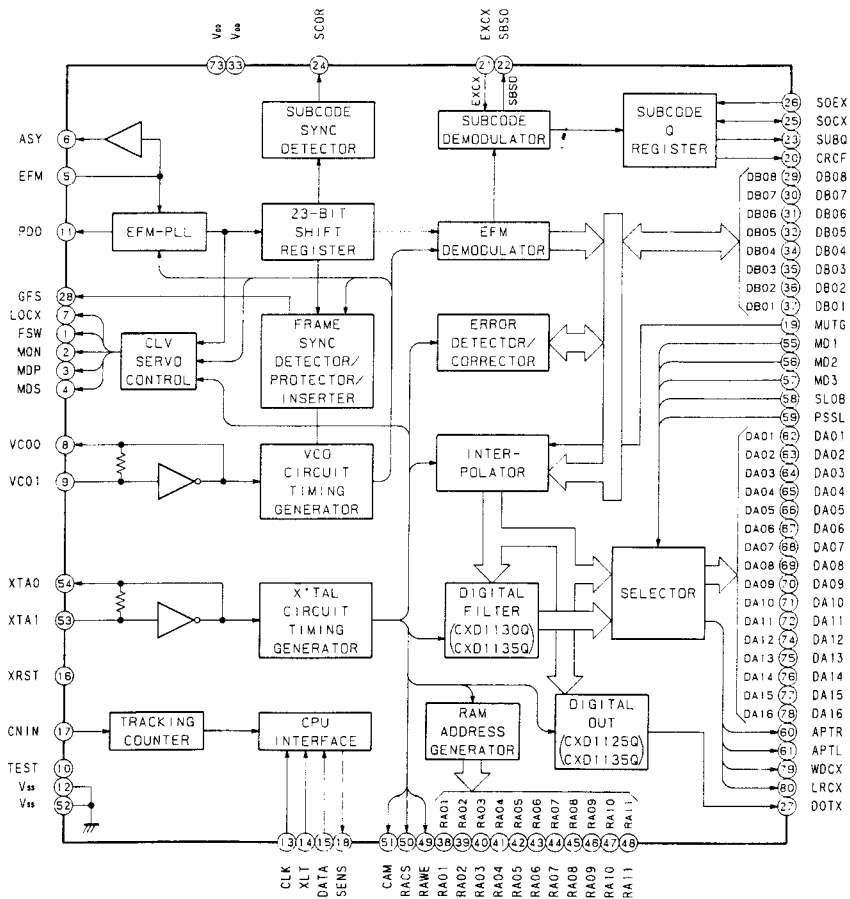
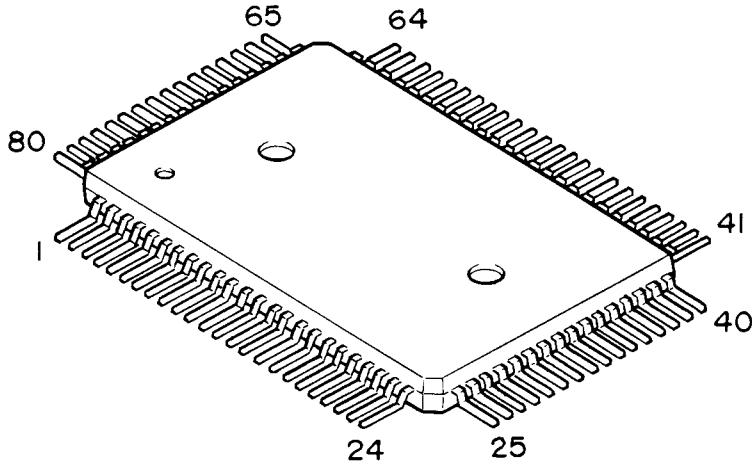


STA341M : IC204 (AD/UZ/AG/UQ Model only)

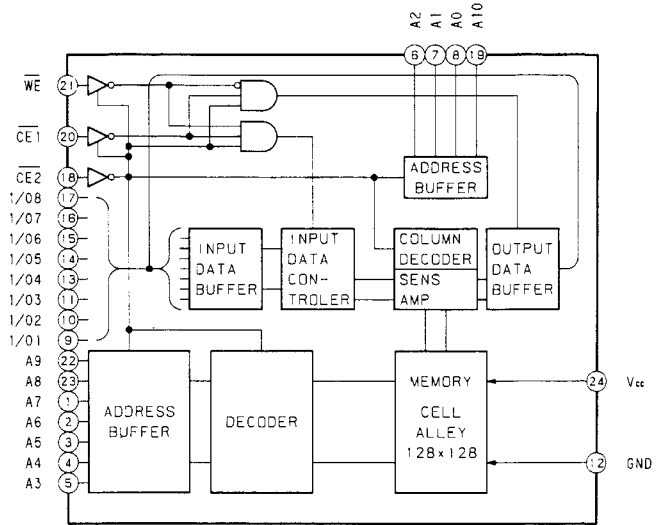
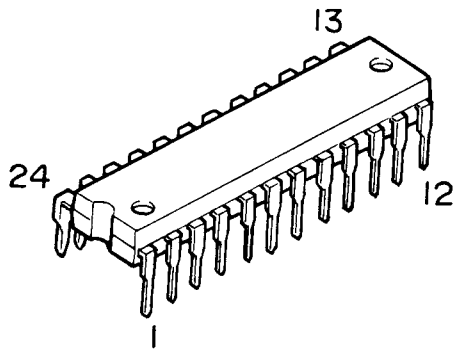


B. Base
C. Collector
E. Emitter

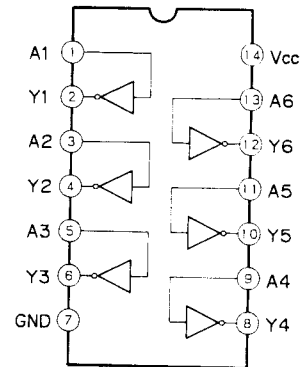
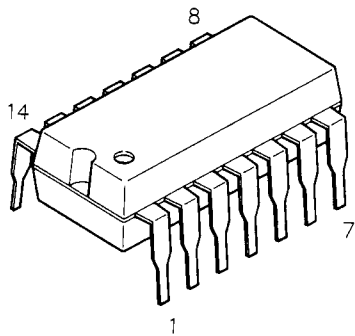
CXD1125QZ : IC205



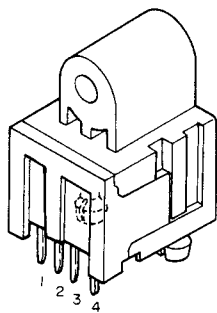
LC3516AS : IC206



MC74HCU04 : IC207

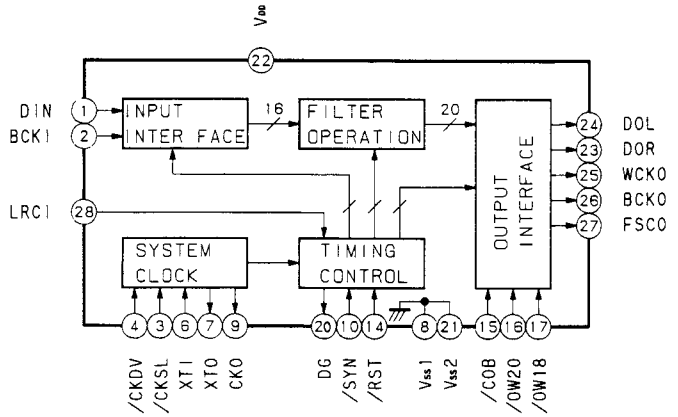
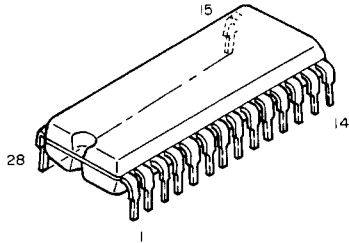


HFBR1550 : IC208

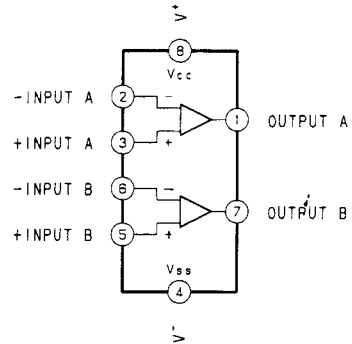
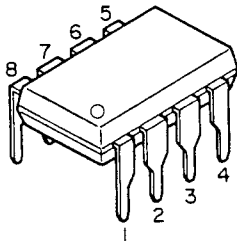


	Transmitter	Receiver
1	LED-Anode	V _{ccd}
2	LED-Cathode	V _{OUT}
3	N.C	GRD
4	N.C	V _{cca}

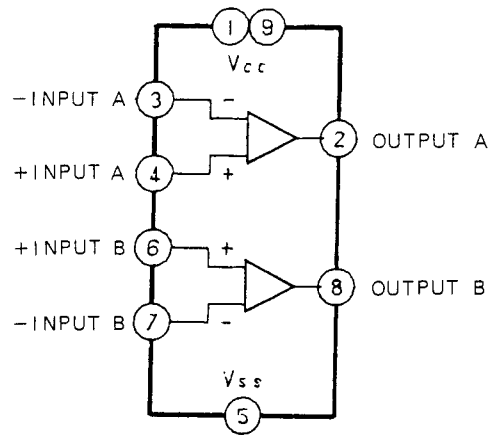
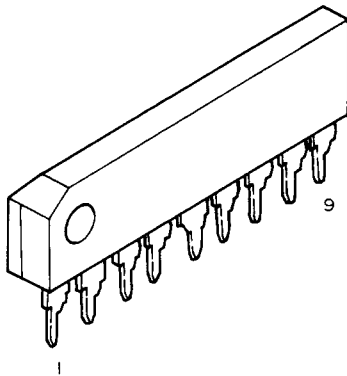
SM5813AP : IC209



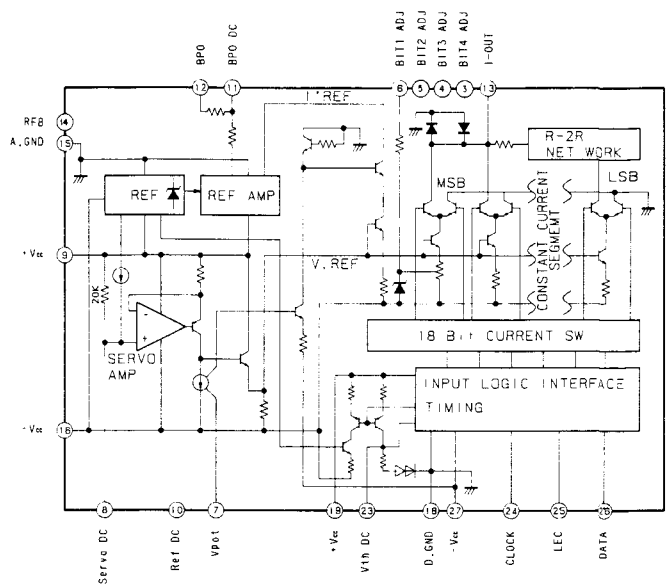
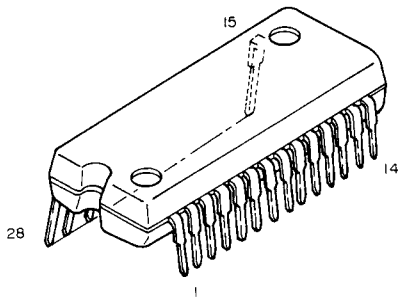
NJM2903D : IC210 (JA/EK Model only)



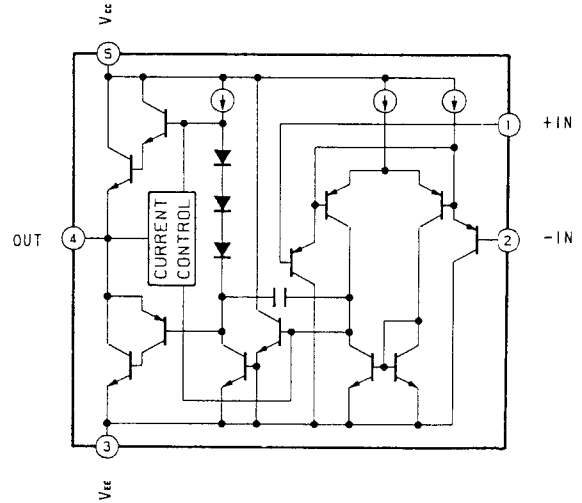
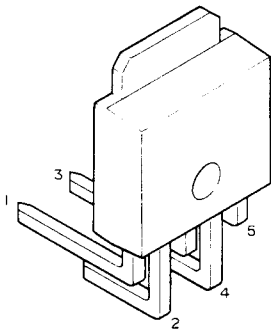
NJM2903S : IC210 (AD/UZ/AG/UQ Model only)



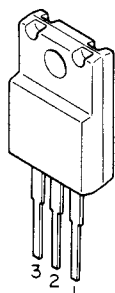
PCM701P : IC211, 212



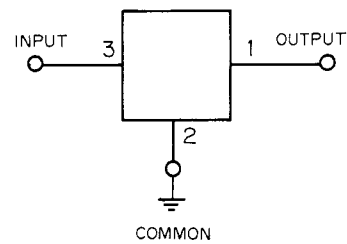
LA6501 : IC213, 218



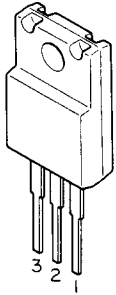
NJM7805 : IC214



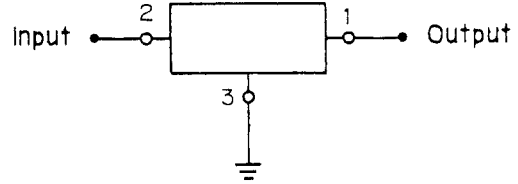
- 1. Output
- 2. Common
- 3. Input



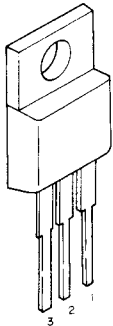
NJM7905 : IC215, IC217



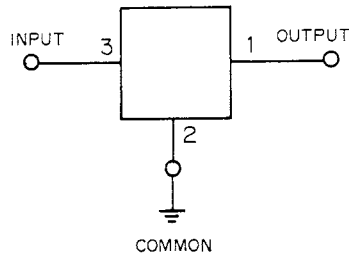
- 1. Output
- 2. Input
- 3. Common



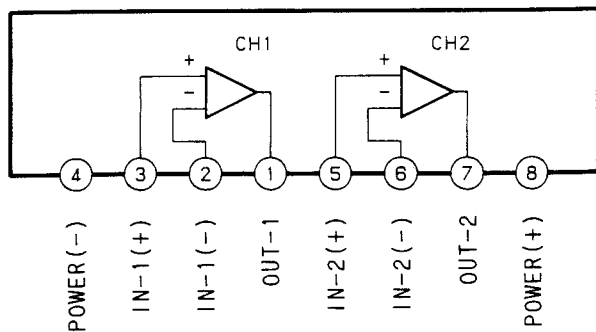
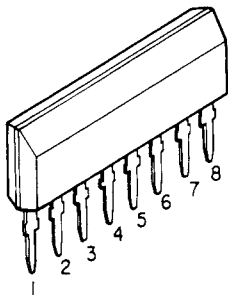
NJM7808 : IC216 (JA/EK Model only)
NJM7808FA : IC216 (AD/UZ Model only)



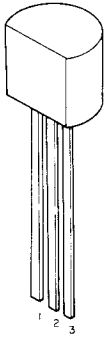
- 1. Output
- 2. Common
- 3. Input



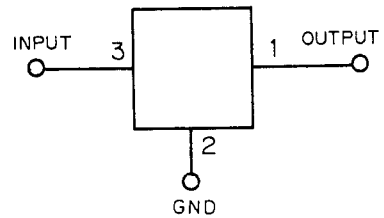
M5238L : IC219, 220



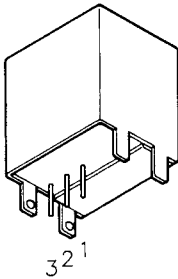
NJM78L05A : IC221



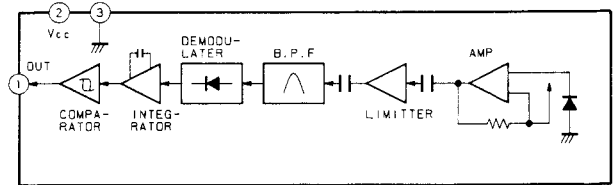
- 1. Output
- 2. GND
- 3. Input



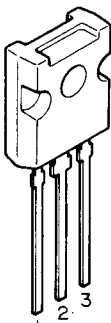
**GP1U521 : IC501
or GP1U521X**



- 1. V_{out}
- 2. V_{cc}
- 3. GND

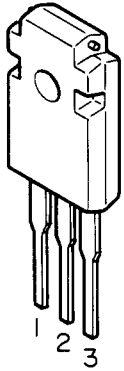


- 2SA1360 : Q101**
- 2SC3421 : Q212**
: Q214, 216, 218 (JA/EK Model only)
- 2SA1358 : Q213**
: Q215, 217, 219 (JA/EK Model only)



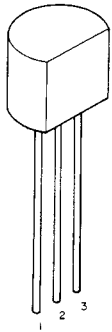
- 1. Emitter
- 2. Collector
- 3. Base

2SC3298 : Q102



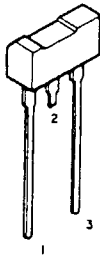
- 1. Base**
- 2. Collector**
- 3. Emitter**

2SD1302 : Q103, 104, 105, 106, 221, 222
: Q107, 108 (AD/UZ/AG/UQ Model only)
2SA854Q : Q201
2SA950 : Q223 (AD/UZ/AG/UQ Model only)

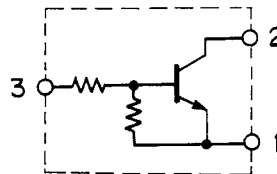


- 1. Emitter**
- 2. Collector**
- 3. Base**

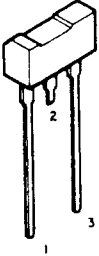
DTC114EL : Q204, 207, 208, 209
: Q224, 225 (AD/UZ/AG/UQ Model only)



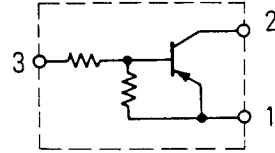
- 1. Emitter**
- 2. Collector**
- 3. Base**



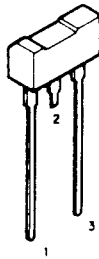
DTA114EL : Q205, 206



- 1. Emitter
- 2. Collector
- 3. Base

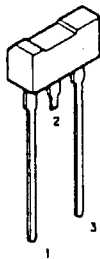


2SC4038 : Q210, 211
2SB1277 : Q220



- 1. Emitter
- 2. Collector
- 3. Base

DTC124TL : Q226 (AD/UZ/AG/UQ Model only)



- 1. Emitter
- 2. Collector
- 3. Base

