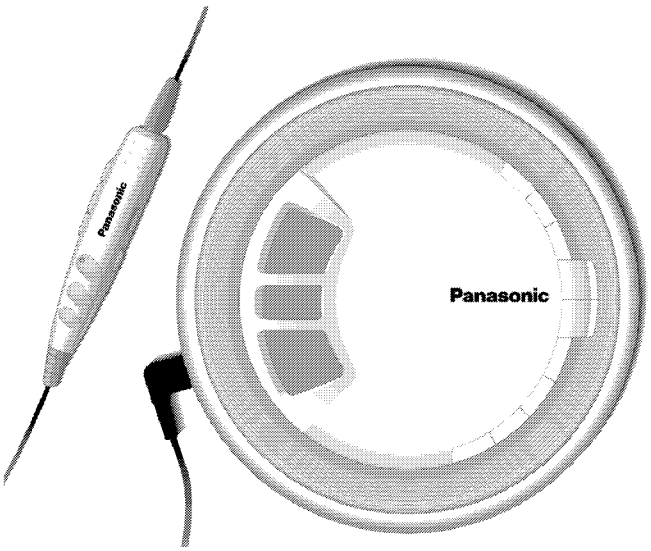
ORDER No.AD0402012C8

Service Manual

Portable CD Player

COMPACT disc DIGITAL AUDIO



SL-SX430EB
SL-SX430EG
SL-SX430GC
SL-SX430GK
SL-SX430GS

Colours

(S).....Silver Type

(A).....Blue Type (EB, EG, GC areas)

Specification

●Audio (CD-DA)

Sampling frequency:	44.1 kHz
No. of channels:	2 (left and right, stereo)
Frequency response:	20 to 20,000 Hz (+0dB to -7dB)
Headphone output level:	RMS max. 6mW+6mW/ 16Ω (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

Power supply:

DC input;	DC 4.5V
AC adaptor input;	EB: AC 220 - 240V 50/60Hz
	EG: AC 220 - 230V 50/60Hz
	GC: AC 110 - 127V / 220 - 240V 50/60Hz
	GK: AC 220V 50Hz
	GS: AC 220 - 240V 50/60Hz

Power consumption:

Using AC adaptor;	EB, EG, GK, GS: 0.7W
	GC: 2.8W
Recharging;	EB, EG, GK, GS: 3.1W
	GC: 4.5W

Play time:

Using on a flat stable surface at 25°C, EQ is off, Hold is on, Anti-skip is on POS 1 (CD-DA), recommended bit rate (MP3: 128 kbps), and the Digital Re-master is off (MP3).Play time are inhours and approximate.

Batteries used:

2 optional alkaline batteries;	MP3 disc....85h
	CD-DA disc....50h
2 optional rechargeable batteries;	MP3 disc....40h
	CD-DA disc....23h

Panasonic

Recharging time: 4 to 5 hours

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

Operational temperature range: 0°C-40°C

Rechargeable temperature range: 5°C-40°C

Dimensions (WxHxD): 135x24.3x135mm

Mass: 224g (with batteries)
180g (without batteries)

Note:

Specifications are subject to change without notice.

Mss 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 discsdueto 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.

⚠ 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 Precaution of Laser Diode

CAUTION:

This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the pickup lens when the unit is turned on:

1. Do not look directly into the pickup lens.
2. Do not use optical instruments to look at the pickup lens.
3. Do not adjust the preset variable resistor on the optical pickup.
4. Do not disassemble the optical pickup unit.
5. If the optical pickup is replaced, use the manufactures specified replacement pickup only.
6. Use of control or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

CAUTION:

This product utilizes a liser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wave length: 780nm
Maximum output wadiation power from pickup: 100 µW/VDE
Laserradiationfromthe pickup lens is safety level, but be sure the followings:

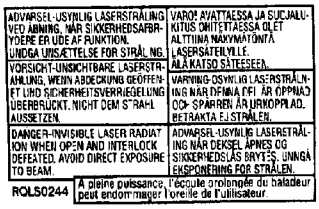
1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

ACHTUNG:

Dieses Produkt enthalt eine Laserdiode. Im eingeschalteten Zustand Wird unsichtbare Leserstrahlung von der Lasereinheit abgestrahlt.
Wellenlage: 780nm
Maximale Strahlungsleistung der Lasereinheit: 100 µW/VDE
Die StrahlungasderLasereinheit ist ungefahrlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zeriegen, de die Strahlung an der freigelegten Laserdiode gefahrlich ist.
2. Denwerkseitig Justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlines blicken.
4. Nicht uber langere Zeit in die Fokussierlines blicken.

(Bottom of product)



(Inside of product)

2 Accessories

For all area:

- Stereo earphones.....1 pc.
  (L0BAB0000186)
- Wired remote control.....1 pc.
  (N2QCBD000010)

For (EB), (GS) areas:

- AC adaptor.....1 pc.
  (RFEA435B-S)

For (EG) area:

- AC adaptor.....1 pc.
  (RFEA431E-S)

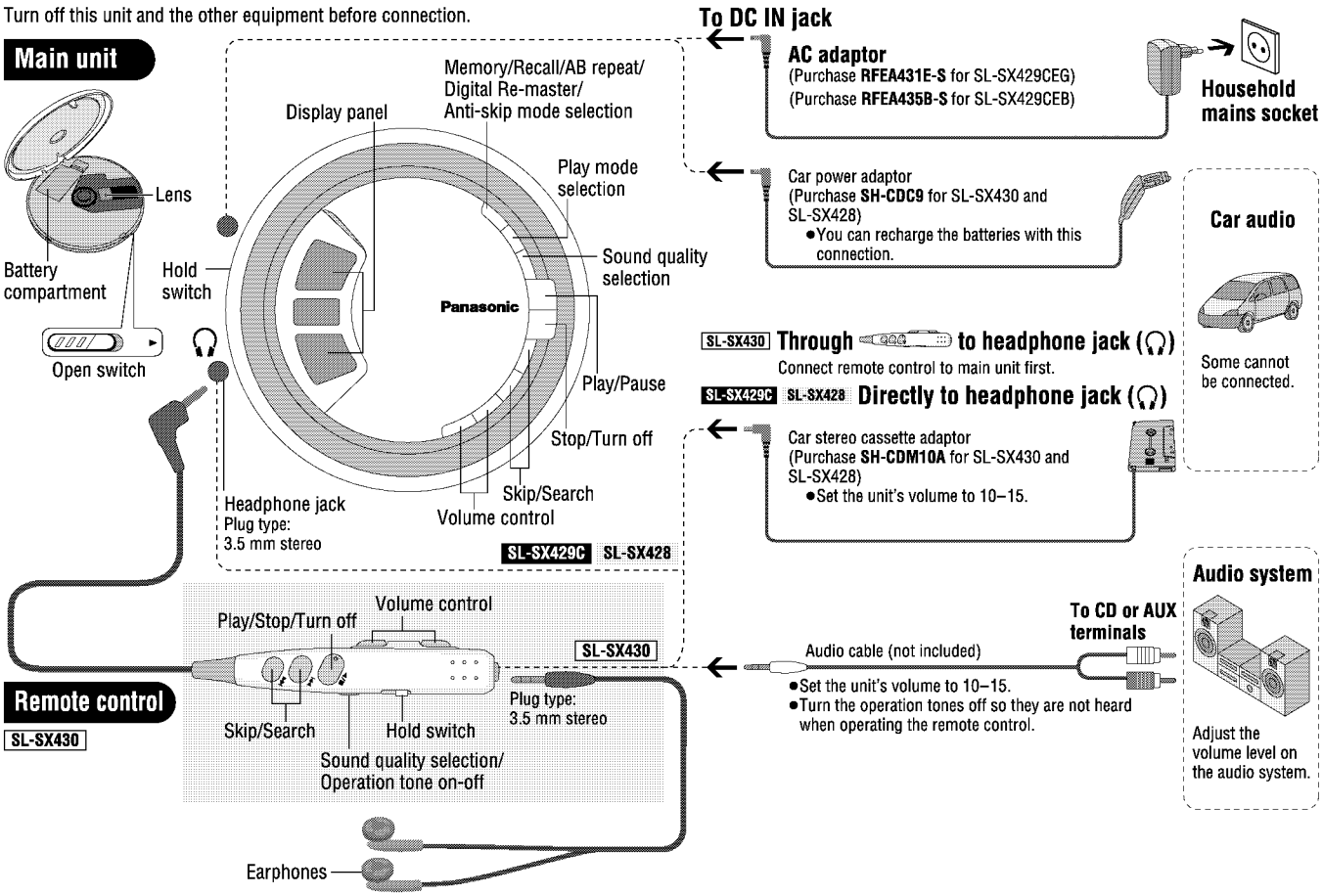
For (GC) area:

- AC adaptor.....1 pc.
  (N0JDCE000001)
- Power plug adaptor.....1 pc.
  (K2DA42E00001)

For (GK) area:

- AC adaptor.....1 pc.
  (RFEA437T-S)

3 Location of controls / Connection to other equipment



4 Handling Precautions for Traverse Deck

The laser diode in the traverse deck (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 traverse deck (optical pickup).

4.1. Handling the traverse deck (optical pickup)

1. The traverse deck (optical pickup) is an extremely high-precision construction and must not be subjected to impact, excessive vibration, or other types of rough handling.
2. To protect the laser diode against electrostatic breakdown, be sure that the short land A and B 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 intothe tip of the flexible board.
   (Refer to **Fig. 1**)
3. Handle the flexible circuit boards with care; excessive force could cause them to be broken.
4. Do not turn the pre-set variable resistor (for adjustment of the laser power); it has been adjusted at the factory.
   (as shown in **Fig. 1**)

Handling Precautions for Traverse Deck

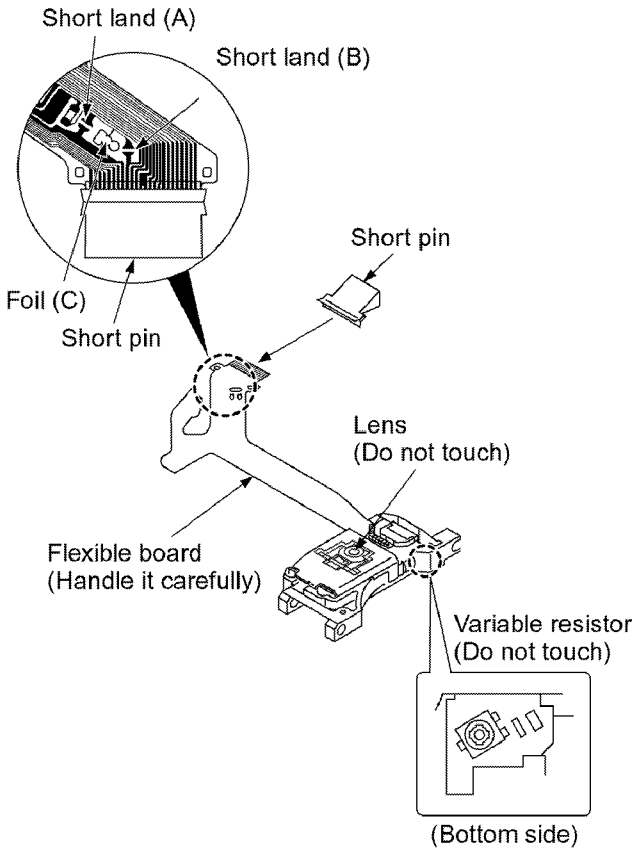


Fig. 1

4.2. Caution when replacing traverse deck

The new traverse deck short-circuits by the short pin, the foil (C) 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 (C). (Refer to **Fig. 1**) (Take care not to make contact with cutting point each other.)
3. Unsolder the short lands. (Refer to **Fig. 1**)

4.3. Grounding for electrostatic breakdown prevention

1. Human body grounding

   Use the anti-static wrist strap to discharge the static electricity from your body. (as shown in **Fig. 2**)
2. Work table grounding

   Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and fround the sheet. (as shown in **Fig. 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 pickup).

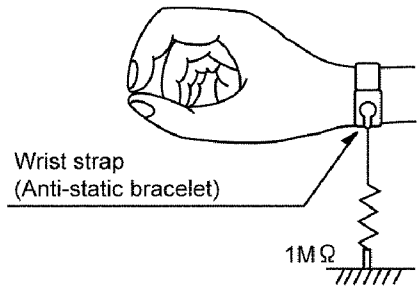


Fig. 2

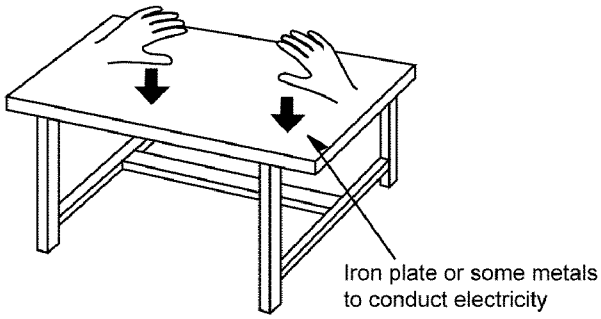


Fig. 3

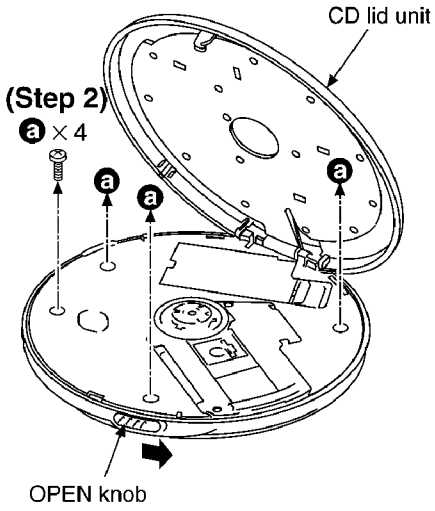
5 Operation Checks and Component Replacement Procedures

- **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.**

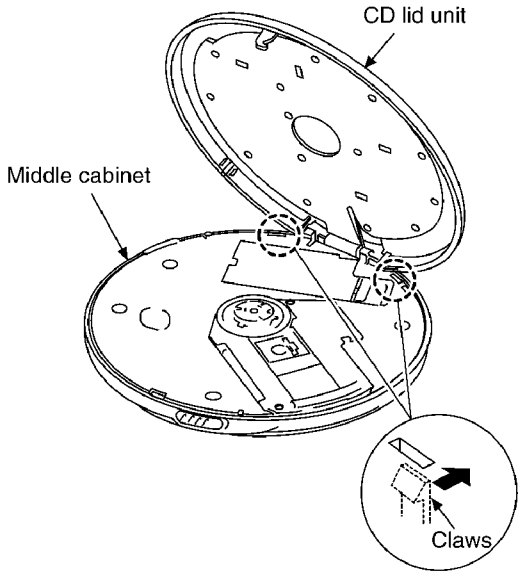
5.1. Checking for the P.C.B. ass'y

5.1.1. Checking for the P.C.B. ass'y (A side)

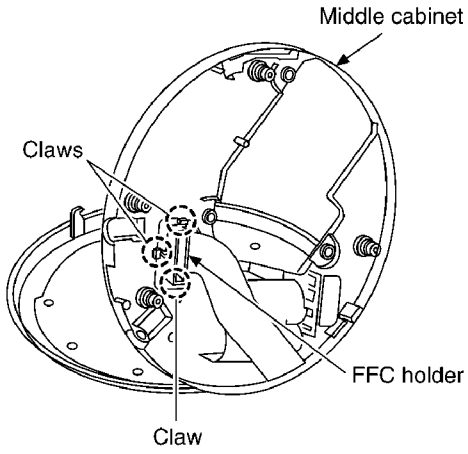
(Step 1)
Pressing the OPEN knob, open the CD lid unit.

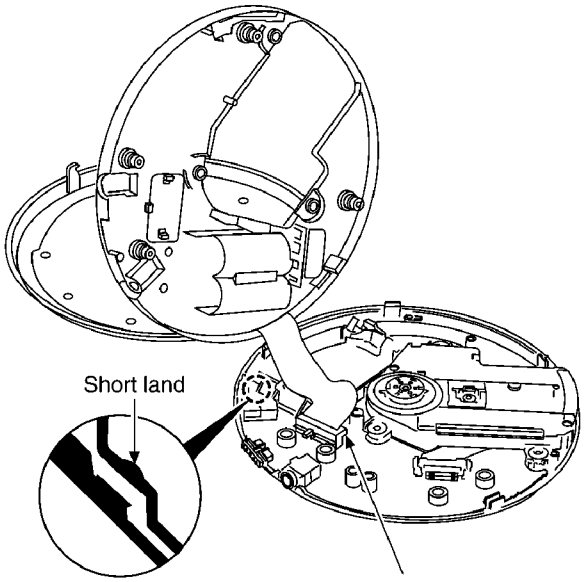


(Step 3)
Release the 2 claws, and then remove the middle cabinet and CD lid unit.



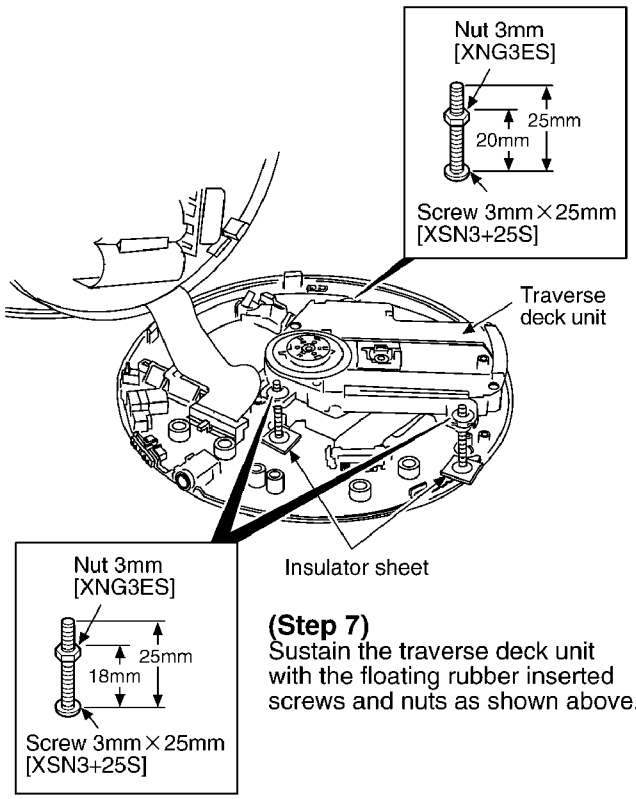
(Step 4)
Release the 3 claws, and then remove the FFC holder.





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

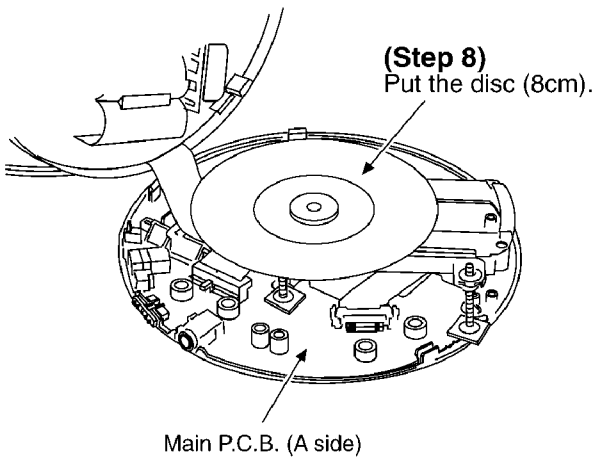
(Step 6)
Connect the FFC holder to connector.



(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.

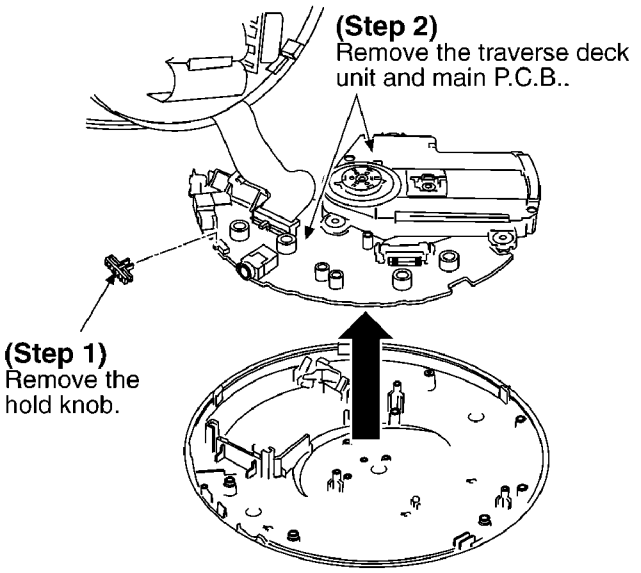
• Check the P.C.B. ass'y (A side) as shown below.



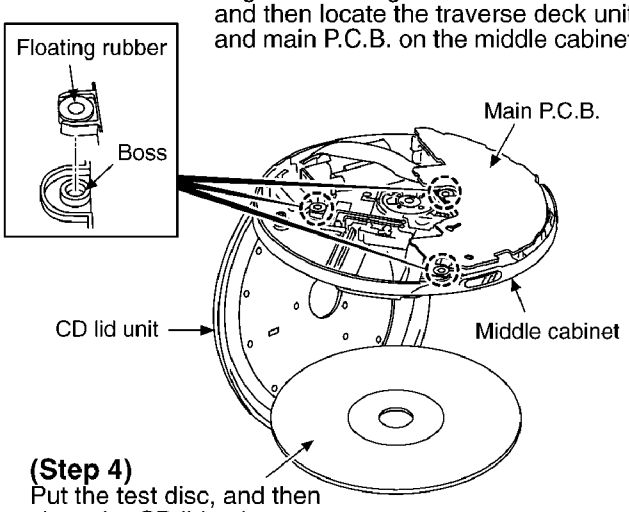
NOTE:
After checking, unsolder the short land to open circuit.

5.1.2. Checking for the P.C.B. ass'y (B side)

• Follow the (Step1)-(Step6) of item 5.1.1.

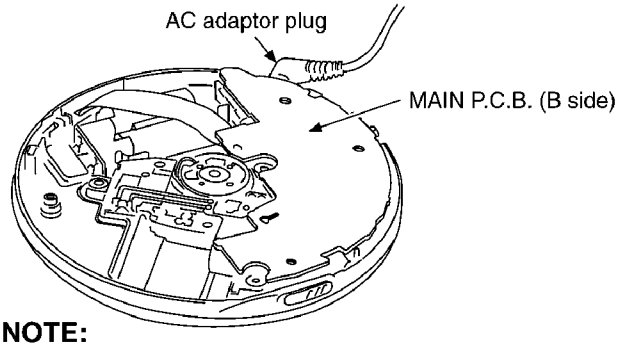


(Step 3)
Align the floating rubbers with bosses, and then locate the traverse deck unit and main P.C.B. on the middle cabinet.



• Check the P.C.B. ass'y (B side) as shown below.

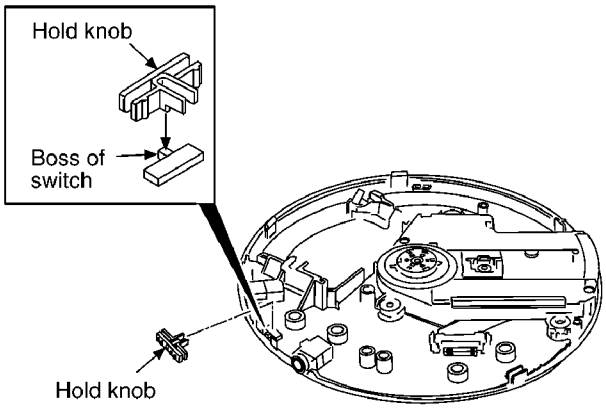
(Step 5)
Insert the AC adaptor plug into the DC IN jack, and then apply the power.



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

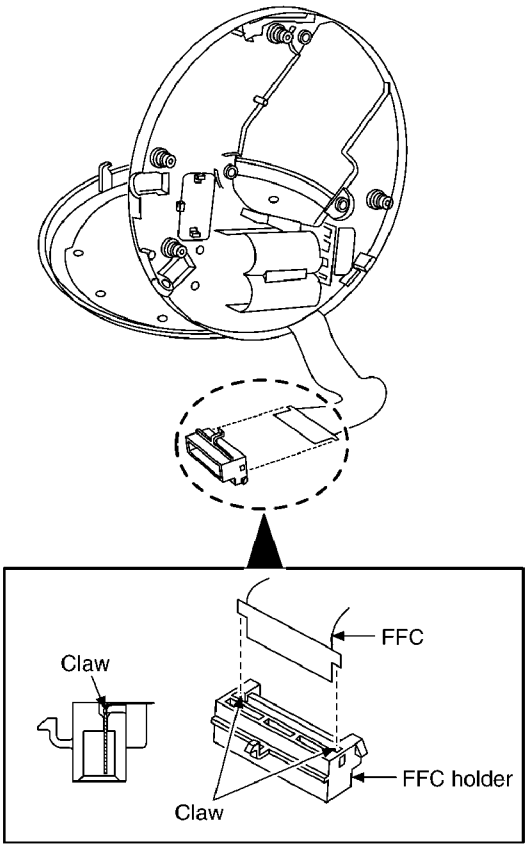
Notice for installation of hold knob

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

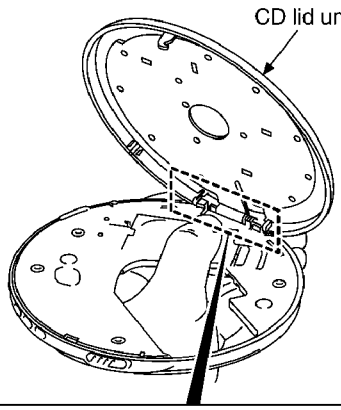


5.2. Replacement for the CD lid unit

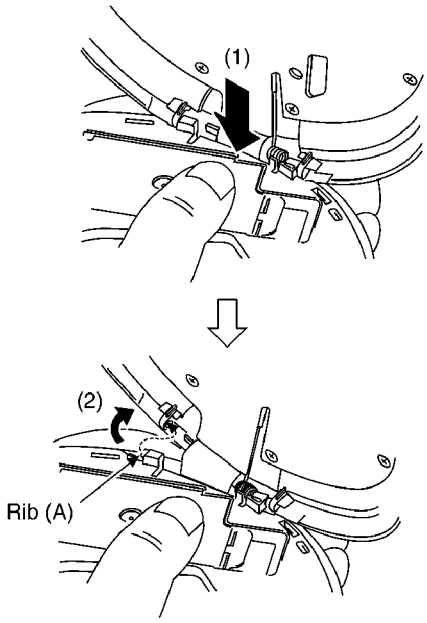
- Follow the (Step1)-(Step4) of item 5.1.1.



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

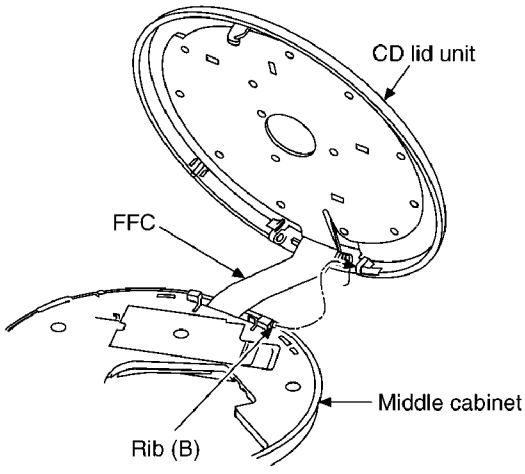


(Step 2)
Push the middle cabinet direction of arrow (1), and then remove the CD lid unit from rib (A).



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

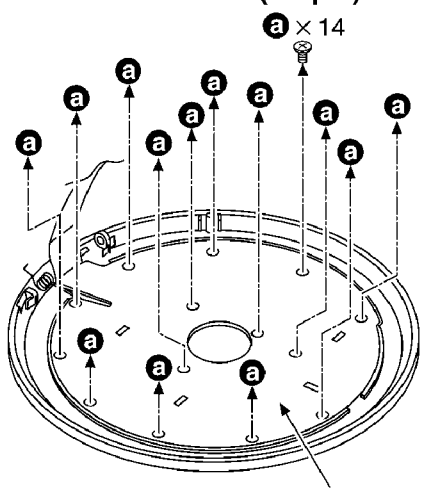
(Step 4)
Draw the FFC from the middle cabinet .
(Take care not to damage the FFC.)



5.3. Replacement for the LCD, operation button, LCD panel and multi button SW unit

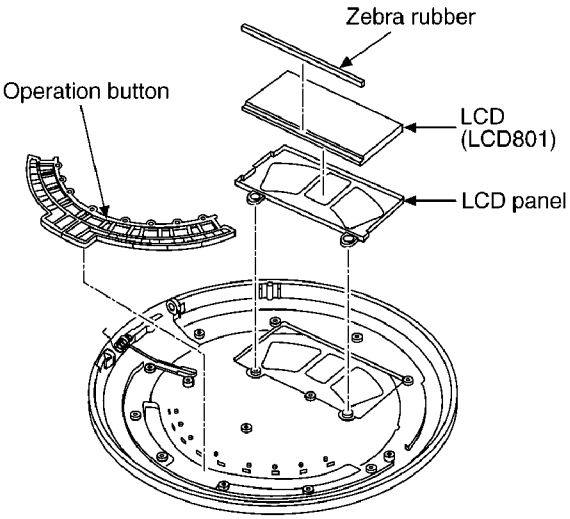
- Follow the (Step1)-(Step4) of item 5.1.1.
- Follow the (Step1)-(Step4) of item 5.2.

(Step 1)

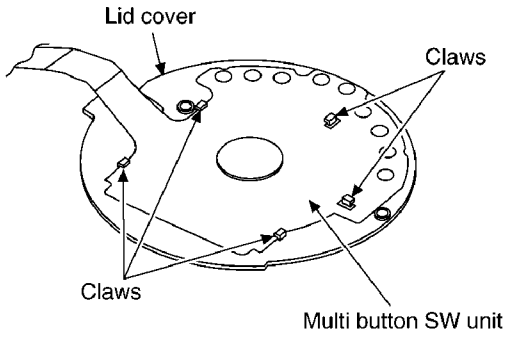


(Step 2)
Remove the lid cover.

(Step 3)
The parts illustrated below will be free.



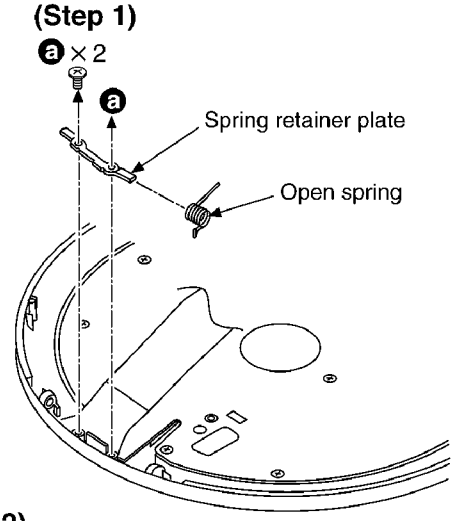
(Step 4)
Release the 5 claws, and then remove the multi button SW unit.



5.4. Replacement for the spring retainer plate and open spring

- Follow the (Step1)-(Step4) of item 5.1.1.
- Follow the (Step1)-(Step4) of item 5.2.

(Step 1)



(Step 2)
Remove the spring retainer plate and open spring.

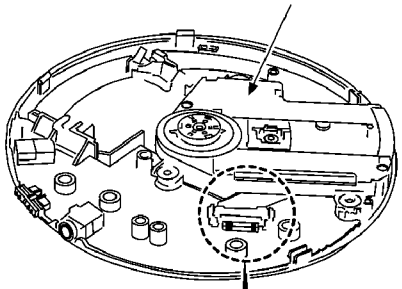
5.5. Replacement for the traverse motor

- Follow the (Step1)-(Step3) of item 5.1.1.

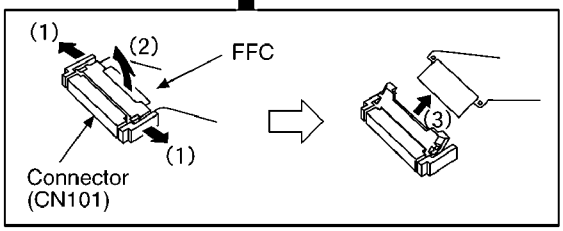
NOTE:

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

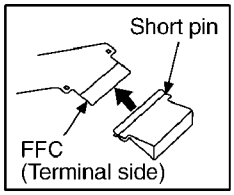
(Step 2)
Remove the traverse deck unit.



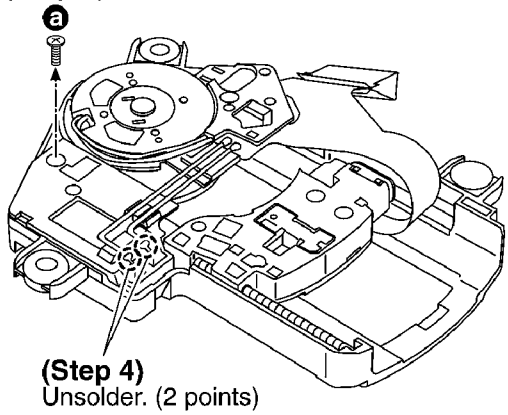
(Step 1)
Pull out the FFC from connector (CN101).



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

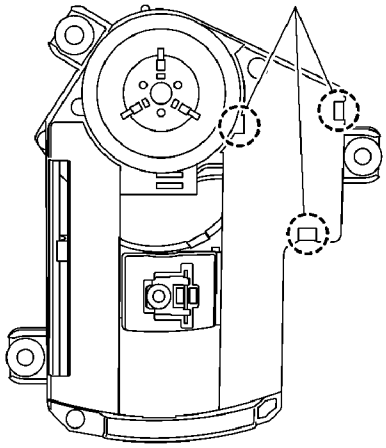


(Step 3)

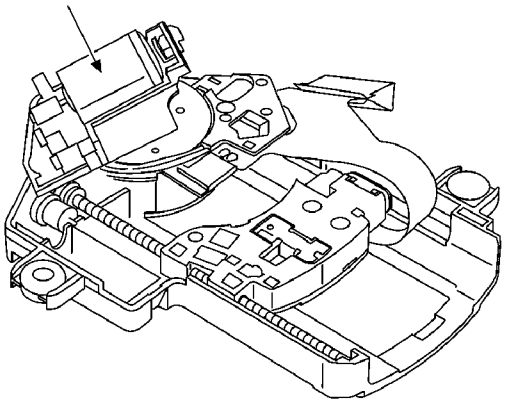


(Step 4)
Unsolder. (2 points)

(Step 5)
Release the 3 claws.



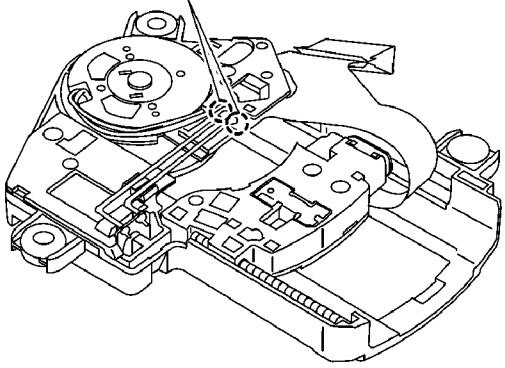
(Step 6)
Remove the traverse motor.



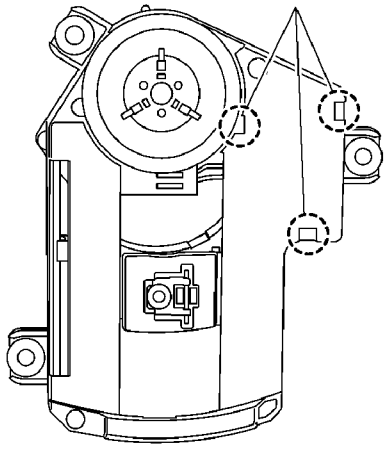
5.6. Replacement for the optical pick-up

- Follow the (Step1)-(Step3) of item 5.1.1.
- Follow the (Step1)-(Step3) of item 5.5.

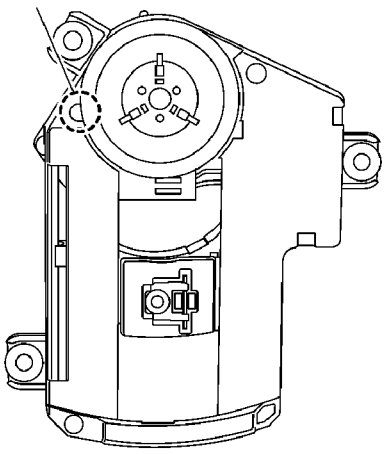
(Step 1)
Unsolder. (2 points)



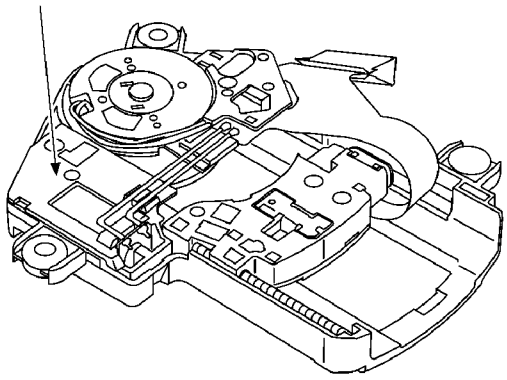
(Step 2)
Release the 3 claws.



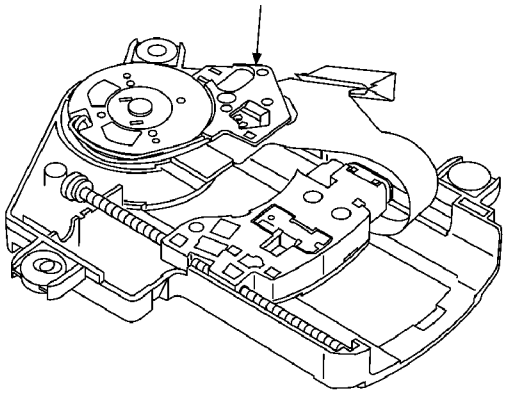
(Step 7)
Release the claw.



(Step 3)
Remove the holder and traverse motor.

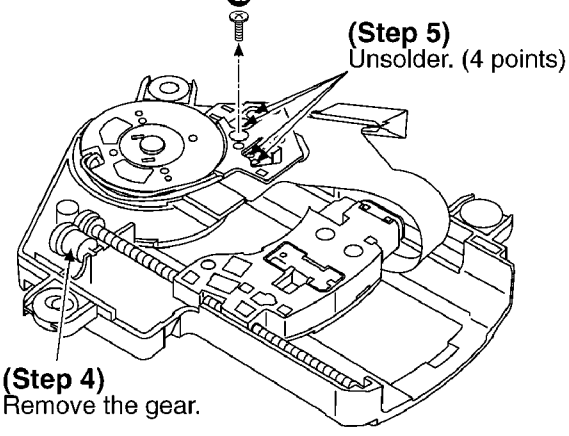


(Step 8)
Remove the FFC holder.



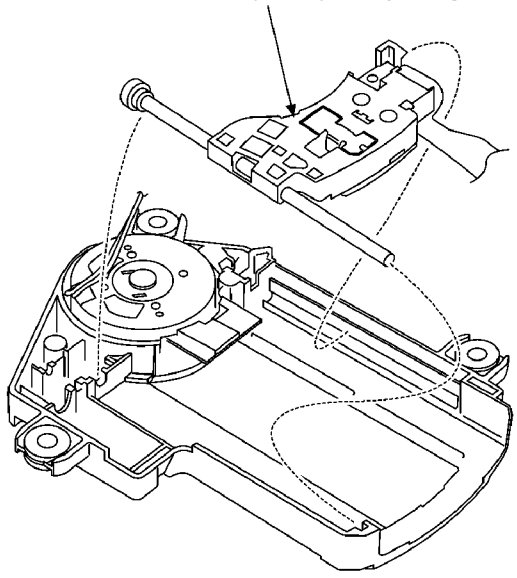
(Step 6)
ⓐ

(Step 5)
Unsolder. (4 points)

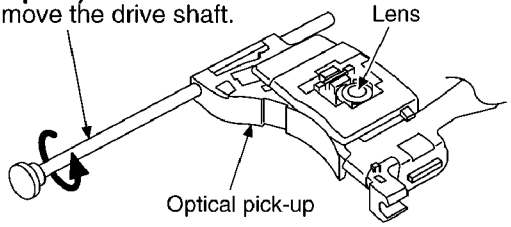


(Step 4)
Remove the gear.

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



(Step 10)
Remove the drive shaft.



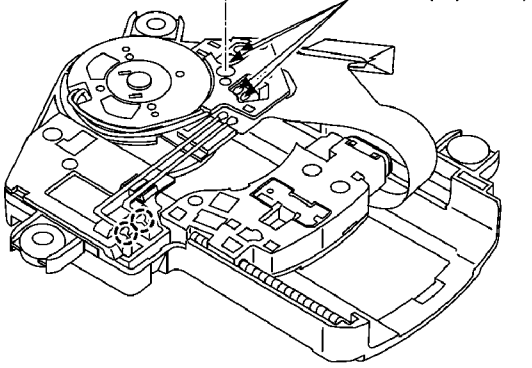
NOTE:
1. Use care to prevent damage the optical pick-up, due to the precision construction.
2. Do not apply the grease on the lens of optical pick-up.
3. Do not touch the lens of the optical pick-up.

5.7. Replacement for the rest switch

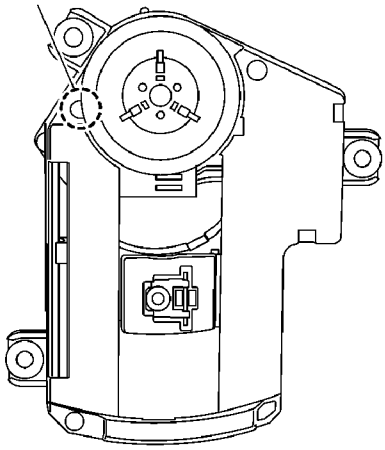
- Follow the (Step1)-(Step3) of item 5.1.1.
- Follow the (Step1), (Step2) of item 5.5.

(Step 1)
ⓐ

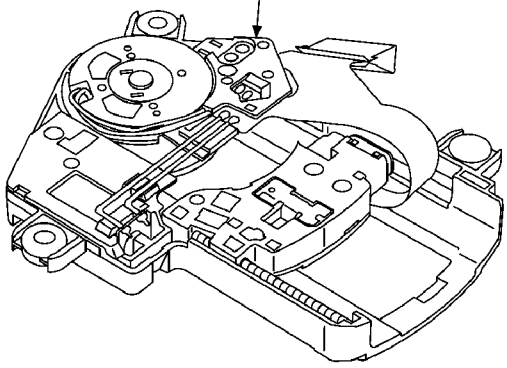
(Step 2)
Unsolder. (4 points)

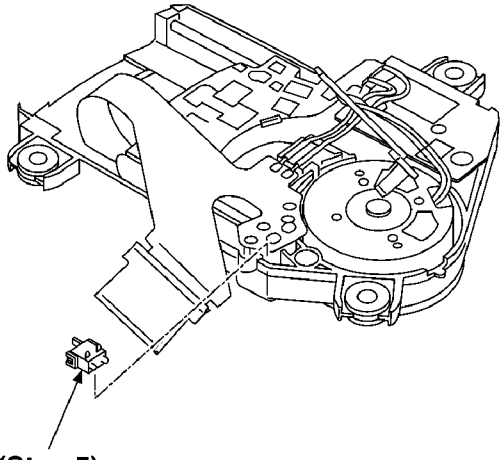


(Step 3)
Release the claw.



(Step 4)
Remove the FFC holder.





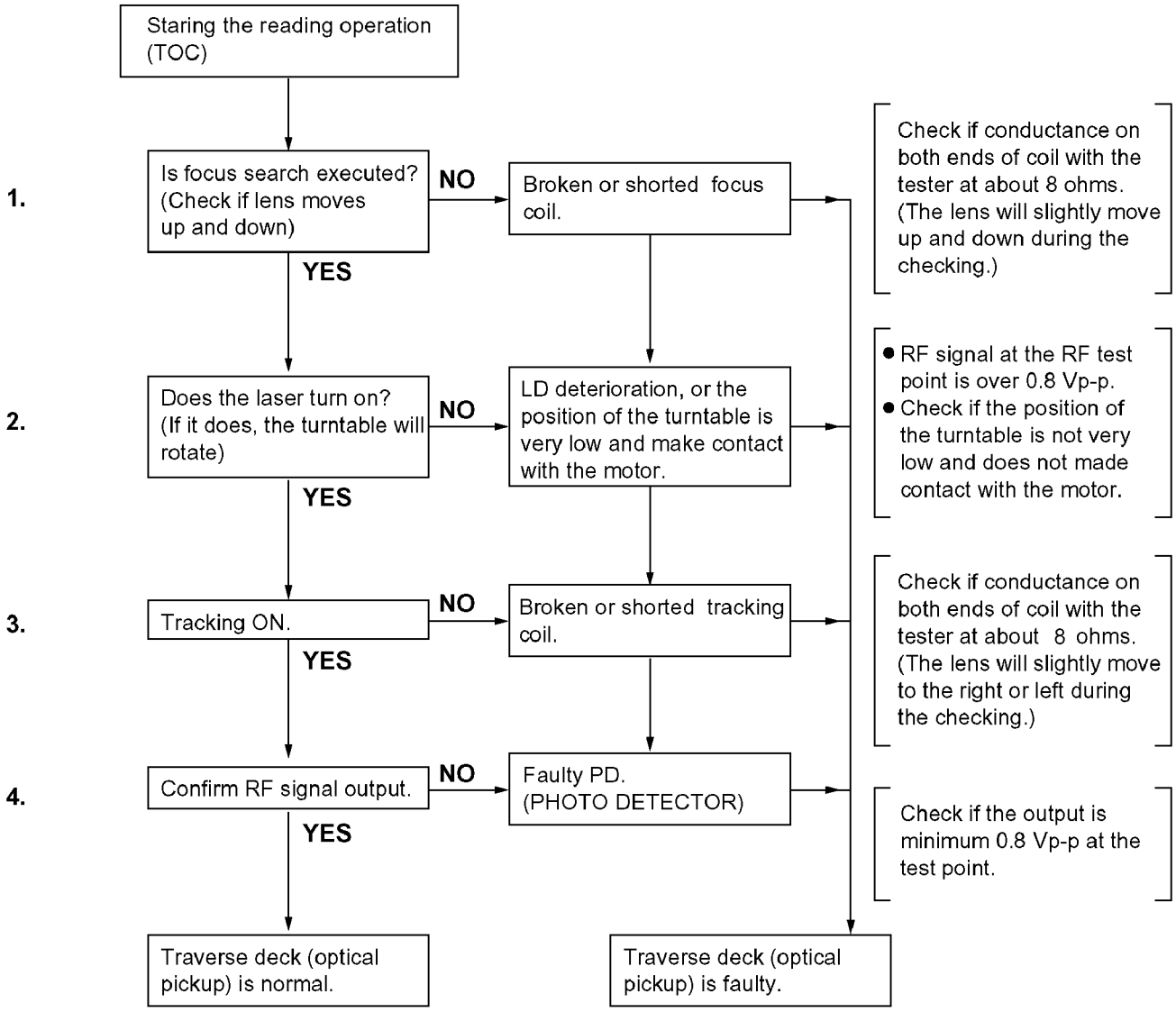
(Step 5)
Remove the rest switch.

6 Checking the Operation Problems on the Traverse Deck (Optical Pickup)

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

Replace the traverse deck only after the problem is identified.

(Procedure No.) **(Checking Points)** **(Cause)** **(Testing Procedure)**



※Replace the traverse deck.

- Check electrical circuit.
- Check for flaws on disc or if it is warped or not centerd.

●Check the operations described below on the traverse deck after replacing it.

*Checking Skip Search

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

*Checking Manual Search

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

*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.

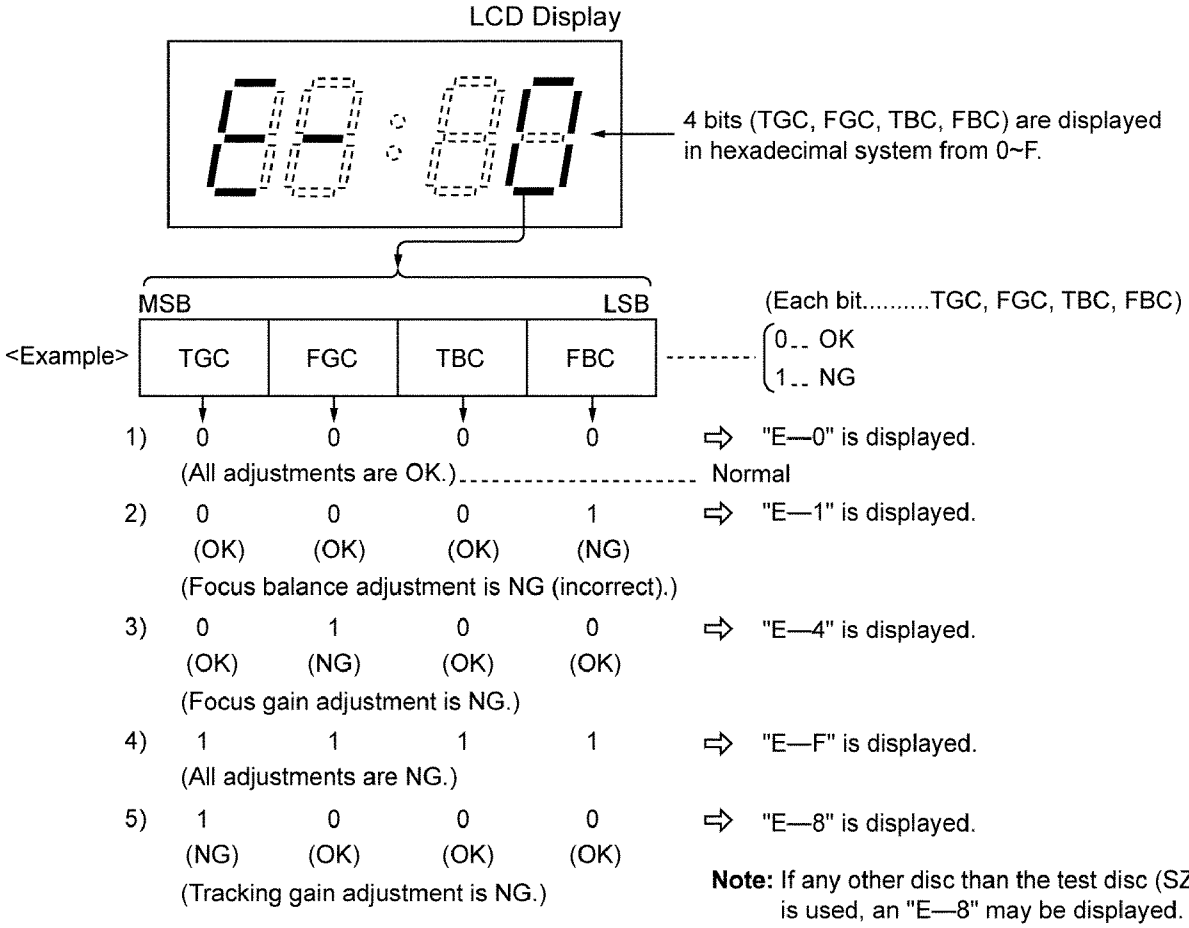
7 Automatic Adjustment Results Display Function (Self-check Function)

On these units (SL-SX430), each automatic adjustment results are displayed on the LCD. This function is convenient to check or identify which automatic adjustment circuit is incorrect. The followings are the contentsof the automaticadjustmentresultdisplays (self-check function).

7.1. How to display automatic adjustment results

1. Load the test disc (SZZP1054C).
2. Press the ⏮ (SKIP/SEARCH) and ⏭ (SKIP/SEARCH) Buttons simultaneously and hold them, and additionally pressthe ▶ / ⏸ (PLAY/PAUSE) Button.
3. Press the ■ (Stop/operation off) Button once.
4. An automatic adjustment result is displayed on the LCD.

7.2. Display of automatic adjustment results (self-check function)



Note: If any other disc than the test disc (SZZP1054C) is used, an "E—8" may be displayed.

<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. (check the waveform or voltage.)
2. the optical pickup 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. (check the waveform or voltage.)
2. the focus coil of the optical pickup is correct (around 8 ohms).
3. the optical pickup 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 pickup returns to the normal state by exchanging the traverse deck.
2. the waveform or voltage of the servo IC's are correct.

(check the waveform or voltage.)

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.

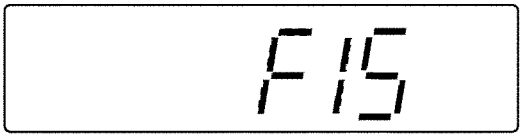
Note:

If any other disc than the test disc (SZZP1054C) is used, an error message may be displayed. This is not a malfunction.

8 Display of Self-Diagnostic Function

This model is equipped with a self-diagnosis function and shows, when necessary, the following indication in the LCD section of the set.

LCD display

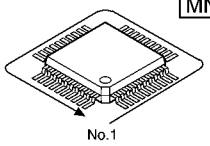
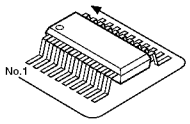
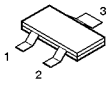
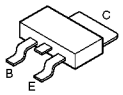
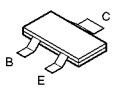
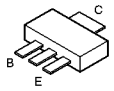
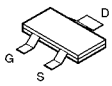
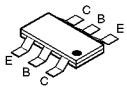
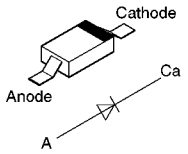
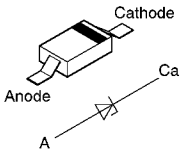


(Press PLAY and STOP button. After 15 seconds,it is displayed for 2 seconds.)

"F15"---This indication appears when the Down switch fails to turn ON since the magnetic head fails to move up/down normally (Due to trouble of the magnetic head or trouble of the magnetic head up/down motor)orthemagnetic head P.C.B. is out of position or a foreign matter has mixed in or for some other reason.

In such a case, check the peripheral parts of the magnetic head, repair or replace defective parts with normal ones.

9 Type Illustration of IC´s, Transistors and Diodes

C0DBFFB00004 48PIN C2BBGE000730 80PIN MN6627935CJ 100PIN 	AN22003A-NF 32PIN C3ABMG000103 50PIN C3EBCG000096 8PIN 		C0CBAAB00043 	2SB1182TLPQR 
 UN5113TX UN5215TX UN5213TX UN521LTX UN5114TX UNR521000L UN5214TX 2SB709ATX	B1ABMD000004 	2SK1958T1 B1CHMC000001 B1CHGD000004 	B1GFGCAA0001 	MA111TX 
MA8056MTX 				

10 Schematic Diagram Notes

Note:

●S201:	Laser ON/OFF switch in "ON" position. (It turns "ON" with CD Lid.)
●S202:	Rest switch in "OFF" position. (It turns "ON" when optical pickup comes to innermost periphery.)
●S310:	Hold (HOLD) switch in "OFF" position.
●S821:	Memory/ Recall/ AB repeat/ Digital Re-master/ Anti-skip mode selection (MEMO) switch.
●S822:	Play mode selection (MODE) switch.
●S823:	Sound quality selection (EQ) switch.
●S824:	Play/pause (▶ / ▌▌) switch.
●S825:	Stop/Turn off (■) switch.
●S826, 827:	Skip/search (⏮ , ⏭) switch.
●S828, 829:	Volume control (VOL+,VOL -) switch.

- Components identified by ⚠ mark have special characteristics important for safety.
- When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- The supply part number is described alone in the replacement parts.
- Signal line
- ⟶ : Positive voltage line.
- ⇨ : Playback signal line.
- The voltage value and waveforms are the reference voltage of this measured by 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 valuesandwaveformsdepending upon the internal impedance of the tester or measuring unit.

  Measurement conditions:

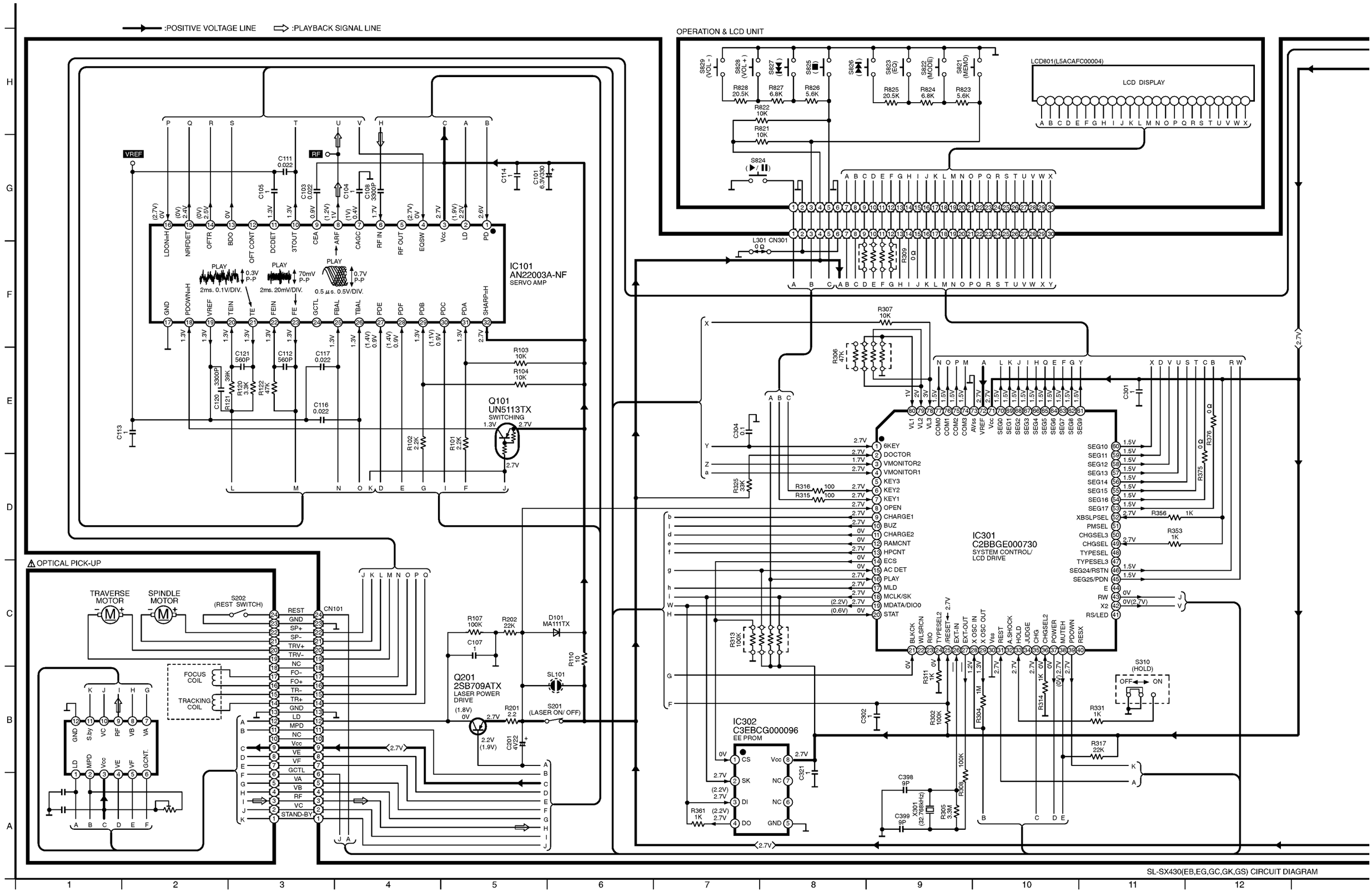
  *( ).....CD playback mode (Test disc 1kHz, L+R, 0dB)

  *No mark.....CD 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 pins of IC or LSI with fingers directly.

11 Schematic Diagram



:POSITIVE VOLTAGE LINE :PLAYBACK SIGNAL LINE

IC501
MN6627935CJ
SERVO PROCESSOR/
DIGITAL SIGNAL PROCESSOR/
DIGITAL FILTER &
D/A CONVERTER

IC13
C0CBAAB00043
REGULATOR

IC11
C0DBFFB00004
POWER SUPPLY/
MOTOR DRIVE

Q41
B1CHMC000001
POWER SUPPLY

Q42
UN5214TX
POWER SUPPLY
CONT.

Q502
2SK1958T1
SWITCHING

IC503
C3ABMG000103
DRAM

SL-SX430(EB,EG,GC,GK,GS) CIRCUIT DIAGRAM

: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

R15
68K

R14
47K

R29
56

R28
270

D11
MA8056MTX

C15
1

JK11
DC IN
4.5V

Q19
UN5213TX
RESET

Q301
UN5213TX
RESET

Q16
UN5113TX
RESET

Q15
UN521LTX
DC IN DET.
(AC ADAPTOR)

Q14
UN5114TX
CHARGE CONT.

R10
270

R16
100K

Q13
UN521LTX
CHARGE CONT.

Q12
B1ABMD000004
CHARGE CONT.

R17
1.8

R13
1K

Q904
B1CHGD000004
POWER SUPPLY

R903
1M

R902
22K

Q902
UNR521000L
MUTING CONT.

Q905
UNR521000L
MUTING CONT.

C904
0.1

Q901
UN5114TX
MUTING CONT.

Q903
UN5113TX
BUZZER CONT.

R910
2.2K

R901
2.2K

R705
2.2

C705
4V220

R703
4.7

L903

L902

JK702
HEADPHONE

R708
1K

R707
1K

C41
0.1

L901

Q704
B1GFGCAA0001
MUTING

R701
560

R702
560

C706
4V220

R704
4.7

R706
2.2

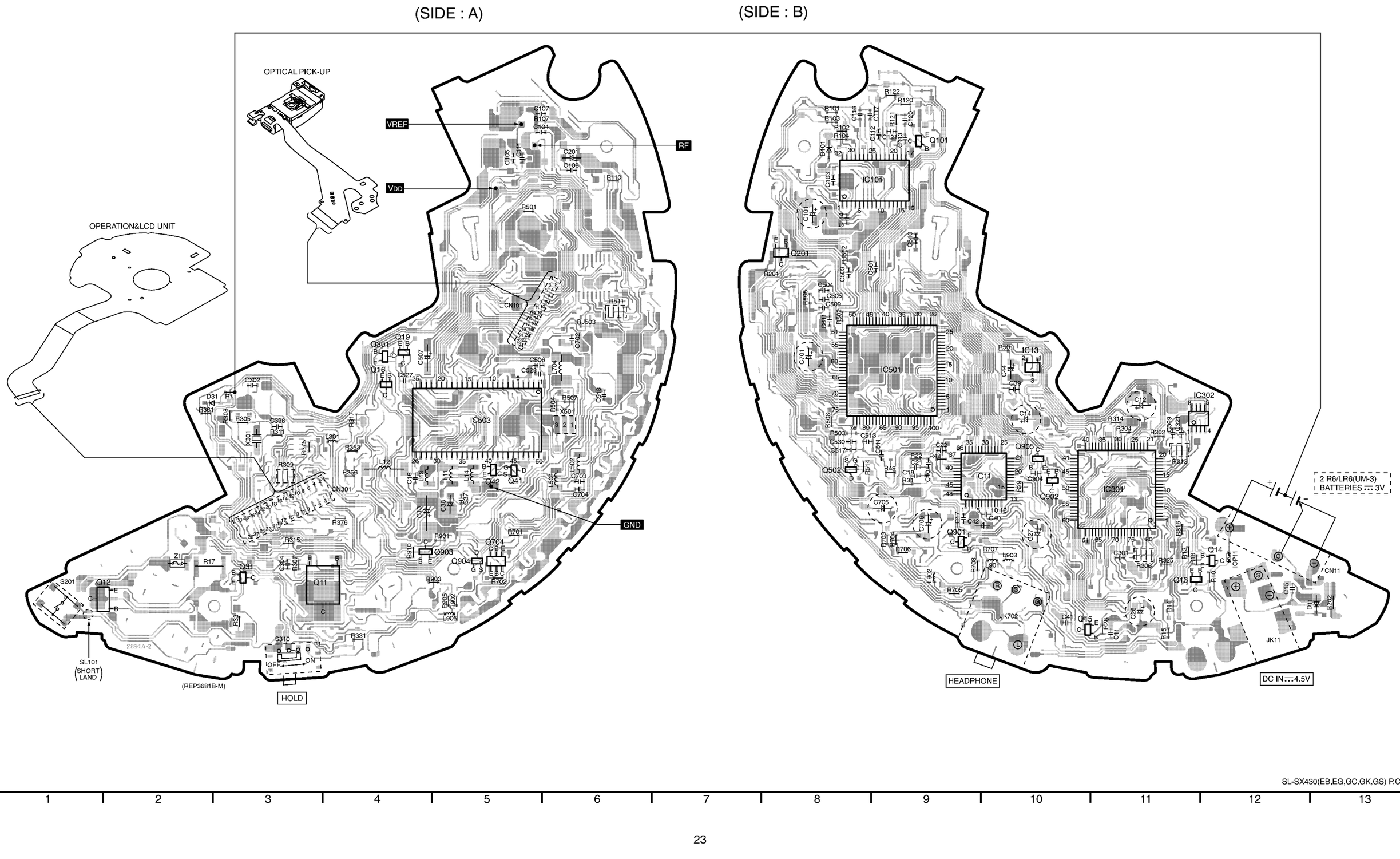
R905
47

L905

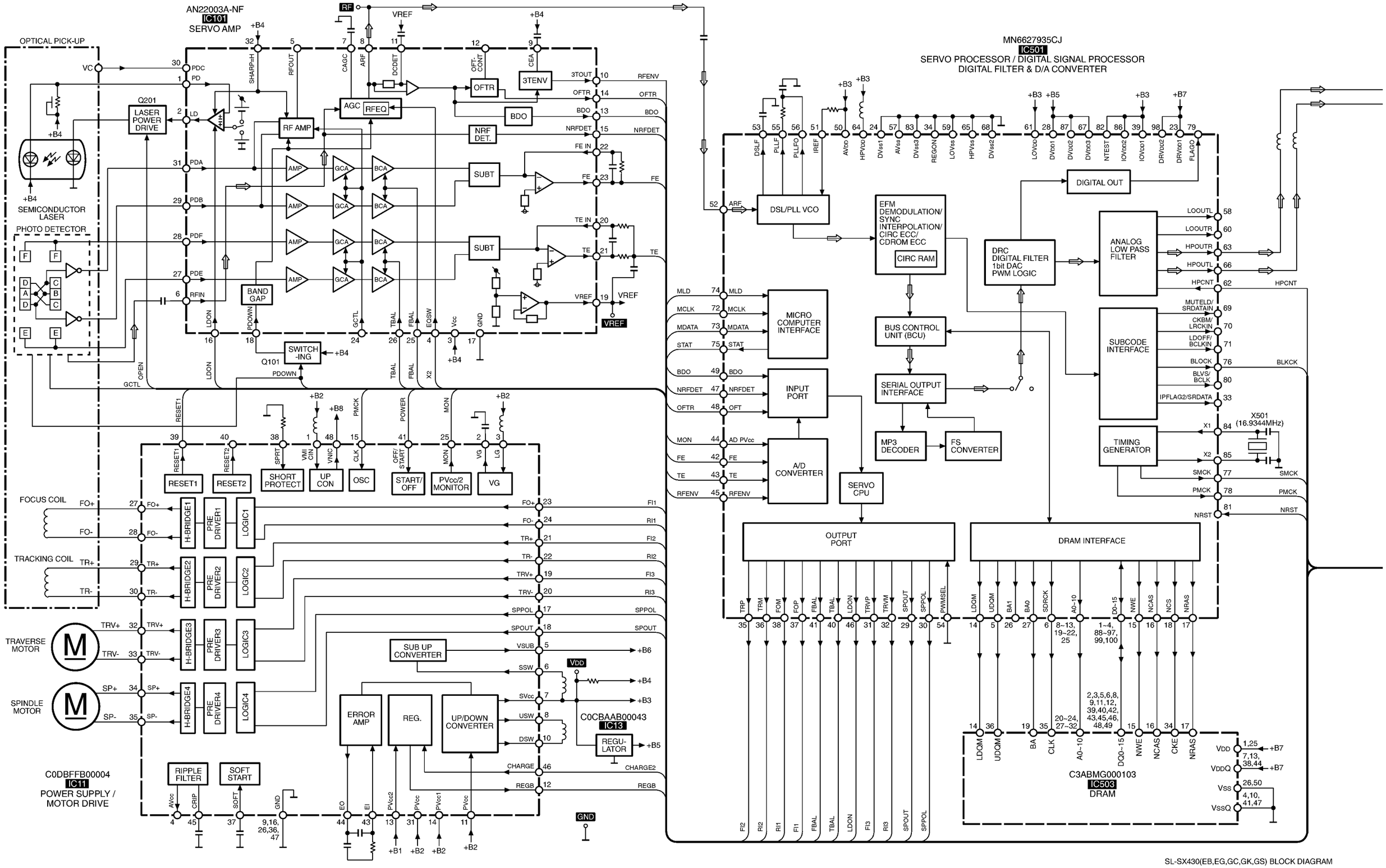
SL-SX430(EB,EG,GC,GK,GS) CIRCUIT DIAGRAM

12 Printed Circuit Board and Wiring Connection Diagram

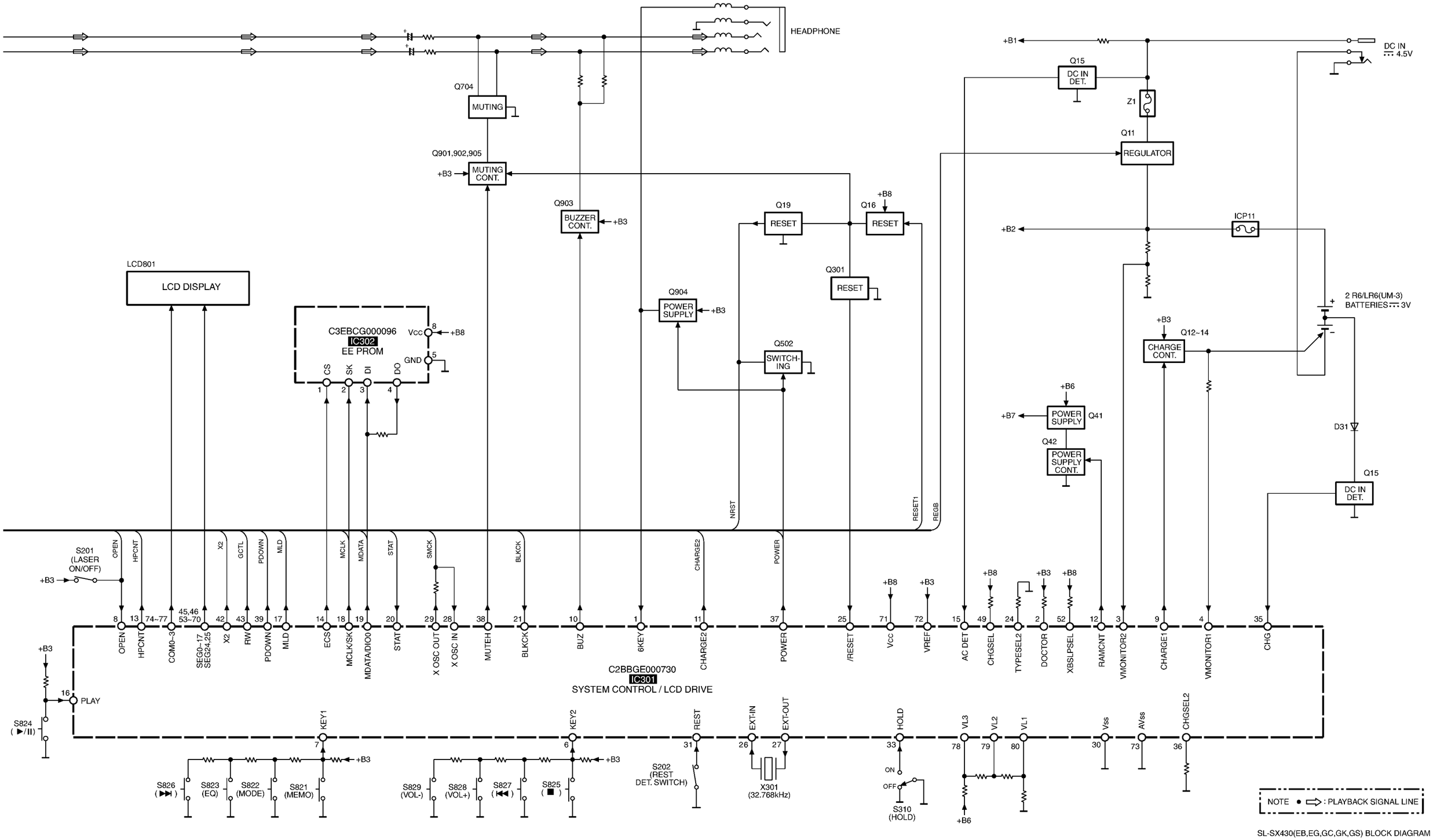
Note: This printed circuit board diagram may be modified at any time with the development of new technology.



13 Block Diagram



SL-SX430(EB,EG,GC,GK,GS) BLOCK DIAGRAM



SL-SX430(EB,EG,GC,GK,GS) 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	Laser power drive signal output
3	V_{CC}	I	Power supply terminal
4	EQSW	I	EQ characteristic drive signal input
5	RFOUT	-	Not used, open
6	RF IN	I	RF signal input terminal
7	CAGC	-	AGC loop filter capacity connection terminal
8	ARF	O	RF signal output terminal
9	CEA	I	H.P.F. Capacitor connection terminal
10	3TOUT	O	RF envelope signal output terminal
11	DCDET	I	The H.P.F. capacitor connection terminal for detection systems
12	OFTCONT	-	Not used, open
13	BDO	O	Dropout signal output terminal
14	OFTR	O	Off-track signal output terminal
15	NRFDET	O	RF detection signal output terminal
16	LDON=H	I	Laser ON signal input terminal
17	GND	-	GND
18	PDOWN=H	I	Reduced voltage detection signal input
19	VREF	O	Reference voltage output terminal
20	TEIN	I	Tracking error amplifier input terminal
21	TE	O	Tracking error amplifier output terminal
22	FEIN	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 amplifier input terminal
31	PDA	I	Focus signal input terminal
32	SHARP=H	I	LD reference voltage input terminal

14.2. IC301(C2BBGE000730): System Control / LCD Drive

Pin No.	Terminal Name	I/O	Function
1	6KEY	I	6Key Remote control key signal input
2	DOCTOR	I	Doctor mode select signal input
3	VMONITOR2	I	Battery remaining measurement/battery shorting detect signal input
4	VMONITOR1	I	Rechargeable battery/alkaline 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 control signal output
10	BUZ	O	Buzzer control output terminal
11	CHARGE2	O	PVCC1 voltage up signal output
12	RAMCNT	O	DRAM control signal output
13	HPCNT	O	Headphone out control signal output
14	ECS	O	EEPROM communication selection output
15	ACDET	I	AC Power supply detect signal input
16	PLAY	I	PLAY key signal input
17	MLD	O	Serial command latch output
18	MCLK/SK	O	Serial command clock / EEPROM clock output
19	MDATA/DIO0	O	Serial command data output / EEPROM data output
20	STAT	I	Status signal input
21	BLKCK	I	Block clock signal input
22	WLSRCN	-	Not used, open
23	RIO	-	Not used, open
24	TYPESEL2	I	Model selection 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	Alkaline battery detect signal input
36	CHGSEL2	I	Charge selection2
37	POWER	O	Power supply control signal output
38	MUTE	O	MUTE signal output
39	PDOWN	O	Headamp power off signal output
40	RESX	-	Not used, open
41	RS/LED	-	Not used, open
42	X2	O	RF equalizer twice speed signal output
43	RW	O	Output for CD-RW
44	E	-	Not used, open
45	SEG25/PDN	O	LCD segment signal output
46	SEG24/RSTN	O	LCD segment signal output
47	TYPESEL3	-	Not used, open
48	TYPESEL	-	Not used, open
49	CHGSEL	I	Charge method selection signal input
50	CHGSEL3	-	Not used, open
51	PMSEL	-	Not used, open
52	XBSLPSEL	I	XBS LPF Setting select signal input
53 | 70	SEG17 | SEG0	O	LCD segment signal output
71	V_{CC}	I	Power supply terminal
72	VREF	I	Reference voltage input terminal
73	AV_{SS}	-	GND
74 | 77	COM3 | COM0	O	LCD common signal output terminal
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	DRAM data input/output signal
5	UDQM	O	High byte data mask signal output
6	SDRCK	O	Clock signal output

Pin No.	Terminal Name	I/O	Function
7	A11	-	Not used, open
8 | 13	A9 | A4	O	DRAM address signal output
14	LDQM	O	Low byte data mask signal output
15	NWE	O	Write enable signal output
16	NCAS	O	CAS control signal output
17	NRAS	O	RAS control signal output
18	NCS	O	Chip select signal output
19 | 22	A3 | A0	O	DRAM address signal output
23	DRV_{DD} 1	I	Power supply terminal
24	DV_{SS} 1	-	GND
25	A10	O	DRAM address signal output
26	BA1/LRCK	-	Not used, open
27	BA0	O	Bank select signal output
28	DV_{DD} 1	I	Power supply terminal
29	SPOUT	O	Spindle motor drive output terminal
30	SPPOL	O	Spindle motor drive output terminal
31	TRVP	O	Traverse drive (+) output terminal
32	TRVM	O	Traverse drive (-) output terminal
33	IPFLAG2/SR DATA	-	Not used, open
34	REGON	-	Not used, connected to GND
35	TRP	O	Tracking coil drive (+) output terminal
36	TRM	O	Tracking coil drive (-) output terminal
37	FOP	O	Focus coil drive (+) output terminal
38	FOM	O	Focus coil drive (-) output terminal
39	IOV_{DD} 1	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 terminal
43	TE	I	Tracking error signal input terminal
44	$ADPV_{CC}$	I	A/D convertor reference voltage input
45	RFENV	I	RF envelope signal input terminal
46	LDON	O	Laser ON signal output
47	NRFDET	I	RF detection signal input terminal
48	OFT	I	Off-track signal input terminal
49	BDO	I	Dropout signal input terminal
50	AV_{DD}	I	Power supply terminal
51	IREF	I	Reference current input terminal
52	ARF	I	RF signal input terminal
53	DSLF	O	DSL loop filter
54	PWMSEL	I	PWM output mode select signal
55	PLLF	O	PLL loop filter
56	PLLFO	O	PLL loop filter
57	AV_{SS}	-	GND
58	LOOUTL	-	Not used, open
59	LOV_{SS}	-	GND
60	LOOUTR	-	Not used, open
61	LOV_{DD}	I	Power supply terminal
62	HPCNT	I	Headphone output control signal
63	HPOUTR	O	R ch for headphone signal output
64	HPV_{DD}	I	Power supply terminal
65	HPV_{SS}	-	GND
66	HPOUTL	O	L ch for headphone signal output
67	DV_{DD} 3	I	Power supply terminal
68	DV_{SS} 2	-	GND
69	MUTELD/SR DATAIN	-	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
74	MLD	I	Serial command latch input
75	STAT	O	Status signal output terminal
76	BLOCK	O	Sub-code block clock signal output
77	SMCK	O	System clock signal output
78	PMCK	O	Clock signal output (88.2kHz)
79	FLAGO	-	Not used, open
80	BLVS/BCLK	-	Not used, open
81	NRST	I	Reset signal input
82	NTEST	I	Test signal
83	DV_{SS} 3	-	GND
84	X1	I	Oscillator connected (F=16.9 MHz)
85	X2	O	
86	IOV_{DD} 2	I	Power supply terminal
87	DV_{DD} 2	I	Power supply terminal
88	D2	I/O	DRAM data signal input/output
89	D1	I/O	DRAM data signal input/output
90	D0	I/O	DRAM data signal input/output
91 | 95	D3 | D7	I/O	DRAM data signal input/output
96	D15	I/O	DRAM data signal input/output
97	D14	I/O	DRAM data signal input/output
98	DRV_{DD} 2	I	Power supply terminal
99	D13	I/O	DRAM data signal input/output
100	D12	I/O	DRAM data signal 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 the Remarks columns specify the product.
(EBA): SL-SX430EB-A
(EBS): SL-SX430EB-S
(EGA): SL-SX430EG-A
(EGS): SL-SX430EG-S
(GCA): SL-SX430GC-A
(GCS): SL-SX430GC-S
(GKS): SL-SX430GK-S
(GSS):SL-SX430GS-S

Parts without these indications can be used for all products.

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

*Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).

*The marking (RTL) indicates that the 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.

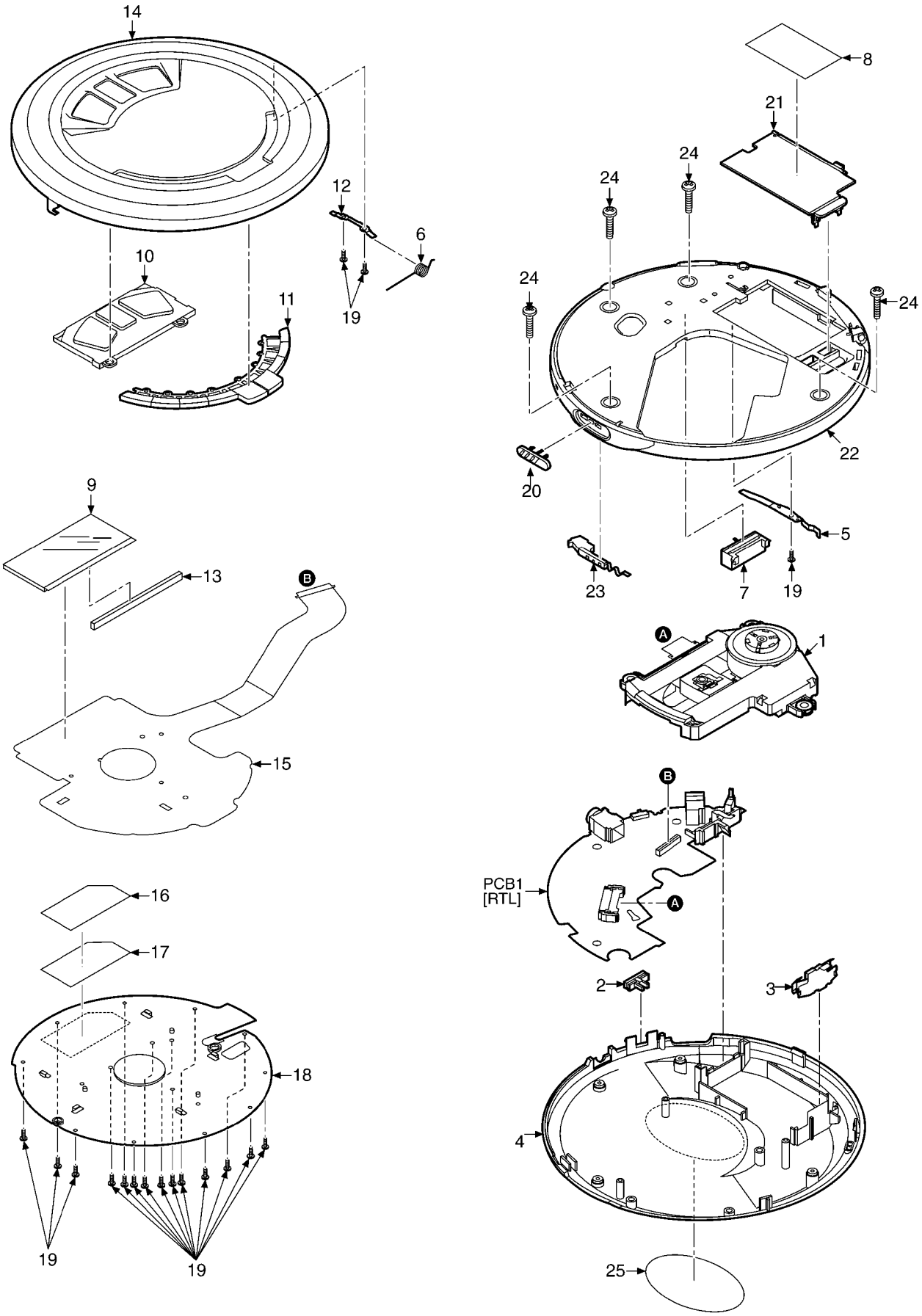
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RAE0241Z-M	TRAVERSE DECK UNIT	1	⚠
1-1	RMG0605-K1	FLOATING RUBBER	3	
1-2	RAF0241A	OPTICAL PICK-UP	1	⚠
1-3	RDG0554	GEAR 1	1	
1-4	RDG0555	GEAR 2	1	
1-5	RMQ1125-1	MOTOR HOLDER	1	
1-6	RMS0782	SHAFT	1	
1-7	XQN17+BG45	SCREW	1	
1-8	RXQ0971-3	MOTOR ASS'Y	1	
2	RGV0200-H1	KNOB,HOLD	1	
3	RJC93038-3	BATTERY TERMINAL	1	
4	RKS0392-A	BOTTOM CABINET	1	
5	RMC0585	DETECTION PLATE	1	
6	RME0406-1	OPEN SPRING	1	
7	RMR1514-K	FFC HOLDER	1	
8	RQLS0244	LASER LABEL	1	
9	L5ACAFC00004	LCD(LCD801)	1	
10	RGP1046-A	LCD PANEL	1	
11	RGU2265-1A	OPERATION BUTTON	1	(EBA) (EGA) (GCA)
11	RGU2265-S	OPERATION BUTTON	1	(EBS) (EGS) (GCS) (GKS) (GSS)
12	RMA1775	SPRING RETAINER PLATE	1	
13	RSQ0101	ZEBRA RUBBER	1	
14	RYF0702A-A	CD LID UNIT	1	(EBA) (EGA) (GCA)
14	RYF0702A-S	CD LID UNIT	1	(EBS) (EGS) (GCS) (GKS) (GSS)
15	K0RC00900001	MULTI BUTTON SW UNIT	1	
16	RMA1833	PLATE	1	
17	RMQ1339	SHEET	1	
18	RMR1601-A	LID COVER	1	(EBA) (EGA) (GCA)
18	RMR1601-H	LID COVER	1	(EBS) (EGS) (GCS) (GKS) (GSS)
19	XQN14+BG3FC	SCREW	17	
20	RGV0313-H	KNOB,OPEN	1	
21	RKK0172-A	BATTERY LID	1	
22	RKM0499-A	MIDDLE CABINET	1	
23	RMR1488-K	LOCK PLATE	1	
24	XTN17+6GFZ	SCREW	4	
25	RGN2641-H	NAME PLATE	1	(EGA)(EGS) ⚠
25	RGN2642-H	NAME PLATE	1	(EBA)(EBS) ⚠
25	RGN2643-H	NAME PLATE	1	(GCA) (GCS) (GSS) ⚠
25	RGN2684-H	NAME PLATE	1	(GKS) ⚠
A1	L0BAB0000186	STEREO EARPHONES	1	
A2	N2QCBD000010	WIRED REMOTE CONTROL	1	
A3	RFEA435B-S	AC ADAPTOR	1	(EBA) (EBS) (GSS) ⚠
A4	RQT7187-B	O/I BOOK	1	(EBA) (EBS) (GCA) (GCS) (GKS)(GSS) English
A5	RFEA431E-S	AC ADAPTOR	1	(EGA)(EGS) ⚠
A6	RQT7186-E	O/I BOOK	1	(EGA)(EGS) English French German Spanish Netherlands Swedish Danish Italian Portuguese Russian Czeco Polish
A7	K2DA42E00001	POWER PLUG ADAPTOR	1	(GCA)(GCS)
A8	N0JDCE000001	AC ADAPTOR	1	(GCA)(GCS) ⚠
A9	RQT7637-K	O/I BOOK	1	(GCA) (GCS) (GSS)(GKS) Chinese
A10	RQT7638-A	O/I BOOK	1	(GCA) (GCS) (GSS) Arabic
A11	RFEA437T-S	AC ADAPTOR	1	(GKS) ⚠
A12	RQCB1205-1	SERVICE CENTER LISTS	1	(GKS)
C10	F1H1H271A736	50V 270P	1	
C11	F1H1A105A025	10V 1U	1	
C12	ECEA0GKS470	4V 47U	1	
C13	F3H1A476A001	10V 47U	1	
C14	ECEA0GKS221	4V 220U	1	
C15	ECJ1VF1A105Z	10V 1U	1	
C16	F1H1A105A025	10V 1U	1	
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	F1H1A105A025	10V 1U	1	
C38	F3F0J226A004	6.3V 22U	1	
C39,40	F1H1A105A025	10V 1U	2	
C41	ECJ1VF1C104Z	16V 0.1U	1	
C42	F3F0J226A004	6.3V 22U	1	
C44	F3F0J4760003	6.3V 47U	1	
C101	ECEA0JKS331	6.3V 330U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C103	ECJ1VB1E223K	25V 0.022U	1	
C104,05	F1H1A105A025	10V 1U	2	
C107	ECJ1VF1A105Z	10V 1U	1	
C108	ECUX1H332KBV	50V 3300P	1	
C111	ECJ1VB1E223K	25V 0.022U	1	
C112	ECJ1VB1H561K	50V 560P	1	
C113,14	F1H1A105A025	10V 1U	2	
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	ECJ1VF1C104Z	16V 0.1U	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	ECJ1VB1C104K	16V 0.1U	1	
C510	ECJ1VF1C104Z	16V 0.1U	1	
C511	ECJ1VB1C104K	16V 0.1U	1	
C513	ECJ1VF1C104Z	16V 0.1U	1	
C517	ECJ1VF1A105Z	10V 1U	1	
C518	ECJ1VC1H101K	50V 100	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	F1H1A105A025	10V 1U	1	
C703,04	ECJ1VB1C104K	16V 0.1U	2	
C705,06	ECEA0GKS221	4V 220U	2	
C904	ECJ1VF1C104Z	16V 0.1U	1	
CN11	K4BC03B00020	BATTERY TERMINAL	1	
CN101	K1MN24B00109	CONNECTOR(24P)	1	
CN301	K1MN30A00061	CONNECTOR(30P)	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	C2BBGE000730	IC	1	
IC302	C3EBCG000096	IC	1	
IC501	MN6627935CJ	IC	1	
IC503	C3ABMG000103	IC	1	
ICP11	ERBFE1R50U	IC PROTECTOR	1	⚠
JK11	RJJ43K09-C	JACK,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	ERJ3GEY0R00V	1/10W 0	1	
L502	G1C101K00033	COIL	1	
L504	G1C101K00033	COIL	1	
L704	G1C471K00007	COIL	1	
L901	J0JCC0000077	COIL	1	
L902,03	RLBV102V-Y	COIL	2	J0JBC0000014
L905	J0JCC0000077	COIL	1	
P1	RPH0246	PAD	1	(EBA)(EBS)
P2	RPN1695	TRAY 1	1	(EBA)(EBS)
P3	RPN1696	TRAY 2	1	(EBA)(EBS)
P4	RPQ1730	SHEET 1	1	(EBA)(EBS)

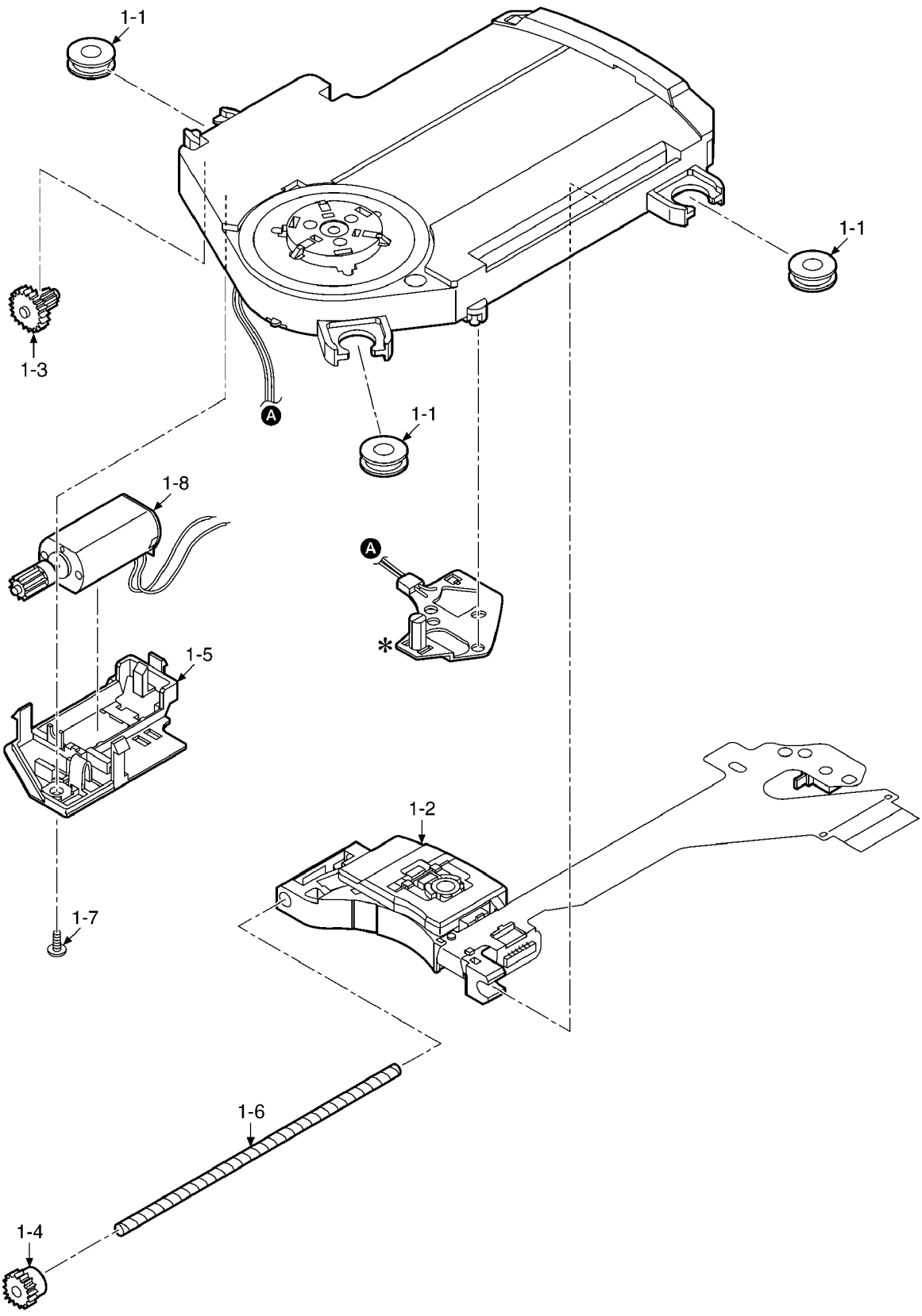
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P5	RPQ1749	SHEET 2	1	(EBA)
P6	RPF0111-2	PROTECTION BAG	1	(EGA) (EGS) (GCA) (GCS) (GKS)(GSS)
P7	RPK2131	GIFT BOX	1	(GCA)(EGA)
P8	RPQ1663	PAD	1	(EGA) (EGS) (GKS)(GSS)
P9	RPQ1644	PAD	1	(GCA)(GCS)
P10	RPK2144	GIFT BOX	1	(GKS)
P11	RPK2081	GIFT BOX	1	(EGS) (GCS) (GSS)
P12	RPQ1710	SHEET 2	1	(EBS)
PCB1	REP3681B-M	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	UN5213TX	TRANSISTOR	1	UNR521300L
Q31	UN5215TX	TRANSISTOR	1	UNR521500L
Q41	B1CHMC000001	TRANSISTOR	1	
Q42	UN5214TX	TRANSISTOR	1	UNR521400L
Q101	UN5113TW	TRANSISTOR	1	
Q201	2SB0709ARL	TRANSISTOR	1	
Q301	UN5213TX	TRANSISTOR	1	UNR521300L
Q502	B1CFHA000001	TRANSISTOR	1	
Q704	B1GFGCAA0001	TRANSISTOR	1	
Q901	UNR511400L	TRANSISTOR	1	
Q902	UN5210TX	TRANSISTOR	1	UNR52100RL
Q903	UN5113TW	TRANSISTOR	1	
Q904	B1CHGD000004	TRANSISTOR	1	
Q905	UN5210TX	TRANSISTOR	1	UNR52100RL
R1	D0YBR0000010	0	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
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
R107	ERJ3GEYJ104	1/10W 100K	1	
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
R302	ERJ3GEYJ104	1/10W 100K	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	
R309	EXBV8VR000V	1/8W 0	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
R331	ERJ3GEYJ102V	1/10W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R353	ERJ3GEYJ102V	1/10W 1K	1	
R356	ERJ3GEYJ102V	1/10W 1K	1	
R361	ERJ3GEYJ102V	1/10W 1K	1	
R375,76	ERJ3GEY0R00V	1/10W 0	2	
R501	ERJ3GEYJ100	1/10W 10	1	
R502	ERJ3GEYJ563V	1/10W 56K	1	
R503	ERJ3GEYJ104	1/10W 100K	1	
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	
R901	ERJ3GEYJ222V	1/10W 2.2K	1	
R902	ERJ3GEYJ223V	1/10W 22K	1	D0GB223JA002
R903	ERJ3GEYJ105V	1/10W 1M	1	
R905	ERJ3GEYJ470V	1/10W 47	1	
R910	ERJ3GEYJ222V	1/10W 2.2K	1	
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
X301	H0J327200097	OSCILLATOR	1	
X501	H2D169500027	OSCILLATOR	1	
Z1	ERY32SB075VA	IC PROTECTOR	1	⚠

16 Cabinet Parts Location



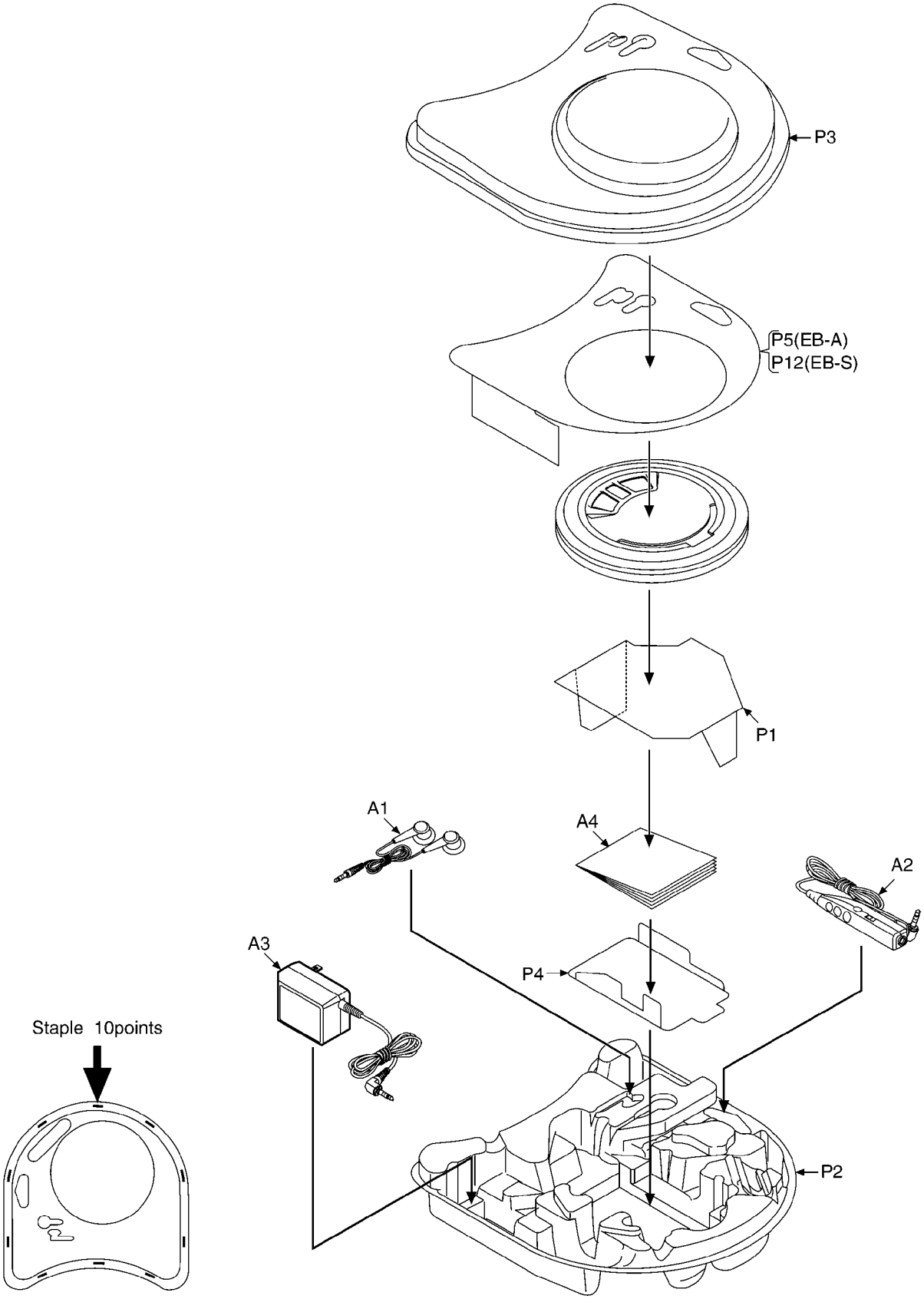
17 Traverse Parts Location



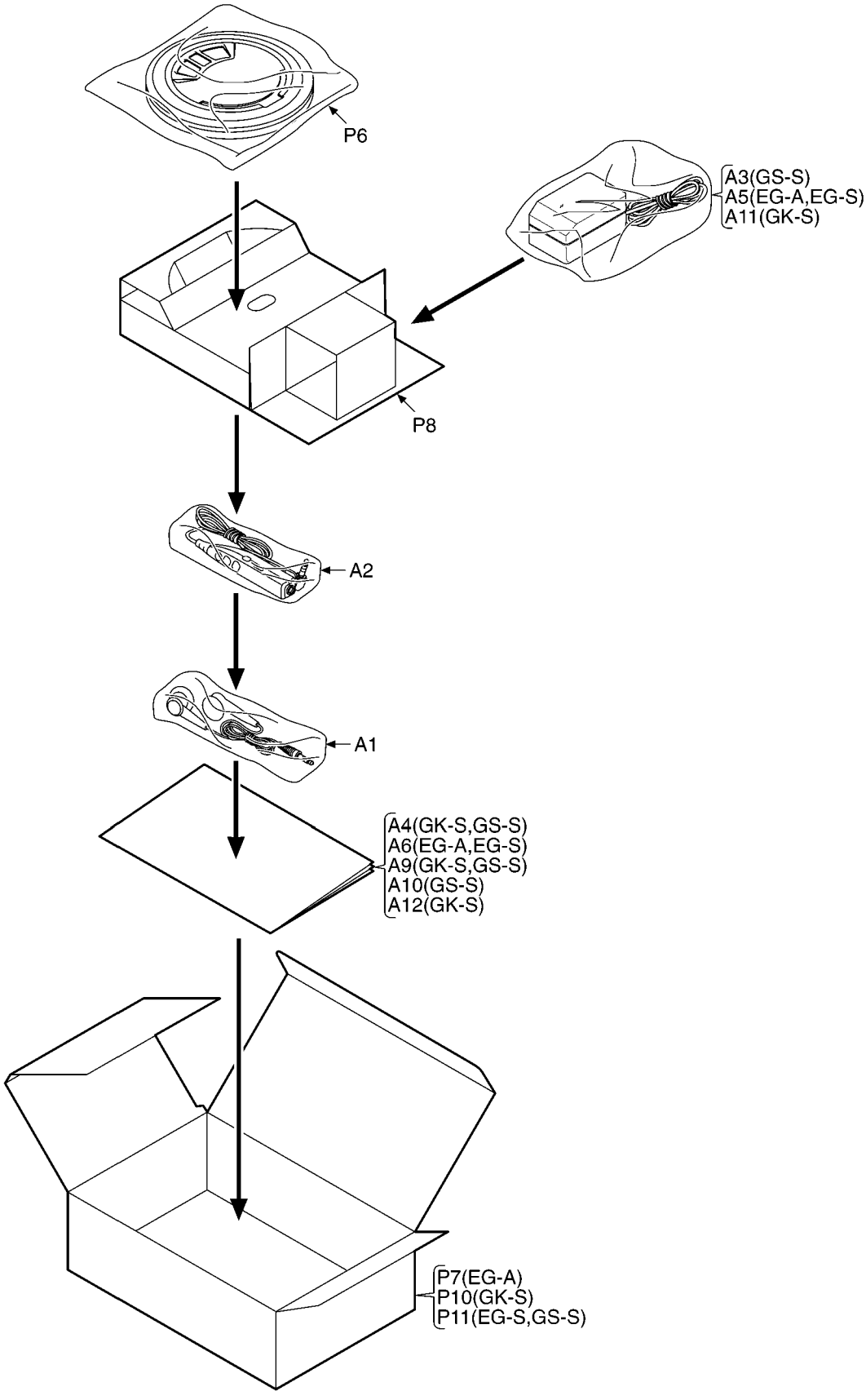
Note : We do not supply those items of parts marked ✻.

18 Packaging

18.1. SL-SX430EB



18.2. SL-SX430EG / SL-SX430GK / SL-SX430GS



18.3. SL-SX430GC