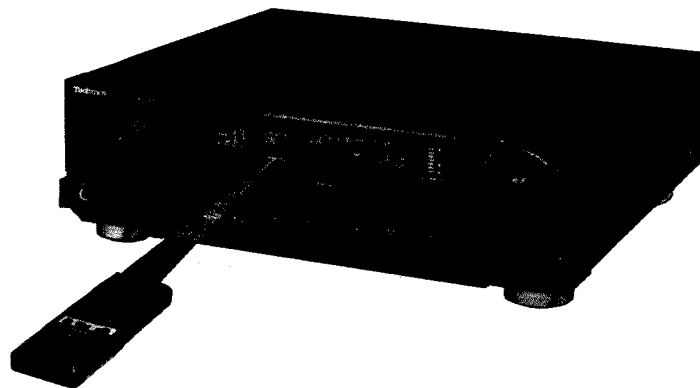


Service Manual

COMPACT
disc
DIGITAL AUDIO

DIGITAL

Compact Disc Player SL-P1000



Color

(K) Black Type

SPECIFICATIONS

■ Audio

Number of channels: 2 (left and right, stereo)
Frequency response: 2~20,000 Hz±0.3 dB (EIAJ)
Dynamic range: 96 dB (EIAJ)
S/N ratio: 108 dB (EIAJ)
Harmonic distortion: 0.0012% (1 kHz, 0 dB)
Total harmonic distortion: 0.0025% (1 kHz, 0 dB) (EIAJ)
Channel separation: 108 dB (EIAJ)
Wow and flutter: Below measurable limit
Low-pass filter: Digital: High resolution digital filter
Analog: GIC (Generalized Impedance Converter) active type

■ Signal format

Sampling frequency: 44.1 kHz
Correction system: Technics Super Decoding Algorithm
D-A conversion: 16-bit linear

■ Pickup

Access time: 1 second (access to the last track)
Light source: Semiconductor laser
Wavelength: 780 nm
Traverse system: High-speed linear access system

■ Spindle system:

Type: Brushless DD motor

■ Functions

Automatic play: All tracks
Direct access play: Track number or index number
Repeat play: Entire disc or programmed tracks
Search: Forward/backward track skip
Forward/backward manual search

Program play: For up to 20 selections
Preset edit play: Up to 99 minutes (for program play)

Display: Total tracks (up to 99)
Programmed track
Current track
Time display (min., sec./dB)
Time modes display
Music matrix (20)
Overflow indicator
Disc indicator
Repeat indicator
A-B repeat indicator
Output level indicator (when using remote control unit)
Music scan indicator
Auto space indicator
Auto pause indicator
Play indicator
Pause indicator
Disc loading: Motor-driven horizontal type
Headphone output level: 15 mW max. 32Ω (variable)
Plug: 1/4 inch stereo

Indicators:

Color	Areas
(K)	[M] U.S.A.
(K)	[MC] ... Canada.
(K)	[E] Continental Europe.
(K)	[EK] United Kingdom.
(K)	[XL] ... Australia.
(K)	[EG] ... F.R. Germany.
(K)	[EB] Belgium.
(K)	[EH] Holland.
(K)	[EF] France.
(K)	[Ei] Italy.
(K)	[EC] Czechoslovakia
(K)	[XA] Asia, Latin America, Middle Near East, Africa and Oceania.
(K)	[XB] Saudi Arabia.
(K)	[PA] Far East PX.
(K)	[PE] European Military.
(K)	[PC] European Audio Club.

■ Infrared remote control unit

Dimensions (W×D×H): 6.5×15.5×1.8 cm
Batteries: UM-3 "AA" batteries or IEC R6 or equivalent (1.5V×2)
140 g (including batteries)

Weight:

■ General

Power supply: For U.S.A. and Canada: AC 120 V, 60 Hz
For United Kingdom and Australia: AC 240V, 50 Hz
For Continental Europe: AC 220V, 50 Hz
For others: AC 110~127/220~240V, 50/60 Hz

Power consumption: 29 W
Output voltage: 2.5 V (at 0 dB) (EIAJ)
Output impedance: Approx. 600Ω
Load impedance: More than 10 kΩ
Dimensions (W×D×H): 43×38.2×12.8 cm (16¹⁵/₁₆"×15¹/₃₂"×5¹/₃₂") [When disc holder is opened: 50.6 cm (20³/₁₆" (D))] 9.1 kg (20 lbs.)

Weight:

Specifications are subject to change without notice.
Weight and dimensions are approximate.
Measured by EIAJ (CP-307)

■ CONTENTS

	Page		Page
SAFETY PRECAUTION	2	PRINTED CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM	21
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TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES	12	TERMINAL FUNCTION OF LSI	44
SCHEMATIC DIAGRAM	13		

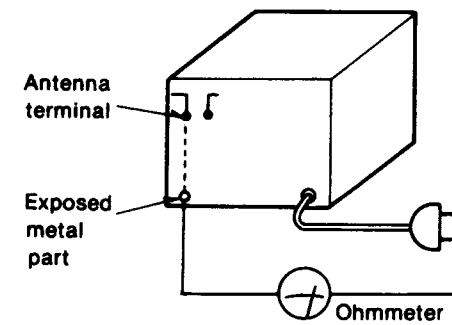
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

● INSULATION RESISTANCE TEST

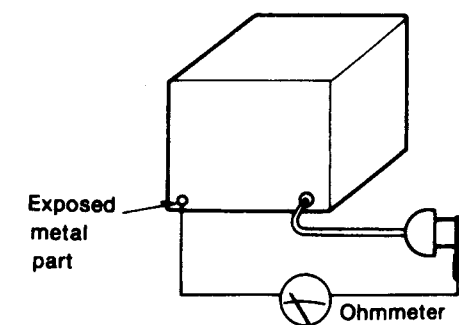
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

Technics

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50 Meadowland Parkway,
Secaucus, New Jersey 07094

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Division of Matsushita Electric
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Panasonic Hawaii, Inc.
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Matsushita Electric
of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

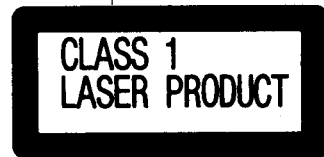
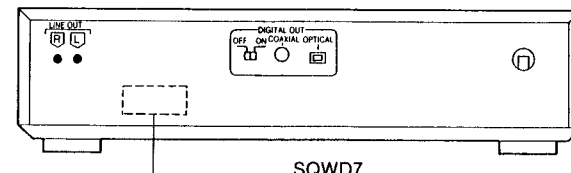
Panasonic Tokyo Office
Matsushita Electric Trading Co., Ltd.
6th Floor, World Trade Center Bldg.,
No. 4-1, Hamamatsu-cho 2-Chome,
Minato-ku, Tokyo 105, Japan

■ PRECAUTION OF LASER DIODE

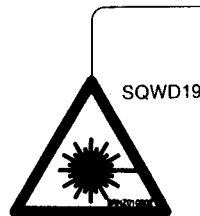
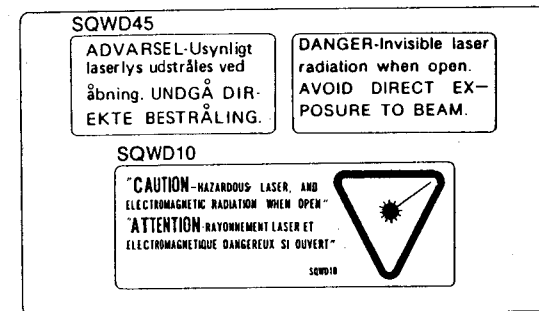
Caution: This product utilizes a laser diode.
ADVARSEL: I dette apparat anvendes laser.

• Use of caution labels Note: ○ Mark is used, × Mark is not used

Areas	SQWD45	SQWD10	SQWD7	SQWD19
[M]	○	×	×	×
[MC]	×	○	×	×
[E]	○	×	○	○
[EK], [XL], [EG], [EB], [EH], [EF], [Ei], [EC], [XA], [XB]	○	×	○	○



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

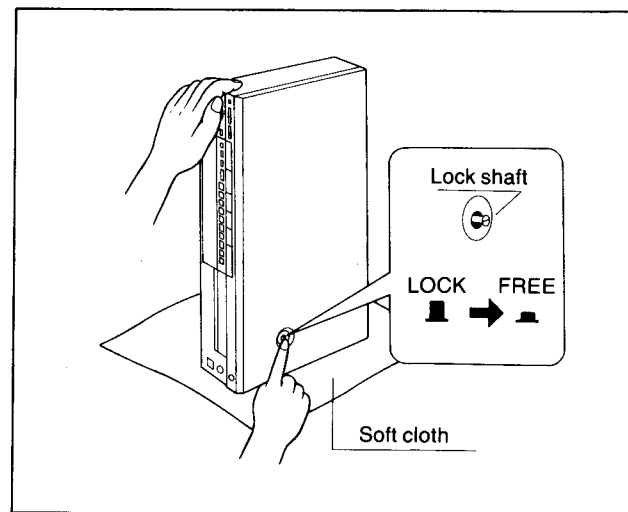


VAROITUS! Laite sisältää laserdiodin,
joka lähettää näkymätöntä silmille
vaarallista lasersäteilyä

■ BEFORE USING THIS UNIT

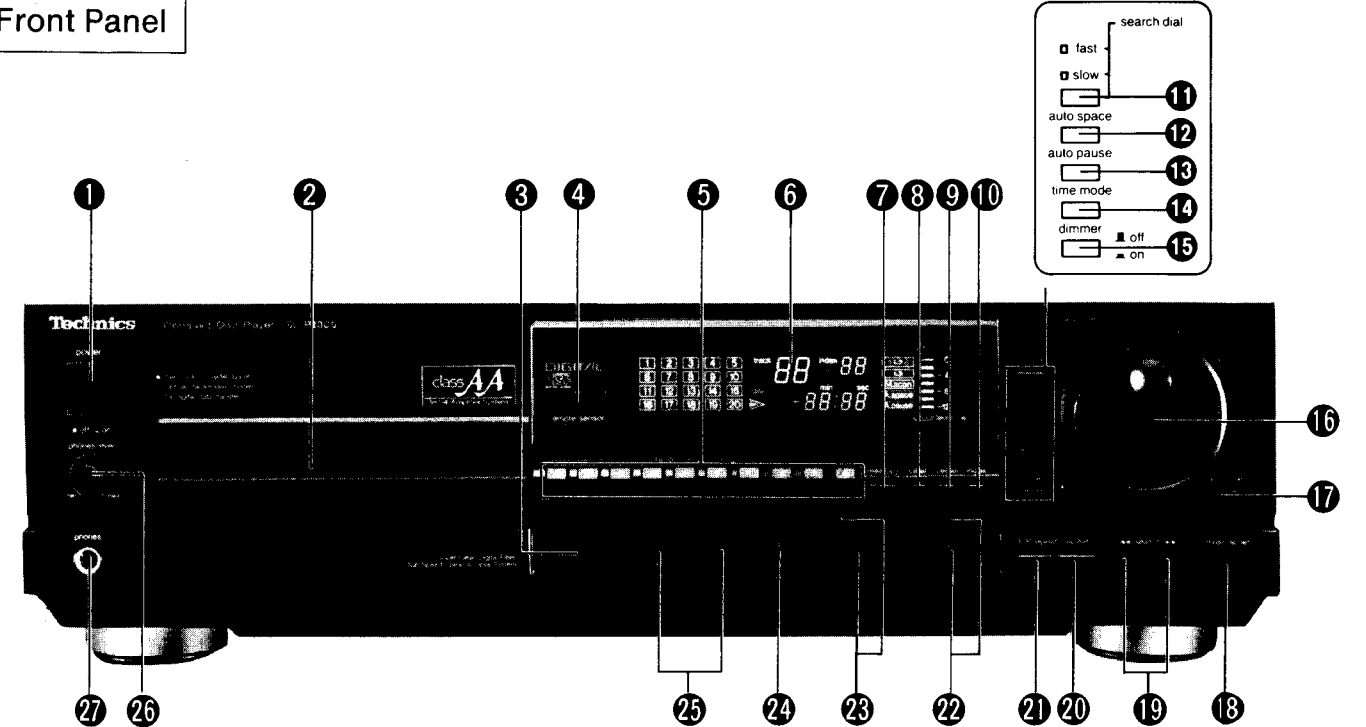
1. Place a soft cloth under the unit to protect it from scratches.
2. Press the lock shaft to the in (FREE) position (■→■).

NOTE:
IF THE UNIT IS TRANSPORTED AGAIN, PERFORM THE FOLLOWING STEPS:
1) Remove the disc from the holder.
2) Pull the lock shaft to the out (LOCK) position (■→■).
CAUTION:
Do not transport the unit without locking the lock shaft.
SEVERE DAMAGE WILL RESULT.



■ LOCATION OF CONTROLS

Front Panel



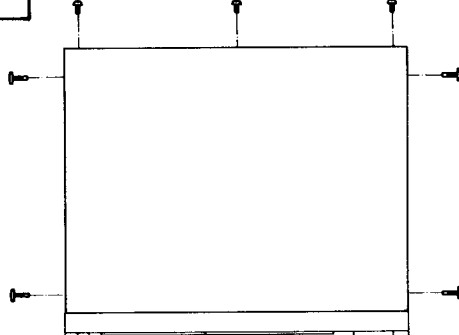
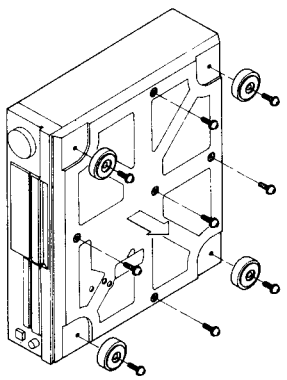
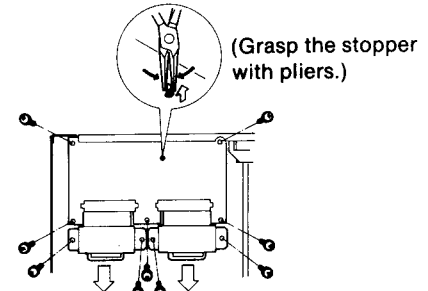
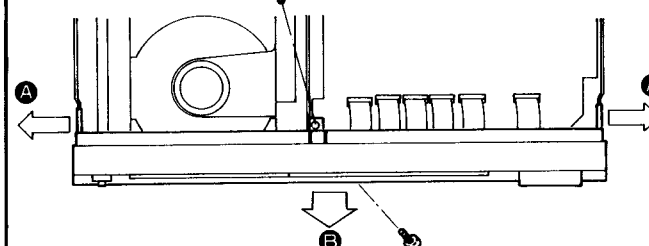
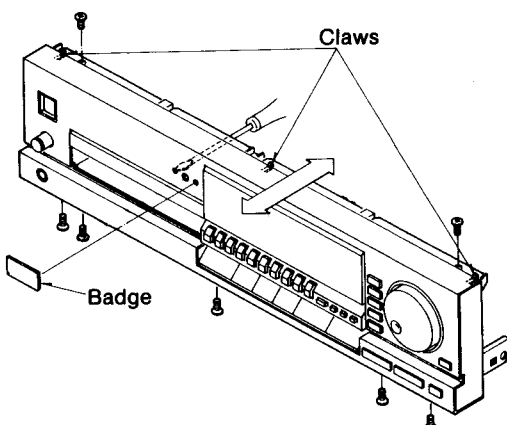
- 1 Power switch**
Press (■→■) to switch power on.
Press again (■→■) to switch power off.
- 2 Disc holder**
The disc is inserted in this holder with the label side up.
- 3 Open/close button**
Press this button to open and close the disc holder.
- 4 Remote control sensor**
Receives signals from the infrared remote control unit.
- 5 Numeric buttons (1~0)**
Use these buttons to specify:
1. Track numbers.
2. Index numbers.
3. Music scan intervals (in seconds).
4. Playing times.
- 6 Display panel**
- 7 Memory button**
Press this button to enter displayed track numbers or playing time into the memory.
- 8 Clear button**
Press this button to clear individual program entries before program play is started.
- 9 Recall button**
Press this button to check the contents of a program.
- 10 Index button**
Press this button to specify an index number.
• In some compact discs, indexes are used to divide tracks into smaller sections for easy access. If a disc includes indexes, a list of the indexes will be contained in the liner note included with that disc.
[IN:DEX] is the symbol for index(es).
- 11 Search speed button/indicator**
Use this button to adjust fast forward and backward speeds when using the search dial.
- 12 Auto space button**
Press this button to set a silent interval of 3 seconds between the songs on a disc.
- 13 Auto pause button**
Press this button to activate the auto pause mode. In this mode the unit automatically switches to the standby mode immediately before the beginning of each track.
- 14 Time mode select button**
This button is used for the following two operations.
• To select the time display mode (time display mode selection)
• To specify playing time (preset edit play)
- 15 Dimmer switch**
Use the dimmer switch to alter the brightness of the display panel.
• Press the dimmer switch ON (■→■) to lower the brightness of the display panel.
Press again (■→■) to return to the normal brightness.
- 16 Search dial**
For high precision forward and backward searching.
- 17 Dial search switch/indicator**
Press this button to activate dial search.
This indicator illuminates when the dial search switch is on.

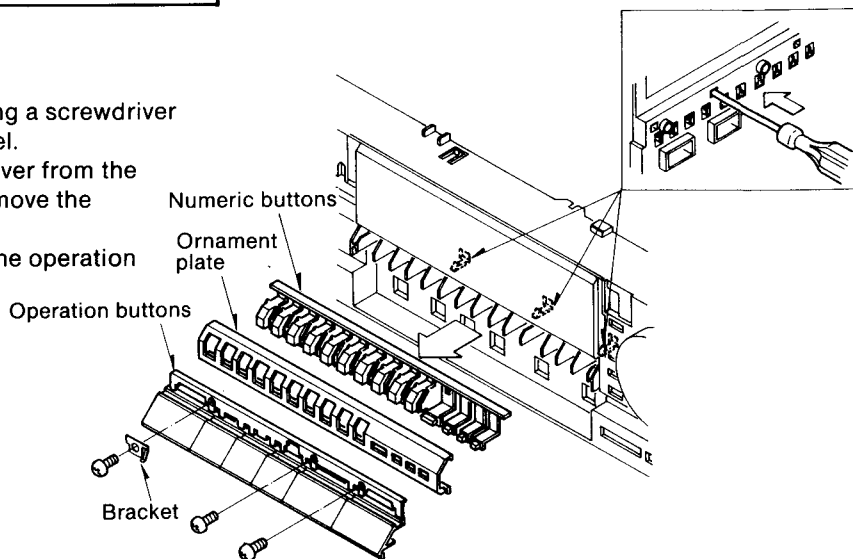
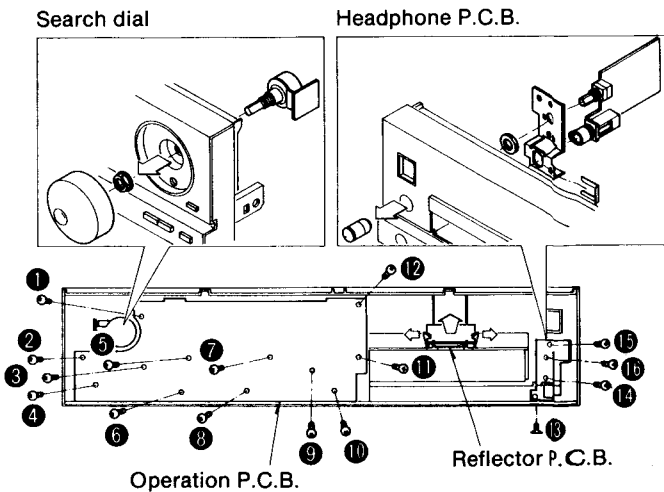
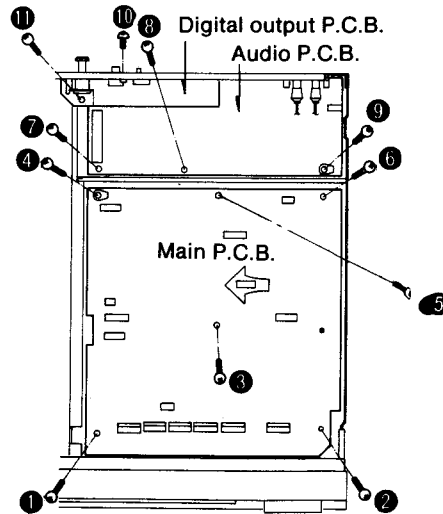
■ DISASSEMBLY INSTRUCTIONS

CAUTION:

- It is very dangerous to look at or touch laser radiation. (Laser radiation is invisible.)
- With the unit turned "on", laser radiation is emitted from the pickup lens.
- When doing the job, removing the cabinet and disc clamber of this unit, be sure to turn the power supply off.

- This unit uses FPC and care should be taken during assembly and disassembly.

Ref. No. 1	How to remove the cabinet	Ref. No. 2	How to remove the bottom board
Procedure 1	1. Remove the 7 screws.  Note: When servicing, lock the lock shaft at the bottom of the unit. (See page 3.)	Procedure 2	1. Remove the 9 screws. 
Ref. No. 3	How to remove the power transformers	Ref. No. 4	How to remove the front panel Ass'y
Procedure 1 ▶ 3	1. Remove the 9 screws. 2. Remove the stopper on the power supply P.C.B. with pliers. 3. Pull off the power transformers in the direction of the arrows. 	Procedure 1 ▶ 4	1. Remove the 2 screws. 2. Slightly pull the tabs outwards (arrows A). 3. Remove the front panel in the direction of the arrow B). 
Ref. No. 5	How to disassemble the front panel		
Procedure 1 ▶ 4 ▶ 5	1. Push off the badge with a screwdriver from the back side of the front panel. 2. Remove the 7 screws. 3. Release the 3 claws.		

Ref. No. 6	How to remove the operation buttons
Procedure 1 ▶ 5 ▶ 6	
1. Push off the ornament plate by using a screwdriver from the back side of the front panel. 2. Release the 3 claws with a screwdriver from the back side of the front panel and remove the numeric buttons. 3. Remove the 3 screws and remove the operation buttons. 	
Ref. No. 7	How to remove the operation P.C.B., headphone P.C.B., search dial and reflector circuit P.C.B.
Procedure 1 ▶ 4 ▶ 7	
• Operation P.C.B. 1. Remove the 12 screws (① ~ ⑫). • Search dial 1. Pull out the search dial knob. 2. Remove the nut. • Headphone P.C.B. 1. Pull out the level control knob. 2. Remove the 4 screws (⑬ ~ ⑯). 3. Remove the nut and then remove the headphone P.C.B. from the bracket. • Reflector P.C.B. 1. Release the 2 claws. 2. Remove the reflector P.C.B. in the direction of the arrow.	
	
Ref. No. 8	How to remove the main, audio and output P.C.B.s
Procedure 1 ▶ 8	
• Main P.C.B. 1. Remove the 6 screws (① ~ ⑥). 2. Lift up the P.C.B. to remove it from the chassis tabs. 3. Remove in the direction of the arrow. • Audio P.C.B. 1. Remove the 3 screws (⑦ ~ ⑨). 2. Lift up the P.C.B. • Digital output P.C.B. 1. Remove the 2 screws. (⑩, ⑪)	
	

18 Music scan button

Press to specify music scan play.
When this button is pressed, the first ten seconds (or the specified time) of each track on the disc or each programmed track is played. This is very useful for quickly determining the contents of a disc.
The time that each track is played can be set from 1 to 99 seconds by using the numeric buttons.
(programmable music scan function)

19 Backward and forward search buttons

Use these buttons to move the pickup forward and backwards (manual search play function).

20 Repeat button

Press this button to activate the repeat mode.
Press again to cancel the repeat mode.

21 A-B repeat button

Press to repeat a section between two specified points A and B.

- The first time this button is pressed, the starting point (A) of the disc section to be played repeatedly is set.
- The second time, the ending point (B) of the repeat section is set.
- The third time, the A-B repeat mode is cancelled.

22 Play button/indicator

Press this button to begin play.
The indicator illuminates when the play button is pressed and goes out when disc play is stopped.

23 Pause button/indicator

Press this button to briefly stop play.
The indicator illuminates when the pause button is pressed or auto pause function is activated and goes out when the pause mode is cancelled.

24 Stop button

Press this button to stop disc play and cancel all previous settings.

25 Backward and forward skip buttons

Use these buttons to move the pickup to the beginning of a specific track (forward and backward skip play function).

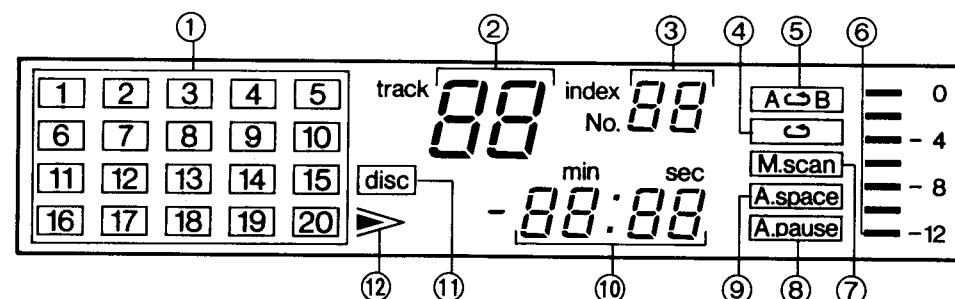
26 Phones level control knob

Use to control the output level to the headphones.

27 Headphones jack

Connect the optional headphones plug to this jack.
When listening to music with stereo headphones, avoid listening for prolonged periods of time. Hearing experts advise against continuous extended play.

Display Panel



1 Music matrix ()

Up to 20 tracks are displayed.

1. When a disc is loaded, this display shows the total number of tracks.
2. When specifying or entering a track number in the memory, the border of the specified track number illuminates.
3. During play, the border around the track number currently being played flashes on and off.
4. When the track is finished, the border around the track number goes out.

2 Track number display (track)

Track numbers (up to 99) are shown here.

3 Index number display (index)

The index number (index) or programmed order (No.) is shown here.

4 Repeat indicator ()

Illuminates when the repeat mode is activated and goes out when the repeat button is pressed once again.

5 A-B repeat indicator (A-B)

Illuminates when the A-B repeat mode is activated by pressing the A-B repeat button.

6 Output level indicator

Normally, all bars are illuminated. When the digital volume attenuation function is activated using the remote control unit (included), bars will go out to show the attenuated volume level.

7 Music scan indicator (M.scan)

Illuminates when the music scan button is pressed and goes out when the music scan play is cancelled.

8 Auto pause indicator (A.pause)

Illuminates when the pause mode is activated and goes out when the pause mode is cancelled.

9 Auto space indicator (A.space)

Illuminates when the auto space button is pressed to activate the auto space mode and goes out when the button is pressed again to cancel the auto space mode.

10 Time display (min. dB, sec.)

Time (min., sec.) and attenuation level (dB) (when using remote control unit) are displayed here.

11 Disc indicator (disc)

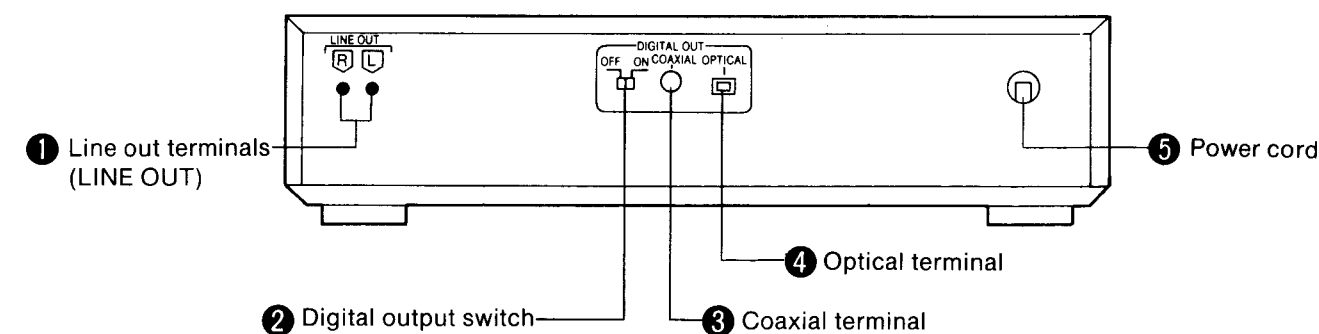
Flashes on and off when the disc holder is opening or closing. Illuminates when a disc is in the holder (if power is on) when the disc holder is closed. This indicator allows you to check in an instant whether or not a disc is loaded.

12 Overflow indicator ()

The () indicator illuminates when a disc containing more than 20 tracks is loaded. When disc play is started, the () indicator illuminates instead and when disc play reaches track 21, the () indicator flashes on and off.

- During programming and program play, track numbers from 1 to 20 are displayed. The () indicator will illuminate if the disc contains more than 20 tracks and the " - - " indicator will illuminate when a track number higher than 20 is programmed. When a track number higher than 20 is played, the " > " indicator will flash on and off.

Rear Panel



1 Line out terminals (LINE OUT)

These are the audio output terminals.

- Connect the line out terminals to the CD, AUX, or TAPE PLAYBACK terminals on your amplifier or receiver.
- Do not connect the line out terminals to the PHONO terminals of your amplifier or receiver.

2 Digital output switch

This switch should normally be in the off position.
When it is on, the digital signal will be output to both terminals 3 and 4.

3 Coaxial terminal

Terminal for digital output

Digital data output from the SL-P1000 can be input into another device with the appropriate digital input terminals by means of a coaxial cable (included).
Consult your dealer for details.

4 Optical terminal

Terminal for digital output

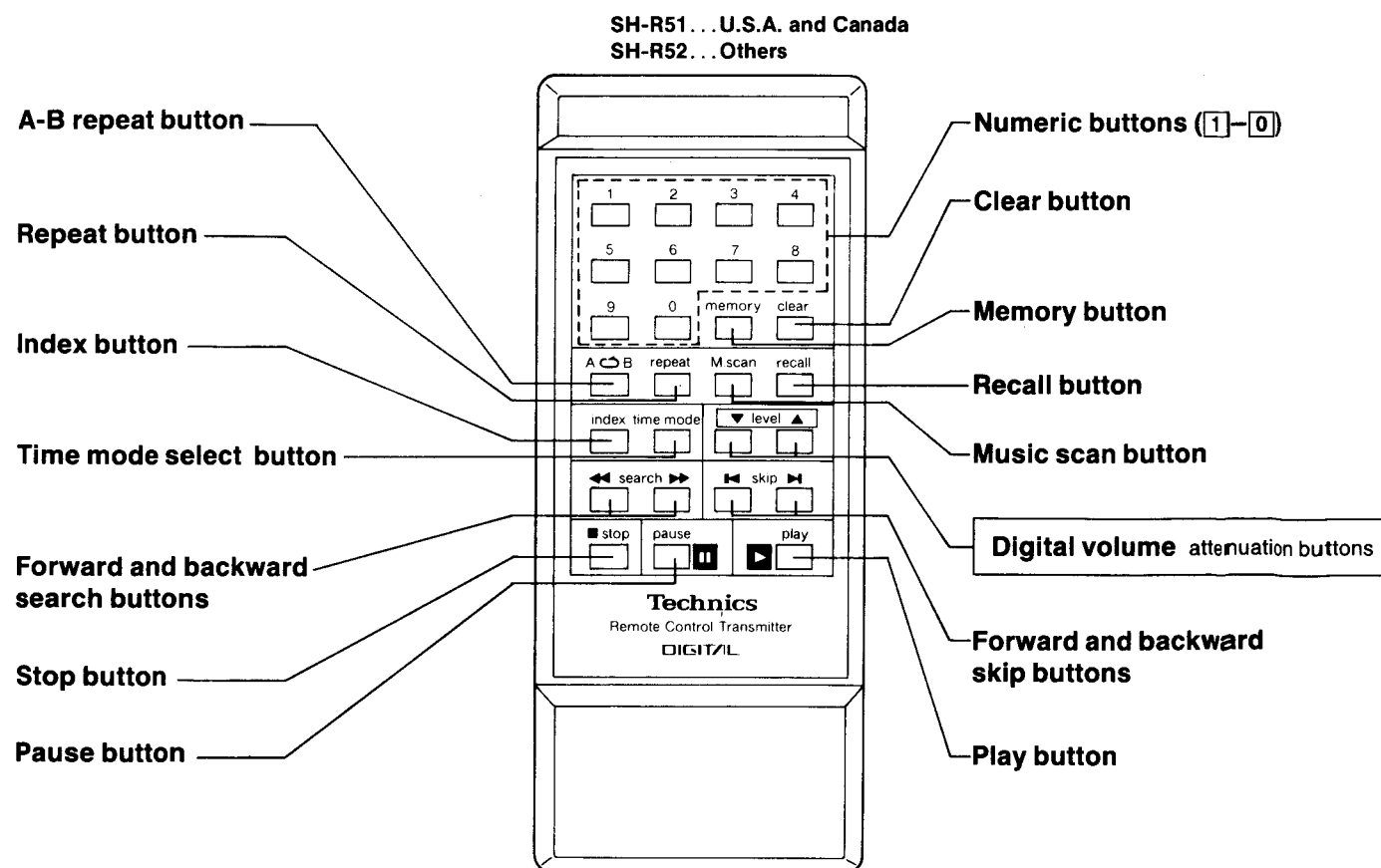
Optical data output from the SL-P1000 can be input into another device with the appropriate optical input terminals by means of an optical cable (included).
Consult your dealer for details.

Note: A dust-tight cap has been inserted into this terminal. This cap is only to be removed when an optical cable is to be connected.

5 Power cord

Connect to an AC outlet on the wall or on the rear panel of your amplifier or receiver.

Remote control unit

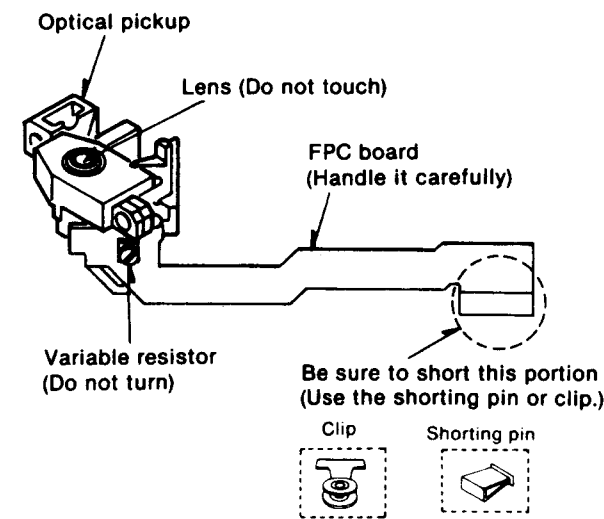


■ HANDLING PRECAUTIONS FOR OPTICAL PICKUP

The laser diode in the optical pickup may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the optical pickup.

• Handling of optical pickup

1. Do not give excessive shock to the optical pickup because it is of extremely precise structure.
2. To prevent the breakdown of the laser diode, an anti-static shorting pin is inserted into the flexible board. (FPC board)
When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board. (FPC board)
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

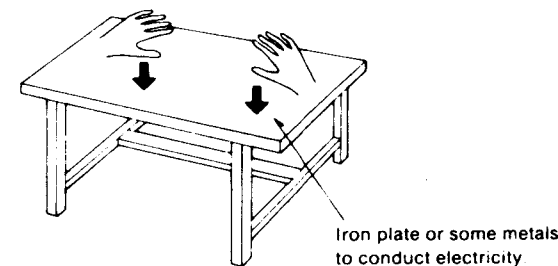
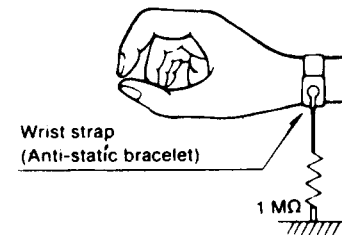


• Grounding for electrostatic breakdown prevention

1. Human body grounding
Use the anti-static wrist strap to relieve 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.

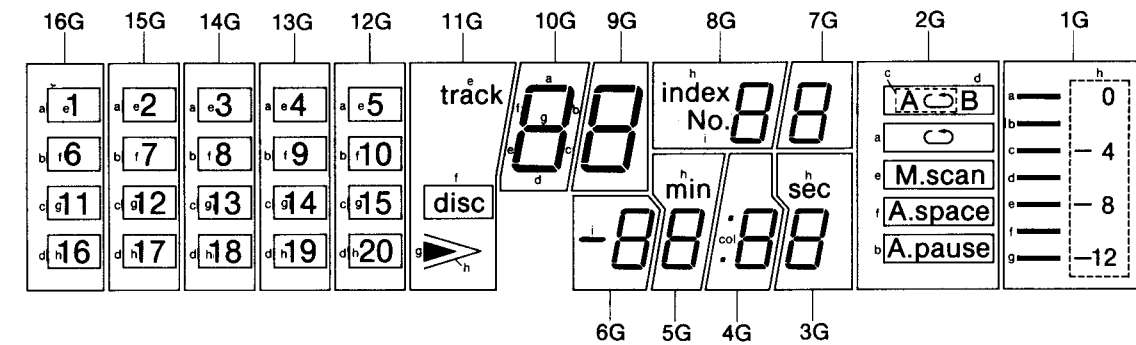
Caution:

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.



■ INTERNAL CONNECTION OF FL

• Grid connection diagram



• Anode connection table

	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	1	2	3	4	5	-	a	a	a	a	a	a	a	a	A	(0 db)
b	6	7	8	9	10	-	b	b	b	b	b	b	b	b	A.pause	(-2 db)
c	11	12	13	14	15	-	c	c	c	c	c	c	c	c	A	(-4 db)
d	16	17	18	19	20	-	d	d	d	d	d	d	d	d	B	(-6 db)
e	1	2	3	4	5	track	e	e	e	e	e	e	e	e	M.scan	(-8 db)
f	6	7	8	9	10	disc	f	f	f	f	f	f	f	f	A.space	(-10 db)
g	11	12	13	14	15	▶	g	g	g	g	g	g	g	g	-	(-12 db)
h	16	17	18	19	20	>	-	-	index	-	-	min	col	sec	-	0,4,8,12
i	-	-	-	-	-	-	-	-	No.	-	-	-	-	-	-	-

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

SVIPCM54KP-M... 28 pin MN4053B 16 pin MN15283PDR-1... 64 pin MN4538B 16 pin SVICXD1075P 28 pin MN4094B 16 pin SVITC40H004P ... 14 pin SVITC40H000P ... 14 pin	M5228P 14 pin MN6030 22 pin AN6554 14 pin	MN6618A 42 pin MN51005PDN 64 pin MN6617S 84 pin	SVIBA6218	SRUN15	UN4114 2SA1309Q 2SD1450 UN4212 UN4214 UN1231
AN8370S 42 pin SVIUPD4053G1... 16 pin MN1550PDT 18 pin SVICXK5816M 24 pin AN8290S 24 pin SVIM5219FP 8 pin SVIM5238FP 8 pin SVINJM5532MD ... 8 pin		AN79L12	2SC1846 2SA885	AN78M12 SVIM5F AN78M15L AN78M05	2SB1240 2SD1862 2SC4010
AN79M12F SVIM5F79M15L	AN78L12	AN79N05	2SB941 2SD1266	SVGLB74VR3HL SVGLB74MG3HL SVGLB74DU3HL	SVDS-54MW4
EHDGA1243	SVIAL079 10 pin	M51953BL 5 pin SVINJM4556SA 9 pin	MA165	SVDISR35200A	MA082M MA330L MA054-MTA

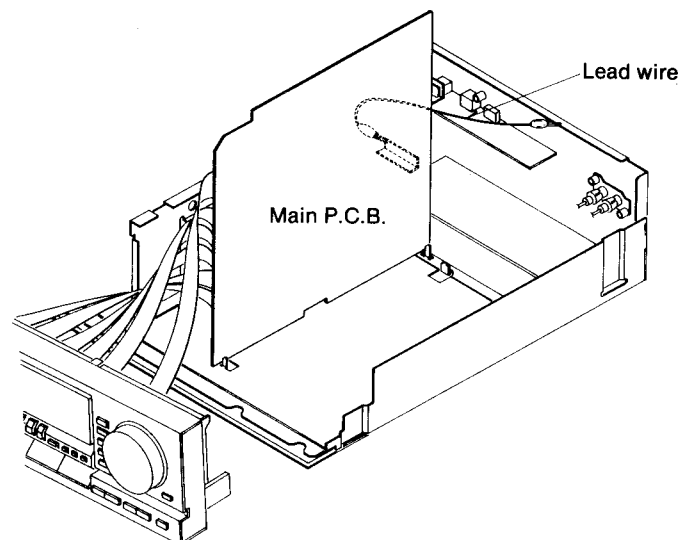
How to check the main P.C.B.

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

1. Remove the main P.C.B.

2. Place the main P.C.B. on the chassis as shown in the figure.

Caution: Be sure to connect the main P.C.B. ground terminal and the chassis with a lead wire.



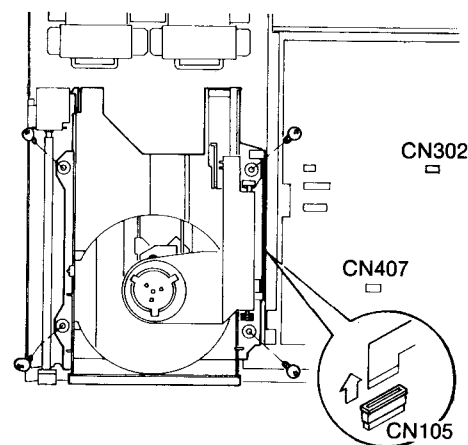
Ref. No.
9

How to remove the loading base

Procedure
1 → 4 → 9

Refer to optical pickup handling precautions (See page 11).

- Remove the 2 connectors (CN302, CN407).
- Remove the FPC board (CN105).
- Remove the 4 screws.



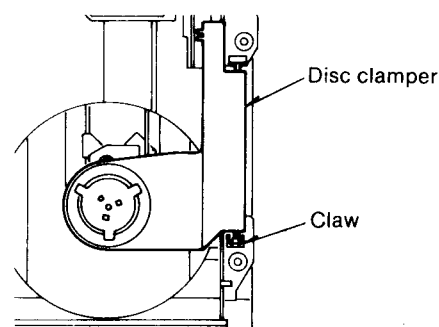
Caution: Insert the shorting pin into the FPC board to prevent breakdown of the laser diode.

Ref. No.
10

How to remove the disc clammer

Procedure
1 → 10

- Release the claw.

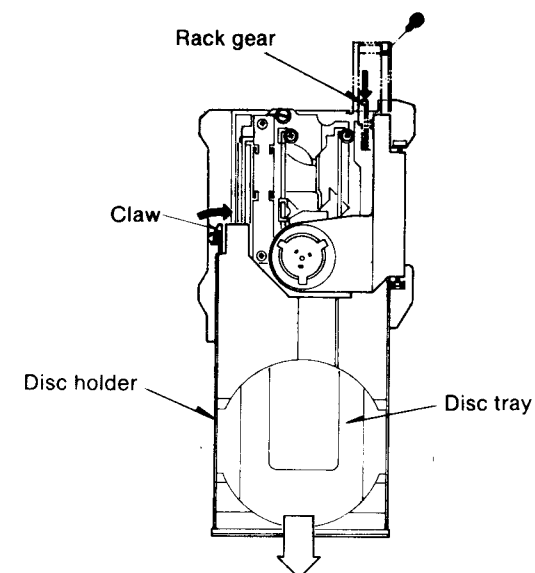


Ref. No.
11

How to remove the disc holder

Procedure
1 → 4 → 11

- Remove the screw.
- Push the rack gear slowly in the direction of the arrow until the disc tray comes up.
- Pull the disc holder until it stops.
- Release the claw.
- Further pull out the disc holder to remove it.



Ref. No.
12

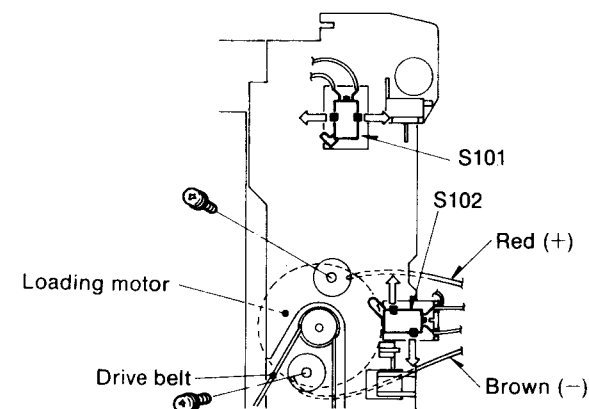
How to remove the loading motor

Procedure
1 → 4 → 9 → 10 → 11 → 12

- Remove the drive belt.
- Remove the 2 screws.

Note:

Red lead wire.....(+) terminal
(close to the slit of the motor)
Brown lead wire.....(-) terminal



How to remove the switches (S101, S102)

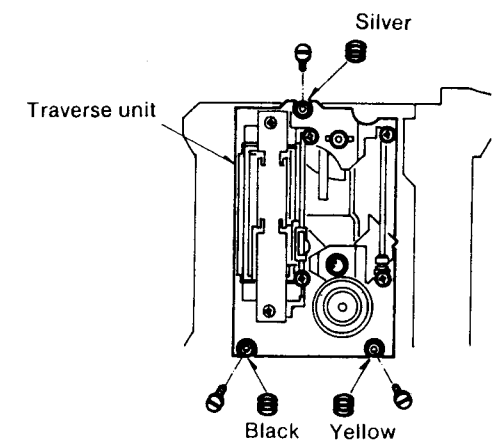
- Release the claws.
- Note the fitting direction before remove it.

Ref. No.
13

How to remove the traverse unit

Procedure
1 → 4 → 9 → 10 → 11 → 13

- Remove the 3 screws.



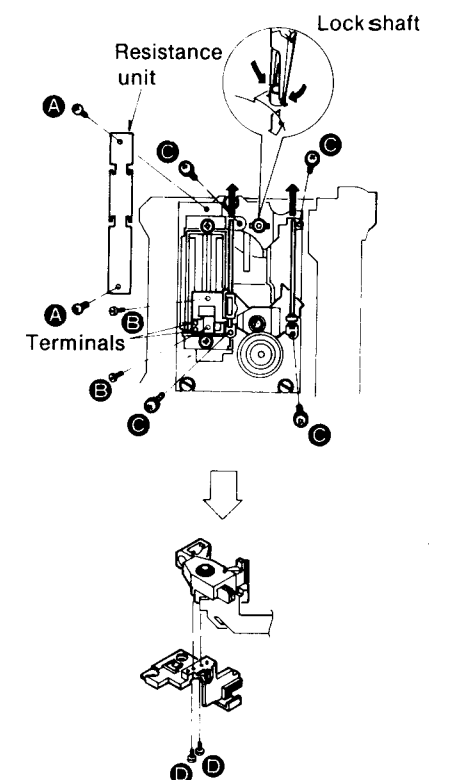
Caution: Note the color of the 3 springs, they must be reinstalled to their original positions.

Ref. No.
14

How to remove the optical pickup

Procedure
1 → 4 → 9 → 10 → 11 → 14

- Remove the 2 screws (A) and the resistance unit.
- Unsolder the 2 terminals and remove the 2 screws (B).
- Release the claws by using the pliers to remove the lock shaft.
- Remove the 4 screws (C).
- Pull out the optical pickup from the 2 guide shafts.
- Remove the 2 screws (D) to separate the holder from the optical pickup.



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

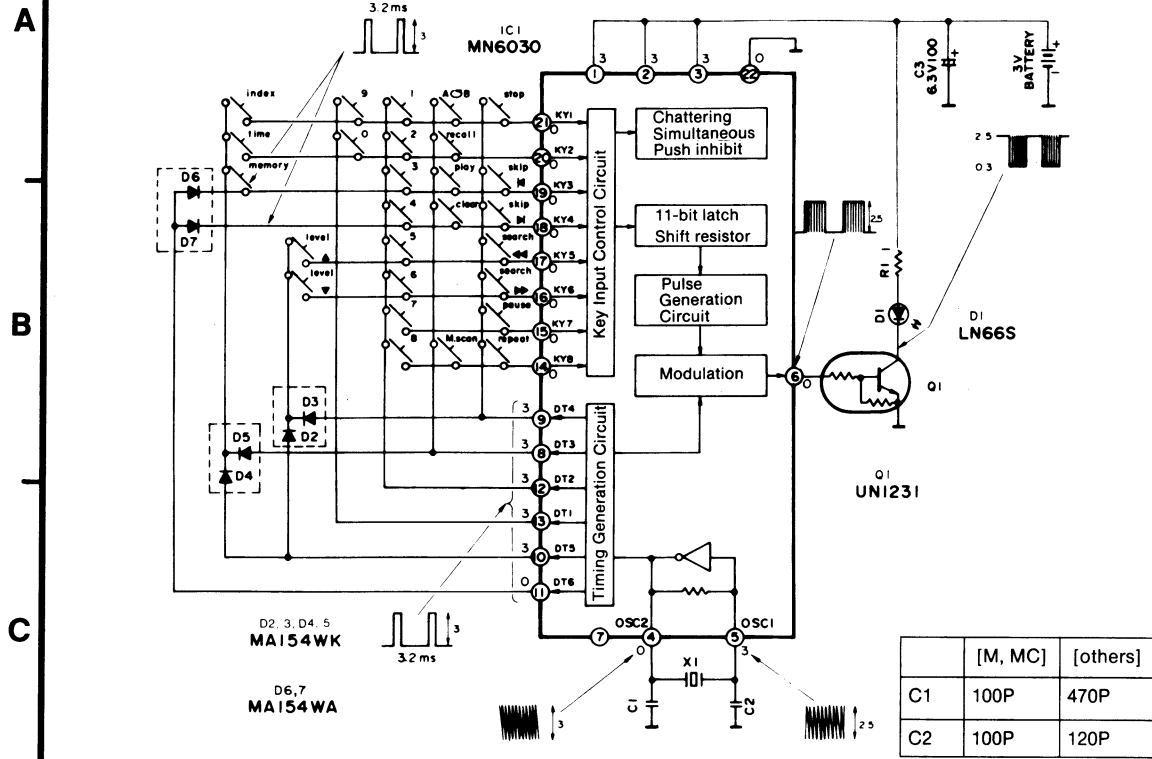
• Caution!

- IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

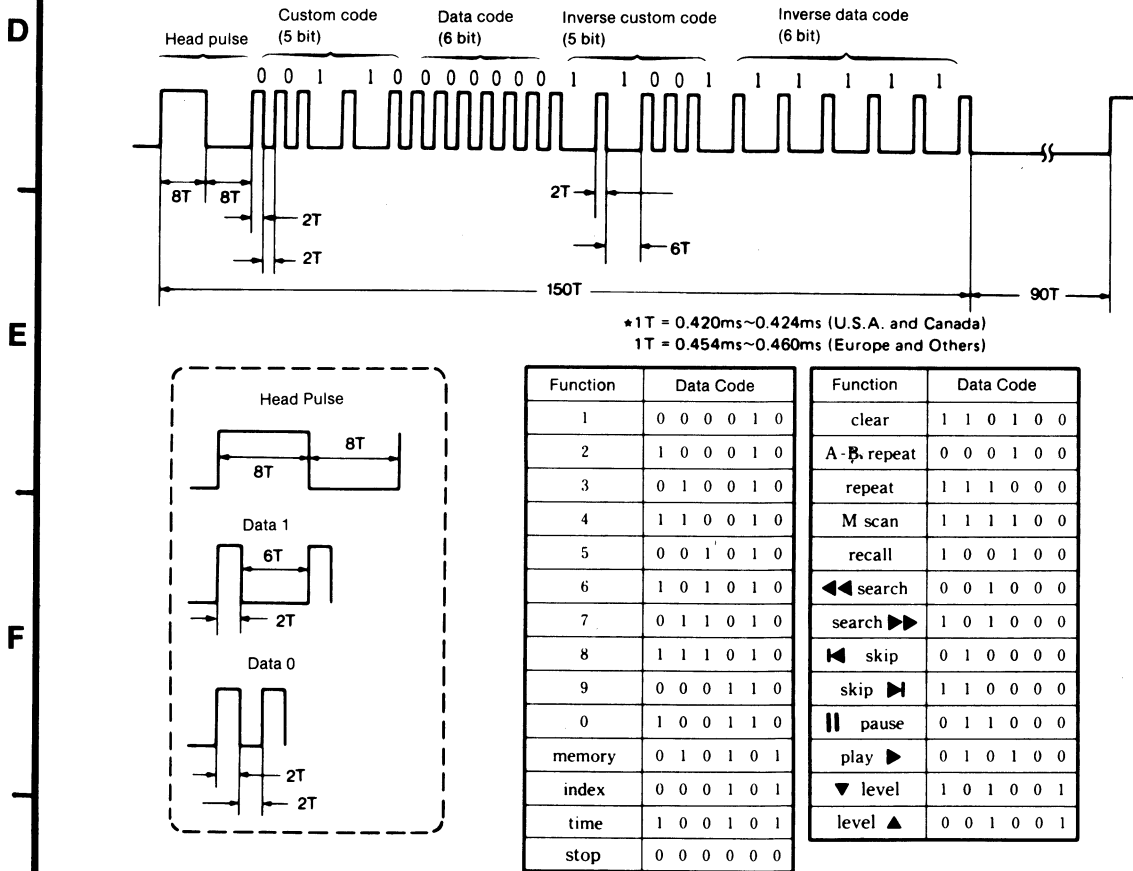
Notes:

- 1. S1 : Power switch in "on" position.
- 2. S2 : Voltage selector switch. Except for U.S.A. and Canada.
- 3. S101 : Disc holder open/close detection switch.
- 4. S102 : Disc holder open/close detection switch.
- 5. S301 : Digital output selector switch.
- 6. S601 : Play switch.
- 7. S602 : Stop switch.
- 8. S603 : Open/close switch.
- 9. S604 : Pause switch.
- 10. S605 : Repeat switch.
- 11. S606 : Time mode switch.
- 12. S607 : Forward search switch.
- 13. S608 : Backward search switch.
- 14. S609 : A-B repeat switch.
- 15. S610 : Forward skip switch.
- 16. S611 : Backward skip switch.
- 17. S612 : Music scan switch.
- 18. S613 : Recall switch.
- 19. S614 : Clear switch.
- 20. S615 : Memory switch.
- 21. S616 : Index switch.
- 22. S617 : Auto space switch.
- 23. S618~S627 : Numeric (0~9) switches.
- 24. S628 : Search/speed selector switch.
- 25. S629 : Auto pause switch.
- 26. S641 : Dial search selector switch.
- 27. S642 : Dimmer switch.
- 28. The voltage value and waveform are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit. * The parenthesized are the values of voltage generated during playing (Test disc 1 kHz, L+R, 0 dB), others are voltage values in stop mode.
- 29. 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.
- 30. — : Positive voltage lines and negative voltage lines. $\sim$: Audio signal lines.

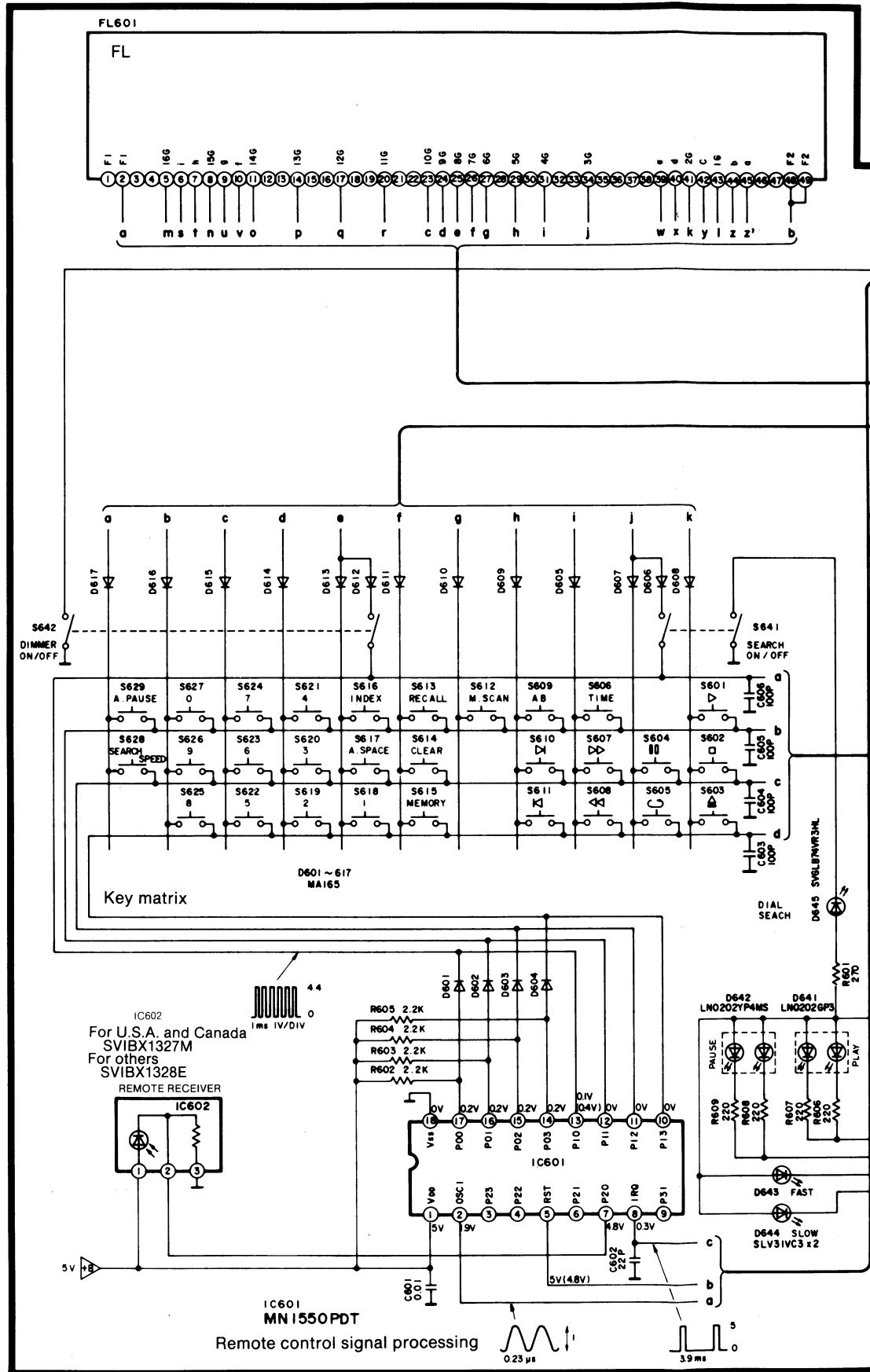
• Remote control unit

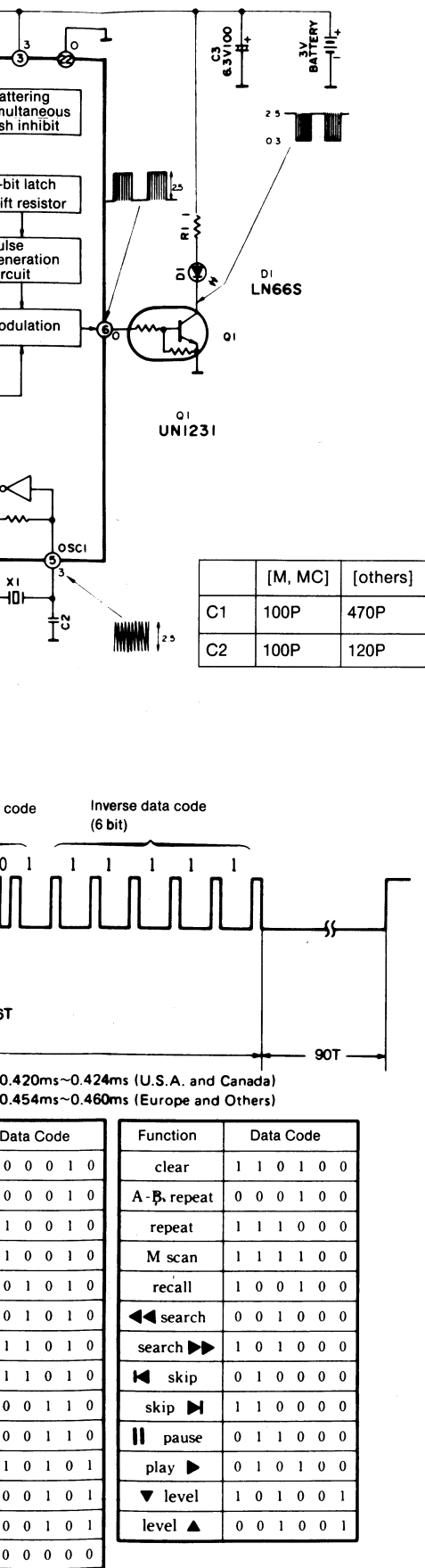


• Key number description and data code

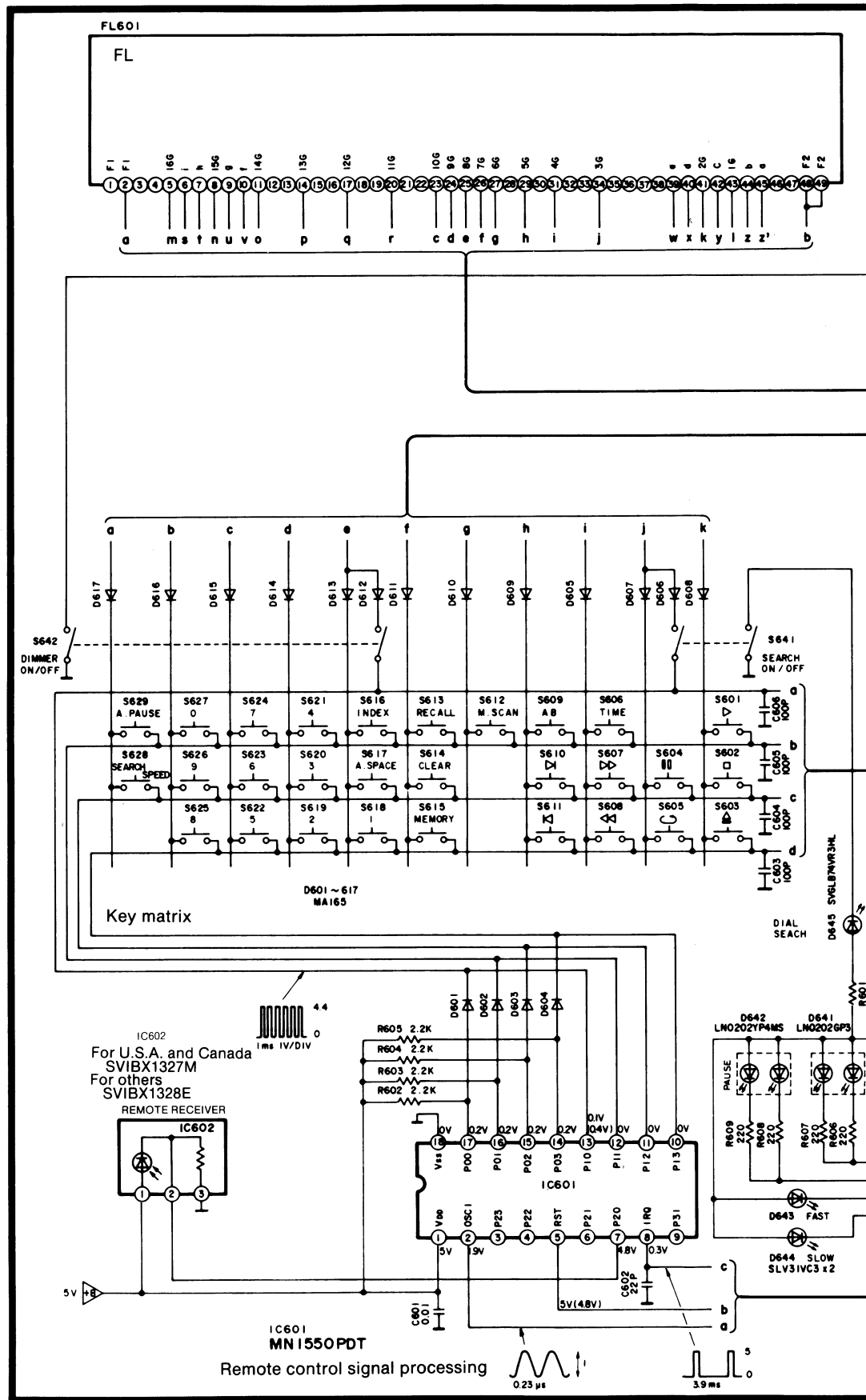


A OPERATION P.C.B.

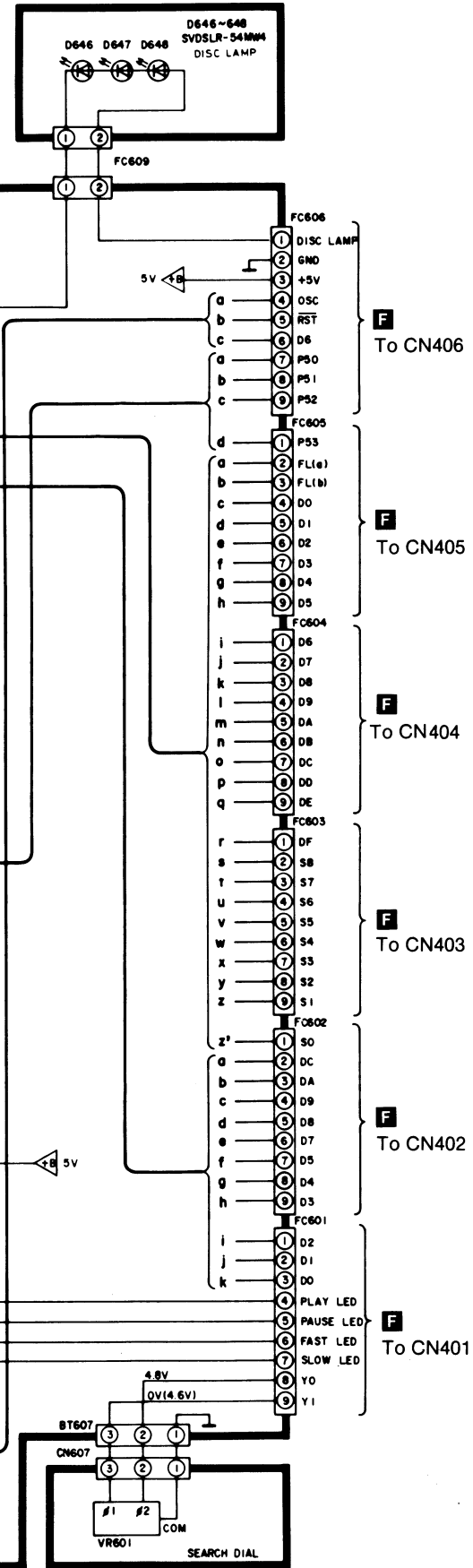




A OPERATION P.C.B.



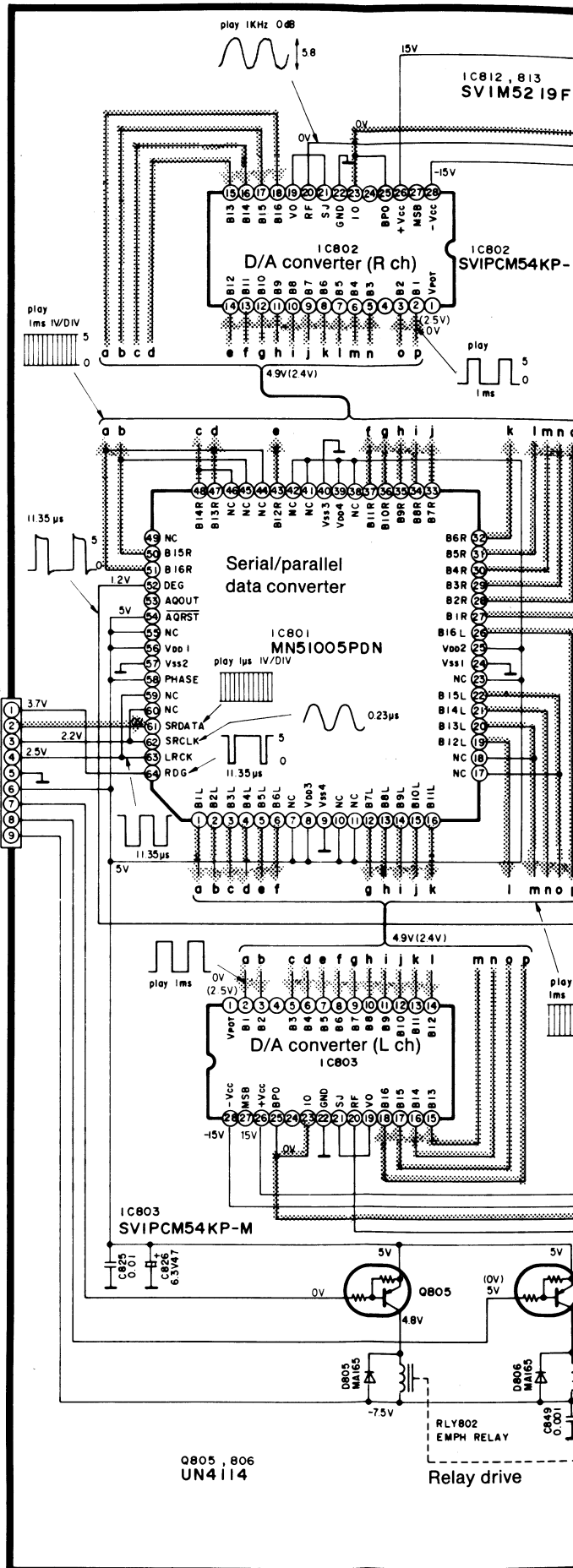
B LED P.C.B.



C SEARCH DIAL P.C.B.



D AUDIO P.C.B.



D AUDIO P.C.B.

F801: For [E, EK, EG, EB, EH, EF, Ei, EC]
areas only
J1: For others

FC606
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GND
+5V
OSC
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FC605
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To CN406

To CN405

To CN404

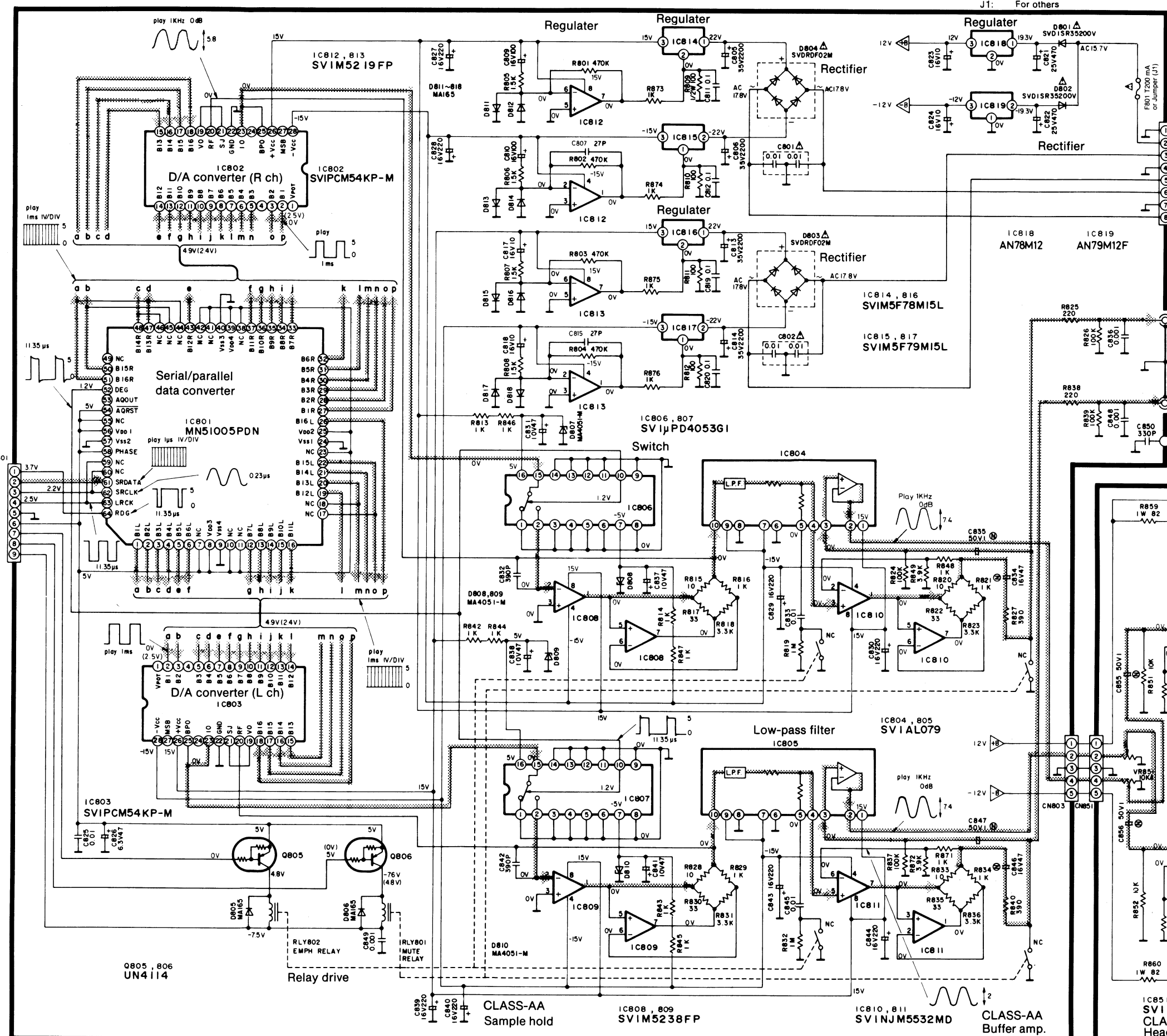
To CN305

To CN403

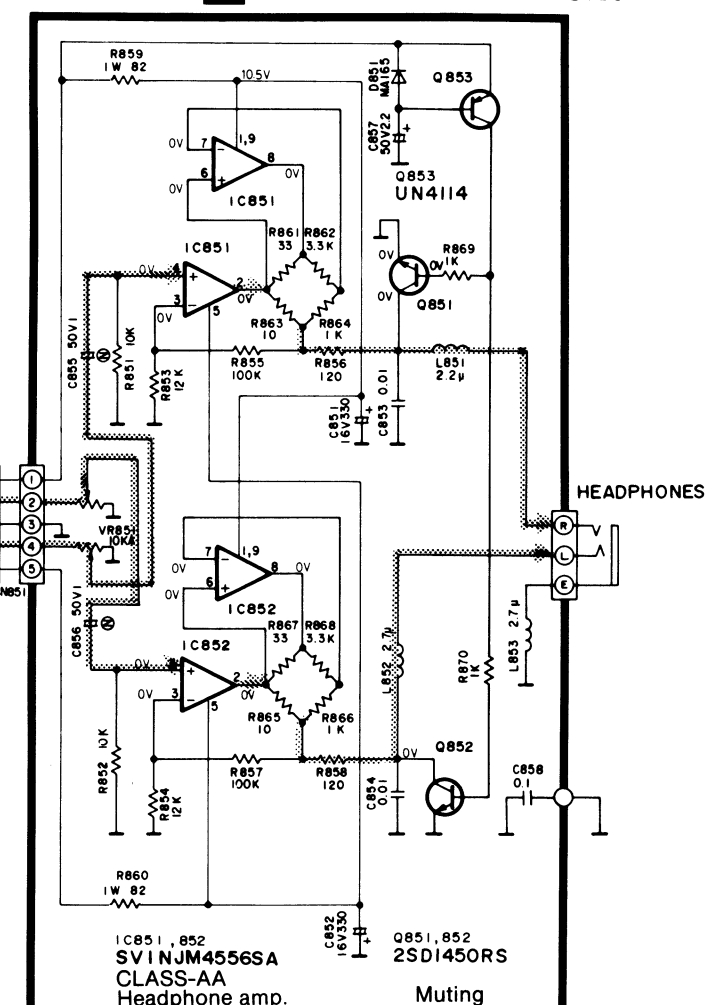
To CN402

To CN401

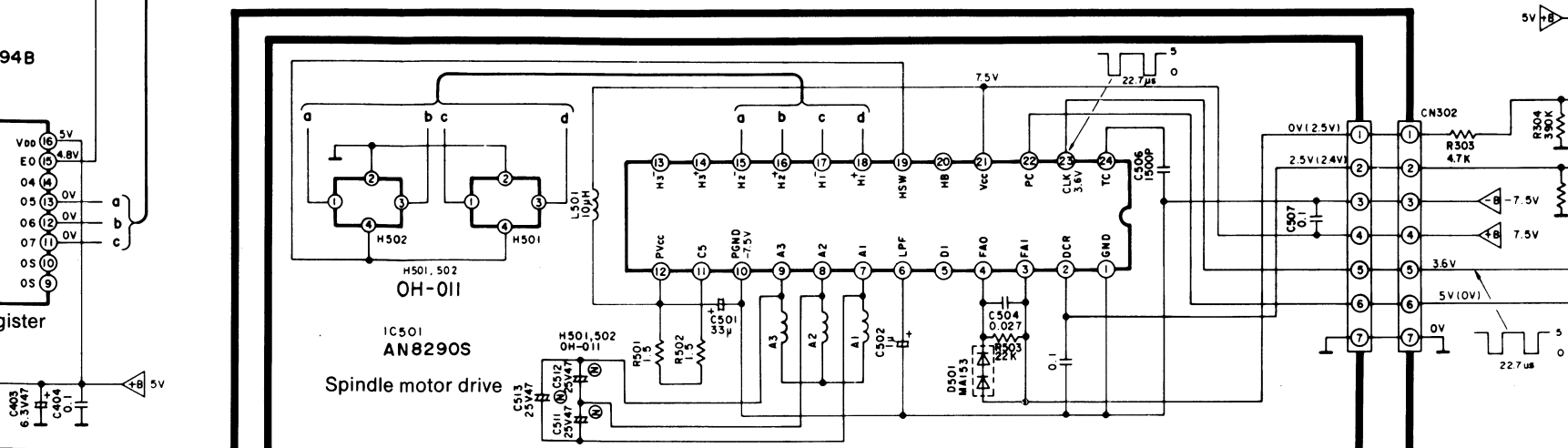
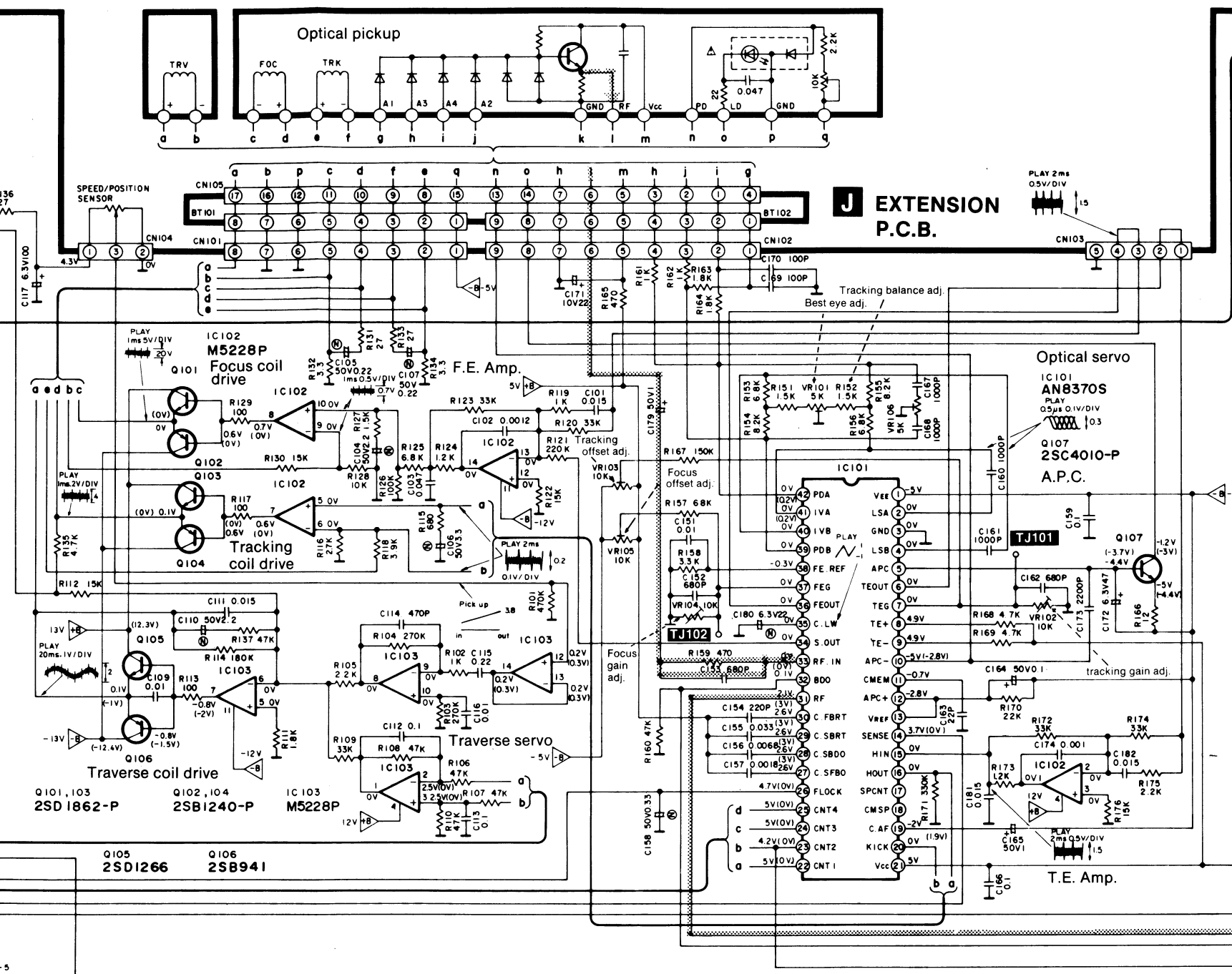
P.C.B.



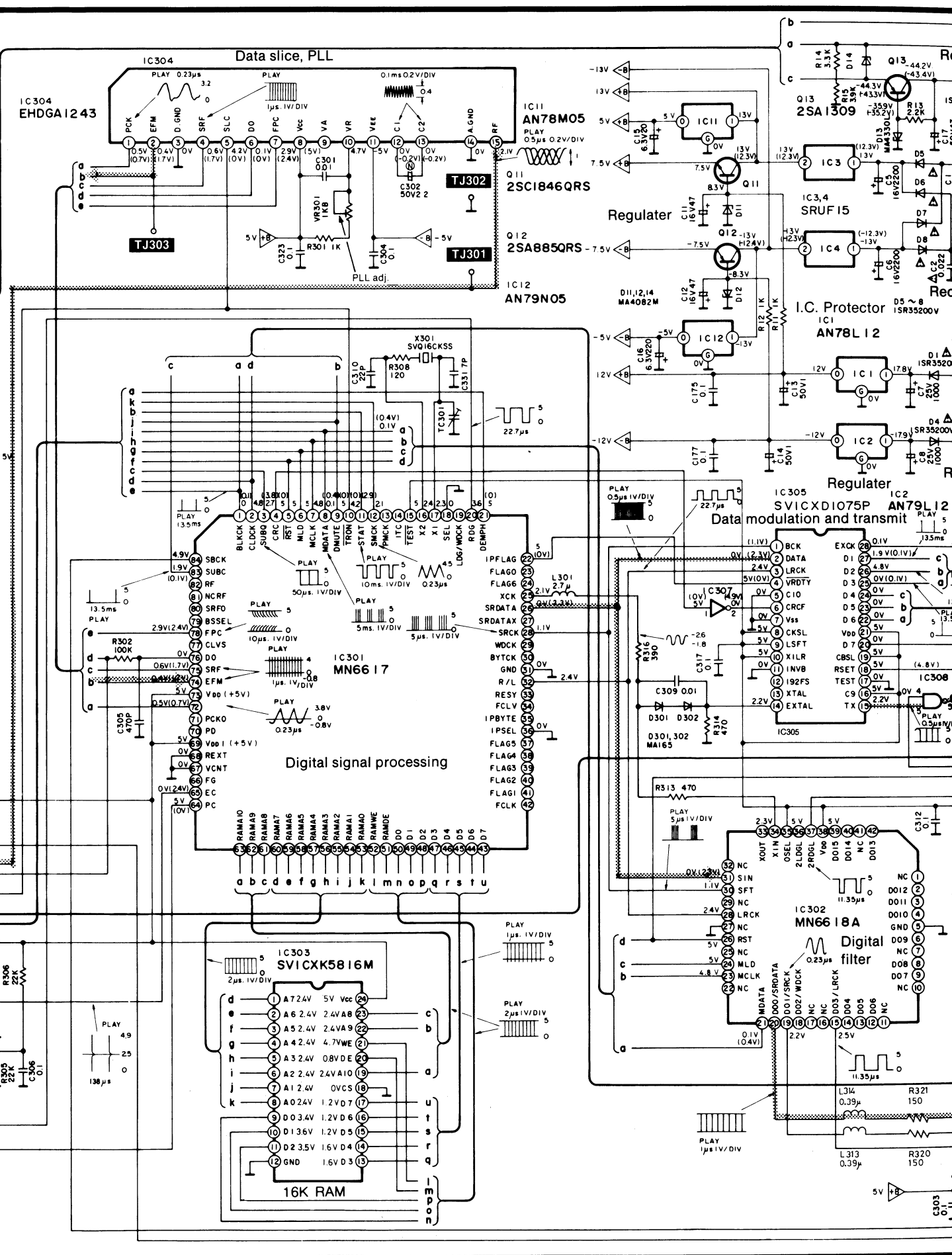
E HEADPHONE AMP P.C.B.

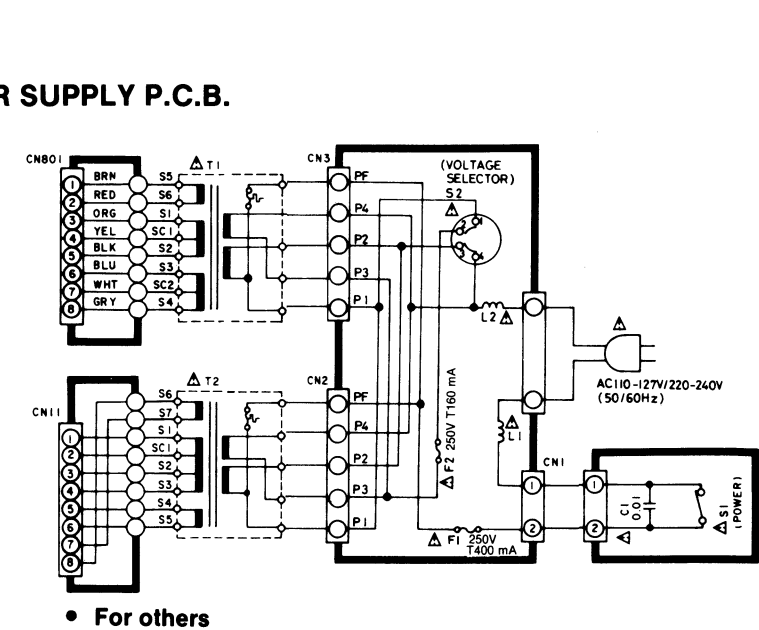






G SPINDLE MOTOR DRIVE P.C.B.





- **Product for MC only**

FUSE REPLACEMENT

 Symbol located near the fuse indicates fast operating type. For continued protection against fire hazard, replace with same type fuse. Refer to the symbol for fuse rating.

FUSIBLE REPLACEMENT

 Le symbole qui se trouve près du fusible signifie un fusible à action rapide. Pour une protection continue contre les risques d'incendie, n'utiliser que des fusibles du même type. Se rapporter au symbole pour la valeur des fusibles.

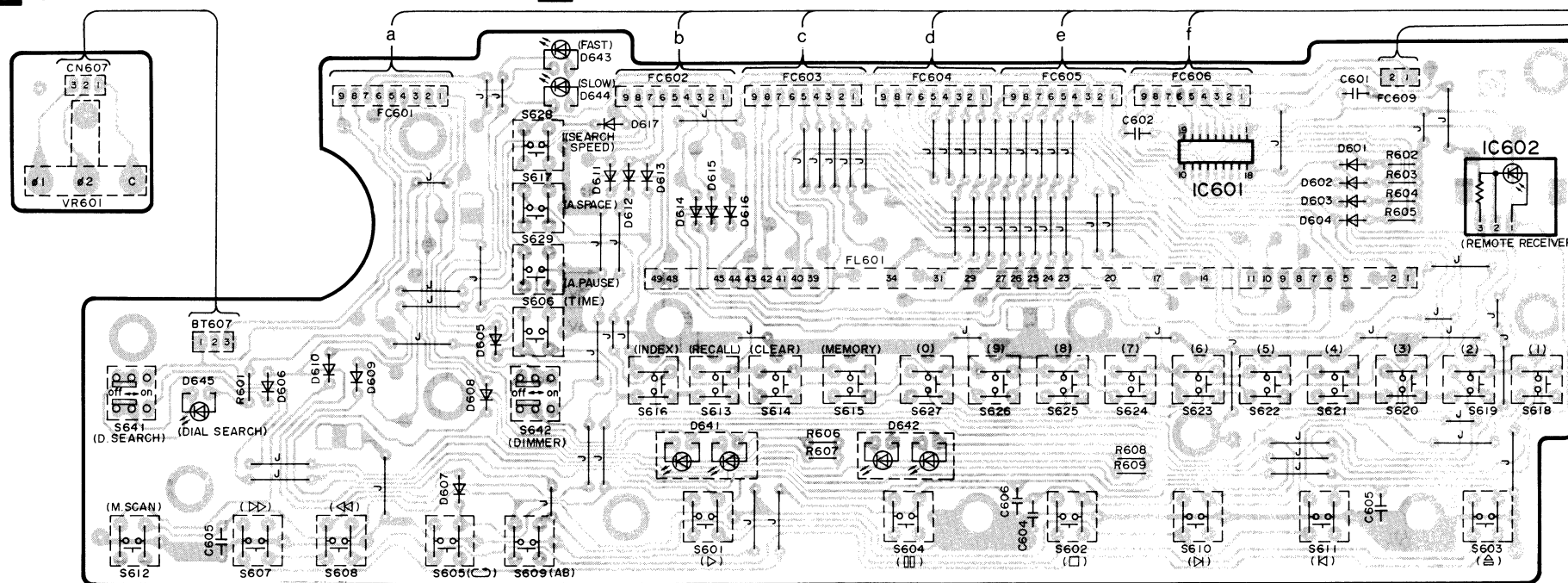
L315: (EG) area only

DIGITAL OUTPUT P.C.B.

To BT801

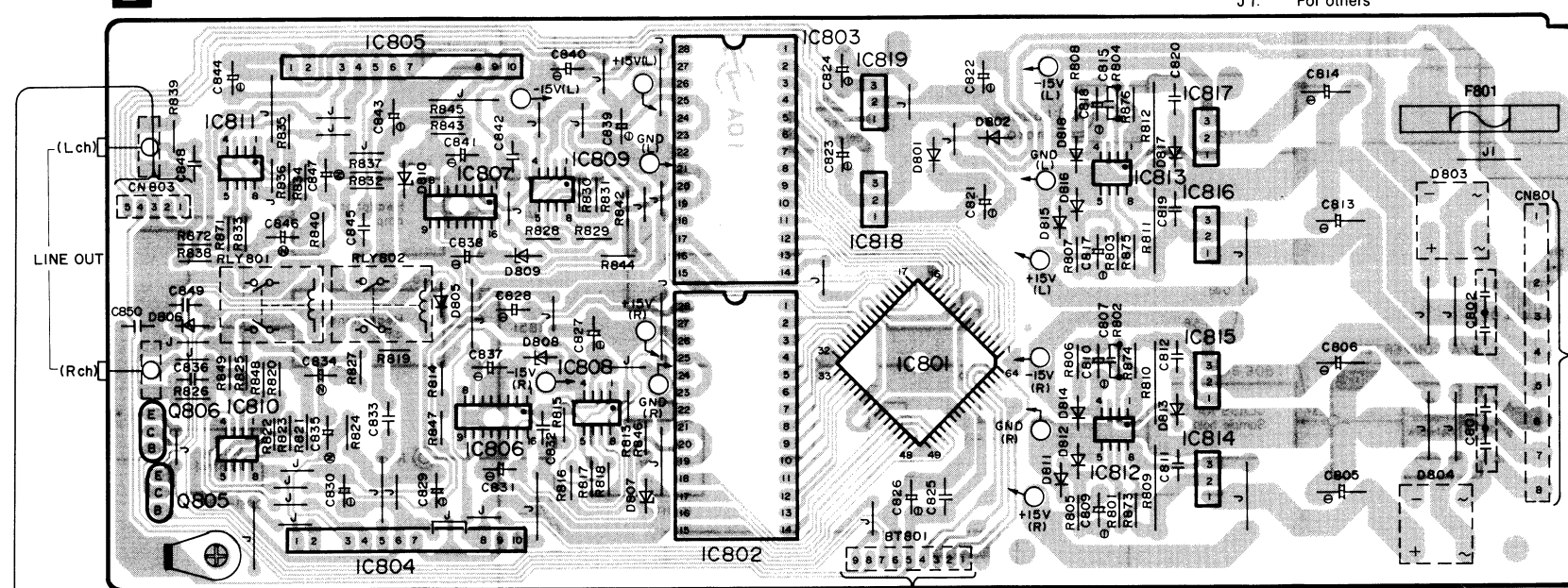
■ PRINTED CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

C SEARCH DIAL P.C.B.



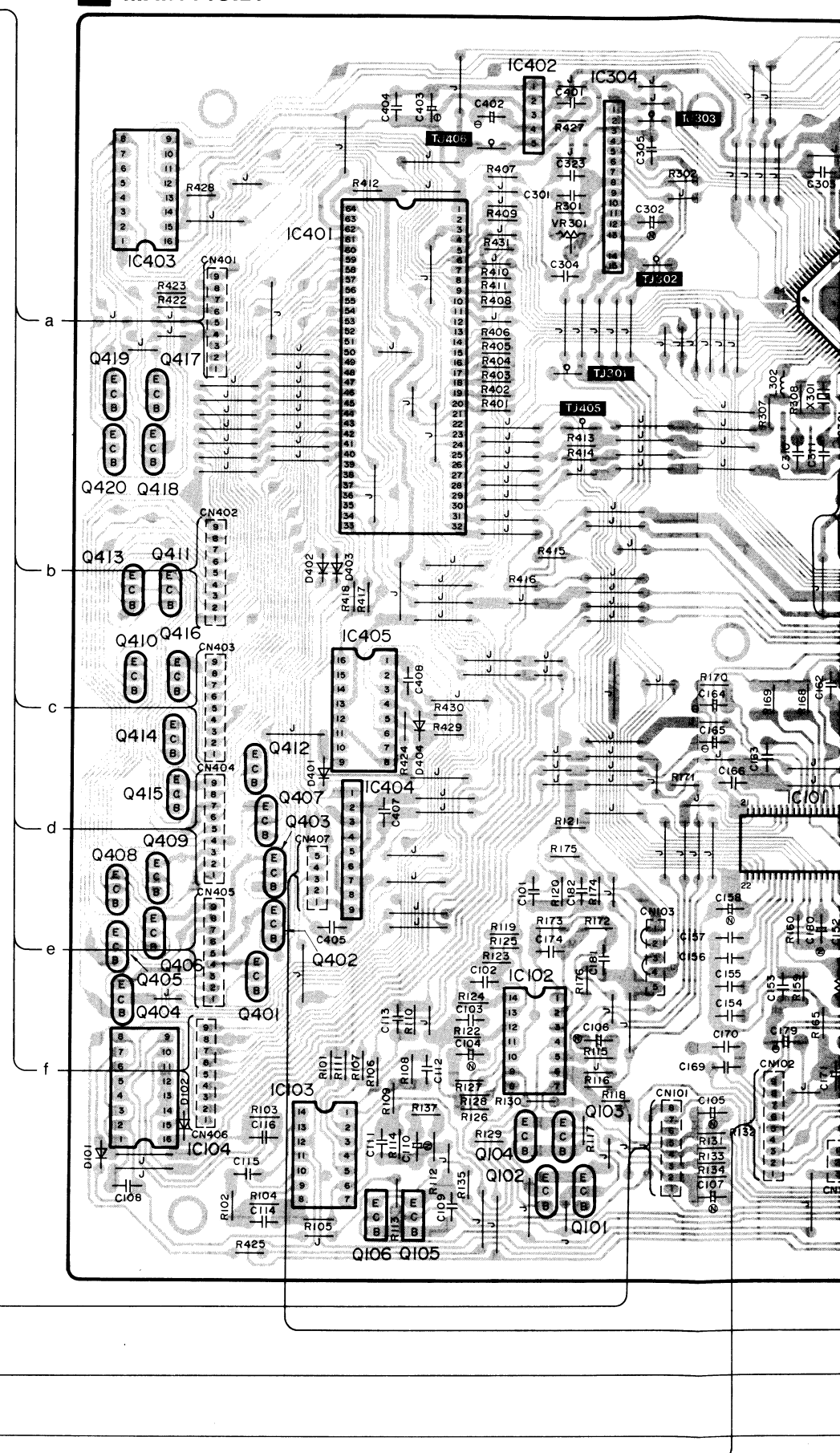
A OPERATION P.C.B.

D AUDIO P.C.B.

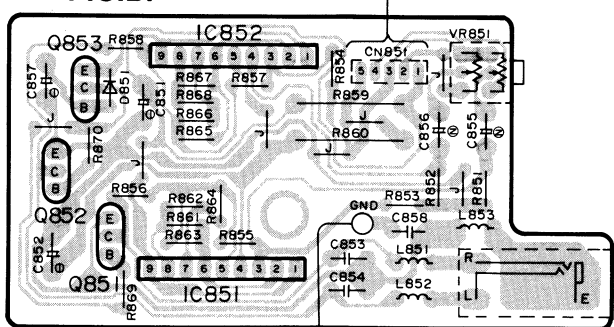


B LED P.C.B.

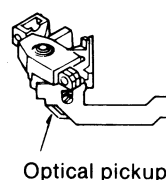
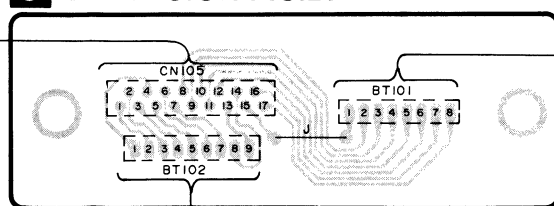
F MAIN P.C.B.

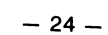


E HEADPHONE AMP P.C.B.

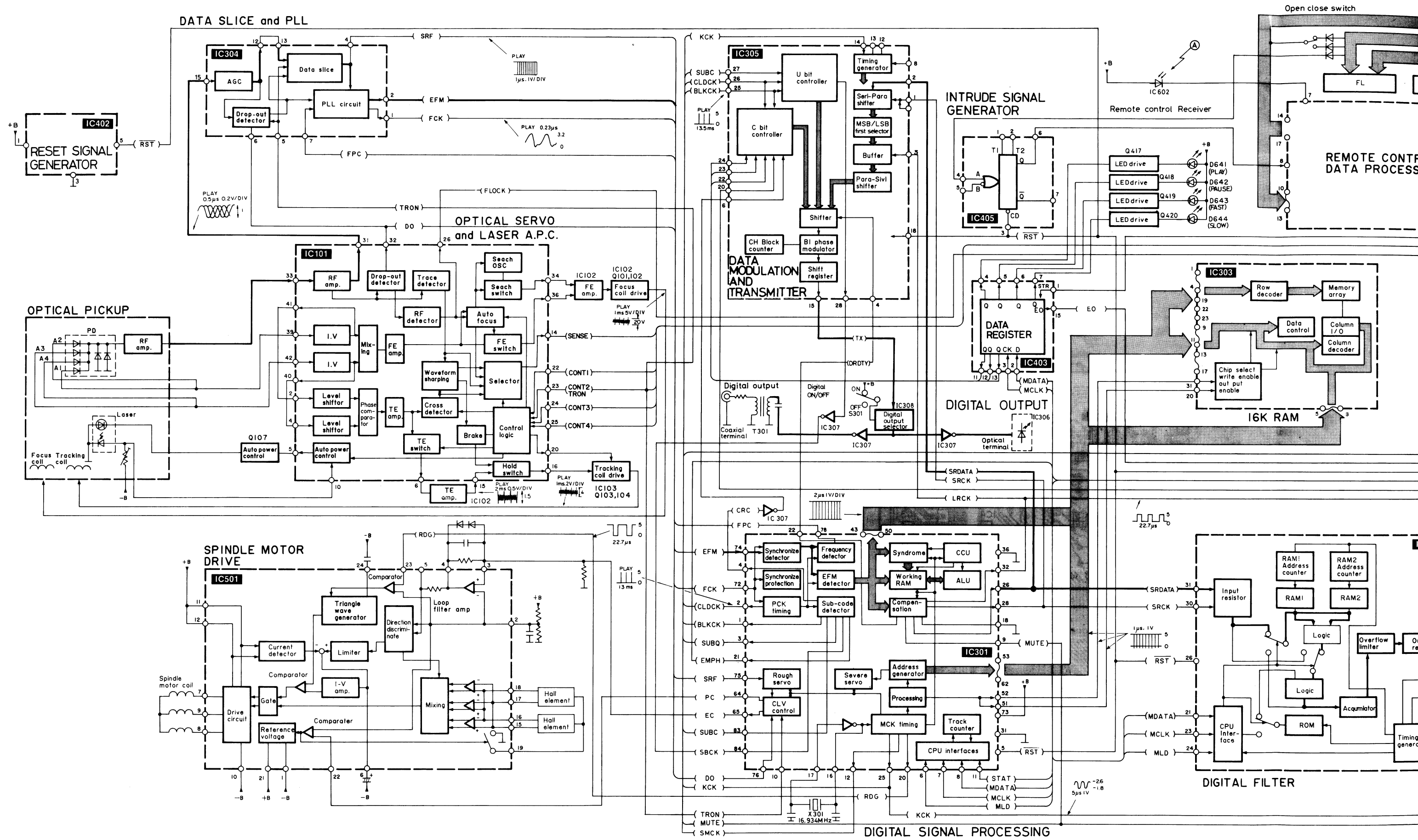


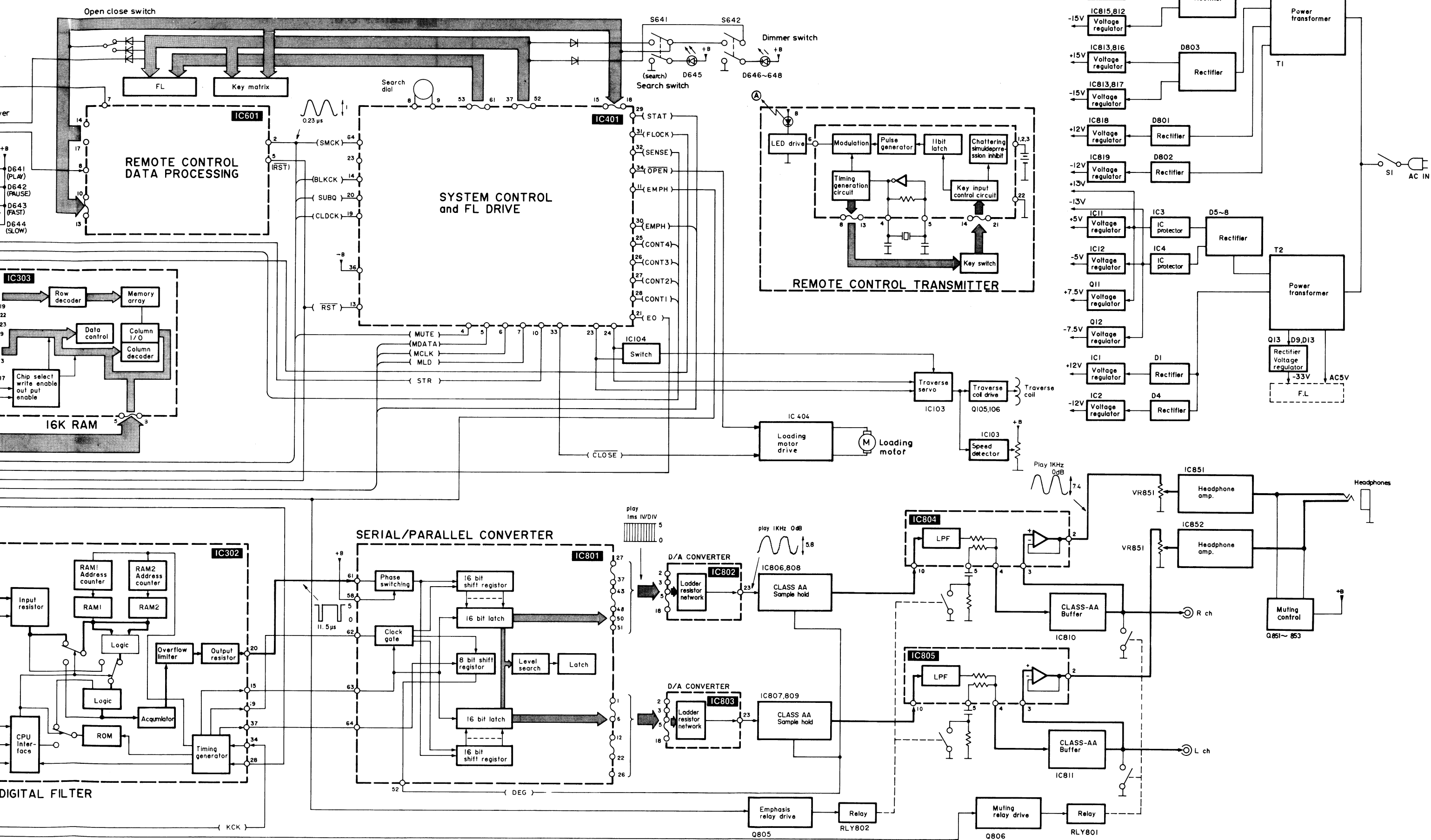
J EXTENSION P.C.B.





■ BLOCK DIAGRAM





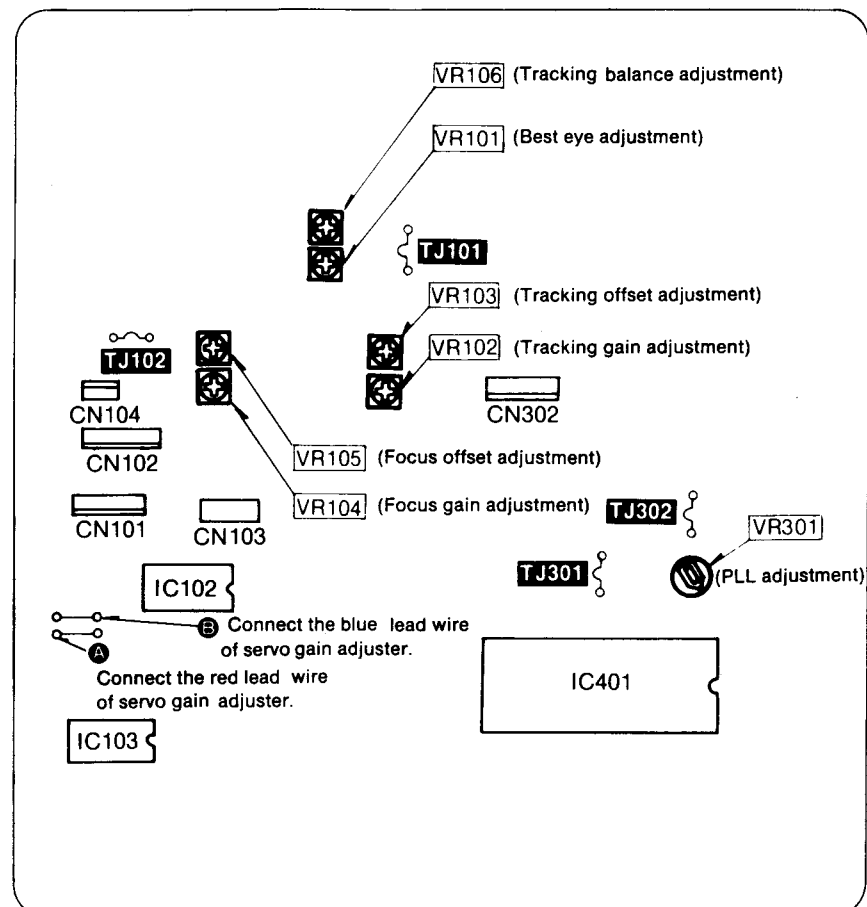
MEASUREMENTS AND ADJUSTMENTS

Caution:

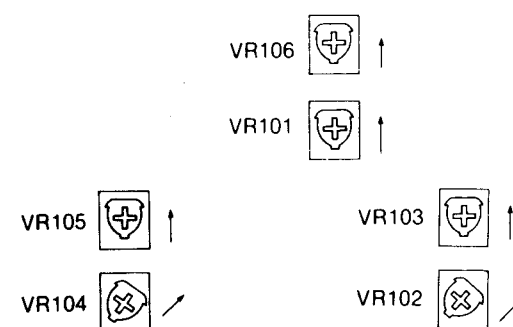
- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
With the unit turned "on", laser radiation is emitted from the pickup lens.
Avoid exposure to the laser beam, especially when performing adjustments.

ADJUSTMENT POINTS

• Main P.C.B.



• Temporary setting of each VR



ELECTRICAL ADJUSTMENT

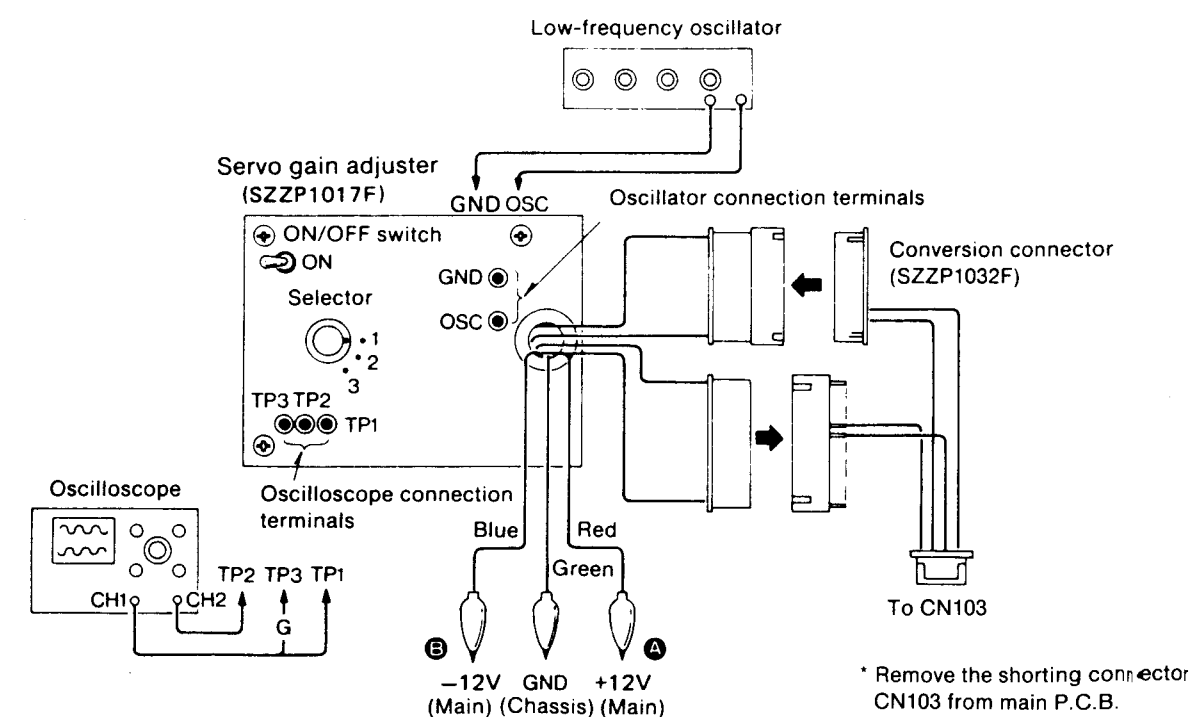
Measuring Instruments and Special Tools

- Servo gain adjuster (SZZP1017F)
- Test discs
 - Test disc (SZZP1014F) old or new type
 - Inspection test disc (SZZP1054C)
 - Uneven disc (SZZP1056C)
 - Black band disc (SZZP1057C)
- Ordinary disc
- Two-channel oscilloscope (with trigger) of 30MHz or over
- Low frequency oscillator
- Conversion connector (SZZP1032F)

Adjustment Procedure

- | | |
|---|---|
| Step 1: Remove the cabinet.
(Refer to page 7.) | Step 8: Focus offset adjustment.
(Refer to page 32.) |
| Step 2: Make the temporary setting of each VR. (Refer to page 29.) | Step 9: Tracking offset adjustment.
(Refer to page 32.) |
| Step 3: Best eye (PD balance) adjustment.
(Refer to page 31.) | Step 10: Connect the servo gain adjuster.
(Refer to page 30.) |
| Step 4: Connect the servo gain adjuster.
(Refer to page 30.) | Step 11: Tracking offset balance adjustment.
(Refer to page 32.) |
| Step 5: Focus gain adjustment.
(Refer to page 31.) | Step 12: PLL adjustment.
(Refer to page 33.) |
| Step 6: Tracking gain adjustment.
(Refer to page 31.) | Step 13: Check of operation after adjustment.
(Refer to page 33.) |
| Step 7: Temporary adjustment of focus and tracking offset. (Refer to page 32.) | |

Connection of Servo Gain Adjuster

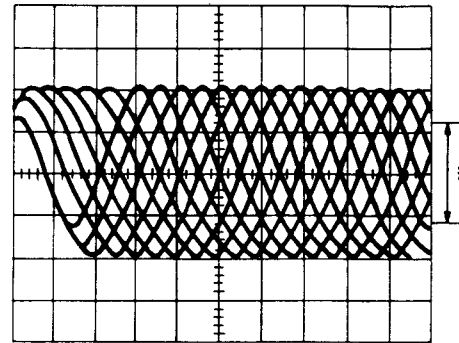


BEST EYE(PD BALANCE) ADJUSTMENT

1. Connect CH1 of the oscilloscope to TJ301 (+) and TJ302 (-) of the main P.C.B.

Oscilloscope setting: VOLT.....200mV
SWEEP.....0.5μsec.
INPUT.....AC

2. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
3. Set the player to the play mode.
4. Adjust VR101 so that the amplitude of the eye pattern of the RF signal is maximized.
5. Turn OFF the power switch of the player.



*Most stretched eye pattern

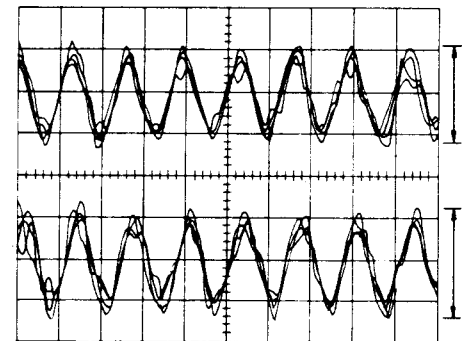
FOCUS GAIN ADJUSTMENT

1. Connect the servo gain adjuster. (Refer to page 30.)
2. Set the selector switch of the servo gain adjuster to 2 and the ON/OFF switch to ON.
3. Set the low frequency oscillator to a frequency of 750Hz and an output voltage of 100mVp-p. Then connect the oscillator to OSC (+) and GND (-) terminals of the servo gain adjuster.

4. Connect CH1 and CH2 of the oscilloscope to TP1 and TP2 of the servo gain adjuster. (TP3 is the ground terminal.)

Oscilloscope setting: VOLT..... 100mV(both channel)
SWEEP.....1msec.
INPUT.....DC

5. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
6. Set the player to the play mode.
7. Shift the selector switch of the servo gain adjuster from "2" to "3".
8. The 750Hz signals will be displayed on the oscilloscope. Adjust VR104 until the waveform amplitudes of both channels are equal.
9. Shift the selector switch of the servo gain adjuster from "3" to "2".
10. Turn OFF the power switch of the player.



*Make a=b

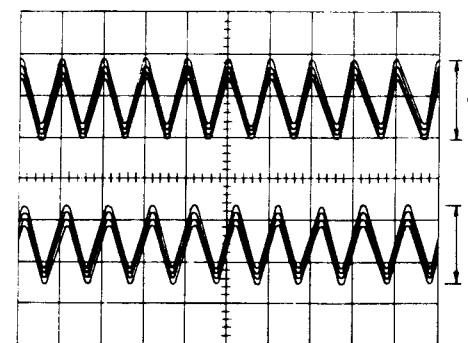
TRACKING GAIN ADJUSTMENT

1. Set the low frequency oscillator to a frequency of 1.0kHz and an output voltage of 100mVp-p. Then connect the oscillator to OSC (+) and GND (-) terminals of the servo gain adjuster.

2. Connect CH1 and CH2 of the oscilloscope to TP1 and TP2 of the servo gain adjuster. (TP3 is the ground terminal.)

Oscilloscope setting: VOLT.....100mV(both channel)
SWEEP.....1msec.
INPUT.....DC

3. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
4. Set the player to the play mode.
5. Shift the selector switch of the servo gain adjuster from "2" to "1".
6. The 1.0kHz signals will be displayed on the oscilloscope. Adjust VR102 until the waveform amplitudes of both channels are equal.
7. Shift the selector switch of the servo gain adjuster from "1" to "2".
8. Turn OFF the power switch of the player.
9. Disconnect the servo gain adjuster, and re-insert the shorting connector CN102 to its original position.



*Make a=b

TEMPORARY ADJUSTMENT OF FOCUS AND TRACKING OFFSET

(Temporary adjustment of focus offset)

1. Connect CH1 of the oscilloscope to TJ102 (+) and TJ302 (-) of the main P.C.B.

Oscilloscope setting: VOLT.....100mV
SWEEP.....5msec.
INPUT.....DC

2. Turn ON the power switch of the player and insert the test disc (SZZP1057C).
3. After the player reads TOC, adjust VR105 so that the voltage waveform center on the oscilloscope is 0mV.

(Temporary adjustment of tracking offset)

1. Connect CH1 of the oscilloscope to TJ101 (+) and TJ302 (-) of the main P.C.B.

Oscilloscope setting: VOLT.....100mV
SWEEP.....5msec.
INPUT.....DC

2. Turn ON the power switch of the player and insert the test disc (SZZP1057C).
3. After the player reads TOC, adjust VR103 so that the voltage waveform center on the oscilloscope is 0mV.

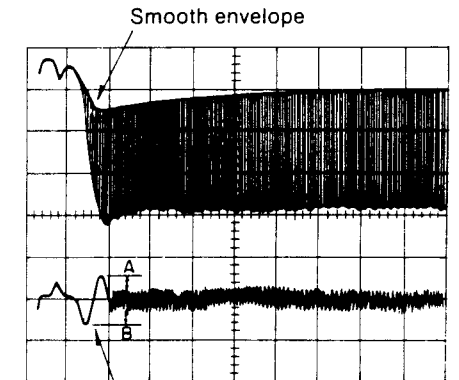
FOCUS OFFSET ADJUSTMENT

1. Connect CH1 of the oscilloscope to TJ301 (+) and TJ302 (-) of the main P.C.B.

Connect CH2 of the oscilloscope to TJ102 (+) and TJ302 (-) of the main P.C.B.

Oscilloscope setting: VOLT.....200mV(CH1) 100mV(CH2)
SWEEP.....0.5msec.
INPUT.....AC(CH1),DC(CH2)
MODE.....NORM
(Triggering via CH1)

2. Turn ON the power switch of the player and insert the test disc (SZZP1057C).
3. Set the player to the play mode.
4. Check the waveform of CH1 and CH2 on the oscilloscope and adjust VR105, so that the waveform around the triggering point becomes as shown in the illustration.



Minimize the amplitude or make A=B

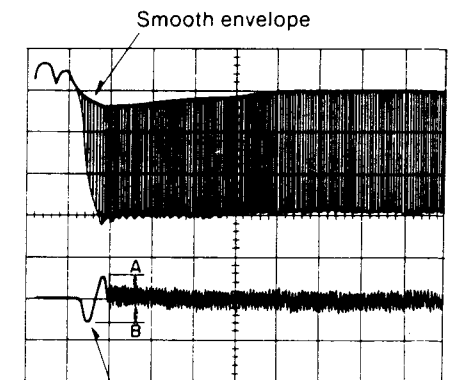
TRACKING OFFSET ADJUSTMENT

1. Connect CH1 of the oscilloscope to TJ301 (+) and TJ302 (-) of the main P.C.B.

Connect CH2 of the oscilloscope to TJ101 (+) and TJ302 (-) of the main P.C.B.

Oscilloscope setting: VOLT.....200mV(CH1) 100mV(CH2)
SWEEP.....0.5msec.
INPUT.....AC(CH1),DC(CH2)
MODE.....NORM
(Triggering via CH1)

2. Turn ON the power switch of the player and insert the test disc (SZZP1057C).
3. Set the player to the play mode.
4. Check the waveform of CH1 and CH2 on the oscilloscope and adjust VR103, so that the waveform around the triggering point becomes as shown in the illustration.



Minimize the amplitude or make A=B

TRACKING OFFSET BALANCE ADJUSTMENT

1. Connect the servo gain adjuster. (Refer to page 30)
2. Set the selector switch of the servo gain adjuster to 2 and the ON/OFF switch to ON.

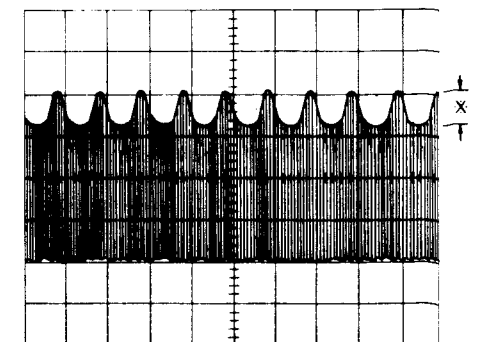
3. Set the low frequency oscillator to a frequency of 1kHz and an output voltage of 200mVp-p. Then connect the oscillator to OSC (+) and GND (-) terminals of the servo gain adjuster.

4. Connect CH1 of the oscilloscope to TJ301 (+) and TJ302 (-) of the main P.C.B.

Oscilloscope setting: VOLT.....500mV
SWEEP.....0.5msec.
INPUT.....AC

5. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
6. Set the player to the play mode.
7. Shift the selector switch of the servo gain adjuster from "2" to "1".
8. Adjust VR106 so that the output waveform is as shown (jitter is minimized).

9. Shift the selector switch of the servo gain adjuster from "1" to "2".
10. Turn OFF the power switch of the player.
11. Disconnect the servo gain adjuster, and re-insert the shorting connector CN102 to its original position.



*Jitter should be minimized.

PLL ADJUSTMENT

1. Connect CH1 of the oscilloscope to the **LINE OUT terminal** (either of Lch or Rch) and **ground**.

Oscilloscope setting: VOLT.....1V
SWEEP.....1msec.
INPUT.....DC

2. Turn **ON** the power switch of the player and insert the test disc (SZZP1054C).

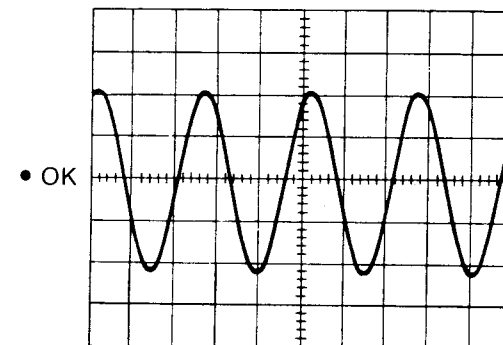
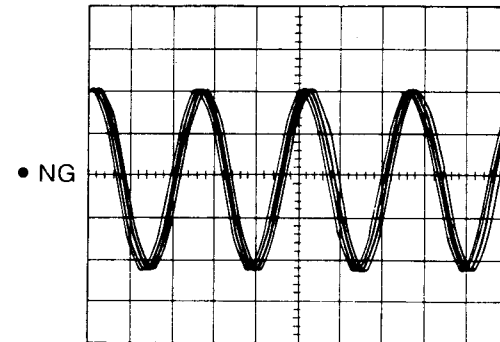
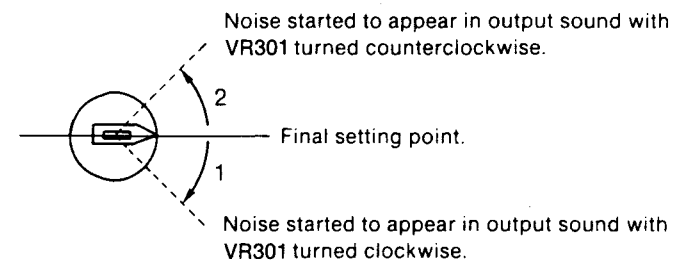
3. Play track No.6 (wedge 0.7 mm) of the test disc.

4. Check the waveform displayed on the oscilloscope and adjust VR301 in the following steps.

Step 1. Turn VR301 clockwise slowly and observe the point at which the waveform on the oscilloscope begins to be disturbed.

Step 2. Turn VR301 counterclockwise slowly and observe the point at which the waveform on the oscilloscope begins to be disturbed.

Step 3. Set VR301 in the middle between the points observed in the above steps "1" and "2".



CHECK OF PLAY OPERATION AFTER ADJUSTMENT

Check of skip search

1. Play an ordinary disc.
2. Press the skip button and verify skip search operation (forward and reverse).

Check of manual search

1. Play an ordinary disc.
2. Press the manual search button and verify that smooth manual search can be performed at low and high speeds (forward and reverse).

Check of playability

1. Play the test disc (SZZP1054C).
2. Play the track No.6 (wedge 0.7 mm) and verify that there is no skip sound or noise.
3. Play the track No.13 (black dot 0.7 mm) and verify that there is no skip sound or noise.

OPTICAL PICKUP ADJUSTMENT

Measuring Instruments and Special Tools

- Two-channel oscilloscope (with trigger) of 30MHz or over
- Test discs
Test disc (SZZP1014F) old or new type
Inspection test disc (SZZP1054C)
Uneven disc (SZZP1056C)

- Hexagonal wrench (SZZP1044C.....1.5mm)
- Screw lock paint (RZZ0L01)

Adjustment Procedure

- If the optical pickup is replaced, adjust it according to the following procedure.

Step 1: Assemble the set to make it ready for power ON check.

Step 2: Make the temporary setting of each VR. (Refer to page 29.)

Step 3: Turntable height adjustment. (Refer to page 34)

Step 4: Mechanical adjustment. (Refer to page 34)

Step 5: Electrical adjustment. (Refer to page 30)

TURNTABLE HEIGHT ADJUSTMENT

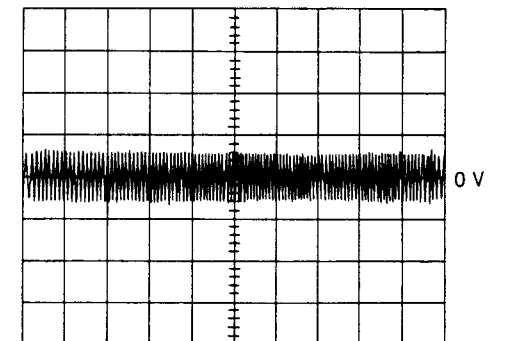
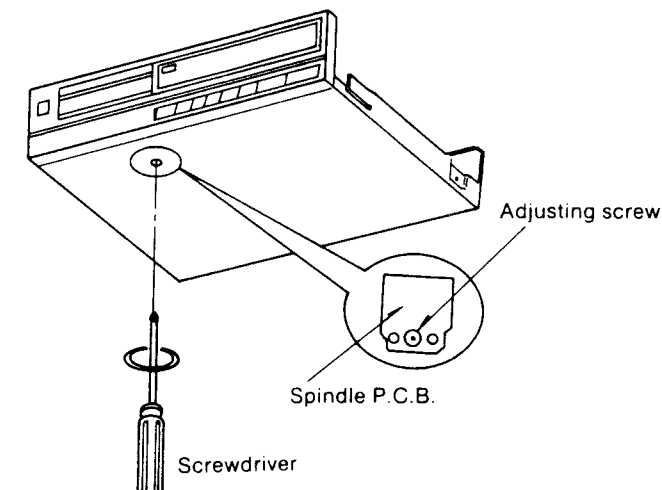
1. Connect CH1 of the oscilloscope to **TJ102 (+)** and **TJ302 (-)** of the main P.C.B.

Oscilloscope setting: VOLT.....100mV
SWEEP.....5msec.
INPUT.....DC

2. Set the oscilloscope to DC zero balance.

3. Turn **ON** the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).

4. Set the player to the play mode.



5. Turn the **adjusting screw** at the bottom of the spindle motor drive P.C.B. with a flat screwdriver so that the waveform is balanced at $0 \pm 50\text{mV}$.

6. Turn **OFF** the power switch of the player.

7. After the adjustment, apply **screw lock paint (RZZ0L01)** to the adjusting screw.

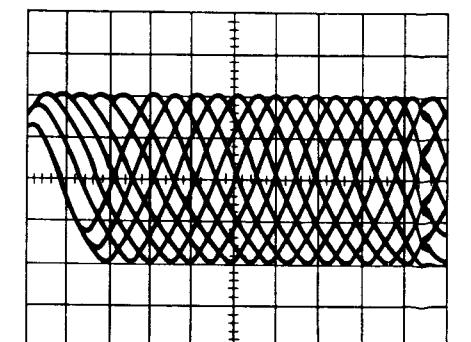
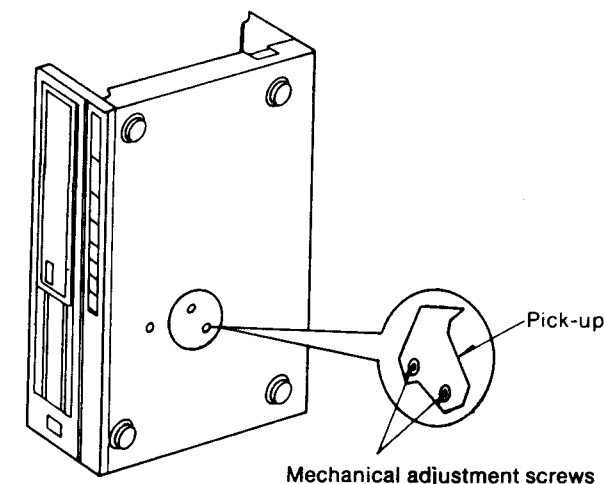
MECHANICAL ADJUSTMENT

1. Connect CH1 of the oscilloscope to **TJ301 (+)** and **TJ302 (-)** of the main P.C.B.

Oscilloscope setting: VOLT.....200mV
SWEEP.....0.5μsec.
INPUT.....AC

2. Turn **ON** the power switch of the player and insert the test disc (SZZP1056C).

3. Using the manual search buttons, move the pick-up so that the mechanical adjustment screws line up with the adjustment holes in the bottom panel.



4. Monitoring the RF signal on the oscilloscope, adjust the **two adjusting screws** alternately so that the vertical fluctuation (jitter) of the RF signal is minimized and the amplitude of the eye pattern is maximized.

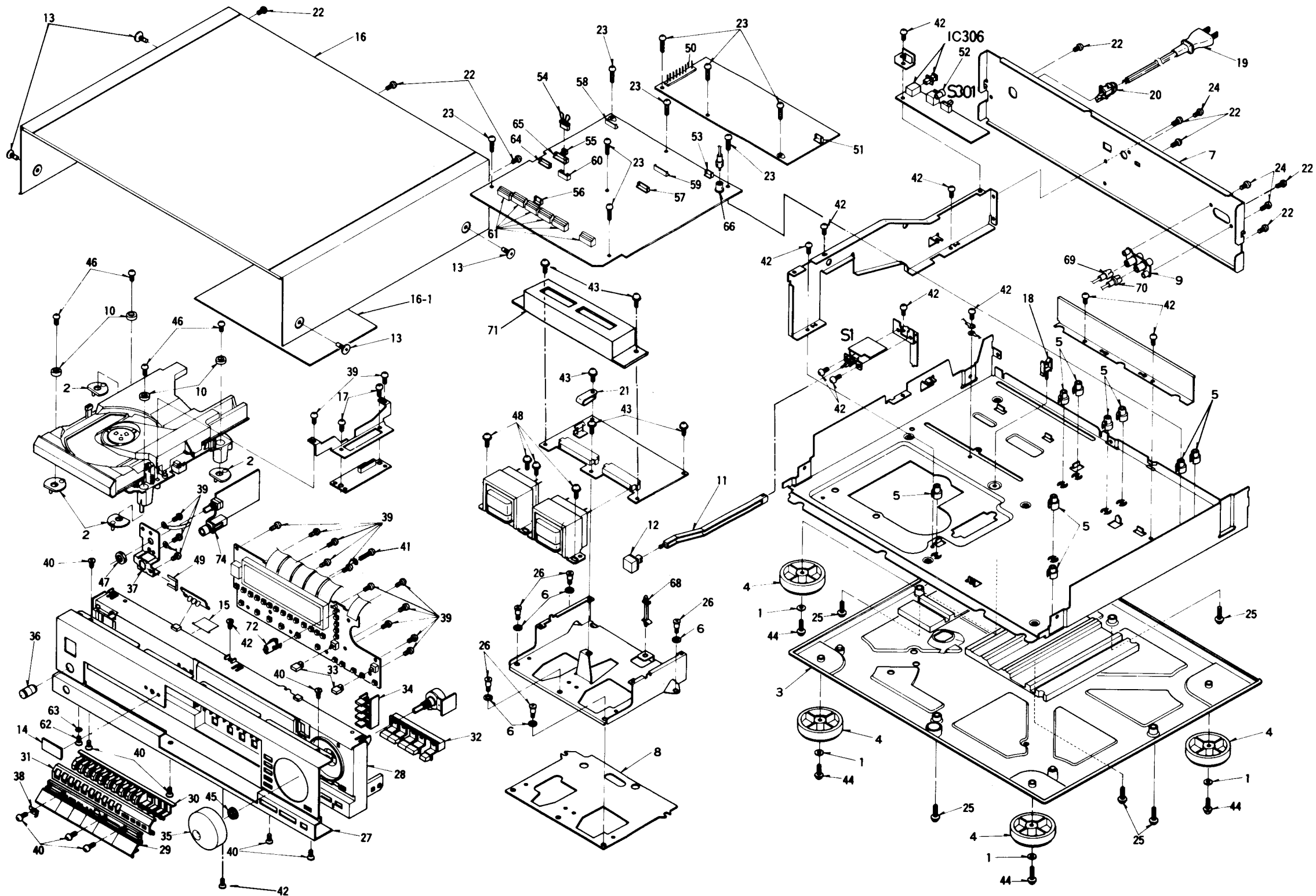
5. Turn **OFF** the power switch of the player.

6. After the adjustment, apply **screw lock paint (RZZ0L01)** to the adjusting screws.

Note: The mechanical adjustment screws have been already locked with screw lock paint at the factory. It might be hard to turn them.

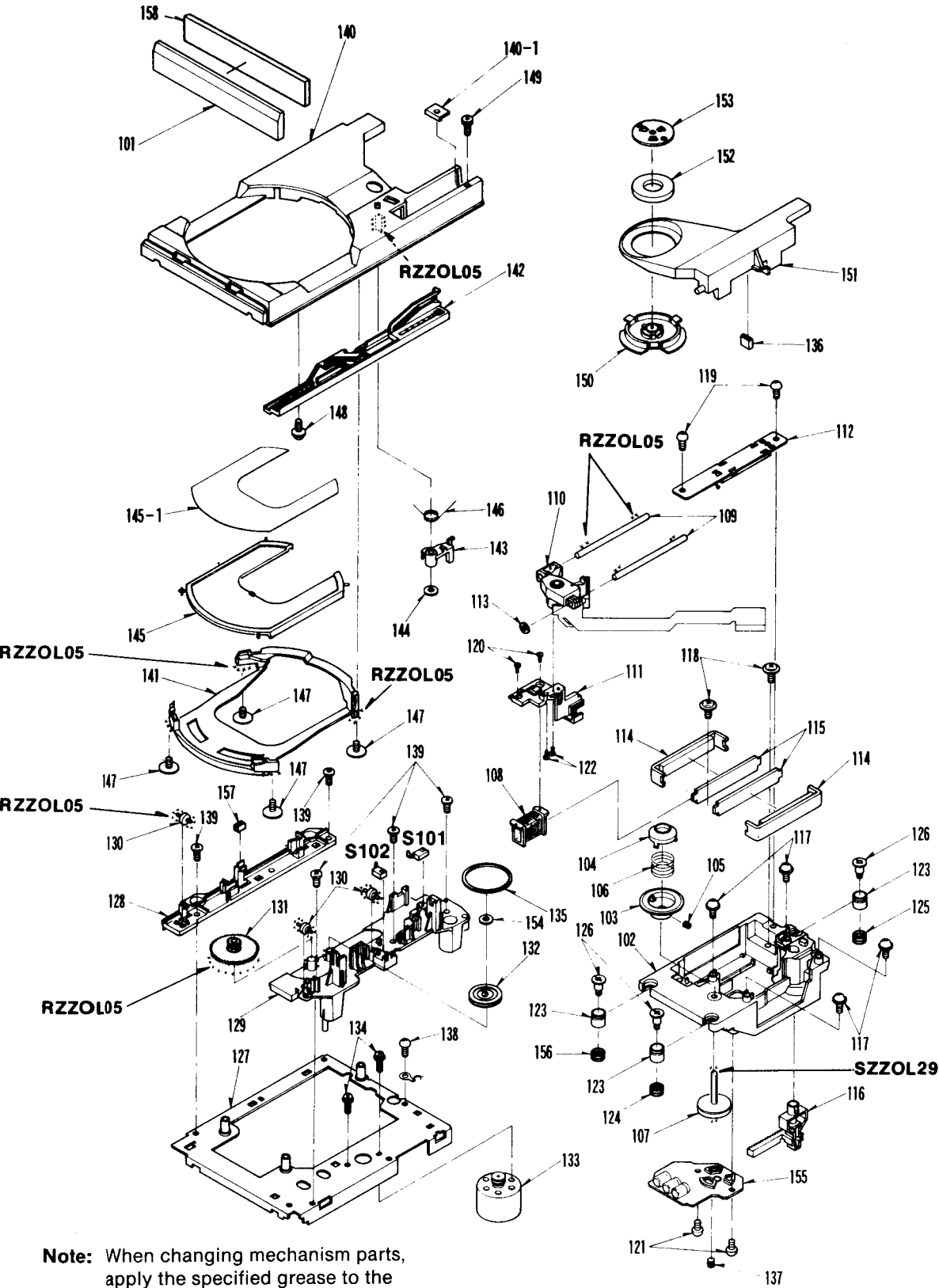
■ EXPLODED VIEW

• Cabinet and chassis parts



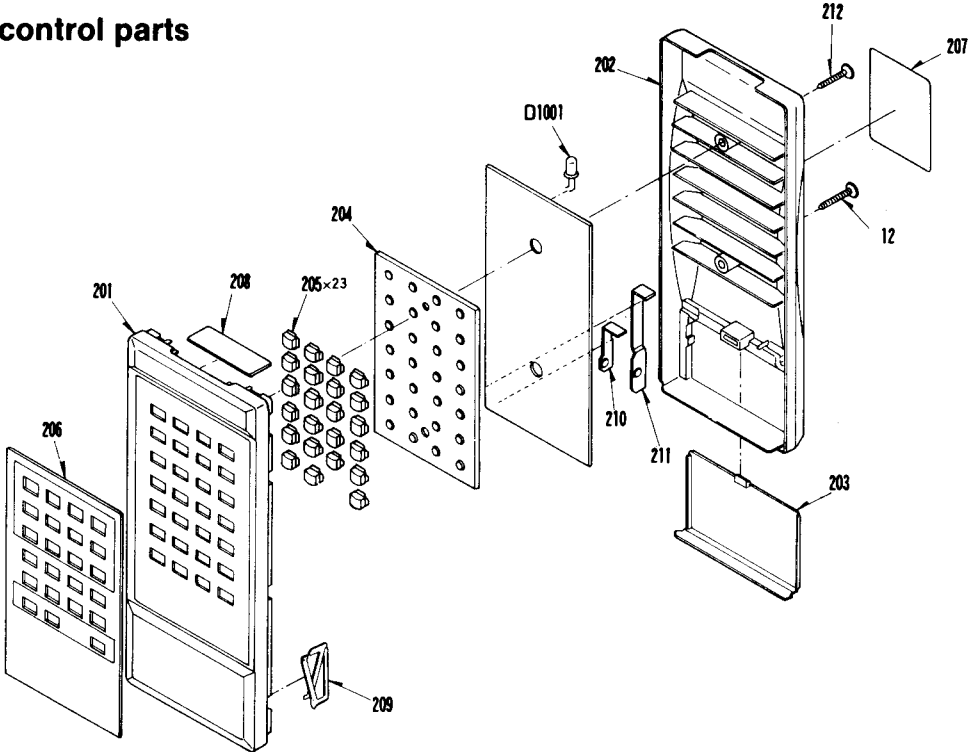
1~20	13	2	2	10				10	15	2			17	16	13	16-1			13	6	6			12	8	6	11		4	1	3			1	4	5		4	1	18	5	5	5	20	9	7	19																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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• Traverse deck parts



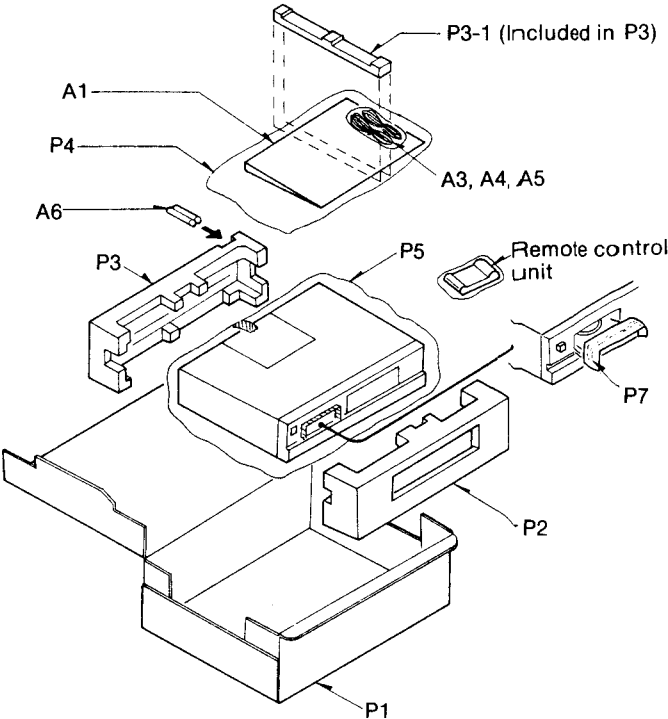
101~120	101	113 108	110 104 103 107	114 111	118 109	117 115	112 117	114
		120	106 102	105			116	
121~140	130 128	139 129 131 139	140 130 134 139 138	140-1 133 123 132 135 122 124 121	149 150	153 152	155 151	126 123 125
	158 145-1 147 145	157 147	148 144 147	143 142 154 146 156				
141~158								

• Remote control parts



■ PACKING

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
PACKINGS				A6	UM-3NE		BATTERY
P1	SPND182	016 971 5024 5	CARTON BOX	(E, EK, XL, EG)			
(M, E, EK, XL)				(EB, EH, EF)			
(EG, EB, EH)				(E1, EC, XA)			
(E1, EC, XA)				(XB, PA, PE)			
(XB, PA, PE)				(PC)			
(PC)				A6	UM-3NEP		BATTERY
P1	SPND183	016 971 5090 5	CARTON BOX	(M, MC)			
(MC)							
P1	SPND184	016 971 5089 8	CARTON BOX				
(EF)							
P2	SPSD99	016 977 3335 1	PAD				
P3	SPSD100	016 977 3336 0	PAD				
P4	XZB26X17C03	016 978 0526 3	POLYETHYLENE BAG				
P5	XZB60X70A01	016 978 0532 5	PROTECTION COVER				
P6	SFYF23A35	017 978 0084 0	PROTECTION COVER				
P7	SPSD68	016 977 3081 4	SHEET				
ACCESSORIES							
A1	SQUD163	016 983 5275 2	INSTRUCTION MANUAL				
(M)							
A1	SQUD165	016 983 5276 1	INSTRUCTION MANUAL				
(XL, XA, EF)							
A1	SQUD167	016 983 5190 6	INSTRUCTION MANUAL				
(EK)							
A1	SQUD166	016 983 5393 0	INSTRUCTION MANUAL				
(EG)							
A1	SQUD188	016 983 5280 5	INSTRUCTION MANUAL				
(E1)							
A1	SQULP1000-KE	016 983 5189 9	INSTRUCTION MANUAL				
(E, EB, EH, EC)							
A1	SQULP1000KMC	016 983 5274 3	INSTRUCTION MANUAL				
(MC)							
A1	SQULP1000KPA	016 983 5277 0	INSTRUCTION MANUAL				
(PA, PE, PC)							
A1	SQULP1000KXB	016 983 5278 9	INSTRUCTION MANUAL				
(XB)							
A2	SJP9215	003 402 1437 9	AC PLUG ADAPTOR				
(XA, XB, PA)							
(PE, PC)							
A3	SFDHMO3N02	003 492 5453 9	OUTPUT CORD				
A4	SJP2274	003 492 6868 6	OUTPUT CORD(COAXIAL)				
A5	SJPD16	003 492 6867 7	CORD				



■ 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.

* Bracketed indications in Ref. No. columns specify the area.

Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS				D9 Δ			
IC1	AN78L12	001 060 8251 7	I.C., REGULATOR	D11, D12	MA4082M	001 032 4955 6	DIODE
IC2	AN79L12	001 060 9072 4	I.C., REGULATOR	D13	MA4330L	001 032 7228 8	DIODE
IC3, IC4	SRUF15	001 061 5311 9	I.C. PROTECTOR	D14	MA4082M	001 032 4955 6	DIODE
IC11	AN78M05	001 060 4137 4	I.C., REGULATOR	D101, D102	MA165	001 032 0494 0	DIODE
IC12	AN79N05	001 060 8714 7	I.C., REGULATOR	D103, D301	MA165	001 032 0494 0	DIODE
IC101	AN8370S	001 060 8399 8	I.C., SERVO	D302, D401	MA165	001 032 0494 0	DIODE
IC102, IC103	AN6554	001 060 4331 4	I.C., OPERATION AMP.	D402, D403	MA165	001 032 0494 0	DIODE
IC104	MN4053B	001 060 7141 6	I.C., SWITCHING	D404	MA165	001 032 0494 0	DIODE
IC301	MN6617	001 060 8411 9	I.C., SIGNAL PROCESSING	D501	MA153	001 032 0489 7	DIODE
IC302	MN6618A	001 061 3043 8	I.C., DIGITAL FILTER	D601- D617	MA165	001 032 0494 0	DIODE
IC303	SV1CXK5816M	001 061 3298 7	I.C., 16K RAM	D641	LNQ202GP3	001 032 3824 0	L.E.D
IC304	EH06A1243	001 061 3036 7	I.C., PLL	D642	LNQ202YP4MS	001 033 0267 4	L.E.D
IC305	SV1CXD1075P	001 061 5280 9	I.C., DIGITAL OUTPUT	D643, D644	SLV31VC3	001 032 4525 4	L.E.D
IC306	SV1TOTX172	001 061 5256 9	I.C., OPTICAL TRANSMITTER	D645	SVGLB74VR3HL	001 032 9300 9	L.E.D
IC307	SVITC40H004P	001 060 4118 7	I.C., GATE	D646, D647	SVDSLRL-54MMW4	001 032 8364 7	L.E.D
IC308	SVITC40H000P	001 060 8761 0	I.C., GATE	D648	SVDSLRL-54MMW4	001 032 8364 7	L.E.D
IC401	MN15283PDR-1		I.C., MICROCOMPUTER	D801, D802 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER
IC402	SV1M51953BL	001 061 1423 8	I.C., RESET	D803, D804 Δ	SVDRDF02M	001 032 8766 3	RECTIFIER
IC403	MN4094B	001 060 5481 7	I.C., DATA REGISTER	D805, D806	MA165	001 032 0494 0	DIODE
IC404	BAG218	001 061 1421 0	I.C., MOTOR DRIVE	D807, D808	MA4051-M	001 032 4947 6	DIODE
IC405	MN4538B	001 060 9182 9	I.C., INTRUDE SIGNAL	D809, D810	MA4051-M	001 032 4947 6	DIODE
IC501	AN8290S	001 061 3034 9	I.C., SPINDLE DRIVE	D811, D812	MA165	001 032 0494 0	DIODE
IC601	MN1550PDT	001 061 3639 6	I.C., MICROCOMPUTER	D813, D814	MA165	001 032 0494 0	DIODE
IC602	SV1BX1327M	001 061 0886 5	I.C., REMOTE RECEIVER	D815, D816	MA165	001 032 0494 0	DIODE
(M, MC)				D817, D818	MA165	001 032 0494 0	DIODE
IC602	SV1BX1328E	001 061 0287 2	I.C., REMOTE RECEIVER	D851	MA165	001 032 0494 0	DIODE
(E, EK, XL, EG)				HALL ELEMENTS			
(EB, EH, EF)				H501, H502	0H-001	001 036 0010 2	HALL ELEMENT
(E1, EC, XA)				VARIABLE RESISTORS			
(XB, PA, PE)				VR101	EVND3AA00B53	001 180 2644 9	V.R., 5K Ω (B)
(PC)				VR102, VR103	EVND3AA00B14	001 180 2642 1	V.R., 10K Ω (B)
IC801	MN51005PDN	001 061 3231 6	I.C., GATE ARRAY	VR104, VR105	EVND3AA00B14	001 180 2642 1	V.R., 10K Ω (B)
IC802, IC803	SV1PCM54KP-M	001 061 3644 9	I.C., D/A CONVERTER	VR106	EVND3AA00B53	001 180 2644 9	V.R., 5K Ω (B)
IC804, IC805	SV1AL079	001 061 3234 3	I.C., LPF	VR301	EVN38CA00B13	001 180 0549 5	V.R., 1K Ω (B)
IC806, IC807	SV1UPD4053G1	001 060 8904 6	I.C., ANALOG SW.	VR601	EVQWX3F2025B	001 174 8905 9	V.R., 200K Ω (B)
IC808, IC809	SV1M5238FP	001 061 5284 5	I.C., OPERATION AMP.	VR851	EVUN1A022A14	001 174 9156 8	V.R., 10K Ω (A)
IC810, IC811	SV1NJM5532MD	001 061 5285 4	I.C., OPERATION AMP.	COILS AND TRANSFORMERS			
IC812, IC813	SV1M5219FP	001 061 5283 6	I.C., OPERATION AMP.	L1, L2 Δ	SLQX400-D	001 210 7020 0	COIL
IC814	SV1M5F78M15L	001 061 5281 8	I.C., REGULATOR	L301	ELEPK4R7KA		COIL
IC815	SV1M5F79M15L	001 061 5282 7	I.C., REGULATOR	L302	ELEPK270KA	001 211 2321 5	COIL
IC816	SV1M5F78M15L	001 061 5281 8	I.C., REGULATOR	L303, L305	ELEPK1R0KA		COIL
IC817	SV1M5F79M15L	001 061 5282 7	I.C., REGULATOR	L309	ELEPKR82MA		COIL
IC818	AN78M12	001 060 4333 2	I.C., REGULATOR	L315	ELEPKR22KA		COIL
IC819	AN78M12F	001 061 5033 2	I.C., REGULATOR	[EG]			
IC851, IC852	SV1NJM4556SA	001 061 0445 6	I.C., OPERATION AMP.	L313, L314	ELEPKR39MA		COIL
TRANSISTORS				L501	NL4532T100K2	001 211 3218 9	COIL
Q11	2SC1846-R	001 030 1134 7	TRANSISTOR	L851, L852	ELEV2R7MA	001 211 4181 1	COIL
Q12	2SA885Q	001 030 0457 5	TRANSISTOR	L853	ELEV2R7MA	001 211 4181 1	COIL
Q13	2SA1309Q	001 030 4058 0	TRANSISTOR	T1 Δ	SLT54JE53E	001 202 8820 8	POWER TRANSFORMER
Q101	2SD1862-P	001 030 7431 7	TRANSISTOR	(E, EK, XL, EG)			
Q102	2SB1240-P	001 030 7395 4	TRANSISTOR	(EB, EH, EF)			
Q103	2SD1862-P	001 030 7431 7	TRANSISTOR	(E1, EC, XA)			
Q104	2SB1240-P	001 030 7395 4	TRANSISTOR	(XB, PA, PE)			
Q105	2SD1266-P	001 030 2391 8	TRANSISTOR	(PC)			
Q106	2SB941-P	001 030 2696 4	TRANSISTOR	T1 Δ	SLT54JU3A	001 202 8479 1	POWER TRANSFORMER
Q107	2SC4010-P	001 030 7430 8	TRANSISTOR	(M, MC)			
Q401- Q416	UN4212	001 030 3019 1	TRANSISTOR	T2 Δ	SLT54JE47E	001 202 8478 2	POWER TRANSFORMER
Q417, Q418	UN4214	001 030 4835 3	TRANSISTOR	(E, EK, XL, EG)			
Q419, Q420	UN4214	001 030 4835 3	TRANSISTOR	(EB, EH, EF)			
Q805, Q806	UN4114	001 030 4832 6	TRANSISTOR	(E1, EC, XA)			
Q851, Q852	2SD1450RS	001 030 6115 0	TRANSISTOR	(XB, PA, PE)			
Q853	UN4114	001 030 4832 6	TRANSISTOR	(PC)			
DIODES				T2 Δ	SLT54JU4A	001 202 8480 8	POWER TRANSFORMER
D1, D4 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER	(M, MC)			
D5, D6 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER	T301	SLZS10VN17		COIL
D7, D8 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER				

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
OSCILLATORS				F801 Δ	XBA2C02TB0S	002 380 1799 3	250V, T200mA
X301	SVQAT1693A	001 250 2126 7	OSCILLATOR	[E, EK, EG, EB]			
DISPLAYS				[EH, EF, E1]			
FL601	SADD6	001 001 0519 1	DISPLAY	[EC]			
FUSES				SWITCHES			
F1 Δ	XBA1F08NU14	002 380 0307 9	125V, 800mA	S1 Δ	ESB8249V	003 435 5877 0	POWER SW
(M, MC)				S2 Δ	SRDSHXW0251	003 438 1067 7	SW, VOLTAGE SELECT
F1 Δ	XBA2C04TB0S	002 380 1800 7	250V, T400mA	(E, EK, XL, EG)			
[E, EK, XL, EG]				(EB, EH, EF)			
(E1, EC, XA)				(E1, EC, XA)			
(XB, PA, PE)				(XB, PA, PE)			
(PC)				(PC)			
F2 Δ	XBA2C016TB0S	002 380 1470 5	250V, T160mA	S101	SSPD8	003 434 1060 4	SW, REST
[E, EK, XL, EG]				S102	SRDSMLS-3	003 438 1168 3	SW, REST
(EB, EH, EF)				S301	SSS153	003 431 3523 1	SW, SELECTOR
(E1, EC, XA)				S601-, S629	EVQ.QS405K	003 435 2832 5	SW, OPERATION
(XB, PA, PE)				S641, S642	ESB64501	003 435 3008 5	SW, OPERATION
(PC)				RELAYS			
				YL801, YL802	SFDYG5A237P	003 450 2713 4	RELAY

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
CABINET AND CHASSIS				(XL, EG, EB)			
1	SHRD92	016 652 0840 9	SPACER	(EH, EF, E1)			
2	SHGD122-1	016 653 1198 3	RUBBER CUSHION	(EC, XB)			
3	SKUD16	016 802 2193 5	BOTTOM BOARD	21	SHRD62	016 652 0704 6	CORD CLAMPER
4	SKL306	016 828 0318 6	INSULATOR	22	SRXG016N01	005 500 5657 0	SCREW
5	SHE185	016 918 0330 9	SPACER	23	XTW3+15T	005 501 1353 4	SCREW
6	SHWD21	016 643 1067 9	SPACER	24	XTV3+10GFZ	005 501 2727 0	SCREW
7	SGPD660KY1A	016 840 7894 9	REAR PANEL	25	XTW3+15TFZ	005 501 2314 7	SCREW
(M)				26	SRXG007N02	005 500 4987 9	SCREW
7	SGPD660KY2A	016 840 7741 5	REAR PANEL	27	SGWLP1000-KM	016 840 7751 3	FRONT PANEL
[E]				28	SGYLP1000-KM	016 840 7750 4	GRILLE
7	SGPD660KY3A	016 840 7742 4	REAR PANEL	29	SBCD4510MWOA	016 702 7097 1	BUTTON
(XA)				30	SBCD4520ZCOA	016 702 7098 0	BUTTON
7	SGPLP1000KEG	016 840 7792 4	REAR PANEL	31	SGXLP1000-KM	016 846 3824 9	ORNAMENT PLATE
[EG]				32	SBCD4530ZKOA	016 702 7088 2	BUTTON
7	SGPLP1000KEK	016 840 7804 7	REAR PANEL	33	SBCD4540ZKOA	016 702 7089 1	BUTTON
(EK)				34	SBCD4550ZKOA	016 702 7090 8	BUTTON
7	SGPLP1000KMC	016 840 7794 2	REAR PANEL	35	SBND70MMWOA	016 700 1994 1	KNOB, SEARCH
(MC)				36	SBN1161-2	016 700 1849 9	KNOB, HEADPHONES
7	SGPLP1000KPA	016 840 7791 5	REAR PANEL	37	SUWD61	016 650 5393 1	BRACKET
(PA, PE, PC)				38	SMTD15	016 601 0636 6	TERMINAL
7	SGPLP1000KXL	016 840 7793 3	REAR PANEL	39	XTV3+8G	005 501 0913 8	SCREW
[EB, EH, EF]				40	XTS3+10GFZ	005 501 1548 5	SCREW
[E1, EC, XB]				41	XYA3+CU16	005 503 1349 0	SCREW
[XL]				42	XTV3+8J	005 501 0901 2	SCREW
8	SMLD3	016 632 1833 6	CUSHION RUBBER	43	XTW3+8TFR	005 501 2602 2	SCREW
9	SJJD15	003 400 7840 8	JACK	44	XTW3+25TFZ	005 501 4841 1	SCREW
10	SHGD123	016 653 1181 2	CUSHION RUBBER	45	SNE4021	005 507 0372 5	NUT
11	SUB73-1	016 712 0363 4	ROD	46	SHDD4	005 500 8051 2	SCREW
12	SBC666-5	016 702 6679 9	BUTTON, POWER	47	XNST7FU	005 507 2069 1	NUT
13	SNE2129-1	005 500 7938 6	SCREW	48	XTW3+8TFZ	005 501 2326 5	SCREW
14	SGB627	016 863 0265 3	BADGE	49	QMA4624	015 632 2682 7	BRACKET
15	SDUD17	016 862 1073 0	PLATE	50	SJSD0811	003 403 6351 9	CONNECTOR (CN01)
16	SKCLP1000-KM	016 800 3107 5	CABINET	51	EMCS0550Z	003 402 1233 9	CONNECTOR (CN03)
16-1	SHGD35	016 653 1036 0	RUBBER CUSHION	52	SJJD16	003 400 7835 5	JACK, DIGITAL OUT
17	SHRD93	016 652 0841 8	CLIP	53	EMCS0450Z		CONNECTOR (CN03)
18	SHR9824	016 652 0835 6	LEAD WIRE HOLDER	54	SRDJ001N14E	003 410 6157 8	SHORTING PIN (CN103)
19 Δ	QFC1205M	003 490 0928 5	POWER CORD	55	EMCS0350Z	003 402 1227 7	CONNECTOR (CN04)
(EK)				56	EMCS0550Z	003 402 1233 9	CONNECTOR (CN07)
19 Δ	RJA52Y	003 490 3914 9	POWER CORD	57	EMCS0750Z	003 402 1238 4	CONNECTOR (CN02)
(XA, PA, PE)				58	EMCS0850Z	003 402 1240 0	CONNECTOR (CN1)
(PC)				59	EMCS0950Z	003 403 1343 9	CONNECTOR (CN05)
19 Δ	SJAG23	003 490 1056 4	POWER CORD	60	EMCS0552M	003 402 0112 1	CONNECTOR (CN03)
(XL)				61	SJSD0905	003 403 4153 1	CONNECTOR (CN4) 1-406)
19 Δ	SJA138-3	003 490 2575 2	POWER CORD	62	XTS3+10J	005 501 2755 6	SCREW
(E, EG, EB, EH)				63	XWC3D	005 513 4535 2	WASHER
(EF, E1, EC)				64	EMCS0850Z	003 402 1240 0	CONNECTOR (CN01)
19 Δ	SJA174	003 490 4312 5	POWER CORD	65	EMCS0950Z	003 403 1343 9	CONNECTOR (CN02)
(M, MC)				66	SJF3105N	003 410 1534 3	CONNECTOR (

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
LOADING MECHANICAL				130	SDRD2	016 740 0117 8	ROLLER
101	SGXD3061MW0A	016 846 3891 8	ORNAMENT PLATE	131	SDGD38	016 745 0231 2	MAIN GEAR
102	S1SLP320-KM	016 630 1812 1	TRAVERSE BASE	132	SDGD39-2	016 745 0234 9	PULLEY GEAR
103	SD007-1	016 766 0190 7	TURNTABLE ASS'Y	133	SMNLP320-KM	002 310 2510 2	LOADING MOTOR
104	SD008	005 512 0399 3	RING	134	XTN26+T4	005 503 1310 5	SCREW
105	XXE26D5	005 500 5095 2	SCREW	135	SMBD3	016 754 0063 9	DRIVE BELT
106	SRQA010N04	017 726 0412 8	SPRING	136	SHGD119	016 653 1175 0	CUSHION RUBBER
107	SOMD9A	016 743 0060 3	ROTOR	137	SNSD9	016 726 0765 4	SCREW
108	SORD21E	001 211 3925 9	COIL	138	XTV3+6BFN	005 501 0888 2	SCREW
109	SUXD78	016 634 0156 4	SHAFT	139	XTV3+8JFZ	005 501 0919 2	SCREW
110	△ S0AD32A	001 271 0705 5	OPTICAL PICKUP	140	S1RLP1000KN2	016 652 0842 7	DISC HOLDER
111	EWSL08A00000	016 652 0786 8	HOLDER	140-1	SHGD118	016 653 1179 6	CUSHION RUBBER
112	EWS7G0A00Q53	001 230 2843 7	RESISTANCE UNIT	141	S1RD39	016 630 1809 6	BASE
113	SHGD131	016 653 1216 8	STOPPER	142	S1RD40	016 630 1810 3	RACK GEAR
114	SOYD8E-1	016 713 0380 8	YOKE	143	S1RD41	016 718 3379 4	LEVER
115	SOYD9	016 634 0125 1	YOKE	144	SFUMZ15R61	017 643 0111 8	WASHER
116	SHRD23	016 652 0633 4	LOCK SHAFT	145	S1RLP1000KN1	016 652 0844 5	DISC TRAY
117	SNSD10	005 500 5675 8	SCREW	145-1	SHSD25	016 655 0657 1	SHEET
118	SNSD27	005 500 7981 3	SCREW	146	SUSD83	016 726 0943 4	SPRING
119	XTV3+8G	005 501 0913 8	SCREW	147	SFXGQ06N01	005 500 4983 3	SCREW
120	XTV2+4G	005 501 4806 4	SCREW	148	SFPEV17202	005 500 0589 5	SCREW
121	XTV3+12G	005 501 0844 4	SCREW	149	SNSD24	005 500 7982 2	SCREW
122	XQN17+A6	005 500 4900 2	SCREW	150	S1RD28	016 631 0053 5	HOLDER
123	SHGD110	016 653 1174 1	CUSHION RUBBER	151	S1RLP320KM4	016 652 0802 5	CLAMPER
124	SUSD84-1	016 726 1026 8	SPRING	152	SOMD4	003 453 0241 8	MAGNET
125	SUSD85-1	016 726 1027 7	SPRING	153	SOYD2	016 634 0111 7	YOKE
126	SFXGB20-01	005 500 0624 9	SCREW	154	SHWD20	016 643 1043 7	WASHER
127	S1WLP320-KM	016 630 1813 0	LOADING BASE	155	SXPD1440	003 483 3040 5	SPINDLE P.C.B.
128	S1RD43-1	016 652 0795 7	BRACKET, LOADING	156	SUSD90-1	016 726 1028 6	SPRING
129	S1RLP320KM3	016 652 0791 1	BRACKET, LOADING	157	SFGZB63M51	017 653 0144 3	CUSHION RUBBER
				158	SHRD78	016 652 0838 3	PLATE

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
I.C. (REMOTE CONTROL)				C1	ECKDIH101KB	001 103 1412 0	CERAMIC, 100PF, 50V
IC1	MN6030B	001 060 6133 0	I.C., TRANSMITTER	(M, MC)			
(E, EK, XL, EG)				C1	ECKDIH471KB	001 103 1551 0	CERAMIC, 50V, 470PF
(EB, EH, EF)				(E, EK, XL, EG)			
(E1, EC, XA)				(EB, EH, EF)			
(XB, PA, PE)				(E1, EC, XA)			
(PC)				(XB, PA, PE)			
IC1	MN6030CA	001 060 8758 5	I.C., TRANSMITTER	(PC)			
(M, MC)				C2	ECKDIH101KB	001 103 1412 0	CERAMIC, 100PF, 50V
TRANSISTORS (REMOTE CONTROL)				(M, MC)			
Q1	UN1231	001 030 5092 4	TRANSISTOR	C2	ECKDIH121KB	001 103 1455 9	CERAMIC, 50V, 120PF
DIODES (REMOTE CONTROL)				(E, EK, XL, EG)			
D1	LN66-S	001 032 3730 5	L.E.D	(EB, EH, EF)			
D2, D3	MA154WK	001 032 3491 1	DIODE	(E1, EC, XA)			
D4, D5	MA154WK	001 032 3491 1	DIODE	(XB, PA, PE)			
D6, D7	MA154WA	001 032 3490 2	DIODE	(PC)			
OSCILLATOR (REMOTE CONTROL)				C3	ECEA0JK101	001 120 0136 8	ELECTROLYTIC, 6.3V, 100µF
X1	CSB420PB1	001 030 0013 9	420 KHZ	REMOTE CONTROL TRANSMITTER			
(E, EK, XL, EG)				201	UR64CS119	016 640 0420 1	TOP COVER
(EB, EH, EF)				202	UR64CS120	016 640 0419 4	BOTTOM COVER
(E1, EC, XA)				203	UR64EC121	016 802 1716 4	COVER, BATTERY
(XB, PA, PE)				204	UR64CT122	016 653 1011 9	RUBBER, SWITCH
(PC)				205	UR64BT123A	016 702 6323 4	BUTTON
X1	CSB455EB1	001 241 0002 7	455KHZ	206	UR64PP124C	016 840 6377 9	PANEL
(M, MC)				207	UR64LB126AF	016 862 1000 7	LABEL
RESISTORS (REMOTE CONTROL)				208	UR64SB125	016 861 2468 6	PLATE
R1	ERDS2TJ1R0	001 152 2419 4	CARBON, 1Ω, 1/4W	209	UR52TD101	003 413 1406 5	TERMINAL (COMMON)
CAPACITORS (REMOTE CONTROL)				210	UR64TD127	003 413 1407 4	TERMINAL (+)
				211	UR64TD128	003 413 1408 3	TERMINAL (-)
				212	XTS26+12GFZ	005 501 3122 9	SCREW

RESISTORS AND CAPACITORS

Notes: * Important safety notice:

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

* Bracketed indications in Ref. No. columns specify the area.

Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value
ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value
				47x10 ¹ (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity
ECEA	50		M	330
Type	Voltage		Peculiarity	Value
				(33x10 ⁰ microfarad)

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : ±5%
ERG : Metal Oxide	12 : 1/2W	F : ±1%
ERJ : Carbon (chip)	25 : 1/4W	G : ±2%
ERO : Metal Film	18 : 1/8W	K : ±10%
FSR : Carbon	S2 : 1/4W	
	S1 : 1/2W	
	8E : 1/8W	
	1A : 1W	
	1S : 1W	

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V	C : ±0.25pF
ECCD : Ceramic	1A : 10V	J : ±5%
ECKD : Ceramic	1C : 16V	K : ±10%
ECQM : Polyester	1E : 25V	Z : +80%
ECQV : Polyester	1H : 50V	-20%
ECQP : Polypropylene	1V : 35V	P : +100%
ECEA000N : Non Polar	50 : 50V	-0%
Electrolytic	05 : 50V	M : ±20%
ECU : Ceramic (Chip Type)	2H : 500V	D : ±0.5pF
ECF : Semiconductor	2A : 100V	G : ±2%
ARP : Electrolytic	1 : 100V	
RCBS : Ceramic (Axial Type)	KC : 400V AC	
RXAF : Ceramic	KC : 125V AC	
REC : Electrolytic	(UL)	
ARA : Electrolytic	1J : 63V	
CQS : Plastic Film		

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
RESISTORS			R156	ERDS2TJ682	001 152 2365 1	R422, R423	ERDS2TJ271	001 152 2435 4
R11, R12	ERDS2TJ102	001 152 2346 4	R157	ERDS2TJ683	001 152 2450 5	R424	ERDS2TJ473	001 152 2363 3
R13	ERDS2TJ222	001 152 2353 5	R158	ERDS2TJ332	001 152 2357 1	R425	ERDS2TJ331	001 152 2356 2
R14, R15	ERDS2TJ392	001 152 2439 0	R159	ERDS2TJ471	001 152 2361 5	R427	ERDS2TJ472	001 152 2362 4
R101	ERDS2TJ474	001 152 2443 4	R160	ERDS2TJ473	001 152 2363 3	R428	ERDS2TJ103	001 152 2347 3
R102	ERDS2TJ102	001 152 2346 4	R161, R162	ERDS2TJ102	001 152 2346 4	R429	ERDS2TJ154	001 152 2427 4
R103, R104	ERDS2TJ274	001 152 2437 2	R163, R164	ERDS2TJ182	001 152 2352 6	R430	ERDS2TJ393	001 152 2440 7
R105	ERDS2TJ222	001 152 2353 5	R165	ERDS2TJ471	001 152 2361 5	R431	ERDS2TJ472	001 152 2362 4
R106, R107	ERDS2TKF4702	001 151 5723 2	R166	ERDS2TJ120	001 152 3146 6	R501, R502	ERJ8GEYK1R5	001 151 6260 8
R108	ERDS2TKF4702	001 151 5723 2	R167	ERDS2TJ154	001 152 2427 4	R503	ERJ8GEYJ223V	001 151 4830 4
R109	ERDS2TJ333	001 152 2358 0	R168, R169	ERDS2TJ472	001 152 2362 4	R601	ERDS2TJ271	001 152 2435-4
R110	ERDS2TKF4702	001 151 5723 2	R170	ERDS2TJ223	001 152 2432 7	R602, R603	ERDS2TJ222	001 152 2353 5
R111	ERDS2TJ182	001 152 2352 6	R171	ERDS2TJ334	001 152 2438 1	R604, R605	ERDS2TJ222	001 152 2353 5
R112	ERDS2TJ153	001 152 2351 7	R172	ERDS2TJ333	001 152 2358 0	R606, R607	ERDS2TJ221	001 152 2431 8
R113	ERDS2TJ101	001 152 2421 0	R173	ERDS2TJ122	001 152 2423 8	R608, R609	ERDS2TJ221	001 152 2431 8
R114	ERDS2TJ184	001 152 2588 8	R174	ERDS2TJ333	001 152 2358 0	R801, R802	ERDS2TJ105	001 152 2422 9
R115	ERDS2TJ681	001 152 2449 8	R175	ERDS2TJ222	001 152 2353 5	R803, R804	ERDS2TJ105	001 152 2422 9
R116	ERDS2TJ272	001 152 2354 4	R176	ERDS2TJ153	001 152 2351 7	R805, R806	ERDS2TJ332	001 152 2357 1
R117	ERDS2TJ101	001 152 2421 0	R301	ERDS2TJ102	001 152 2346 4	R807, R808	ERDS2TJ332	001 152 2357 1
R118	ERDS2TJ392	001 152 2439 0	R302	ERDS2TJ104	001 152 2348 2	R809, R810	ERG1SJ101P	001 151 3072 2
R119	ERDS2TJ102	001 152 2346 4	R303	ERDS2TJ472	001 152 2362 4	R811, R812	ERG1SJ101P	001 151 3072 2
R120	ERDS2TJ333	001 152 2358 0	R304	ERDS2TJ394	001 152 2441 6	R813, R814	ERDS2TJ102	001 152 2346 4
R121	ERDS2TJ224	001 152 2433 6	R305, R306	ERDS2TJ223	001 152 2432 7	R815	FSR25TG100	001 152 6872 1
R122	ERDS2TJ153	001 152 2351 7	R307	ERDS2TJ152	001 152 2350 8	R816	FSR25TG102	001 152 6873 0
R123	ERDS2TJ333	001 152 2358 0	R308	ERDS2TJ121	001 152 2349 1	R817	FSR25TG330	001 152 6874 9
R124	ERDS2TJ122	001 152 2423 8	R309	ERDS2TJ222	001 152 2353 5	R818	FSR25TG332	001 152 6875 8
R125	ERDS2TJ682	001 152 2365 1	R310	ERDS2TJ151	001 152 2426 5	R819	FSR25TJ105	001 152 6878 5
R126	ERDS2TJ104	001 152 2348 2	R311	ERDS2TJ103	001 152 2347 3	R820	FSR25TG100	001 152 6872 1
R127	ERDS2TJ152	001 152 2350 8	R313	ERDS2TJ101	001 152 2421 0	R821	FSR25TG102	001 152 6873 0
R128	ERDS2TJ103	001 152 2347 3	R314	ERDS2TJ104	001 152 2348 2	R822	FSR25TG330	001 152 6874 9
R129	ERDS2TJ101	001 152 2421 0	R315	ERDS2TJ151	001 152 2426 5	R823	FSR25TG332	001 152 6875 8
R130	ERDS2TJ153	001 152 2351 7	R316	ERDS2TJ391	001 152 2360 6	R824	FSR25TJ104	001 152 6877 6
R131	ERDS2TJ270	001 152 2434 5	R320, R321	ERDS2TJ151	001 152 2426 5	R825	FSR25TJ221	001 152 6879 4
R132	ERDS2TJ393	001 152 3152 8	R401, R402	ERDS2TJ472	001 152 2362 4	R826	FSR25TJ104	001 152 6877 6
R133	ERDS2TJ270	001 152 2434 5	R403, R404	ERDS2TJ103	001 152 2347 3	R827	FSR25TJ391	001 152 6880 1
R134	ERDS2TJ393	001 152 3152 8	R405, R406	ERDS2TJ103	001 152 2347 3	R828	FSR25TG100	001 152 6872 1
R135	ERDS2TJ472	001 152 2362 4	R407	ERDS2TJ472	001 152 2362 4	R829	FSR25TG102	001 152 6873 0
R136	ERDS2TJ270	001 152 2434 5	R408	ERDS2TJ103	001 152 2347 3	R830	FSR25TG330	001 152 6874

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
R836	FSR25TG332	001 152 6875 8	C111	ECQM1H153JZ	001 106 0704 0	C404, C405	ECFD1H104ZF	001 108 0906 2
R837	FSR25TJ104	001 152 6877 6	C112, C113	ECQM1H104JZ	001 106 0675 8	C407	ECFD1H104ZF	001 108 0906 2
R838	FSR25TJ221	001 152 6879 4	C114	ECKD1H471KB	001 103 1551 0	C408	ECQM1H102JZ	001 106 0661 4
R839	FSR25TJ104	001 152 6877 6	C115	ECQM1H224KF	001 106 5445 0	C501	ECEV1EV330	001 120 5624 7
R840	FSR25TJ391	001 152 6880 1	C116	ECKD1H103PF	001 103 1449 7	C502	ECEV1HV010	001 120 5625 6
R842, R843	ERDS2TJ102	001 152 2346 4	C117	ECEA0JU101	001 120 2829 8	C504	ECUV1E273KB	001 103 8899 7
R844, R845	ERDS2TJ102	001 152 2346 4	C118, C119	ECEA1AU220	001 120 3563 1	C506	ECUV1H152KB	001 103 6976 9
R846, R847	ERDS2TJ102	001 152 2346 4	C151	ECFTD103KXL	001 108 0341 7	C507	ECUV1E104ZF	
R848	FSR25TG102	001 152 6873 0	C152, C153	ECKD1H681K	001 103 1580 5	C511, C512	ECEA1EN470S	001 120 2394 4
R849	FSR25TG392	001 152 6876 7	C154	ECKD1H221KB	001 103 1487 1	C513	ECEA1EN470S	001 120 2394 4
R851, R852	ERDS2TJ103	001 152 2347 3	C155	ECQM1H333JZ	001 106 0779 1	C601	RCBS1C103MY	001 103 8060 6
R853, R854	ERDS2TJ123	001 152 2424 7	C156	ECKD1H682KB	001 103 1592 1	C602	RCBS1H220JCY	001 103 5600 2
R855	ERDS2TJ104	001 152 2348 2	C157	ECKD1H182KB	001 103 1479 1	C603, C604	RCBS1H101KBY	001 103 5569 4
R856	ERDS2TJ121	001 152 2349 1	C158	ECEA1HNR33B	001 120 6229 0	C605, C606	RCBS1H101KBY	001 103 5569 4
R857	ERDS2TJ104	001 152 2348 2	C159	ECFD1H104ZF	001 108 0906 2	C801, C802	RXAF103Z22EY	001 230 0547 0
R858	ERDS2TJ121	001 152 2349 1	C160, C161	ECKD1H102KB	001 103 1414 8	C805, C806	ARP1V222MOE	
R859, R860	FRG1ANJ820	001 151 0091 1	C162	ECKD1H681K	001 103 1580 5	C807	ECDD1H270K	001 103 0534 5
R861	ERDS2TJ330	001 152 2355 3	C163	ECDD1H220K	001 103 0493 7	C809, C810	ARA1C470MOT	001 120 5014 7
R862	ERDS2TJ332	001 152 2357 1	C164	ECEA1HSOR1	001 120 3250 5	C811, C812	ECQM1H103JZ	001 106 0667 8
R863	ERDS2TJ100	001 152 2420 1	C165	ECEA1HU010	001 120 2842 1	C813, C814	ARP1V222MOE	
R864	ERDS2TJ102	001 152 2346 4	C166	ECQV1H104JZ	001 106 2571 7	C815	ECDD1H270K	001 103 0534 5
R865	ERDS2TJ100	001 152 2420 1	C167, C168	ECKD1H102KB	001 103 1414 8	C817, C818	ARA1C470MOT	001 120 5014 7
R866	ERDS2TJ102	001 152 2346 4	C169, C170	ECKD1H101KB	001 103 1412 0	C819, C820	ECQM1H103JZ	001 106 0667 8
R867	ERDS2TJ330	001 152 2355 3	C171	ECEA1AU220	001 120 3563 1	C821, C822	REC1E471MOE	001 103 9315 8
R868	ERDS2TJ332	001 152 2357 1	C172	ECEA0JU470	001 120 3125 9	C823, C824	REC1C100MOT	001 103 9314 9
R869, R870	ERDS2TJ102	001 152 2346 4	C173	ECKD1H222KB	001 103 1494 2	C825	ECKD1H103PF	001 103 1449 7
R871	FSR25TG102	001 152 6873 0	C174	ECQM1H102JZ	001 106 0661 4	C826	ECEA0JU470	001 120 3125 9
R872	FSR25TG392	001 152 6876 7	C175, C177	ECFD1H104ZF	001 108 0906 2	C827, C828	ARA1C221MO	001 120 5664 9
R873, R874	ERDS2TJ102	001 152 2346 4	C179	ECEA1HU010	001 120 2842 1	C829, C830	ARA1C221MO	001 120 5664 9
R875, R876	ERDS2TJ102	001 152 2346 4	C180	ECEA1AN220S	001 120 2313 1	C831	ARA1A470MOT	001 120 5663 0
CAPACITORS			C181, C182	ECQM1H153JZ	001 106 0704 0	C832	CQS2B391JCDF	001 106 5432 5
C1, C2	ECKD1H223PF	001 103 1510 9	C301	ECQB1H103JZ	001 106 3225 8	C833	CQS2B103JCD	001 106 5208 1
C3	ECKD1H223PF	001 103 1510 9	C302	ECEA1HNR2RS	001 120 0356 8	C834	ARA1CN470MO	001 120 5644 3
C5, C6	ECEA1CU222	001 120 3074 3	C303	ECFD1H104ZF	001 108 0906 2	C835	ECEA1HN010	001 120 0353 1
C7, C8	ECEA1EU102	001 120 2705 9	C304	ECQV1H104JZ	001 106 2571 7	C836	ECQPT102JZ	001 106 1069 0
C9	ECFD1H104ZF	001 108 0906 2	C305	ECKD1H471KB	001 103 1551 0	C837, C838	ARA1A470MOT	001 120 5663 0
C11, C12	ECEA1CU470	001 120 2835 0	C306	ECFD1H104ZF	001 108 0906 2	C839, C840	ARA1C221MO	001 120 5664 9
C13, C14	ECEA1HU010	001 120 2842 1	C309	ECFTD103KXL	001 108 0341 7	C841	ARA1A470MOT	001 120 5663 0
C15, C16	ECEA0JS221	001 120 2925 9	C310	ECDD1H220K	001 103 0493 7	C842	CQS2B391JCDF	001 106 5432 5
C17	ECEA1HU470	001 120 3257 8	C311	ECDD1H070CC	001 103 0271 9	C843, C844	ARA1C221MO	001 120 5664 9
C21	ECKDKC103PF2	001 103 3734 7	C312	ECQV1H104JZ	001 106 2571 7	C845	CQS2B103JCD	001 106 5208 1
C101	ECQM1H153JZ	001 106 0704 0	C313	ECQM1H104JZ	001 106 0675 8	C846	ARA1CN470MO	001 120 5644 3
C102	ECQM1H122JZ	001 106 0683 8	C314	ECFD1H104ZF	001 108 0906 2	C847	ECEA1HN010	001 120 0353 1
C103	ECQM1H1473JZ	001 106 0810 9	C317, C318	ECFD1H104ZF	001 108 0906 2	C848	ECQPT102JZ	001 106 1069 0
C104	ECEA1HNR2RS	001 120 0356 8	C323	ECQV1H104JZ	001 106 2571 7	C849	ECKD1H102KB	001 103 1414 8
C105	ECEA1HNR22B	001 120 6228 1	C351	ECKD1H151KB	001 103 1463 9	C850	ECKD1H831KB	001 103 1523 4
C106	ECEA1HNR3RS	001 120 0358 6	C352	ECFF1E473KB	001 108 1089 6	C851, C852	ECEA1CU331	001 120 3200 5
C107	ECEA1HSNR22	001 120 4836 1	C356	ECFF1E683KR	001 108 1090 3	C853, C854	ECKD1H103PF	001 103 1449 7
C108	ECQM1H104JZ	001 106 0675 8	C401	ECKD1H103PF	001 103 1449 7	C855, C856	ECEA1HN010	001 120 0353 1
C109	ECKD1H103PF	001 103 1449 7	C402	ECEA1HUR22	001 120 3247 0	C857	ECEA1HUR22	001 120 3253 2
C110	ECEA1HNR2RS	001 120 0356 8	C403	ECEA0JU470	001 120 3125 9	C858	ECFD1H104ZF	001 108 0906 2

■ TERMINAL FUNCTION OF LSI

• MN6617S (Digital Signal Processing: EFM Decoder, Error Correction, CLV Servo)

Pin No.	Mark	I/O	Function	Pin No.	Mark	I/O	Function
1	BLKCK	O	Sub code block (Q data) clock (75 Hz)	35	IPBYTE	O	Interpolation flag for each byte (not used, open)
2	CLDCK	O	Sub-code frame (Q data) clock (7.35 kHz)	36	IPSEL	I/O	Interpolation prohibited (not used, connected to GND)
3	SUBQ	O	Sub-code (Q data) output	37	FLAG5	O	C2 decoder correction flag 3 (not used, open)
4	CRC	O	Sub-code (Q data) output	38	FLAG4	O	C2 decoder correction flag 2 (not used, open)
5	RST	I	Reset signal input (reset at "L")	39	FLAG3	O	C2 decoder correction flag 1 (not used, open)
6	MLD	I	Command load input	40	FLAG2	O	C1 decoder correction flag 2 (not used, open)
7	MCLK	I	Command clock input	41	FLAG1	O	C1 decoder correction flag 1 (not used, open)
8	MDATA	I	Command data input	42	FCLK	O	Crystal frame clock (not used, open)
9	DMUTE	I	Muting control	43	D7	I/O	16K RAM data output
10	TRON	I	Tracking servo ON signal (tracking servo ON at "L")	50	D0		
11	STAT	O	Processing condition (CRC, OTC, CLVOK, TT STOP) output	51	RAMOE	O	16K RAM OE signal
12	SMCK	O	Clock output (4.2336 MHz)	52	RAMWE	O	16K RAM WE signal
13	PMCK	O	Pitch control clock output (not used, open)	53	RAMA0	O	16K RAM address signal (RAMA0: LSB, RAMA10: MSB)
14	ITC	I	Track counter input signal (not used, open)	63	RAMA10		
15	TEST	I	Test mode selection (not used, connected to +5V)	64	PC	O	Spindle motor ON signal (ON at "L")
16	X2	O	Clock output (16.9344 MHz)	65	EC	O	Spindle motor drive signal
17	X1	I	Clock input (16.9344 MHz)	66	FG	I	Spindle motor FG signal input (not used, open)
18	SEL	I	DA output parallel/serial selection (serial at "L")	67	VCNT	—	(Not used, connected to GND)
19	LDG/WDC	O	Word clock for serial DAC (not used, open)	68	REXT	—	(Not used, connected to GND)
20	RDG	O	Clock signal output for spindle motor control	69	VDD	I	Power supply (+5V)
21	DEMPH	O	De-emphasis ON signal (de-emphasis ON at "H")	70	PD	—	(Not used, open)
22	IPFLAG	O	Interpolation flag (interpolation at "H")	71	PCKO	—	(Not used, open)
23	FLAGO	O	Error flag (error at "H") (not used, open)	72	PCK	I	PLL extract clock input (4.2336 MHz)
24	FLAG6	O	16K RAM address reset signal (Reset at "H") (not used, open)	73	VDD	I	Power supply (connected to +5V)
25	XCK	O	Clock (16.9344 MHz) output	74	EFM	I	EFM signal input (PLL)
26	SRDATA	O	Serial data output (MSB first)	75	SRF	I	EFM signal input (DSL)
27	SRDATAx	O	Serial data output (LSB first)	76	DO	I	Drop-out signal (drop-out at "H")
28	SRCK	O	Serial data beat clock	77	CLVS	O	11T servo OK signal (OK at "H")
29	WDCK	O	Serial data word clock (not used, open)	78	FPC	O	PLL frequency comparison signal
30	BYTCK	O	Serial data byte clock (not used, open)	79	BSEL	O	PLL frequency intake operation signal
31	GND	I	GND terminal	80	SRFO	—	(Not used, open)
32	R/L	O	R/L signal (R at "H")	81	NSRF	—	(Not used, open)
33	RESY	O	Resynchronizing signal (not used, open)	82	RF	—	(Not used, open)
34	FCLV	O	Synchronizing detection signal (not used, open)	83	SUBC	O	Sub-code serial output data
				84	SBCK	I	Clock for sub-code serial output

• MN6618A (Digital Filter)

Pin No.	Mark	I/O	Function
1	NC	—	Not connected
2	D012	O	16-bit data output (Not used, open)
3	D011	O	16-bit data output (Not used, open)
4	D010	O	16-bit data output (Not used, open)
5	GND	I	GND terminal
6	D09	O	16-bit data output (Not used, open)
7	NC	—	Not connected
8	D08	O	16-bit data output (Not used, open)
9	D07	O	16-bit data output (Not used, open)
10	NC	—	Not connected
11	NC	—	Not connected
12	D06	O	16-bit data output (Not used, open)
13	D05	O	16-bit data output (Not used, open)
14	D04	O	16-bit data output (Not used, open)
15	D03/LRCK	O	16 bit data output/clock output
16	NC	—	Not connected
17	NC	—	Not connected
18	D02/WDCK	O	16-bit data output/clock output (Not used, open)
19	D01/SRCK	O	16-bit data output/serial data output beat clock
20	D00/SRDATA	O	16-bit data output/serial data output
21	MDATA	I	Command data input

• AN8290S (Spindle Motor Drive)

Pin No.	Mark	I/O	Function
1	GND	I	Minimum potential of IC control. (In this unit, it is connected to VEE [−7.5V])
2	DCR	I	Standard voltage of FAI, PC, CLK. (In this unit, it is connected to 2.5V.)
3	FAI	I	Torque command filter amp input. (Normal rotation command when FAI < DCR.)
4	FAO	O	Filter amp. output.
5	DI	I	Absolute value circuit input. (Not used)
6	LPF	I	Capacitor terminal for low pass filter of current feedback loop.
7	A1	O	Drive signal output.
8	A2	O	
9	A3	O	
10	PGND	I	Minimum potential of IC power. (In this unit, it is connected to VEE [−7.5V])
11	CS	I	Drive current detection resistor terminal.
12	PVCC	I	IC power supply

Pin No.	Mark	I/O	Function
22	NC	—	Not connected
23	MCLK	I	Command clock input
24	MLD	I	Command load input
25	NC	—	Not connected
26	RST	I	Reset signal input (reset at "L")
27	NC	—	Not connected
28	LRCK	I	L/R channel changeover signal
29	NC	—	Not connected
30	SFT	I	Serial data input clock
31	SIN	I	Serial data input
32	NC	—	Not connected
33	X OUT	O	Clock output (Not used)
34	X IN	I	Clock input (16.9344 MHz)
35	OSEL	I	DA output parallel/serial changeover (Serial at "H")
36	LDGL	O	L channel deglitch signal (not used open)
37	RDGL	O	R channel deglitch signal
38	VDD	I	Power supply (connected to +5V)
39	D015	O	16-bit data output (MSB) (Not used, open)
40	D014	O	16-bit data output (Not used, open)
41	NC	—	Not connected
42	D013	O	16-bit data output (Not used, open)

Pin No.	Mark	I/O	Function
13	NC	I	Not used in this unit.
14	NC	I	
15	H2−	I	Negative output of Hall element is input.
16	H2+	I	Positive output of Hall element is input.
17	H1−	I	Negative output of Hall element is input.
18	H1+	I	Positive output of Hall element is input.
19	HSW	I	Bias switch of Hall element. (OFF at PC>DCR)
20	HB	I	Bias power of Hall element.
21	VCC	I	Power input for IC control.
22	PC	I	Power control. (Power down mode at PC>DCR)
23	CLK	I	Clock input. (DCR standard, operated at the edge of rise.)
24	TC	I	Triangular wave generation capacitor terminal.

• AN8370S (Optical Servo Control)

Pin No.	Mark	I/O	Function
1	VEE	I	Power supply (connected to −5V)
2	LSA	I	Phase difference input (A)
3	GND	I	GND terminal
4	LSB	I	Phase difference input (B)
5	APC	O	Auto laser power control output
6	TEOUT	O	Tracking error signal output
7	TEG +	I	Tracking error gain adjusting input
8	TE −	I	Phase difference-voltage conversion
9	TE	I	Phase difference-voltage conversion
10	APC −	O	Laser power inversion input
11	C·MEM	I	Capacitor connection for phase difference memory
12	APC +	I	Laser power non-inversion input
13	VREF	O	Reference current generation
14	SENSE	O	Selector output (track-crossed)
15	HIN	I	Tracking hold circuit input
16	HOUT	O	Tracking hold circuit output
17	SPCNT	O	Track-cross speed control output
18	C·MSP	I	Track-cross reference speed setting capacitor connection
19	C·AF	I	Auto focus timer capacitor connection
20	KICK	O	Track kick signal output
21	VCC	I	Power supply (connected to +5V)
22	CNT1	I	Control input (FOON : Focus servo ON signal)

Pin No.	Mark	I/O	Function
23	CNT2	I	Control input (TRON : Tracking servo ON signal)
24	CNT3	I	Control input (KICKF : Kick direction [forward] command)
25	CNT4	I	Control input (KICKR : Kick direction [reverse] command)
26	F·LOCK	O	Focus lock signal output
27	C·FBDO	O	Capacitor connection for inversion RF high speed detection
28	C·SBDO	O	Capacitor connection for inversion RF low speed detection
29	C·SBRT	O	Capacitor connection for non-inversion RF low speed detection
30	C·FBRT	O	Capacitor connection for non-inversion RF high speed detection
31	RF OUT	O	RF signal output
32	BDO	O	Drop-out detection output
33	RFIN	I	RF signal input
34	S·OUT	O	Focus search signal output
35	C·LW	I	Capacitor connection for triangular wave generation
36	FE·OUT	O	Focus error signal output
37	FEG	I	Focus error gain adjusting input
38	FE·REF	I	Focus error comparison voltage generation
39	PDB	I	Photo detector current input (B)
40	IVB	O	Current/voltage conversion output (B)
41	IVA	O	Current/voltage conversion output (A)
42	PDA	I	Photo detector current input (A)

• EHDGA1243 (Data Slice and PLL)

Pin No.	Mark	I/O	Function
1	PCK	O	Clock output extracted from SRF
2	EFM	O	EFM signal output synchronized with PCK
3	D·GND	I	GND terminal (digital system)
4	SRF	O	RF signal output data-sliced into digital value
5	SLC	I	Slice level control signal input
6	DO	O	Drop-out detection pulse output
7	FPC	I	Frequency comparison error signal input.
8	VCC	I	Power supply (connected to +5V)

Pin No.	Mark	I/O	Function
9	VA	I	(Not used, open)
10	VR	I	Resistor connection for VCO oscillation frequency
11	VEE	I	Power supply (connected to −5V)
12	VC1	I	Capacitor connection for VCO oscillation frequency
13	VC2	I	Capacitor connection for VCO oscillation frequency
14	A·GND	I	GND terminal (analog system)
15	RF	I	RF signal input

• MN15283PDR-1 (System Control and FL Drive)

Pin No.	Mark	Signal	I/O	Function	Pin No.	Mark	Signal	I/O	Function
1	VSS	GND	I	GND terminal	26	P31	CNT3	O	Optical servo IC control signal (KICKF: Kick direction [Forward] command)
2	XO	—	O	Not used (open)	27	P32	CNT2	O	Optical servo IC control signal (TRON: Tracking servo)
3	X1	TRCNT	I	Optical servo condition input	28	P33	CNT1	O	Optical servo IC control signal (FOON: Focus servo)
4	P00	MRLY	O	Muting control	29	P40	START	I	Processing status input from signal processing LSI traverse position detection.
5	P01	MDATA	O	Command data output	30	P41	EMPH	I	De-emphasis on signal
6	P02	MCLK	O	Command clock output	31	P42	FLOCK	I	Optical servo condition (focus) input
7	P03	MLD	O	Command load output	32	P43	SENSE	I	Optical servo condition (track cross) input
8	P10	φ0	I	Search dial control	33	P60	CLOSE	O	Loading motor close signal (ON at "L")
9	P11	φ1	I	Search dial control	34	P61	OPEN	O	Loading motor open signal (ON at "L")
10	P12	STR	O	Serial data writein signal	35		DAC	O	Not used (open)
11	P13	EMDF	O	Emphasis signal output	36	VPP	—	I	FL-drive power control
12	SYNC	—	O	Not used (open)	37	D0	—	O	FL grid signal and key scan signal
13	RST	RESET	I	Reset signal input (reset at "L")	52	DF	—	O	FL anode signal
14	IRQ	BLKCK	I	Sub-code block (Q data) clock (75 Hz) input	53	S8	—	O	FL anode signal
15	P50	KEY	I	Key scan input	62	VDD	—	I	Power supply (connected to +5V)
18	P53				63	OSC2	—	I	Clock terminal
19	SBT	CLDCK	I	Sub-code block (Q-data) clock 7.35 kHz input	64	OSC1	—	I	Clock input
20	SBD	SUBQ	I	Sub-code Q data input					
21	P20	EO	O	Output control (ON at "H")					
22	P21	—	O	Not used (open)					
23	P22	REV	O	Traverse reverse command signal					
24	P23	FWD	O	Traverse forward command signal					
25	P30	CNT4	O	Optical servo IC control signal (KICKR: Kick direction [Reverse] command)					

• MN1550PDT (Remote Control Signal Processing)

Pin No.	Mark	Signal	I/O	Function	Pin No.	Mark	Signal	I/O	Function
1	VDD	—	I	Power supply (connected to +5V)	9	P31	—	O	Not used, open
2	OSC1	SMCK	I	Clock input	10	P13	Data	I	Key strobe
3	P23	OSC2	—	Not used, open	13	P10			
4	P22	—	—	Not used, open	14	P03	Data	I	Key strobe
5	RST	RESET	I	Reset signal input	17	P00			
6	P21	—	—	Not used, open	18	VSS	GND	I	GND terminal
7	P20	—	I	Remote control signal input					
8	IRQ	—	I	Intrude signal input					

• MN51005PDN (Digital Signal Processing, Serial/Parallel Converter)

Pin No.	Mark	Signal	I/O Devision	Function	Pin No.	Mark	Signal	I/O Devision	Function
1	B1L	DATA	O	L-channel parallel data output	41	NC	—	—	Not connected
6	B6L				42				
7	NC	—	—	Not used, connected to +5V	43	B12R	DATA	O	R-channel parallel data output
8	VDD	—	I	Power supply (+5V)	44	NC	—	—	Not connected
9	VSS	GND	I	GND terminal	46				
10	NC	—	—	Not connected	47	B13R	DATA	O	R-channel parallel data output
11					48	B14R			
12	B7L	DATA	O	L-channel parallel data output	49	NC	—	—	Not connected
16	B11L				50	B15R	DATA	O	R-channel parallel data output
17	NC	—	—	Not connected	51	B16R			
18					52	DEG	—	O	Degitch signal output
19	B12L	DATA	O	L-channel parallel data output	53	AQOUT	—	O	Not connected
22	B15L				54	AQRST	—	I	Not used, connected to +5V
23	NC	—	—	Not connected	55	NC	—	—	Not connected
24	VSS	GND	I	GND terminal	56	VDD	—	I	Power supply (+5V)
25	VDD	—	I	Power supply (+5V)	57	VSS	GND	I	GND terminal
26	B16L	DATA	O	L-channel parallel data output	58	PHASE	—	I	Phase change control (Not used, connected to +5V)
27	B1R	DATA	O	R-channel parallel data output	59	NC	—	—	Not connected
37	B11R				60				
38	NC	—	—	Not connected	61	SRDATA	DATA	I	Serial data input
39	VDD	—	I	Power supply (+5V)	62	SRCLK	CLOCK	I	Serial data input clock
40	VSS	GND	I	GND terminal	63	LRCK	CLOCK	I	16-bit latch clock
					64	RDG	CLOCK	I	8-bit shift register clock

• SVICXD1075P (Data modulation/transmission)

Pin No.	Mark	I/O	Function	Pin No.	Mark	I/O	Function
1	BCK	I	Serial data bit clock input	14	EXTAL	I	Clock input
2	DATA	I	Serial data input	15	TX	O	Transmission data output (connected to digital interface)
3	LRCK	I	Rch/Lch discrimination clock input	16	C9	I	C-bit category code
4	VRDTY	I	Validity flag input	17	TEST	I	Test mode selection input
5	C10	I	C-bit category code (not used, connected to GND)	18	RSET	I	Reset signal input
6	CRCF	I	C-bit block lead resynchronizing input	19	CBSL	I	C-bit serial/parallel selection
7	VSS	I	GND terminal	20	D7	I	Emphasis signal input
8	CKSL	I	Standard clock selection input (384 Fs at "H"/128 Fs at "L")	21	VDD	I	+5V terminal
9	LSFT	I	LSB/MSB first selection input (MSB first at "H")	22	D6	I	C-bit parallel input
10	XILR	I	LRCK H/L selection input ("H" when LRCK input at "L")	23	D5	I	C-bit parallel input
11	INVB	I	BCK selection input at operating position (when "L", operates at decrease of BCK)	24	D4	I	C-bit parallel/serial input
12	192FS	O	CD master clock output (not used, open)	25	D3	I	U-bit sub-code block lead input
13	XTAL	O	External crystal signal connection terminal	26	D2	I	U-bit sub-code frame input
				27	D1	I	U-bit sub-code serial input
				28	EXCK	O	Sub-code extract clock output