

Service Manual

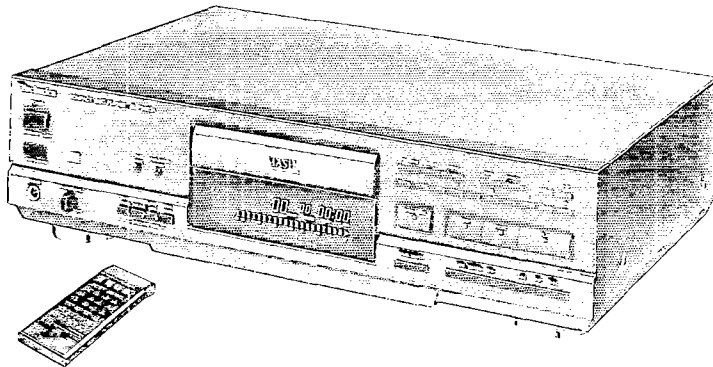
Compact Disc Player

SL-PS620A

COMPACT
disc
DIGITAL AUDIO
DIGITAL
MASH*
 multi-stage noise shaping

Colour

(K) ... Black Type



Area

| Suffix for Model No. | Area | Colour |
|----------------------|-----------------------|--------|
| (E) | Continental Europe. | (K) |
| (EB) | Great Britain. | |
| (EG) | F.R. Germany & Italy. | |

SPECIFICATIONS

■ Audio

| | |
|---------------------------|-----------------------------|
| No. of channels | 2 (left and right, stereo) |
| Frequency response | 2~20,000 Hz, +0.3 dB |
| Output voltage | 2 V (at 0 dB) |
| Dynamic range | 99 dB |
| S/N ratio | 113 dB |
| Harmonic distortion | 0.0018% (1 kHz, 0 dB) |
| Total harmonic distortion | 0.0028% (1 kHz, 0 dB) |
| Wow and flutter | Below measurable limit |
| DA converter | MASH (4 DAC) |
| Output impedance | Approx. 600Ω |
| Load impedance | More than 10 kΩ |
| Headphone output level | 15 mW max. 32Ω (adjustable) |

■ Pickup

| | |
|------------|--------|
| Wavelength | 780 nm |
|------------|--------|

■ General

| | |
|--------------------|--------------------------|
| Power supply | AC 50/60 Hz, 230 V~240 V |
| Power consumption | 10 W |
| Dimensions (W×H×D) | 430×116×289 mm |
| Weight | 4.6 kg |

Note:

Specifications are subject to change without notice.
 Weight and dimensions are approximate.

- Technics (or Panasonic) developed the world's first MASH type DAC and ADC. MASH technology was invented by NTT (LSI Labs).
- ※ MASH is a trademark of NTT.

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* TECHNICAL INFORMATION

- * This technical information is located on pp 49~56 of the SL-PJ46A Service Manual (Order No. AD8902036C2). Therefore, refer to that Service Manual.

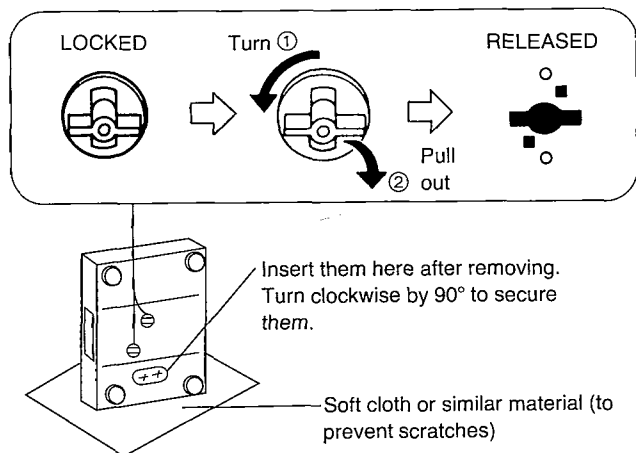
Technics

■ PLACEMENT

Before placement

Two transport security devices are secured to prevent the optical pickup from damage during transport.

Be sure to release them before use (**TRANSPORT SECURITY DEVICE**).



Note:

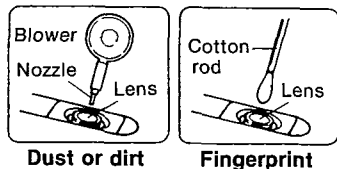
When transporting the unit, be sure to remove the compact disc from inside the unit. And replace the transport security devices again following the reverse order not to damage the optical pickup.

■ CLEANING OF LENS

If the lens is stained causing sound skip or operation failure, open the top cover by pressing the open button, and clean the lens.

• **To remove dust or dirt**

Blow the lens with the blower provided in the cleaning kit to remove dust or dirt.



• **To remove fingerprint**

If the blower is not enough, moisten the cotton rod with the lens cleaner solution and wipe the lens with it from center of the lens to outside.

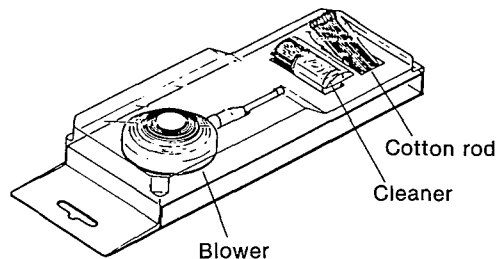
Notes of placement

- **This unit is a precision instrument. Be sure to place it on a flat surface.**
- **Avoid places such as the following:**
 - Near any equipment or device that generates strong magnetism.
 - On any heat-generating equipment or device, or in any place where the temperature is high (35°C or higher).
 - Extremely cold places (5°C or below).
 - Near a tuner or TV (It may cause noise in the broadcast, or disturbance of the TV picture.)
- **When carrying or storing the unit, handle it with care so that it is not subjected to any strong bumps.**
Always remove the compact disc before storing the unit for any period of time.
- **To avoid problems due to vibration.**
 - Do not place a book or similar object under this unit.
 - Do not route the connection cables (of this or other units) across the operation panel, across the top, or under the unit.

Cautions:

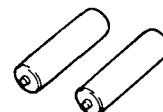
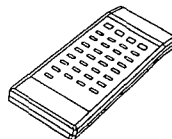
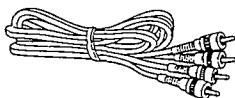
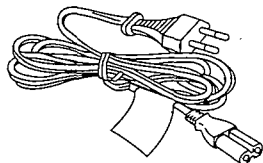
- Do not directly apply the cleaner solution to the lens. Do not apply too much solution to the cotton rod or otherwise the solution will flow into the player.
- Wipe the lens carefully. Do not give too much stress to the lens or otherwise it may scratch the lens or cause optical pickup trouble.
- If the solution should be too much applied, wipe the lens with a dry cotton rod.

Lens cleaning kit (Part No. : SZZP1038C)



■ ACCESSORIES

- AC power supply cord... 1 pc.
[RJA0018-1K (E, EG)]
[SJA193 (EB)]
- Stereo connection cable.. 1 pc.
(SJP2249-3)
- Remote control transmitter
(EUR64798)..... 1 pc.
- Batteries 2 pcs.
Use two UM-4,
"AAA" (R03) size
(1.5V) batteries.



Note: Configuration of AC power supply cord differs according to area.

■ PRECAUTION OF LASER DIODE

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wave length: 780 nM

Maximum output radiation power from pickup: 100 μ W/VDE

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

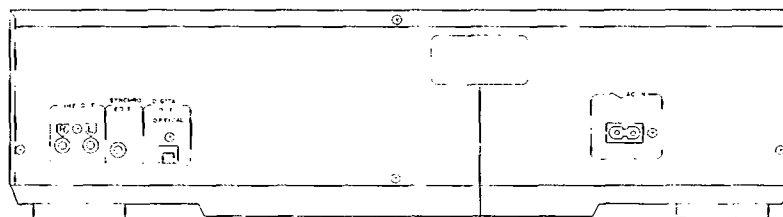
Wellenlänge: 780 nM

Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

ADVARSEL: I dette a apparat anvendes laser.



RQLS0060

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.
Älä katso säteeseen.

WARNING! Osynlig laserstrålning när denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

RQLS0060

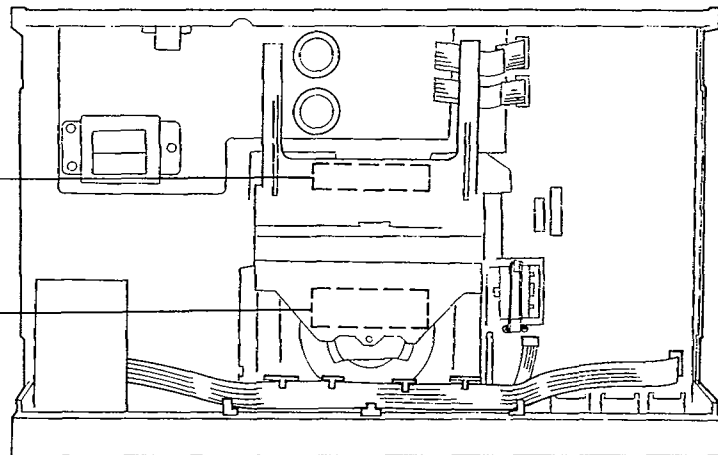
Obs:
Apparaten innehåller laser
Komponent av höger laserklass
än klass 1.

RQLS0022

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

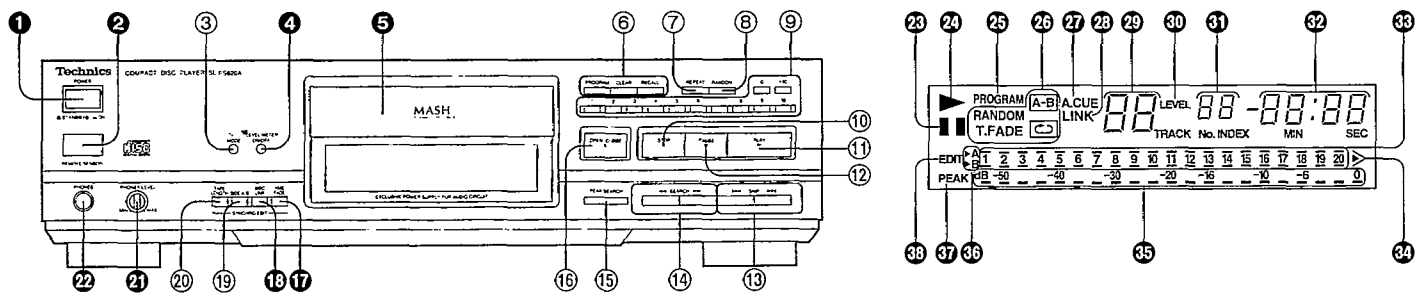
VORSICHT-Usichtbare Laserstrahlung, wenn Abdeckung geöffnet. Nicht dem Strahl aussetzen.

RQLS0022



LOCATION OF CONTROLS

The functions indicated by the black numbers (with white background, ③ etc.) can also be activated using the remote control transmitter.



Control section

① Power "STANDBY ⏻/ON" switch (POWER ■ STANDBY ⏻ ■ ON)

This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY ⏻ position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

② Remote control signal sensor (REMOTE SENSOR)

③ Time mode select button (TIME MODE)

④ Output level meter on/off button (LEVEL METER ON/OFF)

⑤ Disc tray

⑥ Buttons for program function

- Program button (PROGRAM)

Pressing this button initiates the program play mode. You can then enter specific tracks using the numeric buttons.

- Clear button (CLEAR)

Each pressing this button makes one track cleared from the programmed sequence.

- Recall button (RECALL)

This button can be used to display the contents of the programmed track sequence for confirmation.

⑦ Repeat button (REPEAT)

⑧ Random play button (RANDOM)

This button can be used to play the tracks on a disc in a random sequence.

⑨ Numeric buttons (>10, 0, 1~10)

⑩ Stop button (■ STOP)

This button can be used to stop disc play, as well as to cancel the various play modes.

⑪ Play button (▶ PLAY)

⑫ Pause button (⏸ PAUSE)

⑬ Skip buttons (◀◀ SKIP ▶▶)

These buttons can be used to skip by track in the forward or reverse direction.

⑭ Search buttons (◀◀ SEARCH ▶▶)

These buttons can be used to move rapidly forward or backward on the disc during play. The search speed is slow when the button is pressed at first and becomes faster if the button is pressed and held continuously.

⑮ Peak level search button (PEAK SEARCH)

Pressing this button enables the unit to search out the "peak signal" locations in tracks on a disc so as to adjust the suitable recording level on the cassette deck.

⑯ Disc tray open/close button (▲ OPEN/CLOSE)

⑰ Time fade button (TIME FADE)

Pressing this button in the pause or stop mode causes the fade-out function to work at the specified time. Pressing this button in the edit mode causes the fade-out function to work at the end of the tape when the added track exceeds the remaining time of the tape.

⑱ Disc link button (DISC LINK)

This button can be used for edit recording from several discs.

⑲ Tape-side select button (SIDE A/B)

When recording compact discs to tape, this button can be used to check the number of tracks and amount of tape left over for side A or B.

⑳ Edit tape length button (TAPE LENGTH)

When compact discs are to be recorded to tape, this button can be used to calculate the number of tracks that can be recorded on each side of the tape, depending on the length of the cassette tape to be used, so that as little tape as possible is wasted.

㉑ Headphones volume control (PHONES LEVEL)

Avoid listening to music at high volume levels for extended periods of time.

㉒ Headphones jack (PHONES)

Indicators section



23 Pause indicator (II)

24 Play indicator (▶)

25 Program indicator (PROGRAM)

26 Operation indicators

The following indicators light during their respective operations.

- [A-B]  : Peak level search
A-B repeat play (remote control operation)
- RANDOM: Random play
-  : Repeat play
- T. FADE: Time fade (fade-out)

27 Auto cue indicator (A. CUE)

28 Disc link indicator (LINK)

29 Track number display (TRACK)

30 Level indicator (LEVEL)

This indicator lights when the output level is attenuated by the remote control.

31 Index/program number display (No., INDEX)

32 Time display (MIN, SEC)

33 Track number indicator (1–20)

34 "Over" mark (>)

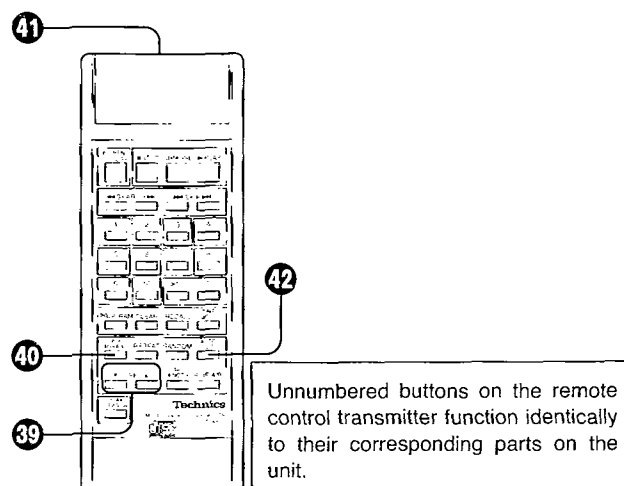
This indicator lights if the total number of tracks on the disc is 21 or more.

35 Output level indicator (dB, -50-0)

36 Tape side indicator (▶ A, ▶ B)

37 Peak level search indicator (PEAK)

38 Compact disc edit indicator (EDIT)



Remote control transmitter

39 Level buttons (▼ LEVEL ▲)

These buttons can be used to adjust output level (from 0 dB to -12 dB).

40 A-B repeat button (A-B REPEAT)

This button can be used to play the portion of a disc between two points (A and B) chosen by you.

41 Remote control signal transmission window

42 Auto cue button (AUTO CUE)

Pressing this button enables the unit to stop at the beginning of every track and switch to the play standby mode.

CONNECTIONS

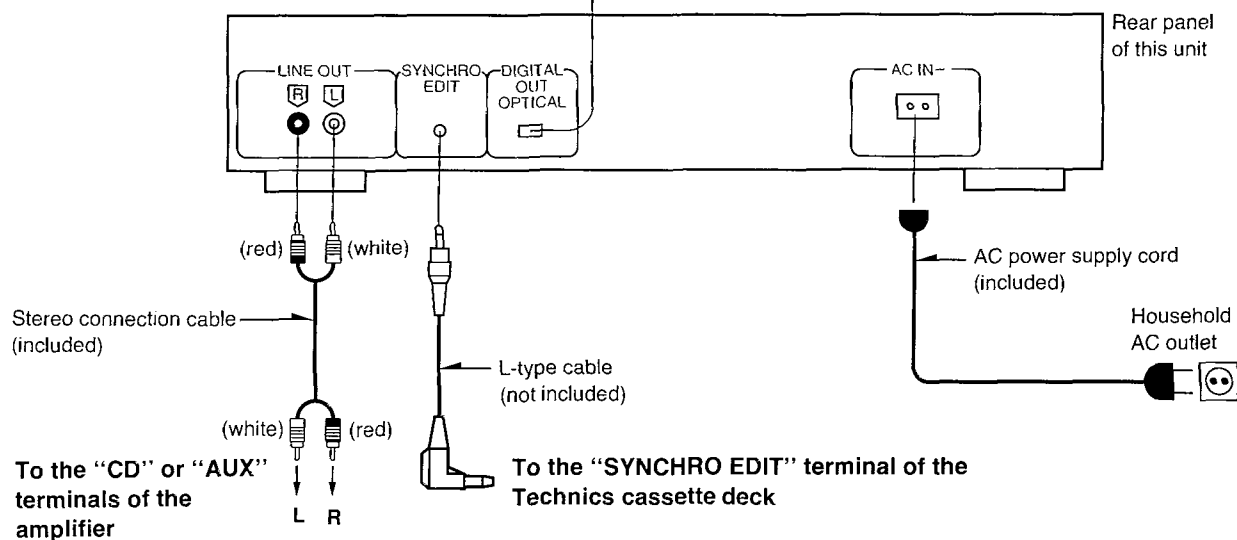
Turn all components off before making connections.

•Optical output terminal (DIGITAL OUT/OPTICAL)

This terminal can be used for connection with other equipment that has a digital input terminal, such as an amplifier, by using an optical cable (optional). A dust-protection cap is inserted in this terminal. Remove this cap only when a connection is to be made to this terminal.

Note:

Be sure to connect the stereo connection cable with the amplifier when using the synchro edit function even if the optical cable has been connected.

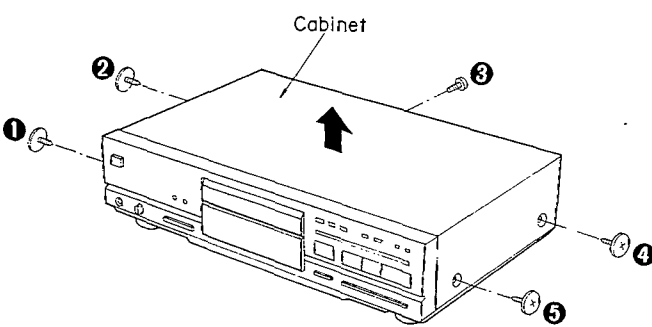
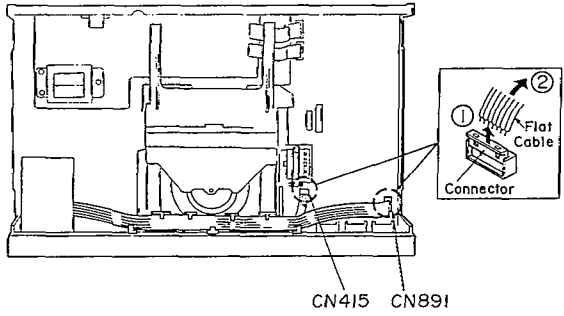
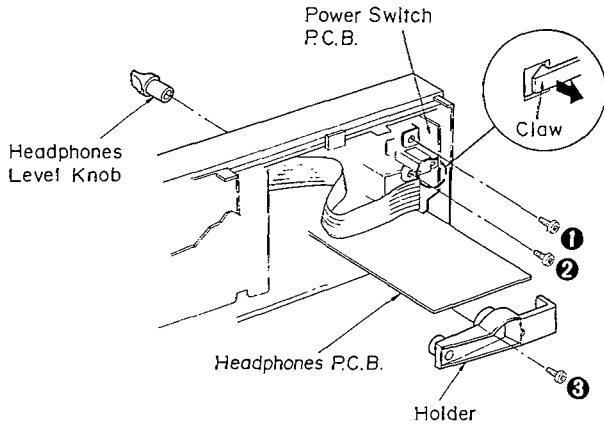
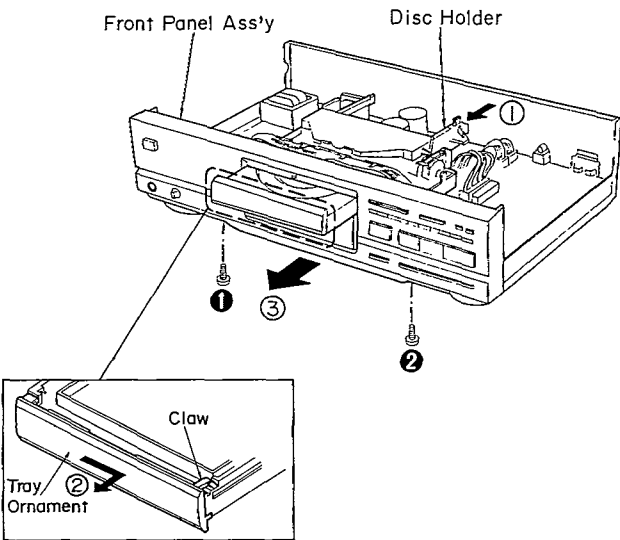


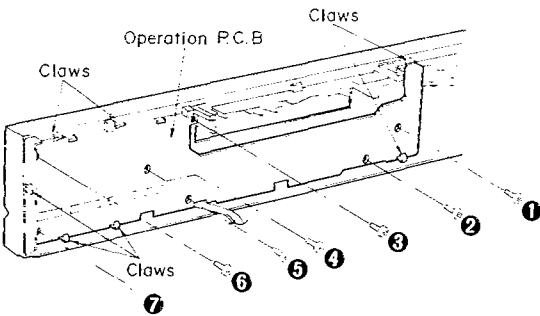
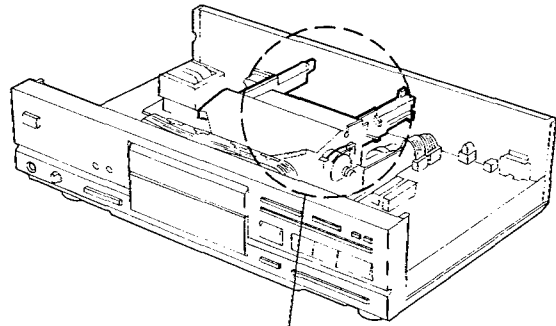
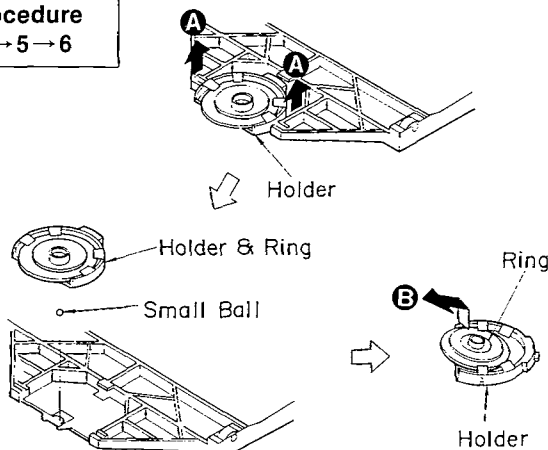
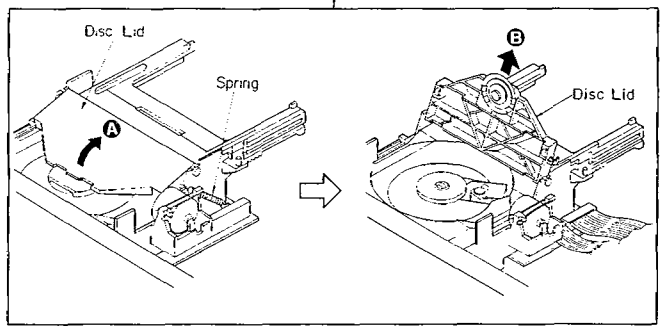
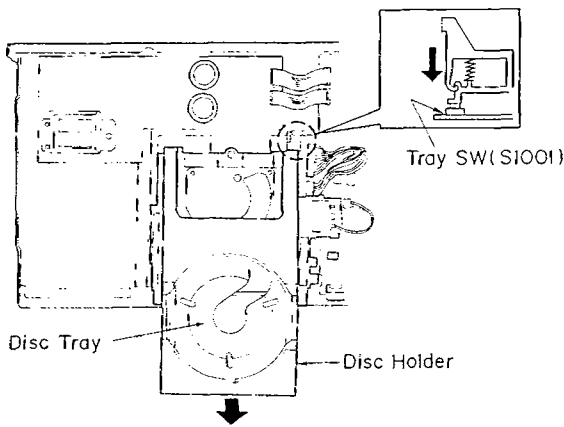
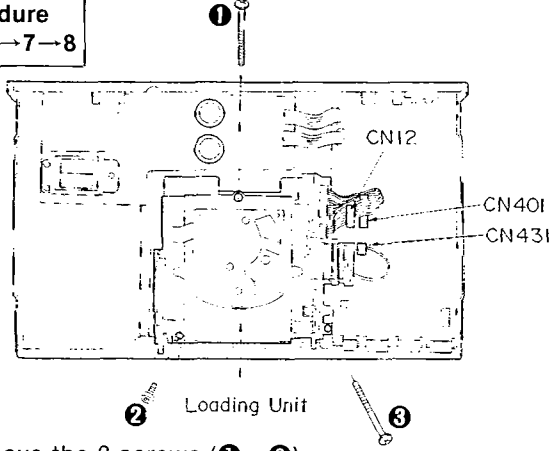
DISASSEMBLY INSTRUCTIONS

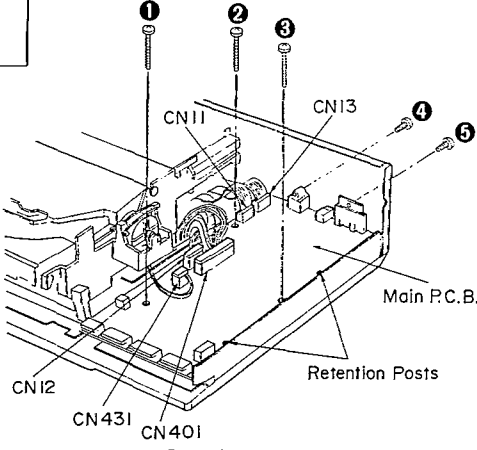
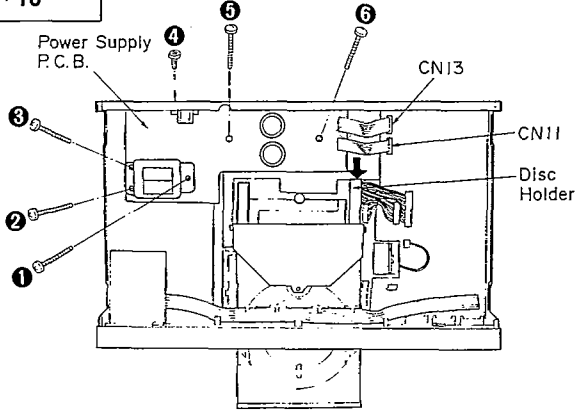
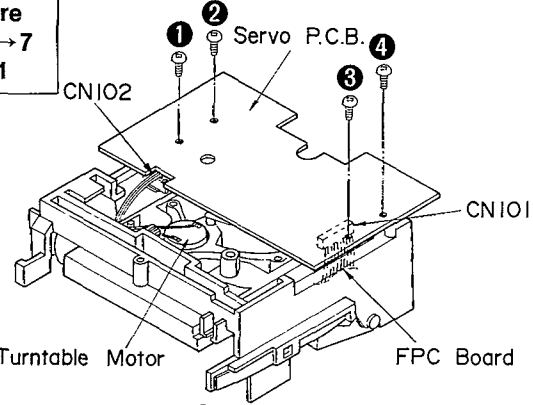
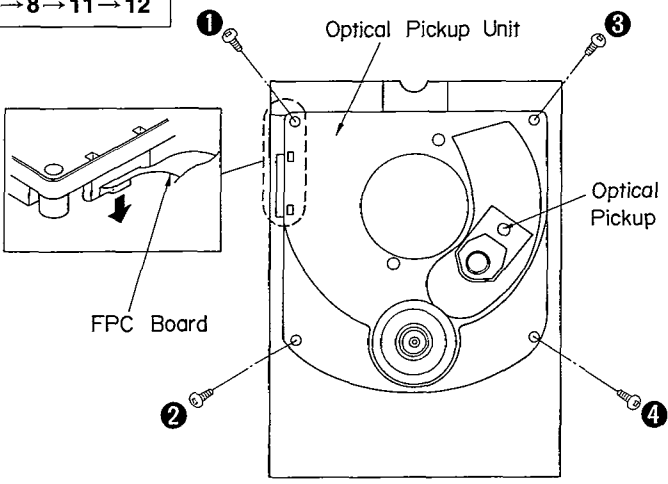
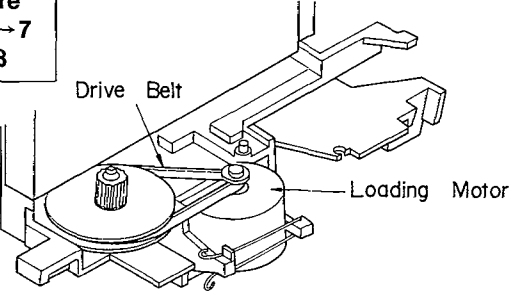
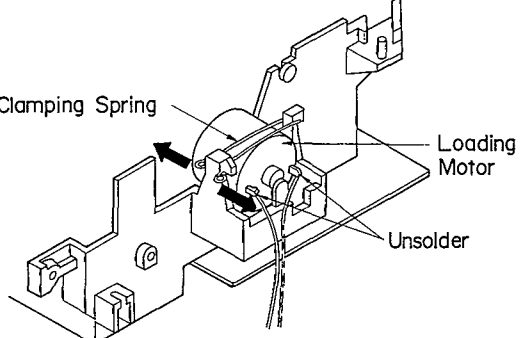
Warning: This product uses a laser diode. Refer to caution statements on page 3.

ACHTUNG: •Die lasereinheit nicht zerlegen.
•Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

* This CD player is equipped with FPC boards, so handle them with care during disassembly and reassembly.

| Ref. No. 1 | Removal of the cabinet | Ref. No. 2 | Removal of the front panel ass'y |
|--|---|------------------|--|
| Procedure 1 |  <p>• Remove the 5 screws (①~⑤).</p> | Procedure 1→2 |  <p>1. Remove the 2 flat cables (CN415, CN891).</p> |
| Ref. No. 3 | Removal of the power switch P.C.B. and headphones P.C.B. | | |
| Procedure 1→2→3 |  | |  <p>[Rear Side]</p> |
| <p>■ Removal of the power switch P.C.B.</p> <ol style="list-style-type: none"> 1. Remove the 2 screws (①, ②). 2. Release the 1 claw. <p>■ Removal of the headphones P.C.B.</p> <ol style="list-style-type: none"> 1. Pull out the headphones level knob. 2. Remove the 1 screw (③). 3. Remove the holder. | | | <ol style="list-style-type: none"> 2. Push the disc holder slowly in the direction of arrow ①. 3. Release the 1 claw and the ornament in the direction of arrow ②. 4. Remove the 2 screws (①, ②). 5. Remove the front panel ass'y in the direction of arrow ③. |

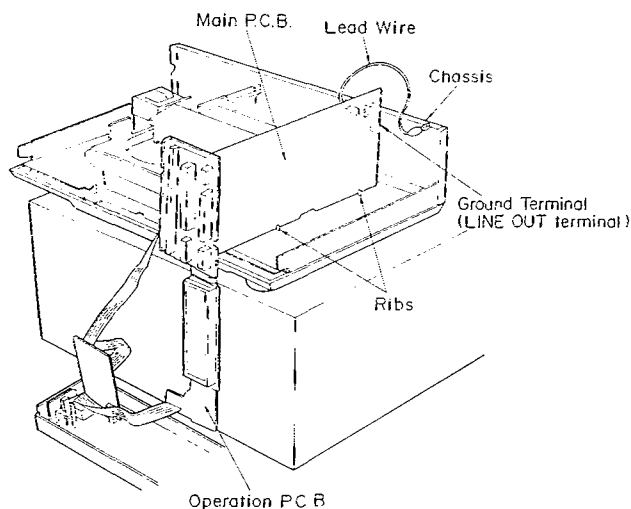
| | | | |
|--------------------------------|--|--|---|
| <p>Ref. No. 4</p> | <p>Removal of the operation P.C.B.</p> | <p>Ref. No. 5</p> | <p>Removal of the disc lid</p> |
| <p>Procedure 1→2→4</p> |  <p>1. Remove the 7 screws (①~⑦). 1. Release the 7 claws.</p> | <p>Procedure 1→5</p> | <p>1. Remove the spring. 2. Move the disc lid in the direction of arrow (A) and pull out this in the direction of arrow (B).</p>  |
| <p>Ref. No. 6</p> | <p>Removal of the holder and ring</p> | <p>Ref. No. 7</p> | <p>Removal of the disc holder</p> |
| <p>Procedure 1→5→6</p> |  <p>1. Pull out the holder in the direction of arrow (A). 2. Remove the ring in the direction of arrow (B).</p> <p>Caution: Be sure to handle the small ball carefully.</p> | <p>Procedure 1→2→5→7</p> |  |
| <p>Ref. No. 8</p> | <p>Removal of the loading unit</p> |  <p>1. Pull the disc holder slowly in the direction of arrow until the disc tray comes up. 2. Pull the disc holder until it stops. 3. Push the bracket of tray SW (S1001) in the direction of arrow. 4. Pull out the disc holder further to remove it.</p> | |
| <p>Procedure 1→2→5→7→8</p> |  <p>1. Remove the 3 screws (①~③). 3. Remove the 3 connectors (CN12, CN401, CN431).</p> | | |

| | | | |
|--|---|---|--|
| <p>Ref. No. 9</p> | <p>Removal of the main P.C.B.</p> | <p>Ref. No. 10</p> | <p>Removal of the power supply P.C.B.</p> |
| <p>Procedure 1→2→9</p> |  <ol style="list-style-type: none"> 1. Remove the 5 screws (①~⑤). 2. Remove the 3 connectors (CN12, CN401, CN431). 3. Remove the 2 flat cables (CN11, CN13). 4. Lift the main P.C.B. off the retention posts on the chassis. | <p>Procedure 1→10</p> |  <ol style="list-style-type: none"> 1. Push the disc holder slowly in the direction of arrow. 2. Remove the 6 screws (①~⑥). 3. Remove the 2 flat cables (CN11, CN13). |
| <p>Ref. No. 11</p> | <p>Removal of the servo P.C.B.</p> | <p>Ref. No. 12</p> | <p>Removal of the optical pickup unit</p> |
| <p>Procedure 1→2→5→7 →8→11</p> |  <ol style="list-style-type: none"> 1. Remove the 4 screws (①~④). 2. Remove the FPC board (CN101) from the optical pickup. 3. Remove the 1 connector (CN102) of the turntable motor. <p>Caution: To prevent the breakdown of the laser diode, antistatic shorting pin is inserted into the FPC board.</p> | <p>Procedure 1→2→5→7 →8→11→12</p> |  <ol style="list-style-type: none"> 1. Remove the 4 screws (①~④). 2. Remove the FPC board from the optical pickup. |
| <p>Ref. No. 13</p> | <p>Removal of the loading motor</p> | | |
| <p>Procedure 1→2→5→7 →8→13</p> |  <ol style="list-style-type: none"> 1. Remove the drive belt. | |  <ol style="list-style-type: none"> 2. Release the clamping spring. 3. Unsolder the 2 terminals of the lead wire of the loading motor. |

■ CHECKING OF THE MAIN P.C.B.

1. Remove the cabinet (see Ref. No. 1 of the disassembly instructions).
2. Remove the front panel ass'y (see Ref. No. 2 of the same).
3. Remove the operation P.C.B. (see Ref. No. 4 of the same).
4. Remove the main P.C.B. (see Ref. No. 9 of the same).
5. Don't remove the connectors (CN12, CN401, CN431) and flat cables (CN11, CN13, CN415, CN891).
6. Connect the main P.C.B. ground terminal (LINE OUT terminal) to the chassis with a lead wire.

- When checking the soldered surface of the main P.C.B. and replacing the parts, do as shown below.



■ CHECKING OF THE SERVO P.C.B.

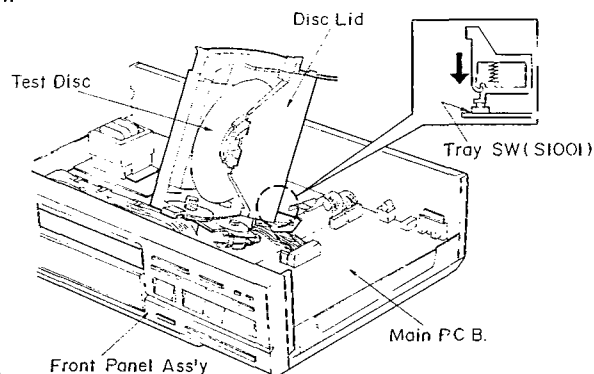
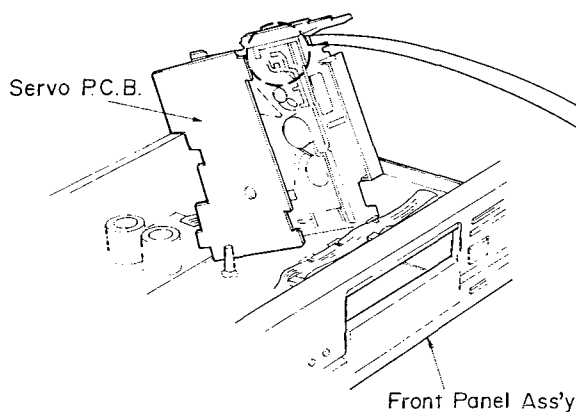
1. Remove the cabinet (see Ref. No. 1 of the disassembly instructions).
2. Remove the disc lid and disc holder (see Ref. No. 5 and No. 7 of the same).
3. Remove the loading unit (see Ref. No. 8 of the same).
4. When checking the soldered surface of the servo P.C.B. and replacing the parts, do as shown below.

(To play a disc)

1. Place the test disc.
2. Reinstall the disc lid to the loading unit.
3. Turn "ON" the power switch of the player.
4. Push the bracket of tray SW (S1001) in the direction of the arrow and release it.

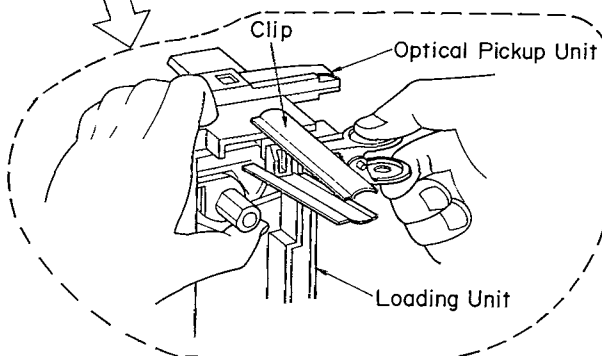
Note:

If the test disc fails to rotate, press the tray switch again.



Note:

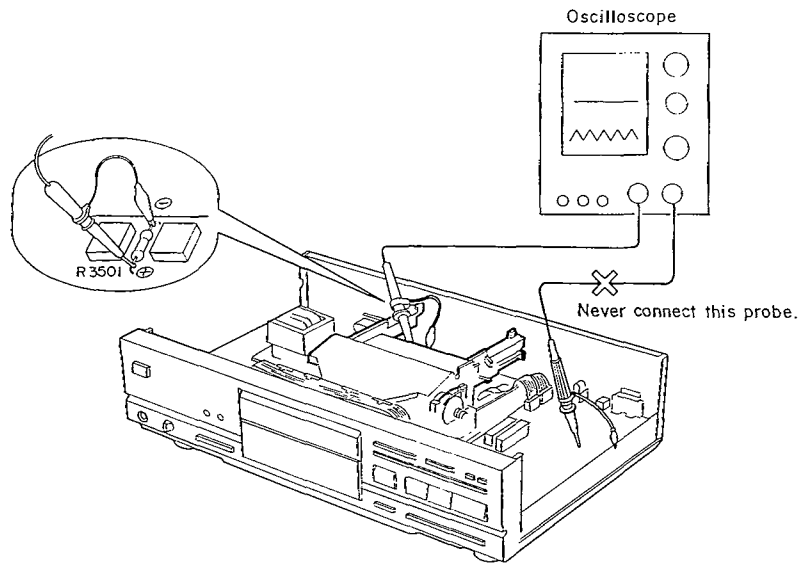
Put on the loading unit on the tabs of the front panel. (Fixed loading unit)
Hold the loading unit and the optical pickup unit with a clip. (Fixed optical pickup unit)
Secure the optical pickup assembly with a clip. (Otherwise the clammer will interfere with the disc, restricting turntable rotation.)



MEASUREMENTS AND ADJUSTMENTS

Caution:

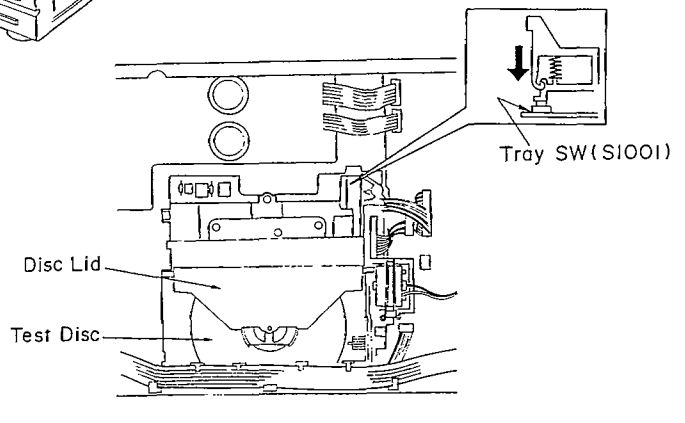
1. It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
With the unit turned "on", laser radiation is emitted from the pickup lens.
Avoid exposure to the laser beam, especially when performing adjustments.
2. During laser power or focus offset adjustment, never connect the other probe to the unit.
(Otherwise the unit's power supply will sustain damage.)



PREPARATION

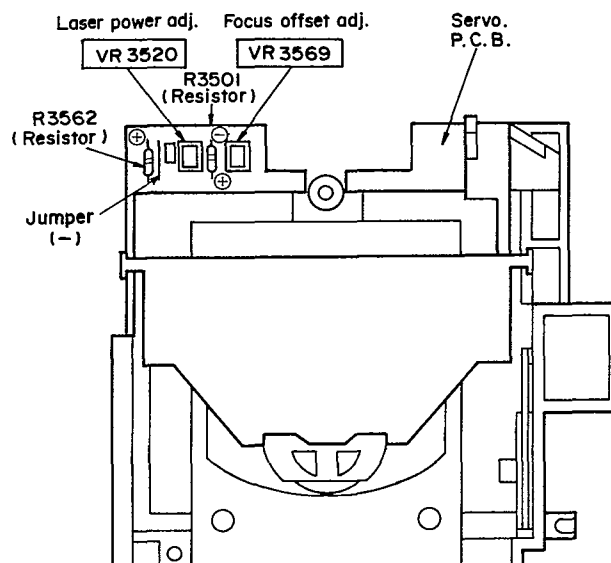
1. Remove the cabinet (see Ref No. 1 of the disassembly instructions).
2. Remove the disc holder (see Ref. No. 7 of the same).
3. Place the test disc on the turntable.
4. Turn "ON" the power switch at the player.
5. Push the bracket of tray SW (S1001) in the direction of the arrow and release it.

Note: If the test disc fails to rotate, press the tray switch again.



ADJUSTMENT POINTS

• Servo P.C.B.



Measuring Instruments

- * Playability test disc (SZZP1054C).
- * Normal disc (Ordinary musical program disc).

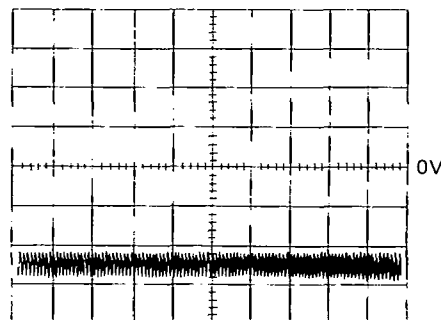
* Dual-beam oscilloscope with bandwidth of 30MHz or better (with EXT trigger and 1:1 probe).

(1) LASER POWER ADJUSTMENT

1. Connect the oscilloscope's CH1 probe across (+) and (-) of R3501 (Resistor) on the servo P.C.B.
2. Switch the player power ON, and play track No. 1 on the test disc (SZZP1054C).
3. Adjust VR3520 so that the voltage is $-50 \pm 2\text{mV}$.

Oscilloscope setting:

VOLT20mV
 SWEEP0.2msec.
 INPUTDC

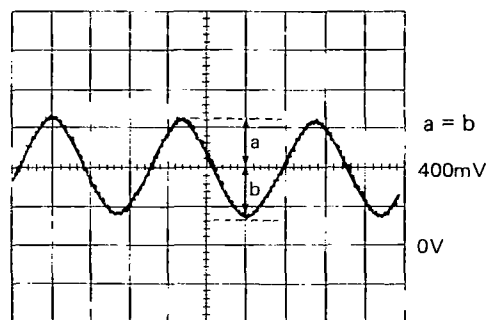


(2) FOCUS OFFSET ADJUSTMENT

1. Connect the oscilloscope's CH1 probe across R3562 (Resistor) (+) and Jumper (-) on the servo P.C.B.
2. Switch the player power ON, and play track No. 1 on the test disc (SZZP1054C).
3. Adjust VR3569 until the signal amplitude become in the center of 400mV.

Oscilloscope setting:

VOLT200mV
 SWEEP5msec.
 INPUTDC



(3) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

* Checking Skip Search

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

* Checking Manual Search

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

* Playability check by test disc

1. Play the 0.7mm black dot and the 0.7mm wedge on the playability test disc (SZZP1054C) and verify that no sound skip or noise occurs.

■ TERMINAL FUNCTION OF IC'S

• IC6501 (482220973234/TDA8808T): Photo diode signal processor

| Pin No. | Mark | I/O Division | Function |
|---------|-----------|--------------|---|
| 1 | GCHF | I | Gain control input of HF amplifier. Current output from HF amplitude detector |
| 2 | Vp | I | Positive supply voltage |
| 3 | HFout | O | HF amplifier and equalizer voltage output |
| 4 | DET | I | HF detector voltage input |
| 5 | Sc | I | Starting up capacitor input |
| 6 | Si/RD | I/O | On/off control (start input); ready signal output (starting up procedure successful) |
| 7 | Beg | I | Equalizer reference current input |
| 8 | Bgc | I | DC and LF gain control reference current input |
| 9 | FOC START | I | Focus normalizing circuit starting current |
| 10 | PLLH | O | PLL on hold output |
| 11 | TL | O | Track loss output |
| 12 | DODS | I | Drop out detector suppression input |
| 13 | Vext | I | Negative supply connection for FE and FElag output stage; also substrate connection |
| 14 | LPF | O | Low pass filter for Iret, used in track loss (TL) detector and LF gain control |

| Pin No. | Mark | I/O Division | Function |
|---------|--------|--------------|--|
| 15 | FE | O | Current output of normalized, switched focus error signal |
| 16 | FElag | O | Current output of switched focus error signal, intended for lag network |
| 17 | LO | O | Laser amplifier current output |
| 18 | LM | I | Laser monitor diode input |
| 19 | GCLF | I | Gain control input for AC and LF amplifiers. Current output from LF amplitude detector |
| 20 | Re2 | O | Summation of amplified currents from D3 and D4 |
| 21 | Re1 | O | Summation of amplified currents from D1 and D2 |
| 22, 23 | D1, D2 | I | Current inputs to DC and LF photo diode amplifier |
| 24, 25 | D3, D4 | I | Current inputs to DC and LF photo diode amplifier |
| 26 | HFin | I | Current input to HF amplifier |
| 27 | GND | — | Ground connection of device |
| 28 | DEC | I | Decoupling input (internal bypass) |

• IC6503 (482220973235/TDA8809T): Radial error signal processor

| Pin No. | Mark | I/O Division | Function |
|---------|----------|--------------|---|
| 1 | Vp | I | Positive supply voltage |
| 2 | Cosc1 | I | Frequency setting capacitors for oscillator |
| 3 | Cosc2 | | |
| 4 | Rwob | I | Wobble generator input |
| 5 | Rosc | I | Biassing resistor for oscillator frequency and internal amplitude |
| 6 | DIV4 | I | Radial error digital signal divided by four |
| 7 | REdig | O | Digital output of sign (Re2 – Re1) |
| 8 | B3 | I | Input control bits for off-, catch-, play-status and DAC output current |
| 9 | B2 | | |
| 10 | B1 | | |
| 11 | B0 | | |
| 12 | Vext (+) | I | Positive external voltage input |
| 13 | Vext (–) | I | Negative external voltage input (also substrate connection) |
| 14 | GND | — | GND terminal |
| 15 | RADout | O | Current output of amplified (Re2 – Re1) input currents |
| 16 | REin | I | Radial error input |
| 17 | RElag | O | Voltage output of integrated (Re2 – Re1) input currents |

| Pin No. | Mark | I/O Division | Function |
|---------|------------|--------------|---|
| 18 | Lag | I | Connection of integrator capacitor for (Re1 – Re2) input currents |
| 19 | Lead | O | Lead output |
| 20 | Vref | I | Internal reference voltage output |
| 21 | AGC | I | Gain control input for radial error signal |
| 22 | RDAC | O | Biassing resistor for current output for track jumping (3 ¹ / ₂ bits) |
| 23 | offset in | I | Offset control input for radial offset |
| 24 | offset off | O | Offset control output for radial offset |
| 25 | CLPF | I | Low-pass filter for Re1 and Re2, used for radial offset control |
| 26 | CHPF | I | High-pass filter for Re1 and Re2, used for radial offset control |
| 27 | Re1 | I | Input for amplified currents from photo diodes D1 and D2 |
| 28 | Re2 | I | Input for amplified currents from photo diodes D3 and D4 |

• IC301 (MN6626): Digital signal processor

| Pin No. | Mark | I/O Division | Function |
|---------|----------------|--------------|---|
| 1 | AVSS | — | GND terminal |
| 2 | IREF | I | Reference current input |
| 3 | ARF | I | RF signal input |
| 4 | DRF | I | DSL bias terminal (Not used, open) |
| 5 | DSL F | I/O | DSL loop filter terminal |
| 6 | PLL F | I/O | PLL loop filter terminal |
| 7 | AVDD | I | Power supply terminal |
| 8 | RSEL | I | RF signal polarity setting terminal (Not used, connected to VDD) |
| 9 16 | TBUS7 TBUS0 | O | Test terminal |
| 17 | FLAG | O | Flag terminal |
| 18 | IPFLAG | O | Interpolation flag terminal |
| 19 | FCLK | O | Crystal frame clock (Not used, open) |
| 20 | BYTCK | O | Byte clock (Not used, open) |
| 21 | WDCK | O | Word clock (Not used, open) |
| 22 | RST | I | Reset terminal |
| 23 | TX | O | Digital audio signal (Not used, open) |
| 24 | LDG | O | Lch deglitch signal (Not used, open) |
| 25 | RDG | O | Rch deglitch signal (Not used, open) |
| 26 | SRDATA | O | Serial data output (MSB first) |
| 27 | SCK | O | Serial bit clock output |
| 28 | LRCK | O | L/R discriminating signal |
| 29 | XCK | O | Crystal OSC terminal (f = 16.9344 MHz) (Not used, open) |
| 30 | PMCK | O | Frequency division clock signal (Not used, open) $(f = \frac{1}{192} \times CK = 88.2 \text{ kHz})$ |
| 31 | CSEL | I | Test terminal (Connected to GND) |
| 32 | PSEL | | |
| 33 | X1 | I | Crystal OSC terminal (f = 16.9344 MHz) |
| 34 | X2 | O | |
| 35 | VSS | — | GND terminal |
| 36 | SUBQ | O | Sub-code Q data |
| 37 | SQCK | I | Sub-code Q register clock |
| 38 | CLDCK | O | Sub-code frame clock (f = 7.35 kHz) (Not used, open) |

| Pin No. | Mark | I/O Division | Function |
|---------|--------|--------------|--|
| 39 | BLKCK | O | Sub-code block clock (f = 75 Hz) |
| 40 | DEMPH | O | De-emphasis ON signal ("H": ON) |
| 41 | MEMP | I | Emphasis signal |
| 42 | MLD | I | Command load signal ("L": LOAD) |
| 43 | MCLK | I | Command clock signal |
| 44 | MDATA | I | Command data signal |
| 45 | D MUTE | I | Muting input ("H": MUTE) |
| 46 | SMCK | O | System clock (f = 4.2336 MHz) |
| 47 | STAT | O | Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK) |
| 48 | CRC | O | Sub-code CRC check terminal ("H": OK, "L": NG) |
| 49 | SUBC | O | Sub-code serial output data (Not used, open) |
| 50 | SBCK | I | Sub-code serial output clock (Not used, open) |
| 51 | TRON | I | Tracking servo ON signal ("L": ON) |
| 52 | CLVS | O | Turntable servo phase synchro signal ("H": CLV, "L": Rough servo) |
| 53 | PC | O | Turntable motor ON signal ("L": ON) |
| 54 | ECM | O | Turntable motor drive signal (Forced mode) |
| 55 | ECS | O | Turntable motor drive signal (Servo error signal) |
| 56 | VDD | I | Power supply terminal |
| 57 | TEST | I | Test terminal (Normal: "H") |
| 58 | SSEL | I | "SUBQ" terminal mode select ("H": Q code buffer) |
| 59 | MSEL | I | "SMCK" terminal frequency select ("L": SMCK = 4.2336 MHz) |
| 60 | RESY | O | Re-synchronizing signal of frame sync. (Not used, open) |
| 61 | DO | I | Drop-out detection signal ("H": Drop-out) (Not used, connected to GND) |
| 62 | EFM | O | EFM signal (Not used, open) |
| 63 | PCK | O | PLL extract clock (f = 4.3218 MHz) (Not used, open) |
| 64 | PDO | O | Phase compared signal of EFM and PCK (Not used, open) |

• IC401 (MN1871617PMC): System control & FL drive

| Pin No. | Mark | I/O Division | Function |
|---------------|-----------------|--------------|---|
| 1 | VDD | I | Power supply terminal |
| 2 | OSC2 | I | System clock input (f=4.2336MHz) |
| 3 | OSC1 | | |
| 4 | VSS | — | GND terminal |
| 5 | XI | I | Radial error digital signal |
| 6 | XO | O | Not Used, open |
| 7 | P47 | I | |
| 8 } 12 | P46 } P42 | I | Key return signal |
| 13 | SYNC REC | O | Synchro rec control |
| 14 | REC ENABLE | I | |
| 15 } 18 | P37 } P34 | — | Not used, open and connected to terminal |
| 19 | P33 | — | Not used, open and connected to terminal |
| 20 | P32 | | |
| 21 | P31 | | |
| 22 | P30 | | |
| 23 | P27 | | |
| 24 | OPEN/CLOSE | O | Loading motor control signal |
| 25 | DMUTE | O | Muting output ("H": MUTE) |
| 26 | SI/RD | I/O | On/off control and ready signal |
| 27 } 30 | B3 } B0 | O | Control bits for off-, catch-, play-status and DAC output current |
| 31 | REMOCON | I | Remote control signal |
| 32 | REDIG | I | Radial error digital signal |
| 33 | MDATA | O | Command data signal |
| 34 | MCLK | O | Command clock signal |
| 35 | MLD | O | Command load signal ("L": LOAD) |

| Pin No. | Mark | I/O Division | Function |
|---------------|--------------------|--------------|---|
| 36 | TL | I | Track loss input |
| 37 | RST | I | Reset terminal |
| 38 | SQCK | O | Sub-code Q register clock |
| 39 | SUBQ | I | Sub-code Q data |
| 40 | TRAY SW | I | Disc holder open/close det. terminal |
| 41 | BLKCK | I | Sub-code block clock (f=75Hz) |
| 42 | DODS | O | Drop-out detect signal |
| 43 | STAT | I | Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK) |
| 44 | P95 | — | Not used, open |
| 45 | CLVS | I | Spindle servo phase synchro signal ("H": CLV, "L": Rough servo) |
| 46 | TRON | O | Tracking servo ON signal ("L": ON) |
| 47 | DIV4 | O | Radial error digital signal divided by four |
| 48 | EMPH | O | Emphasis signal |
| 49 | HFD | I | PLL on hold input |
| 50 | CM | — | Not used, connected to GND |
| 51 | 130Hz | — | Not used, open |
| 52 | VPP | I | Power supply terminal for FL drive |
| 53 } 56 | 16G } 13G | — | Not used, open |
| 57 } 68 | 12G } 1G | O | FL digit signal |
| 69 } 84 | A/P1 } P/P16 | O | FL segment signal and key scan signal |

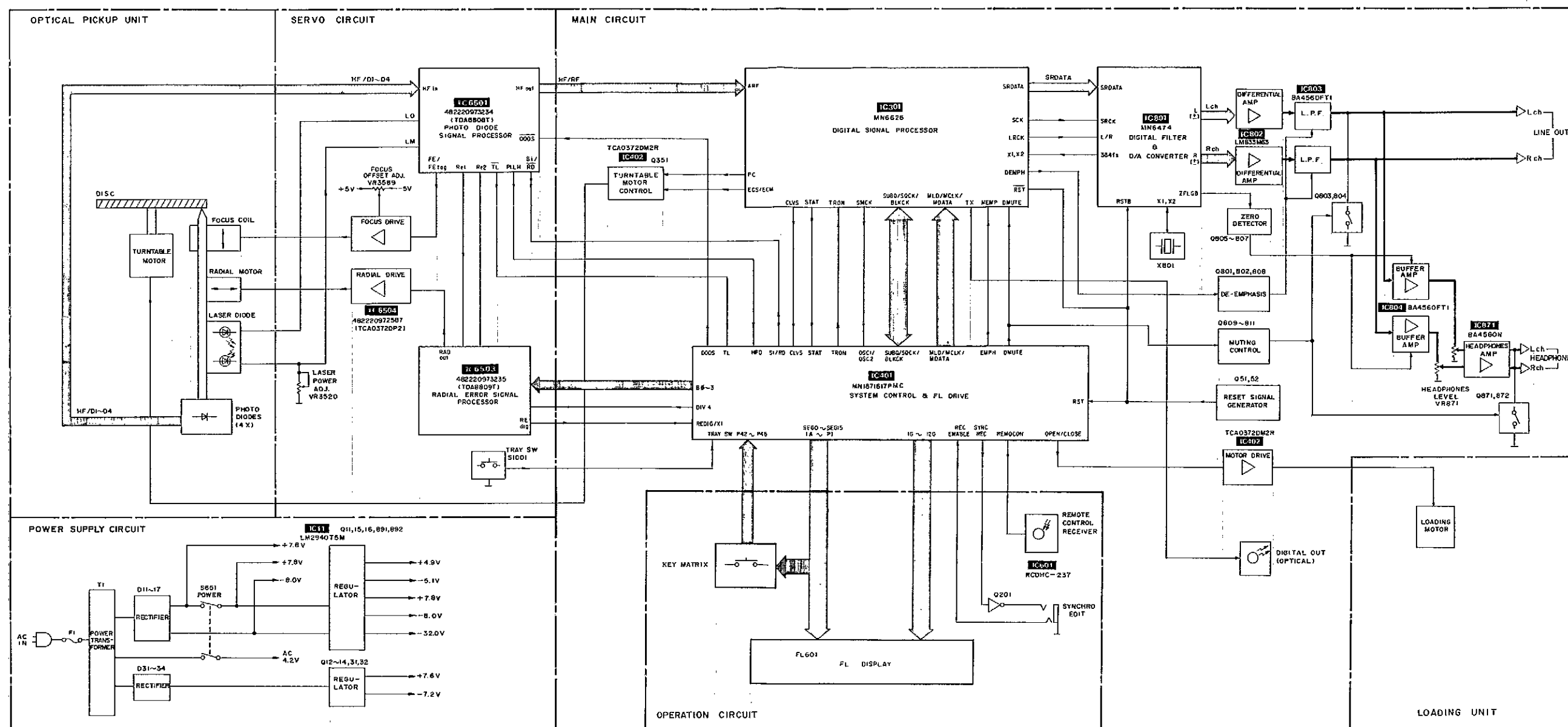
• IC801 (MN6474): Digital filter and D/A converter

| Pin No. | Mark | I/O Division | Function |
|---------|----------|--------------|---|
| 1 | MLD | I | Command load input (load: L) (Not used, connected to VDD) |
| 2 | RSTB | I | Reset terminal |
| 3 | IE | I | Not used, connected to GND |
| 4 | TP1 | — | TEST terminal |
| 5 | TP2 | — | TEST terminal |
| 6 | TEST1 | I | TEST terminal 1 (connected to GND) |
| 7 | TEST2 | I | TEST terminal 2 (connected to GND) |
| 8 | NC | — | Not connected |
| 9 | NC | — | Not connected |
| 10 | AVDD4 | I | Power supply terminal |
| 11 | OUTL (-) | O | Lch data output, (-) terminal |
| 12 | AVSS4 | — | GND terminal |
| 13 | AVSS3 | — | GND terminal |
| 14 | OUTL (+) | O | Lch data output, (+) terminal |
| 15 | AVDD3 | I | Power supply terminal |
| 16 | NC | — | Not connected |
| 17 | AVDD2 | I | Power supply terminal |
| 18 | OUTR (+) | O | Rch data output, (+) terminal |
| 19 | AVSS2 | — | GND terminal (analog system) |
| 20 | AVSS1 | — | GND terminal (analog system) |
| 21 | OUTR (-) | O | Rch data output, (-) terminal |
| 22 | AVDD1 | I | Power supply terminal |
| 23 | DVDD1 | I | Power supply terminal |

| Pin No. | Mark | I/O Division | Function |
|---------|--------|--------------|---|
| 24 | DVSS1 | — | GND terminal (digital system) |
| 25 | X2 | O | Crystal OSC terminal (33MHz) |
| 26 | X1 | I | Crystal OSC terminal (33MHz) |
| 27 | NC | — | Not connected |
| 28 | DVDD2 | I | Power supply terminal |
| 29 | DVSS2 | — | GND terminal (digital system) |
| 30 | NSUB | I | Sub-strate terminal (Not used, connected to VDD) |
| 31 | ZFLGB | O | Zero input detector terminal |
| 32 | 192fs | O | 192fs (8.4672MHz) (Not used, open) |
| 33 | LRPOL | I | LR clock selector (Not used, connected to VDD) |
| 34 | LRCLK | I | LR discrimination signal input |
| 35 | BCLK | I | Serial bit clock input |
| 36 | SRDATA | I | Serial data input (MSB first) |
| 37 | DVSS3 | — | GND terminal (digital system) |
| 38 | DVDD | I | Power supply terminal |
| 39 | 384fs | O | 384fs (16.9344MHz) output |
| 40 | PD | I | Power down terminal (Not used, connected to GND) |
| 41 | MDATA | I | Mode control data (Not used, connected to VDD) |
| 42 | MCLK | I | Data clock for MDATA (not used, connected to VDD) |

■ BLOCK DIAGRAM

Note)
 ● → Audio signal.

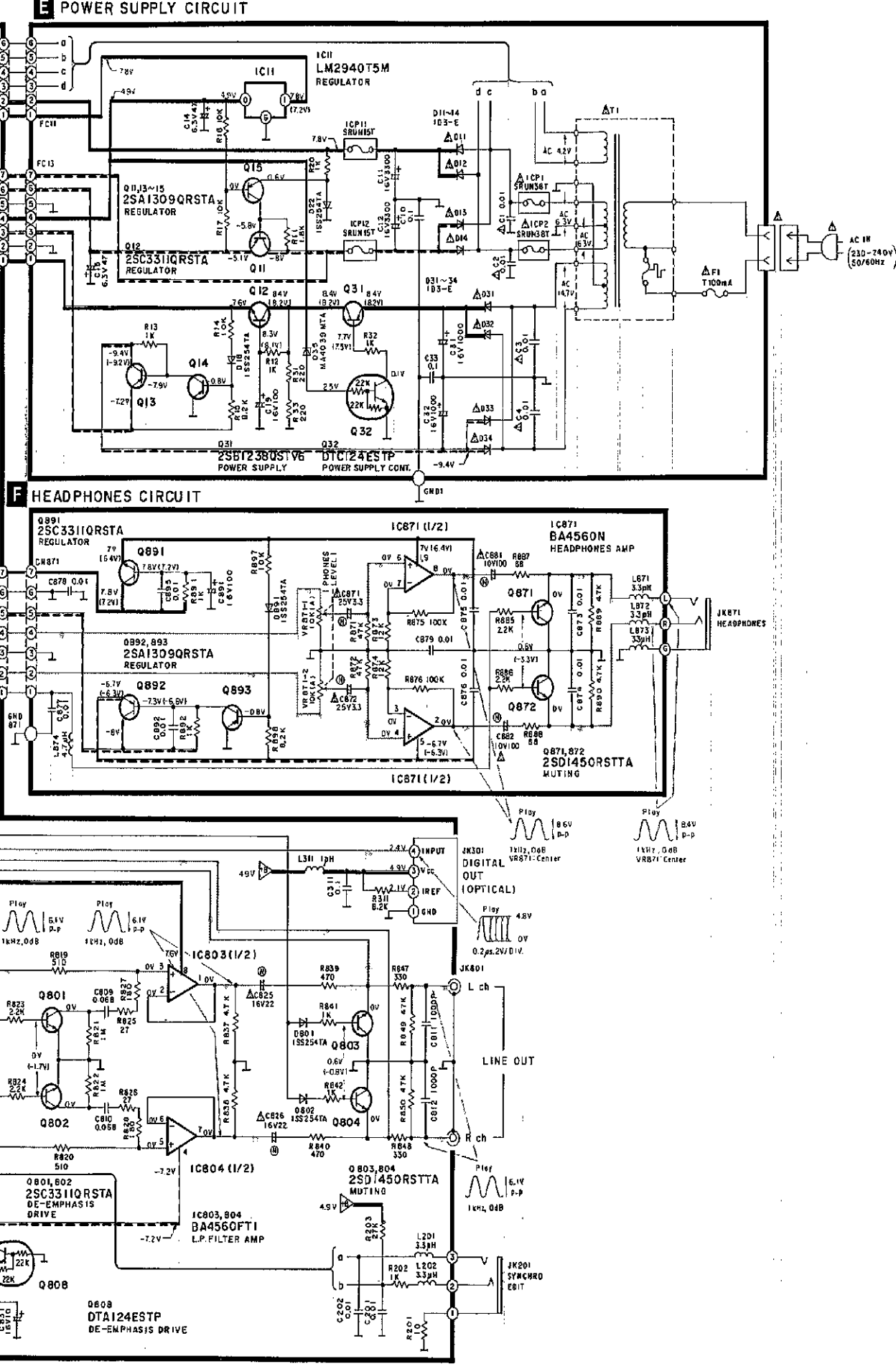
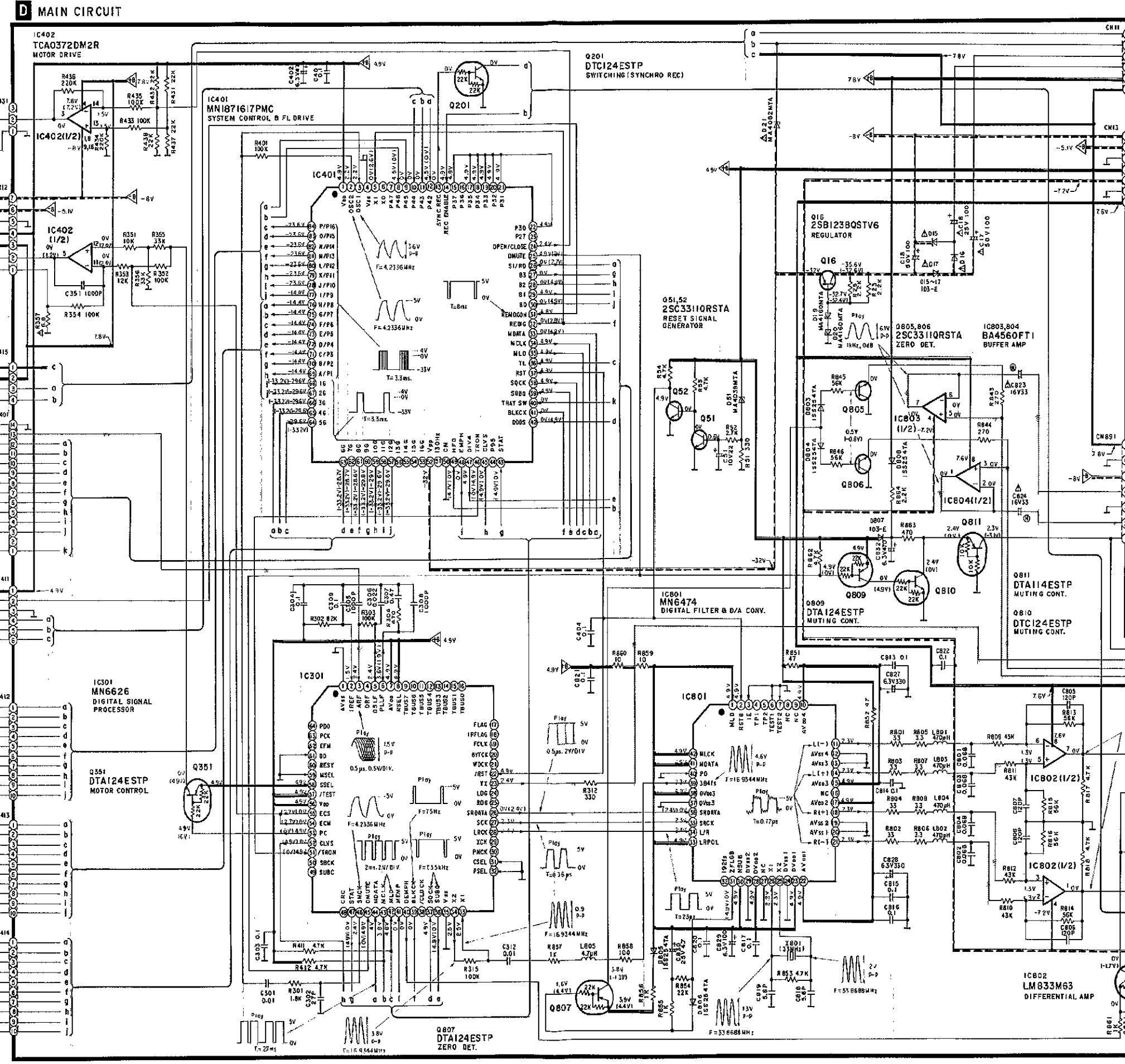
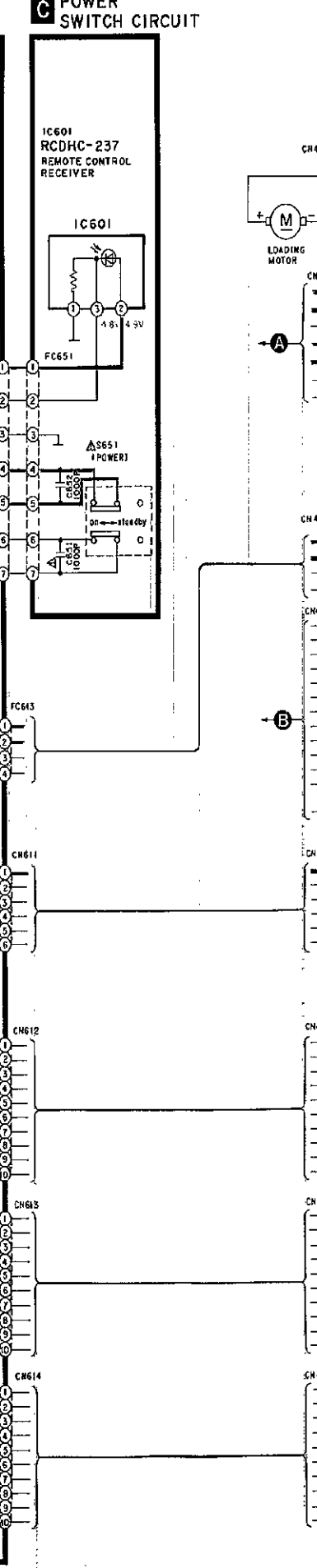
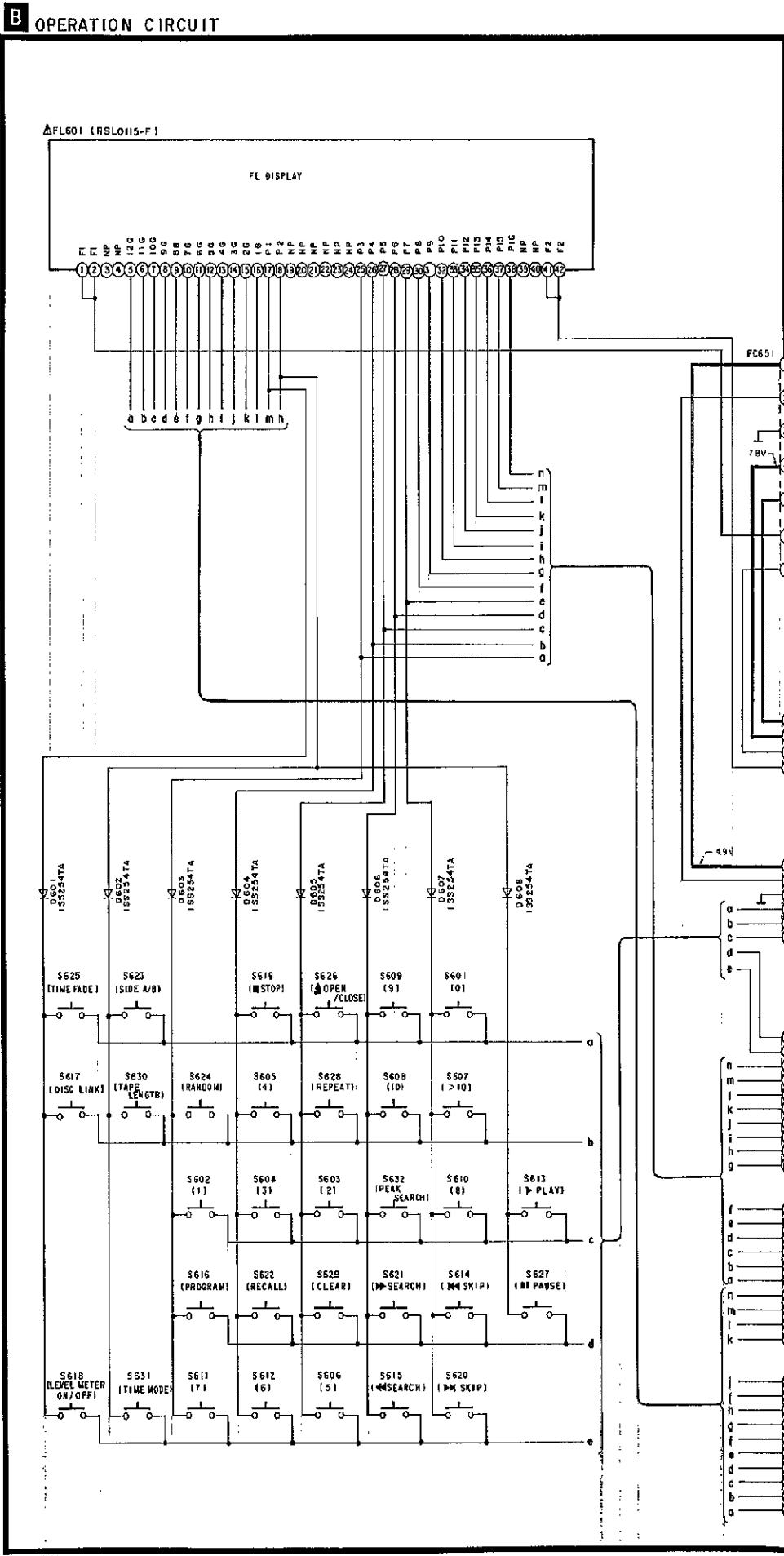


RAD out : Current output of integrated (Re2-Re1) input currents.
 B0~B3 : Control bits for radial circuit.
 D0~D4 : Photodiode currents.
 FE : Focus error signal.
 FE lag : Focus error signal for LAG network.
 HF in : HF amplifier and equalizer voltage output.
 HF out : HF current input.
 LM : Laser monitor diode input.
 LO : Laser amplifier current output.
 Re1 : Radial error signal 1 (summation of amplified currents D3 and D4).
 Re2 : Radial error signal 2 (summation of amplified currents D1 and D2).

RE dig (RE DIG/X1) : Radial error digital.
 RE lag : Radial error signal for LAG network.
 SI/RD : On/off control for laser supply and focus circuit.
 TL : Track loss signal.
 Div4 : Radial error digital divided by four.
 HF/RF/ARF : RF (Audio) signal.
 TRAY SW : Disc holder open/close det. terminal.
 CLVS : Spindle servo phase synchro signal.
 STAT : Status command for CRC etc.
 DMUTE : Data mute command.
 MDATA : Mode control data.
 MLD : Load command for mode control data (Active Low).

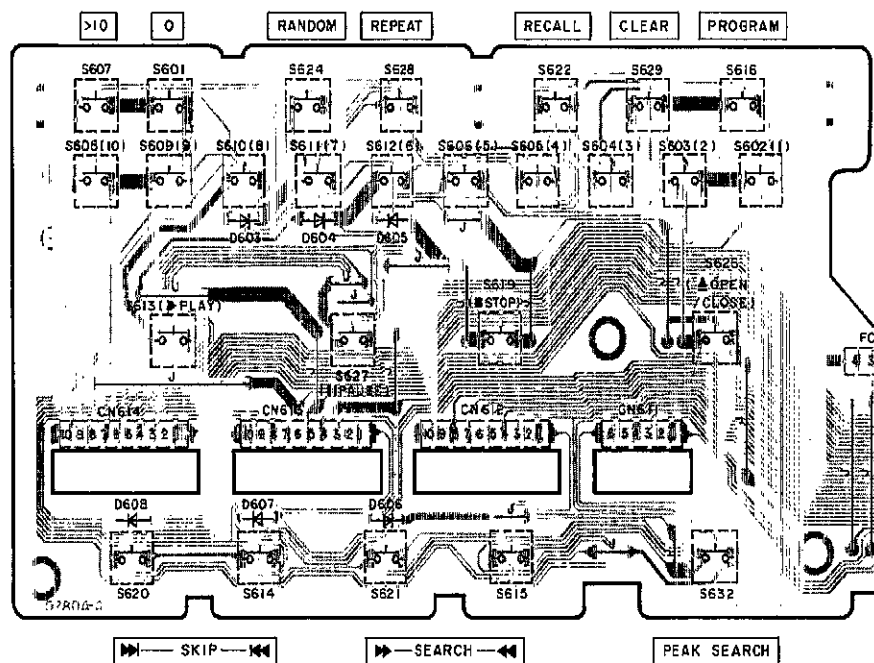
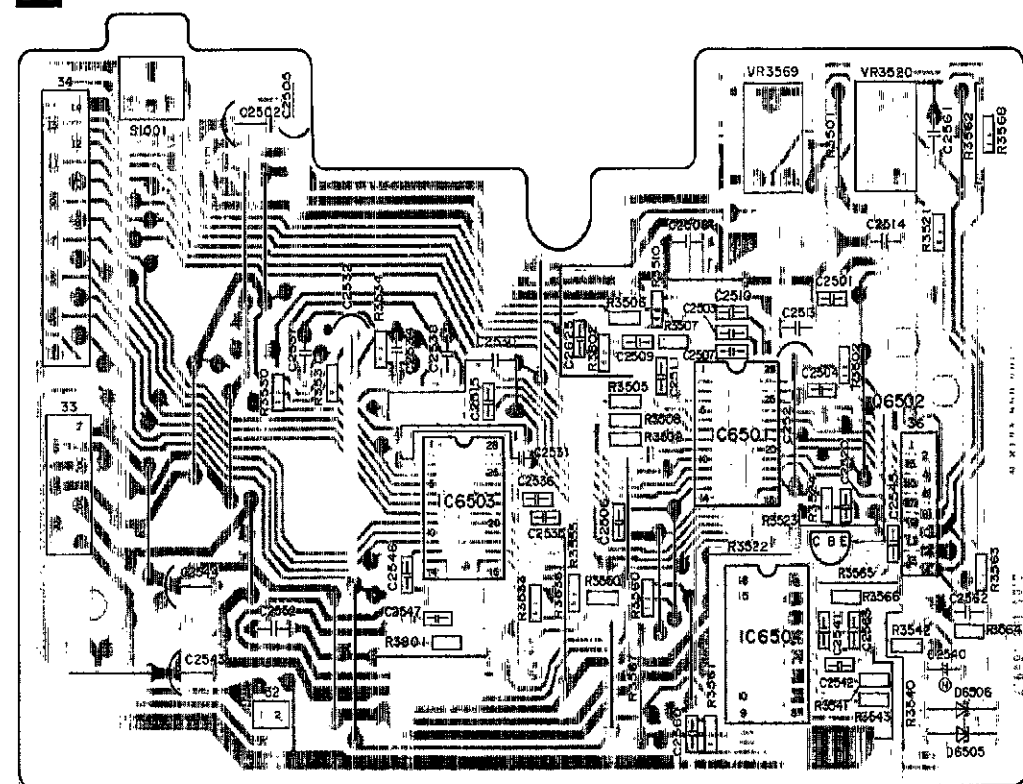
P42~46 : Key return signal.
 1G~12G : FL digit signal.
 SEG0~15 : FL segment signal and key scan signal.
 MCLK : Data clock for MDATA.
 SUBQ : Sub-code Q data.
 CLDCK : Data frame clock (7.35 KHz).
 BLKCK : Sub-code Q data block clock (75Hz).
 SQCK : Sub-code Q register clock.
 RST(RSTB) : Reset command (Active Low).
 TRON : Tracking servo ON command (Active Low).
 ECS/ECM : Turntable motor drive signal.
 PC : Turntable motor ON command (Active Low).
 SMCK : System clock (4.2336MHz).
 OSC1/OSC2 : Digital (optical) signal.

LRCK(L/R) : L/R data discrimination clock (88.2KHz).
 SRDATA : Serial data output (MSB first).
 SCK(SRCK) : Serial bit clock (2.82MHz).
 MEMP/EMPH : De-emphasis command (Active High).
 SYNC REC/ : Synchro rec control.
 REC ENABLE : Synchro rec control.
 REMOCON : Remote control signal.
 384fs/X1, X2 : 384fs (16.9344MHz) signal.
 DEMPH : De-emphasis ON signal.
 L(±) : Lch data signal.
 R(±) : Rch data signal.
 OPEN/CLOSE : Loading motor control signal.
 ZFLGB : Zero input detector.

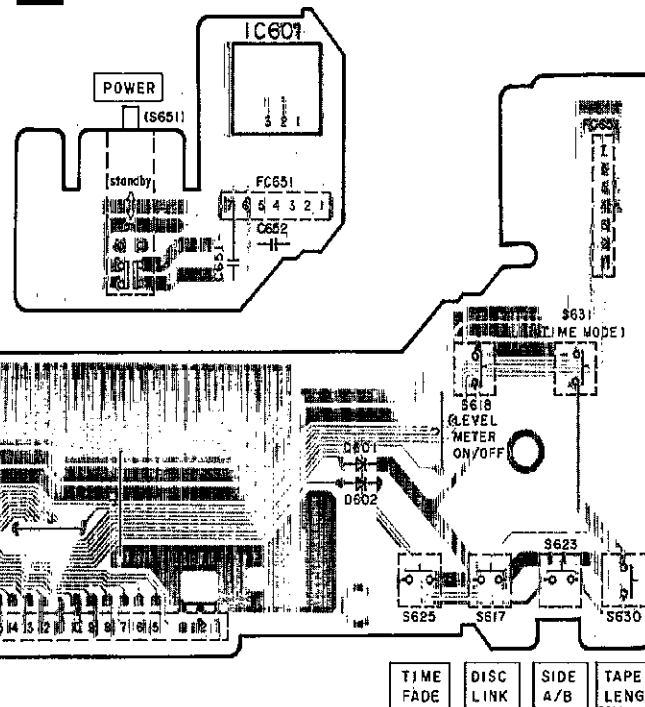


PRINTED CIRCUIT BOARDS

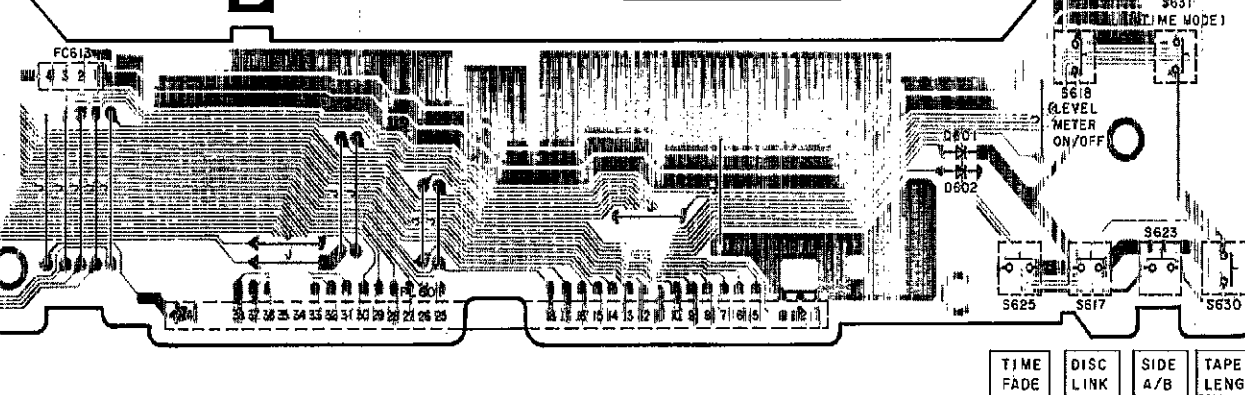
A SERVO P.C.B.



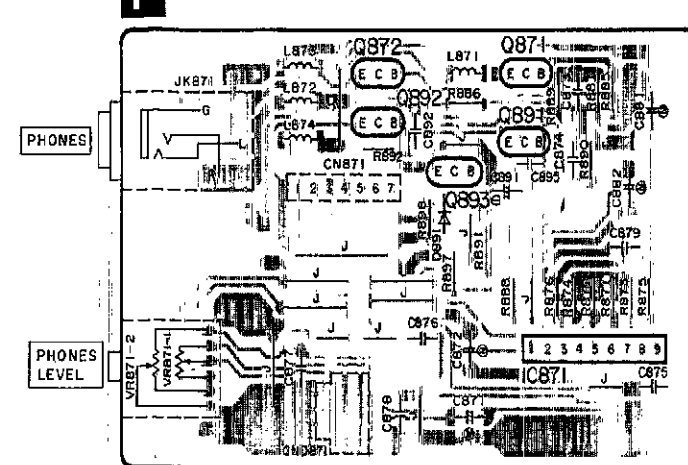
C POWER SWITCH P.C.B.



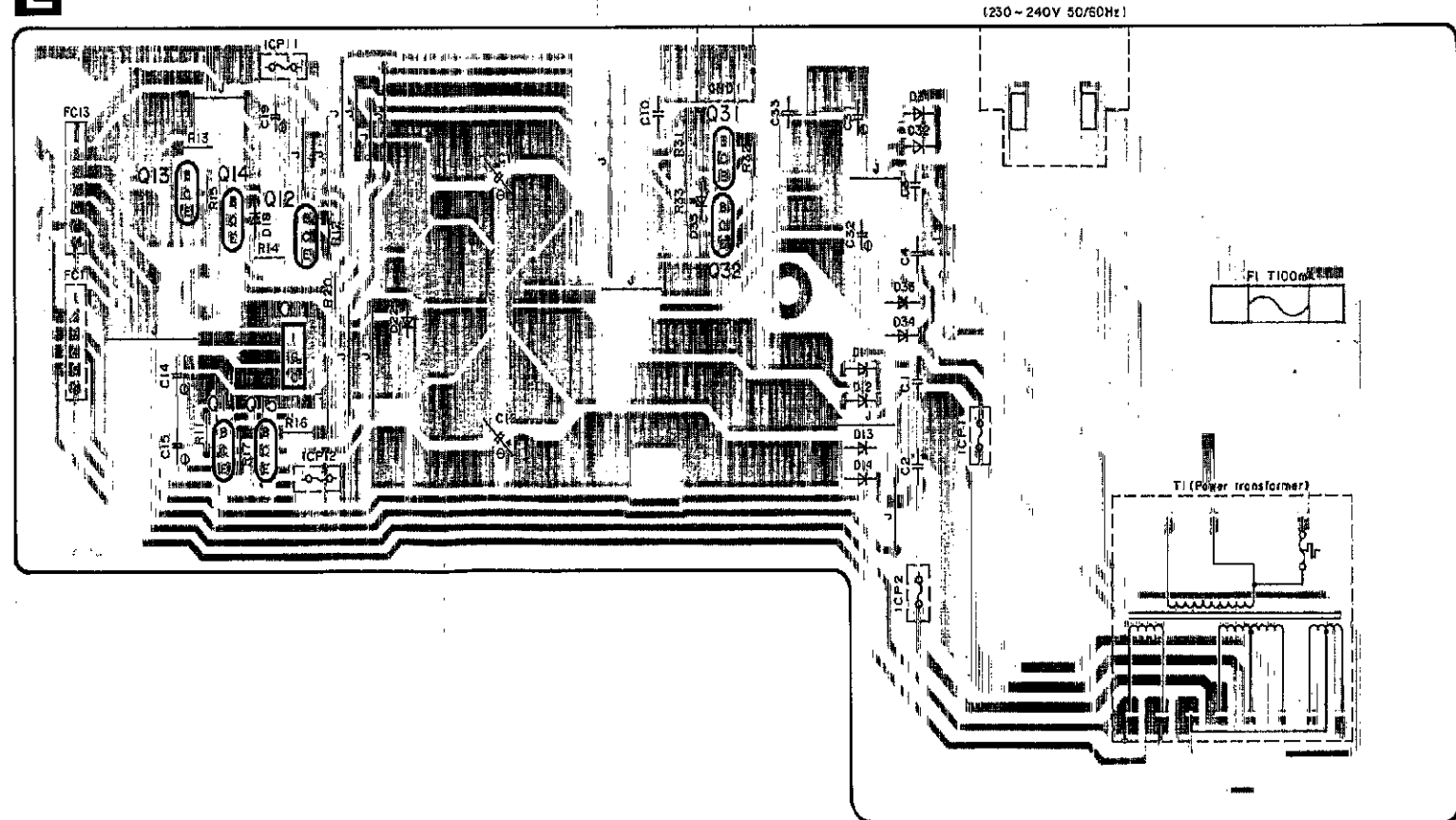
B OPERATION P.C.B.



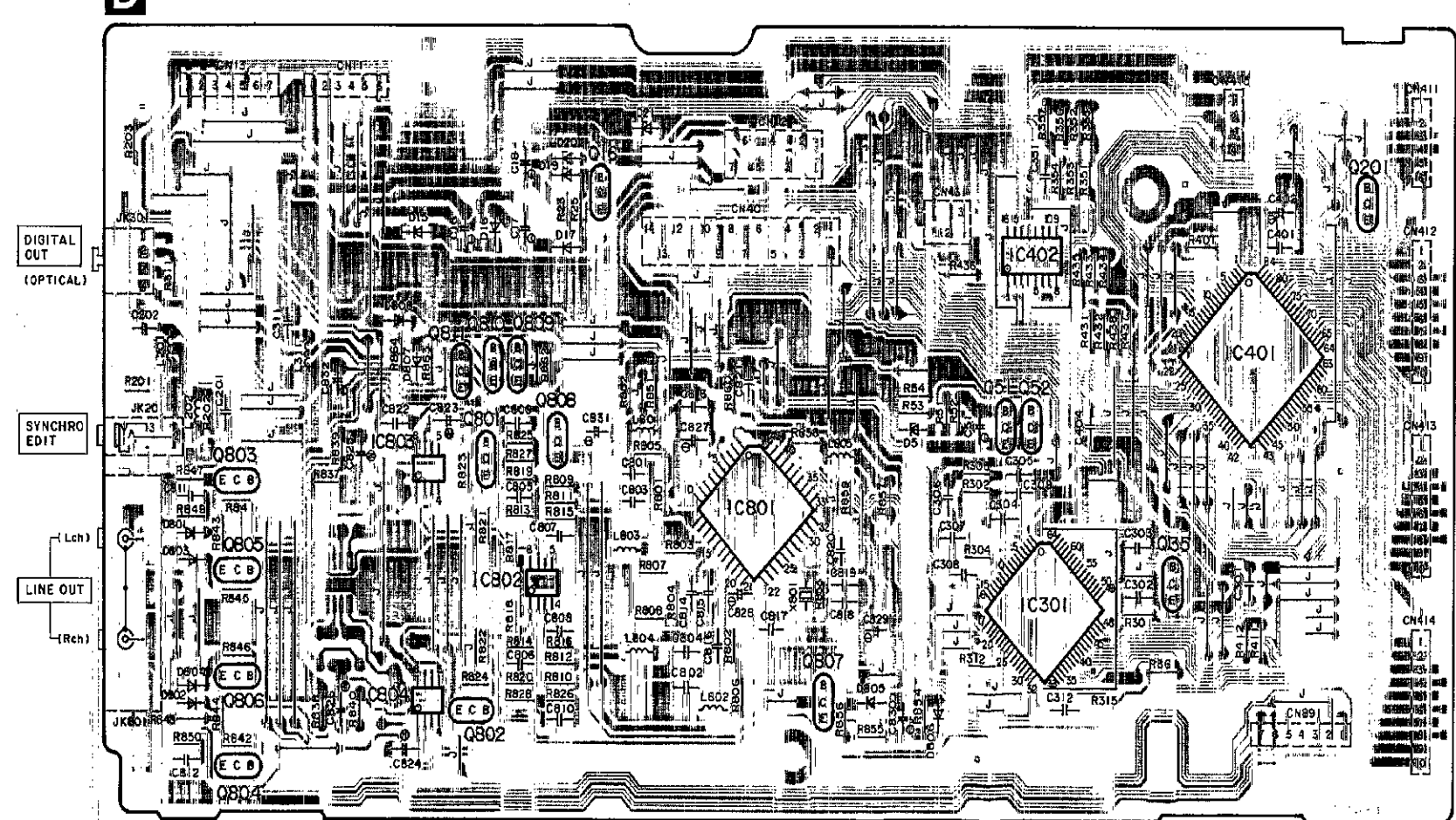
F HEADPHONES P.C.B.



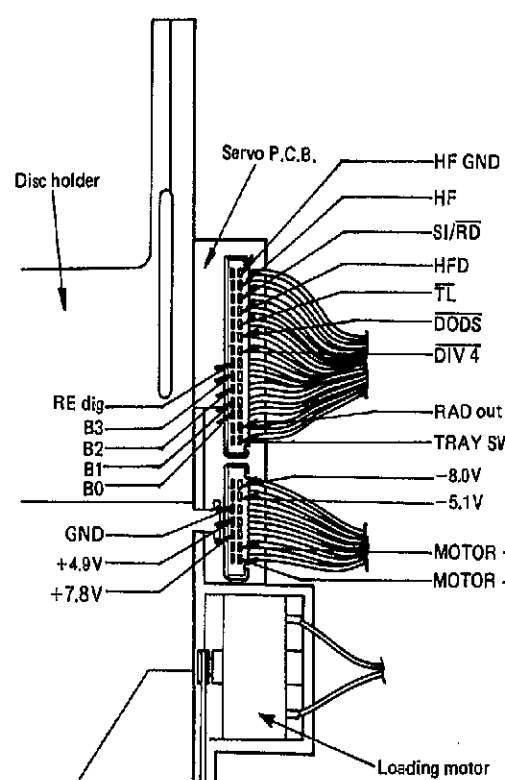
E POWER SUPPLY P.C.B.



D MAIN P.C.B.



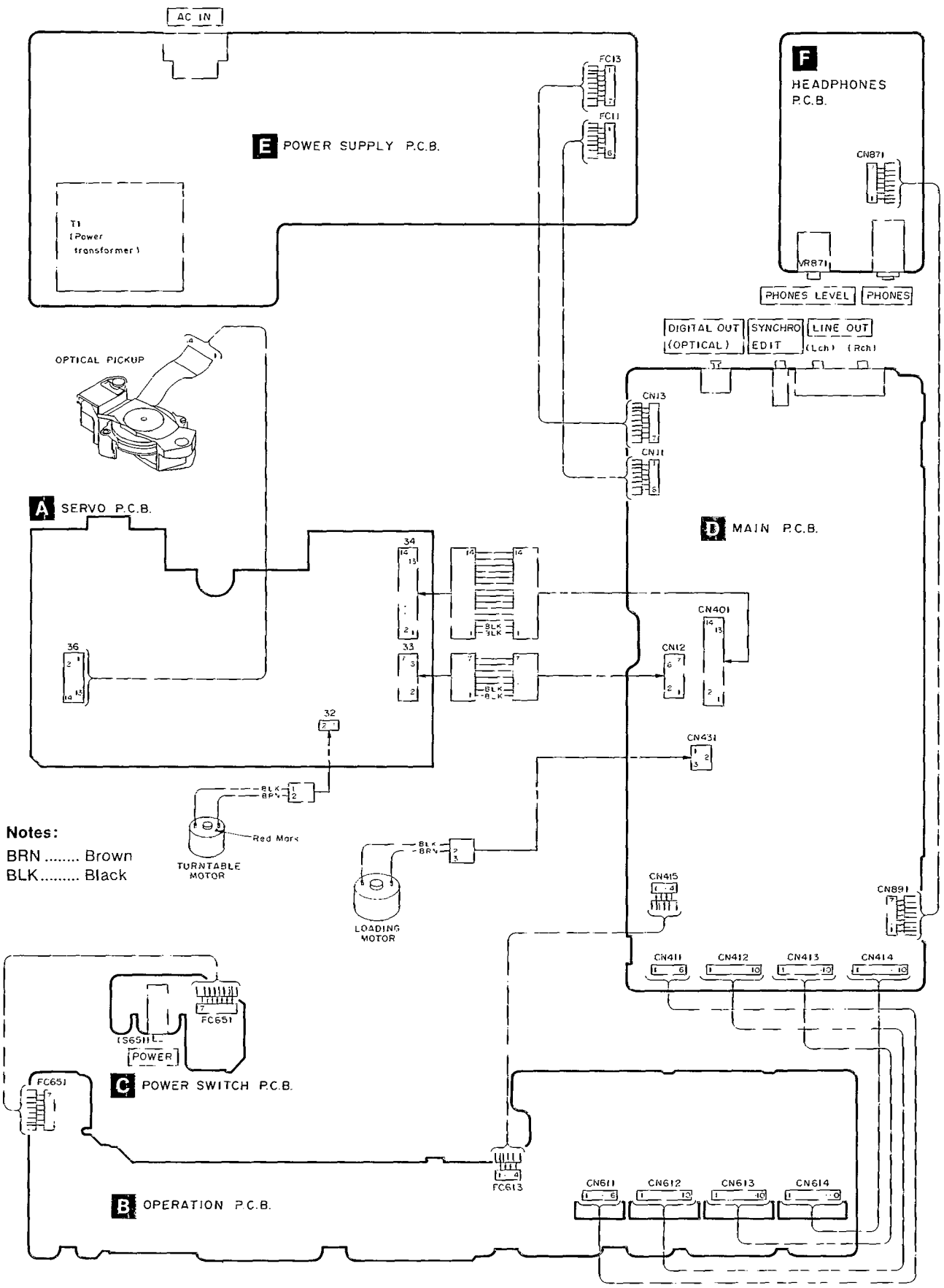
Note: Use connector pins to check servo circuit voltages and waveforms.



TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

| | | |
|------------------|--|--|
| BA4560FT1 | LM833M63 | TCA0372DM2R |
| | 48220973234 (TDA8808T) 48220973235 (TDA8809T) | 48220972587 (TCA0372DP2) |
| MN6474 | MN6625 | MN1871617PMC |
| BA4560N | LM2940T5M | RCDHC-237 |
| | DTA114ESTP DTA124ESTP DTC124ESTP | 2SA1308QRSTA 2SC3111QRSTA 2SD1450RSTTA |
| 2SB1238QSTV6 | 482213044121 (BC338) | 1SS254TA |
| 1D3-E | MA4039MTA MA4082MTA | MA4160MTA 482213030861 (HZ7C2) |

■ WIRING CONNECTION DIAGRAM



Notes:
 BRN Brown
 BLK Black

REPLACEMENT PARTS LIST

Notes: * Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

Parts without these indications can be used for all areas.

* Remote Control Ass'y: Supply period for three years from termination of production.

* [MB] Indicates in Remarks columns parts that are supplied by MBV.

* Warning: This product uses a laser diode. Refer to caution statements on page 3.

* ACHTUNG: Die lasereinheit nicht zerlegen.

Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

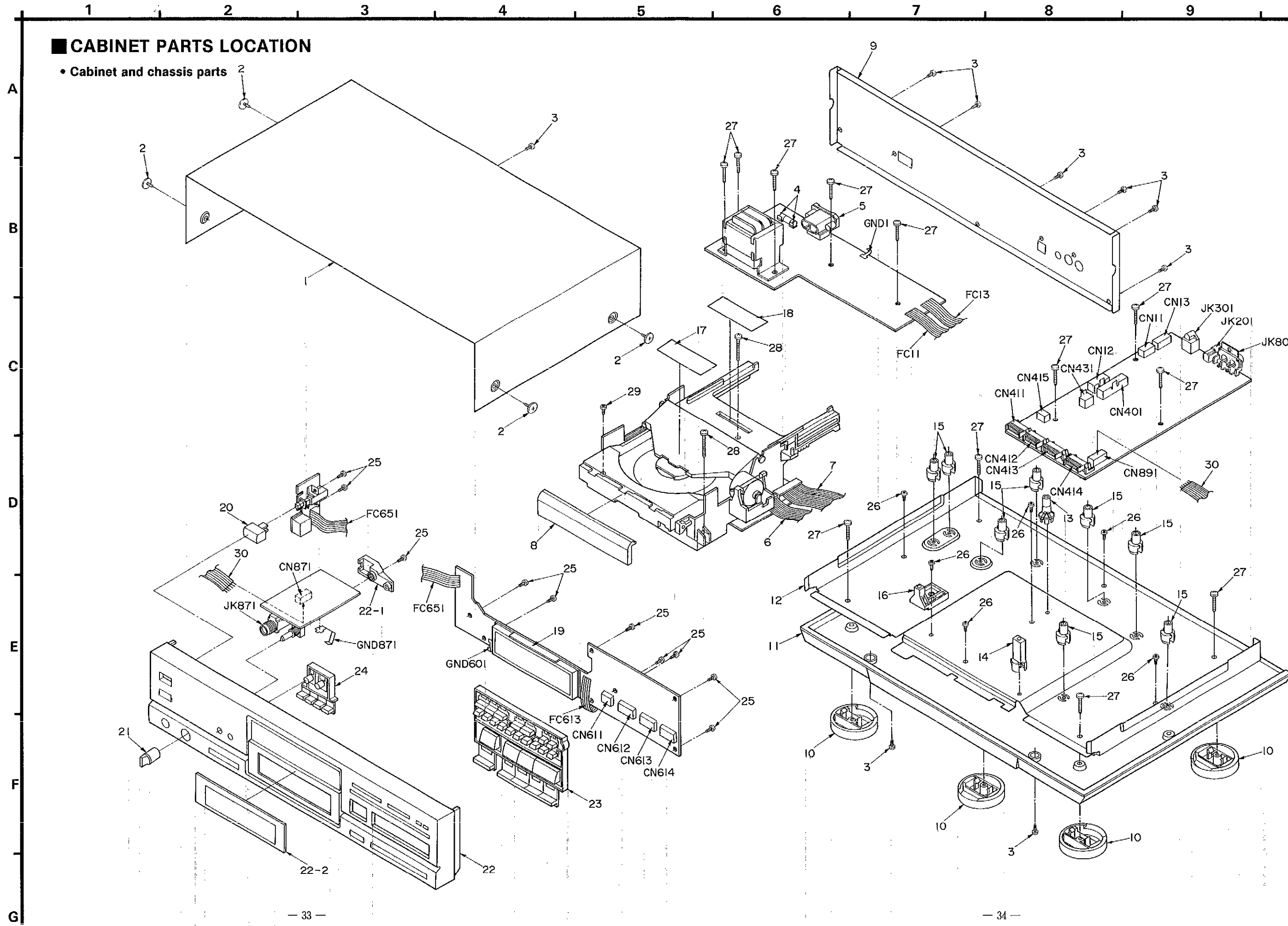
| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|------------|--------------|------------------------------|---------------|-----------|--------------|-------------------------|---------------|
| | | INTEGRATED CIRCUIT(S) | | D801-806 | 1SS254TA | DIODE | |
| | | | | D807 | 1D3-E | DIODE | [MB] |
| | | | | D808 | 1SS254TA | DIODE | |
| | | | | D891 | 1SS254TA | DIODE | |
| IC11 | LM2940T5 | IC, REGULATOR | | | | IC PROTECTOR(S) | |
| IC301 | MN6626 | IC, DIGITAL SIGNAL PROCESSOR | | ICP1, 2 | SRUN38T | IC PROTECTOR | Δ |
| IC401 | MN1871617PMC | IC, SYSTEM CONTROL&FL DRIVE | [MB] | ICP11, 12 | SRUN15 | IC PROTECTOR | |
| IC402 | TCA0372DM2R | IC, MOTOR DRIVE | | | | VARIABLE RESISTOR(S) | |
| IC601 | RCDHC-237 | IC, REMOTE CONTROL RECEIVER | | VR871 | EVJCB0F02A14 | V. R, HEADPHONES LEVEL | |
| IC801 | MN6474 | IC, DIGITAL FILTER&D/A CONV. | | | | COIL(S) | |
| IC802 | LM833M63 | IC, DIFFERENTIAL AMP | | L201, 202 | RLQZN3R3KL-D | COIL | [MB] |
| IC803, 804 | SV1BA4560FT1 | IC, L. P. FILTER AMP | | L311 | RLQZN1R0KL-D | COIL | |
| IC871 | BA4560N | IC, HEADPHONES AMP | | L801-804 | RLQZN471KL-D | COIL | [MB] |
| | | TRANSISTOR(S) | | L805 | RLQZN4R7KL-D | COIL | |
| Q11 | 2SA1309A-R | TRANSISTOR | | L871-873 | RLQZN3R3KL-D | COIL | [MB] |
| Q12 | 2SC3311A-Q | TRANSISTOR | | L874 | RLQZN4R7KL-D | COIL | |
| Q13-15 | 2SA1309A-R | TRANSISTOR | | | | TRANSFORMER(S) | |
| Q16 | 2SB1238QSTV6 | TRANSISTOR | | T1 | RTP1K4B008 | TRANSFORMER | Δ [MB] |
| Q31 | 2SB1238QSTV6 | TRANSISTOR | | | | OSCILLATOR(S) | |
| Q32 | DTC124EST | TRANSISTOR | | X801 | RSXA33M8J01T | OSCILLATOR (33MHz) | [MB] |
| Q51, 52 | 2SC3311A-Q | TRANSISTOR | | | | DISPLAY TUBE | |
| Q201 | DTC124EST | TRANSISTOR | | FL601 | RSL0115-F | DISPLAY TUBE | Δ [MB] |
| Q351 | DTA124ESTP | TRANSISTOR | | | | FUSE(S) | |
| Q801, 802 | 2SC3311A-Q | TRANSISTOR | | F1 | XBA2C01T80 | FUSE 250V T100mA | Δ |
| Q803, 804 | 2SD1450RTA | TRANSISTOR | | | | SWITCH(ES) | |
| Q805, 806 | 2SC3311A-Q | TRANSISTOR | | S601 | EVQ21405R | SW, NUMERIC 0 | |
| Q807-809 | DTA124ESTP | TRANSISTOR | | S602 | EVQ21405R | SW, NUMERIC 1 | |
| Q810 | DTC124EST | TRANSISTOR | | S603 | EVQ21405R | SW, NUMERIC 2 | |
| Q811 | DTA114ESTP | TRANSISTOR | | S604 | EVQ21405R | SW, NUMERIC 3 | |
| Q871, 872 | 2SD1450RTA | TRANSISTOR | | | | | |
| Q891 | 2SC3311A-Q | TRANSISTOR | | | | | |
| Q892, 893 | 2SA1309A-R | TRANSISTOR | | | | | |
| | | DIODE(S) | | | | | |
| D11-17 | 1D3-E | DIODE | Δ [MB] | | | | |
| D18 | 1SS254TA | DIODE | | | | | |
| D19, 20 | MA4160M | DIODE | | | | | |
| D21 | MA4082MTA | DIODE | Δ | | | | |
| D22 | 1SS254TA | DIODE | | | | | |
| D31-34 | 1D3-E | DIODE | Δ [MB] | | | | |
| D35 | MA4039MTA | DIODE | | | | | |
| D51 | MA4039MTA | DIODE | | | | | |
| D601-608 | 1SS254TA | DIODE | | | | | |

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|-----------|--------------|--------------------------|---------|----------|--------------|--------------------------|---------|
| S605 | EVQ21405R | SW, NUMERIC 4 | | | | | |
| S606 | EVQ21405R | SW, NUMERIC 5 | | | | EARTH CONTACT(S) | |
| S607 | EVQ21405R | SW, NUMERIC 10 | | | | | |
| S608 | EVQ21405R | SW, NUMERIC 10 | | GND1 | SUSD144 | EARTH CONTACT | |
| S609 | EVQ21405R | SW, NUMERIC 9 | | GND601 | SUSD144 | EARTH CONTACT | |
| S610 | EVQ21405R | SW, NUMERIC 8 | | GND871 | RMCD075 | EARTH CONTACT | [MB] |
| S611 | EVQ21405R | SW, NUMERIC 7 | | | | | |
| S612 | EVQ21405R | SW, NUMERIC 6 | | | | FLAT CABLE(S) | |
| S613 | EVQ21405R | SW, PLAY | | | | | |
| S614 | EVQ21405R | SW, SKIP (B) | | FC11 | RWJ1806100KX | FLAT CABLE (6P) | [MB] |
| S615 | EVQ21405R | SW, SEARCH (B) | | FC13 | RWJ1807100KX | FLAT CABLE (7P) | [MB] |
| S616 | EVQ21405R | SW, PROGRAM | | FC613 | RWJ1804150XX | FLAT CABLE (4P) | [MB] |
| S617 | EVQ21405R | SW, LINK | | FC651 | RWJ1807150XX | FLAT CABLE (7P) | [MB] |
| S618 | EVQ21405R | SW, LEVEL METER ON/OFF | | | | | |
| S619 | EVQ21405R | SW, STOP | | | | | |
| S620 | EVQ21405R | SW, SKIP (F) | | | | SERVO P. C. B. | |
| S621 | EVQ21405R | SW, SEARCH (F) | | | | INTEGRATED CIRCUIT(S) | |
| S622 | EVQ21405R | SW, RECALL | | | | | |
| S623 | EVQ21405R | SW, SIDE A/B | | IC6501 | 482220973234 | I. C. PHOTO DIODE S. P. | [MB] |
| S624 | EVQ21405R | SW, RANDOM | | IC6503 | 482220973235 | I. C. RADIAL ERROR S. P. | [MB] |
| S625 | EVQ21405R | SW, TIME FADE | | IC6504 | 482220972587 | I. C. FOCUS/RADIAL DRIVE | [MB] |
| S626 | EVQ21405R | SW, OPEN/CLOSE | | | | | |
| S627 | EVQ21405R | SW, PAUSE | | | | TRANSISTOR(S) | |
| S628 | EVQ21405R | SW, REPEAT | | | | | |
| S629 | EVQ21405R | SW, CLEAR | | Q6502 | 482213044121 | TRANSISTOR | [MB] |
| S630 | EVQ21405R | SW, TAPE LENGTH | | | | | |
| S631 | EVQ21405R | SW, TIME MODE | | | | DIODE(S) | |
| S632 | EVQ21405R | SW, PEAK SEARCH | | | | | |
| S651 | RSP2B010 | SW, POWER | A | D6505 | 482213030861 | DIODE | [MB] |
| | | | | D6506 | 482213030861 | DIODE | [MB] |
| | | CONNECTOR(S) & SOCKET(S) | | | | VARIABLE RESISTOR(S) | |
| CN11 | RJS1A6606 | CONNECTOR (6P) | | VR3520 | 482210110685 | V. R. LASER POWER ADJ. | [MB] |
| CN12 | RJT001H007 | CONNECTOR (7P) | [MB] | VR3569 | 482210011193 | V. R. FOCUS OFFSET ADJ. | [MB] |
| CN13 | RJS1A6607 | CONNECTOR (7P) | [MB] | | | SWITCH | |
| CN401 | RJT001H014 | CONNECTOR (14P) | [MB] | | | | |
| CN411 | RJC003K006M1 | SOCKET (6P) | | S1001 | 482227612523 | SW, TRAY | [MB] |
| CN412-414 | RJU003K010M1 | SOCKET (10P) | | | | | |
| CN415 | RJS1A6604 | CONNECTOR (4P) | | | | | |
| CN431 | RJT001H003 | CONNECTOR (3P) | [MB] | | | | |
| CN611 | RJT003K006M1 | CONNECTOR (6P) | | | | | |
| CN612 614 | RJT003K010M1 | CONNECTOR (10P) | | | | | |
| CN871 | RJS1A6607 | CONNECTOR (7P) | [MB] | | | | |
| CN891 | RJS1A6607 | CONNECTOR (7P) | [MB] | | | | |
| | | JACK(S) | | | | | |
| JK201 | RJJ33701 | SYNCHRO EDIT | | | | | |
| JK301 | TOTX174-A | DIGITAL (OPTICAL) OUT | | | | | |
| JK801 | RJH3201N | LINE OUT | | | | | |
| JK871 | QJA0455ZC A | HEADPHONES | | | | | |

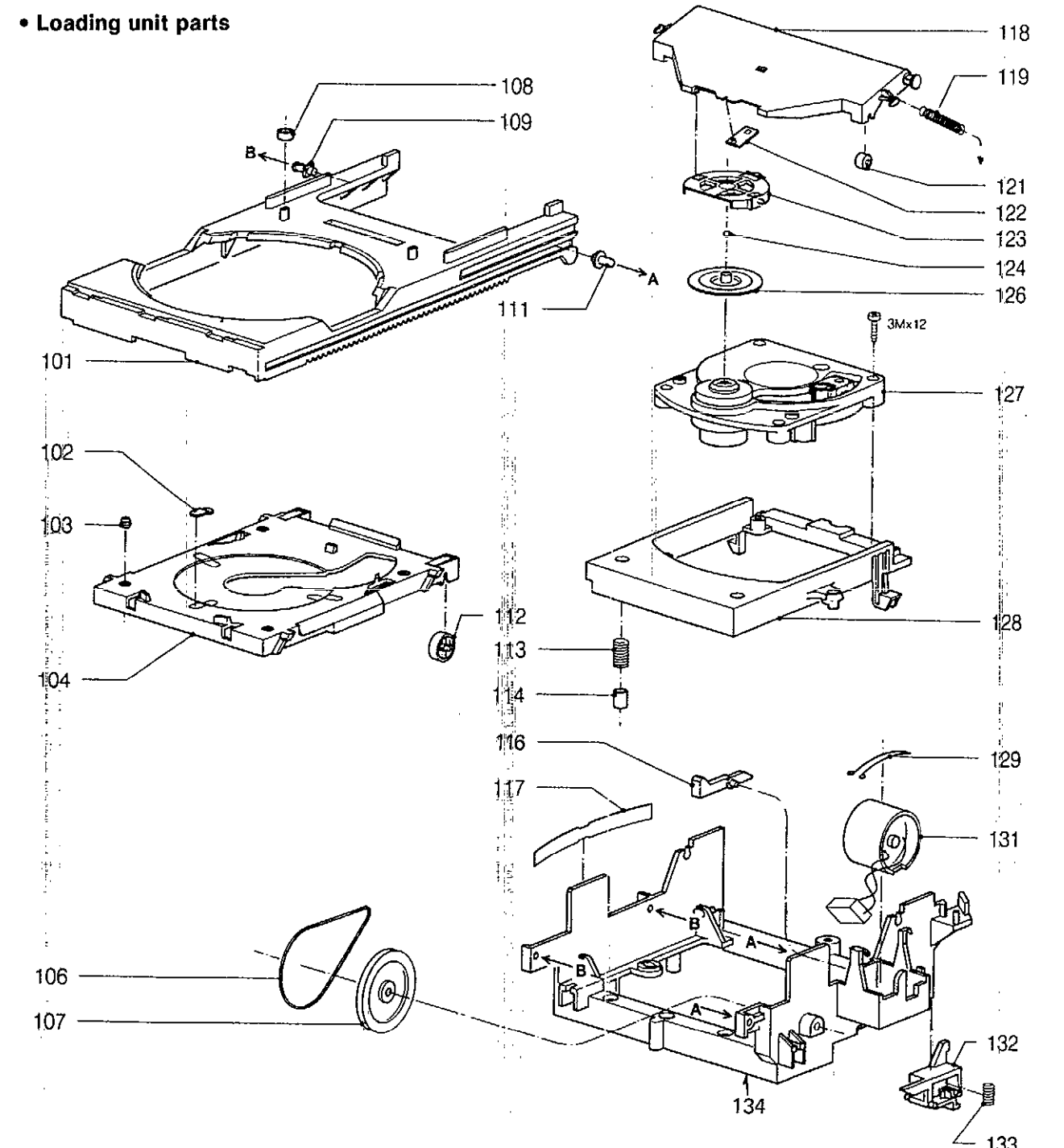
| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|---------------|-------------------------|--------------|----------|--------------|----------------------------|-----------|
| | | CABINET AND CHASSIS | | 117 | 482249263659 | SPRING, BLADE | [MB] |
| | | | | 118 | 482244460568 | DISC LID | [MB] |
| | | | | 119 | 482249232883 | SPRING, TENSION | [MB] |
| 1 | RKMO152-K | CABINET | [MB] | 121 | 482252890639 | ROLLER | [MB] |
| 2 | SNE2129-1 | SCREW | | 122 | 482246692257 | PLATE | [MB] |
| 3 | XTBS3+8JFZ1 | SCREW | | 123 | 482240261207 | HOLDER | [MB] |
| 4 | EYF52BC | FUSE HOLDER | | 124 | 482252040177 | SMALL BALL | [MB] |
| 5 | SJS9236 | AC INLET | △ | 126 | 482253080503 | RING, PRESSURE | [MB] |
| 6 | REX0007 | CONNECTOR ASS' Y (7P) | [MB] | 127 | 482269130209 | OPTICAL PICKUP UNIT | [MB] |
| 7 | REX0285 | CONNECTOR ASS' Y (14P) | [MB] | 128 | 482240261196 | SUPPORT | [MB] |
| 8 | RGK0463-K | TRAY ORNAMENT | [MB] | 129 | 482249263746 | CLAMPING SPRING | [MB] |
| 9 | RFKHLPS620AE | REAR PANEL ASS' Y | (E, EG) [MB] | 131 | 482236120998 | LOADING MOTOR | [MB] |
| 9 | RFKHLPS620AEB | REAR PANEL ASS' Y | (EB) [MB] | 132 | 482240250244 | BRACKET | [MB] |
| 10 | RKA0040B | FOOT | [MB] | 133 | 482249251935 | SPRING, COMPRES. | [MB] |
| 11 | RKU0040-K | CHASSIS BASE | [MB] | 134 | 482270112729 | CHASSIS | [MB] |
| 12 | FMK0146 | CHASSIS | [MB] | | | PACKING MATERIAL | |
| 13 | FMRO020 | SPACER (A) | [MB] | P1 | RPG1140 | PACKING CASE | [MB] |
| 14 | FMRO021 | SPACER (B) | [MB] | P2 | RPN0591 | CUSHION | [MB] |
| 15 | FMRO377 | P. C. B. SUPPORT | [MB] | P3 | FMRO024 | LOCK SHAFT | [MB] |
| 16 | FMRO573-K | SPACER (C) | [MB] | P4 | RQCA0059 | LOCK CAUTION SHEET | [MB] |
| 17 | RQLS0022 | LASER CAUTION LABEL | [MB] | P5 | XZB60X65A01Z | PROTECTION BAG (UNIT) | |
| 18 | RQLS0060 | LASER CAUTION LABEL | [MB] | P6 | XZB23X35C03 | PROTECTION BAG (F. B.) | |
| 19 | FMRO523 | FL HOLDER | [MB] | | | ACCESSORIES | |
| 20 | RGU0030 | POWER BUTTON | | A1 | RFKSLPS620AE | INSTRUCTION MANUAL ASS' Y | (E) [MB] |
| 21 | RGW0048 | HEADPHONES LEVEL KNOB | | A1 | RQT1396-B | INSTRUCTION MANUAL | (EB) [MB] |
| 22 | RFKGLPS620AE | FRONT PANEL ASS' Y | [MB] | A1 | RQT1397-D | INSTRUCTION MANUAL | (EG) [MB] |
| 22-1 | FMRO512 | HEADPHONES HOLDER | [MB] | A2 | RJA0018-1K | AC POWER SUPPLY CORD | (E, EG) △ |
| 22-2 | RKWO197-R | WINDOW | [MB] | A2 | SJA193 | AC POWER SUPPLY CORD | (EB) △ |
| 23 | RGU0711-K | MAIN BUTTON | [MB] | A3 | RQA0013 | WARRANTY CARD | |
| 24 | RGU0712-K | SUB BUTTON | [MB] | A4 | RQCB0169 | SERVICENTER LIST | |
| 25 | XTBS26+8J | SCREW | | A5 | SJP2249-3 | STEREO CONNECTION CABLE | |
| 26 | XTB3+10GFZ | SCREW | | A6 | EUR64798 | REMOTE CONTROL TRANSMITTER | [MB] |
| 27 | XTB3+20JFZ | SCREW | | A6-1 | UR64EC804 | BATTERY COVER | |
| 28 | XTB3+35JFZ | SCREW | | | | | |
| 29 | XTB3+8JFZ | SCREW | | | | | |
| 30 | RWJ1807480XX | FLAT CABLE (7P) | [MB] | | | | |
| | | LOADING UNIT PARTS | | | | | |
| 101 | 482244450603 | DISC HOLDER | [MB] | | | | |
| 102 | 482232550176 | GROMMET, CABLE | [MB] | | | | |
| 103 | 482232550177 | GROMMET, CABLE | [MB] | | | | |
| 104 | 482246692251 | DISC TRAY | [MB] | | | | |
| 106 | 482235810115 | DRIVE BELT | [MB] | | | | |
| 107 | 482252232359 | WHEEL, GEAR | [MB] | | | | |
| 108 | 482253251518 | RING, RUBBER | [MB] | | | | |
| 109 | 482240261081 | GUIDE | [MB] | | | | |
| 111 | 482240261132 | GUIDE | [MB] | | | | |
| 112 | 482252890638 | ROLLER | [MB] | | | | |
| 113 | 482249251902 | SPRING, COMPRES. | [MB] | | | | |
| 114 | 482246661587 | FOAM | [MB] | | | | |
| 116 | 482240261107 | LEVER | [MB] | | | | |

CABINET PARTS LOCATION

• Cabinet and chassis parts



• Loading unit parts

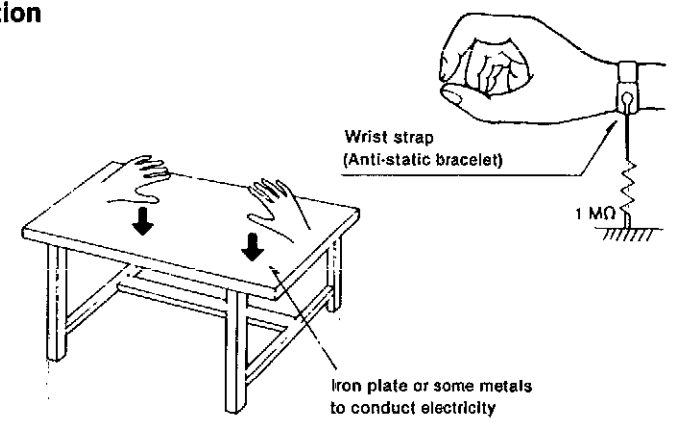


• Grounding for electrostatic breakdown prevention

1. Human body grounding
Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the optical pickup.



RESISTORS & CAPACITORS

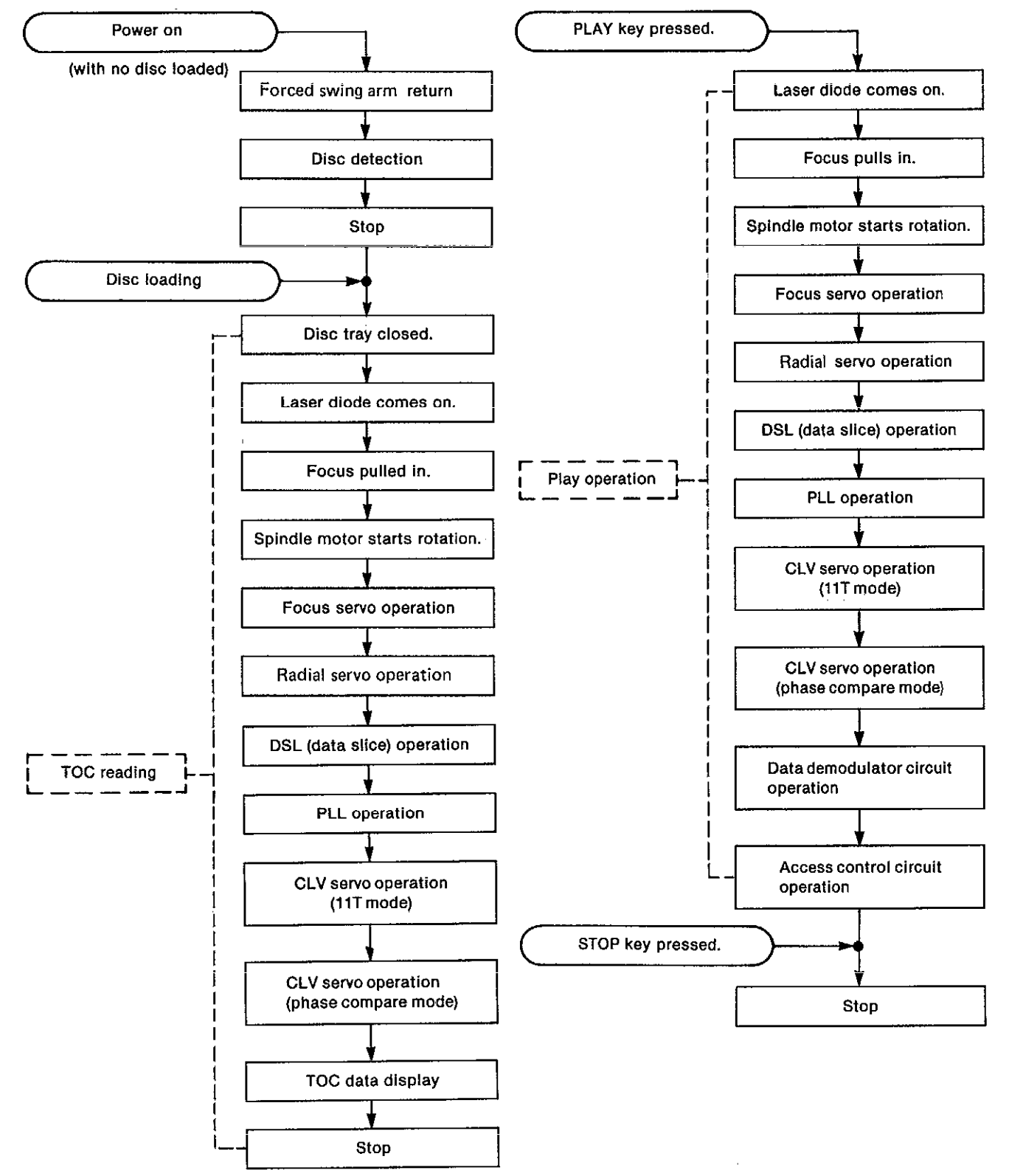
Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k(OHM)
 * [MB]Indicates in Remarks columns parts that are supplied by MBV.

| Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks |
|-----------|-------------|------------------|-----------|-------------|------------------|-----------|--------------|------------------|
| RESISTORS | | | | | | | | |
| R11 | ERDS2TJ182 | 1/4W 1.8K | R825, 826 | ERDS2TJ270T | 1/4W 27 | C308 | ECBT1H102KB5 | 50V 1000P |
| R12, 13 | ERDS2TJ102 | 1/4W 1K | R827, 828 | ERDS2TJ181T | 1/4W 180 | C309 | ECFR1E104ZF5 | 25V 0.1U |
| R14 | ERDS2TJ103 | 1/4W 10K | R837, 838 | ERDS2TJ472 | 1/4W 4.7K | C311 | ECFR1E104ZF5 | 25V 0.1U |
| R15 | ERDS2TJ822 | 1/4W 8.2K | R839, 840 | ERDS2TJ471 | 1/4W 470 | C312 | ECBT1C103NS5 | 16V 0.01U |
| R16, 17 | ERDS2TJ103 | 1/4W 10K | R841, 842 | ERDS2TJ102 | 1/4W 1K | C351 | ECBT1H102KB5 | 50V 1000P |
| R20 | ERDS2TJ102 | 1/4W 1K | R843, 844 | ERDS2TJ271 | 1/4W 270 | C401 | ECFR1E104ZF5 | 25V 0.1U |
| R23 | ERDS2TJ222 | 1/4W 2.2K | R845, 846 | ERDS2TJ563 | 1/4W 56K | C402 | ECEA0JKA470B | 6.3V 47U |
| R25 | ERDS2TJ222 | 1/4W 2.2K | R847, 848 | ERDS2TJ331 | 1/4W 330 | C404 | ECFR1E104ZF5 | 25V 0.1U |
| R31 | ERDS2TJ221 | 1/4W 220 | R849, 850 | ERDS2TJ473 | 1/4W 47K | C651 | ECBT1C102KB | 16V 1000P Δ |
| R32 | ERDS2TJ102 | 1/4W 1K | R851, 852 | ERDS2TJ470 | 1/4W 47 | G652 | ECBT1C102KB | 16V 1000P |
| R33 | ERDS2TJ221 | 1/4W 220 | R853 | ERDS2TJ472 | 1/4W 4.7K | C801-804 | ECQV1H683JZ3 | 50V 0.068U |
| R51 | ERDS2TJ331 | 1/4W 330 | R854 | ERDS2TJ223 | 1/4W 22K | C805-808 | ECBT1H121KB5 | 50V 120P |
| R52 | ERDS2TJ272T | 1/4W 2.7K | R855-857 | ERDS2TJ102 | 1/4W 1K | C809, 810 | ECQV1H683JZ3 | 50V 0.068U |
| R53, 54 | ERDS2TJ472 | 1/4W 4.7K | R858 | ERDS2TJ101 | 1/4W 100 | C811, 812 | ECBT1H102KB5 | 50V 1000P |
| R201 | ERDS2TJ100 | 1/4W 10 | R859, 860 | ERDS2TJ100 | 1/4W 10 | C813-817 | ECFR1E104ZF5 | 25V 0.1U |
| R202 | ERDS2TJ102 | 1/4W 1K | R861 | ERDS2TJ102 | 1/4W 1K | C818, 819 | ECBT1H5R6K5 | 50V 5.6P |
| R203 | ERDS2TJ273 | 1/4W 27K | R862 | ERDS2TJ472 | 1/4W 4.7K | C820-822 | ECFR1E104ZF5 | 25V 0.1U |
| R301 | ERDS2TJ182 | 1/4W 1.8K | R863 | ERDS2TJ471 | 1/4W 470 | C823, 824 | ECEA1CN330S | 16V 33U Δ |
| R302 | ERDS2TJ823T | 1/4W 82K | R864 | ERDS2TJ222 | 1/4W 2.2K | C825, 826 | ECEA1CKN220B | 16V 22U Δ |
| R303 | ERDS2TJ104 | 1/4W 100K | R871, 872 | ERDS2TJ473 | 1/4W 47K | C827, 828 | ECEA0JU331B | 6.3V 330U |
| R304 | ERDS2TJ471 | 1/4W 470 | R873, 874 | ERDS2TJ123 | 1/4W 12K | C829 | ECEA0JKA101B | 6.3V 100U |
| R311 | ERDS2TJ822 | 1/4W 8.2K | R875, 876 | ERDS2TJ104 | 1/4W 100K | C830 | ECEA1EKA4R7B | 25V 4.7U |
| R312 | ERDS2TJ331 | 1/4W 330 | R885, 886 | ERDS2TJ222 | 1/4W 2.2K | C831 | ECEA1CKA100B | 16V 10U |
| R315 | ERDS2TJ104 | 1/4W 100K | R887, 888 | ERDS2TJ680T | 1/4W 68 | C832 | ECEA0JU471 | 6.3V 470U |
| R351 | ERDS2TJ103 | 1/4W 10K | R889, 890 | ERDS2TJ472 | 1/4W 4.7K | C871, 872 | ECEA1EKN3R3B | 25V 3.3U Δ |
| R352 | ERDS2TJ104 | 1/4W 100K | R891, 892 | ERDS2TJ102 | 1/4W 1K | C873, 874 | ECQB1H103KF3 | 50V 0.01U |
| R353 | ERDS2TJ123 | 1/4W 12K | R897 | ERDS2TJ103 | 1/4W 10K | C875-879 | ECBT1C103NS5 | 16V 0.01U |
| R354 | ERDS2TJ104 | 1/4W 100K | R898 | ERDS2TJ822 | 1/4W 8.2K | C881, 882 | ECEA1AN101XB | 10V 100U Δ |
| R355, 356 | ERDS2TJ333 | 1/4W 33K | | | | C891 | ECEA1CKA101B | 16V 100U |
| R357 | ERD25FJ6R8 | 1/4W 6.8 Δ | | | | C892 | ECBT1C103NS5 | 16V 0.01U |
| R401 | ERDS2TJ104 | 1/4W 100K | | | | C895 | ECBT1C103NS5 | 16V 0.01U |
| R411, 412 | ERDS2TJ472 | 1/4W 4.7K | | | | | | |
| R431, 432 | ERDS2TJ223 | 1/4W 22K | | | | | | |
| R433 | ERDS2TJ104 | 1/4W 100K | | | | | | |
| R434 | ERDS2TJ224T | 1/4W 220K | | | | | | |
| R435 | ERDS2TJ104 | 1/4W 100K | | | | | | |
| R436 | ERDS2TJ224T | 1/4W 220K | | | | | | |
| R437, 438 | ERDS2TJ223 | 1/4W 22K | | | | | | |
| R801-804 | ERDS2TJ330 | 1/4W 33 | | | | | | |
| R805-808 | ERDS2TJ3R3T | 1/4W 3.3 | | | | | | |
| R809-812 | ERDS2TJ433 | 1/4W 43K | | | | | | |
| R813-816 | ERDS2TJ563 | 1/4W 56K | | | | | | |
| R817, 818 | ERDS2TJ472 | 1/4W 4.7K | | | | | | |
| R819, 820 | ERDS2TJ511 | 1/4W 510 | | | | | | |
| R821, 822 | ERDS2TJ105T | 1/4W 1M | | | | | | |
| R823, 824 | ERDS2TJ222 | 1/4W 2.2K | | | | | | |

TROUBLESHOOTING GUIDE

SL-PS620A Operation Sequence Check Sheet

Play Operation Sequence



| Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks |
|----------|--------------|------------------|----------|--------------|------------------|
| R3533 | 482205110152 | 1/4W 5.1K [MB] | C2542 | 482212232863 | 50V 0.022U [MB] |
| R3534 | 482205110224 | 1/8W 220K [MB] | C2543 | 482212440196 | 16V 220U [MB] |
| R3535 | 482205021203 | 3/5W 12K [MB] | C2544 | 482212440196 | 16V 220U [MB] |
| R3540 | 482205024708 | 3/5W 4.7 [MB] | C2545 | 482212233496 | 63V 0.1U [MB] |
| R3541 | 482205110682 | 1/4W 6.8K [MB] | C2546 | 482212233496 | 63V 0.1U [MB] |
| R3542 | 482205110829 | 1/8W 82 [MB] | C2547 | 482212232863 | 50V 0.022U [MB] |
| R3543 | 482205110682 | 1/8W 6.8K [MB] | C2552 | 482212143526 | 100V 0.047U [MB] |
| R3550 | 482205110182 | 1/4W 1.8K [MB] | C2560 | 482212231784 | 50V 4700P [MB] |
| R3555 | 482205110183 | 1/4W 18K [MB] | C2561 | 482212151252 | 63V 0.47U [MB] |
| R3560 | 482211191494 | 1/8W 11K [MB] | C2562 | 532212142661 | 63V 0.33U [MB] |
| R3561 | 482205110154 | 1/4W 150K [MB] | C2563 | 482212233496 | 63V 0.1U [MB] |
| R3562 | 482205021204 | 3/5W 120K [MB] | C2625 | 482212231765 | 50V 100P [MB] |
| R3563 | 482205110563 | 1/8W 56K [MB] | | | |
| R3564 | 482211191495 | 1/8W 160K [MB] | | | |
| R3565 | 482205210279 | 1/3W 27 [MB] | | | |
| R3566 | 482205110229 | 1/8W 22 [MB] | | | |
| R3567 | 482205028203 | 1/8W 82K [MB] | | | |
| R3568 | 482205110474 | 1/4W 470K [MB] | | | |
| | | CHIP JUMPER(S) | | | |
| R3801 | 482205110008 | JUMPER [MB] | | | |
| R3802 | 482205110008 | JUMPER [MB] | | | |
| | | CAPACITORS | | | |
| C2501 | 482212232863 | 50V 0.022U [MB] | | | |
| C2502 | 482212440433 | 25V 47U [MB] | | | |
| C2503 | 482212232863 | 50V 0.022U [MB] | | | |
| C2504 | 482212231727 | 63V 470P [MB] | | | |
| C2505 | 482212440433 | 25V 47U [MB] | | | |
| C2506 | 482212233496 | 63V 0.1U [MB] | | | |
| C2507 | 482212231644 | 63V 2200P [MB] | | | |
| C2508 | 532212142491 | 100V 0.047U [MB] | | | |
| C2509 | 482212231772 | 50V 47P [MB] | | | |
| C2510 | 482212232442 | 50V 0.01U [MB] | | | |
| C2511 | 482212231746 | 50V 1000P [MB] | | | |
| C2513 | 482212143375 | 63V 0.22U [MB] | | | |
| C2514 | 482212151252 | 63V 0.47U [MB] | | | |
| C2515 | 482212231746 | 50V 1000P [MB] | | | |
| C2520 | 482212231965 | 63V 220P [MB] | | | |
| C2521 | 482212422027 | 25V 47U [MB] | | | |
| C2530 | 482212151321 | 63V 8200P [MB] | | | |
| C2531 | 482212151321 | 63V 8200P [MB] | | | |
| C2532 | 482212440272 | 16V 33U [MB] | | | |
| C2534 | 532212142661 | 63V 0.33U [MB] | | | |
| C2535 | 482212231981 | 50V 0.033U [MB] | | | |
| C2536 | 482212231981 | 50V 0.033U [MB] | | | |
| C2537 | 482212143375 | 63V 0.22U [MB] | | | |
| C2538 | 482212143375 | 63V 0.22U [MB] | | | |
| C2540 | 482212441583 | 50V 0.68U [MB] | | | |
| C2541 | 482212232863 | 50V 0.022U [MB] | | | |

PACKAGING

