AD0403019C2

Service Manual

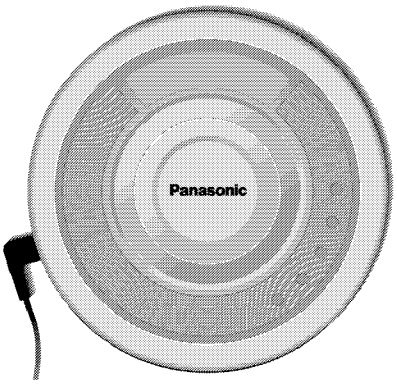
Portable CD Player

COMPACT disc DIGITAL AUDIO

SL-MP75EB
SL-MP75EG

Colour

(S).....Silver Type



Specifications

Audio (CD-DA)

Sampling frequency:	44.1 kHz
No. of channels:	2 channels (left and right, stereo)
Frequency response:	20 to 20,000 Hz (+0.5 dB to –7 dB)
Headphones output level:	RMS max. 6 mW+6 mW/16 Ω (adjustable)

Pickup

Light source:	Semiconductor laser
Wavelength:	780 nm

MP3

Supported bit-rates:	32 kbps to 320 kbps (128 kbps is recommended)
Supported sampling frequency:	48 kHz/44.1 kHz/32 kHz
Maximum number of items (total no. of albums and tracks):	999
Maximum album levels:	100

General

Operational temperature range:	0 – 40 degree
Rechargeable temperature range:	5 – 40 degree
Power supply:	
DC input;	DC 4.5V
AC adaptor input	
For SL-MP75EB;	AC 220 – 240 V, 50/60 Hz
For SL-MP75EG;	AC 220 – 230 V, 50/60 Hz

Power consumption:

Using AC adaptor (MP3/CD-DA);	0.7 W/0.7 W
Recharging;	3.1 W

Play time:

Using on a flat stable surface at 25 degree, EQ is off, Hold is on, Anti-skip is on POS1(CD-DA), recommended bit rate (MP3: 128 kbps), and Digital Re-master is off (MP3). Play times are in hours and approximate.

Batteries used:	MP3 disc/CD-DA disc
2 optional alkaline batteries (LR6);	Approx. 85/50 h
2 optional rechargeable batteries;	Approx. 40/23 h

- The play time may be less depending on the operating conditions.
- Play time will be considerably reduced when playing CD-RW.

Recharging time:	About 4 to 5 hours
Dimensions (W × H × D):	135 × 25.5 × 135 mm
Mass:	218 g (with batteries) 172 g (without batteries)

Notes: Specifications are subject to change without notice.
Mass and dimensions are approximate.

Note on CD-R and CD-RW

This unit can play CD-R and CD-RW recorded with CD-DA or MP3. Use an audio recording disc for CD-DA and finalize* it when you finish recording. The unit may not be able to play some discs due to the condition of the recording.

* A process performed after recording that enables CD-R/CD-RW players to play audio CD-R and CD-RW.

Panasonic

⚠ WARNING

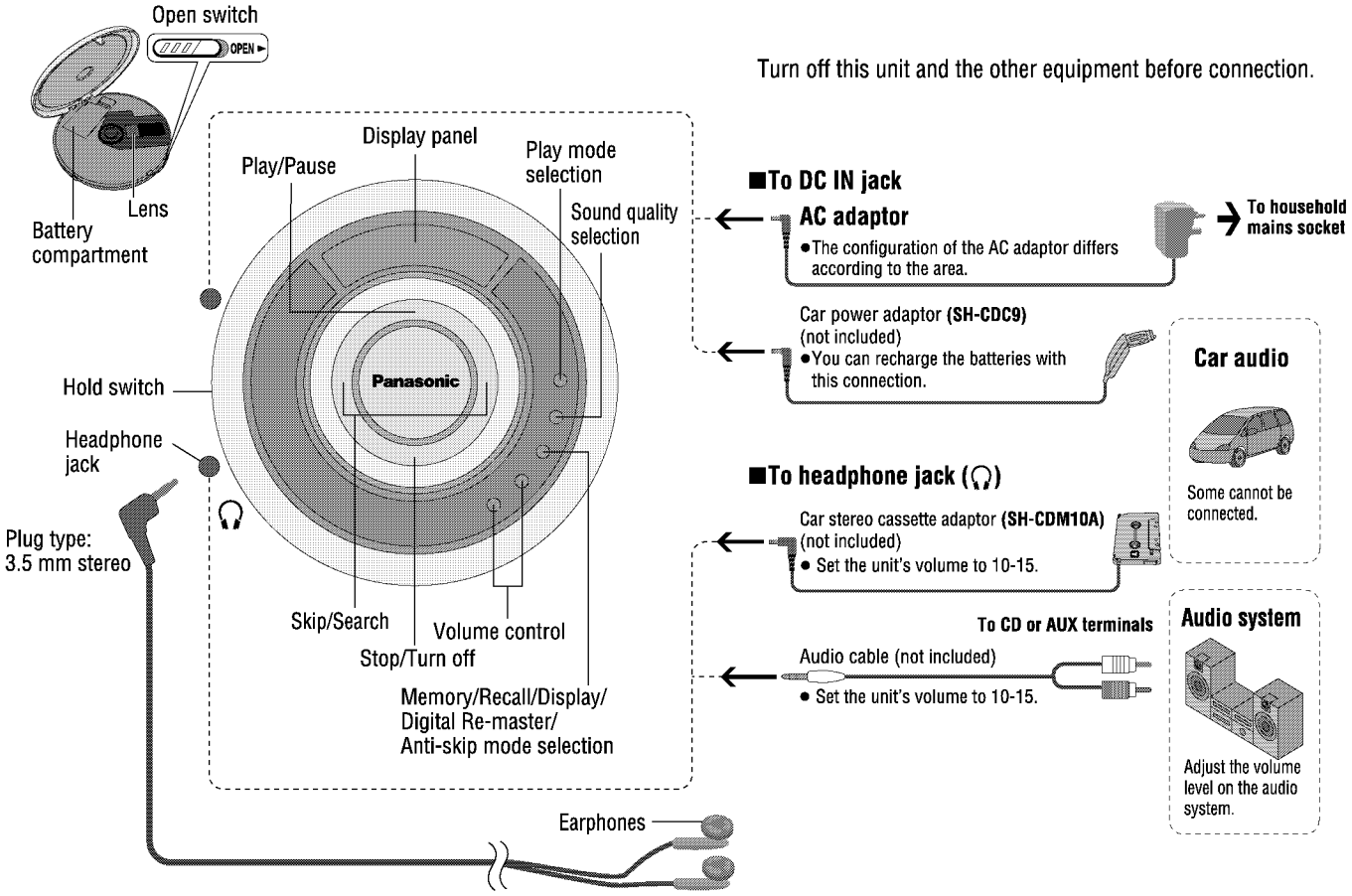
This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

1 Accessories

- Stereo earphones
  (L0BAB0000182).....1 pc.
- AC adaptor for SL-MP75EG
  (RFEA431E-S).....1 pc.
- AC adaptor for SL-MP75EB
  (RFEA435B-S).....1 pc.

2 Location of Controls and Connection to Other Equipment



3 Precaution of Laser Diode

CAUTION:
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick-up lens.
Wave length: 780 nm
Maximum output radiation power from pick-up: 100 µW/VDE

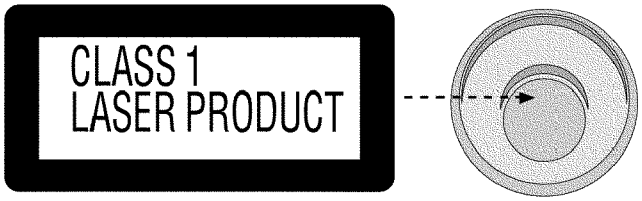
Laser radiation from the pick-up unit is safety level, but be sure the followings:

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

ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit adgestrahit.
Wellenlänge: 780 nm
Maximale Strahlungsleistung der Lasereinheit: 100 µW/VDE

Die strahlungan 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 werksseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.



(Bottom of product)

(Inside of product)

4 Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pick-up) 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 traverse deck (optical pick-up).

4.1. Handling of traverse deck (optical pick-up)

1. Do not subject the optical pick-up to static electricity as it is extremely sensitive to electrical shock.
2. To protect the laser diode against electrostatic breakdown, be sure that the short land of the flexible board (FFC board) should be short-circuit by solder before pulling out the FFC. Then inserting a short pin or similar object into the tipof the flexible board.
   (Refer to Fig. 4-1.)
3. Take care not to apply excessive stress to the flexible board (FFC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted. (Refer to Fig. 4-1.)

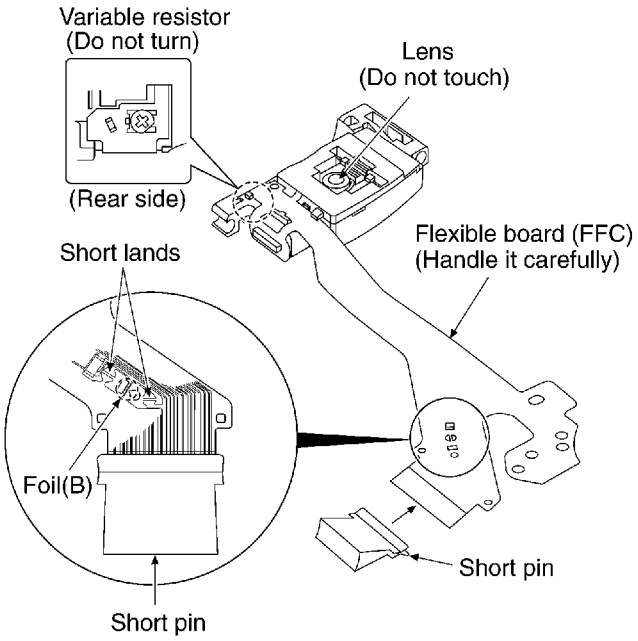


Fig. 4-1.

4.2. Caution when replacing traverse deck

The new traverse deck short-circuits by the short pin, the foil (B) and short lands to protect the laser diode against electrostatic breakdown. Be sure to replace to new one following procedures.

1. Remove the short pin from the FFC, and then connect it to the connector.
2. Cut the foil (B). (Refer to Fig. 4-1.) (Take care not to make contact with cutting point each other.)
3. Unsolder the short lands. (Refer to Fig. 4-1.)

4.3. Grounding for electrostatic breakdown prevention

4.3.1. Human body grounding

Use the anti-static wrist strap to discharge the static electricity from your body. (Refer to Fig. 4-2.)

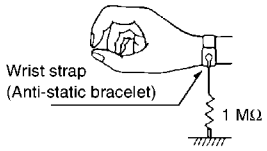


Fig. 4-2.

4.3.2. Work table grounding

Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pick-up) is placed, and ground the sheet. (Refer to Fig. 4-3.)

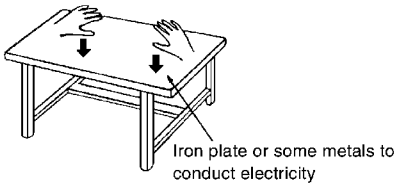


Fig. 4-3.

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 traverse deck (optical pick-up).

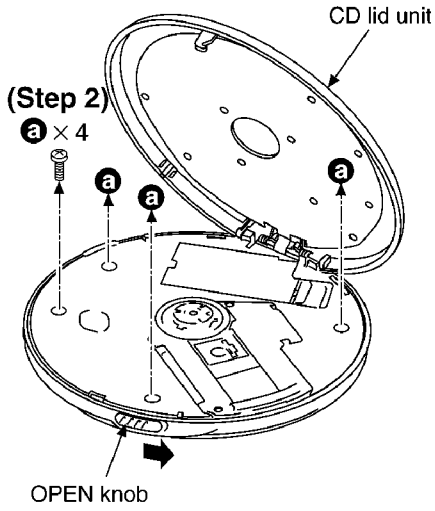
5 Operation Checks and Component Replacement Procedures

- **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
- **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**

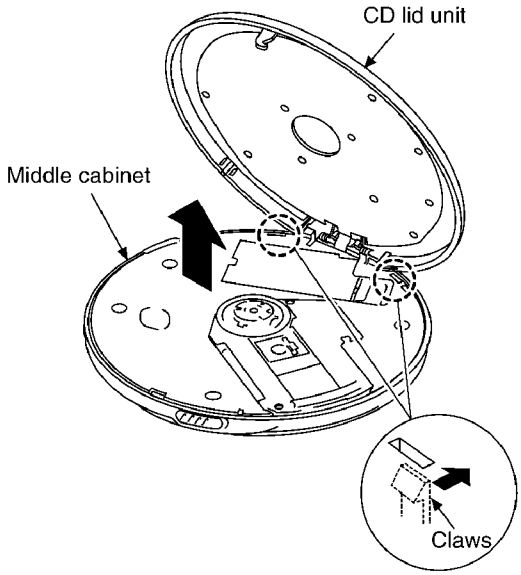
5.1. Checking for the main P.C.B.

5.1.1. Checking for the main P.C.B. (A side)

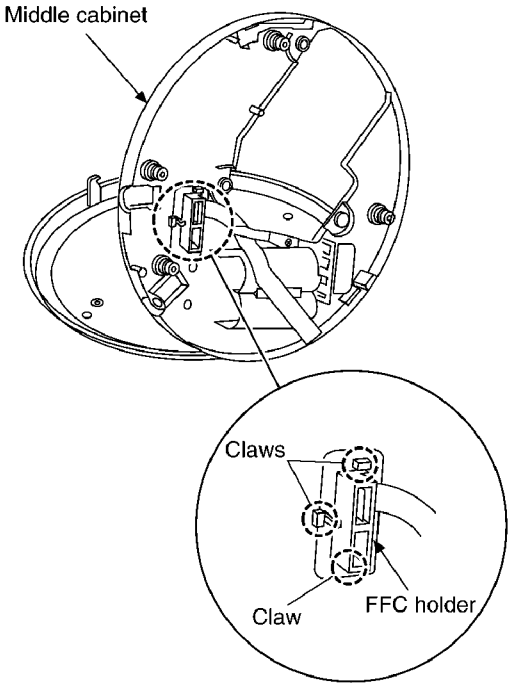
(Step 1)
Pressing the OPEN knob, open the CD lid unit.

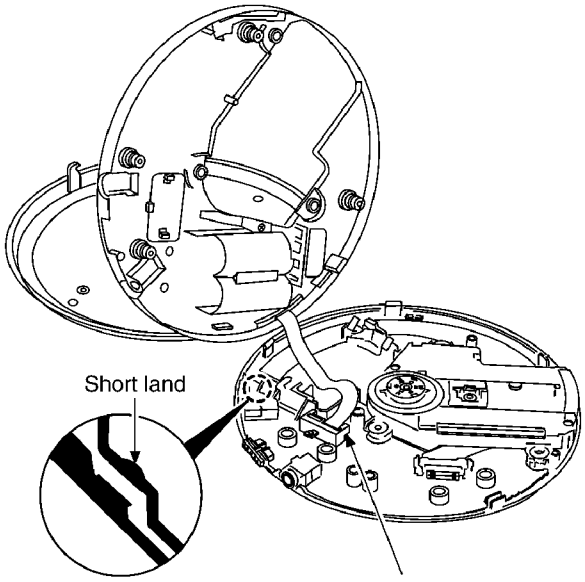


(Step 3)
Release the 2 claws, and then remove the middle cabinet and CD lid unit.



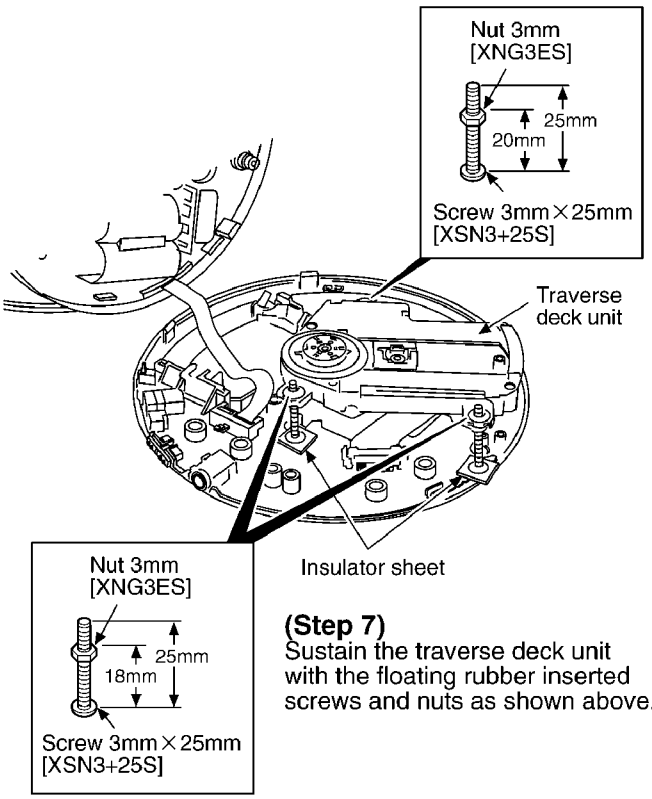
(Step 4)
Release the 3 claws, and then remove the FFC holder.





(Step 5)
Short-circuit the land by soldering.

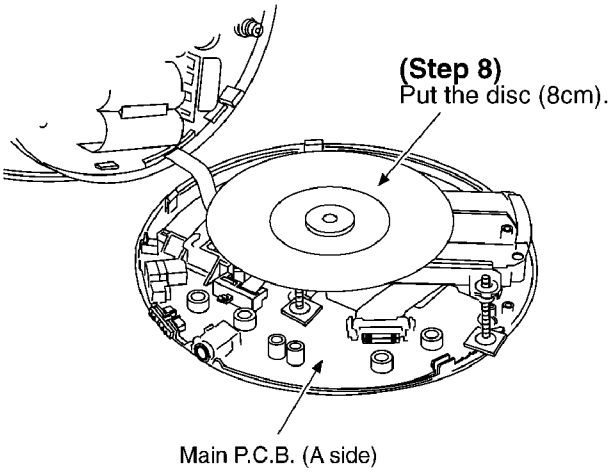
(Step 6)
Connect the FFC holder to connector.



(Step 7)
Sustain the traverse deck unit with the floating rubber inserted screws and nuts as shown above.

NOTE:
- The tip of screw must not protrude more than 4 mm above the floating rubber.
- To keep insulation, place the insulator sheet (paper etc.) between the P.C.B. and the head of screws.

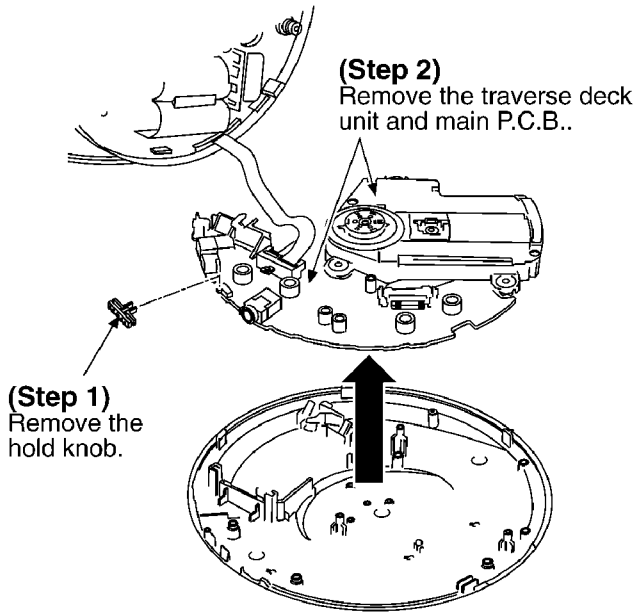
- **Check the main P.C.B. (A side) as shown below.**



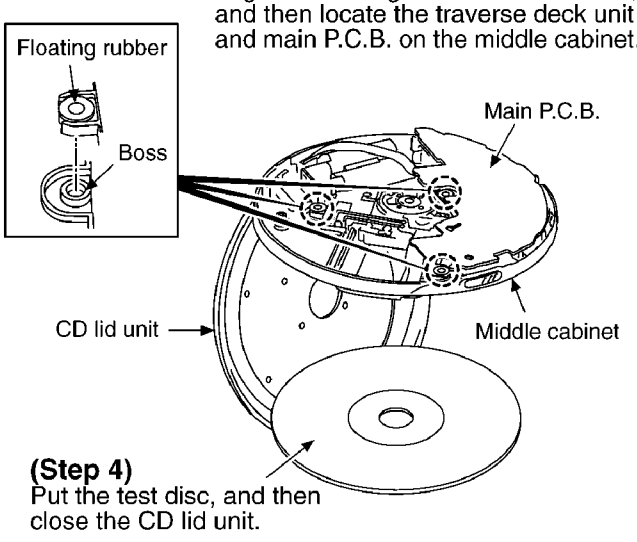
NOTE:
After checking, unsolder the short land to open circuit.

5.1.2. Checking for the main P.C.B. (B side)

- Follow the **(Step 1)** - **(Step 6)** of item 5.1.1.



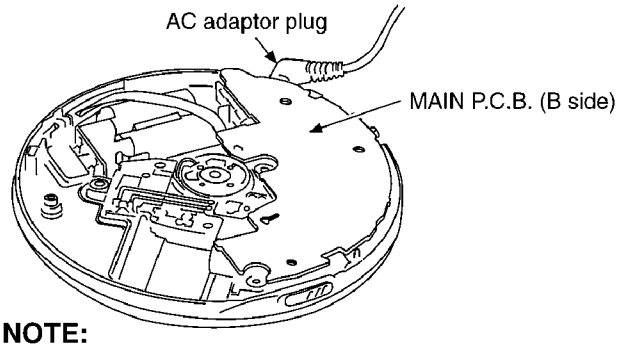
(Step 3)
Align the floating rubbers with bosses, and then locate the traverse deck unit and main P.C.B. on the middle cabinet.



(Step 4)
Put the test disc, and then close the CD lid unit.

• **Check the main P.C.B. (B side) as shown below.**

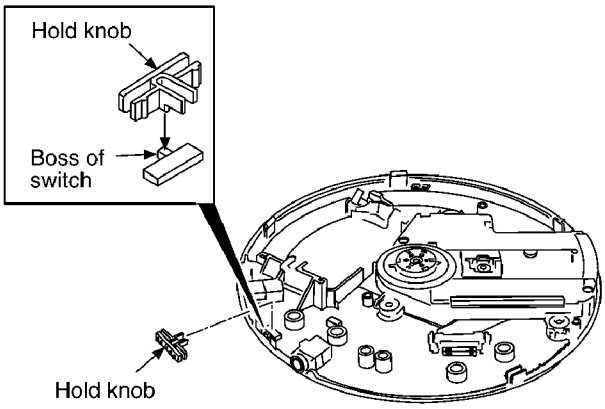
(Step 5)
Insert the AC adaptor plug into the DC IN jack, and then apply the power.



NOTE:
After checking, unsolder the short land to open circuit.

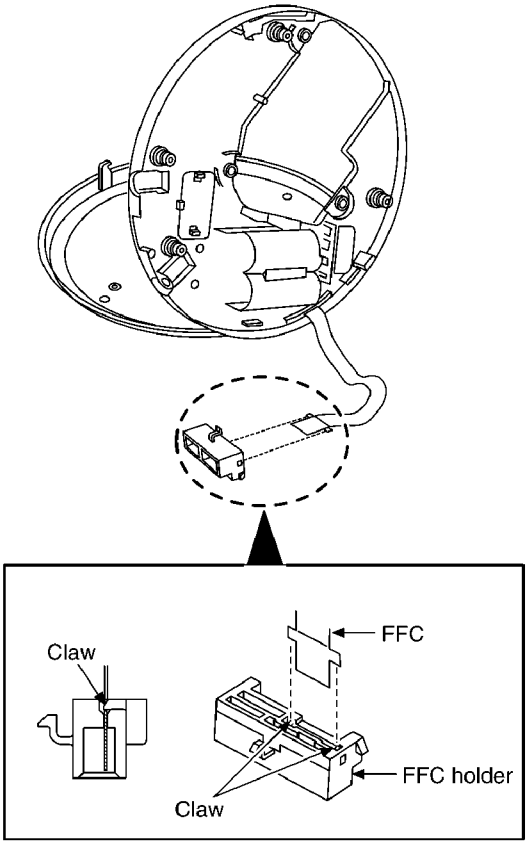
Notice for installation of the hold knob

- Make sure the boss of switch is fit in the hold knob.

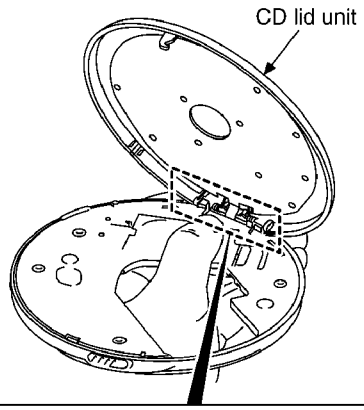


5.2. Replacement for the CD lid unit

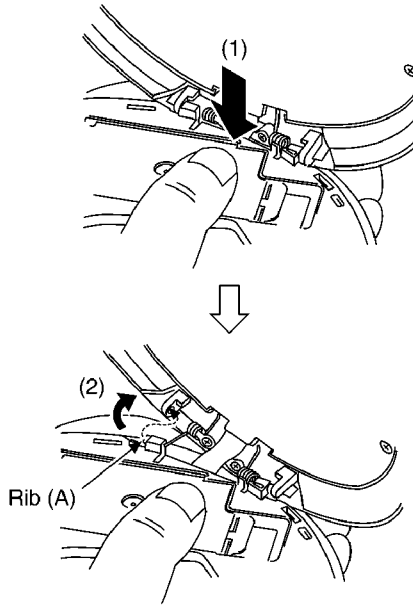
• Follow the **(Step 1)** - **(Step 4)** of item 5.1.1.



(Step 1)
Release the 2 claws, and then remove the FFC from FFC holder.

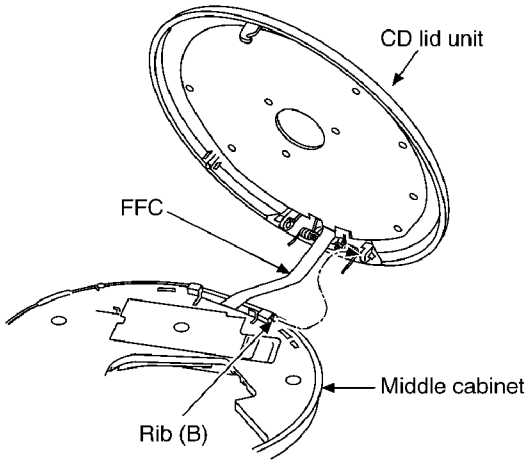


(Step 2)
Push the middle cabinet direction of arrow (1), and then remove the CD lid unit from rib (A).



(Step 3)
Remove the CD lid unit from rib (B).

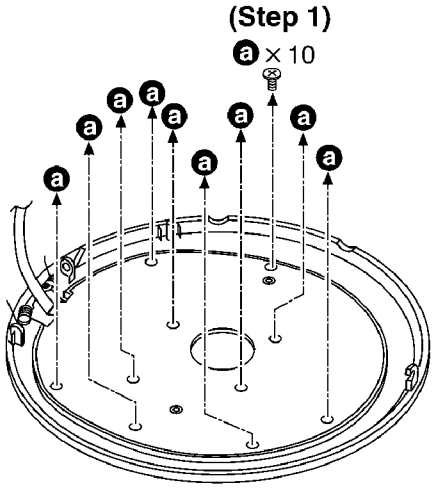
(Step 4)
Draw the FFC from the middle cabinet .
(Take care not to damage the FFC.)



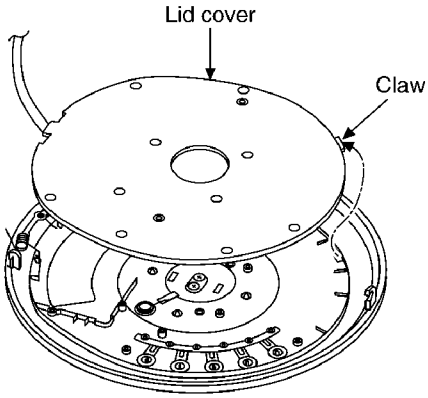
5.3. Replacement for the volume etc. button, STOP/ PLAY etc. button, spring 4, LCD and SW P.C.B.

- Follow the **(Step 1)** - **(Step 4)** of item 5.1.1.
- Follow the **(Step 1)** - **(Step 4)** of item 5.2.

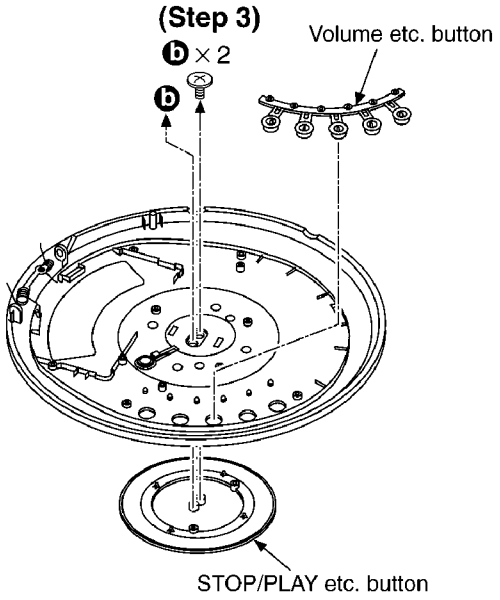
(Step 1)



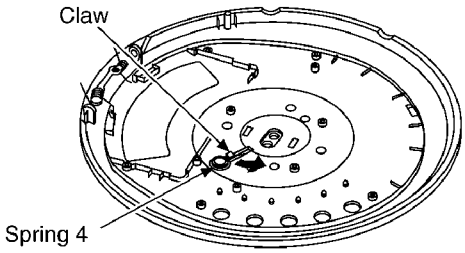
(Step 2)
Release the claw, and then remove the lid cover.

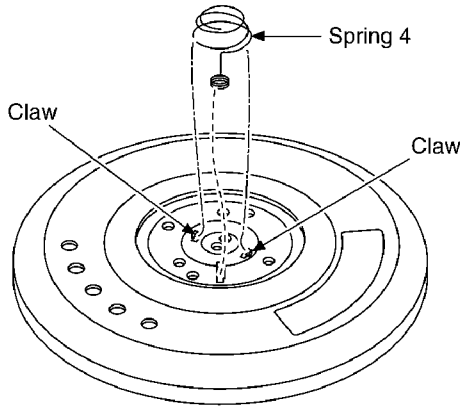


(Step 4)
Remove the volume etc. button and STOP/PLAY etc. button.

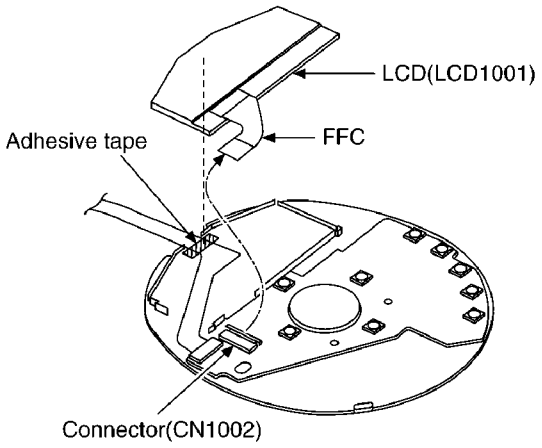


(Step 5)
Release the 3 claws, and then remove the spring 4.

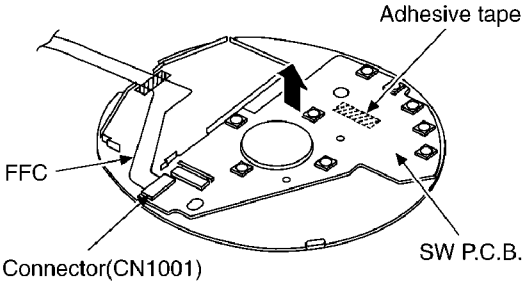




(Step 6)
Remove the FFC from connector (CN1002) and then remove the LCD(LCD1001).

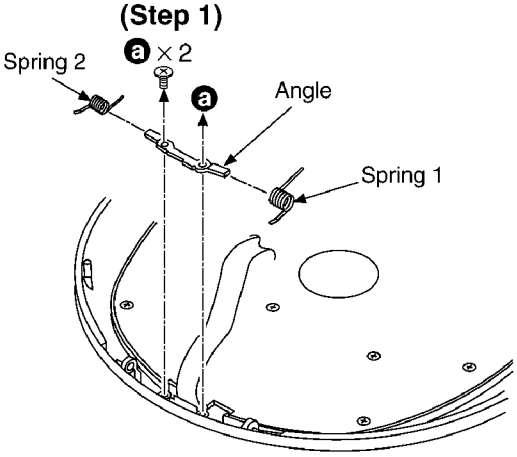


(Step 7)
Remove the FFC from connector (CN1001) and then remove the SW P.C.B..



5.4. Replacement for the angle, spring 1 and spring 2

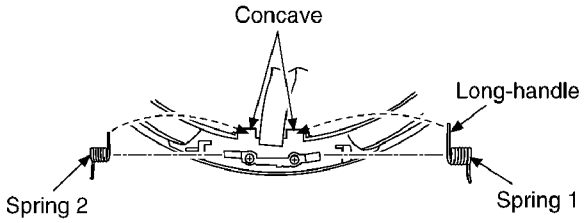
- Follow the **(Step 1)** - **(Step 4)** of item 5.1.1.
- Follow the **(Step 1)** - **(Step 4)** of item 5.2.



(Step 2)
Remove the angle, spring 1 and spring 2.

Notice for installation of the spring 1 and spring 2

1. Insert the long-handle of spring 1 to the concave.
2. Insert the which handle of spring 2 to the concave because it is not the direction.



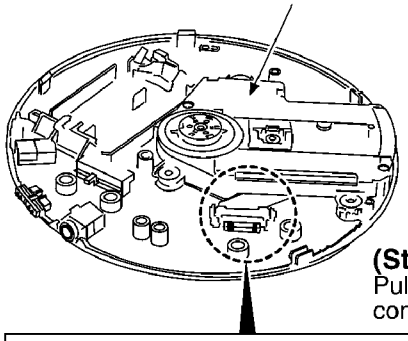
5.5. Replacement for the traverse motor

- Follow the **(Step 1)** - **(Step 3)** of item 5.1.1.

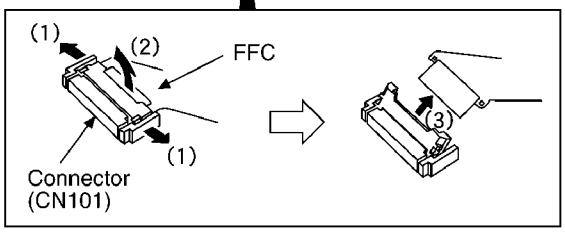
NOTE:

Be sure to confirm the item 4 "Handling Precautions for Traverse Deck" before removing the traverse deck ass'y.

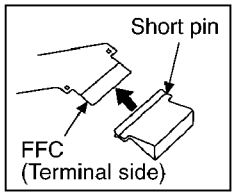
(Step 2)
Remove the traverse deck unit.



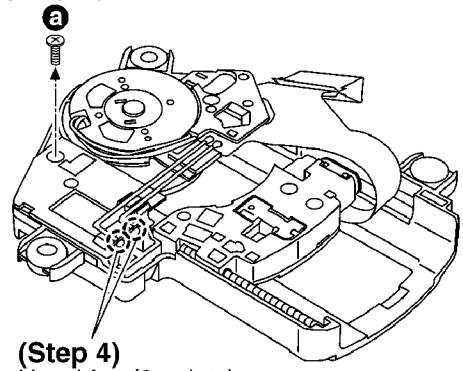
(Step 1)
Pull out the FFC from connector (CN101).



NOTE:
Insert a short pin into the traverse deck's FFC (Terminal side).
(Refer to "**Handling Precautions for Traverse Deck**".)

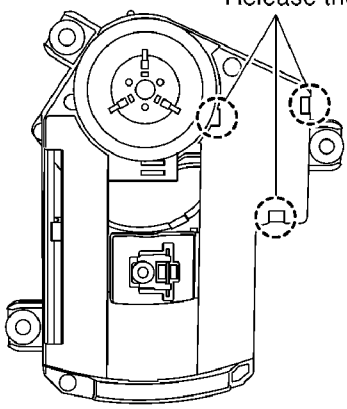


(Step 3)

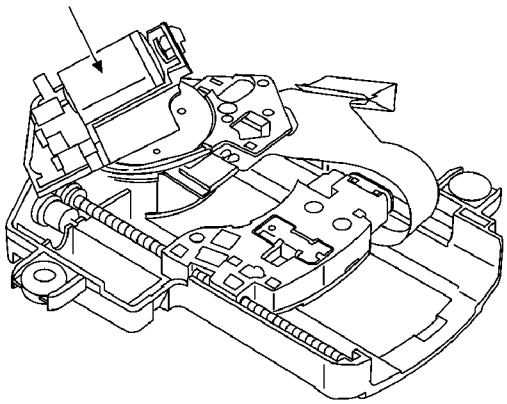


(Step 4)
Unsolder. (2 points)

(Step 5)
Release the 3 claws.



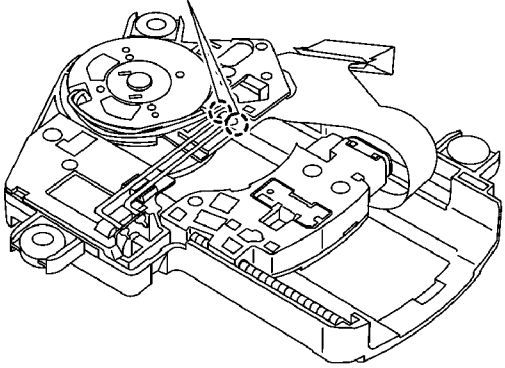
(Step 6)
Remove the traverse motor.



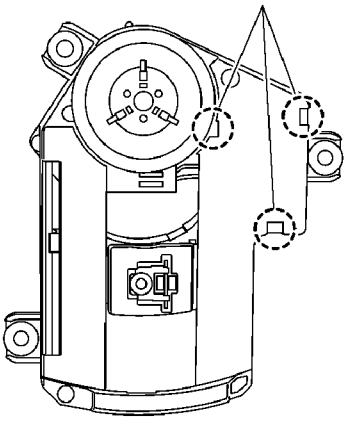
5.6. Replacement for the optical pick-up

- Follow the **(Step 1)** - **(Step 3)** of item 5.1.1.
- Follow the **(Step 1)** , **(Step 3)** of item 5.5.

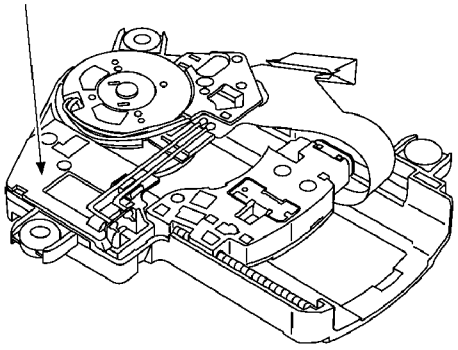
(Step 1)
Unsolder. (2 points)



(Step 2)
Release the 3 claws.

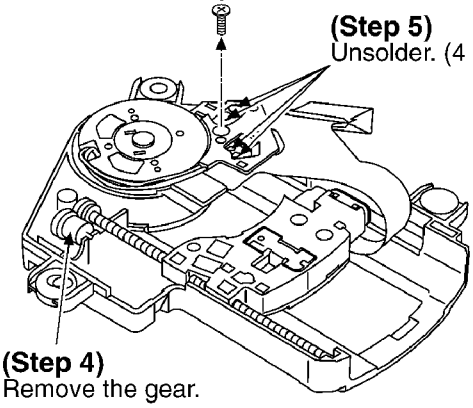


(Step 3)
Remove the holder and traverse motor.



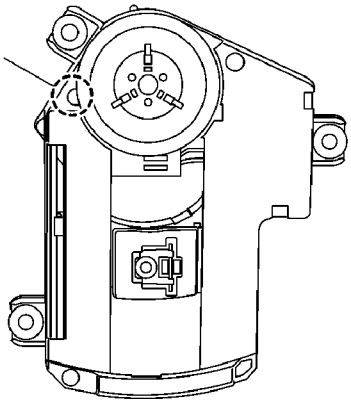
(Step 6)
ⓐ

(Step 5)
Unsolder. (4 points)

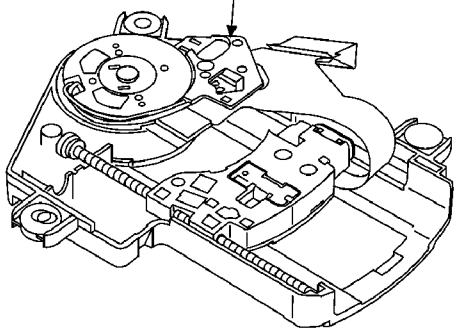


(Step 4)
Remove the gear.

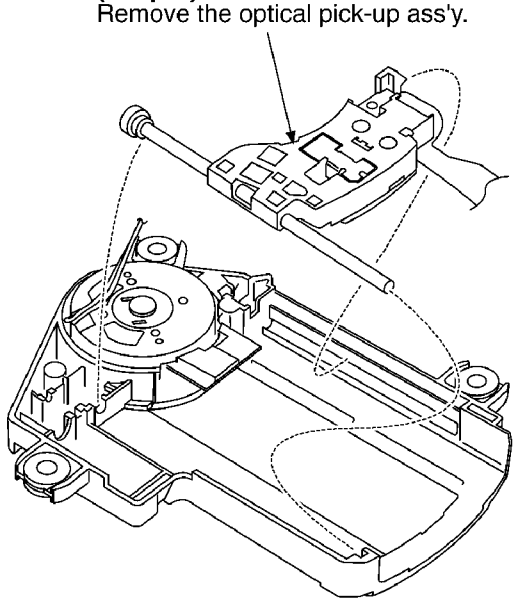
(Step 7)
Release the claw.



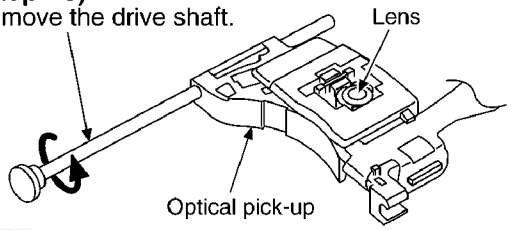
(Step 8)
Remove the FFC holder.



(Step 9)
Remove the optical pick-up ass'y.



(Step 10)
Remove the drive shaft.

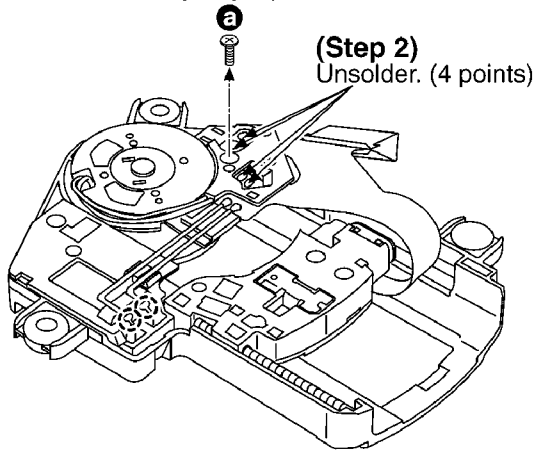


NOTE:
1. Use care to prevent damage the optical pick-up, due to the precision construction.
2. Do not apply the grease on the lens of optical pick-up.
3. Do not touch the lens of the optical pick-up.

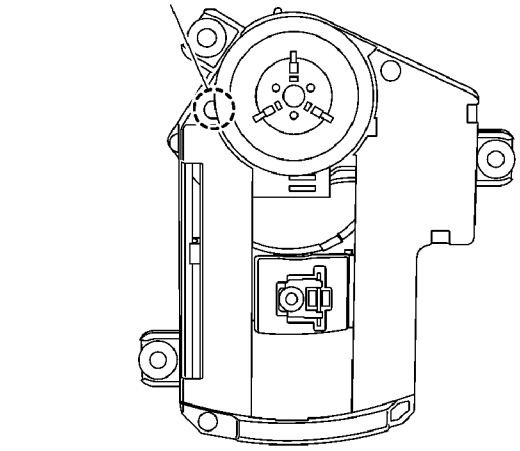
5.7. Replacement for the rest switch

- Follow the **(Step 1)** - **(Step 3)** of item 5.1.1.
- Follow the **(Step 1)** , **(Step 2)** of item 5.5.

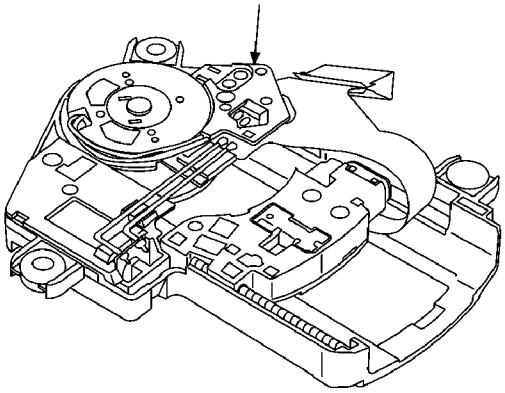
(Step 1)

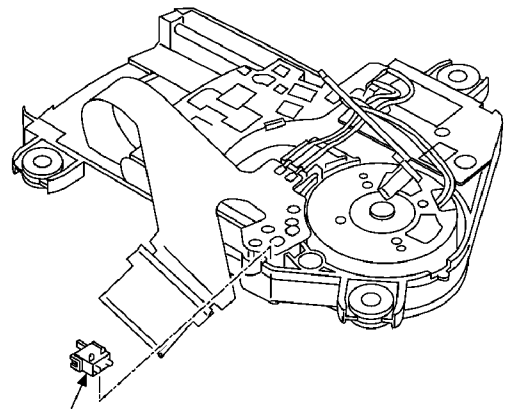


(Step 3)
Release the claw.



(Step 4)
Remove the FFC holder.





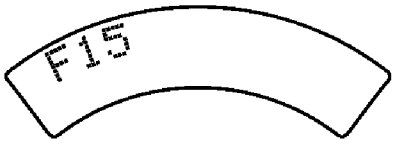
(Step 5)
Remove the rest switch.

6 Display of Self-Diagnostic Function

This unit (SL-MP75) has self-diagnostic function. It may display below-mentioned on the LCD display.

- The substance of self-diagnostic display.

  LCD display



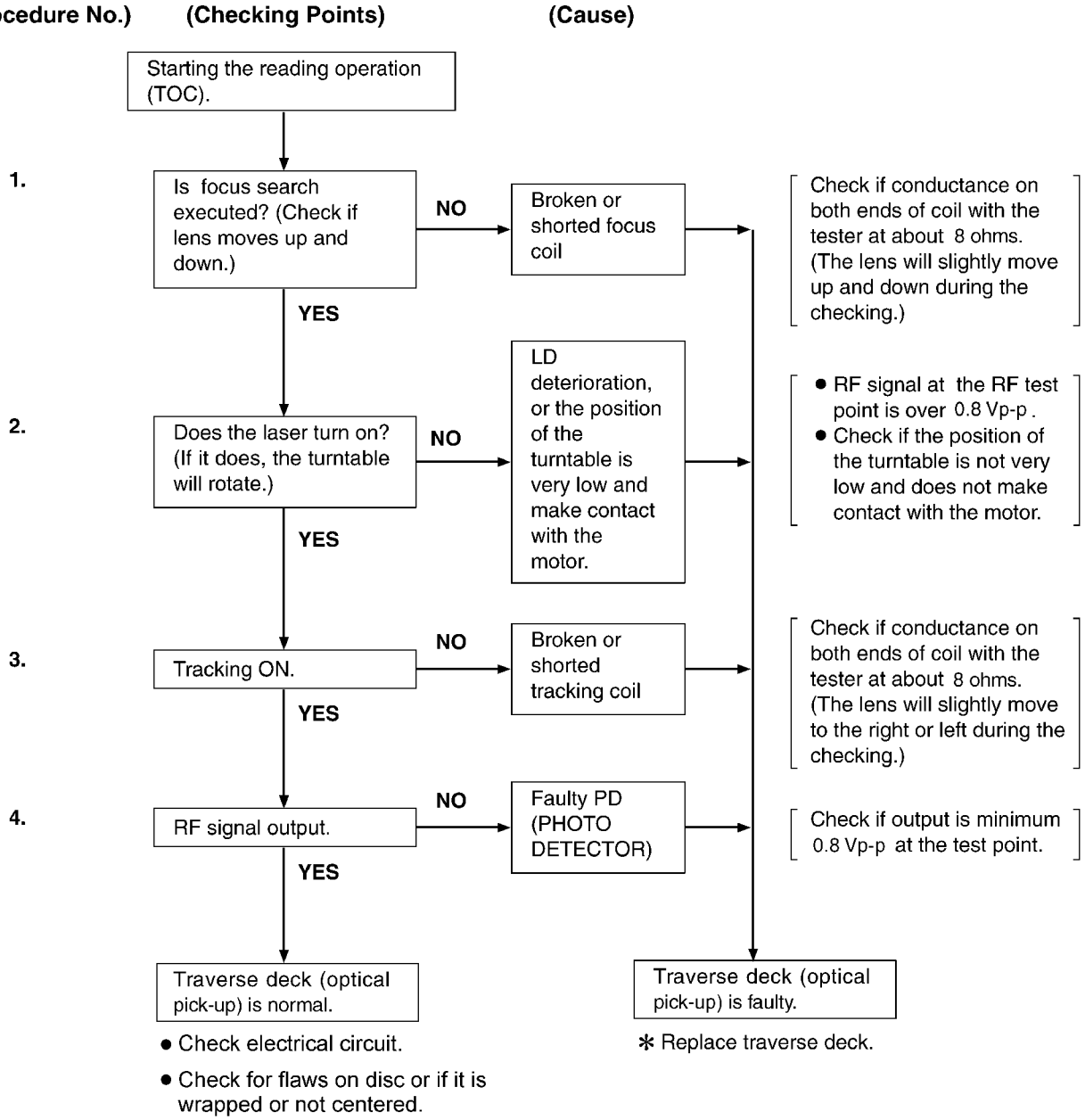
  (Press PLAY and STOP button. After 15 seconds, it is displayed for 2 seconds.)

In case of this display, it may be causing for abnormally movements of traverse deck, touching failure of REST detect switch and coming off or cutting off the flexible P.C.B.. It is necessary for confirmation or repair and replacement each parts.

7 Checking the Operation Problems on the Traverse Deck (Optical Pick-up)

Make sure to follow the procedures below to check the operation problems of the traverse deck (optical pick-up) before replacing it.

Replace the traverse deck only after the problem is identified.



7.1. Check the operations described below on the traverse deck after replacing

7.1.1. 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).

7.1.2. Checking manual search

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

7.1.3. Checking playability

1. Play the 0.7 mm black dot and the 0.7 mm wedge on the playability test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

8 Automatic Adjustment Results Display Function (Self-Check Function)

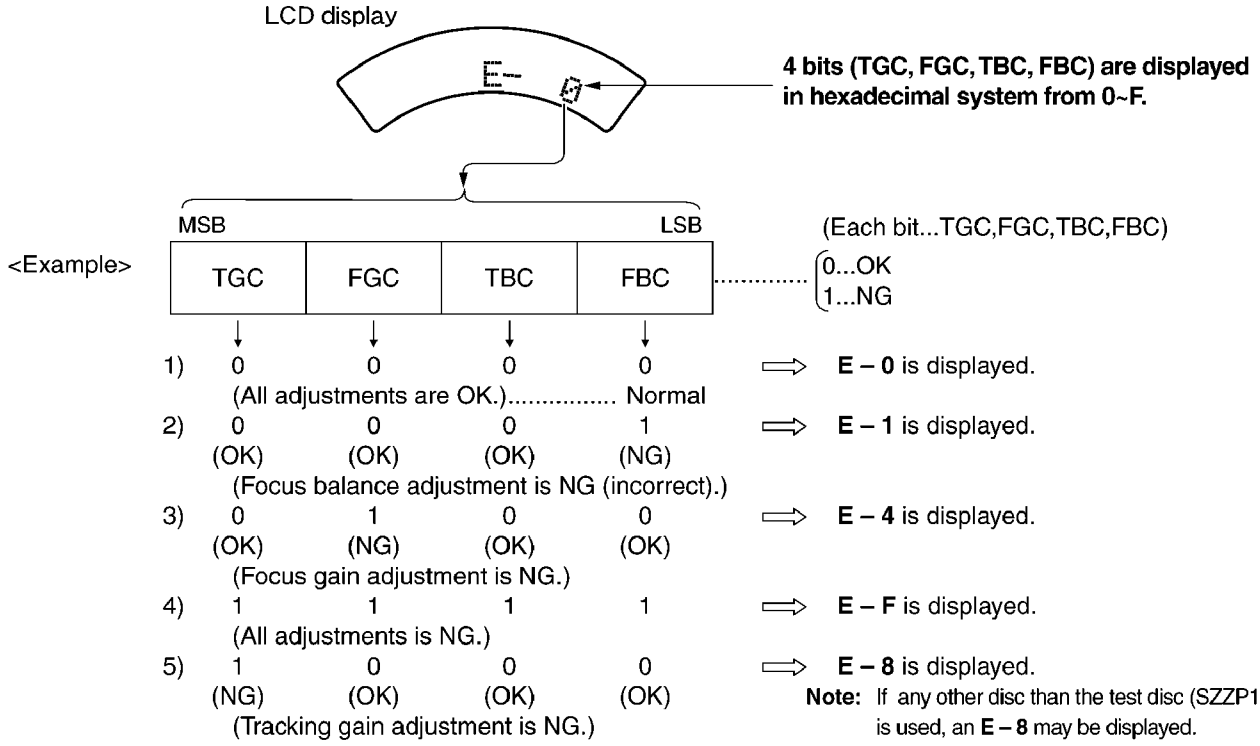
On the unit (SL-MP75), each automatic adjustment result are displayed on the LCD display. This function is convenient to check or identify which automatic adjustment circuit is incorrect.

The followings are the contents of the automatic adjustment result displays (Self-Check Function).

8.1. How to display automatic adjustment results

1. Load the test disc (SZZP1054C).
2. Press the EQ and VOLUME - buttons simultaneously and hold them, and additionally press the ▶/❚❚ (PLAY/PAUSE) button.
3. Press the ■ (STOP/TURN OFF) button once.
4. An automatic adjustment result is displayed on the LCD display.

8.2. Display of automatic adjustment results (Self-Check Function)



<Example>

Follow the below steps when E-1 is displayed.

(Cause: Focus balance (FBC) is set beyond the limit.)

- Check if
  1. the waveform or voltage of the focus servo circuit is correct, and
  2. the optical pick-up returns to the normal state by exchanging the traverse deck.

Follow the below steps when E-4 is displayed.

(Cause: Focus gain (FGC) is set beyond the limit.)

- Check if
  1. the waveform or voltage of the focus servo circuit is correct,
  2. the focus coil of the optical pick-up is correct (around 8 ohms), and
  3. the optical pick-up returns to the normal state by exchanging the traverse deck.

Follow the below steps when E-F is displayed.

(Cause: All adjustments (TGC, FGC, TBC, FBC) are set beyond the limit.)

- Check if
  1. the optical pick-up returns to the normal state by exchanging the traverse deck, and
  2. the waveform or voltage of the servo ICs are correct.

Note:

It is not always necessary to exchange the traverse deck when an error message is displayed.

Be sure to check if the circuit is defective or not before exchanging the traverse deck.

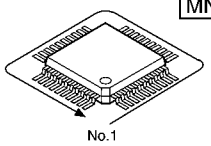
Note:

If any other disc than the test disc (SZZP1054C) is used, an error message may be displayed.

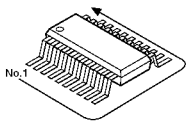
This is not a malfunction.

9 Type Illustration of ICs, Transistors and Diodes

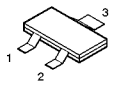
C0DBFFB00004	48PIN
C2BBGE000732	80PIN
MN6627935CJ	100PIN



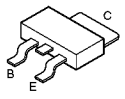
AN22003A-NF	32PIN
C3ABMG000103	50PIN
C3EBCG000096	8PIN

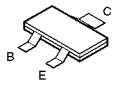


C0CBAAB00043



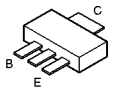
2SB1182TLPQR



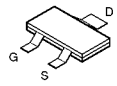


UN5113TX UN5215TX
UN521MTX UN521LTX
UN5114TX UNR521000L
UN5214TX 2SB709ATX

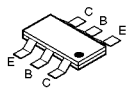
B1ABMD000004



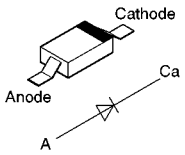
2SK1958T1
B1CHMC000001



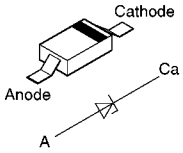
B1GFGCAA0001



MA111TX



MA8056MTX



10 Schematic Diagram Notes

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

Notes:

S201:	Laser ON/OFF switch in ON position (It turns ON with disc holder closed.)
S202:	Rest Detector switch in OFF position (It turns ON when optical pick-up comes to innermost periphery.)
S310:	Hold (HOLD) switch in OFF position
S1001:	Play/pause (▶/❚❚) switch
S1002:	Memory/Recall/Display/Digital Re-master/Anti-skip mode selection switch (● MEMO/ ⬬ DISP)
S1003:	Play mode selection switch (MODE)
S1004:	Sound quality selection switch (EQ)
S1005:	F.Skip/Search (▶▶I) switch
S1006:	Stop/Turn off (■) switch
S1007:	R.Skip/Search (I◀◀) switch
S1008:	Volume control switch (VOLUME+)
S1009:	Volume control switch (VOLUME-)

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- The supply part number is described alone in the replacement parts list.
- Voltage and signal line

  ⟶ : Positive voltage line

  ⇨ : Playback signal line

- The voltage values and waveforms are the reference voltage of this measured by the DC electronic voltmeter (high impedance) and oscilloscope on the basis of GND terminal (DC IN jack). Accordingly, there may arise some errors in the voltage valuesand waveforms depending upon the internal impedance of the tester or measuring unit.

  Measurement conditions:

  – AC adaptor is used for power supply.

  – Set the hold switch to ON.

  – The parenthesized is the voltage for test disc (1 kHz, L+R, 0 dB) in play mode, and the other, for no disc in stop mode.

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

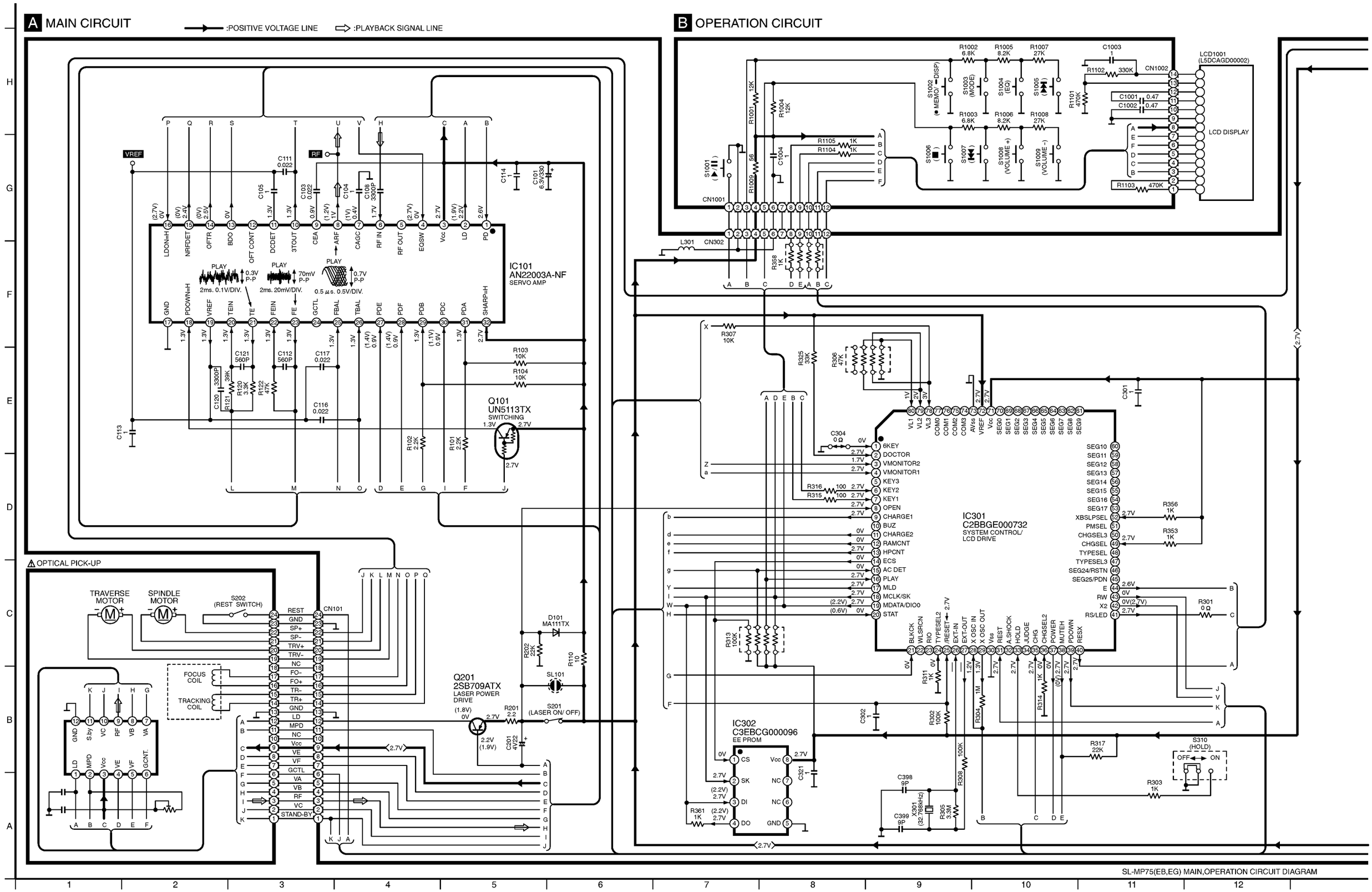
Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

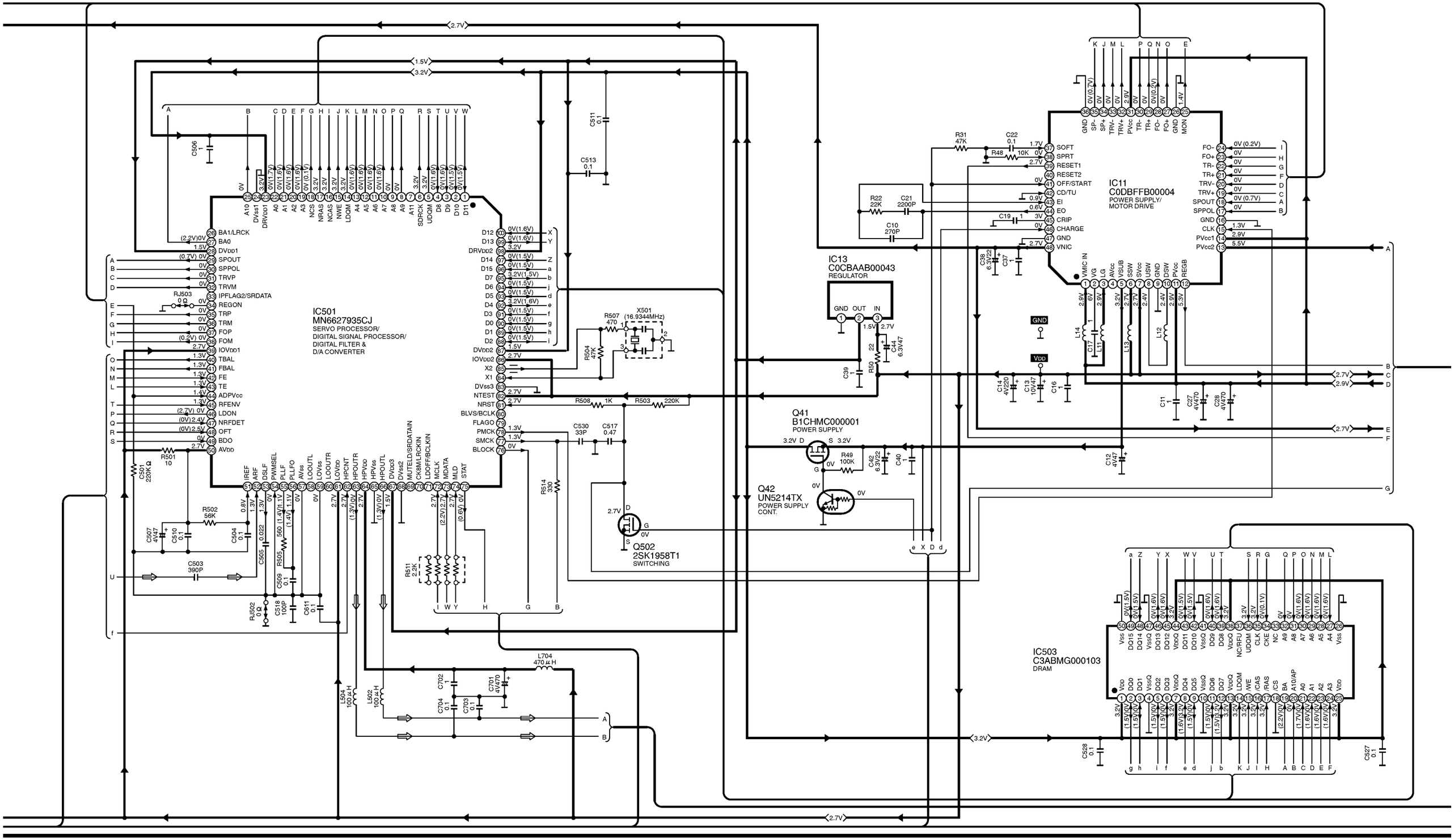
Do not touch the legs of IC or LSI with the fingers directly.

11 Schematic Diagram



A MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :PLAYBACK SIGNAL LINE



SL-MP75(EB,EG) MAIN CIRCUIT DIAGRAM

13 14 15 16 17 18 19 20 21 22 23 24

A MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :PLAYBACK SIGNAL LINE

Q31
UN5215TX
DC IN DET.
(BATTERIES)

D31
MA111TX

R33
470K

ICP11
ERBFE1R50U

CN11

2 R6/LR6(UM-3)
BATTERIES 3V

Q11
2SB1182TLPQR
REGULATOR

Z1
ERY32SB075VA

Q15
UN521LTX
DC IN DET.
(AC ADAPTOR)

R29
56

R28
270

D11
MA8056MTX

C15
1

JK11
DC IN
4.5V

Q19
UN521MTX
RESET

Q301
UN521MTX
RESET

Q16
UN5113TX
RESET

Q14
UN5114TX
CHARGE CONT.

R10
270

R16
100K

Q12
B1ABMD000004
CHARGE CONT.

Q13
UN521LTX
CHARGE CONT.

R17
1.8

R13
1K

Q902
UNR521000L
MUTING CONT.

Q901
UN5114TX
MUTING CONT.

C904
0.1

Q905
UNR521000L
MUTING CONT.

C705
4V220

R703
4.7

R705
2.2

L903

L902

JK702
HEADPHONE

Q704
B1GFGCAA0001
MUTING

R701
560

R702
560

R708
1K

R707
1K

C41
0.1

L901

C706
4V220

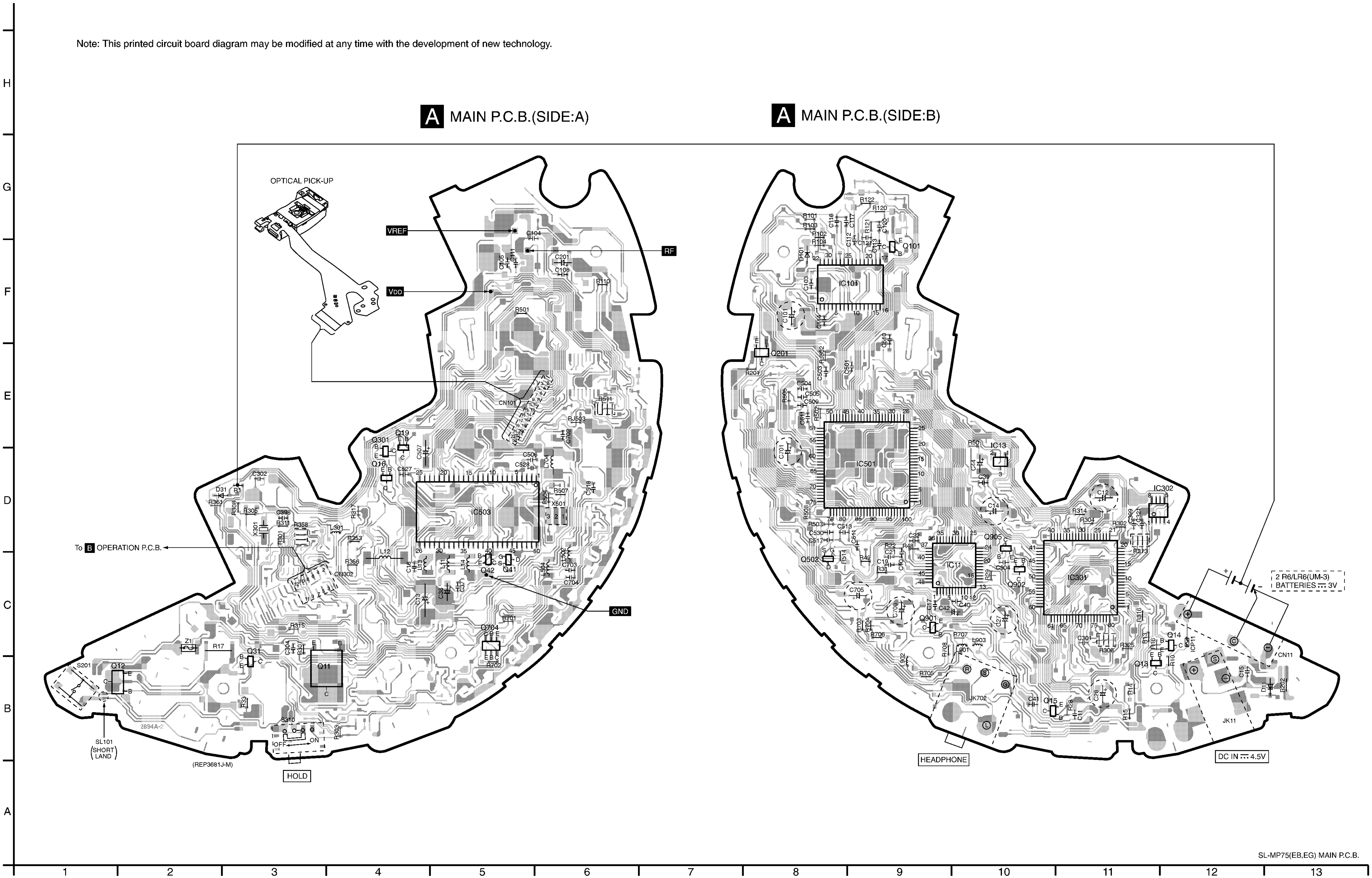
R704
4.7

R706
2.2

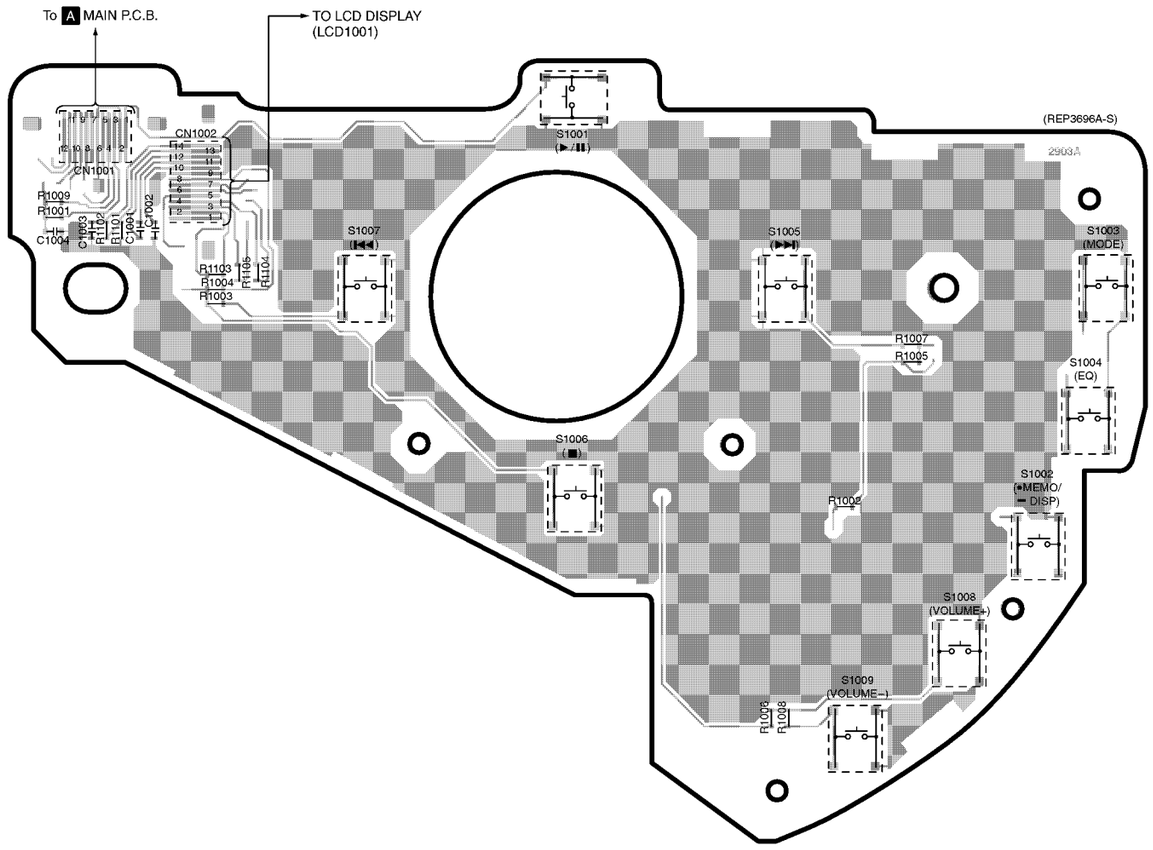
SL-MP75(EB,EG) MAIN CIRCUIT DIAGRAM

12 Printed Circuit Board and Wiring Connection Diagram

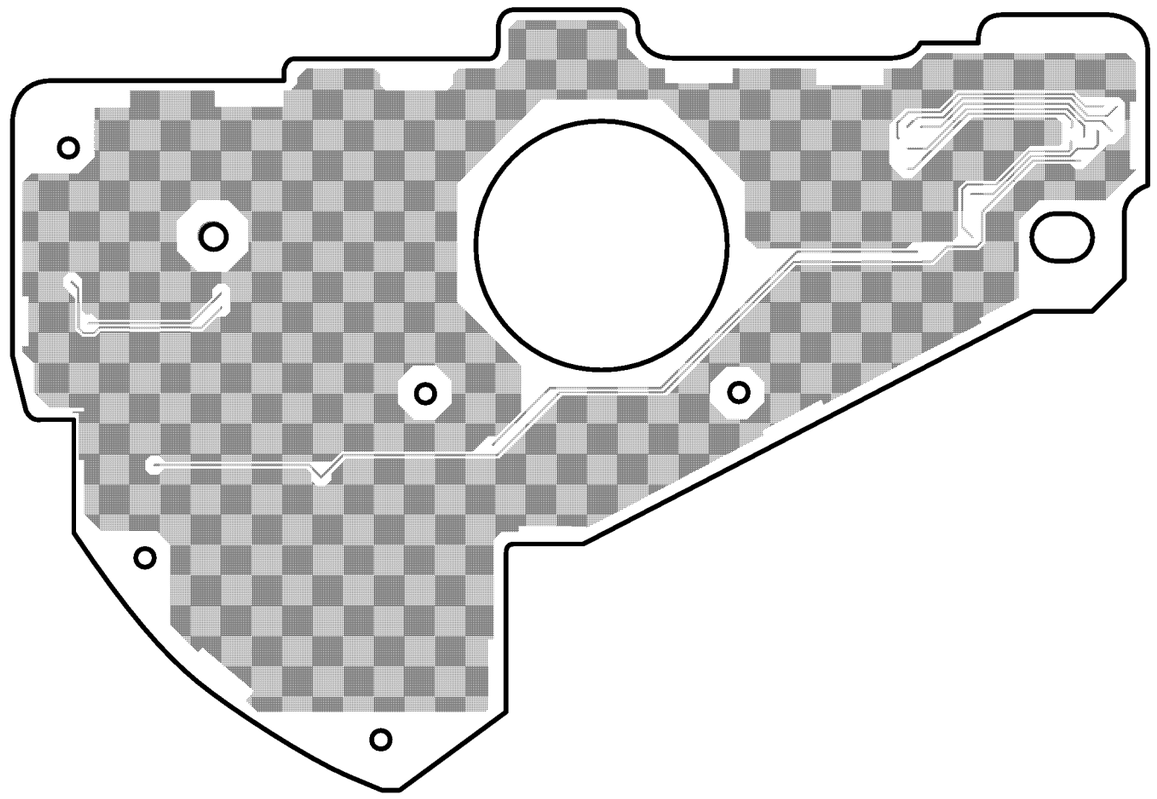
Note: This printed circuit board diagram may be modified at any time with the development of new technology.



B OPERATION P.C.B.(SIDE:A)

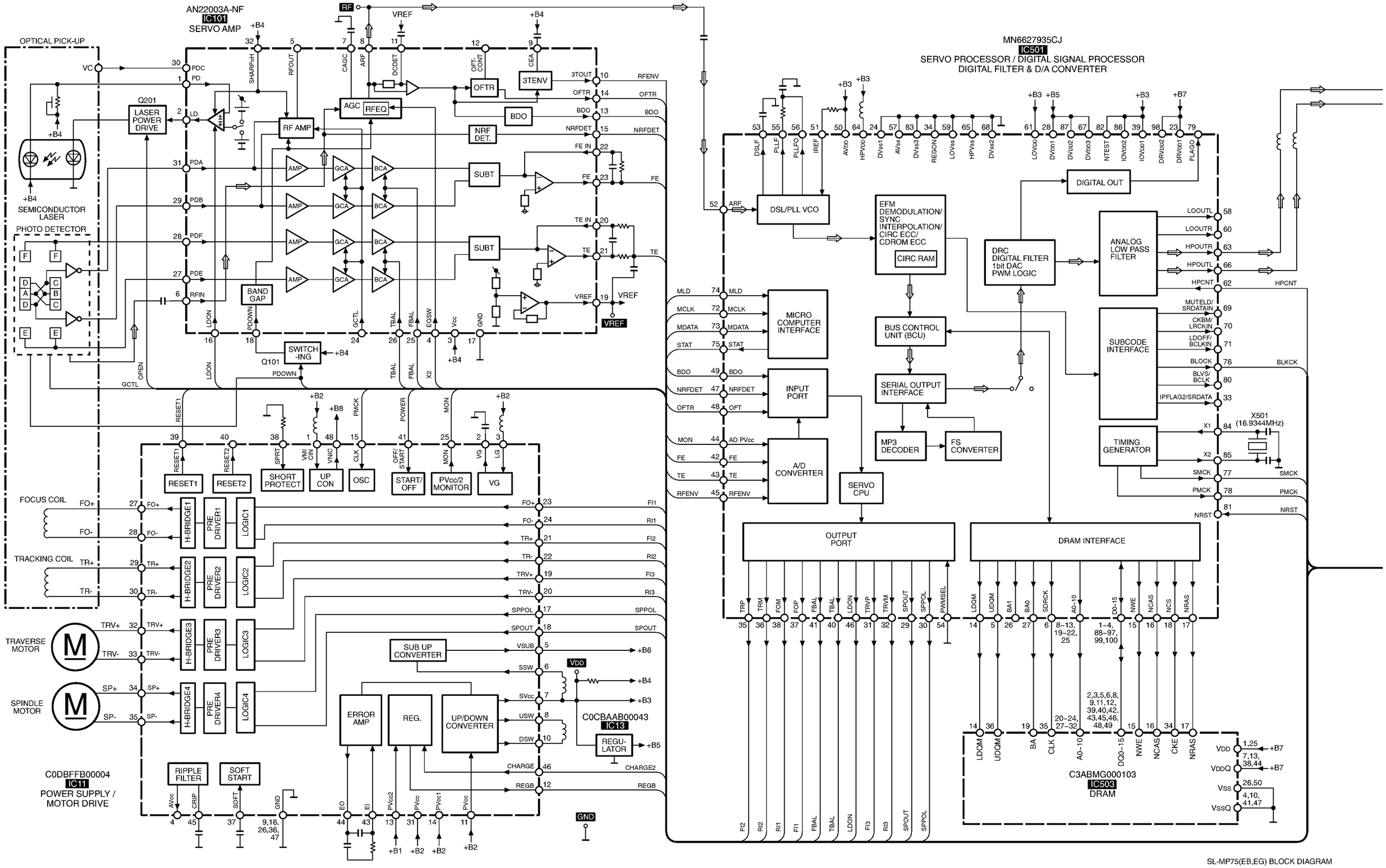


B OPERATION P.C.B.(SIDE:B)

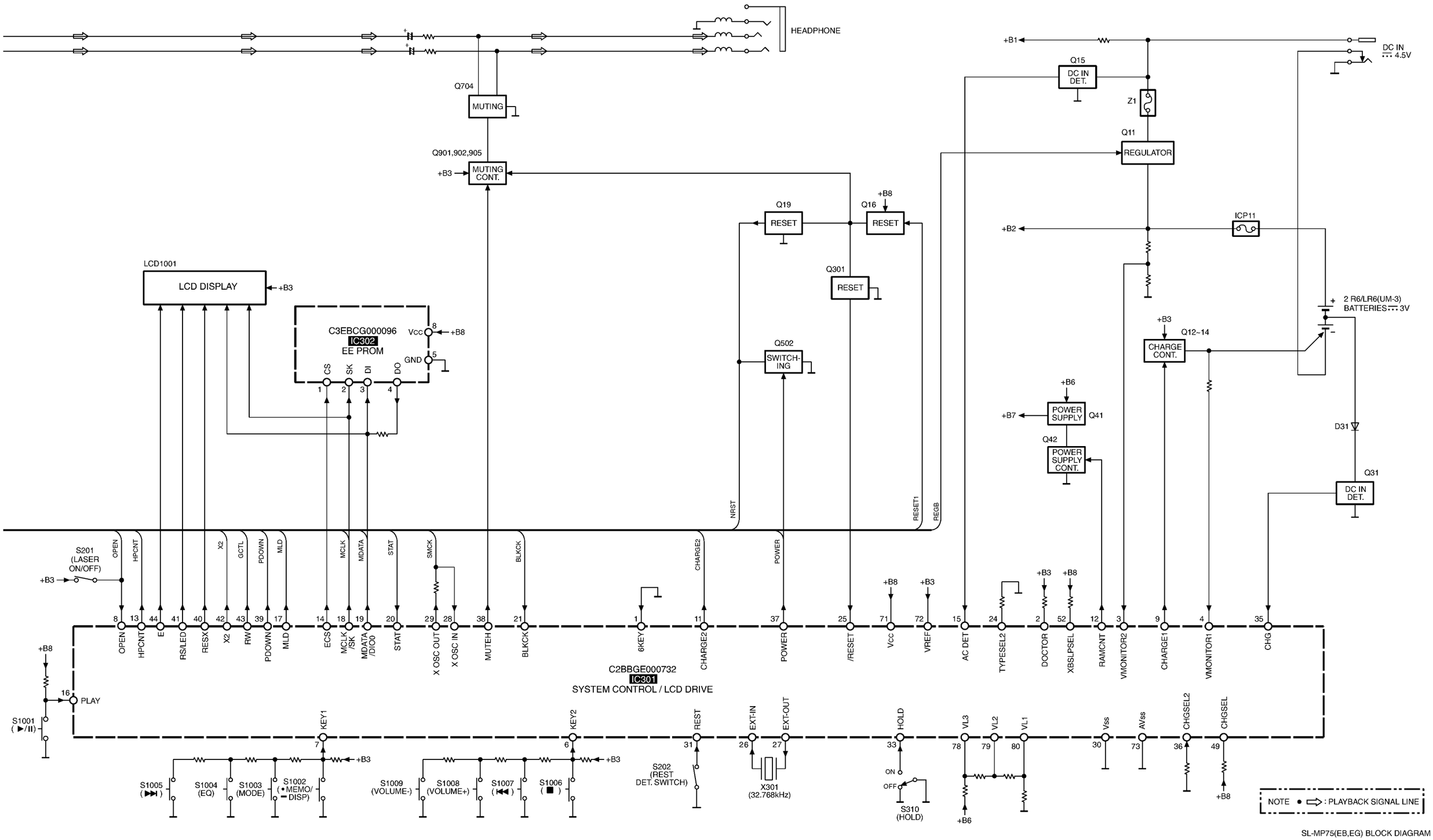


SL-MP75(EB,EG) OPERATION P.C.B.

13 Block Diagram



SL-MP75(EB,EG) BLOCK DIAGRAM



SL-MP75(EB,EG) BLOCK DIAGRAM

14 Terminal Function of ICs

14.1. IC101(AN22003A-NF): Servo Amplifier

Pin No.	Terminal Name	I/O	Function
1	PD	I	APC amplifier input terminal
2	LD	O	APC amplifier output terminal
3	V_{CC}	I	Power supply terminal
4	EQSW	I	EQ characteristic drive signal input
5	RF OUT	-	Not used, open
6	RF IN	I	AGC signal input
7	CAGC	-	AGC loop filter capacitance connect terminal
8	ARF	O	RF signal output
9	CEA	-	Capacitor for H.P.F. connected terminal
10	3TOUT	O	RF envelope signal output
11	DC DET	-	Capacitor for H.P.F. connected terminal
12	OFTCONT	-	Not used, open
13	BDO	O	Dropout signal output
14	OFTR	O	Off-track signal output
15	NRFDET	O	RF detection signal output
16	LDON=H	I	Laser ON signal input
17	GND	-	GND
18	PDOWN =H	I	Headamp power OFF signal input
19	VREF	O	Reference voltage output terminal
20	TE IN	I	Tracking error amplifier input terminal
21	TE	O	Tracking error amplifier output terminal
22	FE IN	I	Focus error amplifier input terminal
23	FE	O	Focus error amplifier output terminal
24	GCTL	-	Not used, open
25	FBAL	I	Focus balance signal input terminal
26	TBAL	I	Tracking balance signal input terminal
27	PDE	I	Tracking signal input terminal
28	PDF	I	Tracking signal input terminal
29	PDB	I	Focus signal input terminal
30	PDC	I	RF addition input terminal
31	PDA	I	Focus signal input terminal
32	SHARP=H	I	Connected to V_{CC}

14.2. IC301(C2BBGE000732): System Control/LCD Drive

Pin No.	Terminal Name	I/O	Function
1	6KEY	I	Remote control signal input
2	DOCTOR	I	Connected to VREF though resistor
3	VMONI TOR2	I	Battery remaining measurement signal
4	VMONI TOR1	I	Rechargeable battery voltage signal input
5	KEY3	-	Not used, open
6	KEY2	I	Operation key signal input
7	KEY1	I	Operation key signal input
8	OPEN	I	CD cover open detect signal input
9	CHARGE1	O	Charge ON signal output
10	BUZ	-	Not used, open
11	CHARGE2	O	PVCC voltage up output
12	RAMCNT	O	DRAM power ON output
13	HPCNT	O	HP out output signal
14	ECS	O	EEPROM communication select signal
15	AC DET	I	Power failure detect signal input
16	PLAY	I	Play key signal input
17	MLD	O	Serial command latch output
18	MCLK/SK	O	Serial command clock output/ EEPROM clock signal output
19	MDATA/ DIO0	O	Serial command data output EEPROM data signal input/output
20	STAT	I	Status signal input
21	BLKCK	I	Sub-code block clock signal input
22	WLSRCN	-	Not used, open
23	RIO	-	Not used, open
24	TYPESEL2	I	Model select signal input
25	/RESET	I	Reset detect signal input
26	EXT-IN	I	Oscillator connected terminal (F=32.7 kHz)
27	EXT-OUT	O	
28	XOSCIN	I	System clock signal
29	XOSCOUT	O	
30	V_{SS}	-	GND
31	REST	I	Rest detect switch signal input
32	A.SHOCK	-	Not used, open
33	HOLD	I	HOLD switch signal input
34	JUDGE	-	Not used, open
35	CHG	I	Battery remaining measurement signal
36	CHGSEL2	I	Peek timer detect signal input
37	POWER	O	Power supply detect signal output
38	MUTEH	O	Muting signal output
39	PDOWN	O	Head amp power off output
40	RESX	O	Chip select signal for LCD
41	RS/LED	O	Recharge LED signal output
42	X2	O	RF equalizer more than twice speed signal output
43	RW	O	Output for CD-RW
44	E	O	Chip select signal for LCD
45	SEG25/ PDN	-	Not used, open
46	SEG24/ RSTN	-	Not used, open
47	TYPESEL3	-	Not used, open
48	TYPESEL	-	Not used, open
49	CHGSEL	I	Charge select signal input
50	CHGSEL3	-	Not used, open
51	PMSEL	-	Not used, open
52	XBSLPSEL	I	XBS LPF setting select input
53 | 70	SEG17 | SEG0	-	Not used, open
71	V_{CC}	I	Power supply terminal
72	VREF	I	Reference voltage input terminal
73	AV_{SS}	-	GND
74 | 77	COM3 | COM0	-	Not used, open
78	VL3	I	Power supply terminal
79	VL2	I	Power supply terminal (LCD drive bias)
80	VL1	I	Power supply terminal (LCD drive bias)

14.3. IC501(MN6627935CJ): Servo Processor, Digital Signal Processor, Digital Filter & D / A Converter

Pin No.	Terminal Name	I/O	Function
1 | 4	D11 | D8	I/O	Data 11-8 input/output
5	UDQM	O	Higher bite data mask signal output

Pin No.	Terminal Name	I/O	Function
6	SDRCK	O	Clock signal output
7	A11	-	Not used, open
8 | 13	A9 | A4	O	Addresses 9-4 output
14	LDQM	O	Lower bite data mask signal output
15	NWE	O	Write enable output
16	NCAS	O	CAS control sibnal output
17	NRAS	O	RAS control signal output
18	NCS	O	Chip select signal output
19 | 22	A3 | A0	O	Addresses 3-0 output
23	DRVDD1	I	Power supply terminal
24	DVSS1	-	GND
25	A10	O	Address 10 output
26	BA1/LRCK	-	Not used, open
27	BA0	O	Bank select 2 signal output
28	DVDD1	I	Power supply terminal
29	SPOUT	O	Spindle motor drive signal output
30	SPPOL	O	Spindle motor drive signal output
31	TRVP	O	Traverse motor drive signal output
32	TRVM	O	Traverse motor drive signal output
33	IPFLAG2/ SRDATA	-	Not used, open
34	REGON	-	Not used, connected to GND
35	TRP	O	Tracking coil drive (+) output
36	TRM	O	Tracking coil drive (-) output
37	FOP	O	Focus coil drive (+) output
38	FOM	O	Focus coil drive (-) output
39	IOVDD1	I	Power supply terminal
40	TBAL	O	Tracking balance adjustment signal output
41	FBAL	O	Focus balance adjustment signal output
42	FE	I	Focus error signal input
43	TE	I	Tracking error signal input
44	ADPVCC	I	A/D reference voltage input terminal
45	RFENV	I	RF envelope signal input
46	LDON	O	Laser ON signal output
47	NRFDET	I	RF detection signal input
48	OFT	I	Off-track signal input
49	BDO	I	Dropout signal input
50	AVDD	I	Power supply terminal
51	IREF	I	Reference current input terminal
52	ARF	I	RF signal input
53	DSLF	O	Loop filter output terminal for DSL
54	PWMSEL	I	Connected to GND
55	PLLF	O	Loop filter output terminal for PLL
56	PLLFO	O	Loop filter output terminal for PLL
57	AVSS	-	GND
58	LOOUTL	-	Not used, open
59	LOVSS	-	GND
60	LOOUTR	-	Not used, open
61	LOVDD	I	Power supply terminal
62	HPCNT	I	Headphone terminal control signal input
63	HPOUTR	O	Headphone R ch signal output
64	HPVDD	I	Power supply terminal
65	HPVSS	-	GND
66	HPOUTL	O	Headphone L ch signal output
67	DVDD3	I	Power supply terminal
68	DVSS2	-	GND
69	MUTELD/ SRDATAIN	-	Not used, open
70	CK8M/ LRCKIN	-	Not used, open
71	LDOFF/ BCLKIN	-	Not used, open
72	MCLK	I	Serial command clock input
73	MDATA	I	Serial command data input

Pin No.	Terminal Name	I/O	Function
74	MLD	I	Serial command latch input
75	STAT	O	Status signal output
76	BLOCK	O	Sub-code block clock signal output
77	SMCK	O	System clock signal output
78	PMCK	O	Clock signal output
79	FLAGO	-	Not used, open
80	BLVS /BCLK	-	Not used, open
81	NRST	I	Reset signal input
82	NTEST	I	Test terminal (Connected to power supply)
83	DVSS3	-	GND
84	X1	I	Crystal oscillator connected (F=16.9MHz)
85	X2	O	Crystal oscillator connected (F=16.9MHz)
86	IOVDD2	I	Power supply terminal
87	DVDD2	I	Power supply terminal
88 | 90	D2 | D0	I/O	Data 2-0 input/output
91 | 95	D3 | D7	I/O	Data 3-7 input/output
96	D15	I/O	Data 15 input/output
97	D14	I/O	Data 14 input/output
98	DRVDD2	I	Power supply terminal
99	D13	I/O	Data 13 input/output
100	D12	I/O	Data 12 input/output

15 Replacement Parts List

Notes:

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

  When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

- The parenthesized indications in Remarks columns specify the areas.

  (EB): SL-MP75EB

  (EG): SL-MP75EG

- The marking [RTL] indicates that retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

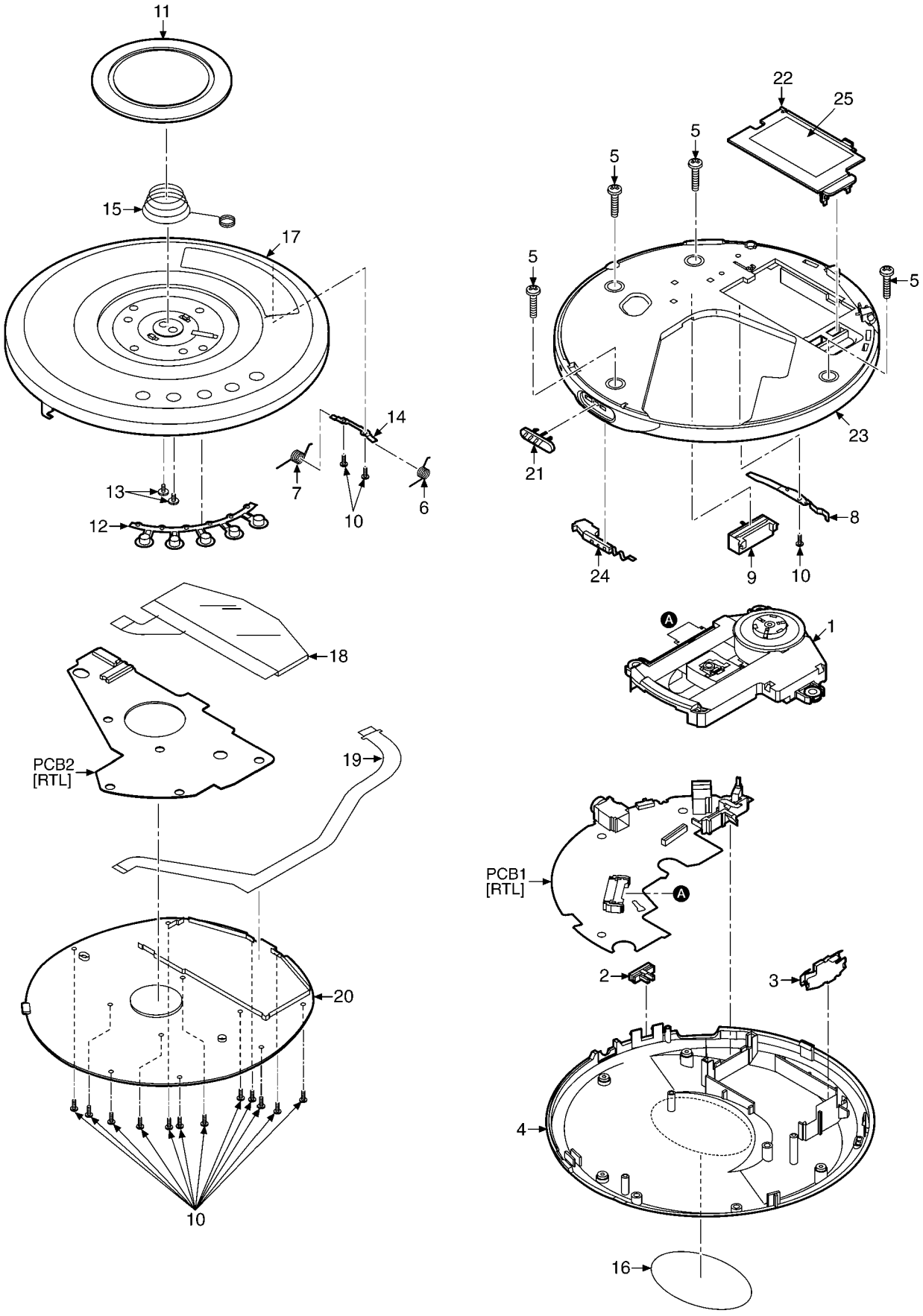
- All parts are supplied by SPC.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RAE0241Z-M	TRAVERSE DECK UNIT	1	⚠
1-1	RMG0605-K1	FLOATING RUBBER	3	
1-2	RAF0241A	OPTICAL PICK-UP	1	⚠
1-3	RDG0554	GEAR 1	1	
1-4	RDG0555	GEAR 2	1	
1-5	RMQ1125-1	MOTOR HOLDER	1	
1-6	RMS0782	DRIVE SHAFT	1	
1-7	XQN17+BG45	SCREW	1	
1-8	RXQ0971-3	TRV MOTOR ASS´Y	1	
2	RGV0200-H1	KNOB,HOLD	1	
3	RJC93038-3	BATTERY TERMINAL	1	
4	RKS0392-A	BOTTOM CABINET	1	
5	XTN17+6GFZ	SCREW	4	
6	RMB0784	SPRING 1	1	
7	RMB0787	SPRING 2	1	
8	RMC0585	SPRING 3	1	
9	RMR1524-K	FFC HOLDER	1	
10	XQN14+BG3FC	SCREW	15	
11	RGU2284-S	BUTTON, STOP/PLAY ETC.	1	
12	RGU2285-A	BUTTON,VOLUME ETC.	1	
13	RHD14123	SCREW	2	
14	RMA1775	ANGLE	1	
15	RMB0785-1	SPRING 4	1	
16	RGN2655-H	NAME PLATE	1	⚠ (EG)
16	RGN2656-H	NAME PLATE	1	⚠ (EB)
17	RYF0704-S	CD LID UNIT	1	
18	L5DCAGD00002	LCD(LCD1001)	1	
19	RJB2895A	FFC	1	
20	RMR1608-H	COVER	1	
21	RGV0313-H	KNOB,OPEN	1	
22	RKK0172-A	BATTERY LID	1	
23	RKM0499-A	MIDDLE CABINET	1	
24	RMR1488-K	LOCK PLATE	1	
25	RQLS0244	LASER LABEL	1	
A1	L0BAB0000182	STEREO EARPHONES	1	(EG)
A2	RFEA431E-S	AC ADAPTOR	1	⚠ (EG)
A3	RQT7217-1B	OPERATING ISNTRUCTION	1	(EG) ENGLISH
A3	RQT7216-1E	OPERATING ISNTRUCTION	1	(EG) FRENCH, GERMANY, SPANISH, NETHERLANDS, SWEDISH, DANISH, ITALIAN, PORTUGUESE, RUSSIAN, POLISH, CZECH
A11	L0BAB0000182	STEREO EARPHONES	1	(EB)
A12	RFEA435B-S	AC ADAPTOR	1	⚠ (EB)
A13	RQT7217-1B	OPERATING INSTRUCTION	1	(EB) ENGLISH
C10	F1H1H271A736	50V 270P	1	
C11	ECJ1VB1A105K	10V 1U	1	F1H1A105A025
C12	ECEA0GKS470	4V 47U	1	
C13	F3H1A476A001	10V 47U	1	
C14	ECEA0GKS221	4V 220U	1	
C15	ECJ1VF1A105Z	10V 1U	1	
C16	ECJ1VB1A105K	10V 1U	1	F1H1A105A025
C17	ECJ1VF1A105Z	10V 1U	1	
C19	ECJ1VF1A105Z	10V 1U	1	
C21	ECJ1VB1H222K	50V 2200P	1	
C22	ECJ1VF1C104Z	16V 0.1U	1	
C27,28	ECEA0GKS471	4V 470U	2	
C37	ECJ1VB1A105K	10V 1U	1	F1H1A105A025
C38	F3F0J226A004	6.3V 22U	1	
C39,40	ECJ1VB1A105K	10V 1U	2	F1H1A105A025
C41	ECJ1VF1C104Z	16V 0.1U	1	
C42	F3F0J226A004	6.3V 22U	1	
C44	F3F0J4760003	6.3V 47U	1	
C101	ECEA0JKS331	6.3V 330U	1	
C103	ECJ1VB1E223K	25V 0.022U	1	
C104,05	ECJ1VB1A105K	10V 1U	2	F1H1A105A025
C108	ECUX1H332KBV	50V 3300P	1	
C111	ECJ1VB1E223K	25V 0.022U	1	
C112	ECJ1VB1H561K	50V 560P	1	
C113,14	ECJ1VB1A105K	10V 1U	2	F1H1A105A025
C116,17	ECJ1VB1E223K	25V 0.022U	2	
C120	ECUX1H332KBV	50V 3300P	1	
C121	ECJ1VB1H561K	50V 560P	1	
C201	ECST0GY226R	4V 22U	1	
C301,02	ECJ1VF1A105Z	10V 1U	2	
C304	ERJ3GEY0R00V	1/10W 0	1	
C321	ECJ1VF1A105Z	10V 1U	1	
C398,99	ECUV1H090DCV	50V 9P	2	F1H1H9R0A244
C501	ERJ3GEYJ224V	1/10W 220K	1	D0GB224JA002
C503	ECUV1H391KCV	50V 390P	1	ECJ1VC1H391K
C504	ECJ1VF1C104Z	16V 0.1U	1	
C505	ECJ1VB1E223K	25V 0.022U	1	
C506	ECJ1VF1A105Z	10V 1U	1	
C507	EEE0GA470SR	4V 47U	1	
C509	ECJ1XB1C104K	16V 0.1U	1	ECJ1VB1C104K
C510	ECJ1VF1C104Z	16V 0.1U	1	
C511	ECJ1XB1C104K	16V 0.1U	1	ECJ1VB1C104K
C513	ECJ1VF1C104Z	16V 0.1U	1	
C517	F1H1A474A028	10V 0.47U	1	
C518	ECJ1VC1H101K	50V 100P	1	
C527,28	ECJ1VF1C104Z	16V 0.1U	2	
C530	ECUV1H330GCV	50V 33P	1	ECJ1VC1H330G
C611	ECJ1VF1C104Z	16V 0.1U	1	
C701	ECEA0GKS471	4V 470U	1	
C702	ECJ1VB1A105K	10V 1U	1	F1H1A105A025
C703,04	ECJ1XB1C104K	16V 0.1U	2	ECJ1VB1C104K
C705,06	ECEA0GKS221	4V 220U	2	
C904	ECJ1VF1C104Z	16V 0.1U	1	
C1001,02	F1H0J474A002	6.3V 0.47U	2	
C1003,04	ECJ1VB1A105K	10V 1U	2	F1H1A105A025

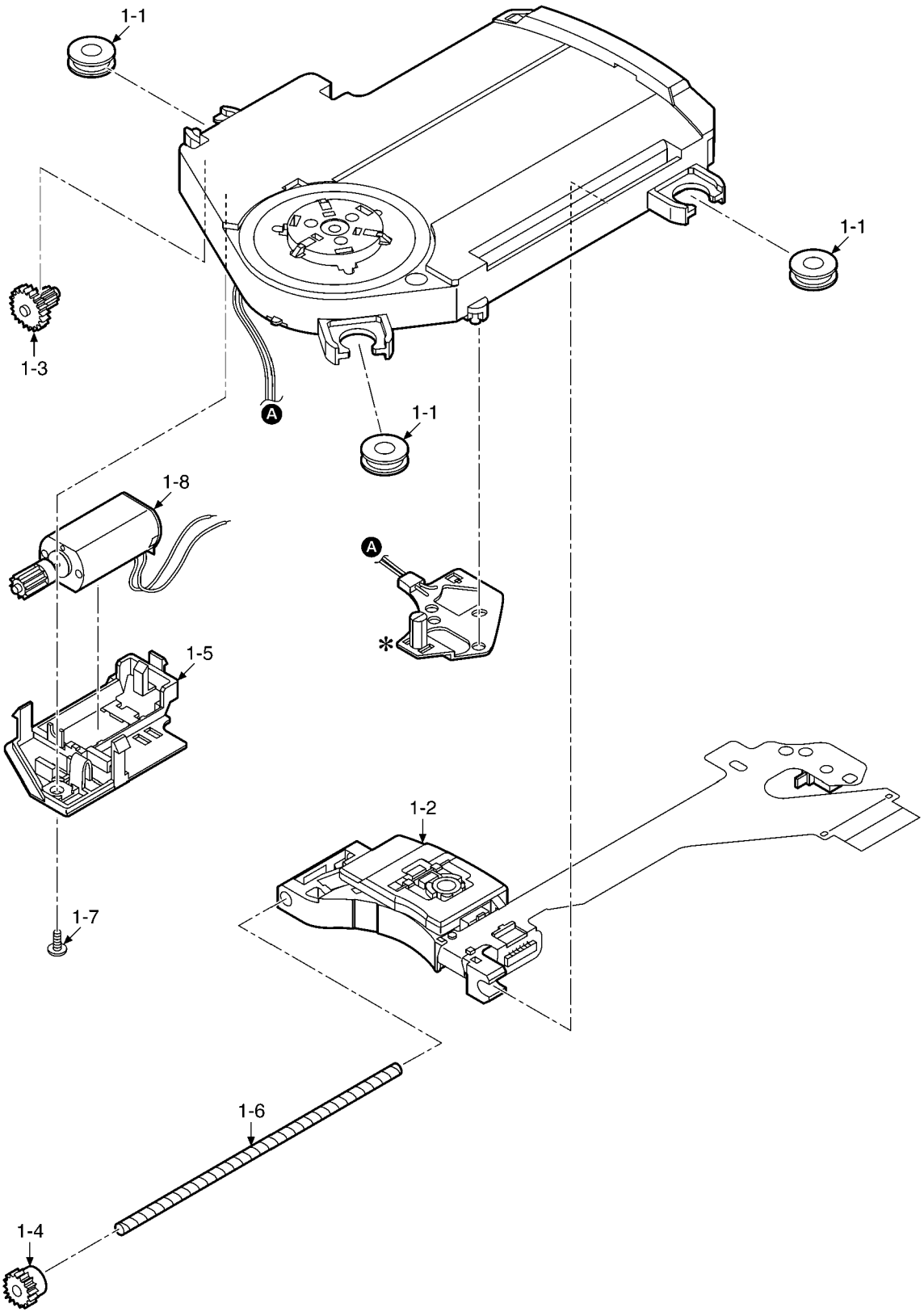
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
CN11	K4BC03B00020	BATTERY TERMINAL	1	
CN101	K1MN24B00109	CONNECTOR(24P)	1	
CN302	K1MN12A00068	CONNECTOR(12P)	1	
CN1001	K1MN12B00111	CONNECTOR(12P)	1	
CN1002	K1MN14B00100	CONNECTOR(14P)	1	
D11	MAZ80560ML	DIODE	1	
D31	MA2J11100L	DIODE	1	
D101	MA2J11100L	DIODE	1	
IC11	C0DBFFB00004	IC	1	
IC13	C0CBAAB00043	IC	1	
IC101	AN22003A-NF	IC	1	
IC301	C2BBGE000732	IC	1	
IC302	C3EBCG000096	IC	1	
IC501	MN6627935CJ	IC	1	
IC503	C3ABMG000103	IC	1	
ICP11	ERBFE1R50U	IC PROTECTOR	1	⚠
JK11	RJJ43K09-C	JK,DC IN	1	K2EB2B000006
JK702	K2HC104B0013	JACK,HEADPHONE	1	
L11	G1C331K00008	COIL	1	
L12	G1A101D00009	COIL	1	
L13	G1C101K00033	COIL	1	
L14	G1C331K00008	COIL	1	
L301	RLBV252AV-Y	COIL	1	J0JBC0000019
L502	G1C101K00033	COIL	1	
L504	G1C101K00033	COIL	1	
L704	G1C471K00007	COIL	1	
L901	J0JCC0000077	COIL	1	
L902,03	RLBV102V-Y	COIL	2	J0JBC0000014
P1	RPF0111-2	PROTECTION BAG	1	(EG)
P2	RPK2104	GIFT BOX	1	(EG)
P3	RPQ1663	PAD	1	(EG)
P11	RPH0246	SHEET	1	(EB)
P12	RPN1695	TRAY 1	1	(EB)
P13	RPN1696	TRAY 2	1	(EB)
P14	RPQ1720	PASTEBOARD	1	(EB)
P15	RPQ1730	PAD	1	(EB)
PCB1	REP3681J-M	MAIN P.C.B. ASS´Y	1	[RTL]
PCB2	REP3696A-S	SW P.C.B. ASS´Y	1	[RTL]
Q11	2SB1182TLPQR	TRANSISTOR	1	B1BDND000001
Q12	B1ABMD000004	TRANSISTOR	1	
Q13	UNR521L00L	TRANSISTOR	1	
Q14	UNR511400L	TRANSISTOR	1	
Q15	UNR521L00L	TRANSISTOR	1	
Q16	UN5113TW	TRANSISTOR	1	
Q19	UN521MTX	TRANSISTOR	1	UNR521M00L
Q31	UN5215TX	TRANSISTOR	1	UNR521500L
Q41	B1CHMC000001	TRANSISTOR	1	
Q42	UN5214TX	TRANSISTOR	1	UNR521400L
Q101	UN5113TW	TRANSISTOR	1	
Q201	2SB0709ARL	TRANSISTOR	1	
Q301	UN521MTX	TRANSISTOR	1	UNR521M00L
Q502	B1CFHA000001	TRANSISTOR	1	
Q704	B1GFGCAA0001	TRANSISTOR	1	
Q901	UNR511400L	TRANSISTOR	1	
Q902	UN5210TX	TRANSISTOR	1	UNR52100RL
Q905	UN5210TX	TRANSISTOR	1	UNR52100RL
R1	D0YBR0000010	10K	1	
R10	ERJ3GEYJ271V	1/10W 270	1	
R13	ERJ3GEYJ102V	1/10W 1K	1	
R14	ERJ3RBD473	1/16W 47K	1	
R15	ERJ3RBD683V	1/16W 68K	1	
R16	ERJ3GEYJ104	1/10W 100K	1	
R17	ERJ12YJ1R8U	1/2W 1.8	1	
R22	ERJ3GEYJ223V	1/10W 22K	1	D0GB223JA002

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R28	ERJ3GEYJ271V	1/10W 270	1	
R29	ERJ3GEYJ560V	1/10W 56	1	
R31	ERJ3GEYJ473V	1/10W 47K	1	D0GB473JA002
R33	ERJ3GEYJ474V	1/10W 470K	1	
R48	ERJ3GEYJ103V	1/10W 10K	1	D0GB103JA002
R49	ERJ3GEYJ104	1/10W 100K	1	
R50	ERJ3GEYJ220V	1/10W 22	1	
R101,02	ERJ3GEYJ222V	1/10W 2.2K	2	
R103,04	ERJ3GEYJ103V	1/10W 10K	2	D0GB103JA002
R110	ERJ3GEYJ100	1/10W 10	1	
R120	ERJ3GEYJ332V	1/10W 3.3K	1	D0GB332JA002
R121	ERJ3GEYJ393V	1/10W 39K	1	D0GB393JA002
R122	ERJ3GEYJ473V	1/10W 47K	1	D0GB473JA002
R201	D0GB2R2JA040	1/10W 2.2	1	
R202	ERJ3GEYJ223V	1/10W 22K	1	D0GB223JA002
R301	ERJ3GEY0R00V	1/10W 0	1	
R302	ERJ3GEYJ104	1/10W 100K	1	
R303	ERJ3GEYJ102V	1/10W 1K	1	
R304	ERJ3GEYJ105V	1/10W 1M	1	
R305	ERJ3GEYJ335V	1/10W 3.3M	1	
R306	EXBV8V473JV	1/16W 47K	1	
R307	ERJ3GEYJ103V	1/10W 10K	1	D0GB103JA002
R308	ERJ3GEYJ104	1/10W 100K	1	
R311	ERJ3GEYJ102V	1/10W 1K	1	
R313	EXBV8V104JV	1/16W 100K	1	
R314	ERJ3GEYJ102V	1/10W 1K	1	
R315,16	ERJ3GEYJ101	1/10W 100	2	D0GB101JA002
R317	ERJ3GEYJ223V	1/10W 22K	1	D0GB223JA002
R325	ERJ3GEYJ333V	1/10W 33K	1	D0GB333JA002
R353	ERJ3GEYJ102V	1/10W 1K	1	
R356	ERJ3GEYJ102V	1/10W 1K	1	
R358	EXBV8V102JV	1/16W 1K	1	
R361	ERJ3GEYJ102V	1/10W 1K	1	
R501	ERJ3GEYJ100	1/10W 10	1	
R502	ERJ3GEYJ563V	1/10W 56K	1	
R503	ERJ3GEYJ224V	1/10W 220K	1	D0GB224JA002
R504	ERJ3GEYJ473V	1/10W 47K	1	D0GB473JA002
R505	MCR03PZHJ561	1/16W 560	1	
R507	ERJ3GEYJ471V	1/10W 470	1	
R508	ERJ3GEYJ102V	1/10W 1K	1	
R511	EXBV8V222J	1/16W 2.2K	1	
R514	ERJ3GEYJ331V	1/10W 330	1	
R701,02	MCR03PZHJ561	1/16W 560	2	
R703,04	D0GB4R7JA040	1/10W 4.7	2	
R705,06	D0GB2R2JA040	1/10W 2.2	2	
R707,08	ERJ3GEYJ102V	1/10W 1K	2	
R1001	ERJ3GEYJ123V	1/10W 12K	1	
R1002,03	ERJ3GEYJ682V	1/10W 6.8K	2	D0GB682JA002
R1004	ERJ3GEYJ123V	1/10W 12K	1	
R1005,06	ERJ3GEYJ822V	1/10W 8.2K	2	D0GB822JA002
R1007,08	ERJ3GEYJ273V	1/10W 27K	2	D0GB273JA002
R1009	ERJ3GEYJ560V	1/10W 56	1	
R1101	ERJ3GEYJ474V	1/10W 470K	1	
R1102	ERJ3GEYJ334V	1/10W 330K	1	
R1103	ERJ3GEYJ474V	1/10W 470K	1	
R1104,05	ERJ3GEYJ102V	1/10W 1K	2	
RJ502,03	ERJ3GEY0R00V	1/10W 0	2	
S201	ESE11MV9T	SW,LASER ON/OFF	1	
S202	K0L1BB000025	SW,REST DET.	1	
S310	RSS2A010-1A	SW,HOLD	1	K0D112B00071
S1001-09	K0H1BA000432	SW,OPERATION	9	
X301	H0J327200097	OSCILLATOR	1	
X501	H2D169500027	OSCILLATOR	1	
Z1	ERY32SB075VA	IC PROTECTOR	1	⚠

16 Cabinet Parts Location



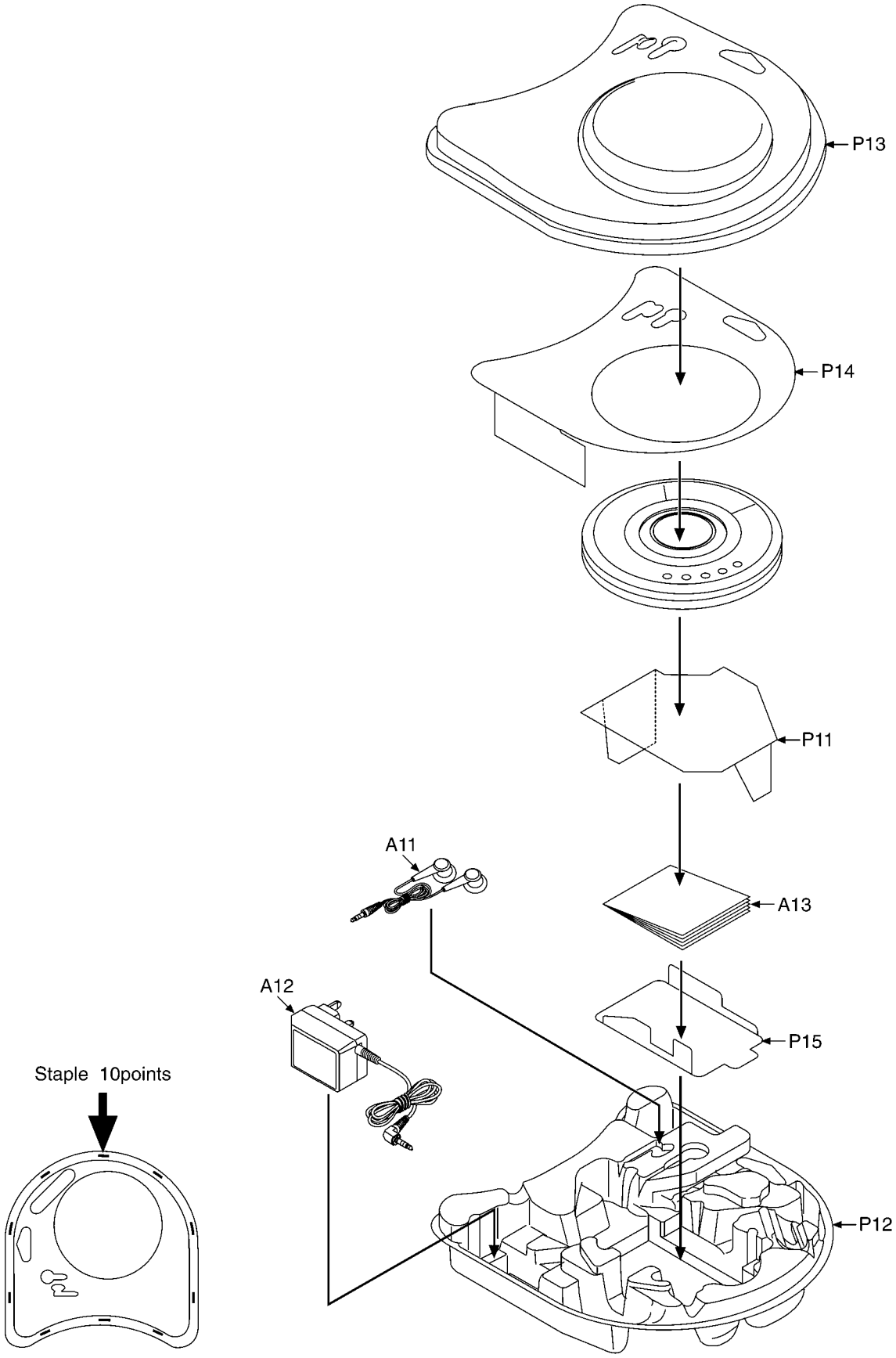
17 Traverse Unit Parts Location



Note : We do not supply those items of parts marked ✻.

18 Packaging

18.1. For SL-MP75EB



18.2. For SL-MP75EG