

# SHARP SERVICE MANUAL

S9454XL12XEGY

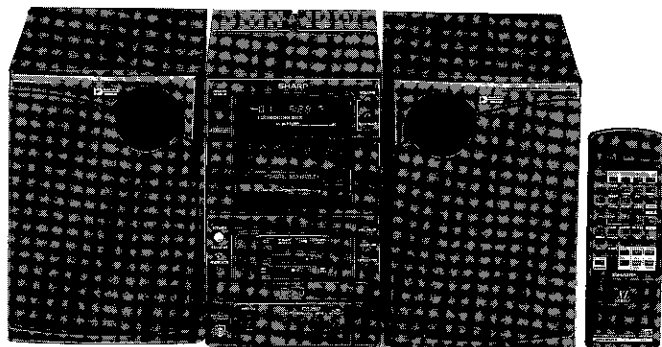



PHOTO: XL-12X(GY)

## XL-12X(GY) XL-12E(GY) CP-XL12(GY)



- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

• **Note for users in UK**  
Recording and playback of any material may require consent which SHARP is unable to give. Please refer particularly to the provisions of Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1956, the Performers Protection Acts 1963 and 1972 and to any subsequent statutory enactments and orders.

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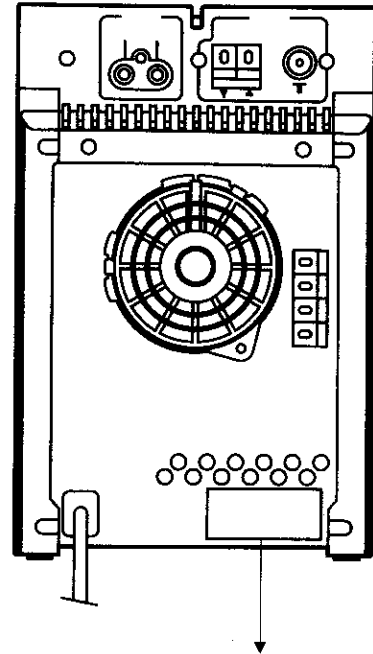
## SAFETY PRECAUTION FOR SERVICE MANUAL (XL-12E FOR UK ONLY)

### Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class I Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the Laser:-

- (1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
- (2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
- (3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
- (4) Under no circumstances look directly into the Pickup Lens at any time.
- (5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**XL-12E FOR UK**



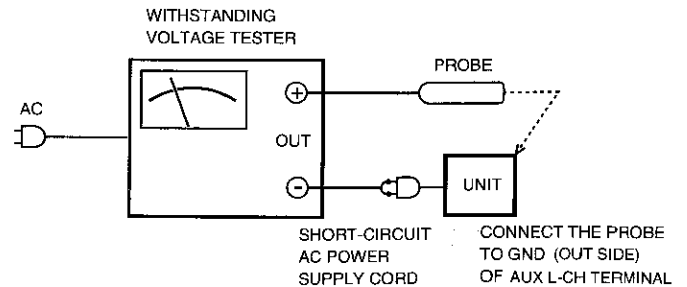
**CLASS 1 LASER PRODUCT  
APPAREIL À LASER DE CLASSE 1  
PRODUCTO LASER DE CLASE 1**

## IMPORTANT SERVICE NOTES (XL-12E FOR UK ONLY)

Before returning the unit to the customer after completion of a repair or adjustment it is necessary for the following withstand voltage test to be applied to ensure the unit is safe for the customer to use.

### Setting of Withstanding Voltage Tester and set.

Set name	set value
Withstanding Voltage Tester	
Test voltage	4,240 VPEAK 3,000 VRMS
Set time	6 secs
Set current(Cutoff current)	4 mA
Unit	
Power	ON
Function	Tuner
Judgment	
OK: The "GOOD" lamp lights.	
NG: The "NG" lamp lights and the buzzor sounds.	



FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

## SPECIFICATIONS

### XL-12X/E

#### ● Compact disc player

<b>Type:</b>	Compact disc player
<b>Signal readout:</b>	Non-contact, 3-beam semiconductor laser pickup
<b>Rotational speed:</b>	200 - 500 rpm CLV, Approx.
<b>Error converter:</b>	CIRC (Cross Interleave Reed-Solomon Code)
<b>D/A converter:</b>	16-bit
<b>Filter:</b>	8-times oversampling digital filter and active filter
<b>Frequency response:</b>	20 - 20,000Hz
<b>Wow and flutter :</b>	Unmeasurable (less than 0.001 % W.peak)

#### ● Tuner

<b>Frequency range:</b> (XL-12X)	FM; 88 - 108 MHz AM; 531 - 1,602 kHz (9 kHz span)
<b>Frequency range:</b> (XL-12E)	FM; 87.5 - 108 MHz AM; 522 - 1,620 kHz
<b>Sensitivity:</b>	FM; 2.5 $\mu$ V AM; 630 $\mu$ V/m

#### ● Tape deck

<b>Tape:</b>	Compact cassette tape
<b>Frequency response:</b>	50 - 14,000 Hz (Normal tape) 50 - 15,000 Hz (CrO2 tape)
<b>Signal/noise ratio:</b>	50 dB (Dolby NR off) Dolby NR effect; 10 dB (at over 5 kHz)
<b>Wow and flutter:</b>	0.2 % (WRMS)

#### ● General

<b>Power source:</b> (XL-12X)	AC 110 / 127 / 220 - 240 V, 50 / 60 Hz
<b>Power source:</b> (XL-12E)	AC 230 - 240 V, 50 Hz
<b>Power consumption:</b>	235 W
<b>Output power:</b> (XL-12X)	PMPO; 500 W
<b>Output power:</b>	MPO; 170 W (85 W + 85 W) (10 % T.H.D. 1 kHz, 6 ohms) RMS; 100 W (50 W + 50 W) (10 % T.H.D. 1 kHz, 6 ohms)
<b>Input terminals:</b>	VIDEO/AUX; 500 mV / 47 kohms
<b>Output terminals:</b>	Headphones; 16 - 50 ohms (recommended; 32 ohms) Speakers; 6 ohms
<b>Dimensions:</b>	Width; 150 mm (5 - 15/16") Height; 235 mm (9 - 5/16") Depth; 309 mm (12 - 3/16")
<b>Weight:</b>	6,1 kg (13.5 lbs.)

### CP-XL12

<b>Tape:</b>	2 - way type
<b>Speakers:</b>	13 cm (5") woofer 5 cm (2") tweeter
<b>Frequency range:</b>	40 - 20,000 Hz
<b>Maximum power handling capacity:</b>	100 W
<b>Impedance:</b>	6 ohms
<b>Dimensions:</b>	Width; 165 mm(6 - 1/2") Height; 235 mm(9 - 5/16") Depth; 274.5 mm (10 - 13/16")
<b>Weight:</b>	2.7 kg (6.0 lbs.) / each

Specifications for this model are subject to change without prior notice.

## VOLTAGE SELECTION (XL-12X ONLY)

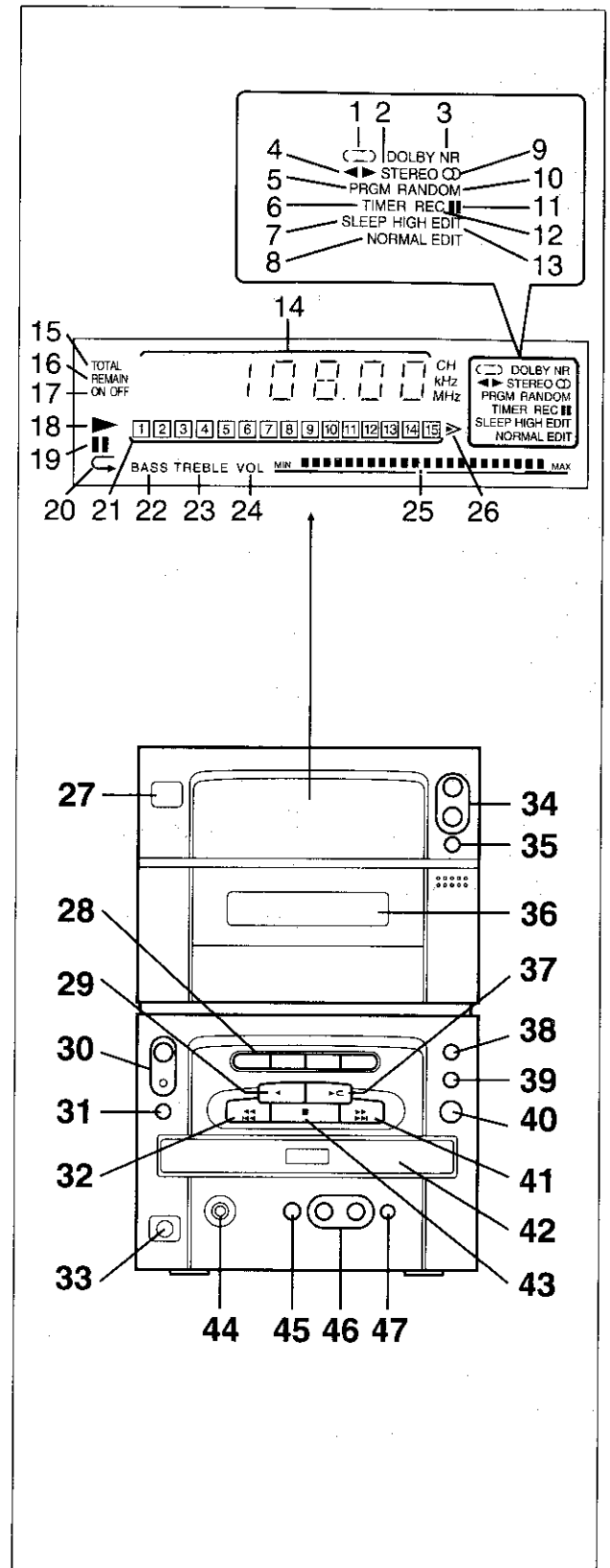
The voltage selector is located on the AC voltage selector box. If adjustment is necessary, use a screwdriver in order to slide the selector to match to the correct voltage.

**NAMES OF PARTS**

**XL-12X/E**

**■ Front panel**

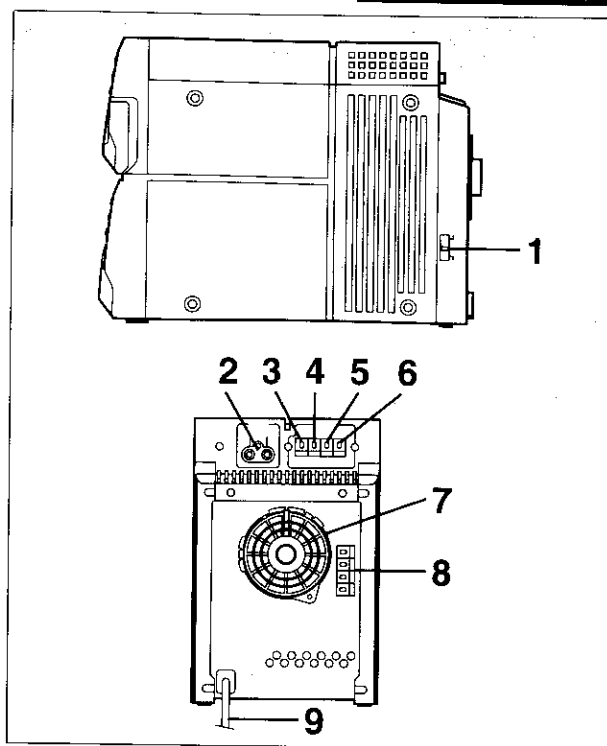
1. Reverse Mode Indicator: ◀▶
2. FM Stereo Mode Indicator
3. Dolby NR Indicator
4. Tape Direction Indicator: ◀▶
5. Programme Indicator
6. Timer Indicator
7. Sleep Indicator
8. Normal Speed Edit Indicator
9. FM Stereo Indicator: ∞
10. Random Play Indicator
11. Record Pause Indicator: ||
12. Record Indicator
13. High Speed Edit Indicator
14. Function/Track Number/CD Counter /Time/Frequency/Volume/Treble/Bass Indicator
15. Total Time Indicator
16. Remaining Time Indicator
17. Timer On/Off Indicator
18. CD Play Indicator: ▶
19. CD Pause Indicator: ||
20. CD Repeat Indicator: ◌
21. Music Schedule Indicators
22. Bass Indicator
23. Treble Indicator
24. Volume Indicator
25. Volume/Bass/Treble Level Indicator
26. Music Schedule Over Indicator: ▶
27. Remote Control Sensor
28. Function Selector Buttons
29. Reverse Play Button: ◀
30. Power Switch and Stand-by Indicator
31. Reverse Mode Button
32. Fast Wind/Track Down/Preset Down Button: ◀◀ / ◀
33. CD Digital Output Socket
34. Volume/Bass/Treble Control Buttons: ∨ / ∧
35. Volume/Bass/Treble Selector Button
36. Cassette Compartment
37. Forward Play/Play Repeat Button: ▶ ◌
38. Record Pause Button
39. Dolby NR Button
40. Open/Close Button
41. Fast Wind/Track Up/Preset Up Button: ▶▶ / ▶▶▶
42. Disc Tray
43. Stop Button: ■
44. Headphones Socket
45. CD Editing Button
46. Editing Speed Selector Buttons
47. Auto Memory Button



**XL-12X**

■ Side panel

1. AC Voltage Selector



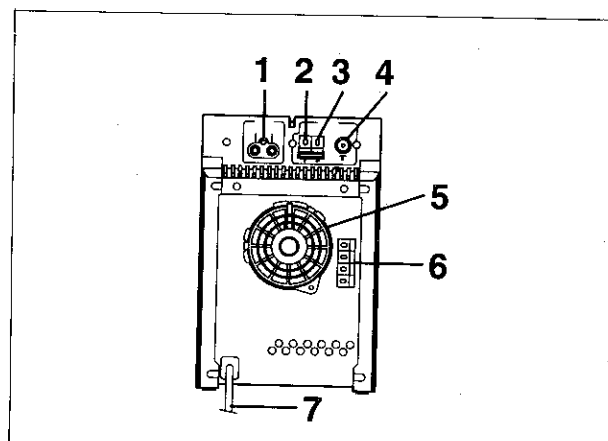
■ Rear panel

2. Video/Auxiliary (Audio Signal) Input Sockets
3. AM Aerial Terminal
4. FM 75 ohms/AM Aerial Earth Terminal
5. FM 75 ohms/ FM 300 ohms Aerial Terminal
6. FM 300 ohms Aerial Terminal
7. Cooling Fan
8. Speaker Terminals
9. AC Power Lead

**XL-12E**

■ Rear panel

1. Video/Auxiliary (Audio Signal) Input Sockets
2. AM Aerial Terminal
3. AM Aerial Earth Terminal
4. FM 75 ohms Aerial Socket
5. Cooling Fan
6. Speaker Terminals
7. AC Power Lead



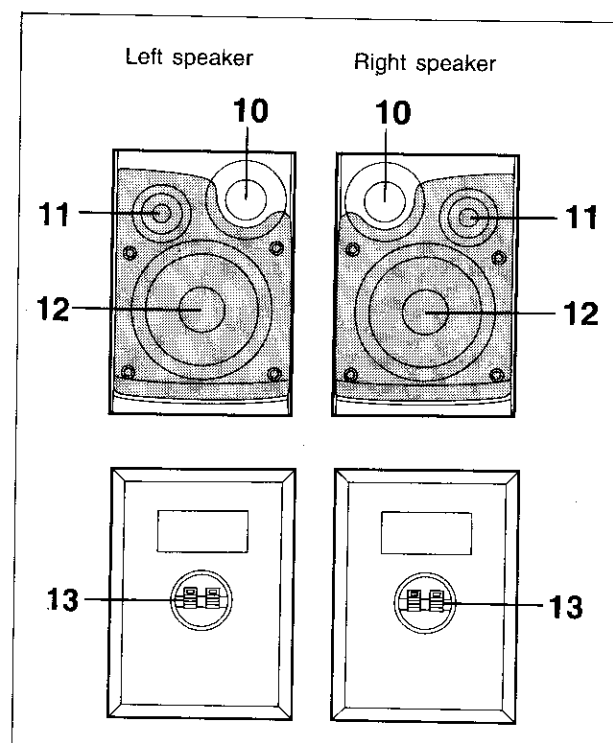
**CP-XL12**

■ Speaker section

10. Bass Reflex Port
11. Tweeter
12. Woofer
13. Speaker Terminals

**Active Servo Technology System**

The Active Servo Technology System incorporates an active servo processing amplifier, which directly operates the speakers. This greatly improves the driving and controlling forces on the speakers. These exclusive active servo processing speakers make possible powerful bass playback with limited distortion, and clear sound quality, even though they are compact in size.



**REMOTE CONTROL**

1. Remote Control Transmitter Window
2. Function Selector Buttons

● **Timer/Tuner control section**

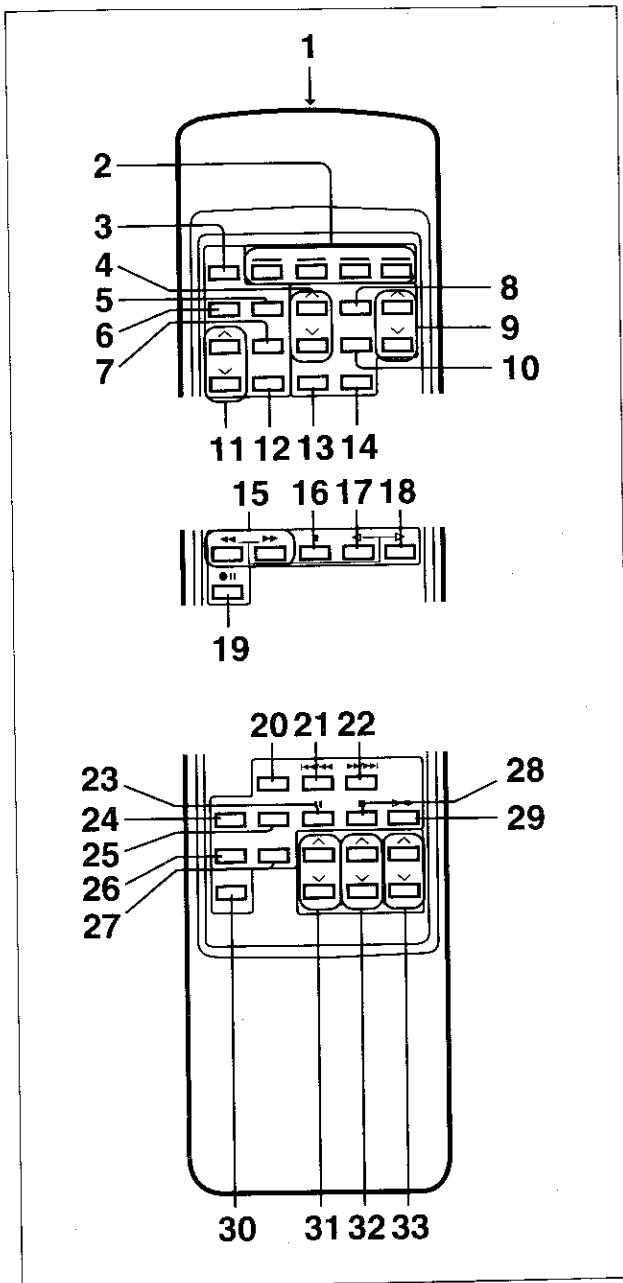
3. Clock Button
4. Tuning Control Buttons:  $\vee/\wedge$
5. Timer Button
6. Set Button
7. Sleep Button
8. AM Call Button
9. Preset Up/Down Buttons:  $\vee/\wedge$
10. FM Call Button
11. Time Control Buttons:  $\vee/\wedge$
12. Timer Stand-by Button
13. Memory Button
14. FM Mode Button

● **Tape control section**

15. Fast Wind/APSS Buttons:  $\ll / \gg$
16. Stop Button: ■
17. Reverse Play Button: ◀
18. Forward Play Button: ▶
19. Record Pause Button: ● ||

● **CD control section**

20. Time Display Selector Button
21. Track Down/Review Button:  $\ll / \lll$
22. Track Up/Cue Button:  $\gg / \ggg$
23. Pause Button: ||
24. Programme Button
25. Random Play Button
26. Call Button
27. Clear Button
28. Stop Button: ■
29. Play/Repeat Button: ▶ ◀
30. Power Button
31. Bass Up/Down Buttons:  $\vee/\wedge$
32. Treble Up/Down Buttons:  $\vee/\wedge$
33. Volume Up/Down Buttons:  $\vee/\wedge$

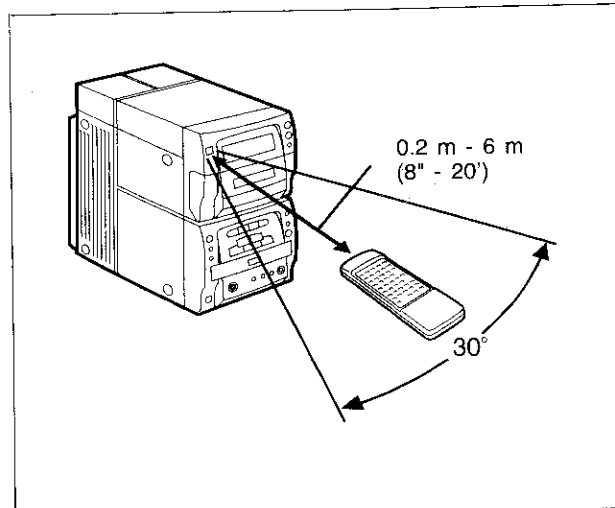


■ **Proper use of the remote control**

Aim the remote control at the remote control sensor within 30°, with no obstacles, and operate as shown.

● **Notes concerning use:**

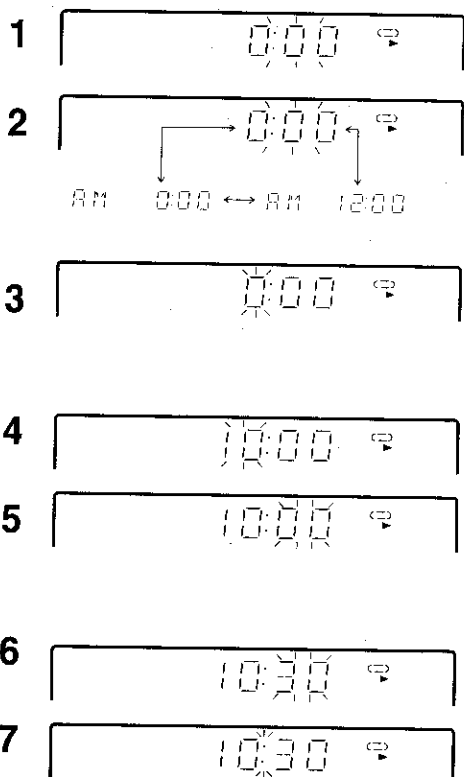
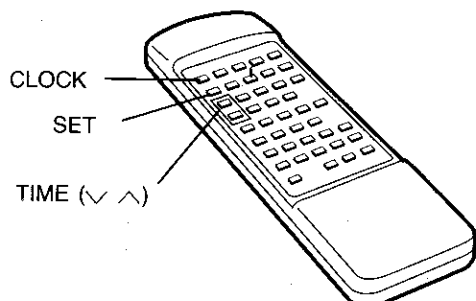
- Replace the batteries if control distance decreases or operation becomes erratic.
- Periodically clean the transmitter window on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light can interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.
- The remote control's usable range is between 0.2 m (8") and 6 m (20') away from the sensor.



# OPERATION MANUAL

## SETTING THE CLOCK

In this example, the clock is set for the 24-hour system.



- When the AC power lead is first connected, the clock indicator will flash at "TIME".

### Remote control operation

- Operate the remote control when the main unit is turned off.

- 1 Press the SET button.
- 2 Press the TIME (∨ or ∧) button to select the time display.

"0:00" → The 24-hour display will appear.  
(0:00 - 23:59)

"AM 12:00" → The 12-hour display will appear.  
(AM 12:00 - PM 11:59)

"AM 0:00" → The 12-hour display will appear.  
(AM 0:00 - PM 11:59)

### Caution:

- Once the type of time display is selected, it cannot be changed.

- 3 Press the SET button.
- 4 Press the TIME (∨ or ∧) button to adjust the hour.
  - Press the TIME button once to advance the time by 1 hour. Press for more than 2 seconds to advance continuously.
  - When the 12-hour display is selected, "AM" will change automatically to "PM".
- 5 Press the SET button.
- 6 Press the TIME (∨ or ∧) button to adjust the minutes.
  - Keep the button pressed for more than 2 seconds to make the time change in 5 minute intervals.
  - The hour setting will not advance even if minutes advance from "59" to "00".
- 7 Press the SET button.
  - The clock starts operating from "0" seconds. (Seconds are not displayed.)

### Note:

- In the event of a power failure or when the AC power lead is disconnected, the clock display will go out. When the AC power supply is resumed, the clock display will flash on and off to indicate that the time must be reset. If this happens, try again, starting from step 1.

### To change the clock time

- 1 Press the POWER button to turn the power on.
- 2 Press the CLOCK button. Then, within 3 seconds, press the SET button.
- 3 Perform steps 4 - 7 above.

### To look at the time display:

Press the CLOCK button.

- The time display will appear for about 3 seconds.

**DISASSEMBLY**

**Caution on Disassembly**

Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep its safety and excellent performance:

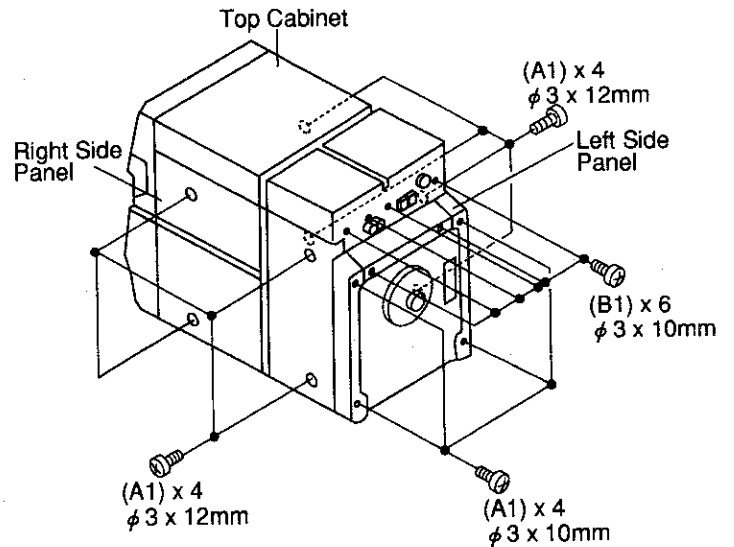
1. Take cassette tape and compact disc out of the unit.
2. Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3. Take off nylon bands or wire holders where they need be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4. Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

**XL-12X E**

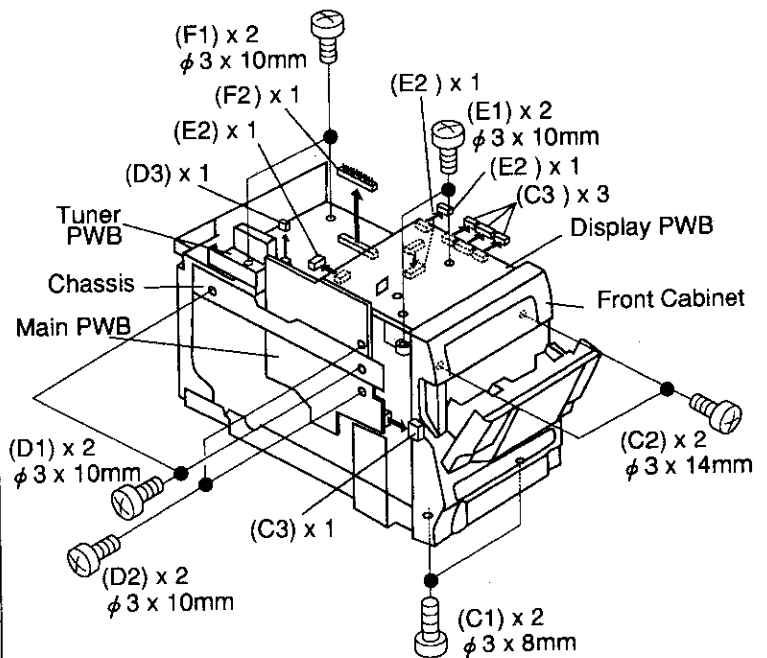
STEP	REMOVAL	PROCEDURE	FIGURE
1	Left/Right Side Panel	1. Screw .....(A1) x 12	8-1
2	Top Cabinet	1. Screw .....(B1) x 6	8-1
3	Front Cabinet	1. Open the cassette cover. 2. Screw .....(C1) x 2 3. Screw .....(C2) x 2 4. Socket .....(C3) x 4	8-2
4	Main PWB	1. Screw .....(D1) x 2 2. Screw .....(D2) x 2 3. Socket .....(D3) x 1 4. Screw .....(D4) x 1 5. Pull the PWB out towards you.	8-2 9-2
5	Display PWB	1. Screw .....(E1) x 2 2. Socket .....(E2) x 4	8-2 9-2
6	Tuner PWB	1. Screw .....(F1) x 2 2. Socket .....(F2) x 1	8-2
7	Tape Mechanism	1. Screw .....(G1) x 4 2. Socket .....(G2) x 1	9-1
8	Deck PWB	1. Screw .....(H1) x 2 2. Pull the PWB out towards you.	9-1
9	Power Amp. PWB	1. Screw .....(J1) x 4	9-1
10	Terminal PWB	1. Screw .....(K1) x 2	9-1
11	CD Block	1. Screw .....(L1) x 4 2. Screw .....(L2) x 4 3. Socket .....(L3) x 1	9-2
12	CD Servo PWB	1. Screw .....(M1) x 4 2. Socket .....(M2) x 4	9-2
13	Power PWB	1. Screw .....(N1) x 1 2. Fan .....(N2) x 1 3. Screw .....(N3) x 4	9-2
14	CD Mechanism	1. Screw .....(P1) x 3	9-3

**CP-XL12**

STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker	1. Net .....(A1) x 1 2. Cap .....(A2) x 4 3. Screw .....(A3) x 4 4. Front Panel .....(A4) x 1 5. Screw .....(A5) x 2 6. Screw .....(A6) x 4	9-4 9-5



**Figure 8-1**



**Figure 8-2**



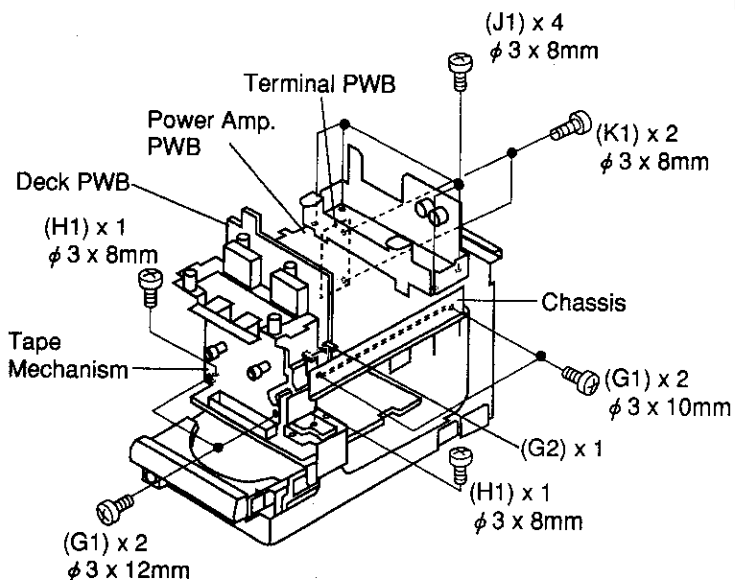


Figure 9-1

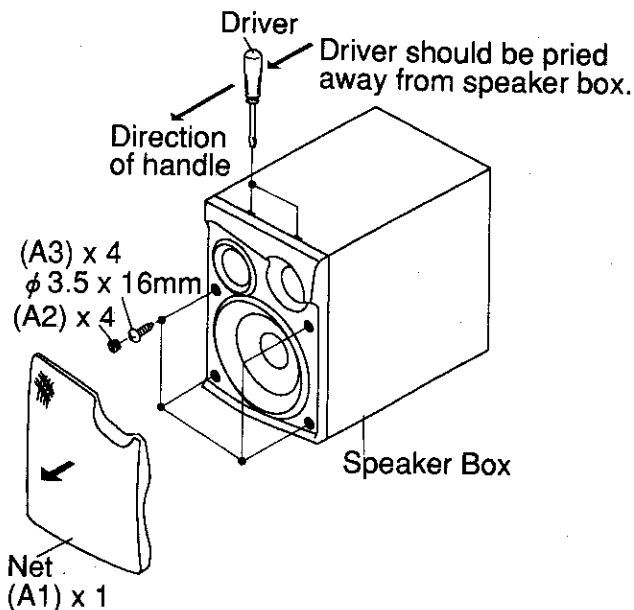


Figure 9-4

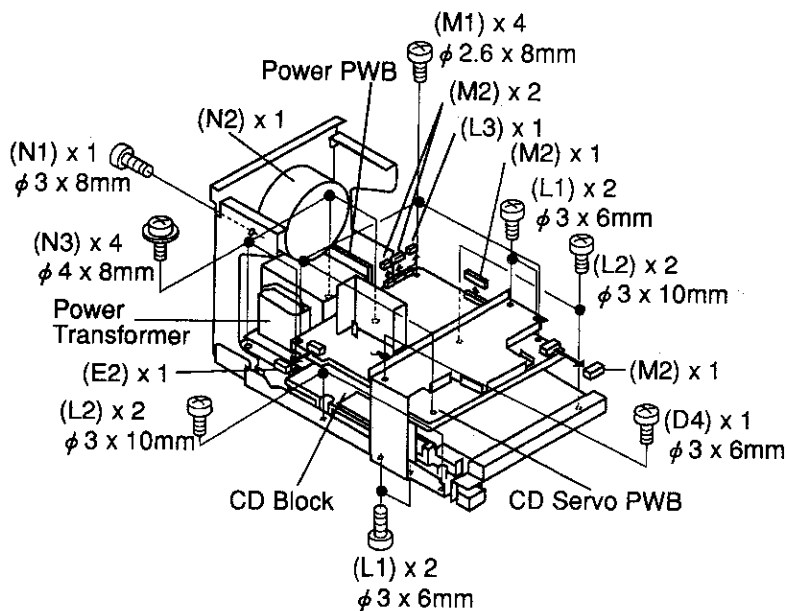


Figure 9-2

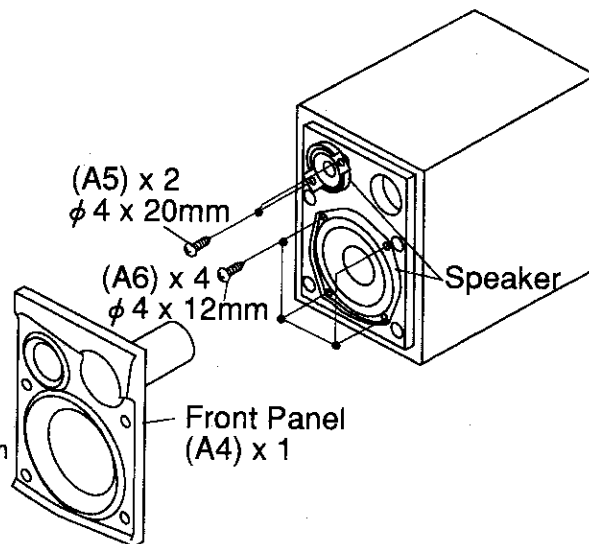


Figure 9-5

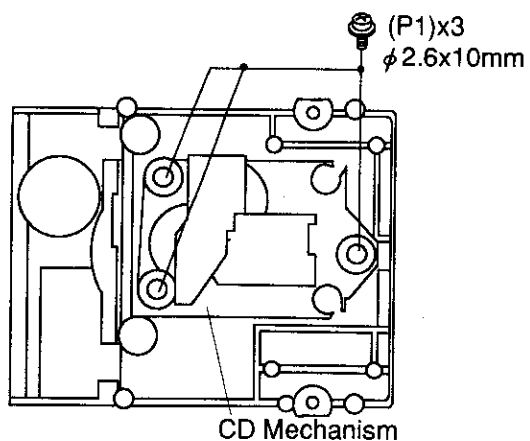


Figure 9-3

**How to unlock the mechanism lock**

1. Remove the left and right panels.
2. Push the plunger in the direction shown by the arrow, using a slender screwdriver (3 mm dia., 130 mm long). (It will click.) (Fig. 10-1)
3. When a screwdriver (or other thin probe) is inserted in the clearance next to the main PWB and the flywheel is turned in the direction of the arrow, the head will go down and the cassette holder can be opened. (Fig. 10-2)

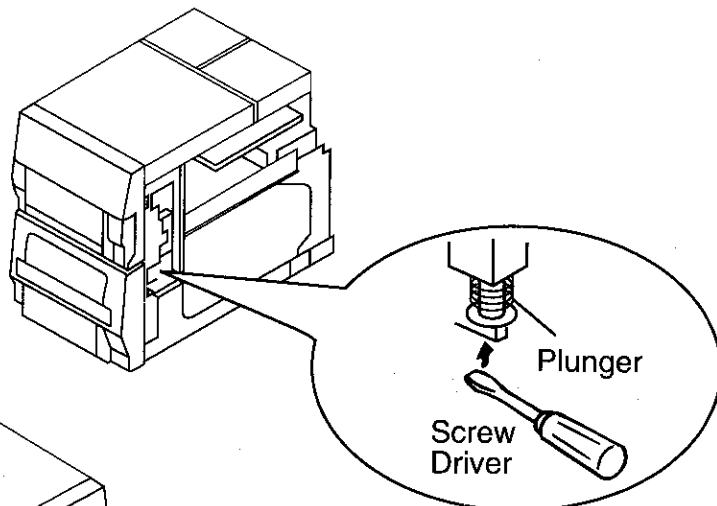


Figure 10-1

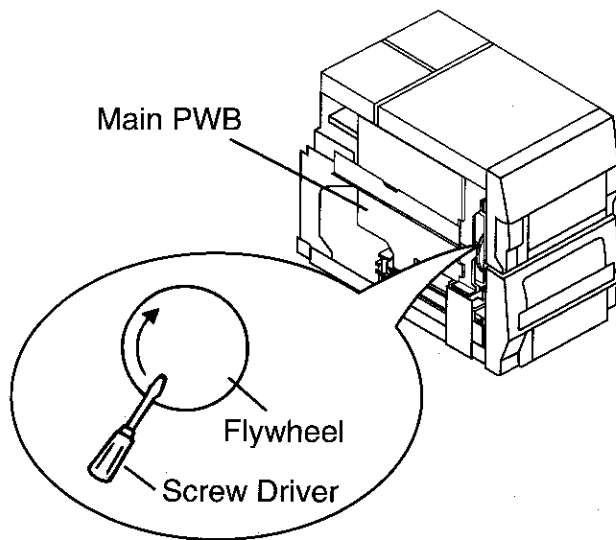


Figure 10-2

**REMOVING AND REINSTALLING THE MAIN PARTS**

**TAPE MECHANISM SECTION**

Perform steps 1, 2, 3 and 7 of the disassembly method to remove the tape mechanism.

**How to remove the main belt, FF/rewind belt (See Fig. 10-3.)**

1. Remove the main belt (A1) x 1 pc., from the motor pulley.
2. Remove the ff/rewind belt (A2) x 1 pc., from the drive gear.
3. Put on the belts in the reverse order of removal.

**Note:**

1. When putting on the belt, ascertain that the belt is not twisted, and clean it.

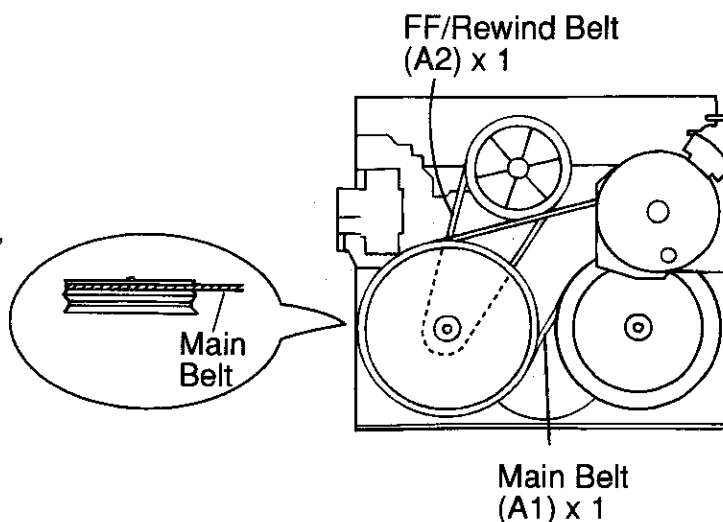


Figure 10-3

**How to remove the motor (See Fig. 11-1.)**

1. Remove the screws (B1) x 2 pcs., and then remove the motor mounting bracket.
2. Remove the screws (B2) x 3 pcs., and remove the motor.

**Notes:**

1. When mounting the motor, pay attention to the motor mounting angle.
2. When the motor is removed, the belt comes off. Put it on, referring to the description of belt putting-on.

**How to remove the tape mechanism PWB (See Fig. 11-2.)**

1. Remove the screw (C1) x 1 pc., and remove the solder joint of the solenoid (C2) x 2 pcs., and then remove the Tape Mechanism PWB.

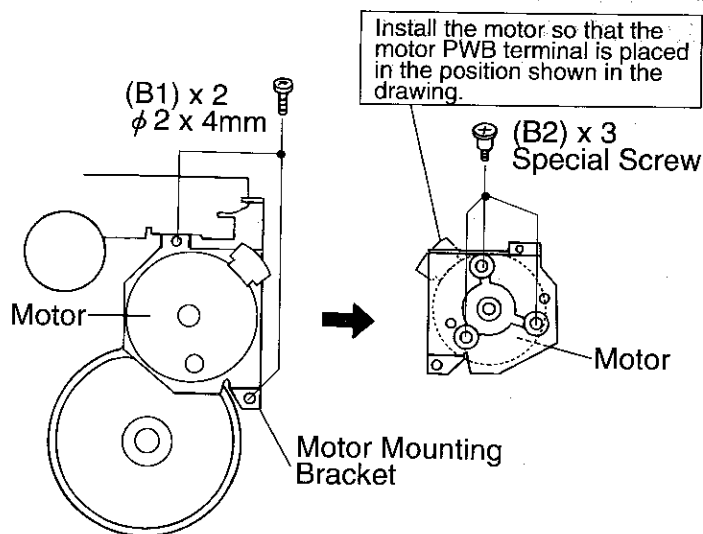


Figure 11-1

**How to remove the pinch roller (See Fig. 11-3.)**

1. Carefully release the pinch roller hook in the direction indicated by the arrow mark, and remove the pinch roller (E1) x 1 pc., upward.

**How to remove the record/playback/erase head (See Fig. 11-4, 5.)**

1. Remove the screws (F1) x 2 pcs. After lifting the head chassis to the playback position, remove the head base.
2. Remove the spring (F2) x 1 pc.
3. Remove the screws (F3) x 2 pcs., and remove the head.

**Cares when mounting the head:**

Mount the head in the position shown in Fig. 11-5. Be sure to apply screw lock after replacement of head and azimuth adjustment.

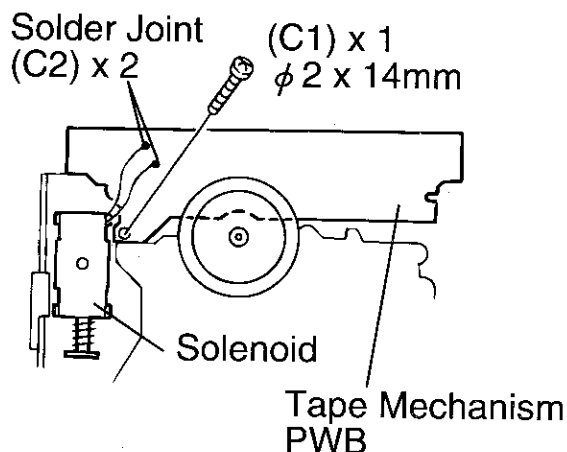


Figure 11-2

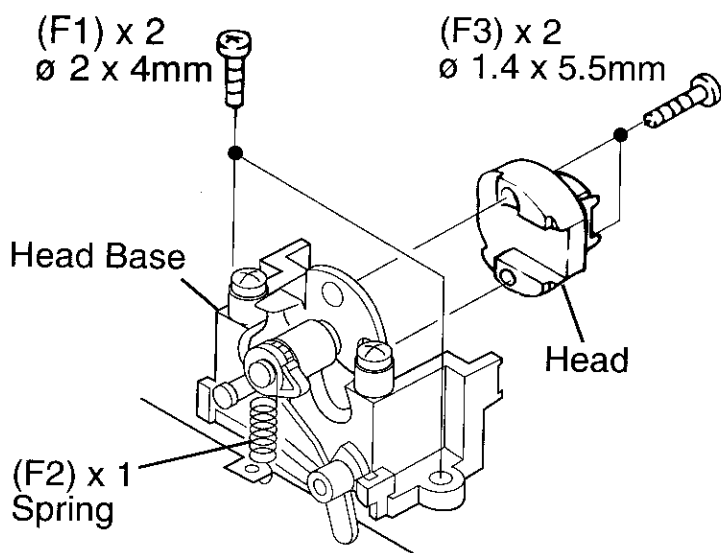


Figure 11-4

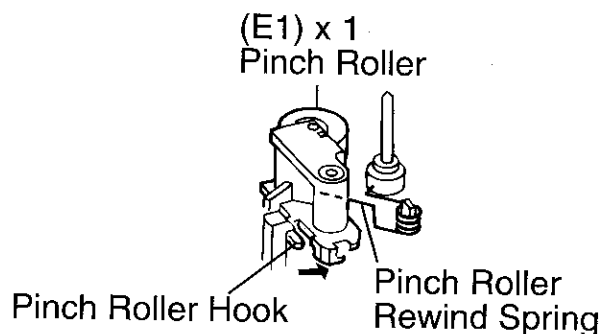


Figure 11-3

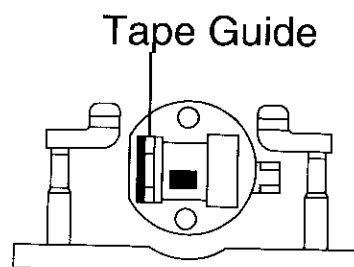


Figure 11-5

**CD MECHANISM SECTION**

Perform the Disassembly Steps 1 to 10 and 13 to remove the CD mechanism.

**How to remove the pickup (See Fig. 12-1.)**

1. Remove the screws (A1) x 2 pcs., to remove the shaft (A2) x 1 pc.
2. Remove the stop washer (A3) x 1 pc., to remove the gear (A4) x 1 pc.
3. Remove the pickup.

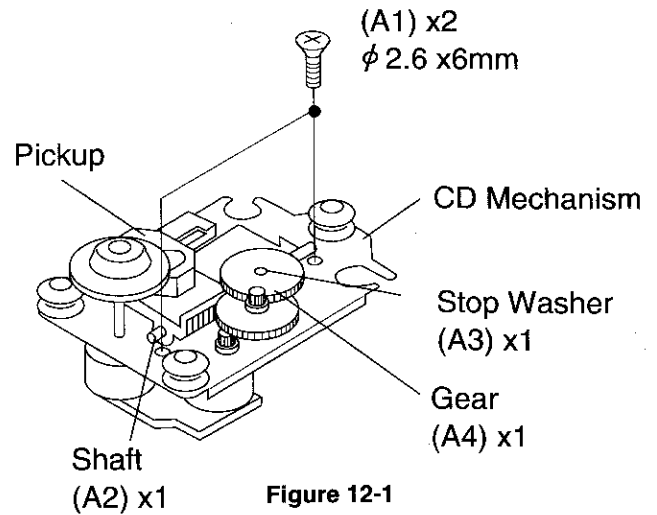


Figure 12-1

**How to remove the belt and motor (See Fig. 12-2.)**

1. Remove the drive belt (B1) x 1 pc.
2. Remove the screws (B2) x 2 pcs.
3. Remove the loading motor (B3) x 1 pc.

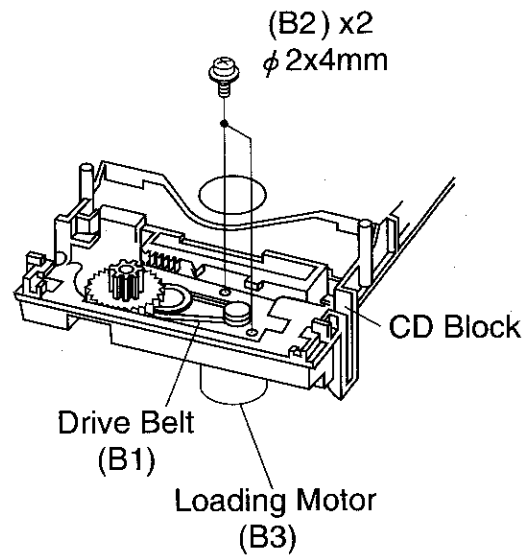


Figure 12-2

**How to remove the disc holder (See Fig. 12-3.)**

1. Perform the Disassembling Steps 1 to 10.
2. Push the rack gear (A1) x 1 pc., in the direction Ⓐ with a screwdriver to move the disc holder forward.
3. Withdraw the disc holder, and holding the both-side hooks (A2) x 2 pc., remove the disc holder (A3) x 1 pc.

**Note:**  
When mounting the disc holder, keep the rack gear pushed in the direction Ⓐ. Otherwise, the disc holder cannot be mounted.

**Unloading the CD upon occurrence of trouble or power failure**

1. Remove the side panel (Perform the Disassembling Step 1.)
2. Push the rack gear with a screwdriver to move the disc holder forward, and take out the CD.

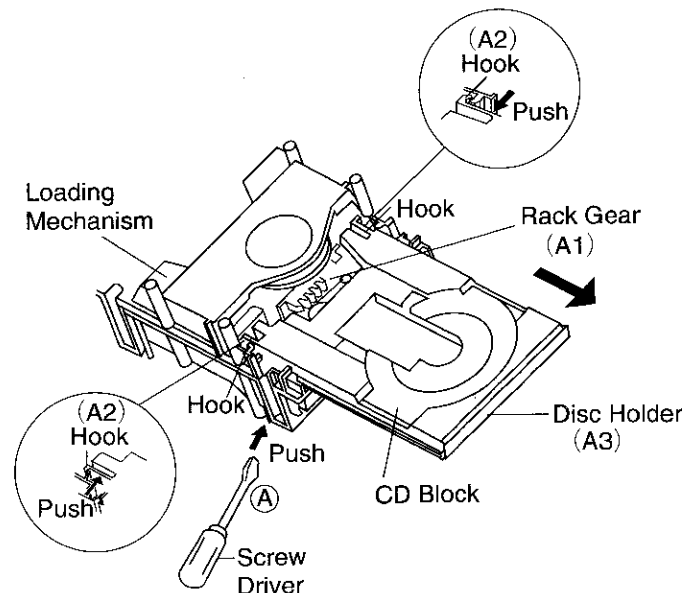


Figure 12-3

## WIRING OF PRIMARILY SUPPLY LEADS (XL-12E FOR UK ONLY)

If any one of the bands shown in Fig. 13-1 is removed for some reason, be sure replace it to the original position and same appearance as before.

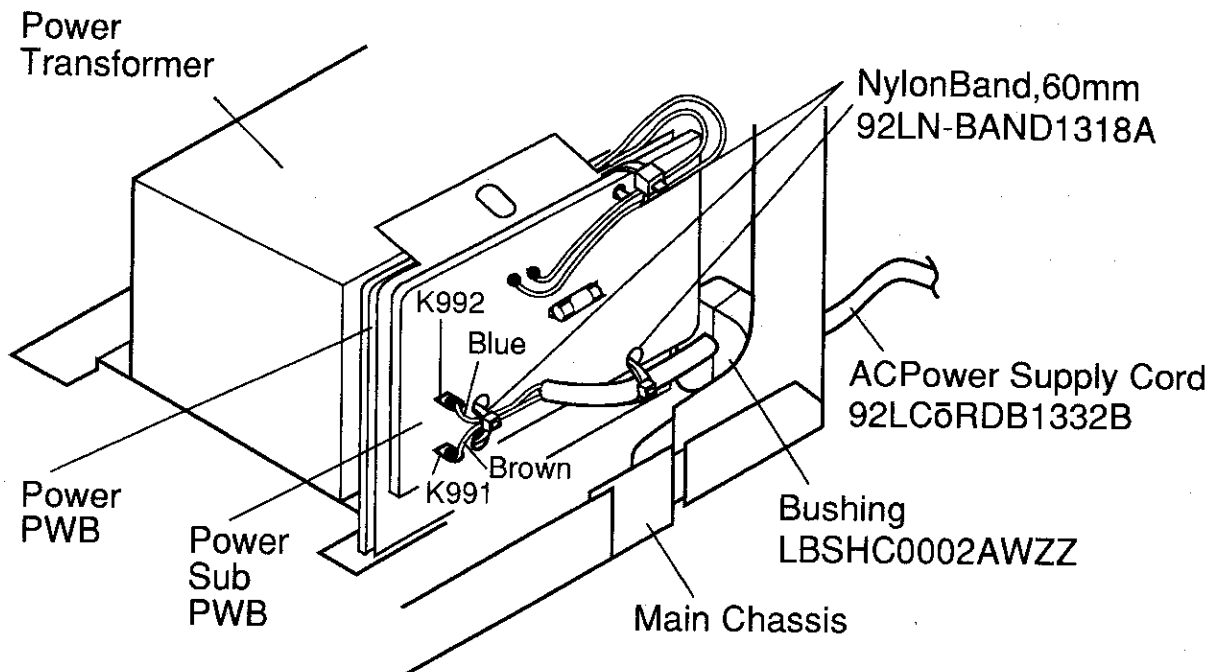
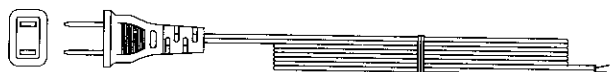


Figure 13-1

92LC5RD-1318B



92LC5RD-1393A



92LC5RDA1387C



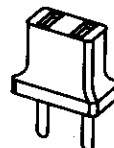
92LC5RDB1332B



92LC5RDT1699A



92LPLUG027



92LPLUG155A

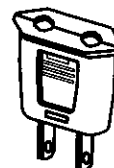


Figure 13-2 AC POWER SUPPLY CORD AND AC PLUG ADAPTOR

# ADJUSTMENT

## CD SECTION

"Track skipping and/or no TOC (Table Of Contents) may be caused by a build up of dust or other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

1. Turn the power off.
2. Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

**Note:** Do not touch the lens with the bare hand.

### 1. Preparation for Adjustment

1-1. Remove the CD section from the main unit, and connect the CD section to the main unit using a jig cable unit.

1-2. Test mode setting

Keeping the DOLBY NR key and the BASS/TREBLE key pressed, press the POWER key for one second (the FL display lights wholly). Press once again the POWER key, and press once the CD key. Then the CD TEST mode is set.

1-3. Test mode operation

Test mode	Operation	Result
Test mode 1	Pressing the PLAY key once	LASER ON
Test mode 2	Pressing the PLAY key once more (2nd pressing)	FOCUS ON
Test mode 3	Pressing the PLAY key once more (3rd pressing)	Tracking Servo ON PLAY (Feed OFF, MUTE ON PLAY)
Test mode 4	Pressing the PLAY key once more (4th pressing)	Tracking Servo OFF PLAY (MUTE ON PLAY)
Test mode 5	Pressing the PLAY key once more (5th pressing)	Normal play
Test mode 6	Pressing the PLAY key once more (6th pressing)	High speed play

### 2. VCO Free-Run Frequency

Adjustment Point	Specified Value	Instrument Connection
VR4	4,320 kHz $\pm$ 50 kHz at LC7868K 4,050 kHz $\pm$ 50 kHz at LC7868	TP6(VCO) and TP10 GND.

AT CD stop mode.

### 3. Servo Unit

Follow the procedure started below.

#### • Tracking Error Balance

Adjusting Point	Adjusting Method	Instrument Connection
VR1	*1	TP9 (T.ER) and TP8 GND.

\*1: Adjust so as to obtain symmetric waveform (Figure 14-2.) when DC is 0 V. AT test mode 4.

#### • Focus Gain

Adjusting Point	Adjusting Method	Instrument Connection
VR3	Adjust so that the voltage of CH-1 is equal to that of CH-2. *2	TP2 (FE), TP3 (FP) and TP8 GND.

\*2: Apply sine wave (Oscillation Frequency: 1.0 kHz 0.5 Vrms) as shown in Figure 14-3.

#### • Tracking Gain

Adjusting Point	Adjusting Method	Instrument Connection
VR2	Adjust so that the voltage of CH-1 is equal to that of CH-2. *3	TP4 (TE), TP5 (TP) and TP6 GND.

\*3: Apply sine wave (Oscillation Frequency: 1.0 kHz 0.5 Vrms) as shown in Figure 14-4.

#### • Check HF Output

Adjusting Point	Adjusting Method	Instrument Connection
—	—	TP1 (HF) and GND.

Make sure that waveform is as shown in Figure 15-2.

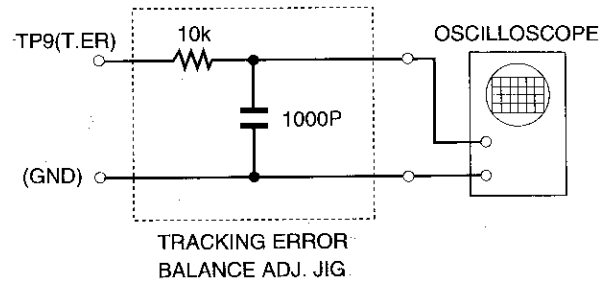


Figure 14-1

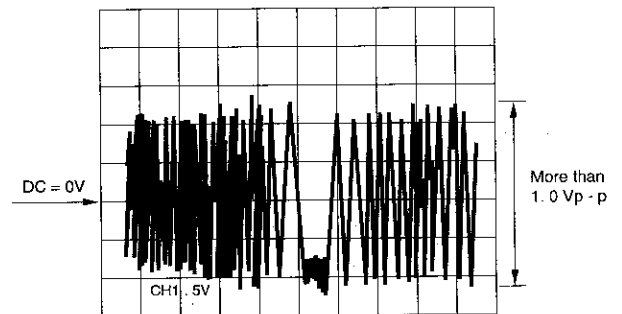


Figure 14-2

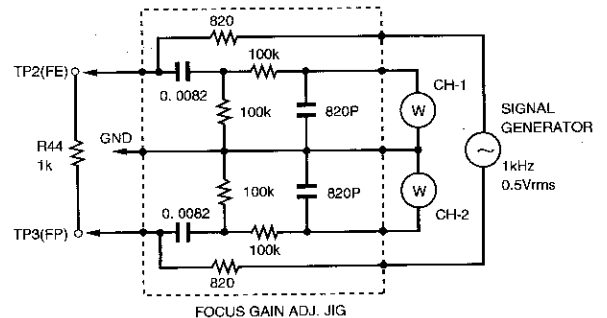


Figure 14-3

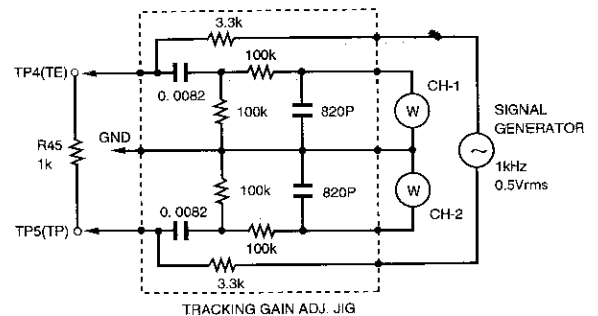


Figure 14-4

**Extension Cable**

When performing adjustment or operation checks, use the extension cables as shown below, when necessary.  
(See Fig. 15-1)

Ref. No.	Parts Cord	Connection to be connect
A	QCNWK0048AFZZ	CNP7 - CNS7(3 - 3 Pin)
B	QCNWK0049AFZZ	CNP304 - CNS5(12 - 12 Pin)
C	QCNWK0050AFZZ	CNP302 - CNS601(8 - 8 Pin)
D	QCNWK0051AFZZ	CNP301 - CNS403(8 - 8 Pin)
E	QCNWK0052AFZZ	CNP402 - CNS802(6 - 6 Pin)
F	QCNWK0053AFZZ	CNP303 - CNS202(12 - 12 Pin)

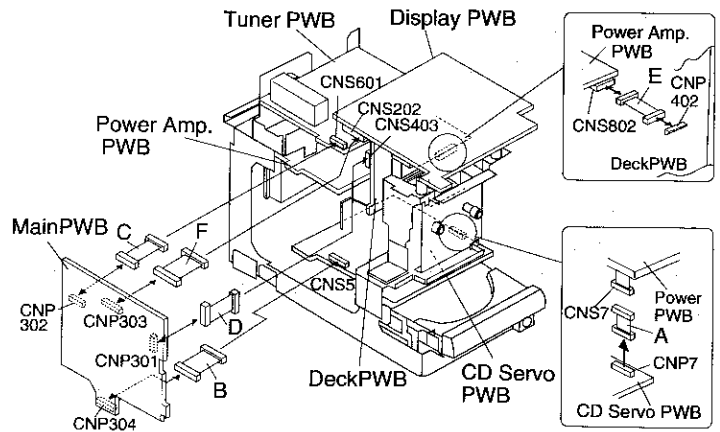


Figure 15-1

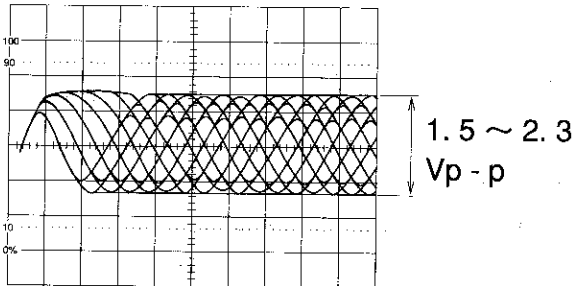
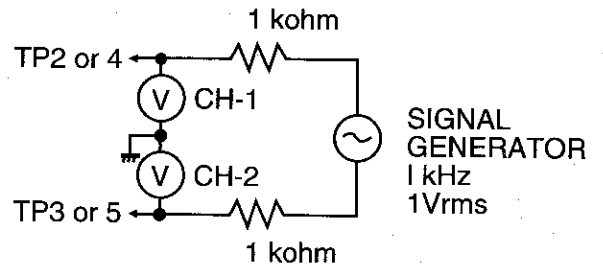


Figure 15-2



The jig (BPF) are recommended to reduce high frequency noise during alignment. As an alternative, two 1 kohm resistors can be used to achieve the same results.

Figure 15-3

**CD SERVO PWB**

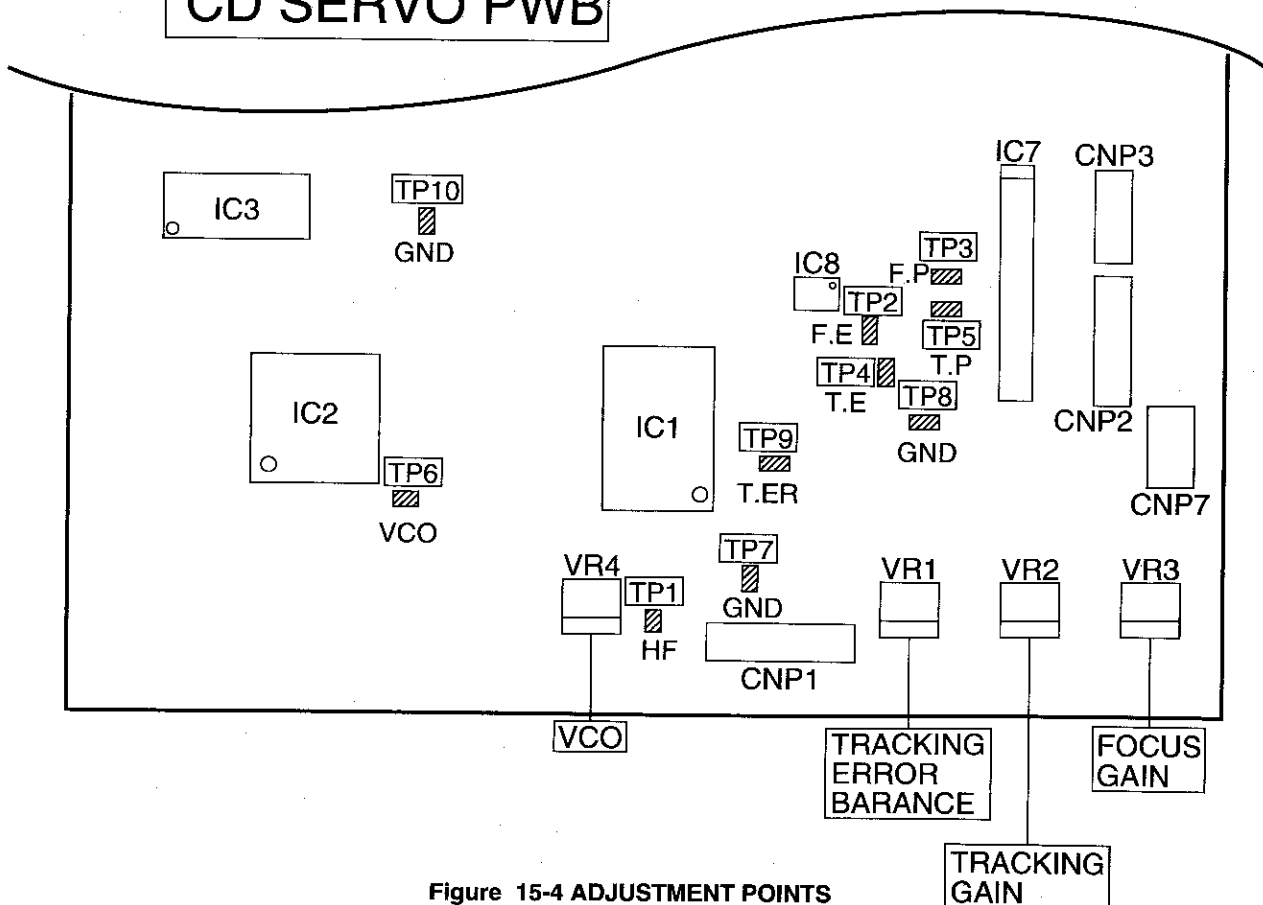


Figure 15-4 ADJUSTMENT POINTS

**MECHANISM SECTION**

• **Driving Force Check**

Torque Meter	Specified Value
Play: TW-2412	Over 50 g
Reverse Play: TW-2422	Over 50 g

• **Torque Check**

Torque Meter	Specified Value
Play: TW-2111	30 to 60 g.cm
Reverse Play: TW-2121	30 to 60 g.cm
Fast Forward: TW-2231	55 to 140 g.cm
Rewind: TW-2231	55 to 140 g.cm

• **Head Azimuth**

Test Tape	Instrument Connection
MTT-114	Output: L: TP451 ② R: TP451 ①

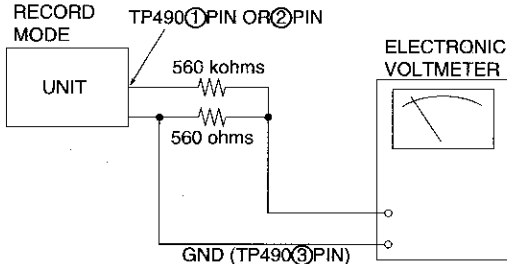
\* Open the cassette holder, and load the test tape directly into the mechanism. (Do not load the tape into the cassette holder.)

• **Tape Speed**

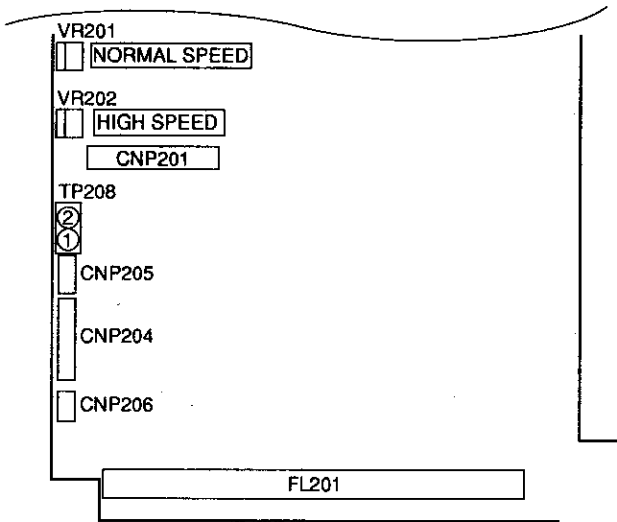
Adjust at first the normal speed.

	Test Tape	Adjusting Point	Specified Value	Instrument Connection
Normal speed	MTT-111N	VR201	3,000 ± 15 Hz	Output: L: TP451 ② R: TP451 ①
High speed(*)	MTT-111N	VR202	6,000 ± 30 Hz	

\* Short TP208 ① and ② when performing the high speed adjustment.



**Figure 16-1 BIAS CURRENT  
DISPLAY PWB**



**Figure 16-2 ADJUSTMENT POINTS**

**TAPE SECTION**

Position of each switch or control	
Volume	Max
Bass	Center
Treble	Center
Function	Tape
Tape	Normal
Dolby NR	Off

• **Bias Frequency**

Adjusting Point	Specified Value	Instrument Connection
—	98 ± 6 kHz	TP490 ① or ②

• **Bias Current**

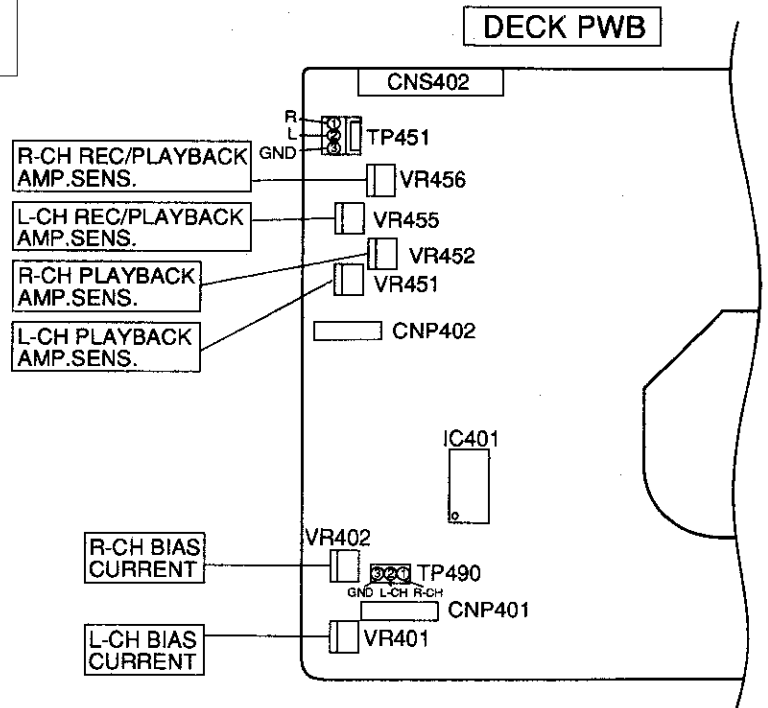
Adjusting Point	Specified Value	Instrument Connection
L: VR401 R: VR402	Normal: 17 ± 3 mV CrO <sub>2</sub> : 24 ± 5 mV	L: TP490 ② R: TP490 ①

• **Tape Playback Amplifier Sensitivity**

Test Tape	Adjusting Point	Specified Value	Instrument Connection
MTT-150	L: VR451 R: VR452	Normal: 300 mV	L: TP451 ② R: TP451 ①

• **Record/Playback Sensitivity**

Test Tape	Adjusting Point	Specified Value	Instrument
UR-121	Record level control	100 mV	Input: VIDEO/AUX (1kHz)
	L: VR455 R: VR456	100 mV	Output: L: TP451 ② R: TP451 ①



**Figure 16-3 ADJUSTMENT POINTS**



## TUNER SECTION

fL: Low-range frequency fH: High-range frequency

### • Tuner test mode

#### 1. Test mode setting

Keeping the DOLBY NR key and the BASS/TREBLE key pressed, press the POWER key for one second (the FL display lights wholly). Press once again the POWER key, and press once the TUNER key. Then the TUNER TEST mode is set. (The TUNER TEST mode can be set also by pressing the TUNER key in the CD TEST mode.)

#### 2. Test mode operation

Preset channel number.	FM	AM
P - 01	87.50 MHz	531 kHz
P - 02	108.00 MHz	1,602 kHz
P - 03	90.00 MHz	603 kHz
P - 04	106.00 MHz	1,404 kHz
P - 05	98.00 MHz	990 kHz

\* Press the PRESET (✓ or ^) button to recall the desired preset channel number.

### • AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Test Stage	Frequency	Frequency Display	Specified Value/ Adjusting Point	Instrument Connection
IF	450 kHz	1,620 kHz	T652	*1
AM band coverage	-	531 kHz(X) 522 kHz(E)	T607(fL): 1.1 V ± 0.05 V	*2
AM tracking	603 kHz	603 kHz	T603(fL)	*1
	1,404 kHz	1,404 kHz	TC601(fH)	

\*1. Input: Antenna Output: Pin 15 of IC651

\*2. Input: Antenna Output: TP602

## FM

Notes:

- Description of the "FM IF Adjustment" is not carried on this Manual. It is because the IF coil in the FM front end section has been best adjusted in the factory so that its further adjustment is not needed at the field. When replacing the FM front end assembly, no adjustment is needed either.
- The parts in the FM front end section are prepared a complete unit, so you can't obtain each part individually.

### • FM Detection/Distortion

Signal generator: 1 kHz, 40 kHz dev, FM modulated

Frequency	Frequency Display	Adjusting Point	Instrument Connection
98.00 MHz (60 dB)	98.00 MHz	T651*	Input: Antenna Output: TP601

\*Adjust the T651 so that voltmeter reads  $0 \pm 50$  mV.

### • FM Auto Stop Level

Signal generator: 1 kHz, 40 kHz dev, FM modulated

Frequency	Frequency Display	Adjusting Point	Instrument Connection
98.00 MHz (27 dB)	98.00 MHz	VR651*	Input: Antenna Output: Speaker terminal

\*Adjust so that an output signal appears.

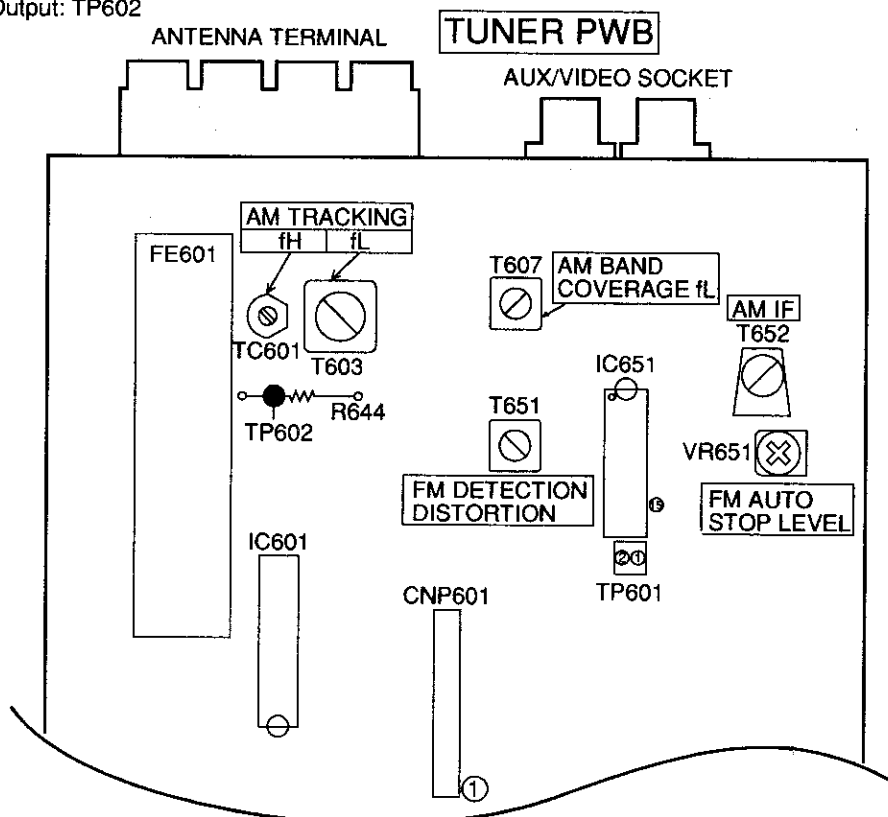


Figure 17 ADJUSTMENT POINTS

## TROUBLESHOOTING (CD SECTION)

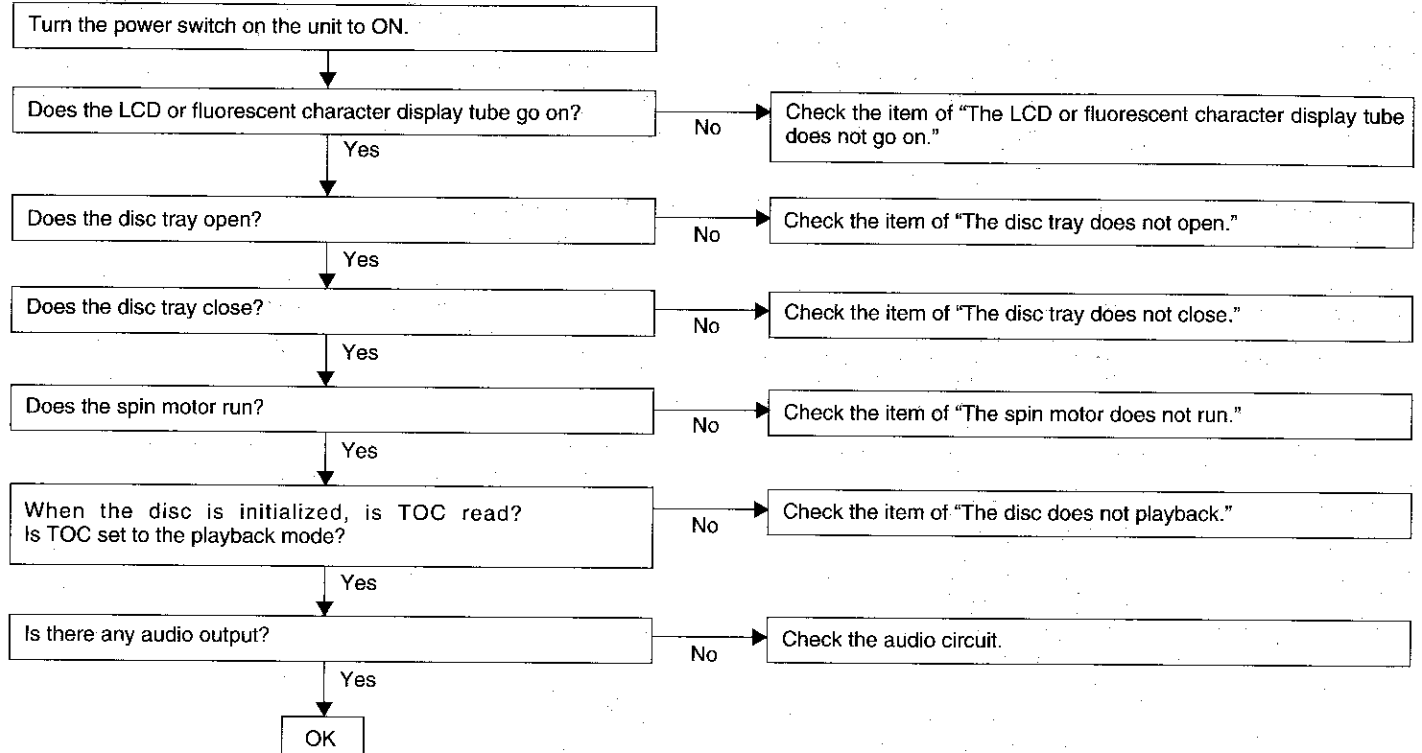
### When the CD does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty, this section may not operate. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items. Remove the cabinet and follow the troubleshooting instructions.

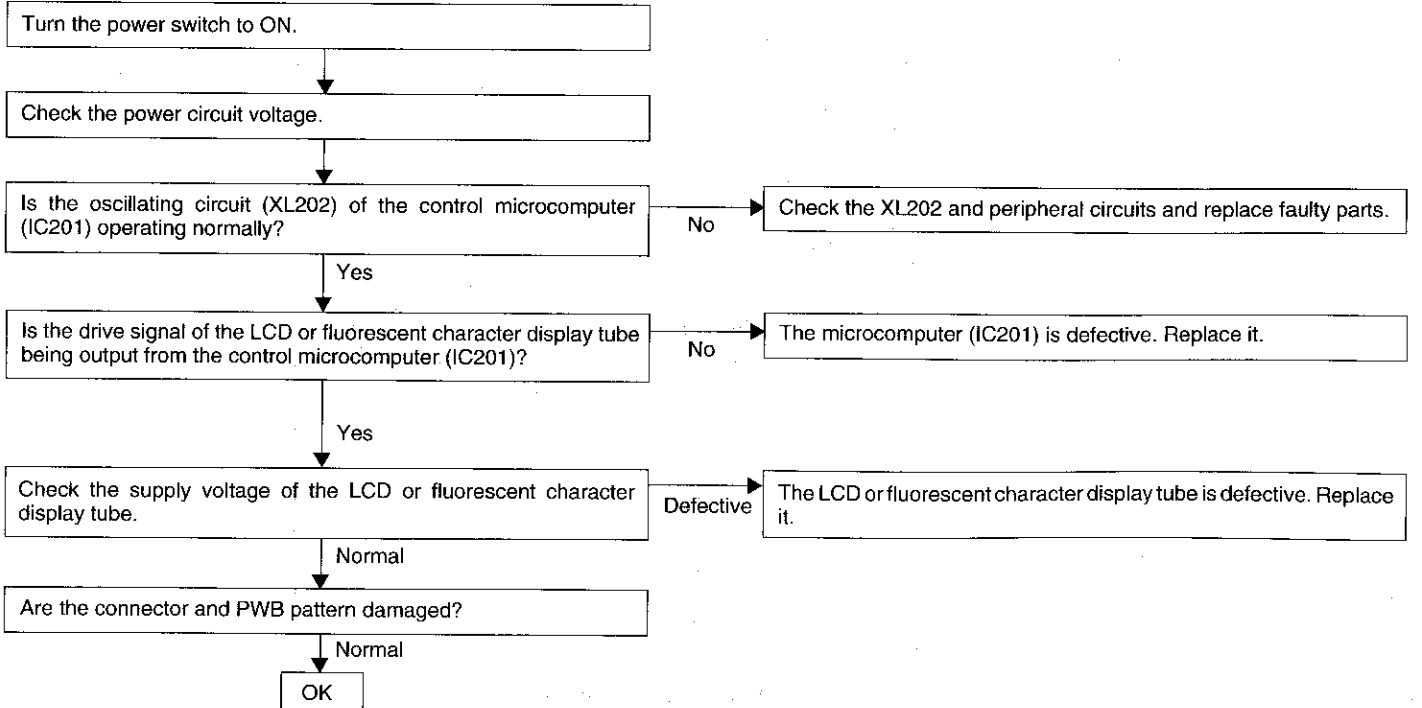
"Track skipping and/or no TOC (Table Of Contents) may be caused by a build up of dust or other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

1. Turn the power off.
2. Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

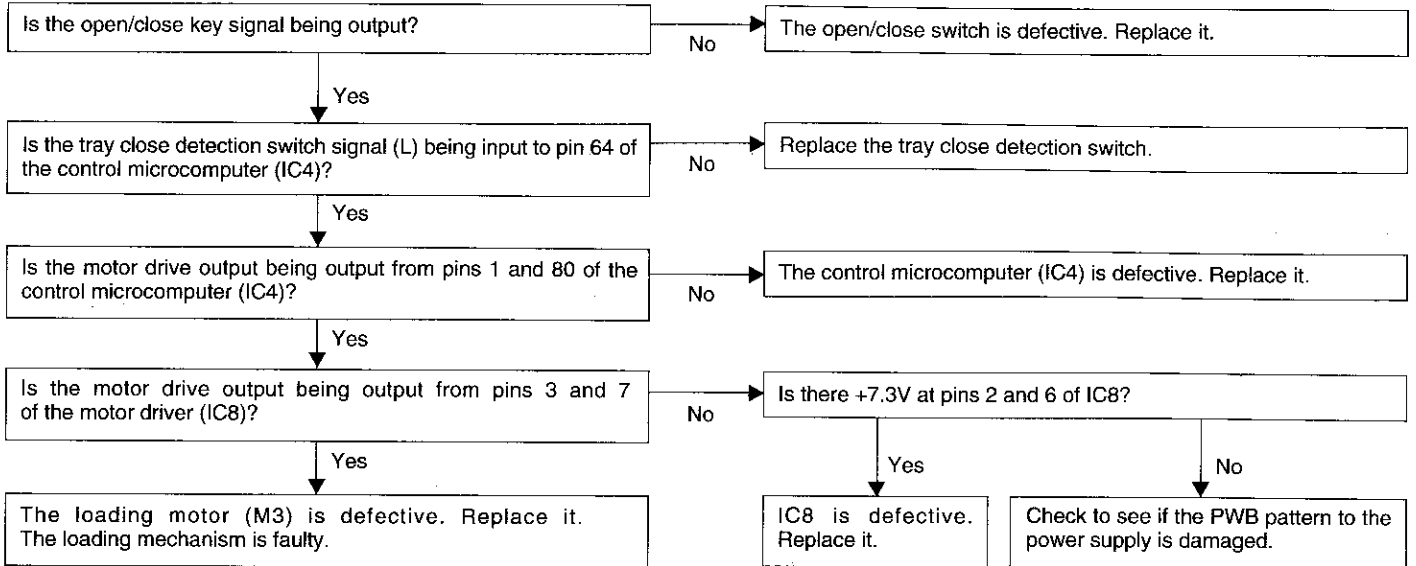
**Note:** Do not touch the lens with the bare hand.



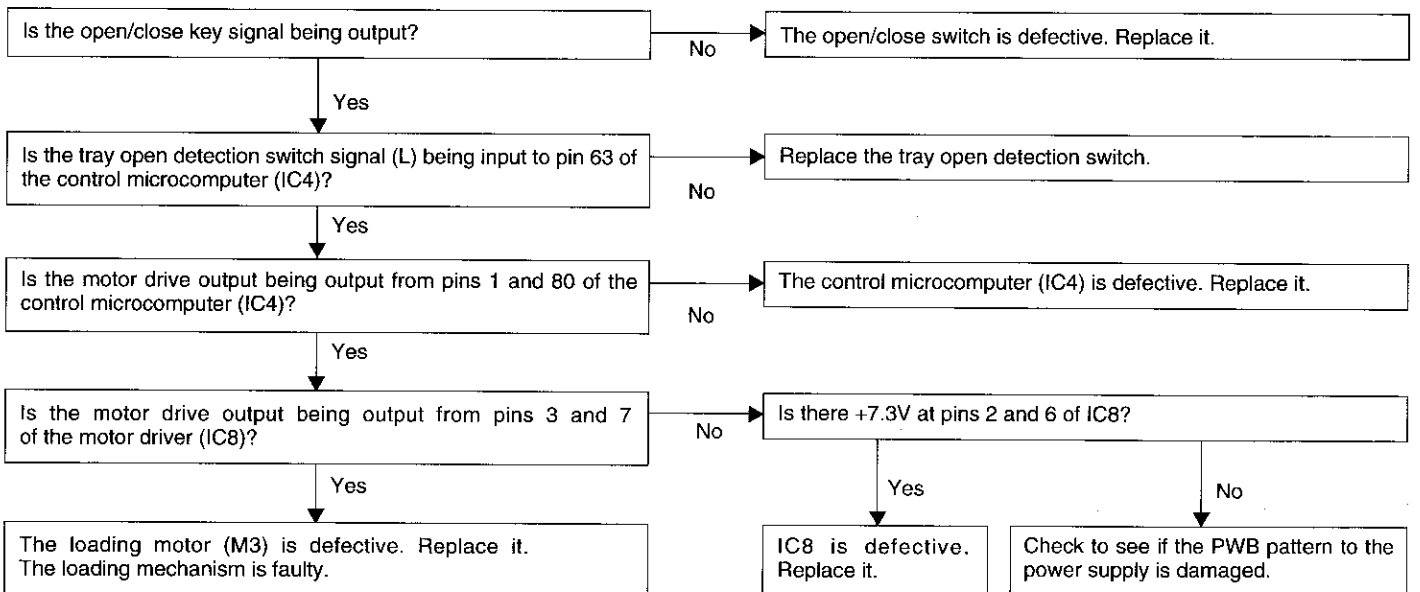
### • The LCD or fluorescent character display tube does not go on.



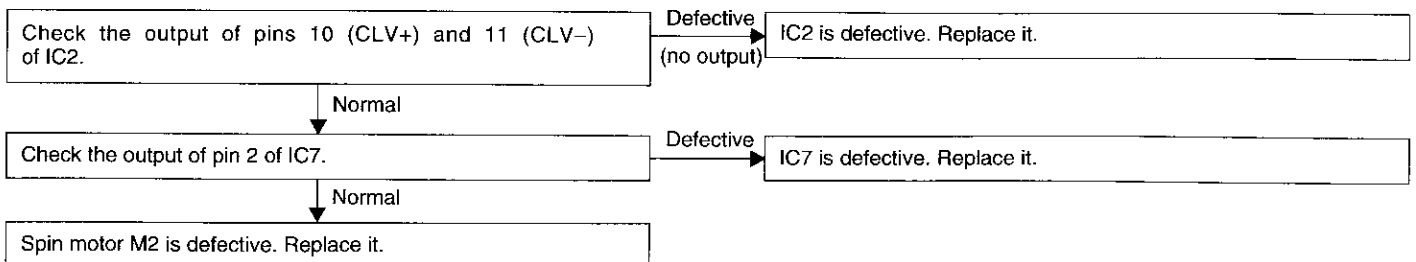
**• The disc tray does not open.**



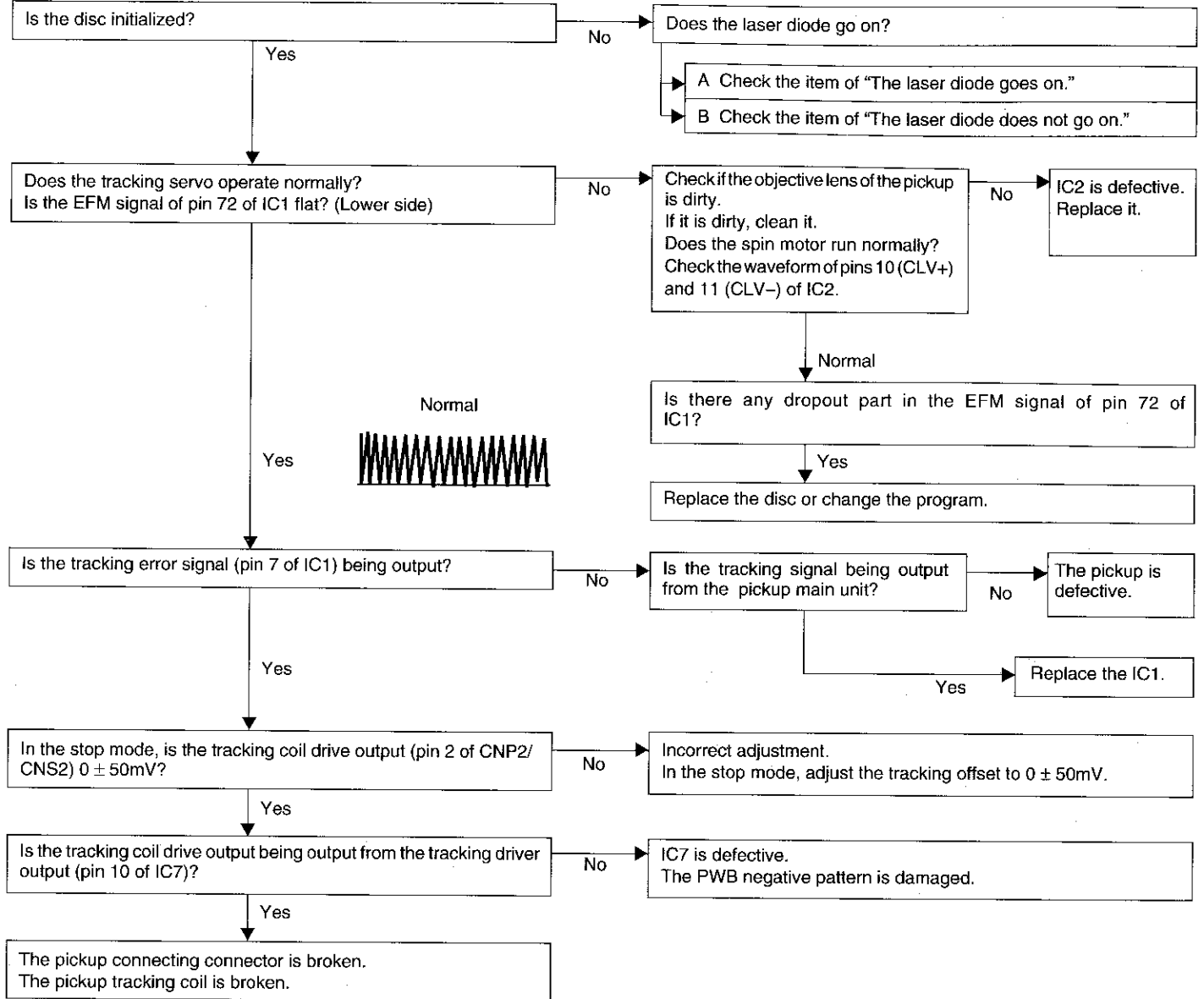
**• The disc tray does not close.**



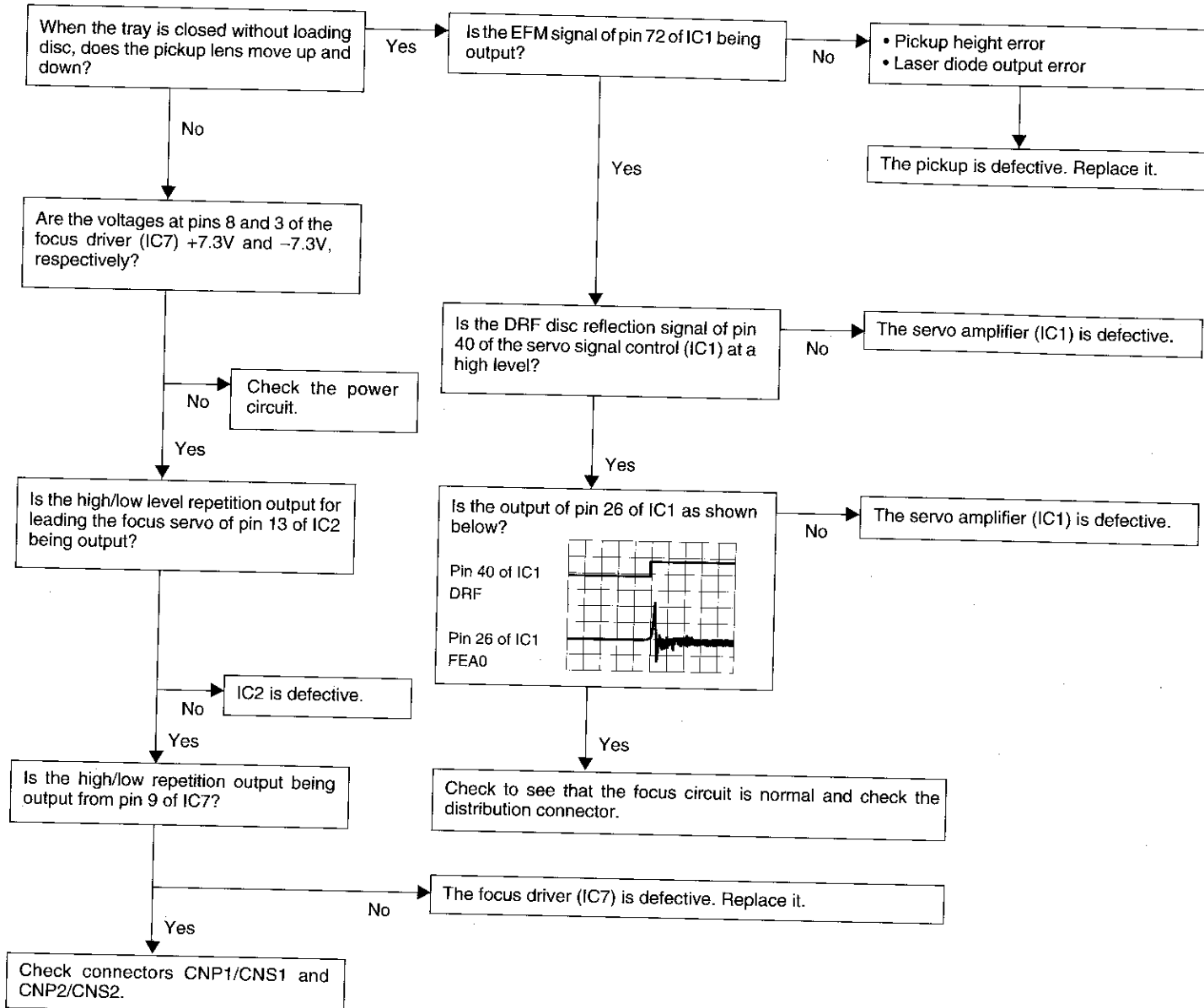
**• The spin motor does not run.**



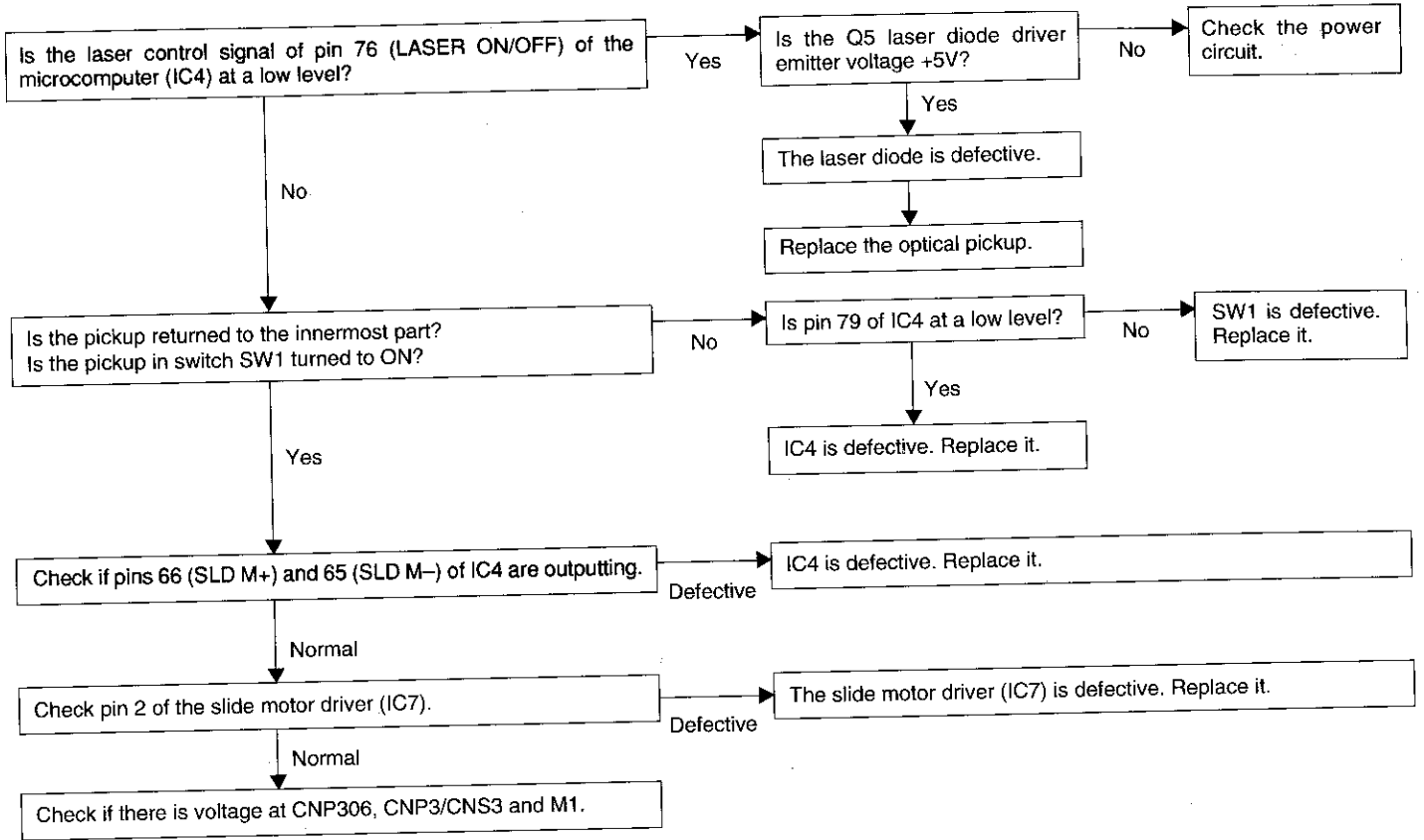
**• The disc does not playback.**



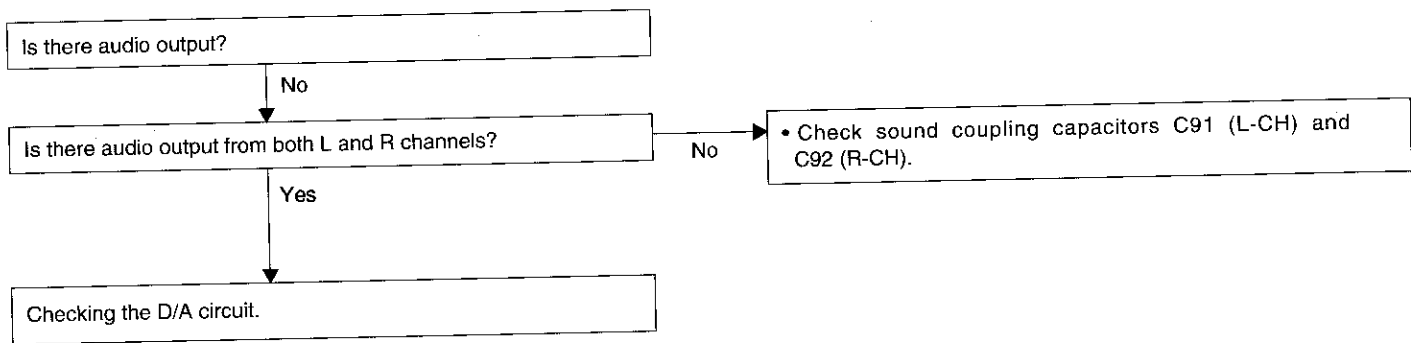
**A The laser diode goes on.**



**• B The laser diode does not go on.**



**• Checking the audio circuit**



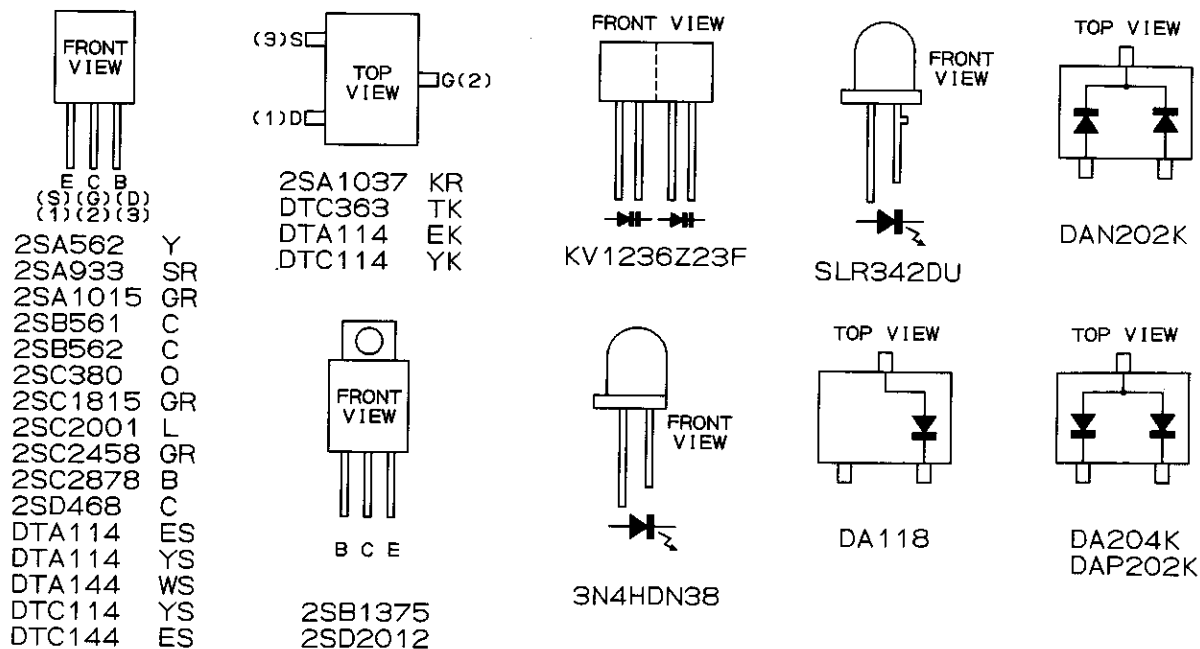
## NOTES ON SCHEMATIC DIAGRAM

- Resistor:  
To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with "Fusible" is a fuse type.
- Capacitor:  
To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.  
(CH), (TH), (RH), (UJ): Temperature compensation  
(ML): Mylar type  
(P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W. Board for this model are subject to change for improvement without prior notice.

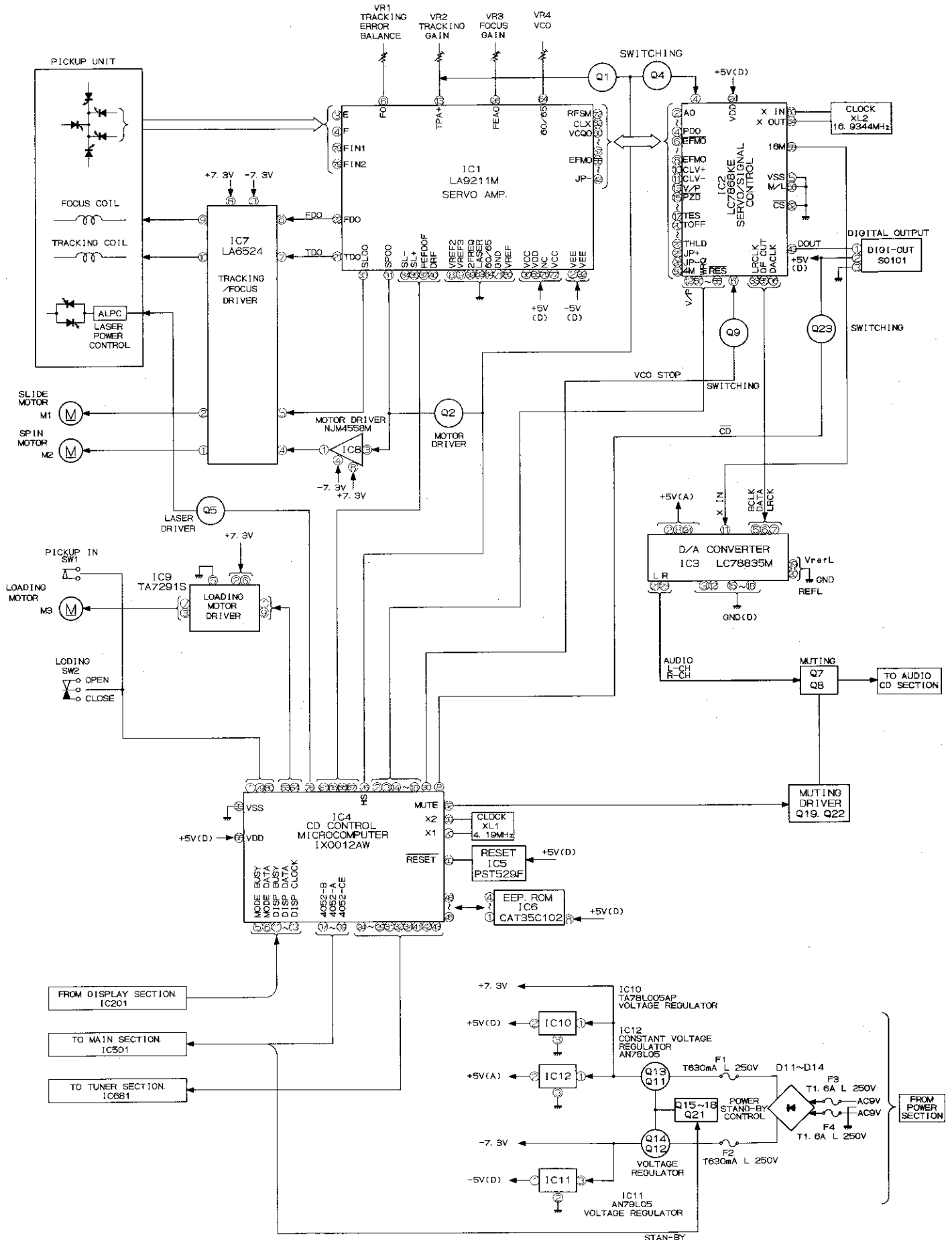
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
  1. In the tuner section,  
( ) indicates AM and < > indicates FM MONO in the FM ST mode.
  2. In the main section, a tape is being played back.
  3. In the deck section, a tape is being played back.  
( ) indicates the record state.
  4. In the power section, a tape is being played back.
  5. In the CD section, the CD is stopped.  
( ) indicates CD playback.
- Parts marked with "▲" ( ) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW1	PICKUP IN	OFF
SW2	LOADING	OFF
SW304	TAPE MAIN	OFF
SW305	SIDE A ERASE PREVENTION	OFF
SW306	METAL DETECTION	OFF
SW307	CASSETTE DETECTION	OFF
SW308	CrO2 DETECTION	OFF
SW309	SIDE B ERASE PREVENTION	OFF
SW711	BASS/TREBLE SELECTOR	OFF
SW712	VOLUME UP	OFF
SW713	VOLUME DOWN	OFF
SW714	AUTO MEMORY	OFF
SW715	EDIT SPEED/HIGH	OFF
SW716	EDIT SPEED/NORMAL	OFF
SW717	EDIT	OFF
SW721	POWER	OFF

REF. NO	DESCRIPTION	POSITION
SW722	REVERSE MODE	OFF
SW723	CD	OFF
SW724	TUNER	OFF
SW725	TAPE	OFF
SW726	VIDEO/AUX	OFF
SW727	FAST WIND/TRACK DOWN/ PRESET DOWN	OFF
SW731	REC/PAUSE	OFF
SW732	DOLBY NR	OFF
SW733	OPEN/CLOSE	OFF
SW734	FAST WIND/TRACK UP/PRESET UP	OFF
SW735	REVERSE PLAY	OFF
SW736	STOP	OFF
SW737	FORWARD PLAY/PLAY REPERT	OFF
SW991	VOLTAGE SELECTOR (X ONLY)	240 V



**Figure 23 TYPES OF TRANSISTOR AND LED**



**Figure 24 BLOCK DIAGRAM (1/2)**



**FUNCTION TABLE OF IC**
**IC4 RH-iX0012AWZZ (IX0012AW): (1/2) CD Control Microcomputer**

Pin No.	Port Name	Terminal Name	Input/Output	Active	Function
1	P15	OPEN SW	Input	L	CD tray opening detection signal input.
2	P16	DSP RESET	Output	L	Digital signal processing IC reset signal output.
3	P17	V/P	Input	L	Input terminal CLV rough servo: H Phase control: L.
4	AVSS	GND	—	—	GND.
5	P130	MODE BUSY	Input/Output	H/L	Display Mode, Busy signal output.
6	P131	MODE DATA	Input/Output	H/L	Display Mode, Data signal output.
7	AVREF1	AVREF1	—	—	GND.
8	P70	CD	Output	L	Optical digital OUT LED ON/OFF control ON: L.
9	P71	GND	—	—	GND.
10*	P72	NC	—	—	Not connected.
11	P20	DISP BUSY	Output	H/L	Display microcomputer Busy signal output.
12	P21	DISP DATA	Output	H/L	Display microcomputer Data signal output.
13	P22	DISP CLOCK	Output	H/L	Display microcomputer Clock signal output.
14	P23	RWC	Output	H/L	Signal processing IC sub-code Q data control.
15	P24	WRQ	Input	H/L	Signal processing IC sub-code Q data writing request.
16	P25	SQ IN	Input	H/L	Signal processing IC sub-code Q data input.
17	P26	CO OUT	Output	H/L	DSP COM OUT Sub-code Q data control signal.
18	P27	CQCK	Output	H/L	DSP Clock sub-code Q read request signal output clock.
19*	P40	NC	—	—	Not connected.
20*	P41	NC	—	—	Not connected.
21	P42	NC	—	—	Test mode key output.
22	P43	NC	—	—	Test mode key output.
23	P44	NC	—	—	Test mode key output.
24	P45	STEREO	Input	L	Tuner, stereo, mono signal input Mono: L, Stereo: H.
25	P46	TUNE	Input	L	Tuner tuning signal input Tuning: L, Nontuning: H.
26	P47	AUTO STOP	Input	L	Tuner autostop signal input Stop: H, Nostop: L.
27	P50	STRQ	Output	H	Tuner IF REQ signal output.
28	P51	MONO/ST	Output	L/H	Mono/stereo output.
29	P52	MUTE	Output	L/H	Mute ON/OFF output.
30	P53	CD VCO STOP	Output	L	CD VCO stop output.
31	P54	PLL CLOCK	Output	H/L	Tuner PLLIC PLL clock signal output.
32	P55	PLL CE	Output	H/L	Tuner PLLIC PLL CE signal output.
33	VSS	VSS	—	—	GND.
34	P56	PLL DATA	Output	H/L	Tuner PLLIC PLL data signal output.
35*	P57	NC	—	—	Not connected.
36*	P60	NC	—	—	Not connected.
37	P61	4052-B	Output	H/L	LEVEL 1 Setting of record level after CD record peak level search.
38	P62	4052-A	Output	H/L	LEVEL 2 Setting of record level after CD record peak level search.
39	P63	CE	Output	H/L	LEVEL 3 Setting of record level after CD record peak level search.
40*	P64	NC	—	L	Not connected.

In this unit, the terminal with asterisk mark (\*) is (open) terminal which is connected to the outside.

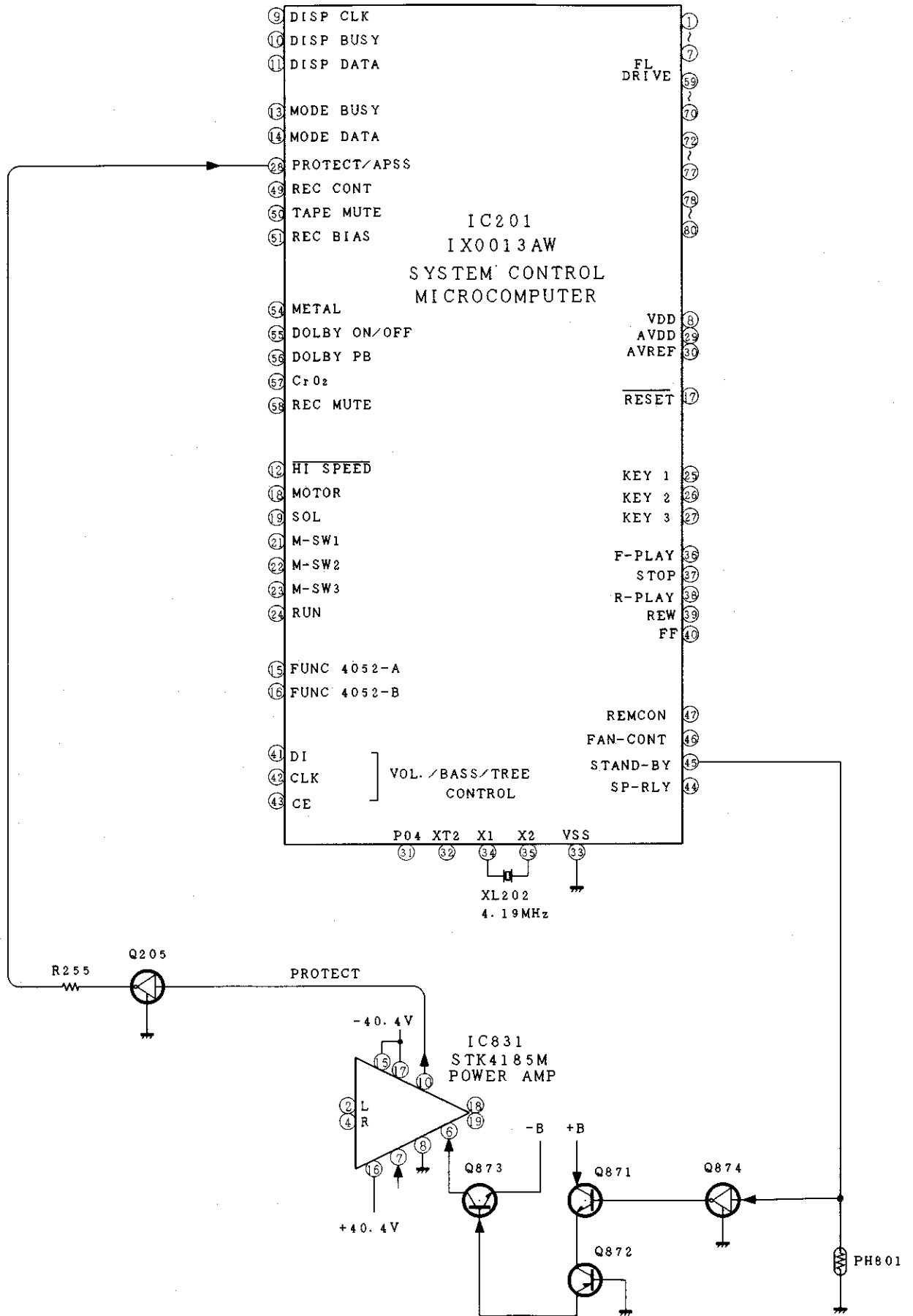


Figure 50 BLOCK DIAGRAM

## EXPLANATION OF CIRCUIT

### Outline

The model XL-12 has an IC which detects failures when the speaker terminal is short-circuited to the power IC or when the power IC is damaged. The microcomputer checks the failure of the power IC, and the protection ON mode is set.

#### 1. When the Power key is set to ON (normal mode change to ON mode)

If the Power key is pressed in the Power OFF mode:

1. The level of standby port of pin 45 of microcomputer IC201 is changed from High to Low.
2. The level of transistor Q874 base is changed from High to Low, and Q874 is set to OFF.
3. The level of transistor Q871 base is changed from Low to High, and it is set to ON.
4. Positive voltage is applied to the transistor Q872 emitter, and Q872 is also set to ON.
5. Current flows into the transistor Q873 base, and Q873 is also set to ON.
6. Bias (negative bias) is applied to the pin 6 of Power IC 831.

When bias is applied to the pin 6 of Power IC 831 in order (1) - (6):

##### • In normal state

The level of the pin 10 of Power IC 831 is changed from High to Low after 2 to 3 seconds. The pin 10 of Power IC 831 is connected to the transistor Q205 of microcomputer PWB.

The Q205 collector is connected to the pin 28 of microcomputer IC201 through the resistor R255 (2.2k).

When the level of the pin 10 of Power IC is changed from High to Low, Q205 is set to OFF, the voltage of pin 28 of microcomputer IC201 rises above 1.8V. The microcomputer judges that the operation is normal, so that the normal operation mode is set.

##### • In abnormal state

The process from (1) to (6) is identical. If the level of the pin 10 of Power IC 831 is not changed from High to Low for about 4 seconds when bias is applied to the pin 6 of Power IC 201, the microcomputer judges that the operation is abnormal (voltage of the pin 28 of microcomputer IC201 does not rise above 1.8V), the Protection ON mode is set.

#### 2. State of set in Protection ON mode

1. The DISPLAY (ON FL) "OFF" blinks, indicating the Protection ON mode.
2. The fan runs to prevent internal temperature rise.
3. The key LED goes out.
4. All the keys excepting the Power key is invalid.

#### 3. Canceling the Protection ON mode

Press the POWER key in the Protection ON mode. As a result the normal POWEROFF mode is set (clock display appears).

When the POWER key is pressed again, the normal operation state is set. (Provided that failure is not detected again. If failure is detected, the Protection ON mode is set.)

#### 4. When failure was detected in POWER ON state (during normal play)

If the level of the pin 10 of Power IC 831 is changed from Low to High in the POWER ON state (during normal play), the microcomputer judges that the operation is abnormal, and the Protection ON mode is set.

Failure is detected in the POWER ON state (during normal play) in the following cases:

- Speaker short-circuiting
- Power IC breakage

#### 5. Detection of abnormal heating (in case of fun stop)

If the internal temperature of set rises, the detecting circuit is set to ON, so that the Protection ON mode is set. The following operation is performed.

1. When the radiation plate is heated as a result of temperature rise of Power IC 831, the resistance of temperature detecting resistor (thermistor) PH801 fitted to the radiation plate grows.
2. When the resistance of thermistor PH801 increases, the voltage of transistor Q874 base rises, resulting in rise of detection temperature. When the temperature rises up to about 100°, Q874 is set to ON.
3. When Q874 is set to ON, the bias of Power IC 831 is cut.
4. When the bias of Power IC is cut, the level of the pin 10 of Power IC 831 is changed from Low to High. In this case the microcomputer judges that the operation is abnormal, and the Protection ON mode is set.

**IC4 RH-iX0012AWZZ (IX0012AW): (2/2) CD Control Microcomputer**

Pin No.	Port Name	Terminal Name	Input/Output	Active	Function
41	P65	BAND1	Input	H/L	BAND 1 E2ROM clear input E2ROM CLEARING Clearing of E2ROM data All clear: L.
42	P66	BAND2	Input	H/L	BAND 2 E2ROM clear input E2ROM CLEARING Clearing of E2ROM data All clear: L.
43	P67	BAND3	Input	H/L	BAND 3 E2ROM clear input E2ROM CLEARING Clearing of E2ROM data All clear: L.
44	P30	TRAY CON	Output	L	CD loading motor drive control signal output.
45	P31	CS	Output	H/L	E2ROM chip selection signal output.
46	P32	CLK	Output	H/L	E2ROM clock signal output.
47	P33	DI	Output	H/L	E2ROM data input terminal.
48	P34	DO	Input	H/L	E2ROM data output terminal.
49*	P35	NC	Input	—	Not connected.
50*	P36	NC	Input	—	Not connected.
51*	P37	NC	Input	L	Not connected.
52*	P120	NC	Input	L	Not connected.
53*	P121	NC	Input	L	Not connected.
54*	P122	NC	—	—	Not connected.
55*	P123	NC	—	—	Not connected.
56*	P124	NC	Output	H/L	Not connected.
57*	P125	NC	Output	H/L	Not connected.
58*	P126	NC	Output	H/L	Not connected.
59*	P127	NC	Output	H/L	Not connected.
60	RESET	RESET	Input	—	Microcomputer reset input terminal.
61	P00	DRF	Input	L/H	Disc reflection signal input.
62	P01	MUTING	Output	L/H	CD signal muting control signal output.
63	P02	LOADING CLOSE	Output	L/H	Loading motor drive output Closing.
64	P03	LOADING OPEN	Output	L/H	Loading motor drive output Opening.
65	P04	SLD M-	Output	L/H	Pickup slide motor drive output.
66	P05	SLD M+	Output	L/H	Pickup slide motor drive output.
67	P06	SLD ON/OFF	Output	L/H	Pickup slide motor ON/OFF control signal output.
68	VDD	VDD	—	—	Power terminal.
69	X2	X2	—	—	External clock connection terminal, 4.19 MHz.
70	X1	X1	—	—	External clock connection terminal, 4.19 MHz.
71*	IC	NC	—	—	Not connected.
72*	XT2	NC	—	—	Not connected.
73	XT1/P07	GND	—	—	GND.
74	AVDD	GND	—	—	GND.
75	AVREFO	GND	—	—	GND.
76	P10	LASER ON/OFF	Output	L/H	Pickup laser diode ON/OFF control single output.
77	P11	HS	Output	L/H	Servo IC PDO signal High speed selection output.
78	P12	HS	Output	L/H	Servo IC PDO signal High speed selection output.
79	P13	PU-IN SW	Input	L/H	Pickup IN (innermost circumference) SW signal input terminal
80	P14	CLOSE SW	Input	L/H	CD tray closing detection signal input terminal.

In this unit, the terminal with asterisk mark (\*) is (open) terminal which is connected to the outside.

IC201 RH-IX0013AWZZ (IX0013AW): (2/2) System Control Microcomputer

Pin No.	Port Name	Terminal Name	Input/Output	Active	Function
41	P32	DATA	Output	H/L	Tone and volume control signal output DATA.
42	P31	CLOCK	Output	H/L	Tone and volume control signal output CLOCK.
43	P30	CE	Output	H/L	Tone and volume control signal output CE.
44	P03	SP•RLY	Output	H(ON), L(OFF)	Speaker relay control signal ON: H OFF: L.
45	P02	POWER STAND-BY	Output	H(ON), L(OFF)	Power control (POWER ON/OFF).
46	P01	FAN CONTROL	Input/Output	H(ON), L(OFF)	Air-cooling fan control.
47	P00	REMOCON	Input	H/L	Remote control data input.
48	IC	IC	—	—	GND.
49	P72	REC CONTROL	Output	L(REC), H(OFF)	REC/PLAY selection signal.
50	P71	TAPE MUTE	Output	H(ON), L(OFF)	Tape muting output.
51	P73	REC BOS	Output	L(ON), H(OFF)	Tape rec bias control signal output.
52	VDD	VDD	Output	—	Power terminal.
53*	P127	SURROUND	Output	H(ON), L(OFF)	Surround control signal output.
54	P126	METAL	Output	H(METAL), L(Other)	Metal control signal output.
55	P125	DOLBY•CONT	Output	H(ON), L(OFF)	Dolby ON/OFF control signal.
56	P124	DOLBY•PB	Output	H(REC), L(PLAY)	Dolby REC/PB selection signal.
57	P123	CrO <sub>2</sub>	Output	H(CrO <sub>2</sub> ), L(Other)	Tape selector CrO <sub>2</sub> output signal.
58	P122	REC MUT	Output	H(ON), L(OFF)	Record muting signal output.
59	P121	SEG 1	Output	—	FL display tube segment output.
60	P120	SEG 2	Output	—	FL display tube segment output.
61	P117	SEG 3	Output	—	FL display tube segment output.
62	P116	SEG 4	Output	—	FL display tube segment output.
63	P115	SEG 5	Output	—	FL display tube segment output.
64	P114	SEG 6	Output	—	FL display tube segment output.
65	P113	SEG 7	Output	—	FL display tube segment output.
66	P112	SEG 8	Output	—	FL display tube segment output.
67	P111	SEG 9	Output	—	FL display tube segment output.
68	P110	SEG 10	Output	—	FL display tube segment output.
69	P107	SEG 11	Output	—	FL display tube segment output.
70	P106	SEG 12	Output	—	FL display tube segment output.
71	VLOAD	VLOAD	Output	—	Power terminal.
72	P105	SEG 13	Output	—	FL display tube segment output.
73	P104	SEG 14	Output	—	FL display tube segment output.
74	P103	SEG 15	Output	—	FL display tube segment output.
75	P102	SEG 16	Output	—	FL display tube segment output.
76	P101	SEG 17	Output	—	FL display tube segment output.
77	P100	SEG 18	Output	—	FL display tube segment output.
78	P97	DIG 1	Output	—	FL display tube digit output.
79	P96	DIG 2	Output	—	FL display tube digit output.
80	P95	DIG 3	Output	—	FL display tube digit output.

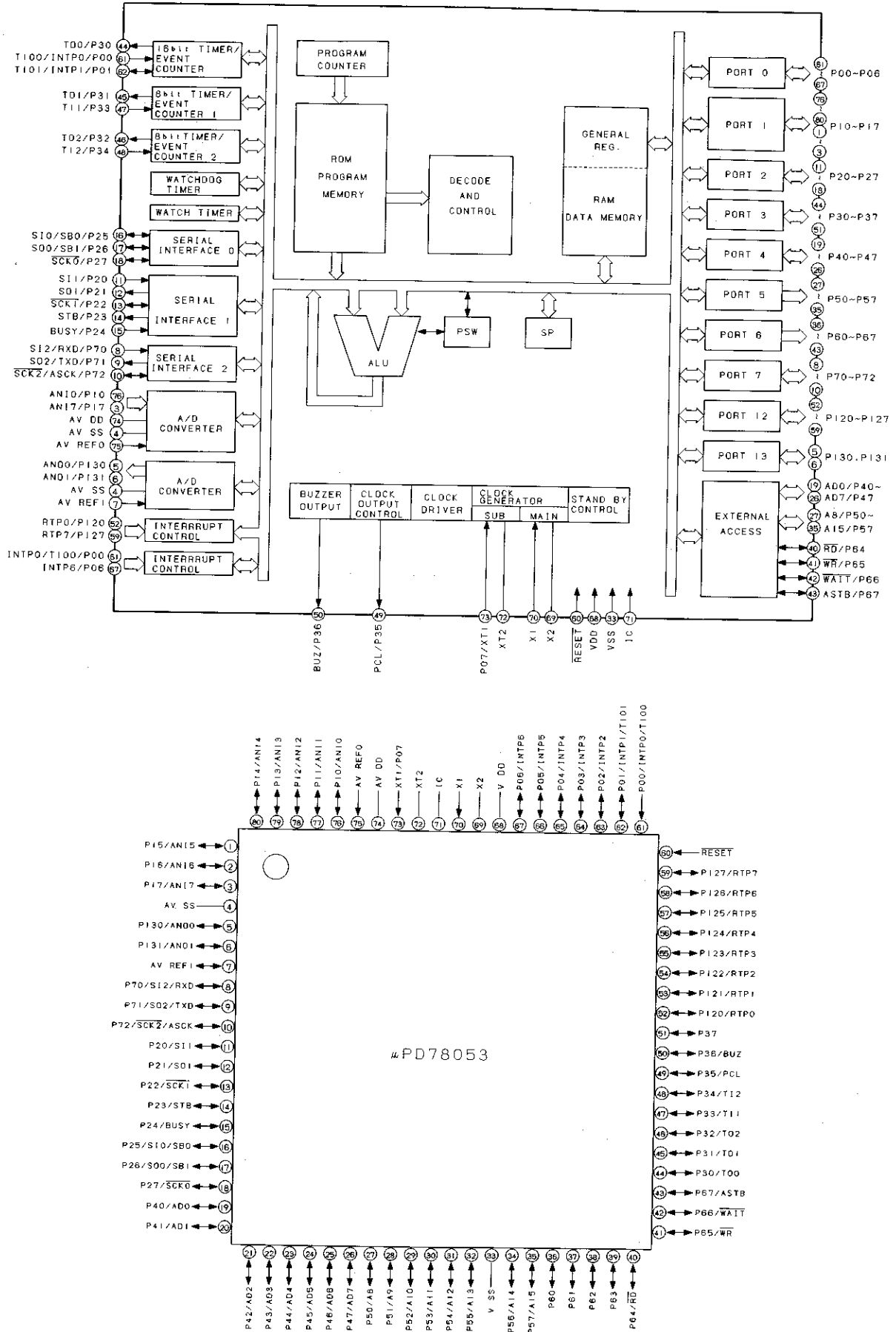
In this unit, the terminal with asterisk mark (\*) is (open) terminal which is connected to the outside.

**IC201 RH-iX0013AWZZ (IX0013AW): (1/2) System Control Microcomputer**

Pin No.	Port Name	Terminal Name	Input/Output	Active	Function
1	P94	FL DIG 4	Output	—	FL display tube, digit output terminal.
2	P93	FL DIG 5	Output	—	FL display tube, digit output terminal.
3	P92	FL DIG 6	Output	—	FL display tube, digit output terminal.
4	P91	FL DIG 7	Output	—	FL display tube, digit output terminal.
5	P90	FL DIG 8	Output	—	FL display tube, digit output terminal.
6	P81	FL DIG 9	Output	—	FL display tube, digit output terminal.
7	P80	FL DIG 10	Output	—	FL display tube, digit output terminal.
8	VDD	VDD	—	—	Power terminal.
9	P27	DISP CLOCK	Input	H/L	Display data, Clock signal input.
10	P26	DISP BUSY	Input	H/L	Display data, Busy signal input.
11	P25	DISP DATA	Input	H/L	Display data, Data signal input.
12	P24	MOTOR HIGH	Input	H(High),L(Normal)	Tape motor high speed control input.
13	P23	MODE BUSY	Input	H/L	Display mode, Busy signal input.
14	P22	MODE DATA	Input	H/L	Display mode, Data signal input.
15	P21	4052 (A)	Input	H/L	Input selection signal (A) input.
16	P20	4052 (B)	Input	H/L	Input selection signal (B) input.
17	RESET	RESET	—	—	System reset terminal.
18	P74	MOTOR	Output	L(ON), H(OFF)	Tape input motor ON/OFF control.
19	P73	SOL	Output	L(ON), H(OFF)	Tape mechanism solenoid ON/OFF control.
20	AVSS	AVSS	—	—	GND.
21	P17	MECHA SW1	Input	AD INPUT	Tape mechanism switch input.
22	P16	MECHA SW2	Input	AD INPUT	Tape mechanism switch input.
23	P15	MECHA SW3	Input	AD INPUT	Tape mechanism switch input.
24	P14	RUN PARUSE	Input	AD INPUT	Mechanism turning (running) pulse input.
25	P13	KEY 1	Input	AD INPUT	Key signal input.
26	P12	KEY 2	Input	AD INPUT	Key signal input.
27	P11	KEY 3	Input	AD INPUT	Key signal input.
28	P10	PROTECTION/ APSS	Input	AD INPUT	Protection input, APSS input.
29	AVDD	AVDD	—	—	Power terminal.
30	AVREF	AVREF	—	—	Power terminal.
31	XT1	P04	—	—	Sub-clock connection terminal.
32*	XT2	XT2	—	—	Sub-clock connection terminal.
33	VSS	VSS	—	—	Power terminal.
34	X1	X1	—	—	Main clock connection terminal.
35	X2	X2	—	—	Main clock connection terminal.
36	P37	LED CONTROL	Output	L (light up), H (no light up)	A-PLAY LED display control output.
37	P36	LED CONTROL	Output	L (light up), H (no light up)	STOP LED display control output.
38	P35	LED CONTROL	Output	L (light up), H (no light up)	R-PLAY LED display control output.
39	P34	LED CONTROL	Output	L (light up), H (no light up)	REW LED display control output.
40	P33	LED CONTROL	Output	L (light up), H (no light up)	FF LED display control output.

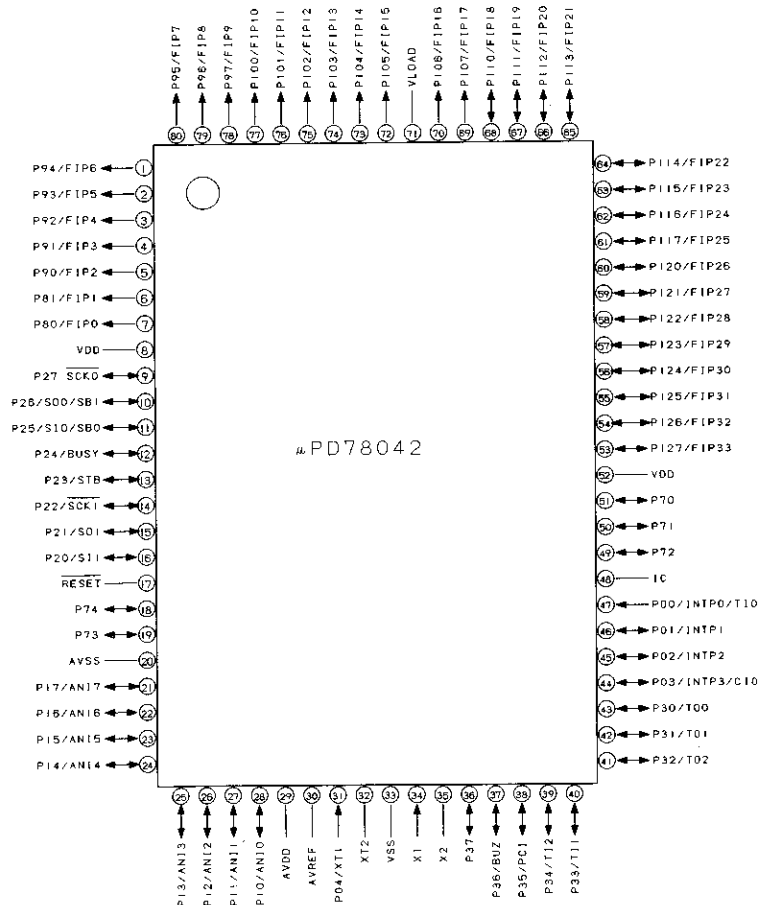
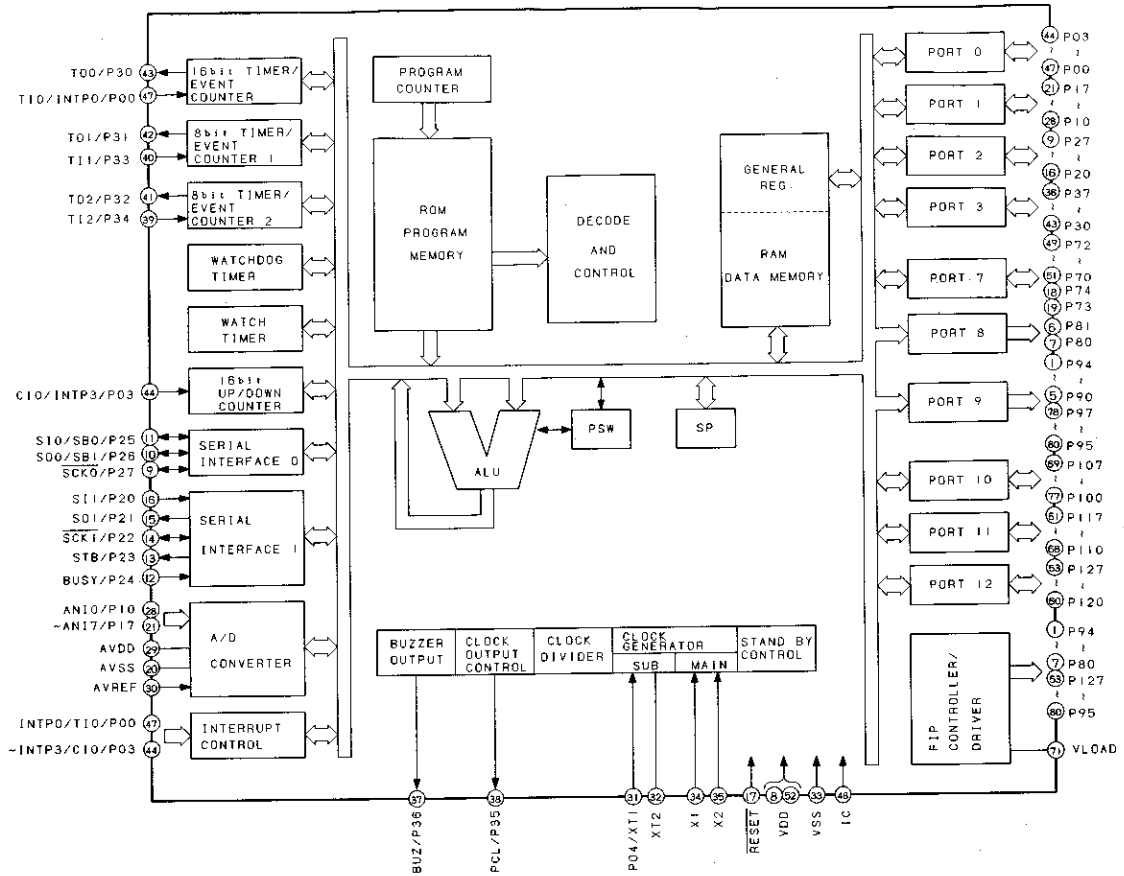
In this unit, the terminal with asterisk mark (\*) is (open) terminal which is connected to the outside.

**IC4 RH-iX0012AWZZ (IX0012AW): CD Control Microcomputer**



**Figure 53 BLOCK DIAGRAM OF IC**

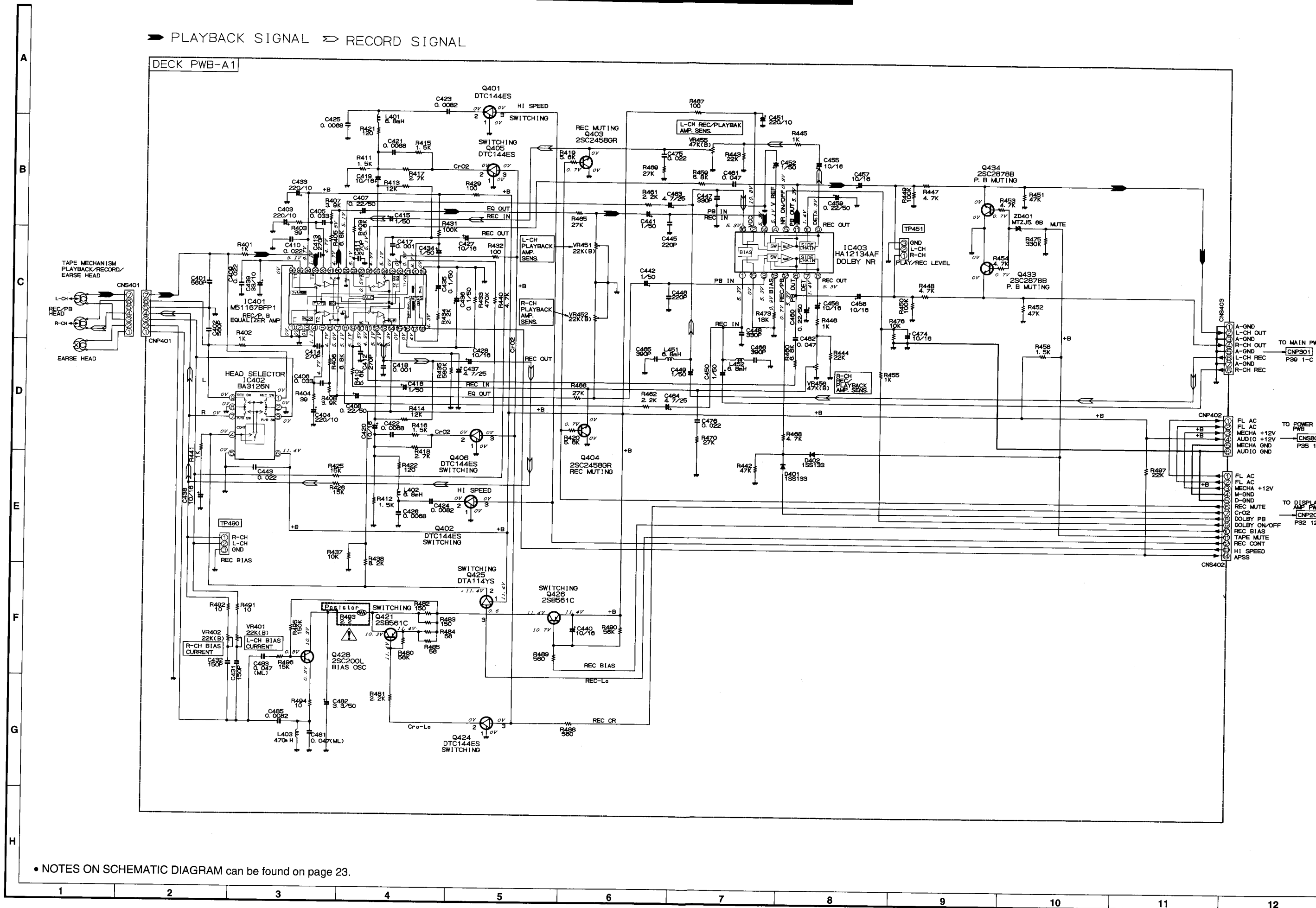
**IC201 RH-IX0013AWZZ (IX0013AW): System Control Microcomputer**



**Figure 56 BLOCK DIAGRAM OF IC**



▶ PLAYBACK SIGNAL ⇨ RECORD SIGNAL



• NOTES ON SCHEMATIC DIAGRAM can be found on page 23.

Figure 27 SCHEMATIC DIAGRAM (1/6)

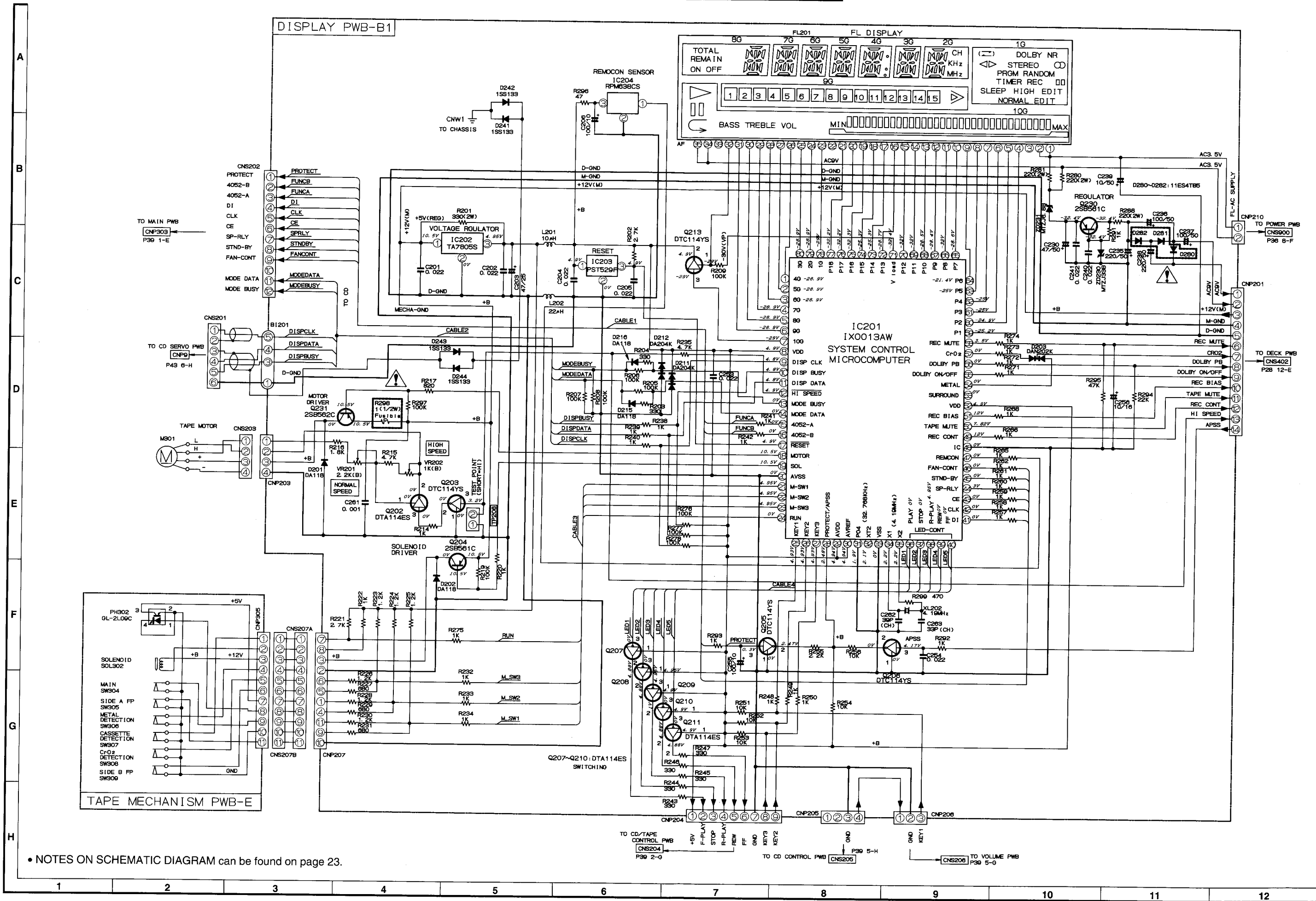


Figure 31 SCHEMATIC DIAGRAM (2/6)

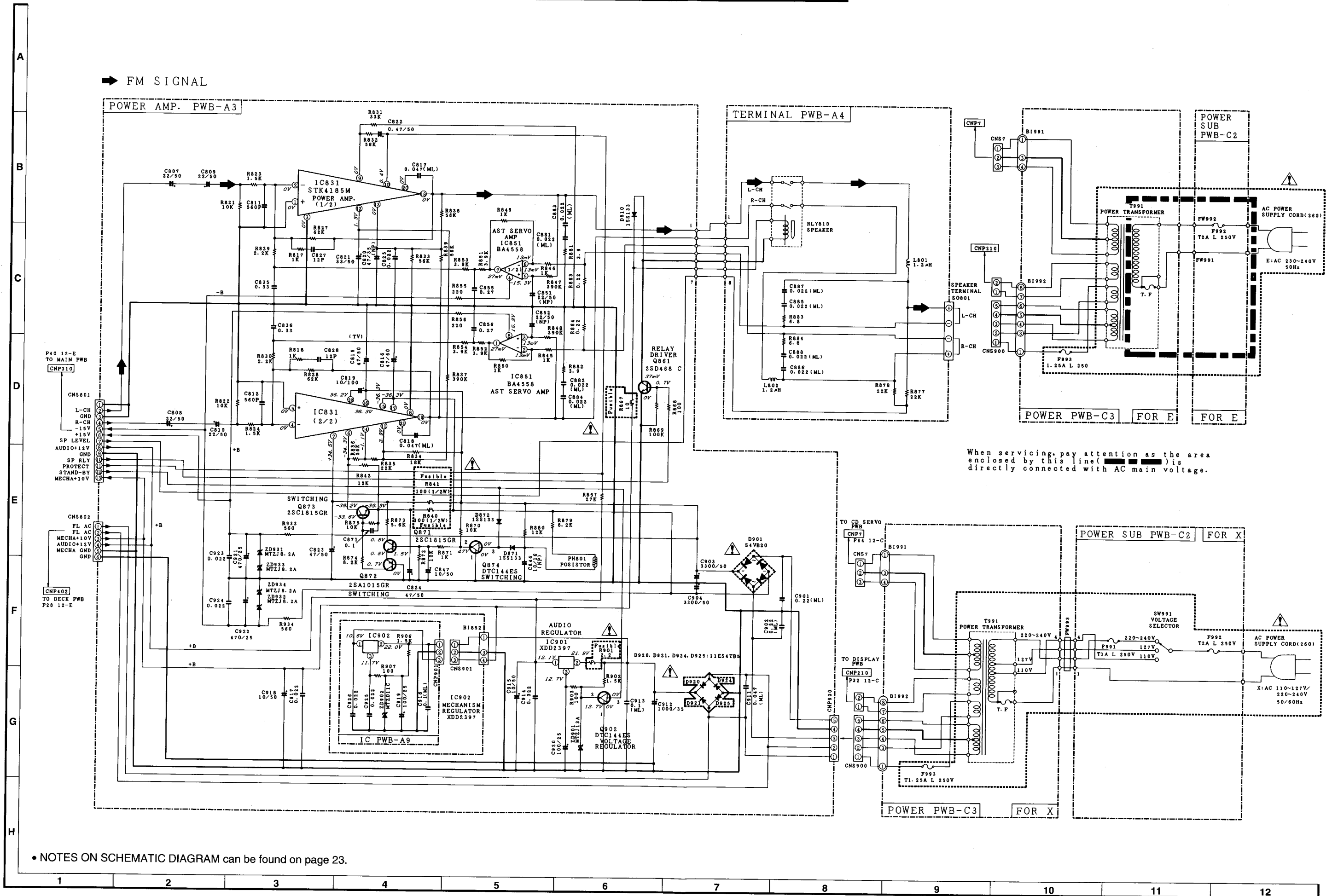
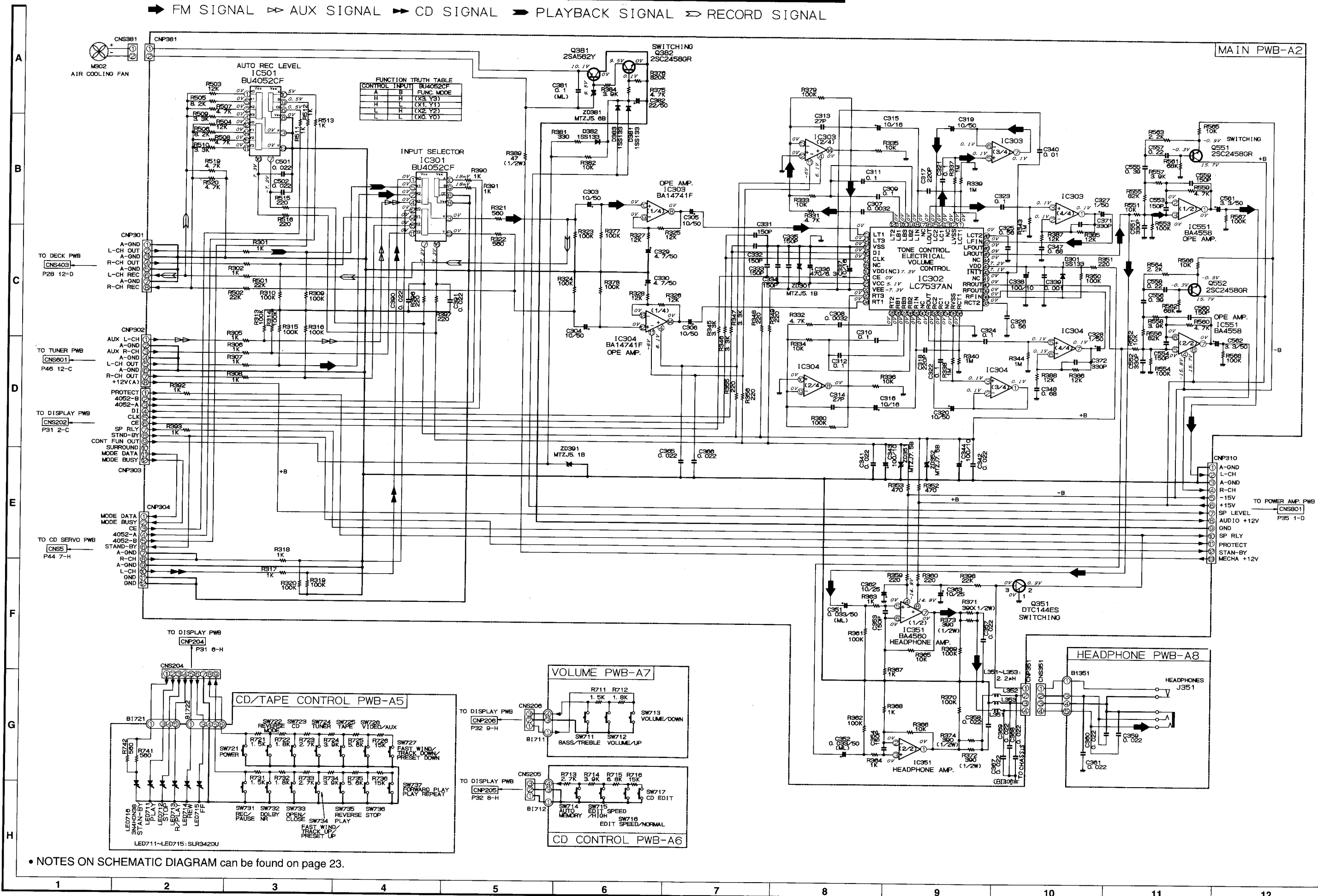


Figure 35 SCHEMATIC DIAGRAM (3/6)

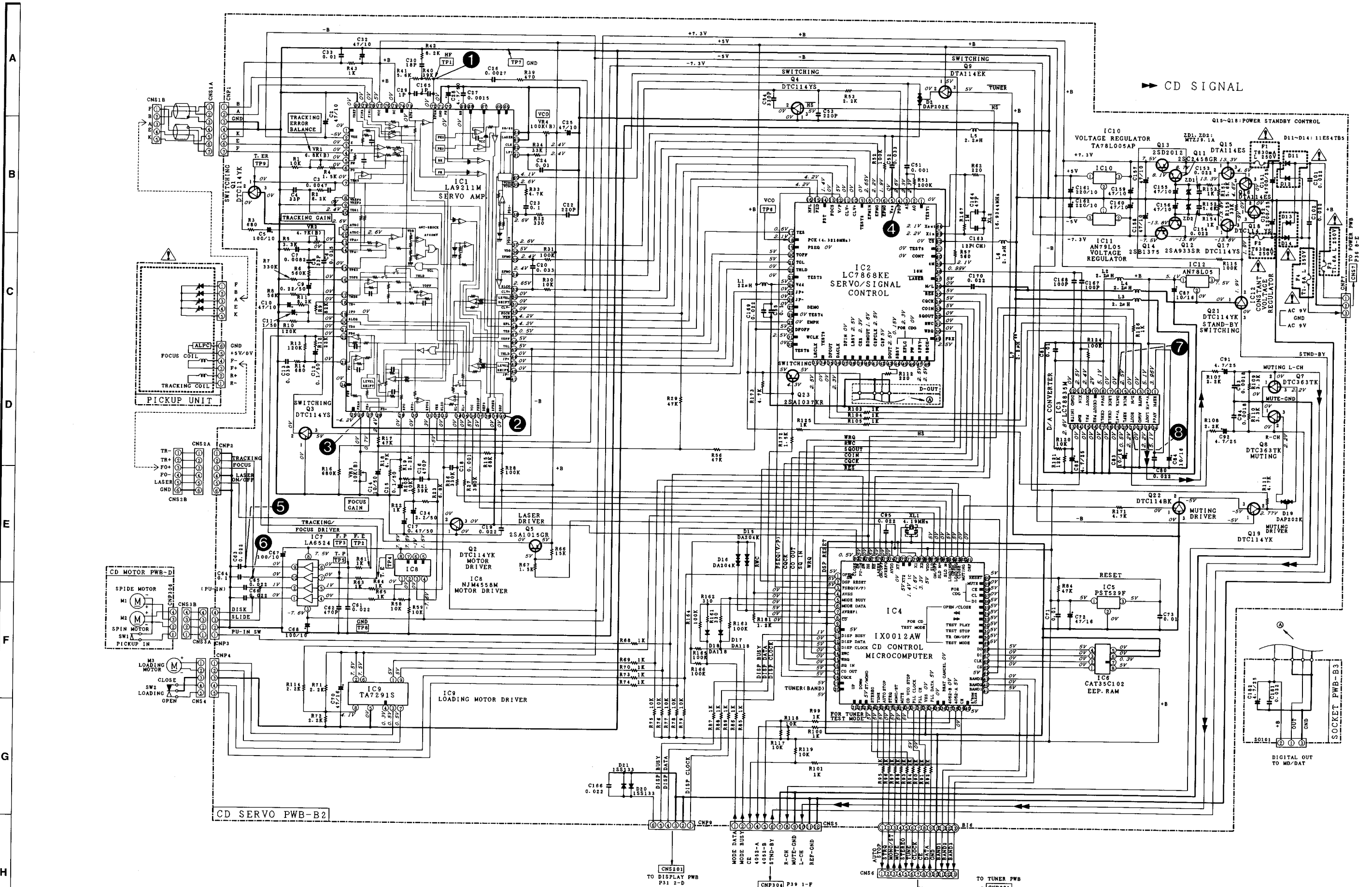
FM SIGNAL → AUX SIGNAL → CD SIGNAL → PLAYBACK SIGNAL → RECORD SIGNAL

MAIN PWB-A2



• NOTES ON SCHEMATIC DIAGRAM can be found on page 23.

Figure 39 SCHEMATIC DIAGRAM (4/6)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 23.

• The numbers 1 to are 8 waveform numbers shown in page 47.

Figure 43 SCHEMATIC DIAGRAM (5/6)

➔ FM SIGNAL ➡ AM SIGNAL ➤ AUX SIGNAL

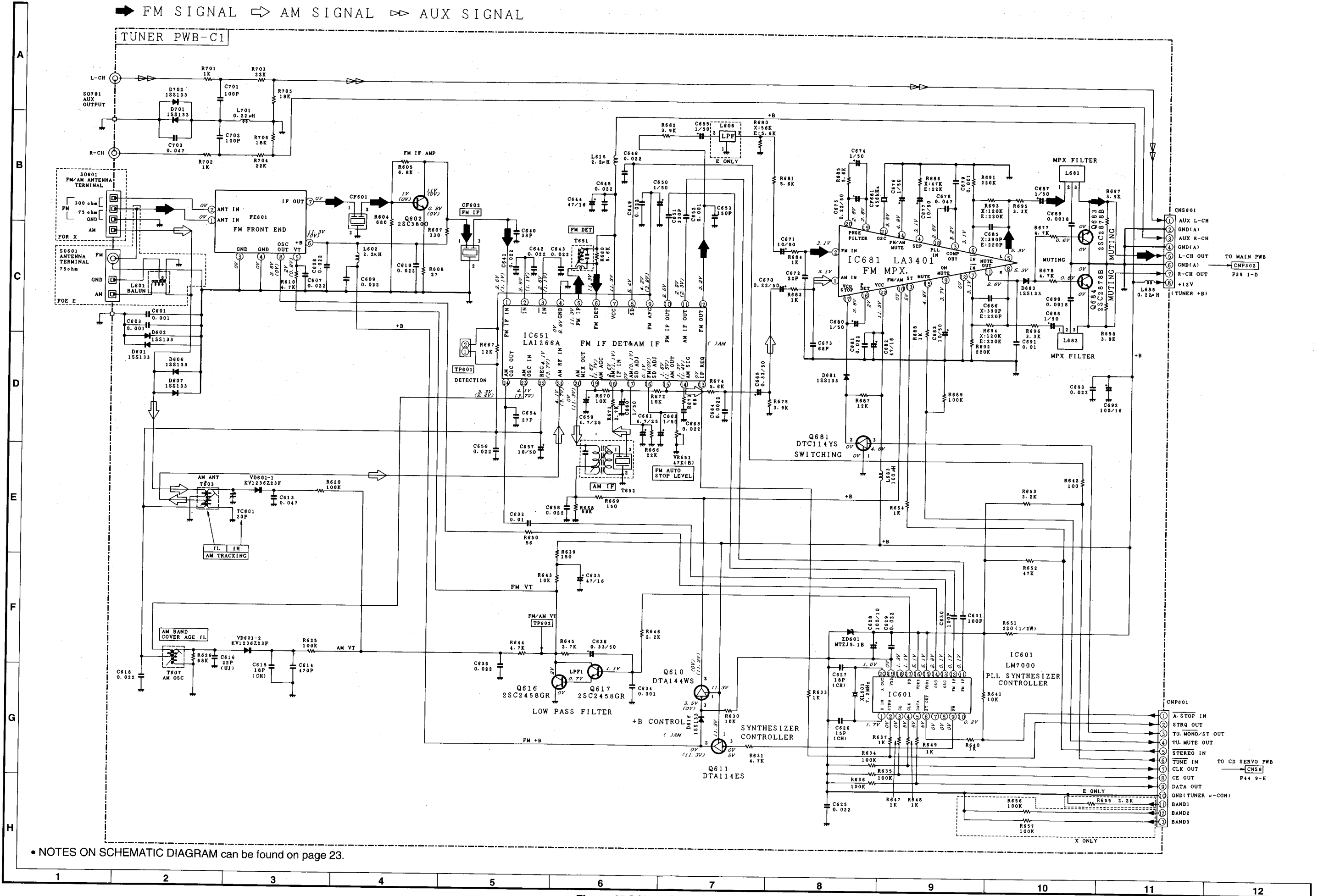
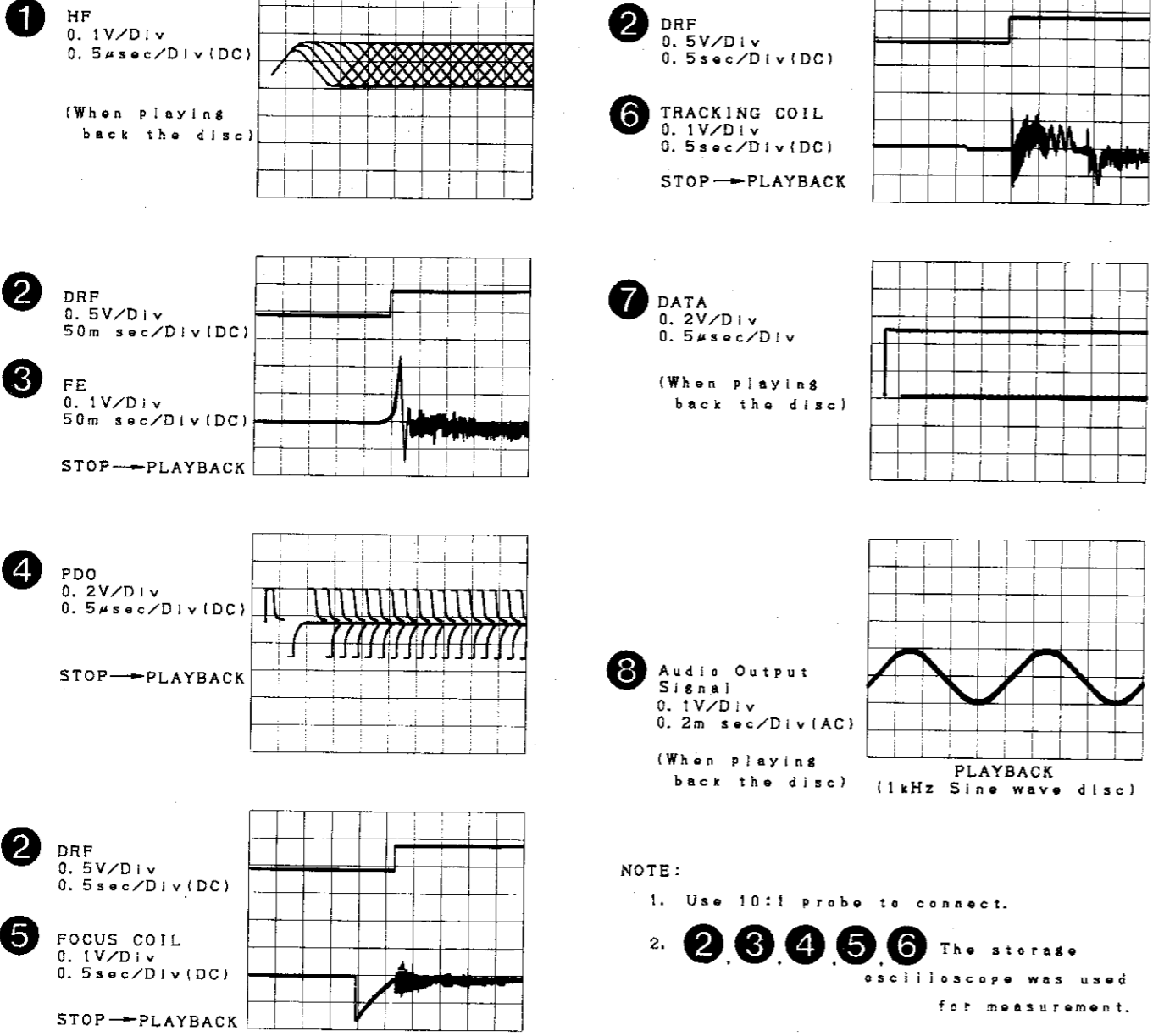


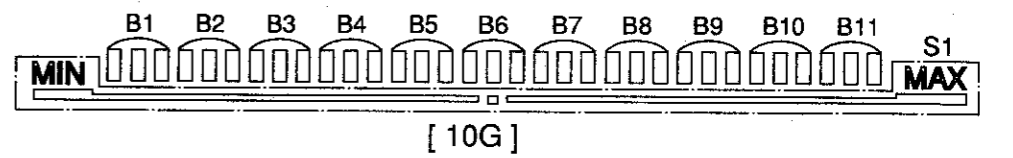
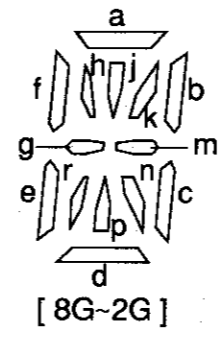
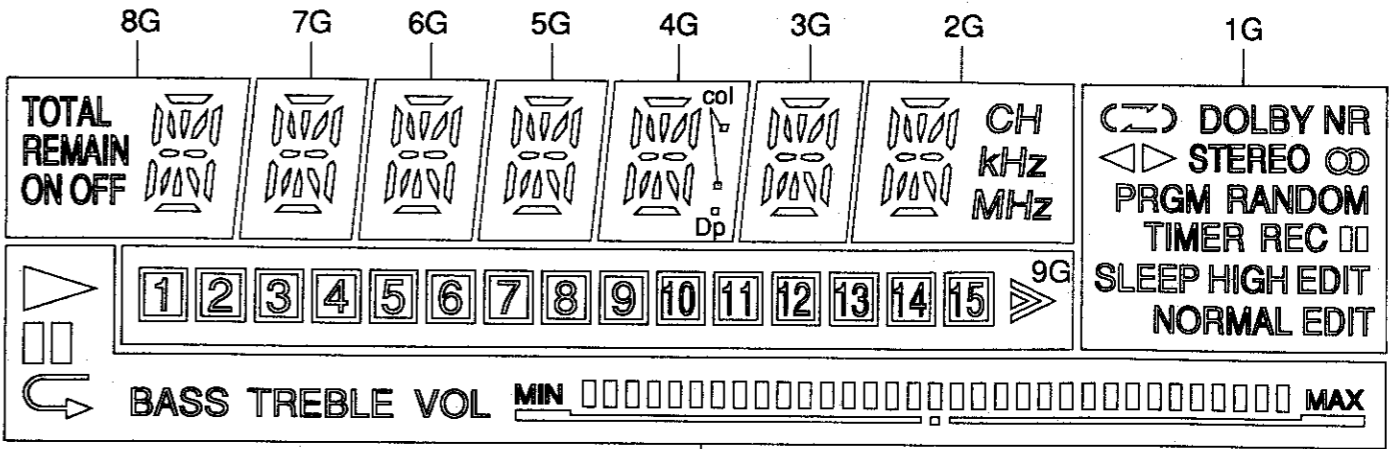
Figure 45 SCHEMATIC DIAGRAM (6/6)

FL210 VVKFV644G/-1

WAVEFORMS OF CD CIRCUIT



NOTE:  
1. Use 10:1 probe to connect.  
2. 2 3 4 5 6 The storage oscilloscope was used for measurement.



**PIN CONNECTION**

PIN NO.	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1					
CONNECTION	F	F	N	0	9	8	7	6	5	4	3	2	1	N	P	P	P	P	P	P	P	P	P	P	N	F	F

2 2 P G G G G G G G G G G G C 8 7 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 P 1 1

NOTE  
1) F1, F2 --- Filament  
2) NP --- No pin  
3) NC --- No connection  
4) DL --- Datum Line  
5) 1G~10G --- Grid

**ANODE CONNECTION**

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	BASS	1	a	a	a	a	a	a	a	DOLBY NR
P2	TREBLE	2	j	j	j	j	j	j	j	C
P3	VOL	3	k	k	k	k	k	k	k	≡
P4	S1	4	h	h	h	h	h	h	h	)
P5	B1	5	b	b	b	b	b	b	b	<
P6	B2	6	f	f	f	f	f	f	f	>
P7	B3	7	g	g	g	g	g	g	g	STEREO
P8	B4	8	m	m	m	m	m	m	m	∞
P9	B5	9	c	c	c	c	c	c	c	PRGM
P10	B6	10	e	e	e	e	e	e	e	RANDOM
P11	B7	11	r	r	r	r	r	r	r	TIMER
P12	B8	12	n	n	n	n	n	n	n	REC
P13	B9	13	p	p	p	p	p	p	p	□
P14	B10	14	d	d	d	d	d	d	d	SLEEP
P15	B11	15	TOTAL	-	-	-	col	-	CH	HIGH EDIT
P16	>	>	REMAIN	-	-	-	Dp	-	kHz	NORMAL EDIT
P17	□	-	ON	-	-	-	-	-	MHz	-
P18	↶	-	OFF	-	-	-	-	-	-	-

Figure 48 FL SEGMENT

XL-12X/E  
CP-XL12

XL-12X/E  
CP-XL12

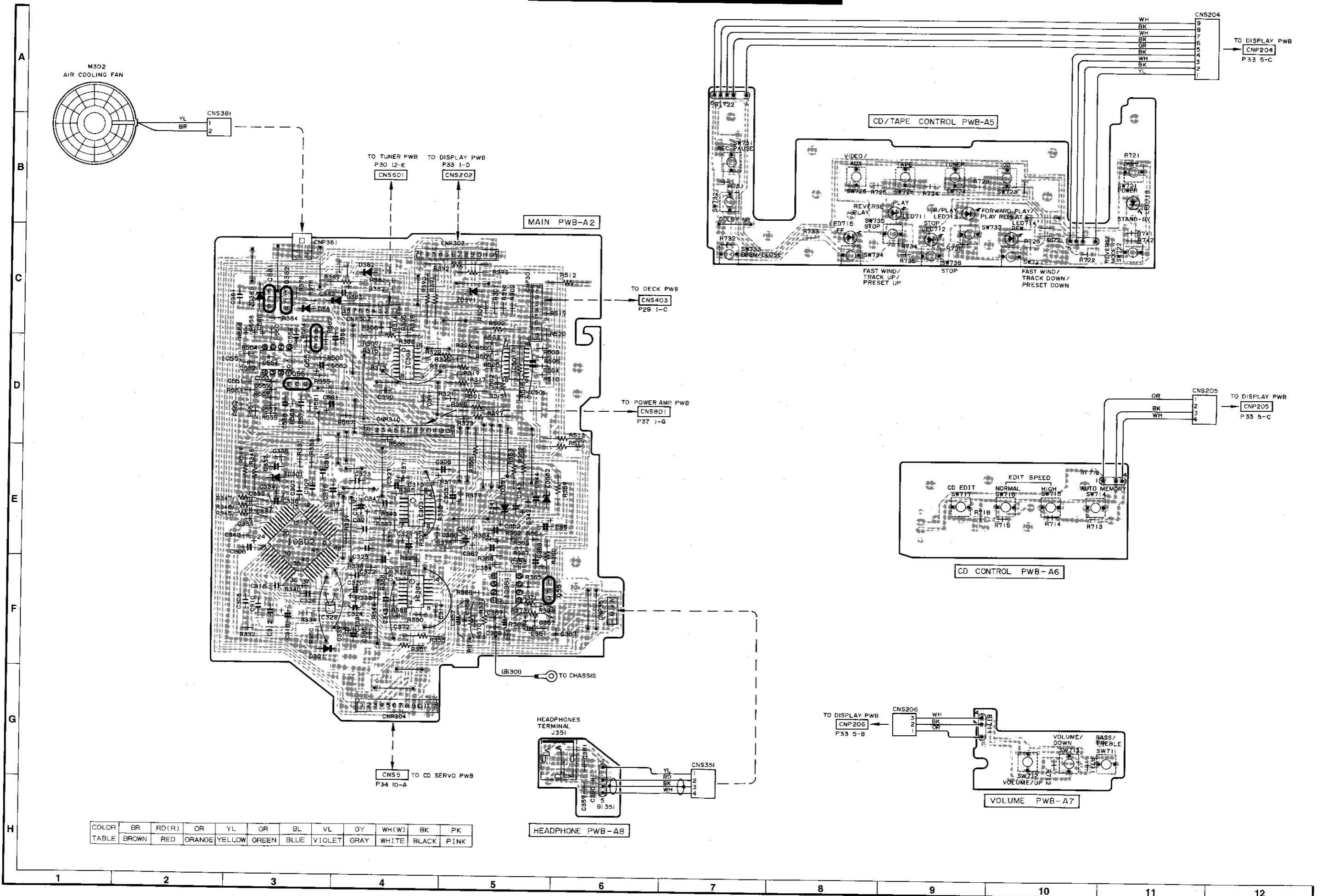
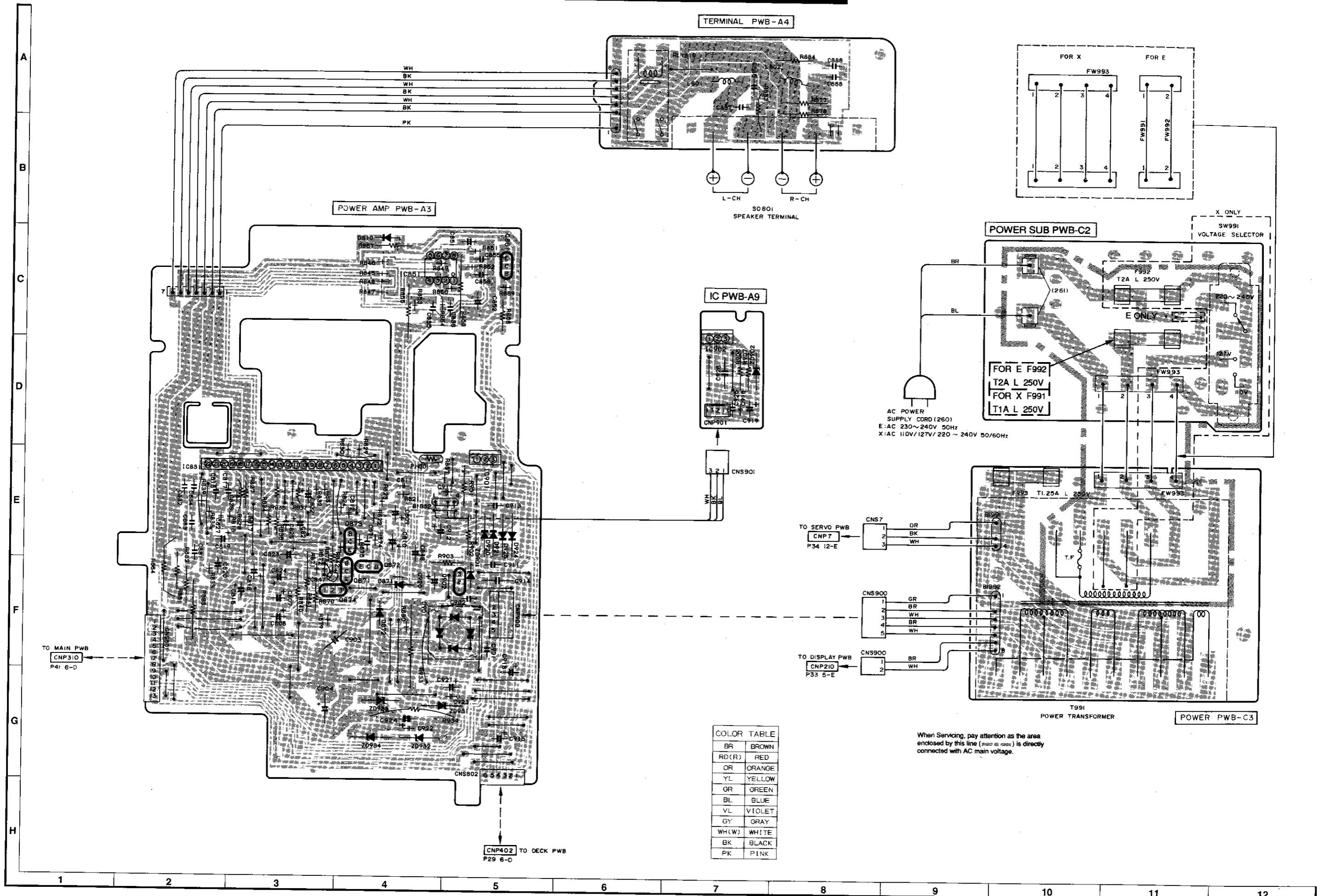


Figure 41 WIRING SIDE OF P.W. BOARD (4/4)



XL-12X/E  
CP-XL12

XL-12X/E  
CP-XL12



COLOR TABLE

BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

When Servicing, pay attention as the area enclosed by this line (shown as above) is directly connected with AC main voltage.

Figure 37 WIRING SIDE OF P.W.BOARD (3/4)

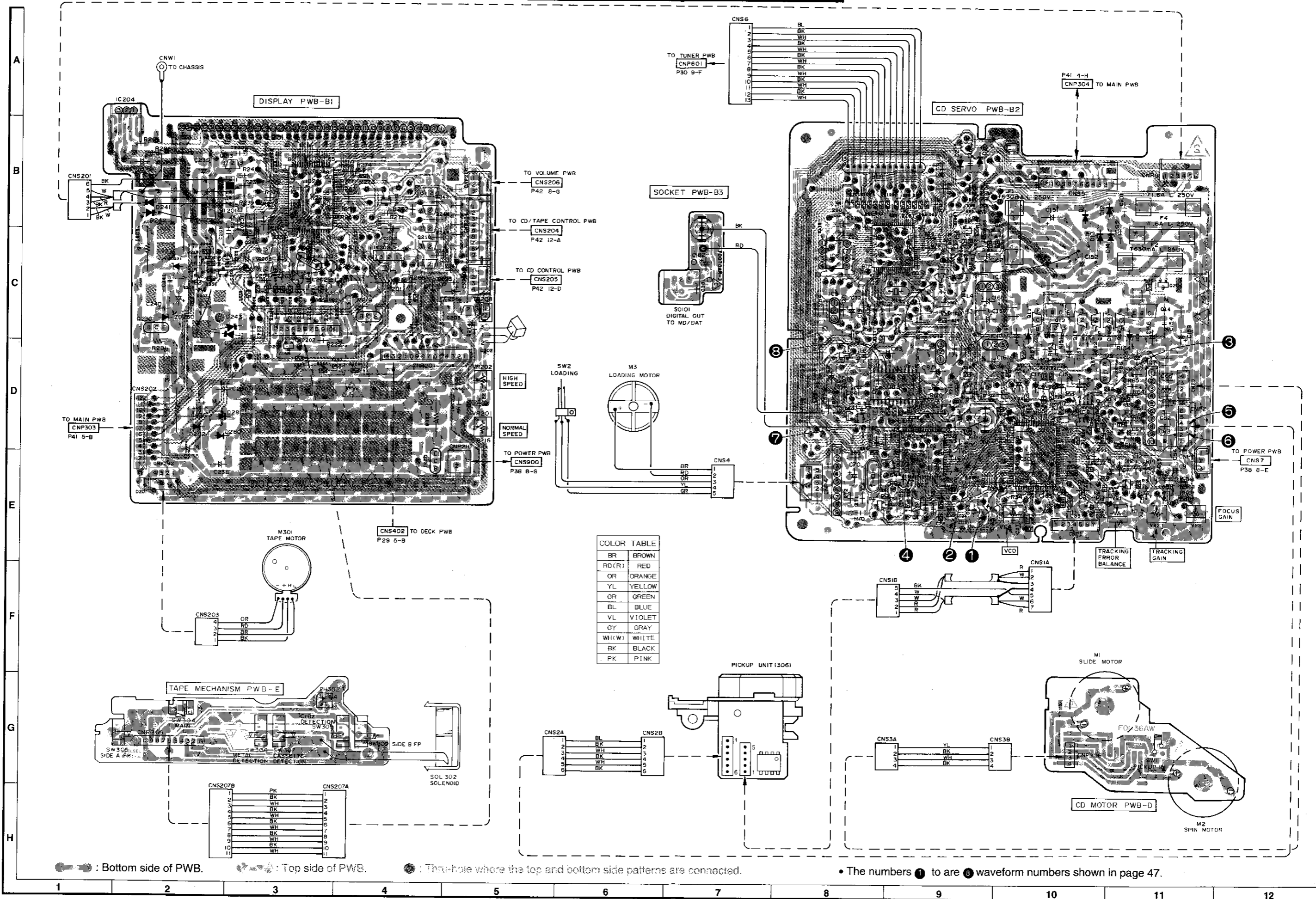


Figure 33 WIRING SIDE OF P.W.BOARD (2/4)

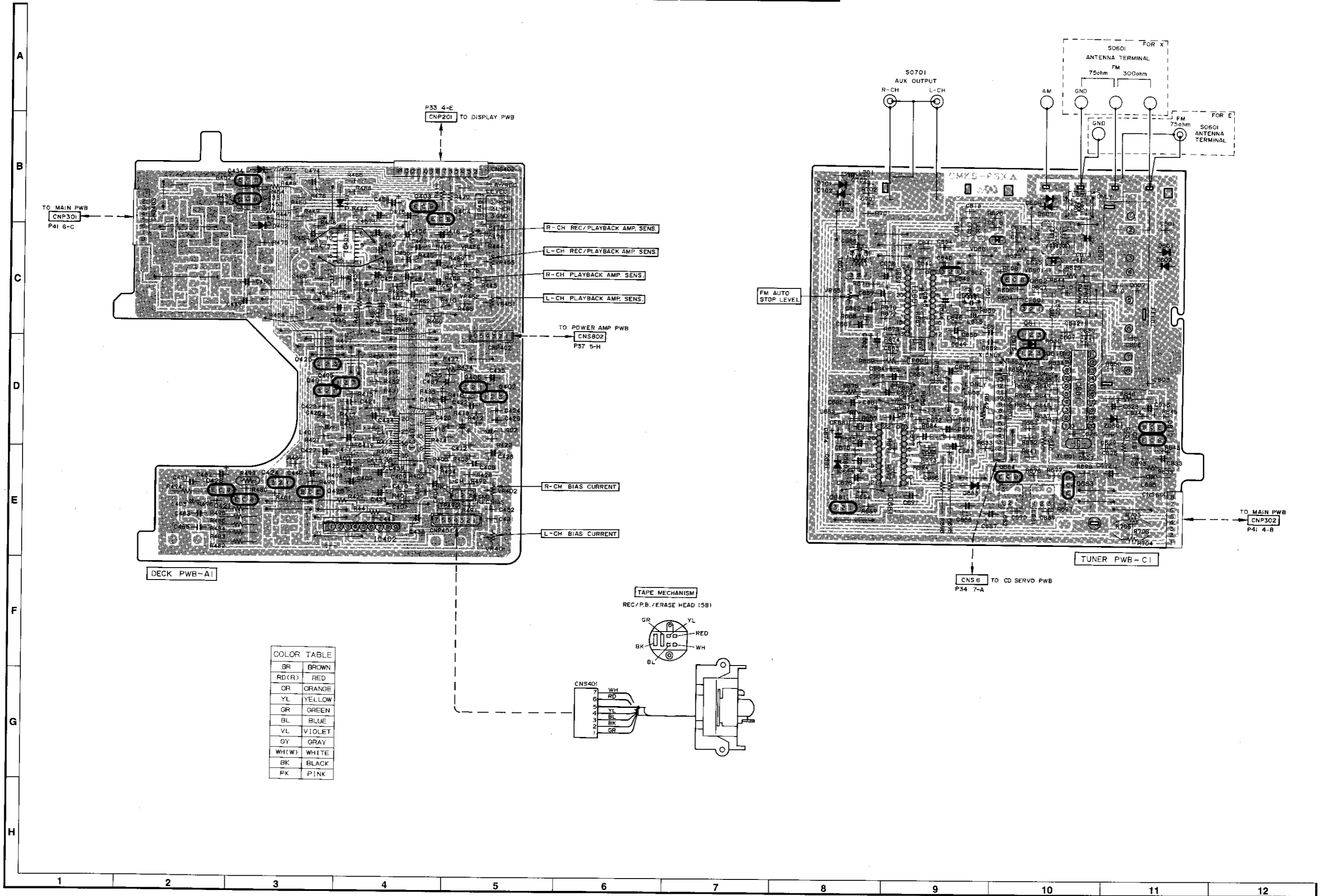


Figure 29 WIRING SIDE OF P.W.BOARD (1/4)

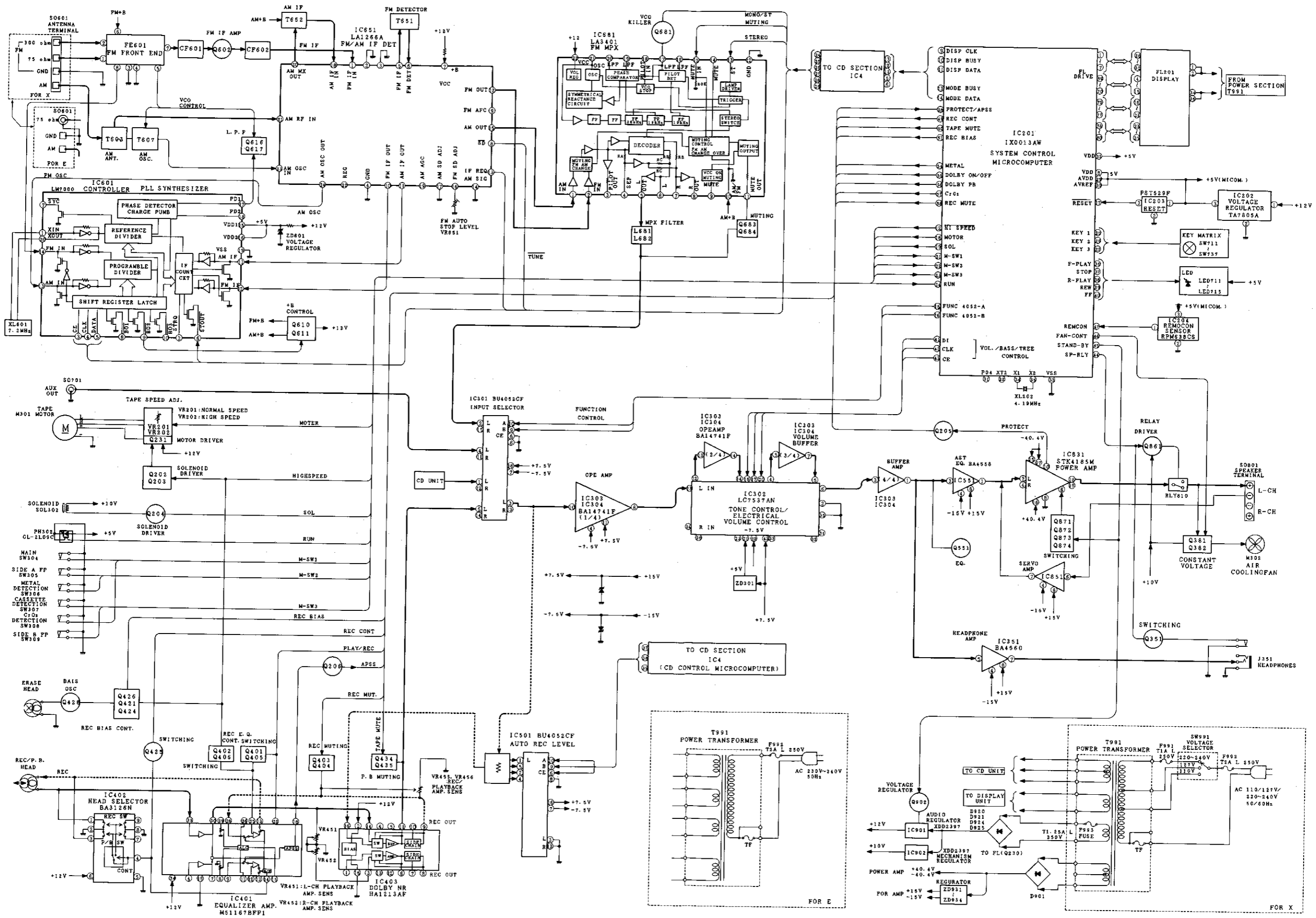


Figure 25 BLOCK DIAGRAM (2/2)

## REPLACEMENT PARTS LIST

### "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

- |                 |                |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO.    |
| 3. PART NO.     | 4. DESCRIPTION |

★ MARK: SPARE PARTS-DELIVERY SECTION

**NOTE:**

Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
	<b>XL-12X/E</b>		<b>INTEGRATED CIRCUITS</b>						
IC1	VHiLA9211M/-1	J	Servo Amp.,LA9211M	A Q	Q7,8	VS DTC363TK/-1	J	Digital,NPN,DTC363 TK	A C
IC2	VHiLC7868KE-1	J	Servo/Signal Control, LC7868KE	B C	Q9	VS DTA114EK/-1	J	Digital,PNP,DTA114 EK	A B
IC3	VHiLC78835M-1	J	D/A Converter,LC78835M	A Y	Q11	VS2SC2458GR-1	J	Silicon,NPN,2SC2458 GR	A B
IC4	RH-iX0012AWZZ	J	CD Control Microcomputer, IX0012AW	B D	Q12	VS2SA933SR/-1	J	Silicon,PNP,2SA933 SR	A B
IC5	VHiPST529F/-1	J	Reset,PST529F	A R	Q13	VS2SD2012//-1	J	Silicon,NPN,2SD2012	A D
IC6	92LiCCAT35C102	J	EEP.ROM,CAT35C102	A M	Q14	VS2SB1375//1	J	Silicon,PNP,2SB1375	A F
IC7	VHiLA6524//1	J	Tracking/Focus Driver, LA6524	A H	Q15,16	VS DTA114ES/-1	J	Digital,PNP,DTA114 ES	A B
IC8	VHiNJM4558M-1	J	Motor Driver,NJM4558M	A C	Q17,18	VS DTC114YS/-1	J	Digital,NPN,DTC114 YS	A B
IC9	92LiCTA7291S	J	Loading Motor Driver, TA7291S	A G	Q19	VS DTC114YK/-1	J	Digital,NPN,DTC114 YK	A B
IC10	VHiTA78L005AP	J	Voltage Regulator, TA78L005AP	A F	Q21	VS DTC114YK/-1	J	Digital,NPN,DTC114 YK	A B
IC11	92LiCAN79L05T	J	Voltage Regulator, AN79L05	A E	Q22	VS DTA114EK/-1	J	Digital,PNP,DTA114 EK	A B
IC12	92LiCAN78L05T	J	Constant Voltage Regulator,AN78L05	A E	Q23	VS2SA1037KR-1	J	Silicon,PNP,2SA1037 KR	A B
IC201	RH-iX0013AWZZ	J	System Control Microcomputer,IX0013AW	B C	Q202	VS DTA114ES/-1	J	Digital,PNP,DTA114 ES	A B
IC202	92LiCTA7805S	J	Voltage Regulator, TA7805S	A H	Q203	VS DTC114YS/-1	J	Digital,NPN,DTC114 YS	A B
IC203	VHiPST529F/-1	J	Reset,PST529F	A R	Q204	VS2SB561-C/-1	J	Silicon,PNP,2SB561 C	A C
IC204	VHLRPM638CS-1	J	Remocon Sensor,RPM638 CS	A P	Q205,206	VS DTC114YS/-1	J	Digital,NPN,DTC114 YS	A B
IC301	VHiBU4052CF-1	J	Input Selector,BU4052CF	A H	Q207~211	VS DTA114ES/-1	J	Digital,PNP,DTA114 ES	A B
IC302	VHiLC7537AN-1	J	Tone Control/Electrical Volume Control,LC7537AN	A R	Q213	VS DTC114YS/-1	J	Digital,NPN,DTC114 YS	A B
IC303,304	VHiBA14741F-1	J	Ope Amp.,BA14741F	A E	Q230	VS2SB561-C/-1	J	Silicon,PNP,2SB561 C	A C
IC351	VHiBA4560//1	J	Headphone Amp.,BA4560	A E	Q231	VS2SB562-C/-1	J	Silicon,PNP,2SB562 C	A D
IC401	VHiM51167BFP1	J	Equalizer Amp., M51167BFP1	A L	Q351	VS DTC144ES/-1	J	Digital,NPN,DTC144 ES	A B
IC402	VHiBA3126N/-1	J	Head Selector,BA3126N	A F	Q381	VS2SA562-Y/-1	J	Silicon,PNP,2SA562 Y	A C
IC403	VHiHA12134AF1	J	Dolby NR,HA12134AF	A K	Q382	VS2SC2458GR-1	J	Silicon,NPN,2SC2458 GR	A B
IC501	VHiBU4052CF-1	J	Auto Rec Level,BU4052CF	A H	Q401,402	VS DTC144ES/-1	J	Digital,NPN,DTC144 ES	A B
IC551	VHiBA4558//1	J	Ope Amp.,BA4558	A D	Q403,404	VS2SC2458GR-1	J	Silicon,NPN,2SC2458 GR	A B
IC601	VHiLM7000//1	J	PLL Synthesizer Controller,LM7000	A P	Q405,406	VS DTC144ES/-1	J	Digital,NPN,DTC144 ES	A B
IC651	VHiLA1266A/-1	J	FM IF Det. and IF,LA1266A	A K	Q421	VS2SB561-C/-1	J	Silicon,PNP,2SB561 C	A C
IC681	VHiLA3401//1	J	FM MPX.,LA3401	A K	Q424	VS DTC144ES/-1	J	Digital,NPN,DTC144 ES	A B
IC831	VHiSTK4185M-1	J	Power Amp.,STK4185M	A Y	Q425	VS DTA114YS/-1	J	Digital,PNP,DTA114 YS	A B
IC851	VHiBA4558//1	J	AST Servo Amp.,BA4558	A D	Q426	VS2SB561-C/-1	J	Silicon,PNP,2SB561 C	A C
IC901	VHiXDD2397/-1	J	Audio Regulator,XDD2397	A K	Q428	VS2SC2001-L-1	J	Silicon,NPN,2SC2001 L	A B
IC902	VHiXDD2397/-1	J	Mechanism Regulator, XDD2397	A K	Q433,434	VS2SC2878B/-1	J	Silicon,NPN,2SC2878 B	A C
			<b>TRANSISTORS</b>		Q551,552	VS2SC2458GR-1	J	Silicon,NPN,2SC2458 GR	A B
Q1~3	VS DTC114YK/-1	J	Digital,NPN,DTC114 YK	A B	Q602	VS2SC380-0/-1	J	Silicon,NPN,2SC380 O	A C
Q4	VS DTC114YS/-1	J	Digital,NPN,DTC114 YS	A B	Q610	VS DTA144WS/-1	J	Digital,PNP,DTA144 WS	A C
Q5	VS2SA1015GR-1	J	Silicon,PNP,2SA1015 GR	A B	Q611	VS DTA114ES/-1	J	Digital,PNP,DTA114 ES	A B
					Q616,617	VS2SC2458GR-1	J	Silicon,NPN,2SC2458 GR	A B
					Q681	VS DTC114YS/-1	J	Digital,NPN,DTC114 YS	A B
					Q683,684	VS2SC2878B/-1	J	Silicon,NPN,2SC2878 B	A C
					Q861	VS2SD468-C/-1	J	Silicon,NPN,2SD468 C	A D
					Q871	VS2SC1815GR-1	J	Silicon,NPN,2SC1815 GR	A B
					Q872	VS2SA1015GR-1	J	Silicon,PNP,2SA1015 GR	A B
					Q873	VS2SC1815GR-1	J	Silicon,NPN,2SC1815 GR	A B
					Q874	VS DTC144ES/-1	J	Digital,NPN,DTC144 ES	A B
					Q902	VS DTC144ES/-1	J	Digital,NPN,DTC144 ES	A B
								<b>DIODES</b>	
					D2	VHDDAP202K/-1	J	Silicon,DAP202K	A B
					△D11~14	VHD11ES4TB5-1	J	Silicon,11ES4TB5	A A
					D15,16	VHDDA204K//1	J	Silicon,DA204K	A B
					D17,18	VHDDA118///1	J	Silicon,DA118	A B
					D19	VHDDAP202K/-1	J	Silicon,DAP202K	A B
					D20,21	VHD1SS133//1	J	Silicon,1SS133	A A
					D201,202	VHDDA118///1	J	Silicon,DA118	A B

REF.NO.	PART NO.	★	DESCRIPTION	CODE
D203	VHDDAN202K/-1	J	Silicon,DAN202K	A B
D211,212	VHDDA204K//--1	J	Silicon,DA204K	A B
D215,216	VHDDA118///-1	J	Silicon,DA118	A B
D241~244	VHD1SS133//--V	J	Silicon,1SS133	A C
△D280~282	VHD11ES4TB5-1	J	Silicon,11ES4TB5	A A
D301	VHD1SS133//--1	J	Silicon,1SS133	A A
D381~383	VHD1SS133//--1	J	Silicon,1SS133	A A
D401,402	VHD1SS133//--1	J	Silicon,1SS133	A A
D601,602	VHD1SS133//--1	J	Silicon,1SS133	A A
D606,607	VHD1SS133//--1	J	Silicon,1SS133	A A
D616	VHD1SS133//--1	J	Silicon,1SS133	A A
D681	VHD1SS133//--1	J	Silicon,1SS133	A A
D683	VHD1SS133//--1	J	Silicon,1SS133	A A
D701,702	VHD1SS133//--1	J	Silicon,1SS133	A A
D810	VHD1SS133//--1	J	Silicon,1SS133	A A
D871,872	VHD1SS133//--1	J	Silicon,1SS133	A A
△D901	VHDS4VB20//--1	J	Rectifier,S4VB20	A G
△D920,921	VHD11ES4TB5-1	J	Silicon,11ES4TB5	A A
△D924,925	VHD11ES4TB5-1	J	Silicon,11ES4TB5	A A
LED711~715	VHPSLR342DU-1	J	LED,Yellow,SLR342DU	A D
LED716	92LLED3N4HDN33	J	LED,Red,3N4HDN38	A C
PH302	VHPGP-2L09C-1	J	Photocoupler,GP-2L09C	A E
VD601	VHCKV1236Z23F	J	Variable Capacitance, KV1236Z23F	A S
ZD1,2	VHEMTZJ9R1A-1	J	Zener,9.1V,MTZ9.1A	A A
ZD230	VHEMTZJ330B-1	J	Zener,3V,MTZJ33BVT	A B
ZD231	VHEMTZJ6R8B-1	J	Zener,6.8V,MTZJ6.8B	A C
ZD301	VHEMTZJ5R1B-1	J	Zener,5.1V,MTZJ5.1B	A C
ZD351,352	VHEMTZJ7R5B-1	J	Zener,7.5V,MTZJ7.5B	A A
ZD381	VHEMTZJ5R6B-1	J	Zener,5.6V,MTZJ5.6B	A D
ZD391	VHEMTZJ5R1B-1	J	Zener,5.1V,MTZJ5.1B	A C
ZD401	VHEMTZJ5R6B-1	J	Zener,5.6V,MTZJ5.6B	A D
ZD601	VHEMTZJ5R1B-1	J	Zener,5.1V,MTZJ5.1B	A C
ZD901	VHEMTZJ130A-1	J	Zener,13V,MTZJ13A	A C
ZD902	VHEMTZJ110C-1	J	Zener,11V,MTZJ11C	A A
ZD931~934	VHEMTZJ8R2A-1	J	Zener,8.2V,MTZJ8.2A	A A

**FILTERS**

CF601,602	RFILF0072AFZZ	J	FM IF,10.7 MHz [E]	A G
CF601,602	RFILF0114AFZZ	J	FM IF,10.7 MHz [X]	A C
CF681	RCRM-0010AFZZ	J	Ceramic,456 kHz	A D
L608	RFIL0075AFZZ	J	Low Pass Filter [E Only]	A F

**TRANSFORMERS**

T603	RCiLA1064AFZZ	J	AM Antenna	A D
T607	RCiLB1074AFZZ	J	AM Oscillation	A C
T651	92LC0iLD1775A	J	FM DET	A F
T652	RFiLA0178AFZZ	J	AM IF	A F
△T991	RTRNP0028AWZZ	J	Power [X]	B K
△T991	RTRNP0029AWZZ	J	Power [E]	B K

**COILS**

L1~5	VP-MK2R2M0000	J	22 μH,Choke	A B
L6	VP-DH2R2M0000	J	2.2 μH,Choke	A B
L7	VP-MK2R2M0000	J	22 μH,Choke	A B
L201	VP-MK100K0000	J	10 μH,Choke	A B
L202	VP-MK2R2M0000	J	22 μH,Choke	A B
L351~353	VP-DH2R2M0000	J	2.2 μH,Choke	A B
L401,402	RCiLC0092AFZZ	J	6.8 mH	A C
L403	92LC0iLC471KDT	J	470 μH,Choke	A D
L451,452	RCiLC0094AFZZ	J	6.8 mH	A D
L601	RBLN-0051AFZZ	J	Balun [E Only]	A E
L602	VP-DH2R2M0000	J	2.2 μH,Choke	A B
L615	VP-DH2R2M0000	J	2.2 μH,Choke	A B
L681,682	RCiLL0105AFZZ	J	MPX. Filter	A E
L683	VP-DH101K0000	J	100 μH,Choke	A B

REF.NO.	PART NO.	★	DESCRIPTION	CODE
L685	VP-DHR22K0000	J	0.22 μH	A B
L701	VP-DHR22K0000	J	0.22 μH	A B
L801	92LC0iLZ1776A	J	1.2 μH	A E
L802	RCiLZ0067AFZZ	J	1.2 μH	A D

**VARIABLE RESISTORS**

VR1	92LVRS682KBAT	J	6.8 kohms (B),Semi-VR [Tracking Error Balance]	A C
VR2	RVR-M0584AFZZ	J	4.7 kohms (B),Semi-VR [Tracking Gain]	A B
VR3	RVR-M0586AFZZ	J	10 kohm (B),Semi-VR [Focus Gain]	A B
VR4	92LVRS104KBAT	J	100 kohm (B),Semi-VR [VCO]	A D
VR201	RVR-M0582AFZZ	J	2.2 kohms (B),Semi-VR [Normal Speed]	A B
VR202	92LVRS102KBAT	J	1 kohm (B),Semi-VR [High Speed]	A D
VR401	RVR-M0588AFZZ	J	22 kohms (B),Semi-VR [L-ch Bias Current]	A B
VR402	RVR-M0588AFZZ	J	22 kohms (B),Semi-VR [R-ch Bias Current]	A B
VR451	RVR-M0588AFZZ	J	22 kohms (B),Semi-VR [L-ch P.B.Amp.Sens.]	A B
VR452	RVR-M0588AFZZ	J	22 kohms (B),Semi-VR [R-ch P.B.Amp.Sens.]	A B
VR455	RVR-M0590AFZZ	J	47 kohms (B),Semi-VR [L-ch Rec./P.B.Amp. Sens.]	A B
VR456	RVR-M0590AFZZ	J	47 kohms (B),Semi-VR [R-ch Rec./P.B.Amp. Sens.]	A B
VR651	RVR-M1003AFZZ	J	47 kohms (B),Semi-VR [FM Auto Stop Level]	A B

**VARIABLE CAPACITOR**

TC601	RT0-H1165AFZZ	J	Trimmer,20 pF	A C
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**VIBRATORS**

XL1	RCRM-0094AFZZ	J	Ceramic,4.19 MHz	A D
XL2	RCRSBO123AFZZ	J	Crystal,16.9344 MHz	A G
XL202	92LCRSTL1775A	J	Crystal,4.19 MHz	A H
XL601	92LCRSTL1589B	J	Crystal,7.2 MHz	A K

**CAPACITORS**

There are two types of capacitors available and they can be identified from each other by reading their Part Numbers.

\* Ceramic type capacitor;

A symbol "C" or "K" is given at the 3rd digit of its Part Number like "VCC (or K).....J."

\* Semiconductor type capacitor:

A symbol "T" is given at the 3rd digit of its Part Number like "VCT.....J."

The capacitance error of each capacitor is indicated by the symbol given at the 13th digit of the Part Number as follows: "J" (±5%), "K" (±10%), "M" (±20%), "N" (±30%), "C" (±0.25 pF), "D" (±0.5 pF), "Z" (+80-20%).

(Tubular type ceramic capacitor is identified by the symbol TV(TQ/CY) of the part NO. VC00TV(TQ/CY)0000000; this TV(TQ/CY) does not mean the lead wire.)

(Tubular type ceramic capacitor is identified by the symbol MF(MN) of the part NO. VC00MF(MN)0000000; this MF(MN) does not mean the lead wire.)

Unless otherwise specified, electrolytic capacitors are ±20% type.

C2	RC-GZA476AF1A	J	47 μF,10V,Electrolytic	A B
C3	VCKYTV1HB472K	J	0.0047 μF,50V	A A

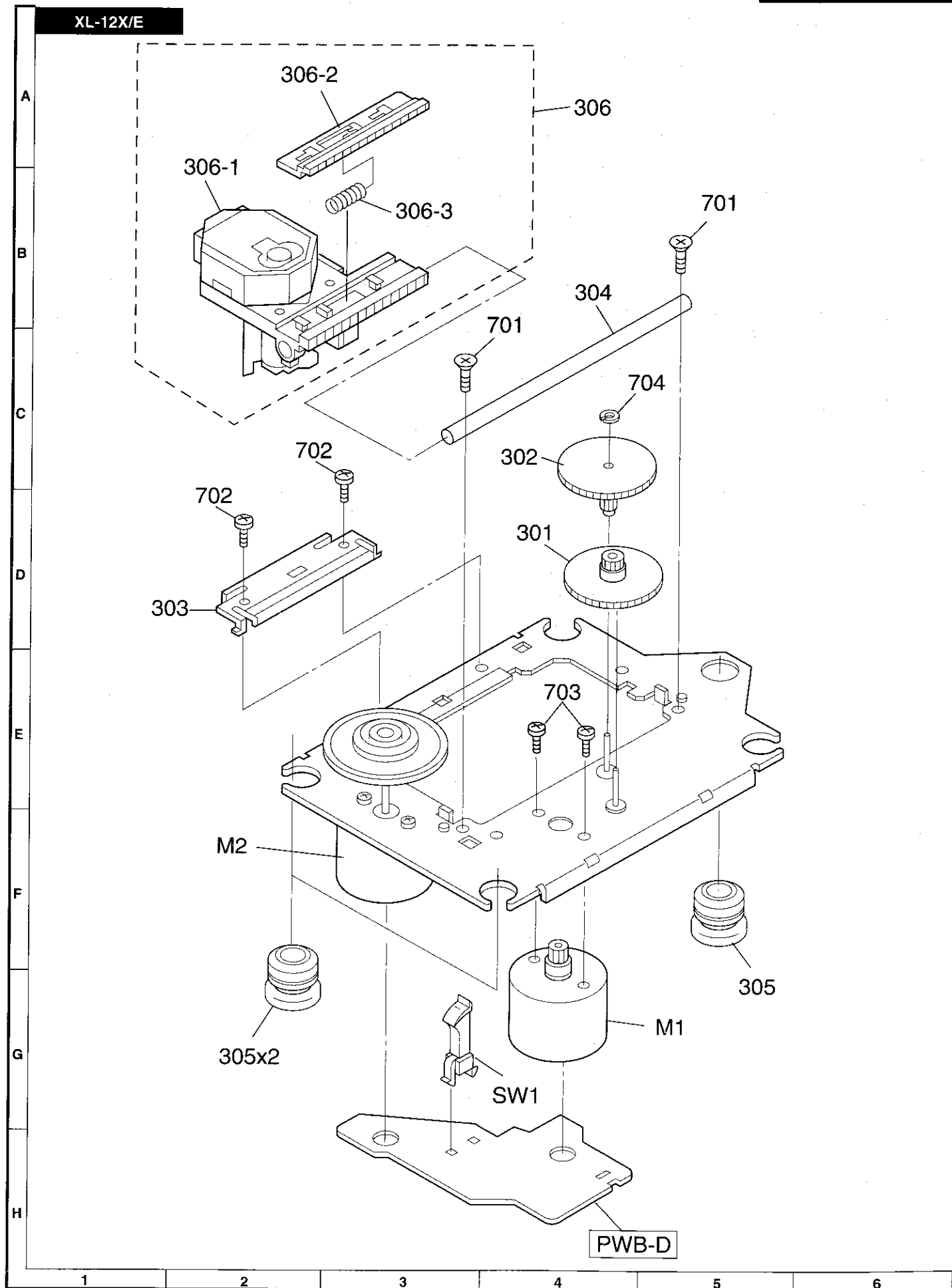
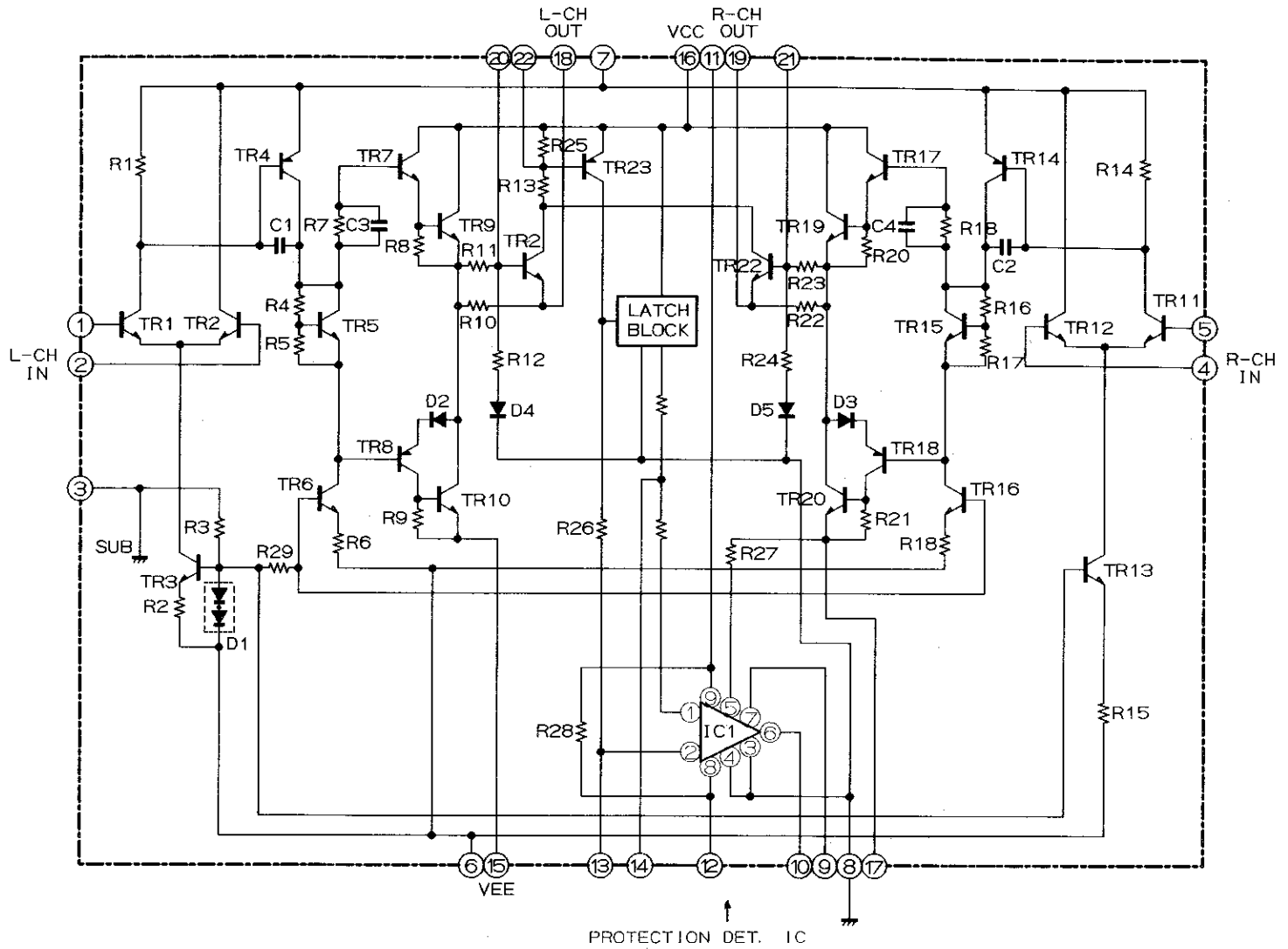


Figure 59 CD MECHANISM EXPLODED VIEW

**IC831 VHiSTK4185M-1 (STK4185M): Power Amp.**



**Figure 58 BLOCK DIAGRAM OF IC**



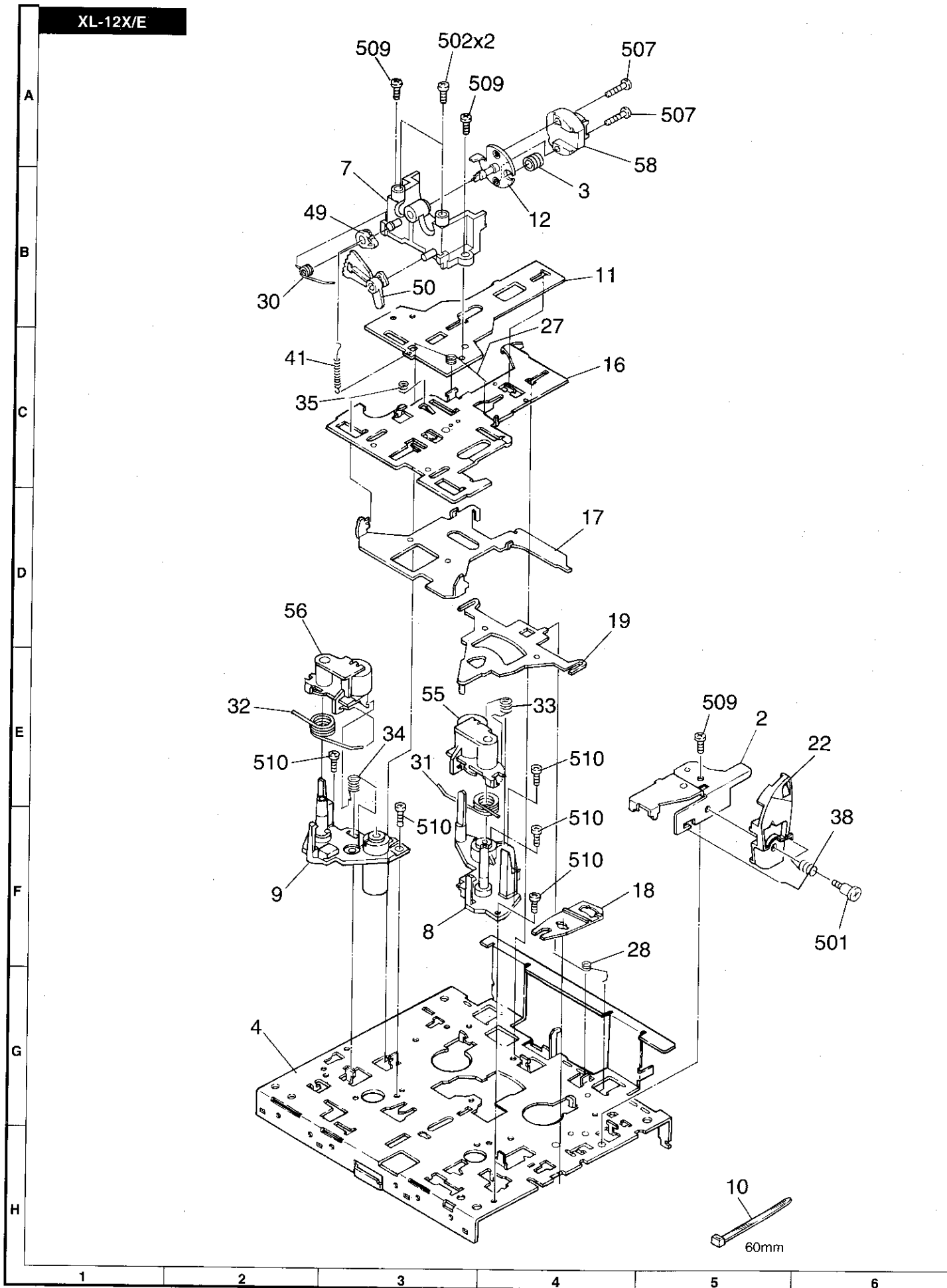
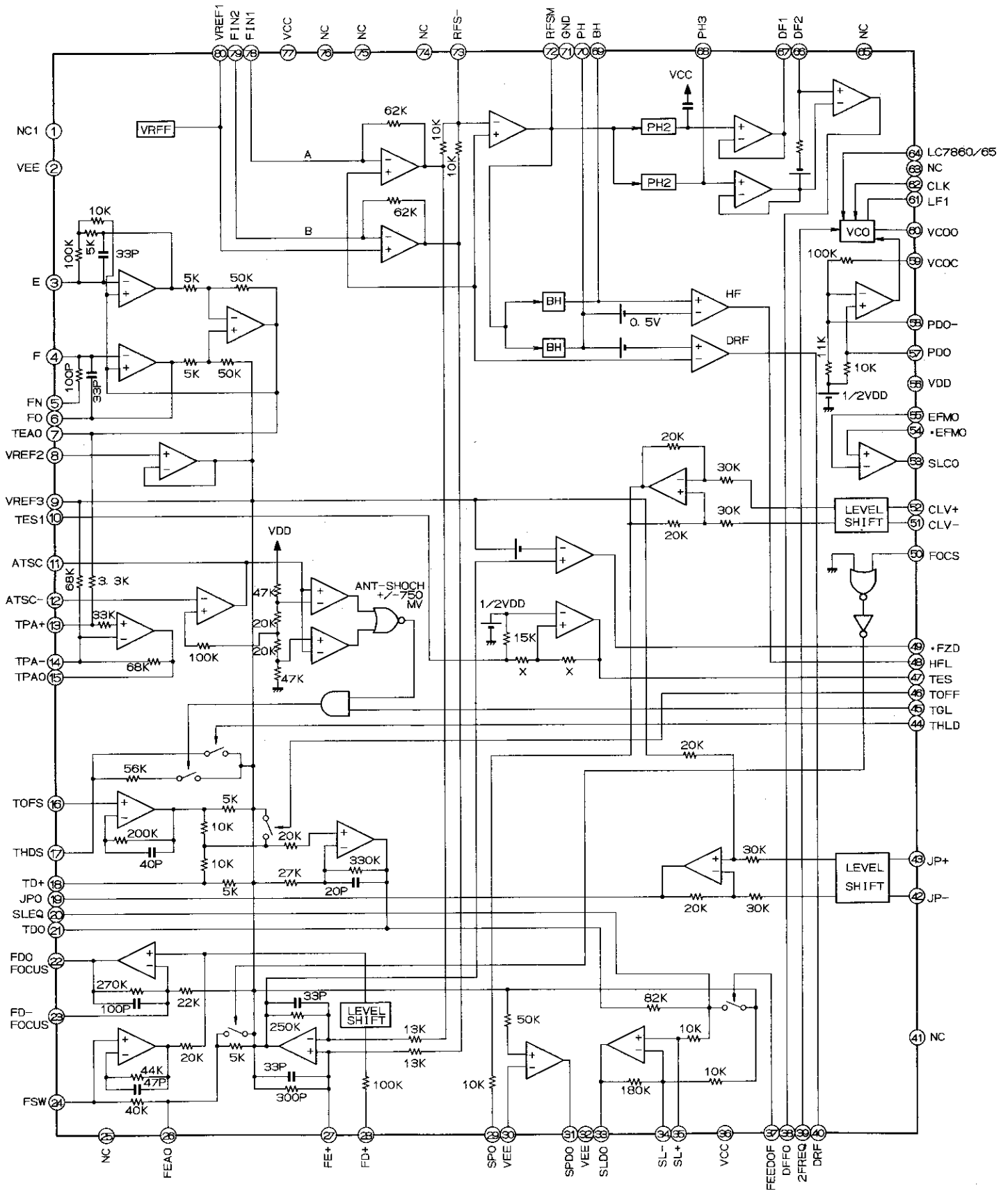


Figure 60 TAPE MECHANISM EXPLODED VIEW (1/2)

**IC1 VHiLA9211M/-1 (LA9211M): Servo Amp.**



**Figure 57 BLOCK DIAGRAM OF IC**

XL-12X/E

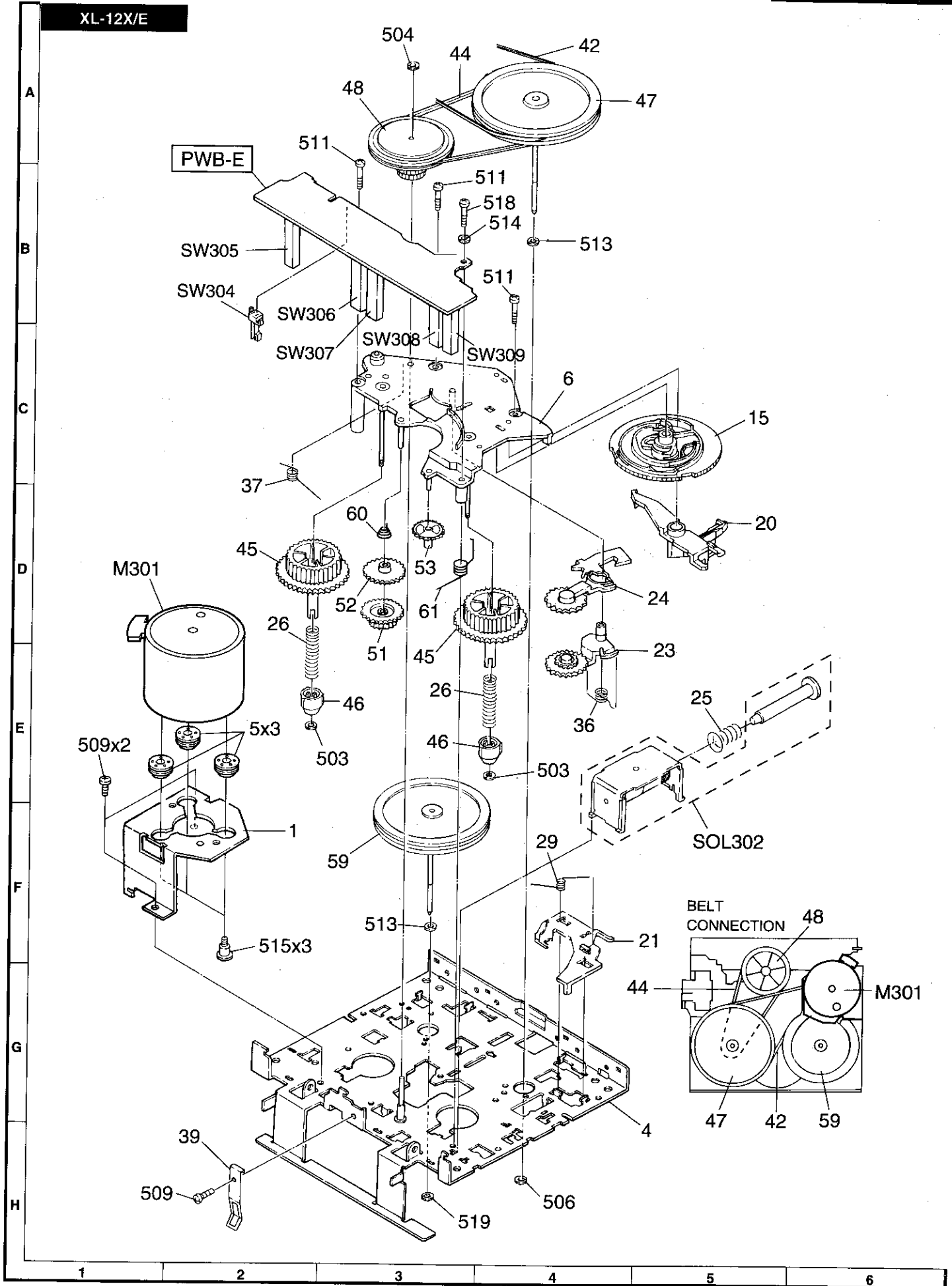
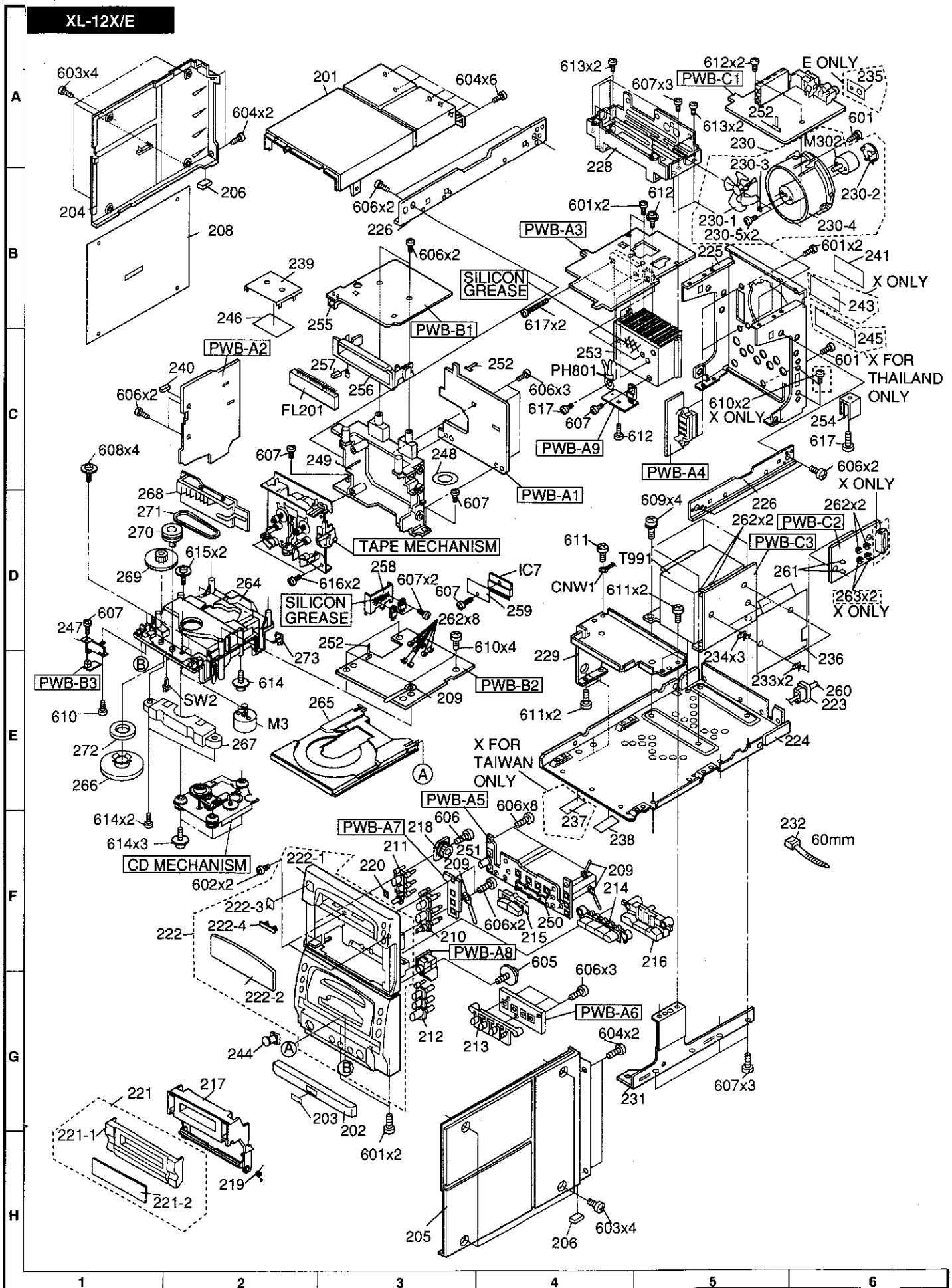


Figure 61 TAPE MECHANISM EXPLODED VIEW (2/2)

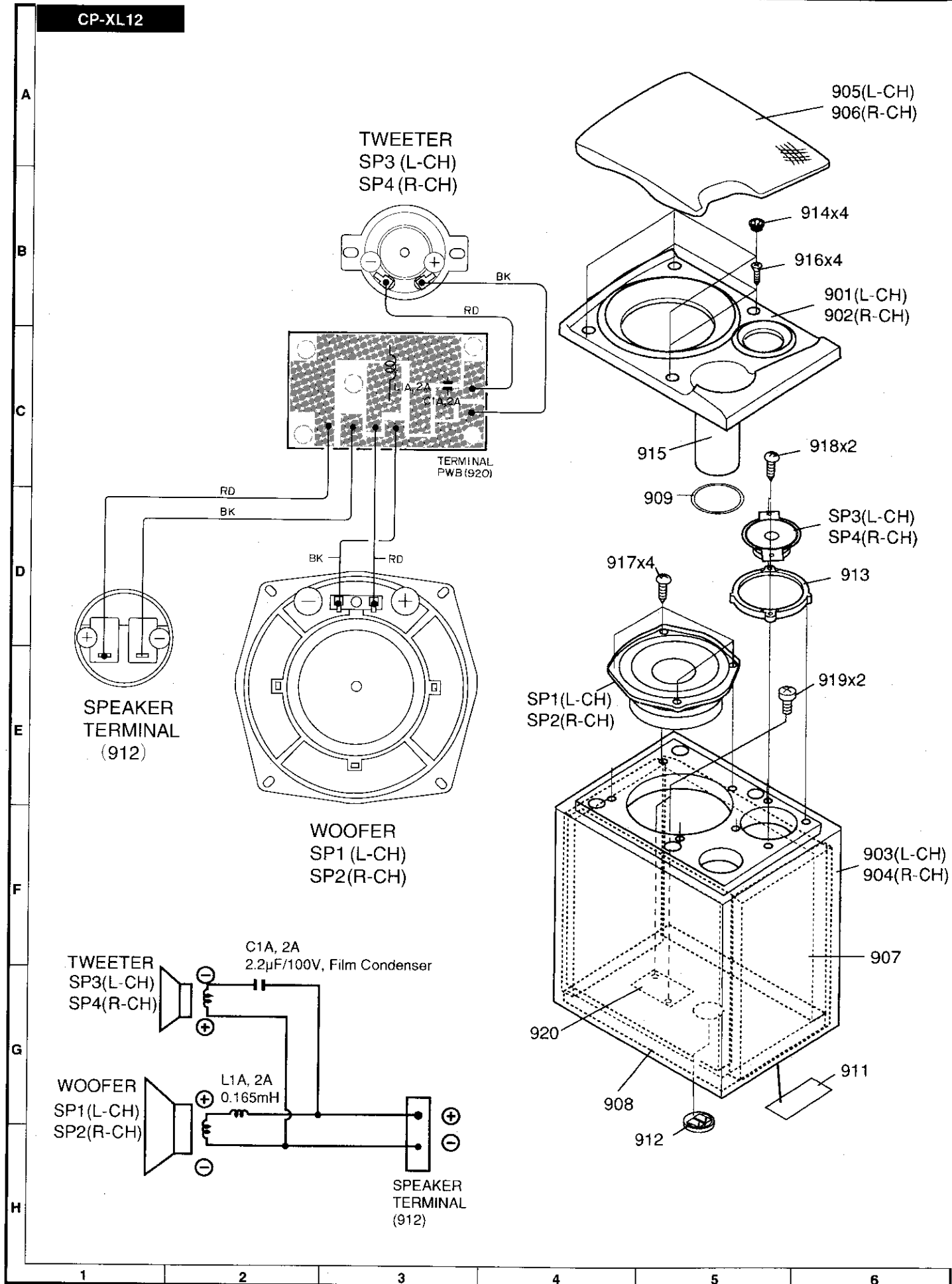
**XL-12X/E  
CP-XL12**

**XL-12X/E**



**Figure 62 CABINET EXPLODED VIEW**

**CP-XL12**



**Figure 63 SPEAKER EXPLODED VIEW**

**XL-12X/E  
CP-XL12**

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
C4	VCCSTV1HL330J	J	33 pF,50V	A A	C230	RC-GZA476AF1H	J	47 μF,50V,Electrolytic	A B
C5	RC-GZA107AF1A	J	100 μF,10V,Electrolytic	A B	C235	RC-GZV227AF1H	J	220 μF,50V,Electrolytic	A C
C6	VCKYTV1HB153K	J	0.015 μF,50V	A A	C236,237	RC-GZA107AF1H	J	100 μF,50V,Electrolytic	A C
C7	VCKYTV1HB822K	J	0.0082 μF,50V	A A	C238	RC-GZV227AF1H	J	220 μF,50V,Electrolytic	A C
C8	VCCSTV1HL330J	J	33 pF,50V	A A	C239	RC-GZA106AF1H	J	10 μF,50V,Electrolytic	A B
C9	RC-GZA224AF1H	J	0.22 μF,50V,Electrolytic	A A	C240,241	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C10	RC-GZA476AF1A	J	47 μF,10V,Electrolytic	A B	C253,254	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C11	RC-GZA105AF1H	J	1 μF,50V,Electrolytic	A B	C255	RC-GZA107AF1A	J	100 μF,10V,Electrolytic	A B
C12	RC-GZA104AF1H	J	0.1 μF,50V,Electrolytic	A B	C256	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C13	VCTYPU1CX393K	J	0.039 μF,16V	A C	C261	VCKYPU1HB102K	J	0.001 μF,50V	A A
C14	RC-GZA106AF1H	J	10 μF,50V,Electrolytic	A B	C262	VCCCPU1HH390J	J	39 pF (CH),50V	A B
C15	RC-GZA104AF1H	J	0.1 μF,50V,Electrolytic	A B	C263	VCCCPU1HH330J	J	33 pF (CH),50V	A A
C16	VCKYTV1HB471K	J	470 pF,50V	A A	C303~306	RC-GZA106AF1H	J	10 μF,50V,Electrolytic	A B
C17	RC-GZA474AF1H	J	0.47 μF,50V,Electrolytic	A A	C307,308	RC-QZA332AFYJ	J	0.0032 μF,6.3V, Plastic Film	A A
C18	VCKYTV1HB102K	J	0.001 μF,50V	A A	C309~312	VCFYDA1HA104J	J	0.1 μF,50V,Polyester	A B
C19	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C313,314	VCCSMN1HL270J	J	27 pF,50V	A A
C20	VCTYPU1CX333K	J	0.033 μF,16V	A B	C315,316	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C22	VCKYTV1HB221K	J	220 pF,50V	A A	C317	VCKYMN1HB221K	J	220 pF,50V	A A
C23	VCTYPU1CX104K	J	0.1 μF,16V	A A	C318	VCCSPU1HL221K	J	220 pF,50V	A A
C24	VCKYTV1HB103K	J	0.01 μF,50V	A A	C319,320	RC-GZA106AF1H	J	10 μF,50V,Electrolytic	A B
C25	RC-GZA476AF1A	J	47 μF,10V,Electrolytic	A B	C321~324	VCFYDA1HA104J	J	0.1 μF,50V,Polyester	A B
C26	VCTYMN1CX272K	J	0.0027 μF,16V	A A	C325,326	VCFYDA1HA564J	J	0.56 μF,50V,Thin Film	A B
C27	VCTYMN1CX152K	J	0.0015 μF,16V	A A	C327,328	RC-GZA105AF1H	J	1 μF,50V,Electrolytic	A B
C28	RC-GZA475AF1H	J	4.7 μF,50V,Electrolytic	A B	C329,330	RC-GZA475AF1H	J	4.7 μF,50V,Electrolytic	A B
C29	VCCSMN1HL1R0C	J	1 pF,50V	A A	C331~335	VCKYMN1HB151K	J	150 pF,50V	A A
C30	VCCSMN1HL180J	J	18 pF,50V	A A	C336	RC-GZA477AF0J	J	470 μF,6.3V,Electrolytic	A B
C32	RC-GZA476AF1A	J	47 μF,10V,Electrolytic	A B	C337	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C33	VCTYMN1CY103N	J	0.01 μF,16V	A A	C338	RC-GZA107AF1A	J	100 μF,10V,Electrolytic	A B
C34	RC-GZA225AF1H	J	2.2 μF,50V,Electrolytic	A B	C339	VCKYMN1HB102K	J	0.001 μF,50V	A A
C51	VCKYTV1HB102K	J	0.001 μF,50V	A A	C340	VCTYMN1CY103K	J	0.01 μF,16V	A A
C52	VCTYPU1CX333K	J	0.033 μF,16V	A B	C341,342	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C53	VCKYMN1HB221K	J	220 pF,50V	A A	C343,344	RC-EZY107AF1A	J	100 μF,10V,Electrolytic	A B
C54	VCKYMN1HB331K	J	330 pF,50V	A A	C347,348	VCFYDA1HA684J	J	0.68 μF,50V,Thin Film	A F
C55	VCTYPU1CX104K	J	0.1 μF,16V	A A	C351,352	RC-QZA333AFYJ	J	0.033 μF,50V,Mylar	A B
C61	VCTYMN0JY223N	J	0.022 μF,6.3V	A A	C353,354	VCKYMN1HB151K	J	150 pF,50V	A A
C62	VCKYMN1HB471K	J	470 pF,50V	A A	C357~361	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C63	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C362,363	RC-EZY106AF1E	J	10 μF,25V,Electrolytic	A B
C64	VCTYPU1EX104M	J	0.1 μF,25V	A B	C365~369	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C65,66	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C371,372	VCKYMN1HB331K	J	330 pF,50V	A A
C67,68	RC-GZA107AF1A	J	100 μF,10V,Electrolytic	A B	C381	RC-QZA104AFYK	J	0.1 μF,50V,Mylar	A B
C70	RC-EZD476AF1C	J	47 μF,16V,Electrolytic	A C	C382	RC-GZA226AF1H	J	22 μF,50V,Electrolytic	A B
C71	VCTYMN1CY103N	J	0.01 μF,16V	A A	C390,391	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C72	RC-EZD476AF1C	J	47 μF,16V,Electrolytic	A C	C401,402	VCKYMN1HB561K	J	560 pF,50V	A A
C73	VCTYMN1CY103N	J	0.01 μF,16V	A A	C403,404	RC-GZA227AF1A	J	220 μF,10V,Electrolytic	A B
C80	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C405,406	VCTYPU1CX333K	J	0.033 μF,16V	A B
C81	VCTYMN1CY103N	J	0.01 μF,16V	A A	C407,408	RC-GZA224AF1H	J	0.22 μF,50V,Electrolytic	A A
C82	RC-EZD475AF1E	J	4.7 μF,25V,Electrolytic	A B	C409,410	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C83,84	RC-EZD106AF1C	J	10 μF,16V,Electrolytic	A B	C411~414	VCKYMN1HB271K	J	270 pF,50V	A A
C87	RC-EZD106AF1C	J	10 μF,16V,Electrolytic	A B	C415,416	RC-GZA105AF1H	J	1 μF,50V,Electrolytic	A B
C91,92	RC-EZD475AF1E	J	4.7 μF,25V,Electrolytic	A B	C417,418	VCKYMN1HB102K	J	0.001 μF,50V	A A
C93,94	VCTYMN1CX182K	J	0.0018 μF,16V	A A	C419,420	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C95	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C421,422	VCTYPU1EX682K	J	0.0068 μF,25V	A A
C101,102	VCKZPU1HF223Z	J	0.022 μF,50V	A A	C423,424	VCTYMN1CY822K	J	0.0082 μF,16V	A A
C151	RC-GZW478AF1E	J	4700 μF,25V,Electrolytic	A G	C425,426	VCTYMN1CX682K	J	0.0068 μF,16V	A A
C152	RC-GZW228AF1E	J	2200 μF,25V,Electrolytic	A E	C427	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C153,154	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C428	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C155~160	RC-GZA476AF1A	J	47 μF,10V,Electrolytic	A B	C431,432	VCKYMN1HB151K	J	150 pF,50V	A A
C161,162	RC-GZA227AF1A	J	220 μF,10V,Electrolytic	A B	C433	RC-GZA227AF1A	J	220 μF,10V,Electrolytic	A B
C163	VCCCMN1HH120J	J	12 pF (CH),50V	A A	C434	RC-GZA105AF1H	J	1 μF,50V,Electrolytic	A B
C164	VCCSMN1HL470J	J	47 pF,50V	A A	C435,436	RC-GZA104AF1H	J	0.1 μF,50V,Electrolytic	A B
C165	VCCSMN1HL1R0C	J	1 pF,50V	A A	C437	RC-GZA475AF1E	J	4.7 μF,25V,Electrolytic	A B
C166	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C438	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C167,168	VCKYMN1HB101K	J	100 pF,50V	A A	C439	RC-GZA336AF1A	J	33 μF,10V,Electrolytic	A B
C169,170	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C440	RC-GZA106AF1C	J	10 μF,16V,Electrolytic	A B
C181	VCTYMN1EF223Z	J	0.022 μF,25V	A A	C441,442	RC-GZA105AF1H	J	1 μF,50V,Electrolytic	A B
C182	RC-EZY475AF1E	J	4.7 μF,25V,Electrolytic	A B	C443	VCTYMN1EF223Z	J	0.022 μF,25V	A A
C201,202	VCKZPU1HF223Z	J	0.022 μF,50V	A A	C445,446	VCKYMN1HB221K	J	220 pF,50V	A A
C203	RC-GZA476AF1E	J	47 μF,25V,Electrolytic	A B	C447,448	VCKYMN1HB331K	J	330 pF,50V	A A
C204,205	VCKZPU1HF223Z	J	0.022 μF,50V	A A	C449,450	RC-GZA105AF1H	J	1 μF,50V,Electrolytic	A B
C206	RC-GZA107AF1A	J	100 μF,10V,Electrolytic	A B					

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
R365,366	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R507,508	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R367,368	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R509,510	VRD-MN2BD332J	J	3.3 kohms,1/8W	A A
R369,370	VRD-MN2BD104J	J	100 kohm,1/8W	A A	R511~513	VRD-ST2CD102J	J	1 kohm,1/6W	A A
R371~374	VRD-RT2HD391J	J	390 ohms,1/2W	A A	R515,516	VRD-ST2EE221J	J	220 ohms,1/4W	A A
R375	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A	R519,520	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R376	VRD-MN2BD824J	J	820 kohms,1/8W	A A	R551,552	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R377~380	VRD-MN2BD104J	J	100 kohm,1/8W	A A	R553,554	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R381	VRD-MN2BD331J	J	330 ohms,1/8W	A A	R555,556	VRD-MN2BD823J	J	82 kohms,1/8W	A A
R382	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R557,558	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A
R384	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	R559,560	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R385~388	VRD-MN2BD123J	J	12 kohms,1/8W	A A	R561,562	VRD-MN2BD683J	J	68 kohms,1/8W	A A
R389	VRD-ST2EE470J	J	47 ohms,1/4W	A A	R563,564	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A
R390~393	VRD-ST2CD102J	J	1 kohm,1/6W	A A	R565,566	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R396,397	VRD-ST2EE221J	J	220 ohms,1/4W	A A	R567,568	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R398	VRD-MN2BD223J	J	22 kohms,1/8W	A A	R604	VRD-MN2BD681J	J	680 ohms,1/8W	A A
R401,402	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R605	VRD-MN2BD682J	J	6.8 kohms,1/8W	A A
R403,404	VRD-MN2BD390J	J	39 ohms,1/8W	A A	R607	VRD-MN2BD331J	J	330 ohms,1/8W	A A
R405,406	VRD-MN2BD682J	J	6.8 kohms,1/8W	A A	R608	VRD-MN2BD270J	J	27 ohms,1/8W	A A
R407,408	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	R610	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R409,410	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A	R620	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R411,412	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	R625	VRD-ST2CD104J	J	100 kohm,1/6W	A A
R413,414	VRD-MN2BD123J	J	12 kohms,1/8W	A A	R626	VRD-MN2BD683J	J	68 kohms,1/8W	A A
R415,416	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	R630	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R417,418	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A	R631	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R419,420	VRD-ST2CD562J	J	5.6 kohms,1/6W	A A	R633	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R421,422	VRD-MN2BD121J	J	120 ohms,1/8W	A A	R634~636	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R425,426	VRD-MN2BD153J	J	15 kohms,1/8W	A A	R637	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R429	VRD-ST2EE101J	J	100 ohm,1/4W	A A	R639	VRD-ST2EE151J	J	150 ohms,1/4W	A A
R431	VRD-MN2BD104J	J	100 kohm,1/8W	A A	R640	VRD-ST2CD102J	J	1 kohm,1/6W	A A
R432	VRD-MN2BD101J	J	100 ohm,1/8W	A A	R641	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R433	VRD-MN2BD474J	J	470 kohms,1/8W	A A	R642	VRD-ST2CD101J	J	100 ohm,1/6W	A A
R434	VRD-ST2CD222J	J	2.2 kohms,1/6W	A A	R643	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R435	VRD-MN2BD564J	J	560 kohms,1/8W	A A	R644	VRD-ST2CD472J	J	4.7 kohms,1/6W	A A
R437	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R645	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A
R438	VRD-MN2BD822J	J	8.2 kohms,1/8W	A A	R646	VRD-ST2CD222J	J	2.2 kohms,1/6W	A A
R440	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A	R647~649	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R441	VRD-ST2CD102J	J	1 kohm,1/6W	A A	R650	VRD-MN2BD560J	J	56 ohms,1/8W	A A
R442	VRD-MN2BD473J	J	47 kohms,1/8W	A A	R651	VRD-ST2HD221J	J	220 ohms,1/2W	A A
R443,444	VRD-MN2BD223J	J	22 kohms,1/8W	A A	R652	VRD-MN2BD473J	J	47 kohms,1/8W	A A
R445,446	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R653	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A
R447,448	VRD-ST2CD472J	J	4.7 kohms,1/6W	A A	R654	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R449,450	VRD-MN2BD104J	J	100 kohm,1/8W	A A	R655	VRD-ST2CD222J	J	2.2 kohms,1/6W [E Only]	A A
R451,452	VRD-MN2BD473J	J	47 kohms,1/8W	A A	R656,657	VRD-ST2CD222J	J	2.2 kohms,1/6W [X Only]	A A
R453,454	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A	R660	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A
R455	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R662	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A
R458	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	R666	VRD-MN2BD223J	J	22 kohms,1/8W	A A
R459,460	VRD-MN2BD682J	J	6.8 kohms,1/8W	A A	R667	VRD-MN2BD123J	J	12 kohms,1/8W	A A
R461,462	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	R668	VRD-MN2BD683J	J	68 kohms,1/8W	A A
R465,466	VRD-MN2BD273J	J	2.7 kohms,1/8W	A A	R669	VRD-ST2EE151J	J	150 ohms,1/4W	A A
R467	VRD-ST2EE101J	J	100 ohm,1/4W	A A	R670	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R468	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A	R671	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A
R469,470	VRD-MN2BD273J	J	2.7 kohms,1/8W	A A	R672	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R473	VRD-MN2BD183J	J	18 kohms,1/8W	A A	R673	VRD-MN2BD680J	J	68 ohms,1/8W	A A
R475	VRD-MN2BD334J	J	330 kohms,1/8W	A A	R674	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A
R476	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R675	VRD-ST2CD392J	J	3.9 kohms,1/6W	A A
R480	VRD-MN2BD563J	J	56 kohms,1/8W	A A	R677,678	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R481	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	R680	VRD-MN2BD562J	J	5.6 kohms,1/8W [E]	A A
R482,483	VRD-ST2EE151J	J	150 ohms,1/4W	A A	R680	VRD-MN2BD563J	J	56 kohms,1/8W [X]	A A
R484,485	VRD-ST2CD560J	J	56 ohms,1/6W	A A	R681	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A
R488,489	VRD-MN2BD561J	J	560 ohms,1/8W	A A	R683,684	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R490	VRD-MN2BD563J	J	56 kohms,1/8W	A A	R685	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A
R491,492	VRD-MN2BD100J	J	10 ohm,1/8W	A A	R686	VRD-MN2BD223J	J	22 kohms,1/8W [E]	A A
△R493	RH-QX1052AFZZ	J	2.2 ohms,Posistor	A E	R686	VRD-MN2BD473J	J	47 kohms,1/8W [X]	A A
R494	VRD-ST2EE100J	J	10 ohm,1/4W	A A	R687	VRD-MN2BD123J	J	12 kohms,1/8W	A A
R495	VRD-ST2CD154J	J	150 kohms,1/6W	A A	R688	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R496	VRD-MN2BD153J	J	15 kohms,1/8W	A A	R689	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R497	VRD-MN2BD223J	J	22 kohms,1/8W	A A	R691,692	VRD-MN2BD224J	J	220 kohms,1/8W	A A
R501,502	VRD-ST2CD223J	J	2.2 kohms,1/6W	A A	R693,694	VRD-MN2BD124J	J	120 kohms,1/8W [X]	A A
R503,504	VRD-MN2BD123J	J	12 kohms,1/8W	A A	R693,694	VRD-MN2BD224J	J	220 kohms,1/8W [E]	A A
R505,506	VRD-MN2BD822J	J	8.2 kohms,1/8W	A A	R695,696	VRD-ST2CD332J	J	3.3 kohms,1/6W	A A

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
R9	VRS-TV2AB823J	J	82 kohms,1/10W	A A	R201	VRS-VV3DA331J	J	330 ohms,2W,Metal Oxide Film	A B
R10	VRD-MN2BD124J	J	120 kohms,1/8W	A A	R202	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A
R11	VRD-MN2BD822J	J	8.2 kohms,1/8W	A A	R203,204	VRS-TV2AB331J	J	330 ohms,1/10W	A A
R12	VRD-MN2BD223J	J	22 kohms,1/8W	A A	R205~208	VRS-TV2AB104J	J	100 kohm,1/10W	A A
R13	VRS-TV2AB124J	J	120 kohms,1/10W	A A	R209	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R14	VRD-MN2BD681J	J	680 ohms,1/8W	A A	R214	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R15	VRD-MN2BD683J	J	68 kohms,1/8W	A A	R215	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R16	VRS-TV2AB684J	J	680 kohms,1/10W	A A	R216	VRD-MN2BD182J	J	1.8 kohms,1/8W	A A
R17	VRS-TV2AB473J	J	47 kohms,1/10W	A A	R217	VRD-MN2BD821J	J	820 ohms,1/8W	A A
R18	VRS-TV2AB472J	J	4.7 kohms,1/10W	A A	R219	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R19	VRS-TV2AB222J	J	2.2 kohms,1/10W	A A	R220	VRS-TV2AB102J	J	1 kohm,1/10W	A A
R20	VRS-TV2AB103J	J	10 kohm,1/10W	A A	R221	VRS-TV2AB272J	J	2.7 kohms,1/10W	A A
R21	VRS-TV2AB393J	J	39 kohms,1/10W	A A	R222	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R22	VRS-TV2AB102J	J	1 kohm,1/10W	A A	R223~225	VRS-TV2AB122J	J	1.2 kohms,1/10W	A A
R23	VRS-TV2AB682J	J	6.8 kohms,1/10W	A A	R226	VRD-MN2BD122J	J	1.2 kohms,1/8W	A A
R26	VRS-TV2AB334J	J	330 kohms,1/10W	A A	R227	VRD-MN2BD681J	J	680 ohms,1/8W	A A
R27	VRS-TV2AB394J	J	390 kohms,1/10W	A A	R228	VRD-MN2BD122J	J	1.2 kohms,1/8W	A A
R28	VRS-TV2AB104J	J	100 kohm,1/10W	A A	R229	VRD-MN2BD681J	J	680 ohms,1/8W	A A
R29	VRD-MN2BD473J	J	47 kohms,1/8W	A A	R230	VRD-MN2BD122J	J	1.2 kohms,1/8W	A A
R30	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R231	VRD-MN2BD681J	J	680 ohms,1/8W	A A
R31	VRS-TV2AB104J	J	100 kohm,1/10W	A A	R232~234	VRS-TV2AB102J	J	1 kohm,1/10W	A A
R32	VRS-TV2AB331J	J	330 ohms,1/10W	A A	R235	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R33	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A	R238~242	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R34	VRD-MN2BD333J	J	33 kohms,1/8W	A A	R243~247	VRD-MN2BD331J	J	330 ohms,1/8W	A A
R39	VRD-MN2BD471J	J	470 ohms,1/8W	A A	R248~250	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R40	VRD-MN2BD393J	J	39 kohms,1/8W	A A	R251~254	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R41	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A	R255	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A
R42	VRD-MN2BD822J	J	8.2 kohms,1/8W	A A	R256	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R43	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R257~260	VRS-TV2AB102J	J	1 kohm,1/10W	A A
R51	VRS-TV2AB204J	J	200 kohms,1/10W	A A	R261,262	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R52	VRS-TV2AB104J	J	100 kohm,1/10W	A A	R265,266	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R53	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	R268	VRS-TV2AB102J	J	1 kohm,1/10W	A A
R56	VRS-TV2AB473J	J	47 kohms,1/10W	A A	R271,272	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R57	VRS-TV2AB561J	J	560 ohms,1/10W	A A	R273~275	VRS-TV2AB102J	J	1 kohm,1/10W	A A
R58,59	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R276~278	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R61	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R280,281	VRS-VV3DA221J	J	220 ohms,2W,Metal Oxide Film	A C
R62	VRD-MN2BD221J	J	220 ohms,1/8W	A A	R288	VRS-VV3DA221J	J	220 ohms,2W,Metal Oxide Film	A C
R63~65	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R291	VRD-ST2EE102J	J	1 kohm,1/4W	A A
R66	VRD-MN2BD153J	J	15 kohms,1/8W	A A	R292,293	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R67	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	R294	VRD-MN2BD223J	J	22 kohms,1/8W	A A
R68	VRS-TV2AB102J	J	1 kohm,1/10W	A A	R295	VRD-MN2BD473J	J	47 kohms,1/8W	A A
R69,70	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R296	VRD-MN2BD470J	J	47 ohms,1/8W	A A
R71,72	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	R297	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R73,74	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R298	VRG-ST2HD1R0J	J	1 ohm,1/2W,Fusable	A B
R75,76	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R299	VRD-ST2CD471J	J	470 ohms,1/6W	A A
R77	VRS-TV2AB103J	J	10 kohm,1/10W	A A	R301,302	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R78,79	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R305~307	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R84	VRD-MN2BD473J	J	47 kohms,1/8W	A A	R308	VRD-ST2CD102J	J	1 kohm,1/6W	A A
R85~101	VRS-TV2AB102J	J	1 kohm,1/10W	A A	R309,310	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R103~105	VRS-TV2AB102J	J	1 kohm,1/10W	A A	R313~316	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R107,108	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	R317,318	VRD-ST2CD102J	J	1 kohm,1/6W	A A
R109,110	VRD-MN2BD332J	J	3.3 kohms,1/8W	A A	R319,320	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R111	VRS-TV2AB472J	J	4.7 kohms,1/10W	A A	R321	VRD-MN2BD561J	J	560 ohms,1/8W	A A
R112	VRS-TV2AB221J	J	220 ohms,1/10W	A A	R322	VRD-ST2CD561J	J	560 ohms,1/6W	A A
R114	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	R323,324	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R115	VRS-TV2AB104J	J	100 kohm,1/10W	A A	R325~328	VRD-MN2BD123J	J	12 kohms,1/8W	A A
R117~120	VRD-MN2BD103J	J	10 kohm,1/8W	A A	R331,332	VRD-MN2BD472J	J	4.7 kohms,1/8W	A A
R121	VRD-MN2BD123J	J	12 kohms,1/8W	A A	R333~336	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R124	VRS-TV2AB104J	J	100 kohm,1/10W	A A	R337~340	VRD-MN2BD105J	J	1 Mohm,1/8W	A A
R125,126	VRS-TV2AB102J	J	1 kohm,1/10W	A A	R343,344	VRD-MN2BD105J	J	1 Mohm,1/8W	A A
R151,152	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A	R345~347	VRD-ST2CD332J	J	3.3 kohms,1/6W	A A
R153,154	VRD-MN2BD102J	J	1 kohm,1/8W	A A	R348,349	VRD-ST2EE221J	J	220 ohms,1/4W	A A
R155	VRD-MN2BD333J	J	33 kohms,1/8W	A A	R350	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R161,162	VRS-TV2AB331J	J	330 ohms,1/10W	A A	R351	VRD-ST2EE221J	J	220 ohms,1/4W	A A
R163~166	VRS-TV2AB104J	J	100 kohm,1/10W	A A	R352,353	VRD-ST2EE471J	J	470 ohms,1/4W	A A
R167	VRD-MN2BD105J	J	1 Mohm,1/8W	A A	R355,356	VRD-ST2EE221J	J	220 ohms,1/4W	A A
R171	VRS-TV2AB472J	J	4.7 kohms,1/10W	A A	R359,360	VRD-ST2EE221J	J	220 ohms,1/4W	A A
R172	VRS-TV2AB152J	J	1.5 kohms,1/10W	A A	R361,362	VRD-MN2BD104J	J	100 kohm,1/8W	A A
R173	VRS-TV2AB472J	J	4.7 kohms,1/10W	A A	R363,364	VRD-MN2BD102J	J	1 kohm,1/8W	A A
R181	VRD-MN2BD122J	J	1.2 kohms,1/8W	A A					



REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
C451	RC-GZA227AF1A	J	220 $\mu$ F,10V,Electrolytic	A B	C677	RC-GZA106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B
C452	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B	C678	VCTYPU1EX473M	J	0.047 $\mu$ F,25V	A B
C455	RC-GZA106AF1C	J	10 $\mu$ F,16V,Electrolytic	A B	C679	VCKYMN1HB102K	J	0.001 $\mu$ F,50V	A A
C456~458	RC-GZA106AF1C	J	10 $\mu$ F,16V,Electrolytic	A B	C680	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B
C459,460	RC-GZA224AF1H	J	0.22 $\mu$ F,50V,Electrolytic	A A	C681	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A
C461,462	VCTYPU1CX473K	J	0.047 $\mu$ F,16V	A A	C682	RC-GZA476AF1C	J	47 $\mu$ F,16V,Electrolytic	A B
C463,464	RC-GZA475AF1E	J	4.7 $\mu$ F,25V,Electrolytic	A B	C683	RC-GZA106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B
C465,466	VCKYMN1HB391K	J	390 pF,50V	A A	C685,686	VCKYMN1HB221K	J	220 pF,50V [E]	A A
C474	RC-GZA106AF1C	J	10 $\mu$ F,16V,Electrolytic	A B	C685,686	VCKYMN1HB391K	J	390 pF,50V [X]	A A
C475,476	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C687,688	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B
C481	RC-QZA473AFYJ	J	0.047 $\mu$ F,50V,Mylar	A B	C689,690	VCTYMN1CX182K	J	0.0018 $\mu$ F,16V	A A
C482	RC-GZA335AF1H	J	3.3 $\mu$ F,50V,Electrolytic	A B	C691	VCTYPU1EX103M	J	0.01 $\mu$ F,25V	A A
C483	RC-QZA473AFYJ	J	0.047 $\mu$ F,50V,Mylar	A B	C692	RC-GZA107AF1C	J	100 $\mu$ F,16V,Electrolytic	A B
C485	VCPKPA2AA822J	J	0.0082 $\mu$ F,100V, Polypropylene	A A	C693	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A
C501	VCTYBT1EF223Z	J	0.022 $\mu$ F,25V	A A	C701,702	VCKYMN1HB101K	J	100 pF,50V	A A
C502	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C703	VCTYPU1EX473M	J	0.047 $\mu$ F,25V	A B
C551,552	VCKYMN1HB331K	J	330 pF,50V	A A	C807~810	RC-GZA226AF1H	J	22 $\mu$ F,50V,Electrolytic	A B
C553,554	VCKYMN1HB151K	J	150 pF,50V	A A	C811,812	VCKYMN1HB561K	J	560 pF,50V	A A
C555,556	VCFYDA1HA394J	J	0.39 $\mu$ F,50V,Thin Film	A C	C815,816	RC-GZA476AF1H	J	47 $\mu$ F,50V,Electrolytic	A B
C557,558	VCFYDA1HA224J	J	0.22 $\mu$ F,50V,Polyester	A B	C817,818	RC-QZA473AFYJ	J	0.047 $\mu$ F,50V,Mylar	A B
C559,560	VCKYMN1HB151K	J	150 pF,50V	A A	C819	RC-GZA106AF2A	J	10 $\mu$ F,100V,Electrolytic	A B
C561,562	RC-GZA335AF1H	J	3.3 $\mu$ F,50V,Electrolytic	A B	C820	VCE9AA1VF476M	J	47 $\mu$ F,35V,Electrolytic, Non-Polar	A C
C601	VCKYMN1HB102K	J	0.001 $\mu$ F,50V	A A	C821	RC-GZA336AF1H	J	33 $\mu$ F,50V,Electrolytic	A B
C603	VCKYMN1HB102K	J	0.001 $\mu$ F,50V	A A	C822	RC-GZA474AF1H	J	0.47 $\mu$ F,50V,Electrolytic	A A
C607~610	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C823,824	RC-GZA476AF1H	J	47 $\mu$ F,50V,Electrolytic	A B
C613	VCKZPU1HF473Z	J	0.047 $\mu$ F,50V	A A	C825	VCKZPU1HF223Z	J	0.022 $\mu$ F,50V	A A
C614	VCKYMN1HB471K	J	470 pF,50V	A A	C827,828	VCCSMN1HL120J	J	12 pF,50V	A A
C615	VCCCMN1HH180J	J	18 pF (CH),50V	A A	C835,836	VCFYDA1HA334J	J	0.33 $\mu$ F,50V,Polyester	A C
C616	VCCUMN1HJ220J	J	22 pF (UJ),50V	A A	C846	VCE9AA1CF106M	J	10 $\mu$ F,16V,Electrolytic, Non-polar	A B
C618	VCTYMN0JY223N	J	0.022 $\mu$ F,6.3V	A A	C847	RC-GZS106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B
C625	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C851,852	VCE9AA1HF226M	J	22 $\mu$ F,50V,Electrolytic, Non-Polar	A B
C626	VCCCMN1HH150J	J	15 pF (CH),50V	A A	C855,856	VCFYDA1HA274J	J	0.27 $\mu$ F,50V,Polyester	A C
C627	VCCCMN1HH180J	J	18 pF (CH),50V	A A	C871	VCFYDA1HA104J	J	0.1 $\mu$ F,50V,Polyester	A B
C628	RC-GZA107AF1A	J	100 $\mu$ F,10V,Electrolytic	A B	C881~888	RC-QZA223AFYJ	J	0.022 $\mu$ F,50V,Mylar	A B
C629	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C901,902	RC-QZA224AFYK	J	0.22 $\mu$ F,50V,Mylar	A B
C630,631	VCKYMN1HB101K	J	100 pF,50V	A A	C903,904	RC-EZ1621AFZZ	J	3300 $\mu$ F,50V,Electrolytic	A N
C632	VCTYMN1CY103K	J	0.01 $\mu$ F,16V	A A	C911	RC-QZA473AFYK	J	0.047 $\mu$ F,50V,Mylar	A B
C633	RC-GZA476AF1C	J	47 $\mu$ F,16V,Electrolytic	A B	C912	RC-GZV108AF1V	J	1000 $\mu$ F,35V,Electrolytic	A D
C634	VCKYMN1HB102K	J	0.001 $\mu$ F,50V	A A	C913	RC-QZA104AFYK	J	0.1 $\mu$ F,50V,Mylar	A B
C635	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C914	VCTYBT1EF223Z	J	0.022 $\mu$ F,25V	A A
C636	RC-GZA334AF1H	J	0.33 $\mu$ F,50V,Electrolytic	A A	C915	RC-GZA106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B
C640	VCCSMN1HL330J	J	33 pF,50V	A A	C916	RC-QZA104AFYK	J	0.1 $\mu$ F,50V,Mylar	A B
C641~643	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C917	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A
C644	RC-GZA476AF1C	J	47 $\mu$ F,16V,Electrolytic	A B	C918	RC-GZA106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B
C645,646	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C919,920	RC-GZA107AF1E	J	100 $\mu$ F,25V,Electrolytic	A B
C649	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A	C921,922	RC-GZV477AF1E	J	470 $\mu$ F,25V,Electrolytic	A C
C650	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B	C923~925	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A
C651	VCCSPU1HL331J	J	330 pF,50V	A A	C926	VCTYBT1EF223Z	J	0.022 $\mu$ F,25V	A A
C652	VCTYPU1EX102K	J	0.001 $\mu$ F,25V	A A					
C653	VCKYMN1HB151K	J	150 pF,50V	A A					
C654	VCCSMN1HL270J	J	27 pF,50V	A A					
C655	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B					
C656	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A					
C657	RC-GZA106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B					
C658	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A					
C659	RC-GZA475AF1E	J	4.7 $\mu$ F,25V,Electrolytic	A B					
C660	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B					
C661	RC-GZA475AF1E	J	4.7 $\mu$ F,25V,Electrolytic	A B					
C662	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B					
C663	VCTYMN1EF223Z	J	0.022 $\mu$ F,25V	A A					
C664	VCTYMN1CX222K	J	0.0022 $\mu$ F,16V	A A					
C665	RC-GZA334AF1H	J	0.33 $\mu$ F,50V,Electrolytic	A A					
C670	RC-GZA224AF1H	J	0.22 $\mu$ F,50V,Electrolytic	A A					
C671	RC-GZA106AF1H	J	10 $\mu$ F,50V,Electrolytic	A B					
C672	VCCSMN1HL220J	J	22 pF,50V	A A					
C673	VCCSMN1HL680J	J	68 pF,50V	A A					
C674	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B					
C675	RC-GZA224AF1H	J	0.22 $\mu$ F,50V,Electrolytic	A A					
C676	RC-GZA105AF1H	J	1 $\mu$ F,50V,Electrolytic	A B					

**RESISTORS**

(Unless otherwise specified, resistors are  $\pm 5\%$ ,carbon type.) (Tubular type carbon film resistor  $\pm 5\%$  is identified the symbol TV(TQ/CY) of the part NO. VRS-TV(TQ/CY)0000000; this TV(TQ/CY) does not mean lead wire.)

(Tubular type carbon film resistor  $\pm 5\%$  is identified the symbol MF(MN) of the part NO. VRD-MF(MN)0000000; this MF(MN) does not mean lead wire.)

	VRD-MN2BD000C	J	0 ohm,Jumper, $\phi 1.4 \times 3.5$ mm, Ivory	A A
R1	VRD-MN2BD103J	J	10 kohm,1/8W	A A
R2	VRS-TV2AB822J	J	8.2 kohms,1/10W	A A
R3	VRS-TV2AB681J	J	680 ohms,1/10W	A A
R4	VRS-TV2AB152J	J	1.5 kohms,1/10W	A A
R5	VRS-TV2AB332J	J	3.3 kohms,1/10W	A A
R6	VRS-TV2AB564J	J	560 kohms,1/10W	A A
R7	VRD-MN2BD334J	J	330 kohms,1/8W	A A
R8	VRD-MN2BD563J	J	56 kohms,1/8W	A A

**XL-12X/E  
CP-XL12**

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
R697,698	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	BI351/CNS351	QCMMN0131AWZZ	J	Connector Ass'y,5-4Pin	A G
R701,702	VRD-MN2BD102J	J	1 kohm,1/8W	A A	BI711/CNS206	QCMMN0129AWZZ	J	Connector Ass'y,4-3Pin	A E
R703,704	VRD-ST2CD223J	J	22 kohms,1/6W	A A	BI712/CNS205	QCMMN0130AWZZ	J	Connector Ass'y,4-4Pin	A F
R705,706	VRD-MN2BD183J	J	18 kohms,1/8W	A A	BI721/BI722/ CNS204	QCMMN0128AWZZ	J	Connector Ass'y,5-6-9Pin	A K
R711	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	BI852/CNS901	QCMMN0158AWZZ	J	Connector Ass'y,4-3Pin	A F
R712	VRD-MN2BD182J	J	1.8 kohms,1/8W	A A	BI991/CNS7	QCMMN0125AWZZ	J	Connector Ass'y,4-3Pin	A F
R713	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A	BI992/CNS900	QCMMN0124AWZZ	J	Connector Ass'y,8-5-2Pin	A G
R714	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	CNP1	92LC0NE7P53253	J	Plug,7Pin	A C
R715	VRD-MN2BD682J	J	6.8 kohms,1/8W	A A	CNP2	92LC0NE6P53253	J	Plug,6Pin	A C
R716	VRD-MN2BD153J	J	1.5 kohms,1/8W	A A	CNP3	92LC0NE4P53253	J	Plug,4Pin	A B
R721	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	CNP4	92LC0NE5P53254	J	Plug,5Pin	A B
R722	VRD-MN2BD182J	J	1.8 kohms,1/8W	A A	CNP7	QCNCM584CAFZZ	J	Plug,3Pin	A A
R723	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A	CNP9	92LC0NE6P53254	J	Plug,6Pin	A C
R724	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	CNP201	QCNCM877PAFZZ	J	Plug,14Pin	A E
R725	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A	CNP203	92LC0NE4P53254	J	Plug,4Pin	A C
R726	VRD-MN2BD153J	J	1.5 kohms,1/8W	A A	CNP204	92LC0NE9P53254	J	Plug,9Pin	A D
R731	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	CNP205	92LC0NE4P53254	J	Plug,4Pin	A C
R732	VRD-MN2BD182J	J	1.8 kohms,1/8W	A A	CNP206	QCNCM933CAFZZ	J	Plug,3Pin	A A
R733	VRD-MN2BD272J	J	2.7 kohms,1/8W	A A	CNP207	92LC0NEBP53253	J	Plug,11Pin	A C
R734	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	CNP210	QCNCM602BAFZZ	J	Plug,2Pin	A A
R735	VRD-MN2BD562J	J	5.6 kohms,1/8W	A A	CNP301,302	QCNCM877HAFZZ	J	Plug,8Pin	A D
R736	VRD-MN2BD153J	J	1.5 kohms,1/8W	A A	CNP303	QCNCM877MAFZZ	J	Plug,12Pin	A E
R741,742	VRD-MN2BD561J	J	560 ohms,1/8W	A A	CNP304	92LC0NCPTKCPA	J	Plug,12Pin	A F
R817,818	VRD-MN2BD102J	J	1 kohm,1/8W	A A	CNP305	92LC0NEBP53254	J	Plug,11Pin	A D
R821,822	VRD-MN2BD103J	J	10 kohm,1/8W	A A	CNP306	92LC0NE4P53254	J	Plug,4Pin	A C
R823,824	VRD-MN2BD152J	J	1.5 kohms,1/8W	A A	CNP310	QCNCM877NAFZZ	J	Plug,13Pin	A E
R827,828	VRD-ST2CD623J	J	62 kohms,1/6W	A A	CNP351	92LC0NE4P53254	J	Plug,4Pin	A C
R829,830	VRD-MN2BD222J	J	2.2 kohms,1/8W	A A	CNP381	QCNCM688BAFZZ	J	Plug,2Pin	A A
R831	VRD-MN2BD333J	J	33 kohms,1/8W	A A	CNP401	QCNCM687GAFZZ	J	Plug,7Pin	A B
R832,833	VRD-MN2BD563J	J	56 kohms,1/8W	A A	CNP402	QCNCM877FAFZZ	J	Plug,6Pin	A D
R834	VRD-ST2CD183J	J	18 kohms,1/6W	A A	CNP601	92LC0NDPTXLPB1	J	Plug,13Pin	A D
R835	VRD-ST2CD223J	J	22 kohms,1/6W	A A	CNP900	QCNCM586EAFZZ	J	Plug,5Pin	A B
R836	VRD-ST2CD563J	J	56 kohms,1/6W	A A	CNP901	QCNCM931CAFZZ	J	Plug,3Pin	A A
R837	VRD-ST2CD394J	J	390 kohms,1/6W	A A	CNS1A/B	QCMMN0132AWZZ	J	Connector Ass'y,7-5Pin	A L
R838,839	VRD-MN2BD563J	J	56 kohms,1/8W	A A	CNS2A/B	QCMMN0133AWZZ	J	Connector Ass'y,6-6Pin	A H
△R840,841	VRG-ST2HC101J	J	100 ohm,1/2W,Fusible	A B	CNS3A/B	QCMMN0134AWZZ	J	Connector Ass'y,4-4Pin	A F
R842	VRD-MN2BD123J	J	12 kohms,1/8W	A A	CNS4	QCMMN0001AWZZ	J	Connector Ass'y,5Pin	A F
R845,846	VRD-MN2BD102J	J	1 kohm,1/8W	A A	CNS5	92LC0NCPTKCMXA	J	Connector Ass'y,12Pin	A G
R847,848	VRD-MN2BD394J	J	390 kohms,1/8W	A A	CNS202	QCNCW681MAFZZ	J	Socket,12Pin	A E
R849,850	VRD-MN2BD102J	J	1 kohm,1/8W	A A	CNS203	QCMMN0120AWZZ	J	Connector Ass'y,4Pin	A E
R851~854	VRD-MN2BD392J	J	3.9 kohms,1/8W	A A	CNS207A/B	QCMMN0121AWZZ	J	Connector Ass'y,11-11Pin	A H
R855,856	VRD-ST2EE221J	J	220 ohms,1/4W	A A	CNS381	QCMMN0117AWZZ	J	Connector Ass'y,2Pin	A D
R857	VRD-MN2BD273J	J	27 kohms,1/8W	A A	CNS401	QCMMN0156AWZZ	J	Connector Ass'y,7Pin	A P
R863,864	RR-NZ1076AFZZ	J	0.2 ohms,3W	A C	CNS402	QCNCW681PAFZZ	J	Socket,14Pin	A F
△R867	VRG-ST2EC100J	J	10 ohm,1/4W,Fusible	A B	CNS403	QCNCW681HAFZZ	J	Socket,8Pin	A E
R868	VRD-ST2CD101J	J	100 ohm,1/6W	A A	CNS601	QCNCW681HAFZZ	J	Socket,8Pin	A E
R869	VRD-MN2BD104J	J	100 kohm,1/8W	A A	CNS801	QCNCW681NAFZZ	J	Socket,13Pin	A E
R870	VRD-ST2CD103J	J	10 kohm,1/6W	A A	CNS802	QCNCW681FAFZZ	J	Socket,6Pin	A D
R871	VRD-MN2BD102J	J	1 kohm,1/8W	A A	CNW1	QCMMN0172AWZZ	J	Connector Ass'y,1-1Pin	A C
R872	VRD-MN2BD103J	J	10 kohm,1/8W	A A	△F1,2	92LFUSE631E	J	Fuse,T630mA L 250V	A C
R873	VRD-ST2CD562J	J	5.6 kohms,1/6W	A A	△F3,4	92LFUSE-T162-E	J	Fuse,T1.6A L 250V	A D
R874	VRD-MN2BD822J	J	8.2 kohms,1/8W	A A	△F991	92LFUSE-T102-E	J	Fuse,T1A L 250V [X Only]	A D
R875	VRD-MN2BD103J	J	10 kohm,1/8W	A A	△F992	92LFUSE-T202E	J	Fuse,T2A L 250V	A D
R877,878	VRD-MN2BD223J	J	22 kohms,1/8W	A A	△F993	92LFUSE-T122-E	J	Fuse,T1.25A L 250V	A D
R879	VRD-MN2BD822J	J	8.2 kohms,1/8W	A A	FE601	92LTUNER1775A	J	FM Front End [E]	A Y
R880	VRD-MN2BD123J	J	12 kohms,1/8W	A A	FE601	92LTUNER1804A	J	FM Front End [X]	A X
R881,882	VRD-ST2EE3R9J	J	3.9 ohms,1/4W	A A	FL201	VVKFV644G/-1	J	FL Display	B C
R883,884	VRD-ST2EE6R8J	J	6.8 ohms,1/4W	A A	FW991,992	QCMMN0127AWZZ	J	Flat Cable,1Pin [E Only]	A D
△R901	VRG-ST2EH2R2J	J	2.2 ohms,1/4W,Fusible	A B	FW993	QCMMN0126AWZZ	J	Flat Cable,4Pin [X Only]	A N
R902	VRD-ST2EE152J	J	1.5 kohms,1/4W	A A	J351	QJAKM0187AFZZ	J	Jack,Headphones	A E
R903	VRD-ST2CD101J	J	100 ohm,1/6W	A A	M1	92LMTR1854BASY	J	Motor with Gear [Slide]	A P
R906	VRD-ST2EE152J	J	1.5 kohms,1/4W	A A	M2	92LMTR1858CASY	J	Motor with Chassis [Spin]	A S
R907	VRD-ST2CD101J	J	100 ohm,1/6W	A A	M3	92LMTR1878AS1	J	Motor with Pulley [Loading]	A P
R933,934	RR-FZ0001AWZZ	J	560 ohms,5W	A F	M301	RM0TV0002AW02	J	Motor with Pulley [Tape]	A U
<b>OTHER CIRCUITRY PARTS</b>									
BI6/CNS6	QCMMN0123AWZZ	J	Connector Ass'y,13-13Pin	A P	M302	RM0TV0439AFZZ	J	Motor,Air Cooling Fan	A M
BI201/CNS201	QCMMN0157AWZZ	J	Connector Ass'y,5-6Pin	A L	PH801	VHZPP221E/-1	J	Posistor	A K
BI301	QCMMN0161AWZZN	J	Connector Ass'y,1-1Pin	A D	RLY810	RRLYD0101AFZZ	J	Relay [Speaker]	A L

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
SO101	VHGP1F32T/-1	J	Optical Fiber Data Link,GP1F32T	A P	TP490	QCNCM687CAFZZ	J	Plug,3Pin [Test Point]	A A
SO601	QTANC0401AWZZ	J	Terminal,Antenna [X]	A K	TP601	QCNCM095BAFZZ	J	Plug,2Pin [Test Point]	A B
SO601	QTANC0402AWZZ	J	Terminal,Antenna [E]	A L	<b>DECK MECHANISM PARTS</b>				
SO701	92LJACKL1663A	J	Jack,AUX Output	A F	1	92LM-ANG1756B	J	Bracket,Motor	A D
SO801	92LJACKP468B	J	Terminal,Speaker	A G	2	92LM-ANG1756A	J	Bracket,Lock Lever	A D
SOL302	RPLU-0250AFZZ	J	Solenoid	A G	3	92LM-CUSN1676A	J	Spacer,Head	A B
SW1	QSW-F9001AWZZ	J	Switch,Push Type [Pickup In]	A E	4	92LM-CASY1756A	J	Main Chassis Ass'y	A H
SW2	92LSWICH1749A	J	Switch,Leaf Type [Loading]	A D	5	LBSHZ0086AFZZ	J	Cushion,Motor	A A
SW304	QSW-F9065AFZZ	J	Switch,Leaf Type [Tape Main]	A C	6	LCHSS0300AF01	J	Reel Base Ass'y	A E
SW305	QSW-F9064AFZZ	J	Switch,Leaf Type [Side A Erase Prevention]	A C	7	LDAIH0112AFZZ	J	Head Base	A D
SW306	QSW-F9064AFZZ	J	Switch,Leaf Type [Metal Detection]	A C	8	LHLDS1077AFZZ	J	Metal Ass'y,Forward	A D
SW307	QSW-F9064AFZZ	J	Switch,Leaf Type [Cassette Detection]	A C	9	LHLDS1078AFZZ	J	Metal Ass'y,Reverse	A C
SW308	QSW-F9064AFZZ	J	Switch,Leaf Type [CrO <sub>2</sub> Detection]	A C	10	LHLDW1075AFZZ	J	Nylon Band,60mm	A A
SW309	QSW-F9064AFZZ	J	Switch,Leaf Type [Side B Erase Prevention]	A C	11	92LM-PLT1676B	J	Plate,Head	A C
SW711	QSW-K0172AFZZ	J	Switch,Key Type [Bass/Treble Selector]	A B	12	92LM-HFPA1676A	J	Plate Ass'y, Head Mounting	A K
SW712	QSW-K0172AFZZ	J	Switch,Key Type [Volume-Up]	A B	15	92LM-CAM1676A	J	Cam Gear	A C
SW713	QSW-K0172AFZZ	J	Switch,Key Type [Volume-Down]	A B	16	92LM-0SLA1676A	J	Lever Ass'y,Overstroke	A D
SW714	QSW-K0172AFZZ	J	Switch,Key Type [Auto Memory]	A B	17	92LM-PRLA1676A	J	Lever Ass'y,Pinch Roller Drive	A D
SW715	QSW-K0172AFZZ	J	Switch,Key Type [Edit Speed/High]	A B	18	92LM-LEV1756B	J	Lever,Lock Stopper	A C
SW716	QSW-K0172AFZZ	J	Switch,Key Type [Edit Speed/Normal]	A B	19	92LM-LEV1676A	J	Lever,Brake	A C
SW717	QSW-K0172AFZZ	J	Switch,Key Type [CD Edit]	A B	20	92LM-LEV1676B	J	Lever,Cam Trigger	A C
SW721	QSW-K0172AFZZ	J	Switch,Key Type [Power]	A B	21	92LM-LEV1676C	J	Lever,Eject Stopper	A B
SW722	QSW-K0172AFZZ	J	Switch,Key Type [Reverse Mode]	A B	22	92LM-LEV1756A	J	Lever,Lock	A B
SW723	QSW-K0172AFZZ	J	Switch,Key Type [CD]	A B	23	92LM-PLA1676A	J	Lever Ass'y,Play Gear	A E
SW724	QSW-K0172AFZZ	J	Switch,Key Type [Tuner]	A B	24	92LM-FRLA1676A	J	Lever Ass'y,FF/REW Gear	A E
SW725	QSW-K0172AFZZ	J	Switch,Key Type [Tape]	A B	25	92LM-CSPR1676C	J	Spring,Solenoid	A A
SW726	QSW-K0172AFZZ	J	Switch,Key Type [Video/AUX]	A B	26	MSPRC0916AFFJ	J	Spring,Back Tension	A A
SW727	QSW-K0172AFZZ	J	Switch,Key Type [Fast Wind/Track Down/ Preset Down]	A B	27	MSPRD1217AFFJ	J	Spring,Overstroke	A A
SW731	QSW-K0172AFZZ	J	Switch,Key Type [Rec/Pause]	A B	28	MSPRD1218AFFJ	J	Spring,Brake	A A
SW732	QSW-K0172AFZZ	J	Switch,Key Type [Dolby NR]	A B	29	MSPRD1219AFFJ	J	Spring,Cam Trigger	A A
SW733	QSW-K0172AFZZ	J	Switch,Key Type [Open/Close]	A B	30	MSPRD1220AFFJ	J	Spring,Head Reverse	A A
SW734	QSW-K0172AFZZ	J	Switch,Key Type [Fast Wind/Track Up/ Preset Up]	A B	31	MSPRD1221AFFJ	J	Spring,Pinch Roller, Forward	A A
SW735	QSW-K0172AFZZ	J	Switch,Key Type [Reverse Play]	A B	32	MSPRD1222AFFJ	J	Spring,Pinch Roller, Reverse	A A
SW736	QSW-K0172AFZZ	J	Switch,Key Type [Stop]	A B	33	MSPRD1223AFFJ	J	Spring,Pinch Roller, Forward,Small	A A
SW737	QSW-K0172AFZZ	J	Switch,Key Type [Forward Play/Play Repeat]	A B	34	MSPRD1224AFFJ	J	Spring,Pinch Roller, Reverse,Small	A A
SW991	QSW-S9001AWZZ	J	Switch,Slide Type [Voltage Selector] [X Only]	A P	35	MSPRD1225AFFJ	J	Spring,Pinch Roller Drive Lever	A A
TP1~10	QPIN-0101AFZZ	J	Test Pin	A A	36	MSPRD1226AFFJ	J	Spring,Play Gear Lever Ass'y	A A
TP208	QCNCM932BAFZZ	J	Plug,2Pin [Test Point]	A A	37	MSPRD1227AFFJ	J	Spring,FF/REW Gear Lever Ass'y	A A
TP451	QCNCM136CAFZZ	J	Plug,3Pin [Test Point]	A B	38	MSPRD1229AFFJ	J	Spring,Lock Lever	A A
					39	MSPRP0492AFFW	J	Plate Spring, Cassette Press	A A
					41	MSPRT1520AFFJ	J	Spring,Ground	A A
					42	NBLTK0005AWZZ	J	Belt,Flywheel	A D
					44	NBLTK0514AFZZ	J	Belt,Drive	A A
					45	92LM-REL1676A	J	Reel	A C
					46	92LM-REL1676B	J	Reel Cap	A B
					47	NFLYC0229AFZZ	J	Flywheel Ass'y,Forward	A E
					48	NGERH0482AFZZ	J	Gear Ass'y,Drive	A F
					49	92LM-GEAR1676A	J	Gear,Head	A B
					50	92LM-GEAR1676B	J	Gear,Head Reverse	A B
					51	92LM-GEAR1676C	J	Gear,Play	A C
					52	92LM-GEAR1676D	J	Gear,FF/REW	A C
					53	92LM-GERA1676B	J	Gear Ass'y,Reel Sensor	A B
					55	NR0LY0144AFZZ	J	Pinch Roller,Forward	A D
					56	NR0LY0145AFZZ	J	Pinch Roller,Reverse	A D
					58	RHEDK0001AWZZ	J	Head,Playback/ Record/Erase	A U
					59	NFLYC0230AFZZ	J	Flywheel Ass'y,Reverse	A E
					60	MSPRD1282AFFJ	J	Spring,FF/REW Gear	A B

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
61	MSPRD1283AFFJ	J	Spring,Sensor Gear	A A	212	JKNBZ0016AWSA	J	Button,Open/Close	A C
501	LX-BZ0763AFFD	J	Screw,Lock Lever	A A	213	JKNBZ0017AWSA	J	Button>Edit	A D
502	92LS2S1676A	J	Screw,φ2×6mm	A A	214	JKNBZ0018AWSA	J	Button,Function	A E
503	LX-WZ9064AFZZ	J	Washer,φ1.5×φ3.8×0.5mm	A A	215	JKNBZ0019AWSA	J	Button,Play	A K
504	LX-WZ9069AFZZ	J	Washer,φ1.2×φ4×0.25mm	A A	216	JKNBZ0020AWSA	J	Button,FF/REW	A L
506	LX-WZ9230AFZZ	J	Washer,φ1.8×φ4×0.5mm	A A	217	LHLDX1001AWSA	J	Cassette Holder	A G
507	XBPSD14P05500	J	Screw,φ1.4×5.5mm	A A	218	92LDAMPER1651A	J	Damper,Cassette Lid	A D
509	XHBSD20P04000	J	Screw,φ2×4mm	A A	219	MSPRD0017AWFJ	J	Spring,Cassette Cover	A B
510	XHBSD20P05000	J	Screw,φ2×5mm	A A	220	HDECQ0004AWSA	J	Cover,LED	A D
511	XHBSD20P16000	J	Screw,φ2×16mm	A A	221	92LCC0V1962AS1	J	Cassette Cover Ass'y	A N
513	92L2R3W4R4R25P	J	Washer,φ2.3×φ4.4×0.25mm	A A	221- 1			Cassette Cover (Not Replacement Item)	—
514	LX-WZ9023AWZZ	J	Washer,φ2×φ4.4×0.5mm	A A	221- 2	HDECQ0006AWSA	J	Window,Cassette Cover	A H
515	92LS2R6S262B	J	Special Screw,Motor	A A	222	92LCAB1962AS1	J	Front Panel Ass'y	A V
518	XHBSD20P14000	J	Screw,φ2×14mm	A A	222- 1			Front Panel (Not Replacement Item)	—
519	LX-WZ9229AFZZ	J	Washer,φ1.6×φ3.4×0.5mm	A A	222- 2	HDECQ0005AWSA	J	Window,FL	A F
M301	RM0TV0002AW02	J	Motor with Pulley [Tape]	A U	222- 3	HDECQ0007AWSA	J	Window,Remote Sensor	A D
SOL302	RPLU-0250AFZZ	J	Solenoid	A G	222- 4	92LBADGE1585B	J	Badge,SHARP	A C
SW304	QSW-F9065AFZZ	J	Switch,Leaf Type [Tape Main]	A C	223	LBSHC0002AWZZ	J	Bushing,AC Power Supply Cord	A D
SW305	QSW-F9064AFZZ	J	Switch,Leaf Type [Side A Erase Prevention]	A C	224	LCHSM0006AWFW	J	Main Chassis	A P
SW306	QSW-F9064AFZZ	J	Switch,Leaf Type [Metal Detection]	A C	225	GCAB-3001AWSA	J	Bracket,Terminal [X]	A R
SW307	QSW-F9064AFZZ	J	Switch,Leaf Type [Cassette Detection]	A C	225	GCAB-3015AWSA	J	Bracket,Terminal [E]	A R
SW308	QSW-F9064AFZZ	J	Switch,Leaf Type [CrO <sub>2</sub> Detection]	A C	225	GCAB-3021AWSA	J	Bracket,Terminal [X for Taiwan]	A R
SW309	QSW-F9064AFZZ	J	Switch,Leaf Type [Side B Erase Prevention]	A C	226	LANGJ0002AWFW	J	Bracket,Side	A E
					228	LANGK0005AWFW	J	Bracket,Heat Sink	A K
					229	LANGK0006AWFW	J	Bracket,CD Mechanism	A K
					230			Fan Ass'y (Not Replacement Item)	—
					230- 1	92LFAN1810A	J	Rotary Fan	A D
					230- 2	92LC0V1810B	J	Cover,Fan	A C
					230- 3	92LCSPR1431C	J	Ring Spring,Volume	A A
					230- 4	LHLDZ1021AW00	J	Fan Holder	A F
					230- 5	92L2S+4BZ	J	Screw,φ2×4mm	A A
					231	LANGJ0003AWFW	J	Bracket,Side,CD Mechanism	A K
					232	92LN-BAND1318A	J	Nylon Band,60mm	A A
					233	PSPA20002AWZZ	J	Spacer,Power PWB [X Only]	A C
					234	LHLDZ1002AWZZ	J	Holder,Power PWB	A C
					235	PSPAV0003AWZZ	J	Spacer,Antenna [E Only]	A C
					236	PC0VW1001AWZZ	J	Cover,Power PWB	A G
					237	TLABH0008AWZZ	J	Label,Reset [X for Taiwan Only]	A C
					238	TLABT0055AFZZ	J	Label,Dolby	A A
					239	PC0VS3002AWZZ	J	Shield,Display PWB	A E
					240	PSPAG0002AW09	J	Spacer,Main PWB	A D
					241	92LLABL1420A1	J	Label,Class 1	A C
					243	92LPANEL713A	J	Panel,Made in Malaysia [X Only]	A B
					244	GC0VD1003AWSA	J	Cover,Digital Out	A D
					245	TSPC-0098AWZZ	J	Label,Specifications [X for Thailand Only]	A E
					246	PSHEP0002AWZZ	J	Cover,Sheet	A F
					247	LANGK0010AWFW	J	Bracket,Digital Out	A D
					248	LANGZ0002AWFW	J	Bracket,Short Ring	A B
					249	LHLDZ1015AWZZ	J	Tape Mechanism Holder	A H
					250	LHLDZ1014AWZZ	J	LED Holder,Operation	A C
					251	LHLDZ1022AWZZ	J	LED Holder,Stand-By	A D
					252	LHLDW3001AWZZ	J	Wire Holder	A C
					253	PRDAR0008AWFW	J	Heat Sink,Power Amp.PWB	A Q
					254	92LRDAT-1468B	J	Heat Sink,Diode	A E
					255	LANGK0011AWFW	J	Bracket,Remote Sensor	A C
					256	LHLDZ1013AWZZ	J	FL Holder	A E
					257	PSPAG0001AW09	J	Spacer,Crystal	A C
					258	PRDAR0013AWFW	J	Heat Sink,CD	A E
					259	92LRDAT1776C	J	Heat Sink,IC	A B
<b>CD MECHANISM PARTS</b>									
301	NGERH0011AWZZ	J	Gear,Middle	A C					
302	NGERH0012AWZZ	J	Gear,Drive	A C					
303	MLEVP0010AWZZ	J	Rail,Guide	A C					
304	NSFTM0002AWFW	J	Shaft,Guide	A E					
305	PCUSG0427AFSC	J	Cushion	A C					
△306	RCTRH8147AFZZ	J	Pickup Unit Ass'y	B E					
306- 1			Pickup Unit (Not Replacement Item)	—					
306- 2	NGERR0043AFZZ	J	Gear,Rack	A C					
306- 3	MSPRC0961AFZZ	J	Spring,Rack	A A					
701	92L2R6S+6CZ	J	Screw,φ2.6×6mm	A B					
702	92L2TTS+5BB	J	Screw,φ2×5mm	A B					
703	92L2S+3PZ	J	Screw,φ2×3mm	A A					
704	92L1R5WC3R8R25	J	Washer,φ1.5×φ3.8×0.25mm	A A					
M1	92LMTR1854BASY	J	Motor with Gear [Slide]	A P					
M2	92LMTR1858CASY	J	Motor with Chassis [Spin]	A S					
SW1	QSW-F9001AWZZ	J	Switch,Push Type [Pickup In]	A E					
<b>CABINET PARTS</b>									
201	GCAB-1007AWSA	J	Top Cabinet [X]	A R					
201	GCAB-1020AWSA	J	Top Cabinet [E]	A R					
202	92LC0V1962AS1	J	Cover,Tray Ass'y	A H					
203	HBDGZ3001AWSA	J	Badge,CD	A C					
204	GITAS0005AWSA	J	Panel,Left Side	A Q					
205	GITAS0006AWSA	J	Panel,Right Side [X]	A Q					
205	GITAS0007AWSA	J	Panel,Right Side [E]	A Q					
206	92LCUSN1746A	J	Leg,Cushion	A A					
208	PSHEM0001AWZZ	J	Shield Sheet,Left Side Panel	A N					
209	LHLDW3056AFZZ	J	Wire Holder	A A					
210	JKNBZ0014AWSA	J	Button,Volume	A C					
211	JKNBZ0015AWSA	J	Button,Power	A F					

REF.NO.	PART NO.	★	DESCRIPTION	CODE	REF.NO.	PART NO.	★	DESCRIPTION	CODE
△260	92LC0RD-1318B	J	AC Power Supply Cord [X Except for Saudi Arabia/Taiwan]	A M		92LLANT1676A	J	AM Loop Antenna	A E
△260	92LC0RD-1393A	J	AC Power Supply Cord [X for Saudi Arabia]	A M	△	92LPLUG027	J	AC Plug,Adaptor [X for Saudi Arabia Only]	A D
△260	92LC0RDA1387C	J	AC Power Supply Cord [E for Australia]	A P		92LPLUG155A	J	AC Plug,Adaptor [X Only]	A G
△260	92LC0RDB1332B	J	AC Power Supply Cord [E for UK]	A Y		RRMCG0007AWSA	J	Remote Control	A Z
△260	92LC0RDT1699A	J	AC Power Supply Cord [X for Taiwan]	A L		92LLID1782A	J	Battery Lid,Remote Control	A Q
261	0LUGP9062AFZZ	J	Terminal,Lug	A A		<b>P.W.B. ASSEMBLY (Not Replacement Item)</b>			
△262	92LFSH0LD1652T	J	Fuse Holder	A B	PWB-A1~9	92LPWB1962MANS	J	Deck/Power Amp./Main/ Terminal/CD Control/ Tape Control/Volume/ Headphones/IC (Combined Ass'y) [E Only]	—
△263	92LFSH0LD1652T	J	Fuse Holder [X Only]	A B	PWB-B1~3	92LPWB1962CDUS	J	CD Servo/Display/Socket (Combined Ass'y) [E Only]	—
264	LCHSM0001AWZZ	J	Chassis,Loading	A R	PWB-C1~3	92LPWB1964TUNS	J	Tuner/PowerSub/Power (Combined Ass'y) [E Only]	—
265	GC0VA1001AWSA	J	Disc Holder	A H	PWB-D	QPWF0036AWZZ	J	CD Motor (PWB Only) [E Only]	A D
266	LHLD1001AWZZ	J	Stabilizer	A E	PWB-E	92LPWB1756MKAS	J	Tape Mechanism [E Only]	—
267	LHLDZ1001AWZZ	J	Holder Mechanism	A E		<b>OTHER SERVICE PARTS</b>			
268	NGERR0001AWZZ	J	Gear,Rack	A E	A	QCWNK0048AFZZ	J	Extension Cable, CNP7-CNS7 (3-3Pin)	A L
269	92LGEAR1728B	J	Gear,Tray	A C	B	QCWNK0049AFZZ	J	Extension Cable, CNP304-CNS5 (12-12Pin)	B A
270	92LPULLY1728A	J	Pulley,Drive	A B	C	QCWNK0050AFZZ	J	Extension Cable, CNP302-CNS601 (8-8Pin)	B B
271	92LBELT1728A	J	Belt,Drive	A B	D	QCWNK0051AFZZ	J	Extension Cable, CNP301-CNS403 (8-8Pin)	B B
272	PMAGF0001AWZZ	J	Magnet	A F	E	QCWNK0052AFZZ	J	Extension Cable, CNP402-CNS802 (6-6Pin)	B A
273	PC0VZ1001AWZZ	J	Cover,Pick Wire	A C	F	QCWNK0053AFZZ	J	Extension Cable, CNP303-CNS202 (12-12Pin)	B B
601	XJBSF30P08000	J	Screw,φ3×8mm	A A	<b>CP-XL12 SPEAKER BOX PARTS</b>				
602	XJBSF30P14000	J	Screw,φ3×14mm	A A	901	92LPFPA1XL12L	J	Front Panel Ass'y,Left	A U
603	XJBSF30P12000	J	Screw,φ3×12mm	A A	902	92LPFPA1XL12R	J	Front Panel Ass'y,Right	A U
604	XJBSF30P10000	J	Screw,φ3×10mm	A A	903	92LWSPB2XL12L	J	Speaker Box Ass'y,Left	A Z
605	LX-JZ0022AFFD	J	Screw,φ3×8mm	A A	904	92LWSPB2XL12R	J	Speaker Box Ass'y,Right	A Z
606	XJBSD30P10000	J	Screw,φ3×10mm	A A	905	92LPNFA1XL12L	J	Speaker,Net Ass'y,Left	A P
607	XJBSD30P08000	J	Screw,φ3×8mm	A A	906	92LPNFA1XL12R	J	Speaker,Net Ass'y,Right	A P
608	XHBSD30P10000	J	Screw,φ3×10mm	A A	907	92LFSBL4XL12	J	Sound Material,Side	A D
609	LX-HZ0082AFZZ	J	Screw,φ4×8mm	A A	908	92LFSBS4XL12	J	Sound Material,Back	A K
610	XJBSD26P08000	J	Screw,φ2.6×8mm [X Only]	A A	909	92LCPDC8R160	J	Port Cushion,Duct Pipe	A E
610	XJBSD26P08000	J	Screw,φ2.6×8mm	A A	911	92LPRLB7XL12	J	Label,Specifications [E]	A C
611	XJBSD30P06000	J	Screw,φ3×6mm	A A	911	92LPRLB7XL12C	J	Label,Specifications [X]	A C
612	LX-JZ0010AFFD	J	Screw,φ3×10mm	A A	912	92LETER3C6300	J	Terminal,Speaker	A H
613	XJPSD30P08000	J	Screw,φ3×8mm	A A	913	92LPSUP1XL12	J	Support,Tweeter	A E
614	92LS2R6PTS+10B	J	Screw,φ2.6×10mm	A A	914	92LPCAT1XL12	J	Catcher,Holder	A C
615	92LS2R6S1613SW	J	Screw,φ2.6×5mm	A A	915	92LPRTB8S370	J	Duct Pipe	A D
616	LX-JZ0039AFFD	J	Screw,φ3×12mm	A A	916	92L04010047	J	Screw,φ3.5×16mm	A C
617	XJBSD30P14000	J	Screw,φ3×14mm	A A	917	92L00602CP-X9	J	Screw,φ4×12mm	A A
					918	92L04010042	J	Screw,φ4×20mm	A C
					919	92L00602CP-X9	J	Screw,φ4×12mm	A A
					920	92LEPCB3S450	J	Terminal PWB	A F
					C1A,2A	92LECO3XL12	J	2.2 μF,100V, Film Condenser	A M
					L1A,2A	92LENMC3XL12	J	0.165mH	A L
					SP1,2	VSP0013WB056A	J	Woofers	B B
					SP3,4	VSP0050TBE96A	J	Tweeter	A S
						<b>ACCESSORIES/PACKING PARTS</b>			
						92LECO3XL12	J	Wire,Speaker	A H

# XL-12X/E CP-XL12

REF.NO.	PART NO.	★	DESCRIPTION	CODE
	92LPADD9XL12B	J	Packing Add.,Bottom	A K
	92LPADD9XL12T	J	Packing Add.,Top	A K
	92LPCAS9XL12	J	Packing Case,Speaker	A R
	92LPLYB9XL12	J	Polyethylene Bag, Speaker	A D
	92LPMRM9XL12	J	Mirror Mat,Speaker	A D

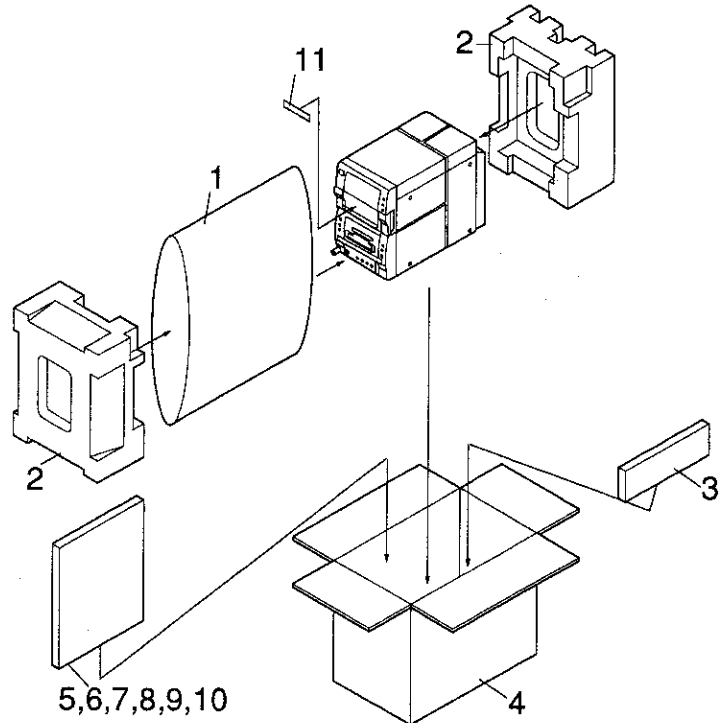
## PACKING METHOD (XL-12E/CP-XL12 FOR UK ONLY)

### XL-12E

#### SETTING POSITION OF SWITCHES AND KNOBS

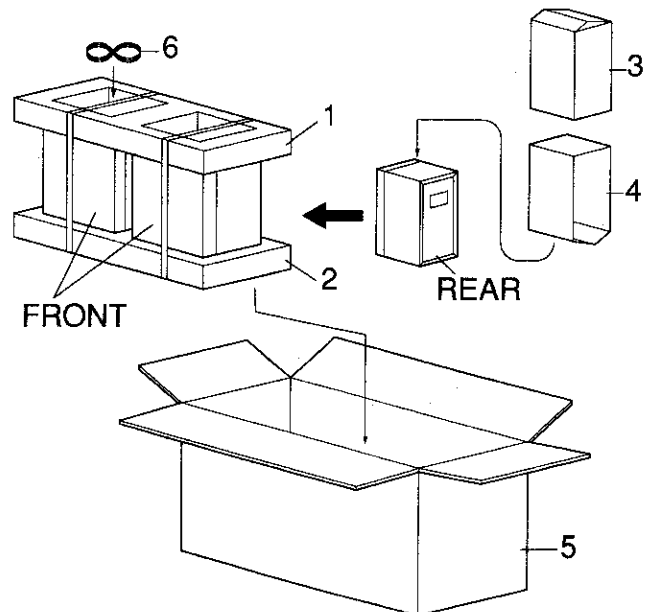
Dolby NR	OFF
Tape Mechanism	STOP

- |                                  |               |
|----------------------------------|---------------|
| 1. Polyethylene Bag, Unit        | SSAKP0001AWZZ |
| 2. Packing Add., Front/Rear      | SPAKA0009AWZZ |
| 3. Remote Control                | RRMCG0007AWSA |
| 4. Packing Case, Unit            | SPAKC0073AWZZ |
| 5. AM Loop Antenna               | 92LLANT1676A  |
| 6. Operation Manual              | TINSE0029AWZZ |
| 7. FM Antenna                    | 92LF-ANT1535A |
| 8. Warranty Card                 | TGANE0002AWZZ |
| 9. Polyethylene Bag, Accessories | 92LBAG1460B   |
| 10. Batteries                    |               |
| 11. Feature Label                | TLABM0004AWZZ |



### CP-XL12

- |                                  |               |
|----------------------------------|---------------|
| 1. Packing Add., Speaker, Top    | 92LPADD9XL12T |
| 2. Packing Add., Speaker, Bottom | 92LPADD9XL12B |
| 3. Mirror Mat, Speaker           | 92LPMRM9XL12  |
| 4. Polyethylene Bag, Speaker     | 92LPLYB9XL12  |
| 5. Packing Case, Speaker         | 92LPCAS9XL12  |
| 6. Speaker Wire                  | 92LECO3XL12   |



A9409-2958NS•KJ•M

**AUDIO TECHNICAL BULLETIN**

**MODELS**      CDQ5E                      CMSR160CDE                      CMSR260H                      XL12E

**SYMPTOM**    CD draw will not open.

**CAUSE**        Rack gear, item 224, warps preventing the draw from opening.

**ACTION**        Replace the rack gear, using the part number given below.

<b><u>REF NO</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PART NUMBER</u></b>	<b><u>PRICE CODE</u></b>
224	Rack Gear	NGERR0001AWZZ	AE

