Service Manual

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AD0102032C2

Service Manual

Compact Disc Player

COMPACT disc DIGITAL AUDIO

MASH multi-stage noise shaping

- SL-EH570

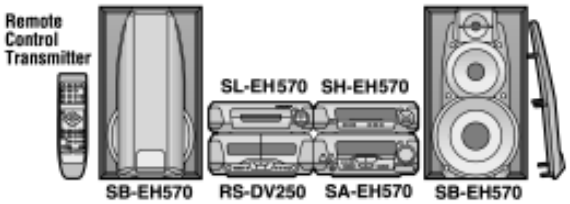
Traverse Deck: RAE0152Z Mechanism series

Colour

(S).....Silver Type

Area

(E).....Europe.



Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

System	SC-EH570
Sound Processor	SH-EH570
Tuner/Amplifier	SA-EH570
CD Player	**SL-EH570**
Cassette Deck	RS-DV250
Front Speakers*	SB-EH570

* : Made in Spain.

Specifications

Audio section

No. of channels:	2 (left and right, stereo)
Frequency response:	20 to 20,000 Hz (+0.5 dB to −2 dB)
Output voltage:	0.78 V (at 0 dB)
Dynamic range:	85 dB
S/N:	95 dB
Total harmonic distortion:	0.02 % (1 kHz, 0 dB)
Wow and flutter:	Below measurable limit
Digital filter:	8 fs
DA converter:	1 bit DAC MASH
Output impedance:	1 kΩ
Load impedance:	More than 10 kΩ

Pickup section

Wavelength:	780 nm

General

Dimensions (W×H×D):	293×89×268 mm
Mass:	1.6 kg

Notes: Specifications are subject to change without notice.
Mass and dimensions are approximate.
Total harmonic distortion is measured by the digital spectrum analyzer.

Note on CD-R and CD-RW
This unit can play CD-DA format audio CD-R and CD-RW that have been finalized* upon completion of recording. It may not be able to play some CD-R or CD-RW due to the condition of recording.
*Finalizing is a process 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.

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1 Note

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Refer to the service manual for Model No. SA-EH570 (Order No. AD0102030C2) for information on Accessories and Packaging.

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2 Handling Precautions for Traverse Deck

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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).

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2.1 Handling of traverse deck (optical pickup)

TOP PREVIOUS NEXT

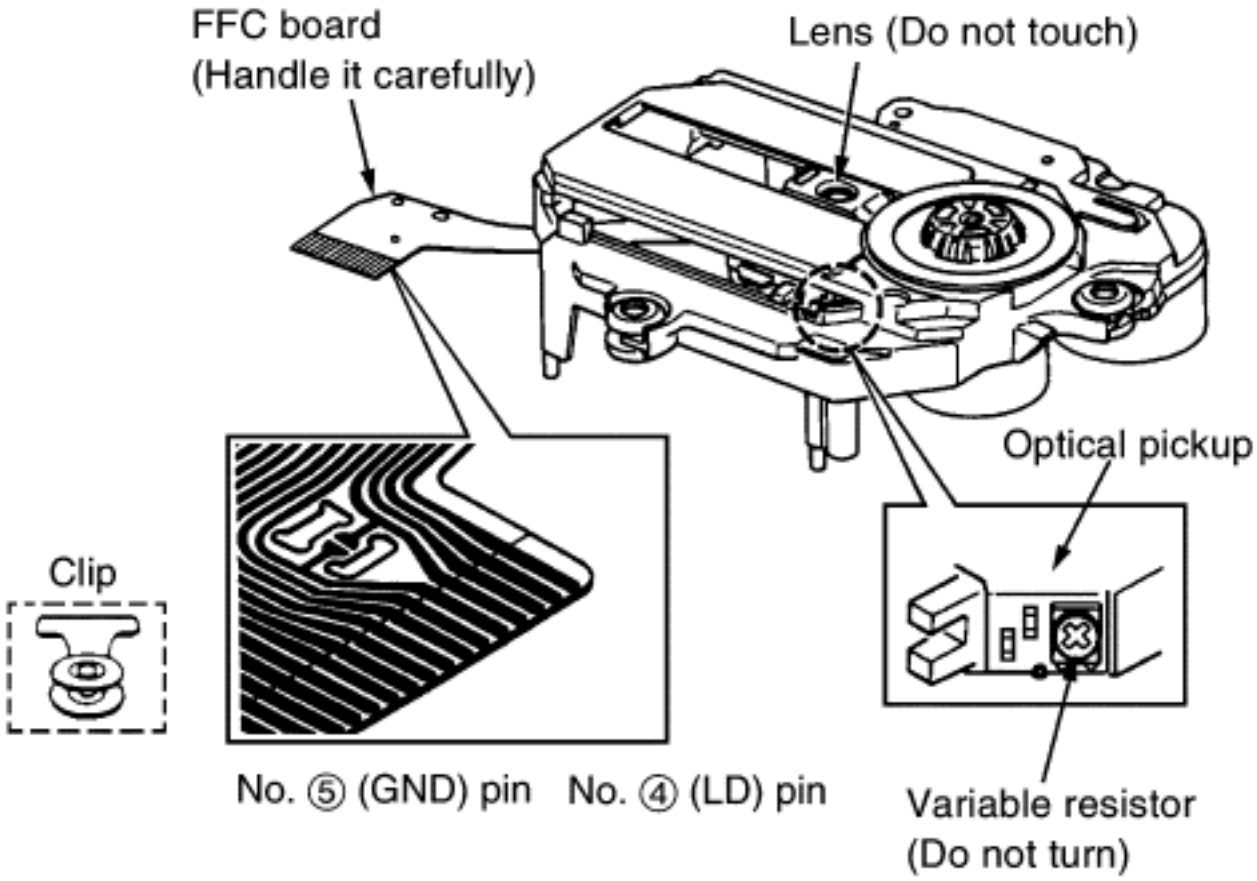
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.

2. To protect the laser diode against electrostatic breakdown, short the flexible board (FFC board) with a clip or similar object. Refer to Fig. 2-1.

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. 2-1.

Fig. 2-1.



2.2 Grounding for electrostatic breakdown prevention

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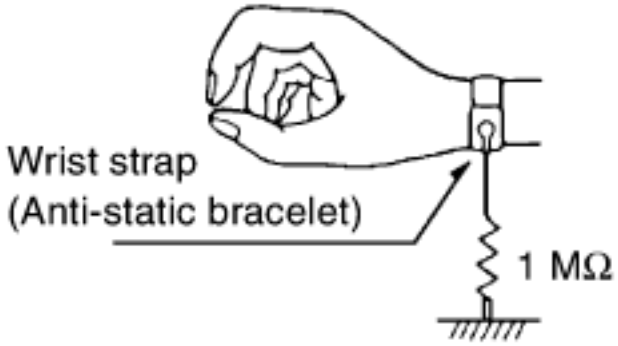
TOP PREVIOUS NEXT

2.2.1 Human body grounding

TOP PREVIOUS NEXT

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

Fig. 2-2.



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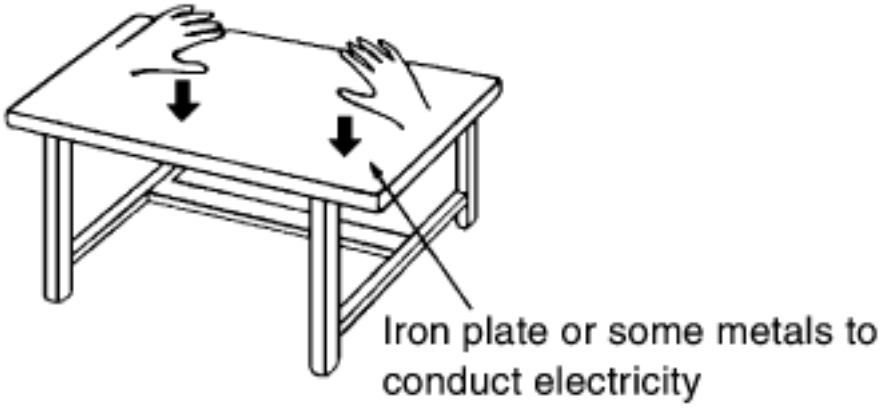
TOP PREVIOUS NEXT

2.2.2 Work table grounding

TOP PREVIOUS NEXT

Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet. Refer to Fig. 2-3.

Fig. 2-3.



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).

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3 Precaution of Laser Diode

TOP PREVIOUS NEXT

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 pickup lens.
Wave length: 780 nm
Maximum output radiation power from pickup: 100 µW/VDE

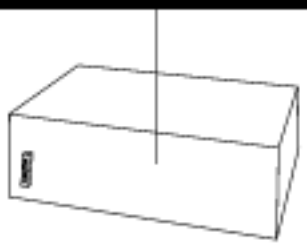
Laser radiation from the pickup unit is safety level, but be sure the followings:

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

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



CD Player
(Back of product)

DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	(Inside of product)
ADVARSEL	USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.	(Indersiden af apparatet)
VARO	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	(Tuotteen sisällä)
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.	(Apparatens insida)
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSLÅS ER SAT UD AF FUNKTION. UNDGÅ EKSPONERING FOR STRÅLEN.	(Produktets innside)
VORSICHT	UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN.	(Im Inneren des Gerätes)

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4 Location of Controls

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TOP PREVIOUS NEXT

5 Operation Checks and Component Replacement/ Procedures

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- 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.

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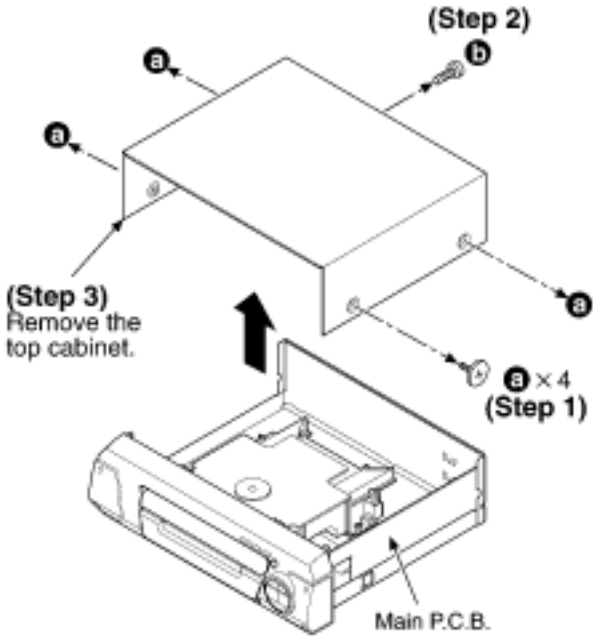
5.1 Checking for the main P.C.B.

TOP PREVIOUS NEXT



- Check the main P.C.B. as shown above.

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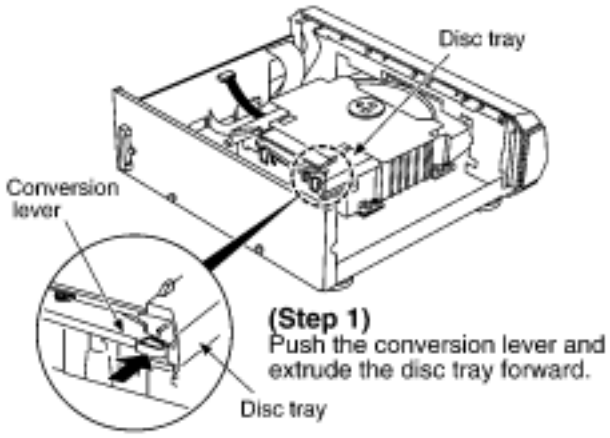
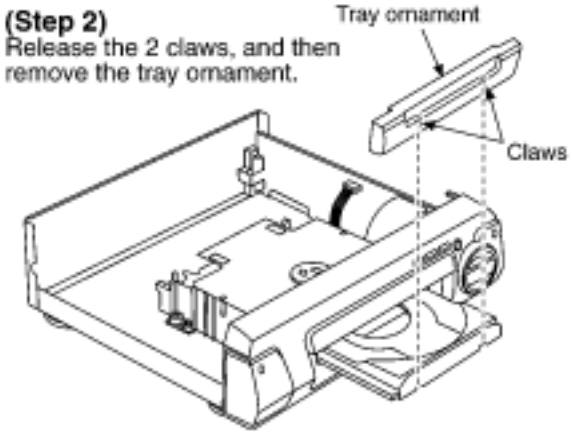
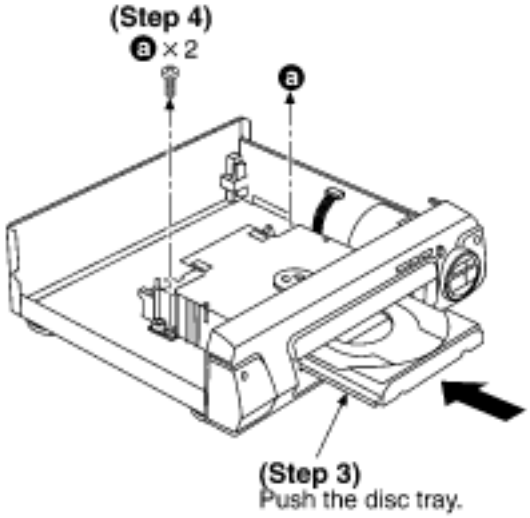
5.2 Checking for the CD servo P.C.B.

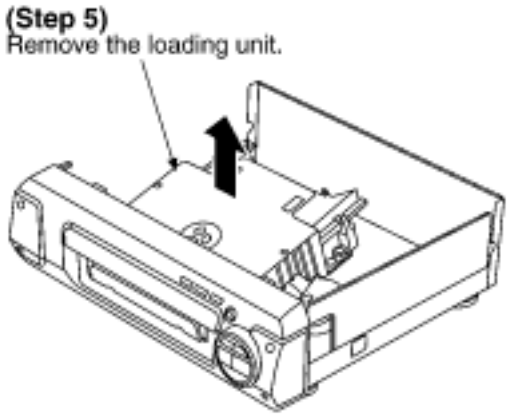
TOP PREVIOUS NEXT

- Follow the (Step 1) - (Step 3) of item 5.1.

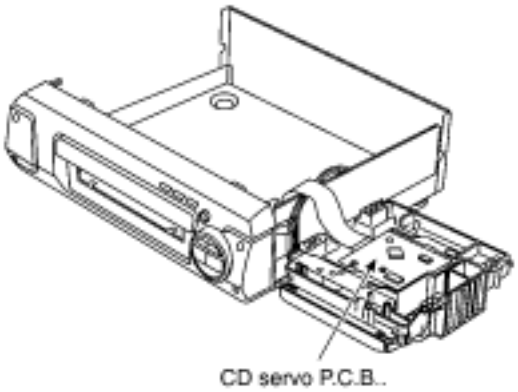








- Check the CD servo P.C.B. as shown below.



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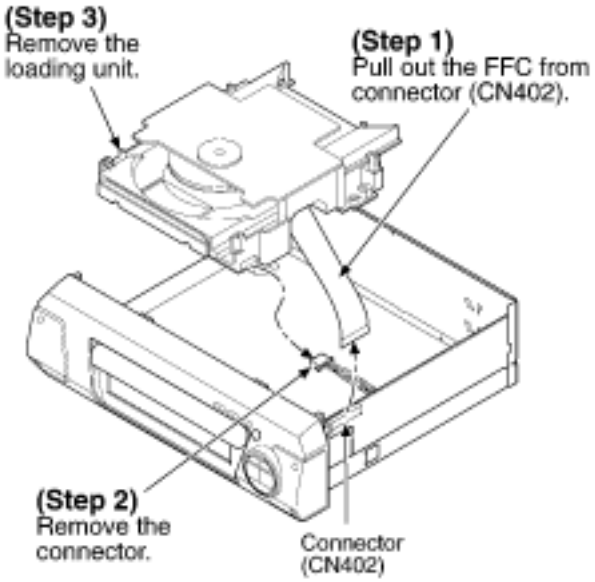
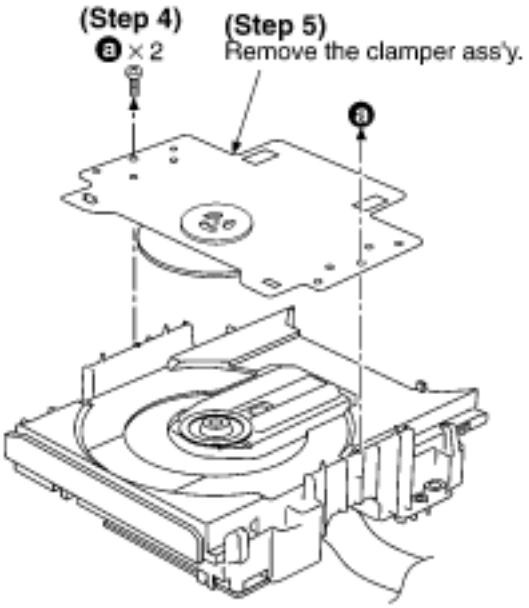
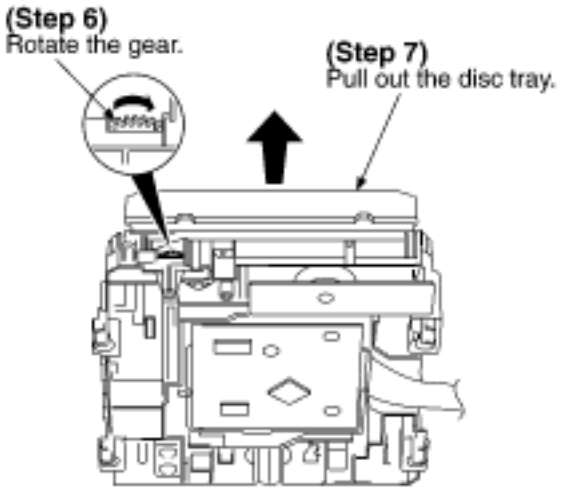
5.3 Replacement for the traverse deck ass'y

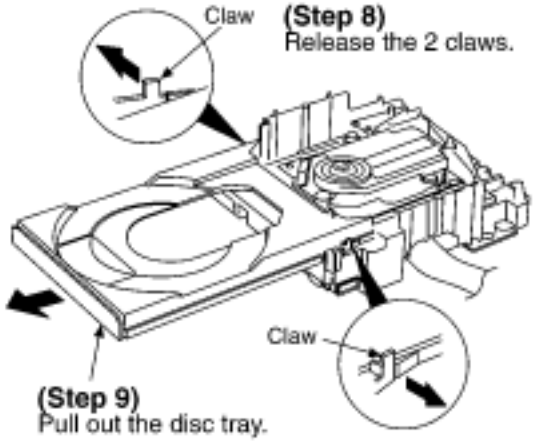
TOP PREVIOUS NEXT

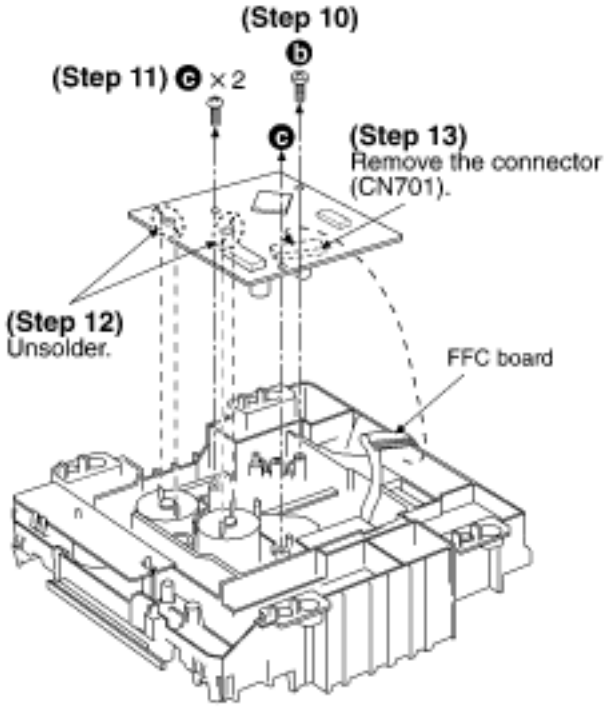
- Follow the (Step 1) - (Step 3) of item 5.1.
- Follow the (Step 1) - (Step 5) of item 5.2.






(Step 6)
Rotate the gear.
(Step 7)
Pull out the disc tray.

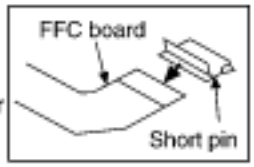

Claw
(Step 8)
Release the 2 claws.
Claw
(Step 9)
Pull out the disc tray.


(Step 10)
b
(Step 11) c ×2
c
(Step 13)
Remove the connector
(CN701).
(Step 12)
Unsolder.
FFC board

■ Removal of the FFC board

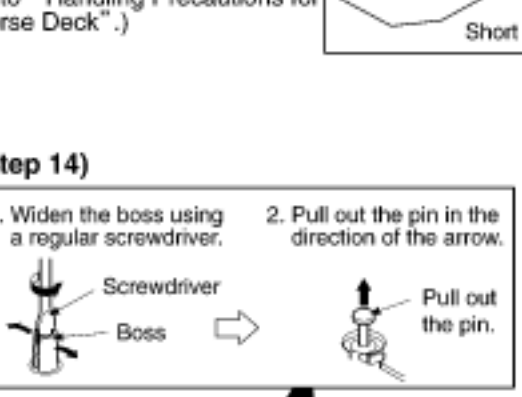
※ Push the top of the connector in the direction of arrow ①, and then pull out the FFC board in the direction of arrow ②.

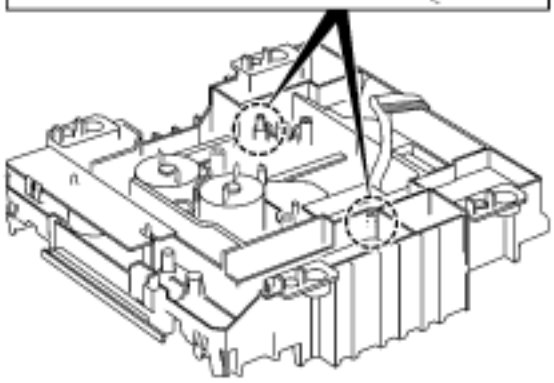
NOTE:
Insert a short pin into the traverse unit FFC board.
(Refer to "Handling Precautions for Traverse Deck".)

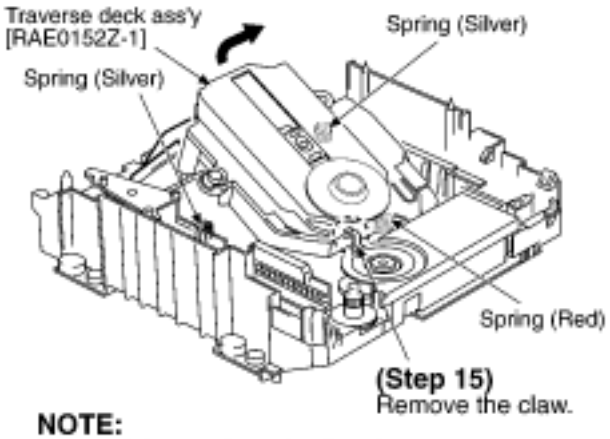


(Step 14)

1. Widen the boss using a regular screwdriver.
2. Pull out the pin in the direction of the arrow.





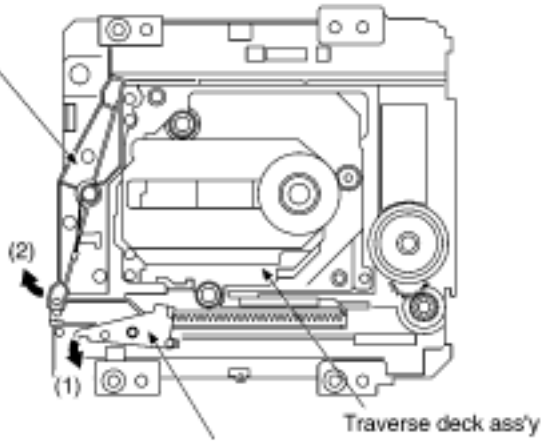


(Step 15)
Remove the claw.

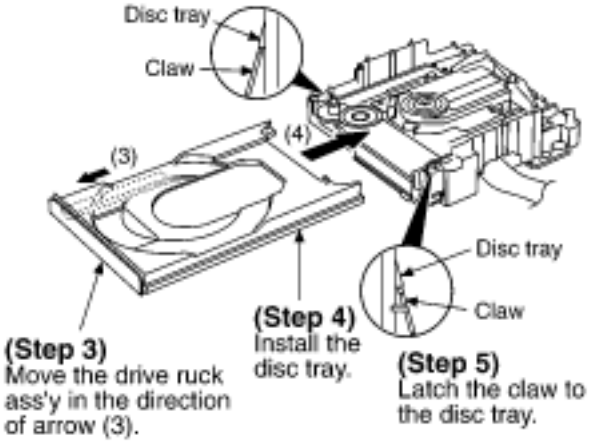
NOTE:
Be careful not to lose the 3 springs because those will also be removed on removal of the traverse deck ass'y.

Installation of the disc tray after replacement

(Step 2)
Operate the conversion lever, and then locate the traverse deck ass'y to "UP" position.



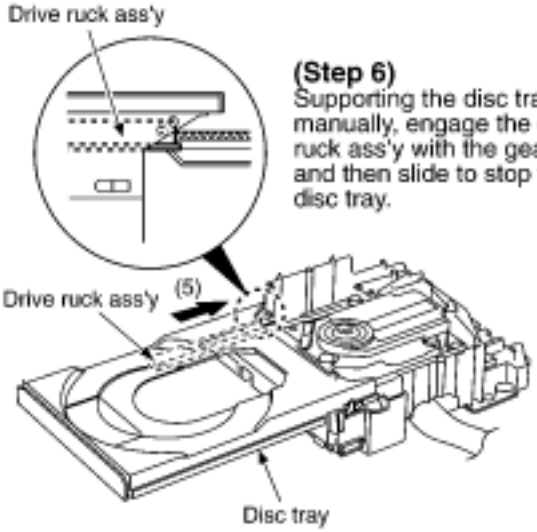
(Step 1)
Release the lock lever.



(Step 3)
Move the drive ruck ass'y in the direction of arrow (3).

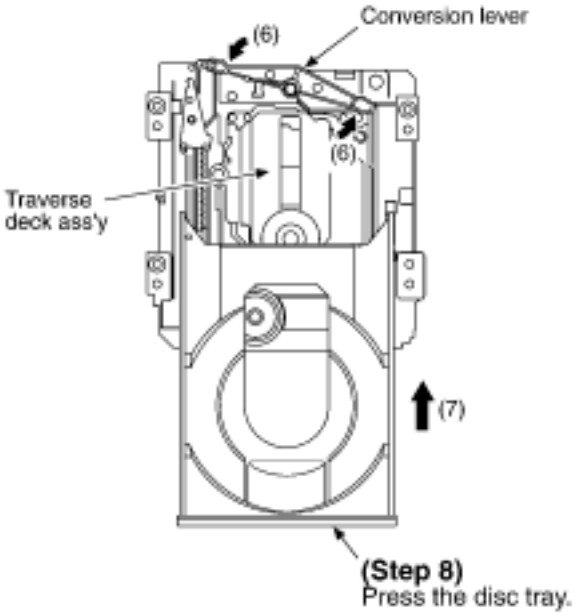
(Step 4)
Install the disc tray.

(Step 5)
Latch the claw to the disc tray.



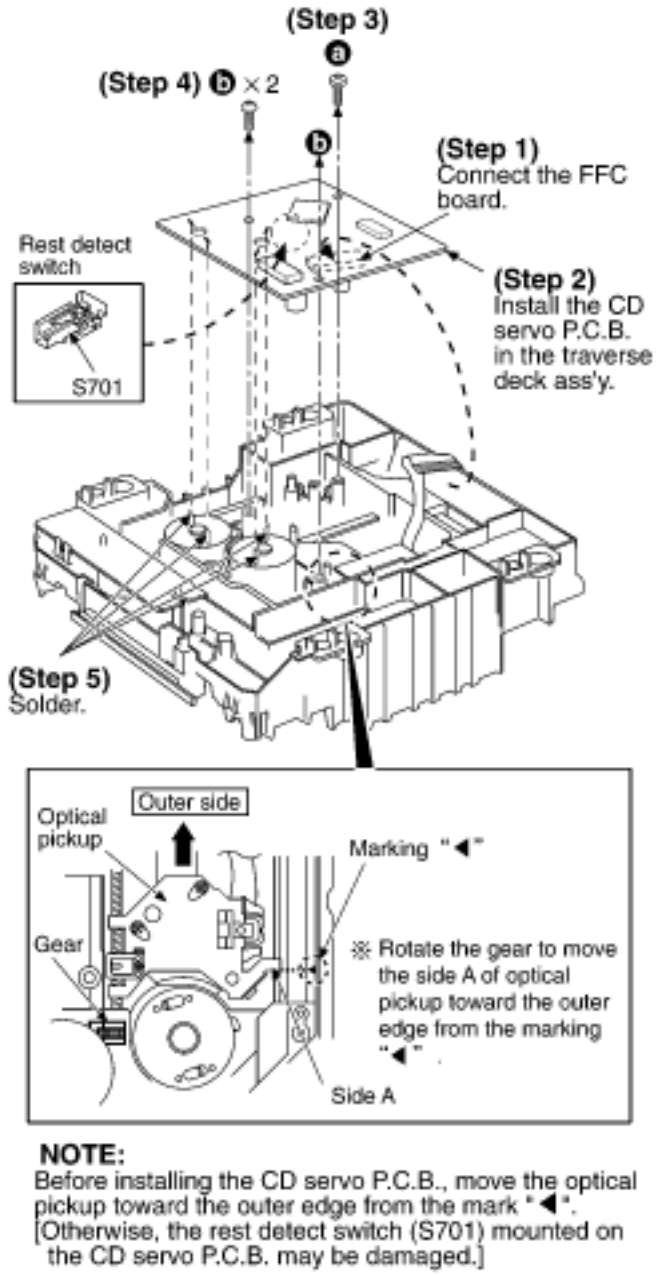
(Step 6)
Supporting the disc tray manually, engage the drive ruck ass'y with the gear and then slide to stop the disc tray.

(Step 7)
Operate the conversion lever, and then locate the traverse deck to "DOWN" position.



(Step 8)
Press the disc tray.

Installation of the CD servo P.C.B. after replacement



NOTE:
Before installing the CD servo P.C.B., move the optical pickup toward the outer edge from the mark "◀".
[Otherwise, the rest detect switch (S701) mounted on the CD servo P.C.B. may be damaged.]

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5.4 Replacement for the belt, loading motor ass'y and loading switch

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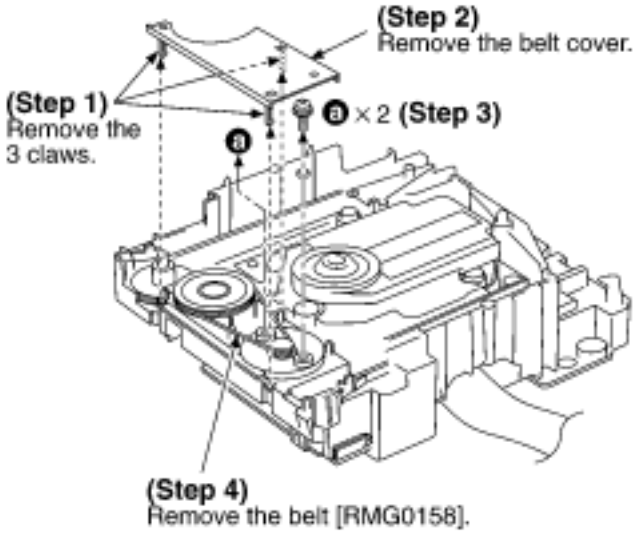
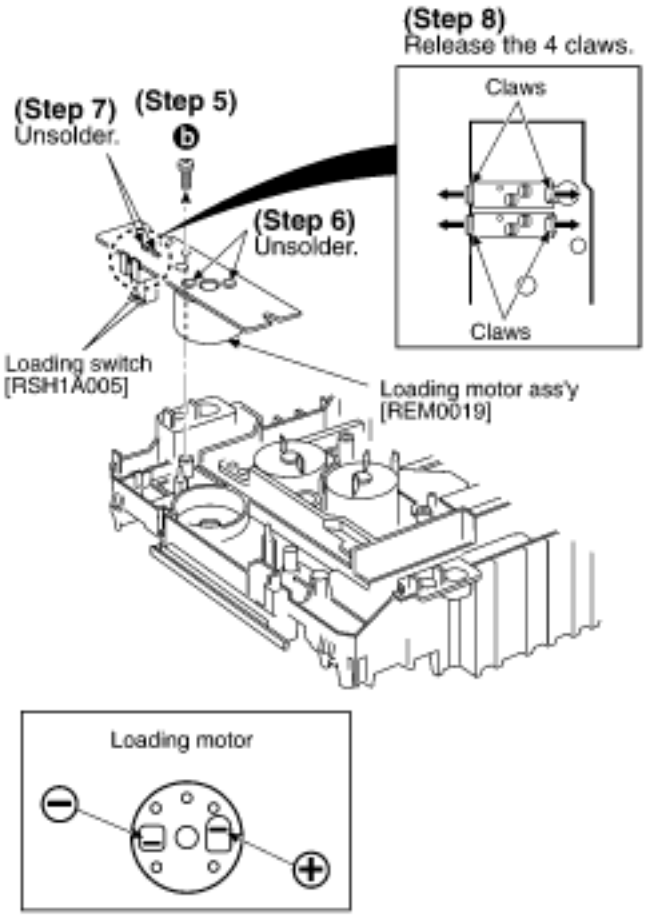
- Follow the (Step 1) - (Step 3) of item 5.1.
- Follow the (Step 1) - (Step 5) of item 5.2.
- Follow the (Step 1) - (Step 9) of item 5.3.





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6 Error Code Display and Servo Adjustment Function

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This unit has an error code display function, so that if the unit operates incorrectly, the fault is displayed using an error code on the FL display of the Tuner/Amplifier (SA-EH570). It also has a servo adjustment function for displayingthe status of servo system functions (Focus, Tracking, CLV servo) on the FL display of the Tuner/Amplifier. The system control IC and FL display are part of the Tuner/Amplifier so make sure the system has been connected properly beforeusing these functions. Use these two functions for guidance during fault diagnosis and repair.

Note:

Check beforehand for scratching or soiling of the test disc (SZZP1054C), and soiling or other problems with the pickup lens.

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6.1 Error code display procedure

TOP PREVIOUS NEXT

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TOP PREVIOUS NEXT

6.1.1 Automatic adjustment results

TOP PREVIOUS NEXT

1. Turn on the power.

2. Load the test disc (SZZP1054C).

3. Hold down the REPEAT button for at least 2 seconds, and then press the STOP button for at least 2 seconds while continuing to hold down the REPEAT button.

4. A servo section error code is displayed. Refer to Error code based on troubleshooting. Use this error code display as a guideline for finding the malfunction point in the servo circuitry. If the error code E00 is displayed, the unit isOK.

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6.1.2 Checking the mechanism switches

TOP PREVIOUS NEXT

1. After a servo section error code is displayed, press the F.SKIP button.

2. A mechanism OK/NG error code is displayed. Refer to Table 6-1. This error code can be used diagnose whether the mechanism is OK or not. If there are multiple errors, these can be displayed successively by pressing the F.SKIP button.

3. Press the STOP button, then remove the disc and turn off the power. (The error code display mode is canceled.)

Table 6-1.

FL display	Symptom	Cause
H15	When CD tray opens, it closes by itself.	Tray open detect switch (S790) fault.
H16	When CD tray closes, it opens by itself.	Tray close detect switch (S791) fault.
F15	Does not play even if the PLAY button is pressed.	Pickup rest position detect switch (S701) fault.
F26	Disc not move even if the PLAY button is pressed.	System control and servo processor IC (IC451, IC702) fault.

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6.2 Servo adjustment procedure

TOP PREVIOUS NEXT

1. Turn on the power.
2. Load the test disc (SZZP1054C).
3. Hold down the REPEAT button for at least 2 seconds, and then press the PAUSE button for at least 2 seconds while continuing to hold down the REPEAT button.
4. Press the PLAY button, and play for 10 seconds.
5. Servo adjustment results are displayed. Refer to Fig. 6-2. For further information about servo adjustment results, refer to Fig. 6-3.

Fig. 6-2.

Fig. 6-3.

(Example)

	"0" level	"1" level
Focus system	normal	defective
Tracking system	normal	defective
CLV servo system	defective	normal

6. Remove the disc and turn off the power.

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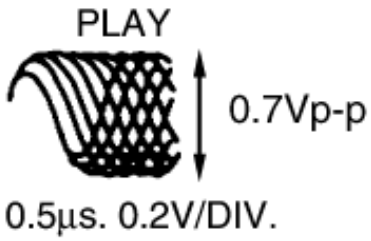
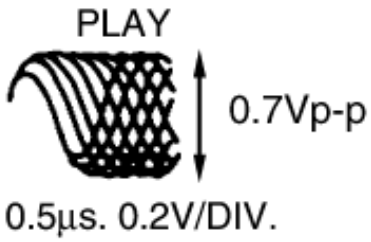
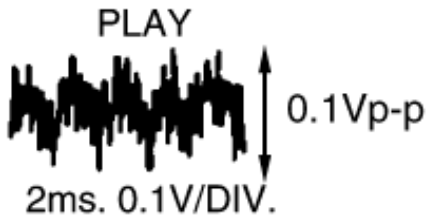
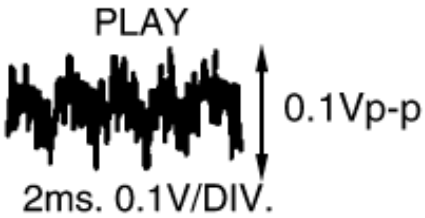
6.3 Error code based on troubleshooting

TOP PREVIOUS NEXT

- This unit is satisfactory if the error code is E00 and E02 .
- Before testing, check that the test disc is free of scratches and optical pickup is clean.

FL error code/display	Symptom	Probable cause	Signal to check		Normal voltage and waveform values	
			Signal name	Location	PLAY	STOP
E01	Focus and tracking offset adjustments not completed in the specified time period.	Clocks X1 IN and X2 OUT, power supply VDD and reset/RST, all on IC702. MDATA, MCLK, MLD and SENSE signals to/from mechanism controller.	MDATA	IC702-8 pin	0.3 V	0 V
			MCLK	IC702-7 pin		2.9 V
			MLD	IC702-9 pin		2.9 V
			/RST	IC702-18 pin	2.9 V	2.9 V
			X1 IN	IC702-58 pin		
			X2 OUT	IC702-59 pin		
E03, E05, E07, E09, E0B, E0D, E0F	Disc play unstable.	Scratches or contaminants on disc surface. Focus and Tracking servo circuit (check waveforms, voltages and part values.) Spindle driver circuit. Optical pickup.	FE	IC702-32 pin		1.7 V

			TE	IC702-33 pin		1.7 V
			FOD	IC702-28 pin	1.7 V	1.7 V
			TRD	IC702-27 pin	1.7 V	1.7 V
			/RFDET	IC702-38 pin	0 V	3.3 V
			RF	TJ701		1.0 V
			STAT	IC702-17 pin	3.3 V	0 V
E04, E06, E0C, E0E,	Best Eye (PD balance) adjustment not completed in the specified time period.	Scratches or contaminants on disc surface. Focus and Tracking servo circuit (check waveforms, voltages and part values.) Optical pickup.	FBAL	IC702-30 pin	1.7 V	1.7 V
			RF	IC701-8 pin		1.0 V
			FE	IC702-32 pin		1.7 V
			OFT	IC702-36 pin	0 V	0 V

E08, E0A	Focus and Tracking gain adjustment not completed in specified time period.	Scratches or contaminants on disc surface. Focus and Tracking servo circuit (check waveforms, voltages and part values.) Optical pickup.	FE	IC702-32 pin		1.7 V
			TE	IC702-33 pin		1.7 V
			OFT	IC702-36 pin	0 V	0 V

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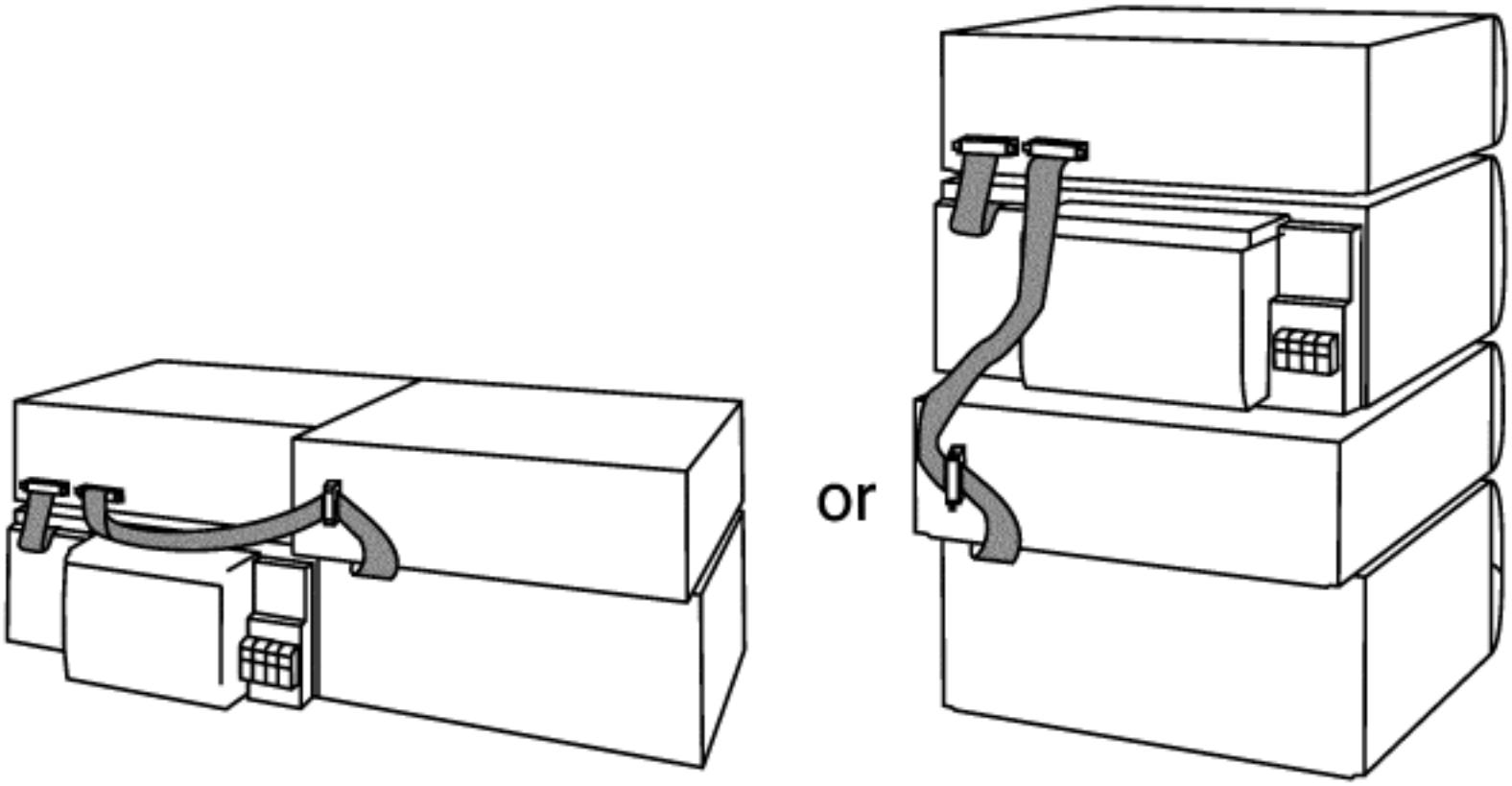
7 To Supply Power Source

TOP PREVIOUS NEXT

This unit is designed to operate on power supplied from system connected./When a component requires service, use the system connections to supply power source. /For system connections, refer to Fig.7-1.

Fig. 7-1.



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TOP PREVIOUS NEXT

8 Schematic Diagram Notes

TOP PREVIOUS NEXT

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

Notes:

- S601:

  CD edit switch (EDIT)

- S602:

  Repeat switch (REPEAT)

- S603:

  Random play switch (RANDOM)

- S611:

  Disc tray open/close switch/(

  ⏏OPEN/CLOSE)

- S612:

  Pause switch (

  ⏸)

- S613:

  F.Skip/search switch (

  ⏩/⏭)

- S614:

  Play switch (

  )

- S615:

  Stop switch (

  )

- S616:

  R.Skip/search switch (

  )

- S701:

  Rest detect switch in OFF position

- S790:

  Tray open detect switch in OFF position

- S791:

  Tray close detect switch in OFF position

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on theinternal impedance of the DC circuit tester.

  - No mark

    : CD Stop

  - ( )

: CD Play [1 kHz, L+R, 0 dB]

- 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.

- 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.

- Voltage and signal line

  ○

  

  : Positive voltage line

  ○

  

9 Schematic Diagram

TOP PREVIOUS NEXT

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TOP PREVIOUS NEXT

10 Printed Circuit Board Diagram

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TOP PREVIOUS NEXT

11 Type Illustration of ICs, Transistors and Diodes

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TOP PREVIOUS NEXT

12 Wiring Connection Diagram

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TOP PREVIOUS NEXT

13 Block Diagram

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TOP PREVIOUS NEXT

14 Troubleshooting Guide

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TOP PREVIOUS NEXT

15 Terminal Function of ICs

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TOP PREVIOUS NEXT

15.1 IC451 (M38504E6255F):/System Control

TOP PREVIOUS NEXT

Pin No.	Terminal Name	I/O	Function
1	Vcc	I	Power supply terminal
2	VREF	I	Reference voltage input
3	AVSS	-	GND terminal
4	SYNC	I	Power failure detect signal input
5	SUBQ	I	Sub-code Q data signal input
6	SQCK	O	Sub code Q resistor clock signal output
7	BLKCK	I	Block clock signal input
8	CD REQ	I	Serial communication signal to Sound Processor (Request signal input)
9	B CS	O	Serial communication signal to Sound Processor (Chip select signal output)
10	B CLK	O	Serial communication signal to Sound Processor (Clock signal output)
11	DATA O	O	Serial communication signal to Sound Processor (Data signal output)
12	DATA I	I	Serial communication signal to Sound Processor (Data signal input)
13	TEST	I	Test mode select signal input/(Connected to VCC via resistor)
14	RESTSW	I	Rest switch signal input
15	CNVSS	-	Connected to VSS
16	SERVO RST	O	Reset signal output for CD servo IC
17	E-CS	-	EEPROM serial communication signal (Not used, open)
18	RESET	I	Reset signal input
19	X IN	I	Oscillator connected terminal (8 MHz)
20	X OUT	O	
21	VSS	-	GND terminal
22	LED ORG	O	Orange LED control signal output
23	LED CLK	-	Not used, open
24	LED DATA	O	LED data signal output
25	LED GRN	O	Green LED control signal output
26	MSEL	O	Function select signal output/(Connected to VSS via resistor)
27	MDATA	O	Command data output for CD servo IC
28	MCLK	O	Command clock output for CD servo IC

29	MLD	O	Command load output
30	STAT	I	Status signal input
31	HALH	-	CD mechanism motor speed control signal output (Not used, open)
32	PL	-	Not used, open
33	CW	O	CD mechanism motor control signal output (forward direction)
34	CCW	O	CD mechanism motor control signal output (reverse direction)
35	PSTN	-	Not used, open
36	SW1	-	Not used, open
37	SW2	-	Not used, open
38	SW3	I	Disc tray open detect signal input
39	SW5	-	Not used, open
40	KEY2	I	Operation key signal input
41	KEY1	I	Operation key signal input
42	SW4	I	Disc tray close detect switch signal input

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TOP PREVIOUS NEXT

15.2 IC701 (AN8885SBE1V):/Servo Amp

TOP PREVIOUS NEXT

Pin No.	Terminal Name	I/O	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	Vcc	I	Power supply terminal
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	Laser PD signal
7	LD	O	Laser power auto control output
8	RF	O	RF amp terminal
9	RFIN	I	AGC input terminal
10	CSBRT	I	OFTR capacitor connection terminal
11	CEA	I	HPF-AMP capacitor connection terminal
12	BDO	O	Dropout detection control
13	LDON	I	LD APC ON/OFF (H: ON)
14	GND	-	GND terminal
15	/RFDET	O	RF detect signal output (L: detect)
16	PDOWN	-	Power down terminal
17	OFTR	O	Off track detection (H: detect)
18	DEFLVL	-	Not used, connected to GND
19	ENV	O	Envelope signal output
20	GCTL	I	Sub-code frame clock signal input
21	EQ SW	-	Not used, connected to GND
22	TEN	I	Tracking error signal input
23	TEOUT	O	Tracking error signal output
24	FEOUT	O	Focus error signal output
25	FEN	I	Focus error signal input
26	VREF	O	Reference voltage output
27	TBAL	I	Tracking balance adj. input
28	FBAL	I	Focus balance adj. input

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15.3 IC702 (MN662790RSC):/Servo Processor/Digital Signal Processor/Digital Filter/ /D/A converter

TOP PREVIOUS NEXT

Pin No.	Terminal Name	I/O	Function
1	BCLK	-	Serial bit clock output (Not used, open)
2	LRCK	-	L/R discriminating signal output (Not used, open)
3	SRDATA	-	Serial data signal output (Not used, open)
4	DVDD1	I	Power supply terminal
5	DVSS1	-	GND terminal
6	TX	O	Digital audio interface signal output
7	MCLK	I	Command clock signal input
8	MDATA	I	Command data signal input
9	MLD	I	Command load signal input
10	SENSE	-	Sense signal (Not used, open)
11	/FLOCK	-	Optical servo condition (focus) (Not used, open)
12	/TLOCK	-	Optical servo condition (tracking) (Not used, open)
13	BLKCK	O	Sub-code block clock signal output (f=75 Hz)
14	SQCK	I	Sub-code Q resistor clock signal input
15	SUBQ	O	Sub-code Q data signal output
16	DMUTE	-	Muting input (Not used, connected to GND)
17	STAT	O	Status signal output
18	/RST	I	Reset signal input (L: reset)
19	SMCK	-	System clock (f=4.2336 MHz) (Not used, open)
20	CSEL	-	Frequency control terminal of crystal oscillator (Not used, connected to GND)
21	TRV	-	Traverse servo control signal output (Not used, open)
22	TVD	O	Traverse drive signal output
23	PC	O	Turntable motor drive signal output (L: ON)

24	ECM	O	Turntable motor drive signal output (Forced mode)
25	ECS	O	Turntable motor drive signal output (Servo error signal)
26	KICK	-	Kick pulse output (Not used, open)
27	TRD	O	Tracking drive signal output
28	FOD	O	Focus drive signal output
29	VREF	I	D/A drive output normal voltage input
30	FBAL	O	Focus balance adj. output
31	TBAL	O	Tracking balance adj. output
32	FE	I	Focus error signal input
33	TE	I	Tracking error signal input
34	RFENV	I	RF envelope signal input
35	VDET	I	Oscillator detect signal input (H: detect)
36	OFT	I	Off track signal input (H: Off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detect signal input (L: detect)
39	BDO	I	Dropout detection signal input (H: dropout)
40	LDON	O	Laser power control signal output (H: ON)
41	PLLF2	-	PLL loop filter terminal (Not used, open)
42	DSLF2	I/O	DSL loop filter terminal
43	WVEL	-	Double velocity status signal output (Not used, open)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias terminal
47	DSLF	I/O	DSL loop filter terminal
48	PLLF	I/O	PLL loop filter terminal
49	VCOF	-	VCO loop filter terminal (Not used, connected to GND)
50	AVDD2	I	Power supply terminal
51	AVSS2	-	GND terminal
52	EFM	-	EFM signal (Not used, open)
53	PCK	-	PLL extract clock (Not used, open)
54	VCOF2	-	VCO loop filter terminal (Not used, connected to GND)
55	SUBC	-	Sub-code serial output clock (Not used, open)

56	SBCK	-	Sub-code serial input data (Not used, connected to GND)
57	VSS	-	GND terminal
58	X1 IN	I	Crystal oscillator terminal (f=16.9344 MHz)
59	X2 OUT	O	
60	VDD	I	Power supply terminal
61	BYTCK	-	Byte clock signal (Not used, open)
62	/CLDCK	-	Sub-code frame clock signal (Not used, open)
63	FCLK	O	Crystal frame clock
64	IPFLAG	-	Interpolation flag terminal (Not used, open)
65	FLAG	-	Flag terminal (Not used, open)
66	CLVS	-	Turntable servo phase synchro signal (Not used, open)
67	CRC	-	Sub-code CRC check terminal (Not used, open)
68	DEMPH	-	De-emphasis ON signal (Not used, open)
69	RESY	-	Re-synchronizing signal of frame sync. (Not used, open)
70	IOSEL	I	I/O select signal input (Connected to VDD)
71	/TEST	I	Test terminal (Not used, connected to power supply)
72	AVDD1	I	Power supply terminal
73	OUTL	O	L ch audio signal output
74	AVSS1	-	GND terminal
75	OUTR	O	R ch audio signal output
76	RSEL	I	Polarity direction control terminal of RF signal (Not used, connected to power supply)
77	IOVDD	I	Power supply terminal
78	PSEL	-	Test terminal (Connected to GND)
79	MSEL	-	Output frequency select signal input (Not used, connected to GND)
80	SSEL	I	SUBQ output mode select signal input (Not used, connected to VDD)

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TOP PREVIOUS NEXT

15.4 IC703 (AN8739SBE2):/Focus Coil/Tracking Coil/ /Traverse Motor/Spindle /Motor Drive

TOP PREVIOUS NEXT

Pin No.	Terminal Name	I/O	Function
1	/RST	-	Not used, open
2	NC	-	Not used
3	IN2	I	Motor driver 2 input
4	PC2	I	Turntable motor drive signal input (L: ON)
5	NC	-	Not used
6	IN1	I	Motor driver 1 input
7	NC	-	Not used, open
8	PVCC1	I	Driver power supply terminal 1
9	PGND1	-	Driver GND terminal 1
10	NC	-	Not used, connected to GND
11	D1-	O	Motor driver 1 output terminal (-)
12	D1+	O	Motor driver 1 output terminal (+)
13	D2-	O	Motor driver 2 output terminal (-)
14	D2+	O	Motor driver 2 output terminal (+)
15	D3-	O	Motor driver 3 output terminal (-)
16	D3+	O	Motor driver 3 output terminal (+)
17	D4-	O	Motor driver 4 output terminal (-)
18	D4+	O	Motor driver 4 output terminal (+)
19	NC	-	Not used
20	PGND2	-	Driver GND terminal 2
21	PVCC2	I	Driver power supply terminal 2
22	NC	-	Not used, open
23	VCC	I	Power supply terminal
24	VREF	I	Reference voltage input terminal
25	IN4	I	Motor driver 4 input
26	IN3	I	Motor driver 3 input

27	RSTIN	I	Reset terminal (Not used, connected to GND)
28	NC	-	Not used, connected to GND

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TOP PREVIOUS NEXT

16 Replacement Parts List

TOP PREVIOUS NEXT

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 marking [RTL] indicates that Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependenton the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- All parts are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RKM0400-1S	TOP CABINET	1	
2	RHD30007-1S	SCREW	4	
3	XTBS3+8JFZ1	SCREW	1	
4	REX0976	CONNECTOR ASS´Y(6P)	1	
5	RGK1136-1S	CD LID	1	
6	RKA0105-K	RUBBER	4	
7	RKA0106-N	FOOT RING	4	
8	RYP1007-S	FRONT PANEL ASS´Y	1	
8-1	RGB0025-A	TECHNICS BADGE	1	
8-2	RKW0579-1Q	PANEL LID	1	
9	XTBS3+8JFZ1	SCREW	3	

10	XTB3+8FFZ	SCREW	2	
11	REZ1362	FFC	1	
101	RFKJXDT07-K	LOADING CHASSIS /ASS´Y	1	
101-1	RDG0142	GEAR	1	
101-2	RDG0193	GEAR	1	
101-3	RDP0065	PULLEY	1	
102	REM0019	MOTOR ASS´Y	1	
103	RMK0255	BELT COVER	1	
104	RGQ0144-K	DISC TRAY	1	
105	RAE0152Z-1	TRAVERSE DECK ASS´Y	1	⚠
105-1	SHGD113-1	FLOATING RUBBER	3	
105-2	SNSD38	SCREW	2	
105-3	RAF0150A-1	OPTICAL PICKUP	1	⚠
105-4	RDG0247	DRIVE GEAR	1	
105-5	RDG0248	INTERMEDIATE GEAR	1	
105-6	RXQ0339	TRAVERSE MOTOR /ASS´Y	1	
105-7	RXQ0304-1	PLATE	1	
105-8	XQN17+CG5	SCREW	1	
105-9	XQN2+CQ5	SCREW	1	
105-10	XQS17+A35FZ	SCREW	2	
106	RMS0350-1	PIN(B)	1	
107	RMS0627	PIN(A)	1	
108	RME0109	FLOATING SPRING(1)	2	
109	RME0142	FLOATING SPRING(2)	1	
110	RMR0698-K1	TRAVERSE CHASSIS	1	
111	XTV2+6G	SCREW	2	
112	RME0063	SPRING	1	
113	RMM0079A-1	SLIDE PLATE(1)	1	
114	RML0178-1	LEVER	1	
115	RFKNLPG440-K	GEAR ASS´Y	1	
116	RHD20009-1	SCREW	1	
117	RME0087A-1	SPRING	1	
118	RML0349	LEVER	1	

119	RMM0059A-1	SLIDE PLATE(2)	1	
120	RMR0334	HOLDER	1	
121	RHM245ZA	MAGNET	1	
122	RXQ0380	HOLDER	1	
123	XTN26+6G	SCREW	3	
124	RMA0793-1	DISC CLAMPER ASS´Y	1	
125	XYN2+F6FZ	SCREW	2	
126	RMG0158	BELT	1	
127	XTN2+6G	SCREW	1	
C4	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C5	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C6	ECA1CM471	16V 470U	1	
C7	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C9	ECEA1AKS221	10V 220U	1	
C10	F2A0J221A143	6.3V 220U	1	
C11	ECBT1H102KB5	50V 1000P	1	F1D1H102A012
C12	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C151,52	ECBT1H102KB5	50V 1000P	2	F1D1H102A012
C401	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C402	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C403	ECBT1H102KB5	50V 1000P	1	F1D1H102A012
C404,05	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C406	F2A0J221A143	6.3V 220U	1	
C407	ECEA1AKS221	10V 220U	1	
C408	ECBT1H101KB5	50V 100P	1	F1D1H101A012
C410	EEAFC0J101B	6.3V 100U	1	
C411	ECBT1H104KB5	50V 0.1U	1	
C413,14	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C415,16	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C452	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C701	ECEA0JKA330I	6.3V 33U	1	
C702	ECUVNE104MBN	16V 0.1U	1	F1J1C104A065
C703	ECEA0JKS101	6.3V 100U	1	
C704	ECUVNE104MBN	16V 0.1U	1	F1J1C104A065
C706	ECUV1H272KBN	50V 2700P	1	F1J1H272A592

C707	ECUV1E273KBN	25V 0.027U	1	
C710	ECUV1H121KCN	50V 120P	1	F1J1H121A507
C711,12	ECUVNE104ZFN	25V 0.1U	2	F1J1E1040017
C713	ECUVNE104MBN	16V 0.1U	1	F1J1C104A065
C714	ECEA0JKS101	6.3V 100U	1	
C715	ECUV1H272KBN	50V 2700P	1	F1J1H272A592
C716	ECUV1H821KBN	50V 820P	1	
C717	ECUVNE104ZFN	25V 0.1U	1	F1J1E1040017
C718	ECUV1A224KBV	10V 0.22U	1	F1H1A224A001
C721,22	ECUV1H100DCV	50V 10P	2	
C723	ECEA1AKS221	10V 220U	1	
C724	ECUVNE104MBN	16V 0.1U	1	F1J1C104A065
C725,26	ECUV1H102KBN	50V 1000P	2	
C727,28	ECEA1HKS010	50V 1U	2	
C730	ECUVNE104ZFN	25V 0.1U	1	F1J1E1040017
C731,32	ECEA1AKS221	10V 220U	2	
C733	ECUVNE104MBN	16V 0.1U	1	F1J1C104A065
C734	ECEA1AKS221	10V 220U	1	
C735-37	ECUVNE104ZFN	25V 0.1U	3	F1J1E1040017
C738	ECUV1H103KBN	50V 0.01U	1	
C739	ECUV1H152KBN	50V 1500P	1	
C742	ECUV1E273KBN	25V 0.027U	1	
C743	ECUVNE104ZFN	25V 0.1U	1	F1J1E1040017
C744	ECUV1E562KBV	25V 5600P	1	
C745	ECUV1H102KBV	50V 1000P	1	
C747	ECUV1H181JCG	50V 180P	1	
C749	ECUV1H222KBN	50V 2200P	1	
C750,51	ECUVNE104MBN	16V 0.1U	2	F1J1C104A065
C752	ECUV1H102KBN	50V 1000P	1	
C753	ECUV1H471KBM	50V 470P	1	
C754	ECUV1H471KBN	50V 470P	1	
C790	ECA1AKF820	10V 82U	1	
CN402	K1MN19B00035	CONNECTOR(19P)	1	
CN405	RJP6G18ZA	CONNECTOR(6P)	1	K1KA06A00220
CN701	K1MN16B00080	CONNECTOR(16P)	1	

CN702	RJS1A6719-1Q	CONNECTOR(19P)	1	
CP790	RJP6G17ZA	CONNECTOR(6P)	1	K1KA06B00117
D3	MA4082LTA	DIODE	1	MAZ40820LF/ ⚠
D10	MA165	DIODE	1	MA2C165
D12-14	MA165	DIODE	3	MA2C165
D401-04	MA165	DIODE	4	MA2C165
D406,07	MA165	DIODE	2	MA2C165
D606	SML79455C	LED	1	
D801	MA165	DIODE	1	MA2C165
IC2	UPC29M33HB	IC	1	C0CAABE00005
IC451	M38504E6225F	IC	1	
IC452	TC74HCT7007A	IC	1	C0JBAZ001229
IC701	AN8885SBE1V	IC	1	
IC702	MN662790RSC	IC	1	
IC703	AN8739SBE2	IC	1	AN8739SBTE2
IC790	TA7291S	IC	1	C0GAL0000001
JK401	RJT065K20	SYSTEM CONNECTOR/(20P)	1	K1FA220B0006
PCB1	REP1960A	P.C.B. ASS´Y	1	[RTL]
PCB2	REP3140A-M	P.C.B. ASS´Y	1	[RTL]
PCB3	REP3118A-N	P.C.B. ASS´Y	1	[RTL]
Q2,Q3	2SD1862QRTV6	TRANSISTOR	2	B1BACD000012/ ⚠
Q4	2SB621A-R	TRANSISTOR	1	2SB0621AH/ ⚠
Q5	2SC3311ATA	TRANSISTOR	1	2SC3311A0A
Q401	UN4214TA	TRANSISTOR	1	UNR421400A
Q402-04	2SC3311ATA	TRANSISTOR	3	2SC3311A0A
Q701	2SB709S	TRANSISTOR	1	2SB07090S
Q801,02	UN411FTA	TRANSISTOR	2	UNR411F00A
R5	ERDS2FJ271	1/4W 270	1	
R6	ERDS2FJ6R8	1/4W 6.8	1	

R7,R8	ERDS2FJ1R2	1/4W 1.2	2	
R9	ERQ16NKWR33E	0.33	1	⚠
R10	ERDS2FJ471	1/4W 470	1	
R11	ERDS2FJ222	1/4W 2.2K	1	
R21,22	ERDS2FJ100	1/4W 10	2	
R31	ERDS2FJ100	1/4W 10	1	
R155,56	ERDS2FJ473	1/4W 47K	2	
R157,58	ERDS2FJ221	1/4W 220	2	
R401	ERDS2FJ681	1/4W 680	1	
R402	ERDS2FJ104	1/4W 100K	1	
R403	ERDS2FJ472	1/4W 4.7K	1	
R404	ERDS2FJ222	1/4W 2.2K	1	
R405	ERDS2FJ104	1/4W 100K	1	
R406	ERDS2FJ101	1/4W 100	1	
R407	ERDS2FJ471	1/4W 470	1	
R408	ERDS2FJ222	1/4W 2.2K	1	
R409	ERDS2FJ471	1/4W 470	1	
R411	ERDS2T0T	1/4W 0	1	
R413	ERDS2FJ101	1/4W 100	1	
R414-16	ERDS2FJ222	1/4W 2.2K	3	
R419,20	ERDS2FJ102	1/4W 1K	2	
R421,22	ERDS2FJ103	1/4W 10K	2	
R424	ERDS2FJ472	1/4W 4.7K	1	
R426	ERDS2FJ472	1/4W 4.7K	1	
R429	ERDS2FJ103	1/4W 10K	1	
R432	ERDS2FJ472	1/4W 4.7K	1	
R433	ERDS2FJ103	1/4W 10K	1	
R434,35	ERDS2FJ101	1/4W 100	2	
R436,37	ERDS2FJ472	1/4W 4.7K	2	
R438	ERDS2FJ102	1/4W 1K	1	
R439	ERDS2FJ223	1/4W 22K	1	
R440	ERDS2FJ473	1/4W 47K	1	
R441	ERDS2FJ472	1/4W 4.7K	1	
R442	ERDS2FJ103	1/4W 10K	1	
R444	ERDS2FJ472	1/4W 4.7K	1	
R445	ERDS2FJ473	1/4W 47K	1	

R448,49	ERDS2FJ102	1/4W 1K	2	
R451-55	ERDS2FJ332	1/4W 3.3K	5	
R610	ERDS2FJ151	1/4W 150	1	
R611	ERDS2FJ821	1/4W 820	1	
R612	ERDS2FJ102	1/4W 1K	1	
R620	ERDS2FJ821	1/4W 820	1	
R621	ERDS2FJ102	1/4W 1K	1	
R622	ERDS2FJ122	1/4W 1.2K	1	
R623	ERDS2FJ152	1/4W 1.5K	1	
R624	ERDS2FJ182	1/4W 1.8K	1	
R701	ERJ6GEYJ4R7V	1/10W 4.7	1	
R702	ERJ6GEYJ103V	1/10W 10K	1	
R704	ERJ6GEYJ102V	1/10W 1K	1	
R705	ERJ6GEYJ154V	1/10W 150K	1	
R706	ERJ6GEYJ102V	1/10W 1K	1	
R707	ERJ6GEYJ393V	1/10W 39K	1	
R708	ERJ6GEYJ223V	1/10W 22K	1	
R709	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R711	ERJ6GEYJ823	1/10W 82K	1	ERJ6GEYJ823V
R712	ERJ8GEYJ221V	1/8W 220	1	
R714	ERJ3GEY0R00V	CHIP JUMPER	1	
R715	ERJ6GEYJ102V	1/10W 1K	1	
R717,18	ERJ6GEYJ102V	1/10W 1K	2	
R721	ERJ6GEYJ101V	1/10W 100	1	
R723	ERJ6GEYJ682V	1/10W 6.8K	1	
R724	ERJ6GEYJ183V	1/10W 18K	1	
R725	ERJ6GEYJ391V	1/10W 390	1	D0GD391JA003
R727	ERJ3GEYJ392V	1/16W 3.9K	1	
R728,29	ERJ6GEYJ392V	1/10W 3.9K	2	
R731	ERJ6GEYJ682V	1/10W 6.8K	1	
R735,36	ERJ6GEYJ101V	1/10W 100	2	
R741	ERJ6GEYJ473V	1/10W 47K	1	
R742	ERJ6GEYJ224V	1/10W 220K	1	
R744	ERJ6GEYJ124V	1/10W 120K	1	
R749	ERJ6GEYJ472V	1/10W 4.7K	1	
R750	ERJ6GEYJ4R7V	1/10W 4.7	1	

R753	ERJ6GEYJ100	1/10W 10	1	
R802	ERDS2FJ103	1/4W 10K	1	
RJ701,02	ERJ6GEY0R00V	CHIP JUMPER	2	
RJ704	ERJ6GEY0R00V	CHIP JUMPER	1	
RJ710	ERJ6GEY0R00V	CHIP JUMPER	1	
RJ712-14	ERJ6GEY0R00V	CHIP JUMPER	3	
RJ721-42	ERJ3GEY0R00V	CHIP JUMPER	22	
S601-03	EVQ11G05R	SW,PUSH	3	
S611-16	EVQ11G05R	SW,PUSH	6	
S701	RSH1A043-U	SW,REST	1	K0J1BB000022
S790,91	RSH1A005	SW,OPEN/CLOSE DET.	2	K0J1BB000010
X401	RSXY8M00D01T	OSCILLATOR	1	H2B800400005
X701	RSXZ16M9M01T	OSCILLATOR	1	H2A169500005

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17 Cabinet Parts Location

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18 Loading Unit Parts Location

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