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Service Manual

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Order No. MD0102030C1

A2

Service Manual

Compact Disc Changer

- SL-PD7

Colour

(K) ... Black Type

P ... U.S.A.

PC ... Canada

TRAVERSE DECK

RAE0152Z-3 Mechanism Series

AUDIO

No. of channels	2 (left and right, stereo)
Frequency response	2-20000 Hz,±1 dB
Output voltage	2V (at 0 dB)
Dynamic range	92 dB
S/N	100 dB
Total harmonic distortion	0.007% (1kHz, 0 dB)
Wow and flutter	Below measurable limit
DA converter	MASH (1 bit)
Output impedance	Approx. 1kO
Load impedance	More than 10 kO

PICKUP

Wavelength	780 nm

GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	9 W
Dimensions (W x H x D)	430 x 125 x 374 mm
	(16-15/16” x 4-29/32” x 14-23/32”)
Mass	4.5 kg (9.9 lb.)
Power consumption in standby mode:	1 W

Notes:

1. Specifications are subject to change without notice./Mass and dimensions are approximate.

⚠ 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 Safety Precaution

(This “Safety Precaution” is applied only in U.S.A.)

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

- Insulation Resistance Test

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

   *Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

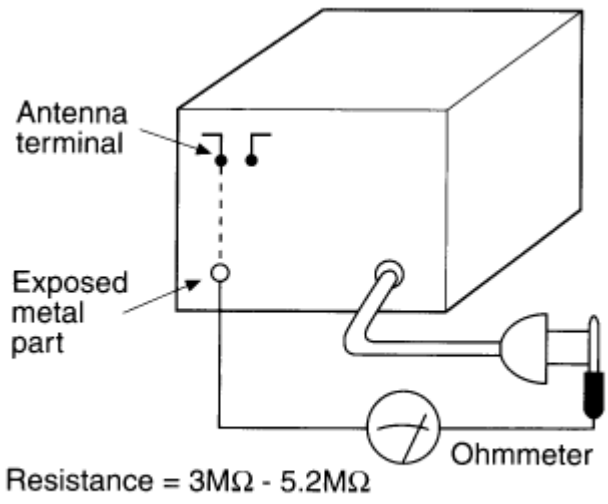


Fig. 1

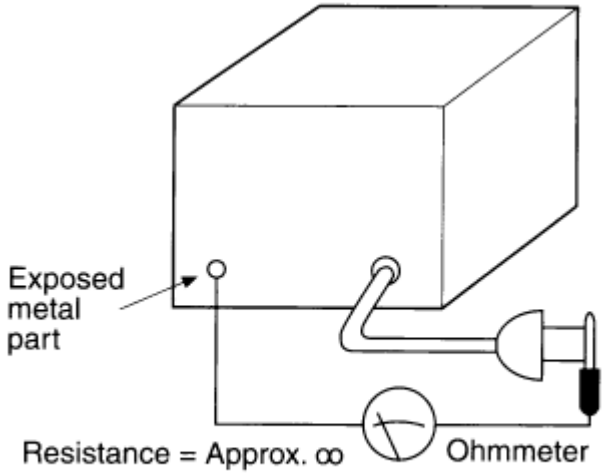


Fig. 2

TOP PREVIOUS NEXT

2 Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C12 through a 10 O, 5 W resistor to ground. DO NOT SHORT-CIRCUIT DIRECTLY (with a screw driver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid over current.

Current consumption at AC 120 V, 50 Hz and 60 Hz in NO SIGNAL mode should be 50~130 mA and 40~80 mA respectively.

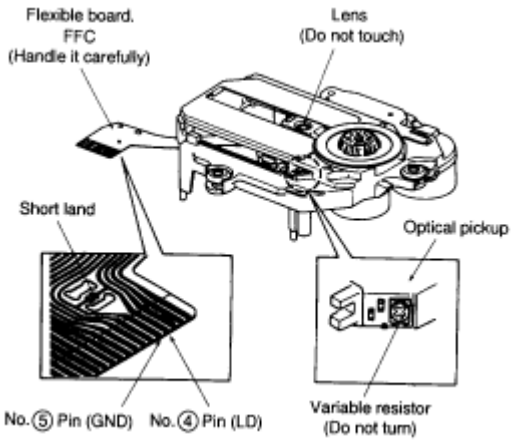
3 Handling Precautions For Traverse Deck

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).

- Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No.4(LD) and No.5(GND) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.To connect to the PC board, be sure to open by removing the solder build-up, and finishthe work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.



- Grounding for electrostatic breakdown prevention

1. Human body grounding

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

2. Work table grounding

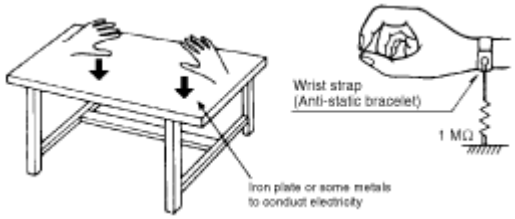
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution:

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

Caution when Replacing the Traverse Deck:

The traverse deck has a short point shorted with solder to protect the laser diode against electrostatics breakdown. Be sure to remove the solder from the short point before making connections.


Wrist strap
(Anti-static bracelet)
1 MΩ
Iron plate or some metals
to conduct electricity

4 Precaution of Laser Diode

Caution:

This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical 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 pickup lens.
4. Do not disassemble the optical pickup unit.
5. If the optical pickup is replaced, use the manufacturer's specified replacement pickup only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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.

5 Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are “shorted”, or if speaker systems with an impedance less than the indicated rated impedance ofthe amplifier are used.

If this occurs, follow the procedure outlines below:

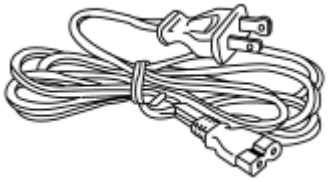
1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

6 Accessories

AC power supply cord... 1 pc.



Stereo connection cable... 1 pc.

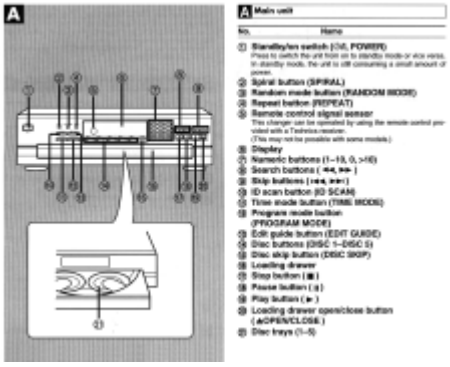
7 Front Panel Controls

TOP PREVIOUS NEXT

7.1 Front Panel

TOP PREVIOUS NEXT

7.1 Front Panel



8 Operation Checks and Main Component Replacement Procedures

“ATTENTION SERVICER”

Some chassis components maybe have sharp edges. Be careful when diassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures./Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

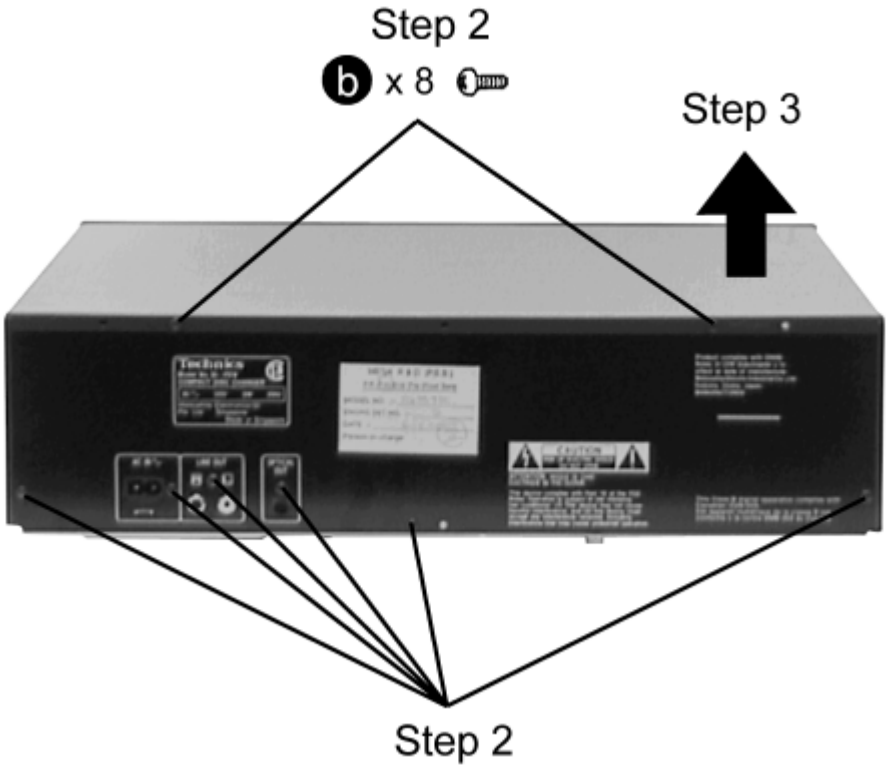
Content

- Checking Procedure for each major P.C.B. ..... P.g. 7~9

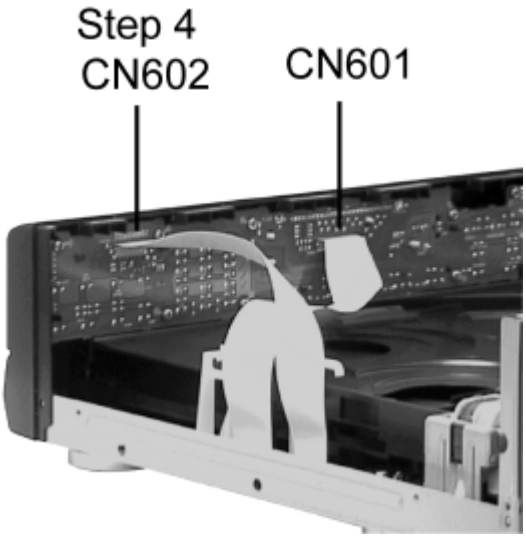
8.1 Checking Procedure for each major P.C.B.

8.1 Checking Procedure for each major P.C.B.

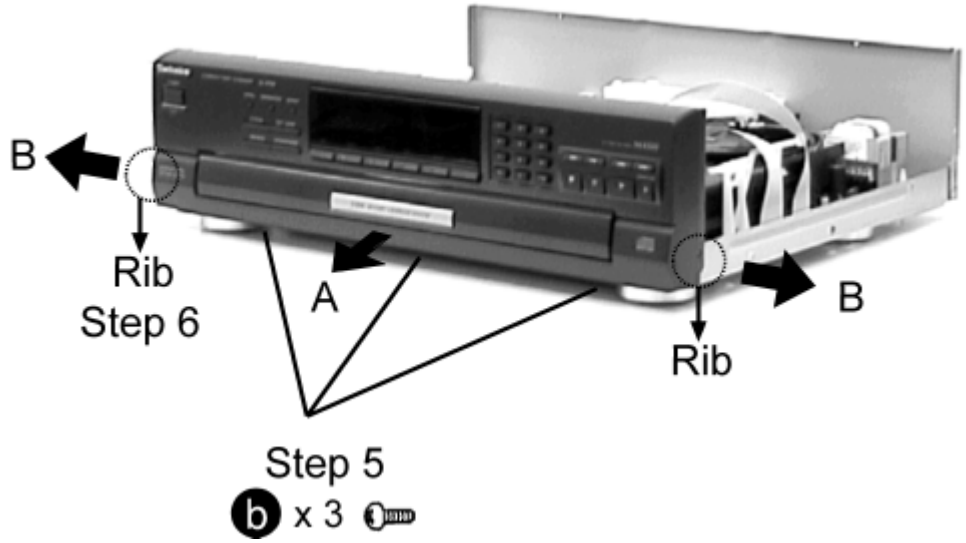
Step 1 Remove all the screws.



Step 3 Remove all the screws and remove top cabinet as shown.

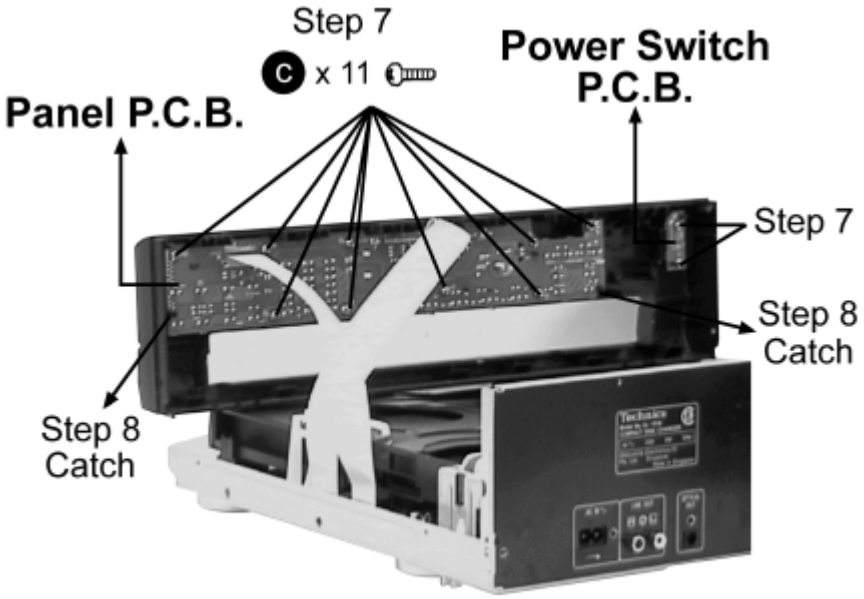


Step 4 Release the connectors CN601 and CN602.



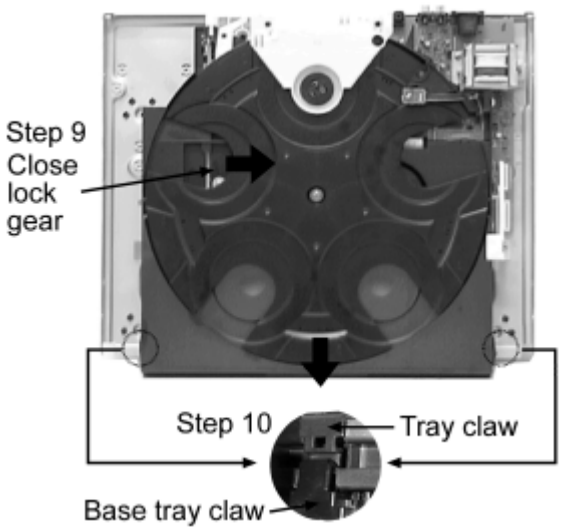
Step 5 Remove all the screws.

Step 6 Pull the front panel in both direction of arrow B to unlock the rib and then remove the front in the direction of arrow A.



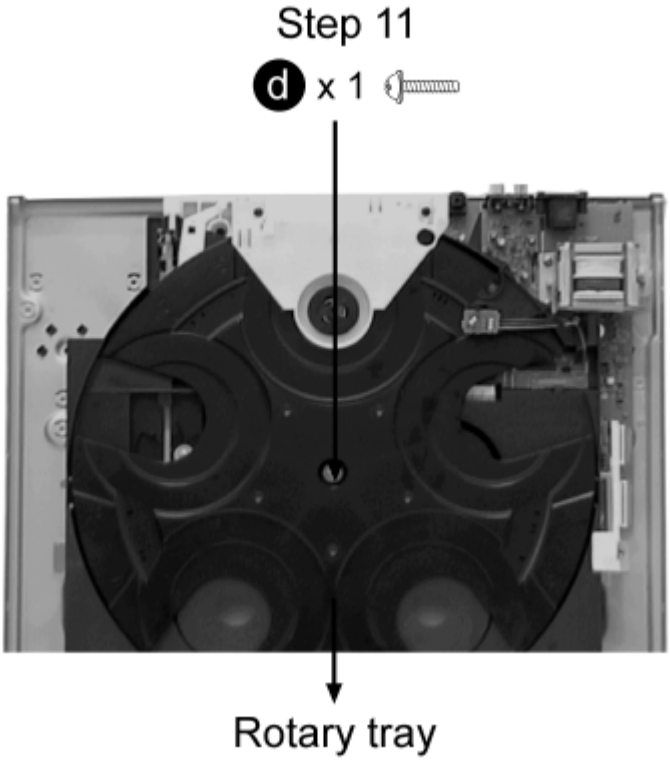
Step 7 Remove all the screws.

Step 8 To check Panel P.C.B. component side release both catches.

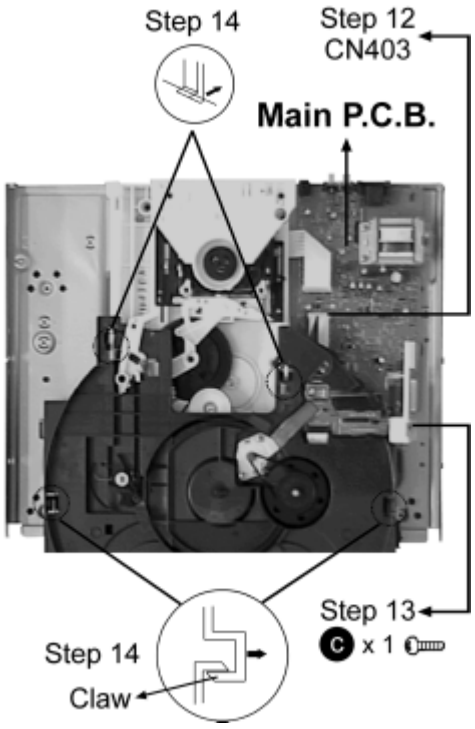


Step 9 Keep the close lock gear pressed in the direction shown, and move the tray in the direction shown.

Step 10 Fit the claw of the tray and the claw of the Base tray guide (left & right side).



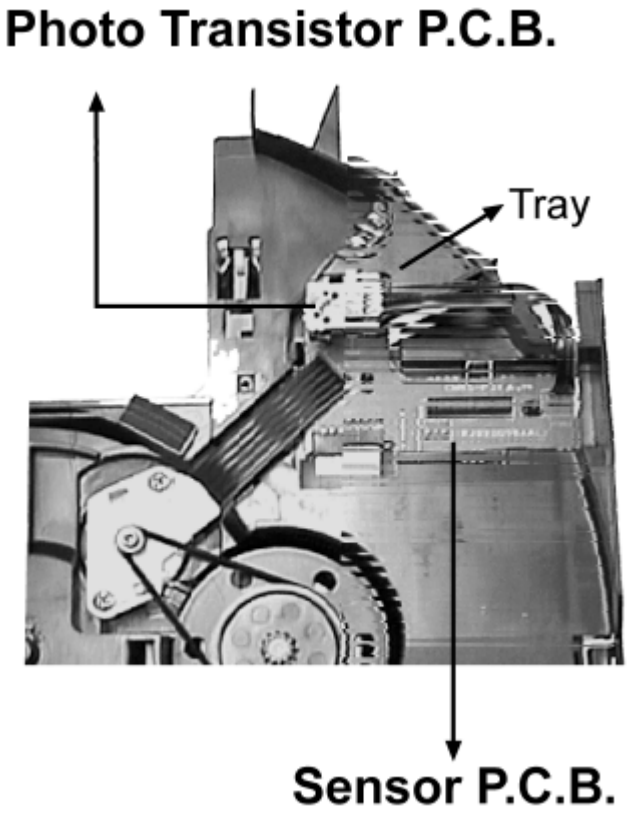
Step 11 Remove the screw and the Rotary tray.

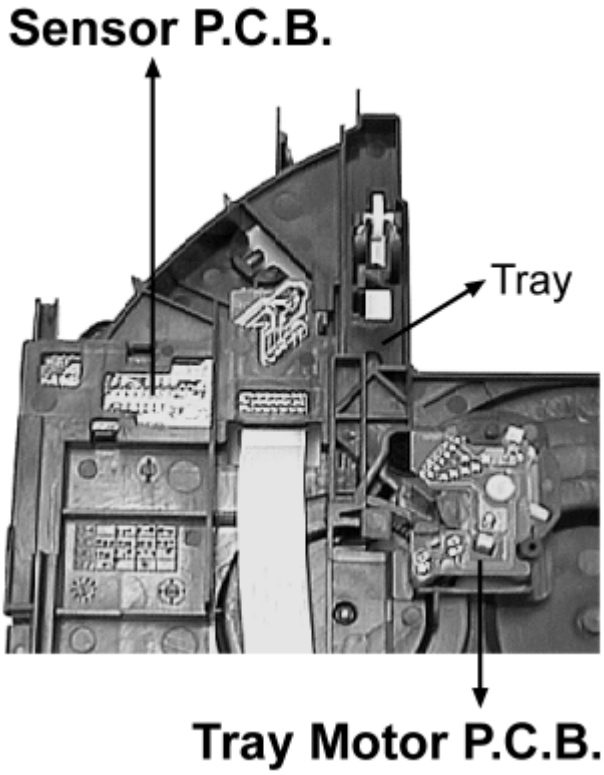


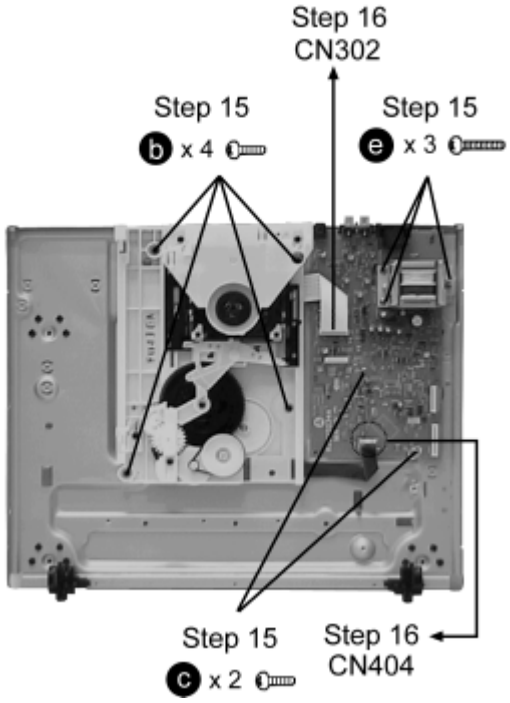
Step 12 Remove the connector CN403.

Step 13 Remove the screw.

Step 14 Pull the claw in the direction shown and remove the tray.

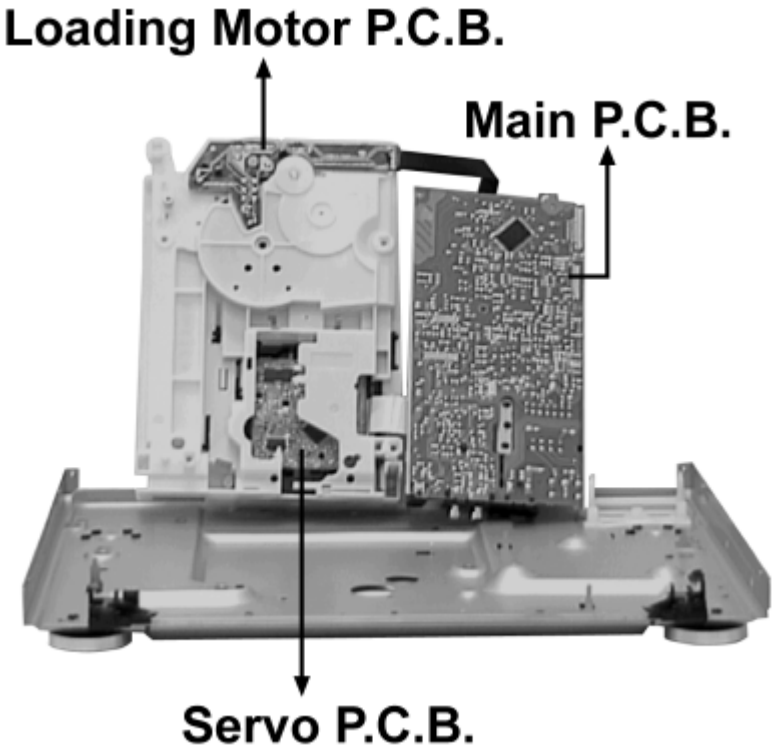






Step 15 Remove all the screws.

Step 16 Release the connectors CN302 and CN404.


Loading Motor P.C.B.
Main P.C.B.
Servo P.C.B.

9 Self-Diagnostic Display Function

Self-diagnostic display

This unit is equipped with a self-diagnostic display function which, if a problem occurs, will display an error code correcsponding to the problem.

Use this function when performing maintenance on the unit.

Entering the Self-Diagnostic Mode

1. With no CD loaded in the tray, turn on the unit.
2. Unplug the power cord of the unit, and then plug it back in while pressing the STOP (■), PLAY (▶) and DISC 4 buttons together.This will bring up the FL display.
3. Release the above three buttons.

To Display Self-Diagnostics Results

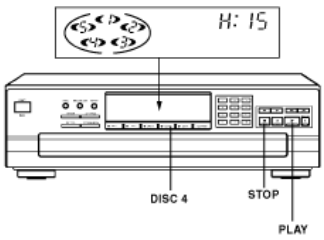
1. When the FL display lights up, the unit automatically repeats an approximately 50-second cycle of the following operations.

   START

   A. Tray opens. -------- (A)
   B. Tray closes. -------- (B)
   C. Traverse deck lifts.
   D. Tray opens.
   E. Tray closes. -------- (B)
   F. Traverse deck lower down.
   G. Rotary tray turns counter-clockwise two disc slots. -------- (C)
   H. Traverse deck lifts once, and then lowers
   I. Rotary tray turns clockwise one disc slot. -------- (C)
   J. Traverse deck lifts once, and then lowers
   K. Rotary tray turns clockwise three disc slots. -------- (C)
   L. Traverse deck lifts once, and then lowers
   M. Rotary tray turns counter-clockwise one disc slot. -------- (C)
   N. Traverse deck lifts once, and then lowers
   O. Rotary tray turns counter-clockwise two disc slots./(Repeats from a - o).

2. Self-diagnostic fault results appear on the FL display for approximatelly one second as “H15” at location (A), “H16” at (B) and “H18” at (C), during the above cycle.

3. If there are no faults as a results of self-diagnostic, "00 TRACK 00 : 00 " appears on the FL display.



To Return to Normal Display

- Press the power button to off the unit, and then turn it on again.

To Display Self-Diagnostics Results Again

- Follow steps 1 through 3 of “Entering Self-Diagnostic Mode” above.

To Clear the Display of Self-Diagnostics Results

- Turn off the unit to clear the contents of the stored faults results.

Interpretation of error codes

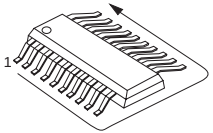
Error code	Problem condition	Correction procedure
H15	CD tray does not open or close when CD tray open/close(	Faulty loading motor and motor drive IC (IC501), or faulty contact or short-circuit on open/close detect switch, S551. (Check and replace)
H16	⏏) button is pressed./When the CD open/close (⏏) button is pressed, the CD tray closes momentarily but then opens again, or opens momentarily and then closes again.	
F18	Faulty rotary turret rotation detection. Example : The turret continues to turn at the inintial position without stopping.	Check the optical sensor (D501) and replace if necessary.

TOP PREVIOUS NEXT

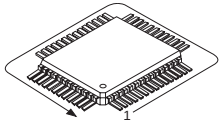
10 Type Illustrations of ICs, Transistors& Diodes

TOP PREVIOUS NEXT

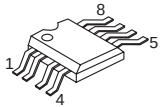
AN8885SBE1 (28p)



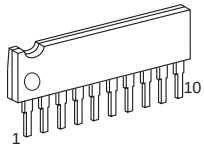
UPD78044F186 (80p)
MN662790RSC (80p)



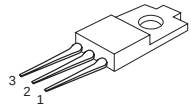
BA4558FDXE2



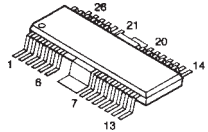
BA6247N



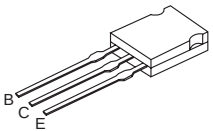
BA033T



AN8739SBE2



2SD2037ETA



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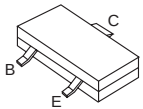
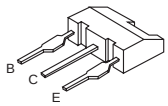
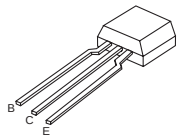
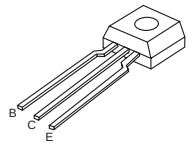


2SB1238QRTV2
2SD1859QRTV2



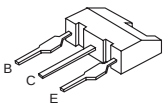
2SD2144STA



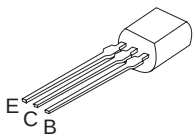


2SC2785FETA
KRA103MTA
KRC107MTA
KRC111MTA

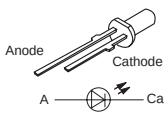
2SD1862QTV2



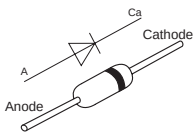
KRC101MTA

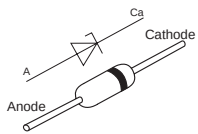


GL380
PT381



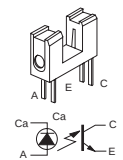
RVD1SS133TA



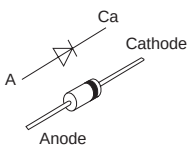


MTZJ3R6BTA
MTZJ30BTA
MTZJ5R1BTA
MTZJ5R6BTA
MTZJ6R2CTA
MTJZ6R8CTA
MTJZ9R1BTA
MTZJ9R1CTA

RSQGP1S53V
SG-206S



RL1N4003S-P



11 Terminal Functions of ICs

TOP PREVIOUS NEXT

11.1 IC701 (AN8885SBE1) Servo Amplifier

11.2 IC702 (MN662790RSC) Servo processor/ Digital signal processor/ Digital filter/ D/A converter

11.3 IC703 (AN8739SBE2) Focus coil/ Tracking coil/ Traverse motor/ Spindle motor driver

11.4 IC401 (C2BBGD000075) Microprocessor

TOP PREVIOUS NEXT

11.1 IC701 (AN8885SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input 1
2	PDF	I	Tracking signal input 2
3	VCC	I	Power supply
4	PDA	I	Focus signal input terminal 1
5	PDB	I	Focus signal input terminal 2
6	LPD	I	APC amp input
7	LD	O	APC amp output
8	RF	O	RFsumming output
9	RFIN	I	Detector's input
10	CSBRT	I	Capacitor for OFTR connection
11	CEA	I	Capacitor for HPF amp connection
12	BDO	O	BDO output ("H" : drop out)
13	LDON	I	APC control
14	GND	-	Ground
15	/RFDET	O	NRFDET output ("L" : detection)
16	PDOWN	O	Power-down input
17	OFTR	O	OFTR output
18	NC	O	N.C.
19	ENV	O	3T-ENV output
20	NC	I	N.C.
21	NC	I	N.C.
22	TEN	I	TE amp input
23	TEOUT	O	TE amp output
24	FEOUT	O	FE amp output
25	FEN	I	FE amp input
26	VREF	O	Reference voltage output
27	TBAL	I	Tracking balance control
28	FBAL	I	Focus balance control

11.2 IC702 (MN662790RSC) Servo processor/ Digital signal processor/ Digital filter/ D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	N.C.
2	LRCK	O	N.C.
3	SRDATA	O	N.C.
4	DVDD1	I	Power supply input (for digital circuit)
5	DVSS1	I	GND (for digital circuit)
6	TX	O	Digital audio interface signal output (Latches data at first transition)
7	MCLK	I	Microprocessor command clock signal input
8	MDATA	I	Microprocessor command data signal input
9	MLD	I	Microprocessor command load signal input
10	SENSE	O	Sense signal output (OFT, FESL,MAGEND,NAJEND, POSAD,SFG) (Not used, open)
11	/FLOCK	O	Focus servo feeding signal output (“L” : Feed)
12	/TLOCK	O	Tracking servo feeding signal output (“L” : Feed)
13	BLKCK	O	Sub-code block clock signal output (BLKCKf = 75Hz during normal playback)
14	SQCK	I	External clock signal input for sub-code Q resistor
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input (“H” : mute)
17	STAT	O	Status signal output(CRC,CUE,CLVS,TTSTVP,/FCLV,SQCK)
18	/RST	I	Reset signal input
19	SMCK	O	1/2-diveded clock signal of crystal osscillating at MSEL = “H” (fSMCK = 8.4672 MHz) 1/4-divided clock signal of crystal oscillating at MSEL = “L” (fSMCK = 4.2336MHz)
20	CSEL	I	Frequency Selection Terminal H = 33.8688 MHz ; L = 16.9344 MHz
21	TRV	O	N.C
22	TVD	O	Traverse drive output
23	PC	O	Spindle motor ON output ("L" : ON)
24	ECM	O	Spindle motor drive signal output(forced mode output)
25	ECS	O	Spindle motor drive signal output(servo error signal output)
26	KICK	O	N.C.
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD, ECS, TRD, FOD, FBAL, TBAL) Reference voltage input
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" :detection)
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	PLLF2	I/O	N.C.
42	DSLF2	O	Tracking Offset alignment output/DSL Balance Output (DA Output)
43	WVEL	O	N.C.
44	ARF	I	RF signal input

45	IREF	I	Reference current input
46	DRF	I	DSL bias terminal (Not used, open)
47	DSLF	I/O	DSL loop filter terminal
48	PLLF	I/O	PLL loop filter terminal
49	VCOF	I/O	VCO loop filter terminal
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	I	GND (for analog circuit)
52	EFM	-	EFM signal output
53	PCK	-	PLL extraction clock output (fPCK = 4.321 MHz during normal playback)
54	VCOF2	I/O	VCO Loop filter for 33.8688 MHz conversation terminal for 16.9344 MHz crystal mode, must use other circuit
55	SUBC	O	Sub-code serial data output
56	SBCK	I	Clock input for sub-code serial data
57	VSS	I	GND
58	X1 IN	I	Crystal oscillating circuit input (f = 16.9344MHz)
59	X2 OUT	O	Crystal oscillating circuit input (f = 16.9344 MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	-	Byte clock output
62	/CLDCK	-	Sub-code frame clock signal output (fCLDCK = 7.35 kHz during normal playback)
63	FCLK	-	Crystal frame clock signal output (fCLK = 7.35 kHz, double = 14.7 kHz)
64	IPFLAG	-	Interpolation flag output (“H” : Interpolation)
65	FLAG	-	Flag output
66	CLVS	-	Spindle servo phase synchronizing signal output ("H" : CLV, "L" : rough servo)
67	CRC	-	Sub-code CRC checked output (“H’ :OK, “L” :NG)
68	DEMPH	-	De-emphassis ON signal output (“H” :ON)
69	RESY	-	Frame re-synchronizing signal output
70	IOSEL	I	Mode Switching Terminal
71	/TEST	I	Test input
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	I	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input (at "H" level, RSEL="H", at "L" level, RESL="L")
77	IOVOD	I	5V supply input
78	PSEL	I	Test terminal (connected to Gnd)
79	MSEL	I	SMCK oscillating frequency designation input (“L”:4.2336 MHz, “H”:8.4672 MHz)
80	SSEL	I	SUBQ output mode select (“H”:Q-code buffer mode)

TOP PREVIOUS NEXT

11.3 IC703 (AN8739SBE2) Focus coil/ Tracking coil/ Traverse motor/ Spindle motor driver

Pin No.	Mark	I/O	Function
1	/RST	-	RESET output terminal
2	NC	-	N.C.
3	IN2	I	Motor Drive (2) input
4	PC2	I	Turntable motor drive signal (“L :ON)
5	NC	-	N.C.
6	IN1	I	Motor driver (1) input
7	NC	I	N.C.
8	PVCC1	I	Power supply (1) for driver
9	PGND1	-	Ground connection (1) for driver
10	NC	-	N.C.
11	D1-	O	Motor driver (1) reverse-action output
12	D1+	O	Motor driver (1) forward-action output
13	D2-	O	Motor driver (2) reverse-action output
14	D2+	O	Motor driver (2) forward-action output
15	D3-	O	Motor driver (3) reverse-action output
16	D3+	O	Motor driver (3) forward-action output
17	D4-	O	Motor driver (4) reverse-action output
18	D4+	O	Motor driver (4) forward-action output
19	NC	-	N.C.
20	PGND2	-	Ground connection (2) for driver
21	PVCC2	I	Power supply (2) for driver
22	NC	-	N.C.
23	VCC	I	Power supply terminal
24	VREF	I	Reference voltage input
25	IN4	I	Motor driver (4) input
26	IN3	I	Motor driver (3) input
27	RSTIN	I	Reset terminal
28	NC	-	N.C.

11.4 IC401 (C2BBGD000075) Microprocessor

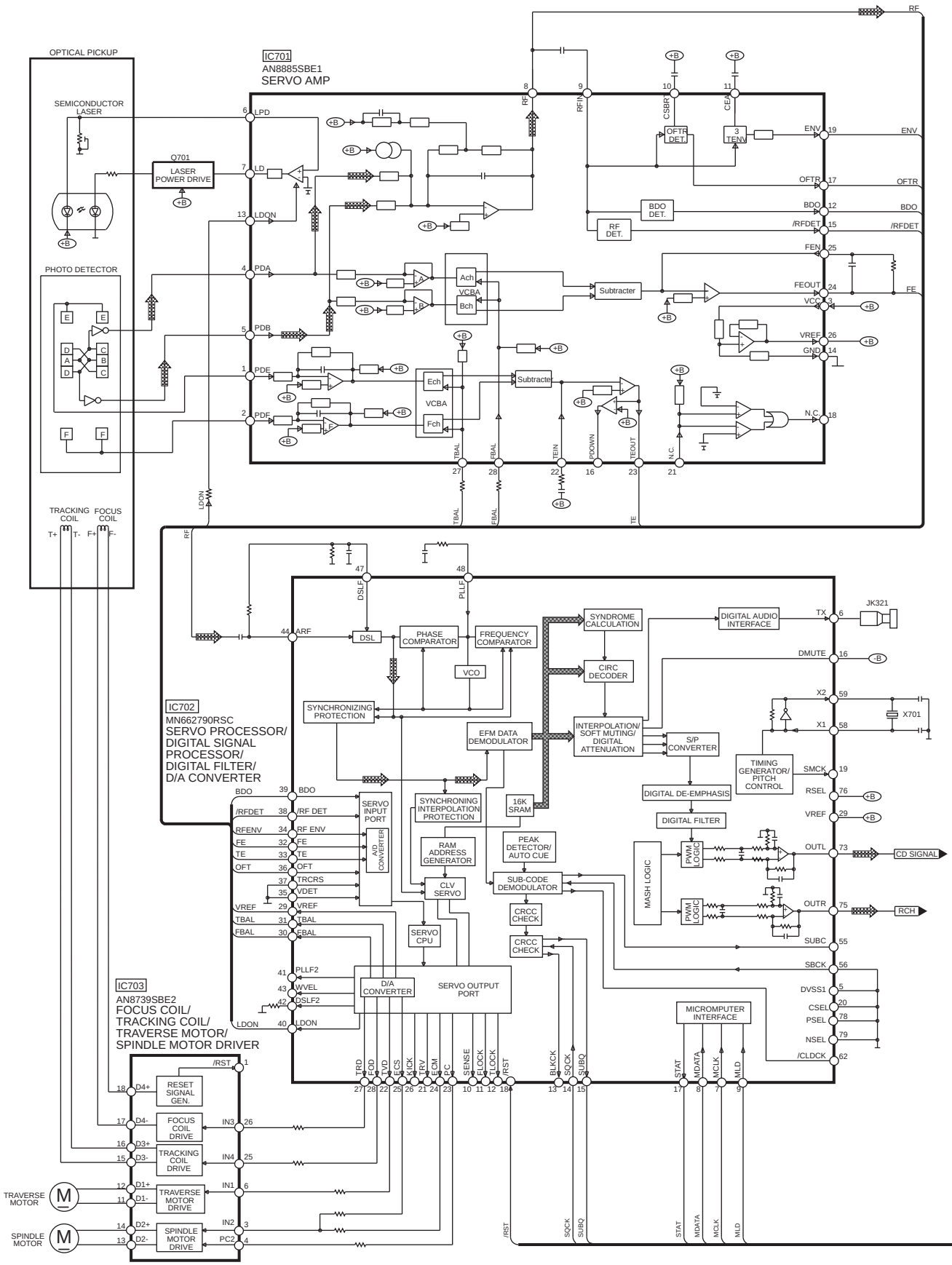
Pin No.	Mark	I/O	Function
1~7	G7~G1	O	Grid signal of FL display
8	VDD	-	Power supply terminal
9	MCLK	O	Command clock signal
10	MDATA	O	Command data signal
11	MLD	O	Command load signal (“L” LOAD.)
12	SENSE	I	Sense signal
13	DMUTE	O	Muting control signal
14	SQCK	O	Sub-code Q register clock
15	NC	-	Not connected
16	SUBQ	I	Sub-code Q data
17	/RESET	I	Reset signal input
18	ZSENSE	-	Not used, connected to GND
19	REC.EN	I	Synchro. rec. control terminal
20	AVSS	-	GND terminal
21	/RSTSV	O	Reset signal output
22	OPEN	I	Open detect terminal
23	DIR	O	Motor control signal
24	TURN	O	Motor control signal
25	LOAD	O	Motor control signal
26	AD3	I	Key input 3
27	AD2	I	Key input 2
28	AD1	I	Key input 1
29	AVDD	I	Power supply terminal
30	AVREF	-	Power supply terminal
31	NC	-	Not used, connected to GND
32	XT2	-	Not used, open
33	VSS	-	GND Terminal
34	X1	I	Crystal Osc. Input terminal (4.2336MHz)
35	X2	O	Crystal Osc. Output terminal (4.2336MHz)
36	RESETSW	O	Rest position detect
37	UP/DOWN	I	Traverse deck up/down fetection input
38	Unused	I	Not used, connected to GND
39	Unused	I	Not used, connected to GND
40	Unused	I	Not used, connected to GND
41	Unused	I	Not used, connected to GND
42	Unused	I	Not used, connected to GND
43	PWM	O	Mechanism control signal (PWM output)
44	POFF	I	Power OFF detection input
45	POSITION	I	Rotary tray position detecting sensor input
46	SPEED	I	Loading motor speed sensor input
47	REMOCON	I	Remote control sensor input
48	IC	-	Not used, connected to GND
49	/TLOCK	I	Optical servo condition (tracking) input
50	/FLOCK	I	Optical servo condition (focus) input
51	STAT	I	Status signal (CRC,CUE,CLVS,TTSTOP, FCLV,SQCK)
52	VDD	-	Power supply terminal (+5V)
53	POWER	O	Power ON/OFF output terminal
54	SYNCHRO	-	Not used, open

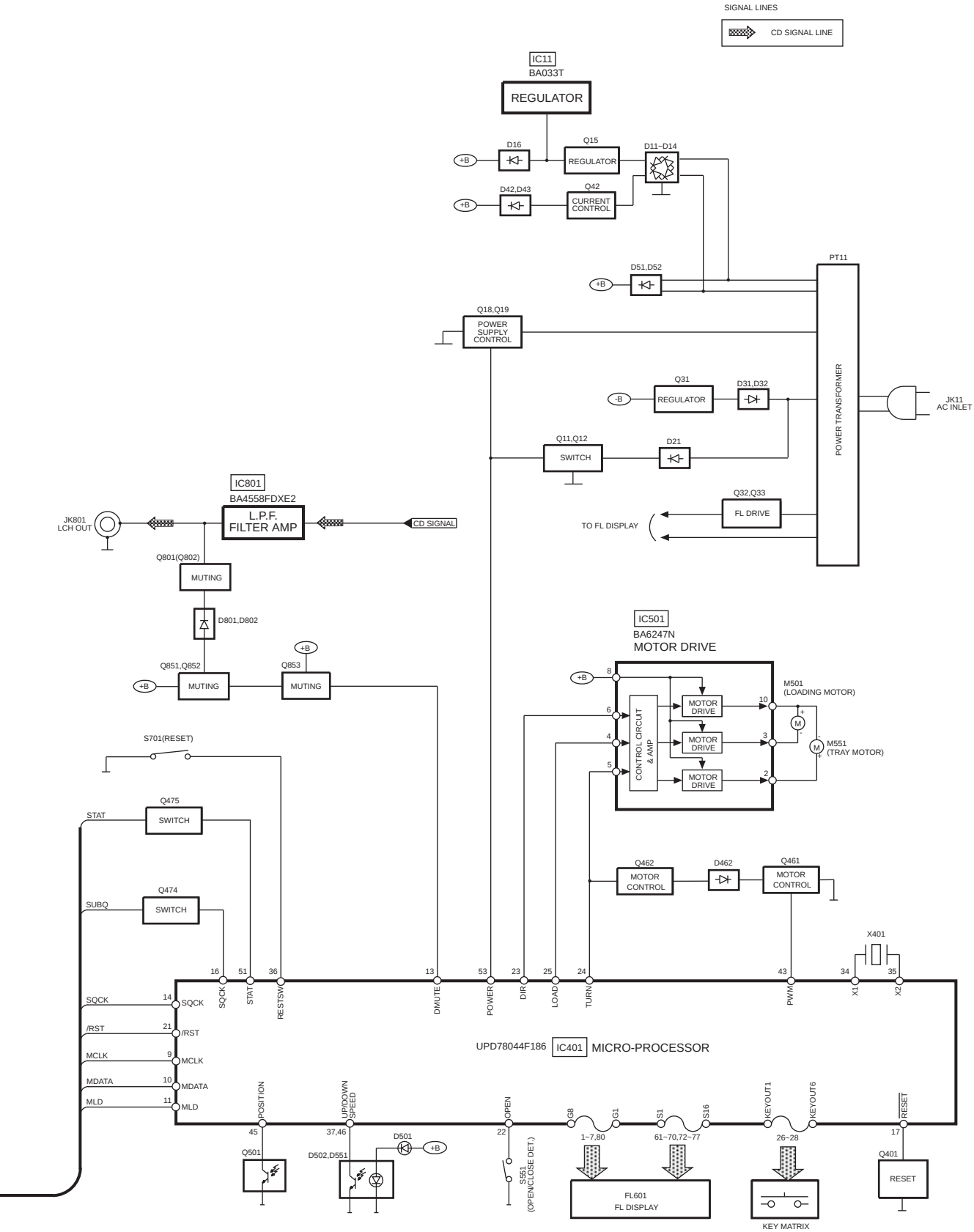
55	DISC1	O	DISC 1 LED control output
56	DISC2	O	DISC 2 LED control output
57	DISC3	O	DISC 3 LED control output
58	DISC4	O	DISC 4 LED control output
59	DISC5	O	DISC 5 LED control output
60	NC	I	Not used, connected to GND
61	S16	O	Segment signal of FL display
62	S15	O	Segment signal of FL display
63	S14	O	Segment signal of FL display
64	S13	O	Segment signal of FL display
65	S12	O	Segment signal of FL display
66	S11	O	Segment signal of FL display
67	S10	O	Segment signal of FL display
68	S9	O	Segment signal of FL display
69	S8	O	Segment signal of FL display
70	S7	O	Segment signal of FL display
71	VPP	I	Power supply terminal
72	S6	O	Segment signal of FL display
73	S5	O	Segment signal of FL display
74	S4	O	Segment signal of FL display
75	S3	O	Segment signal of FL display
76	S2	O	Segment signal of FL display
77	S1	O	Segment signal of FL display
78	NC	I	Not used, connected to GND
79	NC	I	Not used, connected to GND
80	G8	O	Grid signal of FL display

TOP PREVIOUS NEXT

12 Block Diagram

TOP PREVIOUS NEXT


OPTICAL PICKUP
SEMICONDUCTOR LASER
PHOTO DETECTOR
TRACKING COIL
FOCUS COIL
T+
T-
F+
F-
IC701
AN8885SBE1
SERVO AMP
Q701
LASER POWER DRIVE
LPD
LD
LDON
PDA
PDB
PDE
PDF
RF
RFIN
CSBR
CEA
OFTR DET.
3 TENV
ENV
OFTR
BDO DET.
BDO
/RFDET
RF DET.
FEN
FEOUT
FE
VCC
VREF
GND
N.C
Ach
Bch
VCBA
Subtracter
Ech
Fch
TBAL
FBAL
TEIN
FDOWN
TEOUT
TE
LDON
IC702
MN662790RSC
SERVO PROCESSOR/
DIGITAL SIGNAL
PROCESSOR/
DIGITAL FILTER/
D/A CONVERTER
DSLF
PLLF
ARF
DSL
PHASE COMPARATOR
FREQUENCY COMPARATOR
VCO
SYNCHRONIZING PROTECTION
SYNDROME CALCULATION
CIRC DECODER
EFM DATA DEMODULATOR
INTERPOLATION/ SOFT MUTING/ DIGITAL ATTENUATION
DIGITAL AUDIO INTERFACE
TX
JK321
DMUTE
S/P CONVERTER
TIMING GENERATOR/ PITCH CONTROL
X2
X1
X701
SMCK
RSEL
VREF
DIGITAL DE-EMPHASIS
DIGITAL FILTER
SYNCHRONING INTERPOLATION PROTECTION
16K SRAM
PEAK DETECTOR/ AUTO CUE
RAM ADDRESS GENERATOR
CLV SERVO
SUB-CODE DEMODULATOR
CRCC CHECK
SERVO CPU
SERVO INPUT PORT
A/D CONVERTER
MASH LOGIC
PWM LOGIC
OUTL
OUTR
CD SIGNAL
RCH
SUBC
SBCK
DVSS1
CSEL
PSEL
NSEL
/CLDCK
MICROMPUTER INTERFACE
BDO
/RFDET
RFENV
FE
TE
OFT
TRCRS
VDET
TBAL
FBAL
PLLF2
WVEL
DSLF2
LDON
D/A CONVERTER
SERVO OUTPUT PORT
/RST
TRD
FOD
TVD
FCS
TCK
TRV
TCM
N.C
SENSE
FLOCK
TLOCK
BLKCK
SQCK
SUBQ
STAT
MDATA
MCLK
MLD
IC703
AN8739SBE2
FOCUS COIL/
TRACKING COIL/
TRAVERSE MOTOR/
SPINDLE MOTOR DRIVER
RESET SIGNAL GEN.
FOCUS COIL DRIVE
TRACKING COIL DRIVE
TRAVERSE MOTOR DRIVE
SPINDLE MOTOR DRIVE
TRAVERSE MOTOR
SPINDLE MOTOR
D4+
D4-
D3+
D3-
D1+
D1-
D2+
D2-
IN3
IN4
IN1
IN2
PC2


SIGNAL LINES
CD SIGNAL LINE
IC11
BA033T
REGULATOR
D16
Q15
REGULATOR
D11–D14
+B
D42,D43
Q42
CURRENT CONTROL
D51,D52
PT11
Q18,Q19
POWER SUPPLY CONTROL
Q31
REGULATOR
D31,D32
-B
POWER TRANSFORMER
JK11
AC INLET
Q11,Q12
SWITCH
D21
IC801
BA4558FDXE2
L.P.F. FILTER AMP
JK801
LCH OUT
CD SIGNAL
Q32,Q33
FL DRIVE
TO FL DISPLAY
Q801(Q802)
MUTING
D801,D802
Q851,Q852
MUTING
Q853
MUTING
IC501
BA6247N
MOTOR DRIVE
CONTROL CIRCUIT & AMP
MOTOR DRIVE
M501
(LOADING MOTOR)
M551
(TRAY MOTOR)
S701(RESET)
Q475
SWITCH
STAT
Q474
SWITCH
SUBQ
Q462
MOTOR CONTROL
D462
Q461
MOTOR CONTROL
X401
SQCK
/RST
MCLK
MDATA
MLD
SQCK
STAT
RESTSW
DMUTE
POWER
DIR
LOAD
TURN
PWM
X1
X2
UPD78044F186
IC401
MICRO-PROCESSOR
POSITION
UP/DOWN SPEED
OPEN
G8
G1
S1
S16
KEYOUT1
KEYOUT6
RESET
Q501
D502,D551
D501
S551
(OPEN/CLOSE DET.)
1–7,80
61–70,72–77
26–28
FL601
FL DISPLAY
KEY MATRIX
Q401
RESET

13 Schematic Diagram

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

Notes:

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveformsdepending upon the internal impedance of the tester or the measuring unit.

  < > ...FM
  ( ) ...AM

- Importance safety notice:

  Components identifed 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. Whenreplacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution!

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

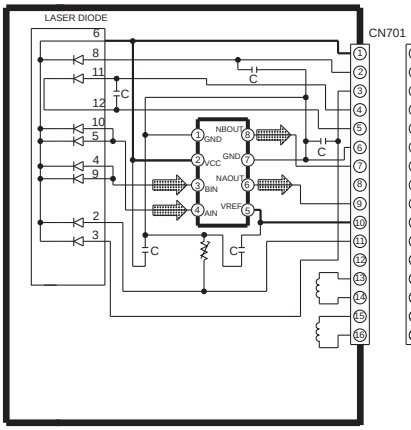


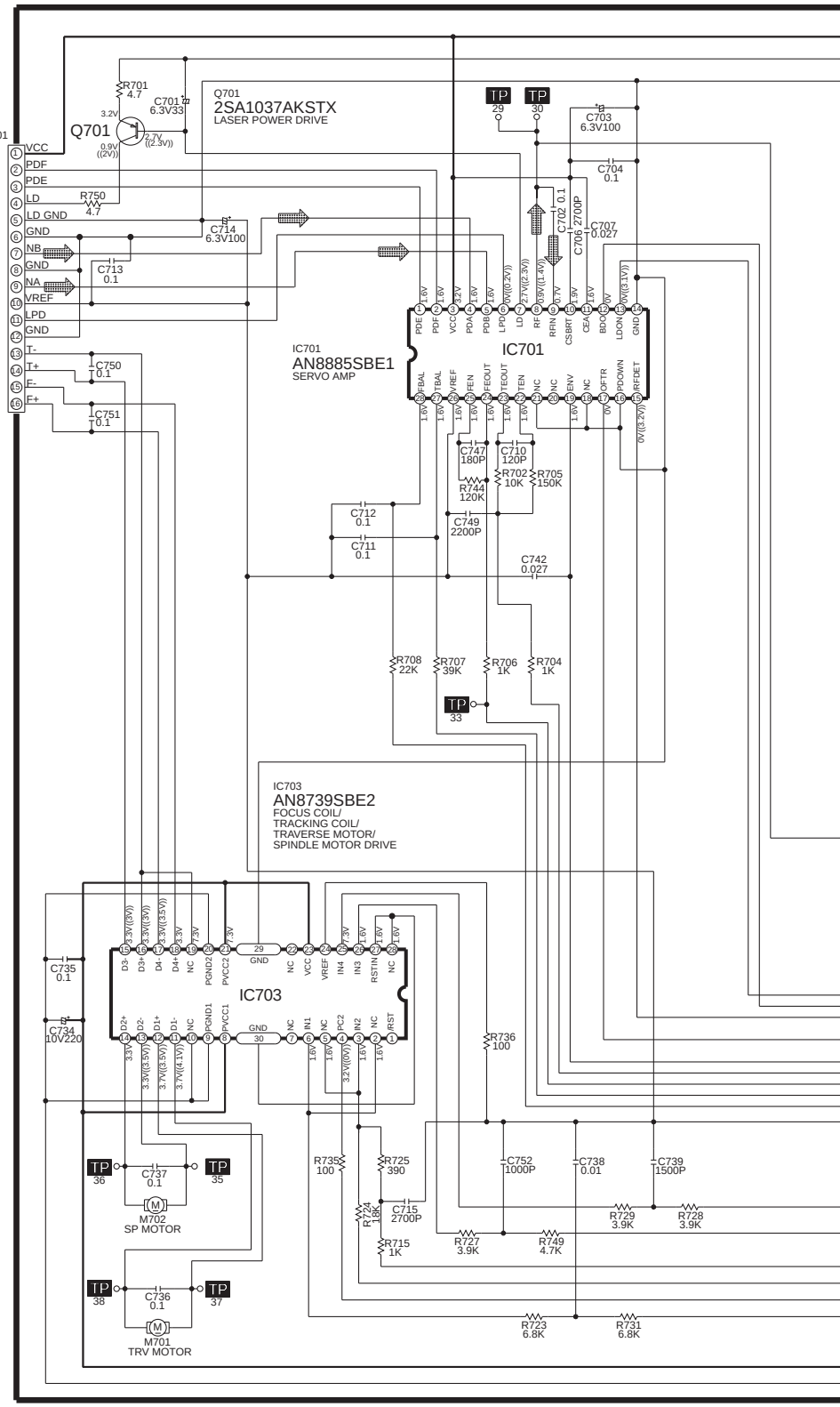

SCHEMATIC DIAGRAM -1

: +B SIGNAL LINE : CD SIGNAL LINE

A CD SERVO CIRCUIT

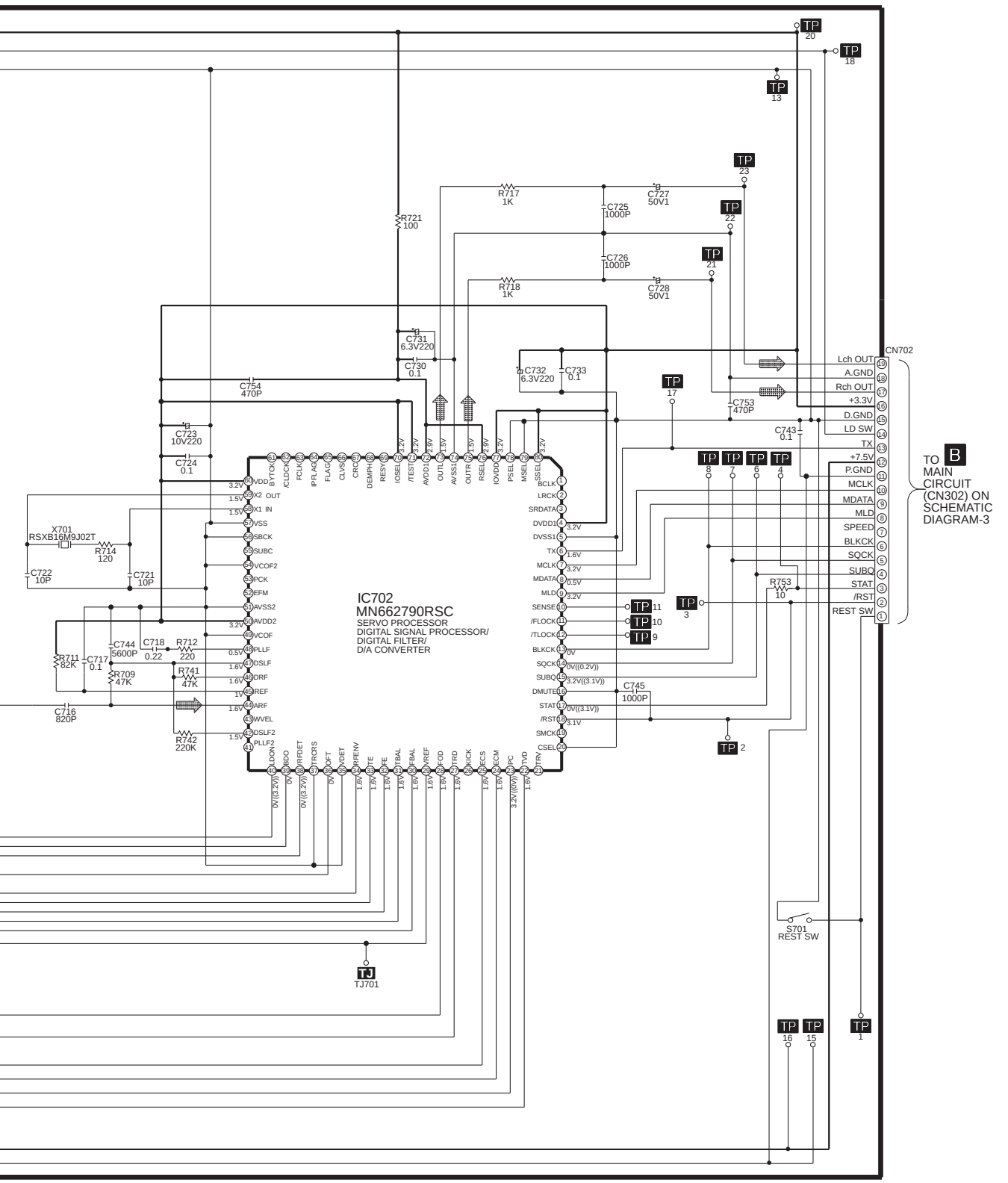
OPTICAL PICKUP CIRCUIT





SCHEMATIC DIAGRAM - 2

—— : +B SIGNAL LINE ⇒ : CD SIGNAL LINE



SCHEMATIC DIAGRAM-3

B MAIN CIRCUIT

——— : +B Signal Line – – – : -B Signal Line ⇨ : CD Signal line

TO H LOADING MOTOR CIRCUIT (CN551) ON SCHEMATIC DIAGRAM-6

CN404: LH+, LH-, LED, UP/DOWN, DGND, OPEN

TO E SENSOR CIRCUIT (CN501) ON SCHEMATIC DIAGRAM-6

CN403: P.GND, LH+, LH-, LOAD, TURN, DIREC, +8.5V, VREF, P.GND, +8.5V, LED, SPEED, POSITION, D.GND

TO A CD SERVO CIRCUIT (CN702) ON SCHEMATIC DIAGRAM-2

CN302: OUTL, AGND, OUTR, 3.3V, DGND, LD SW, TX, PVCC (8.0v), PGND, MCLK, MDATA, MLD, SPEED, BLKCK, SQCK, SUBQ, STAT, RST

REST_SW

C462 0.01

R463 120, R461 120, R462 220

Q461, 462 KRC111MTA MOTOR CONTROL

Q461 ((6.83V)) ((0V)) ((0V))

D461

C461 10V 47

D462 ((3.64V))

Q462 ((0V)) ((0V))

R412 22K, R411 4.7K

R409 1.8K, R410 10K

C301 0.01, C314 0.01

R420 10K

R429 10K, R427 10K, R425 10K, R423 10K

R422 4.7K MCLK, R424 4.7K MDATA, R426 4.7K MLD, R428 4.7K SQCK

R430 4.7K

TP 7, TP 10

Q474 ((0.6V)) ((0V)) ((0V))

Q474, 475 KRC101MTA SWITCHING

R431 10K, R432 4.7K

Q475 ((0.7V)) ((2.5V)) ((0V))

R433 4.7K STAT, R434 4.7K, R435 10K, R436 1K REST_SW

SUBQ

Q401 2SC2785FETA RESET

REST SW

R413 10k, R414 470, C404 25V 4.7, C403 50V 1, R415 56K

Q401 ((5.05V)) ((0V)) ((0V))

C401 0.01, C402 6.3V 470

IC401

IC401 UPD78044F186 MICRO-P

C424 1000P

J133

X401 4.23MHz

R418 100K, C408 100P, R416 47K

PWM

R406 4.7K, R407 4.7K

R402 4.7K, R401 4.7K

C406 50V 1

R447 4.7K, R442 4.7K, R443 4.7K, R440 4.7K, R444 4.7K, R445 4.7K

R446 4.7K

C422 1000P

C409 0.01, R417 22K, R419 22K

C405 0.01, C421 1000P, R421 10K, C423 1000P

C407 0.1, C410 0.1, E400 SNE1004-2

R437 10K, R438 10K, R439 10K

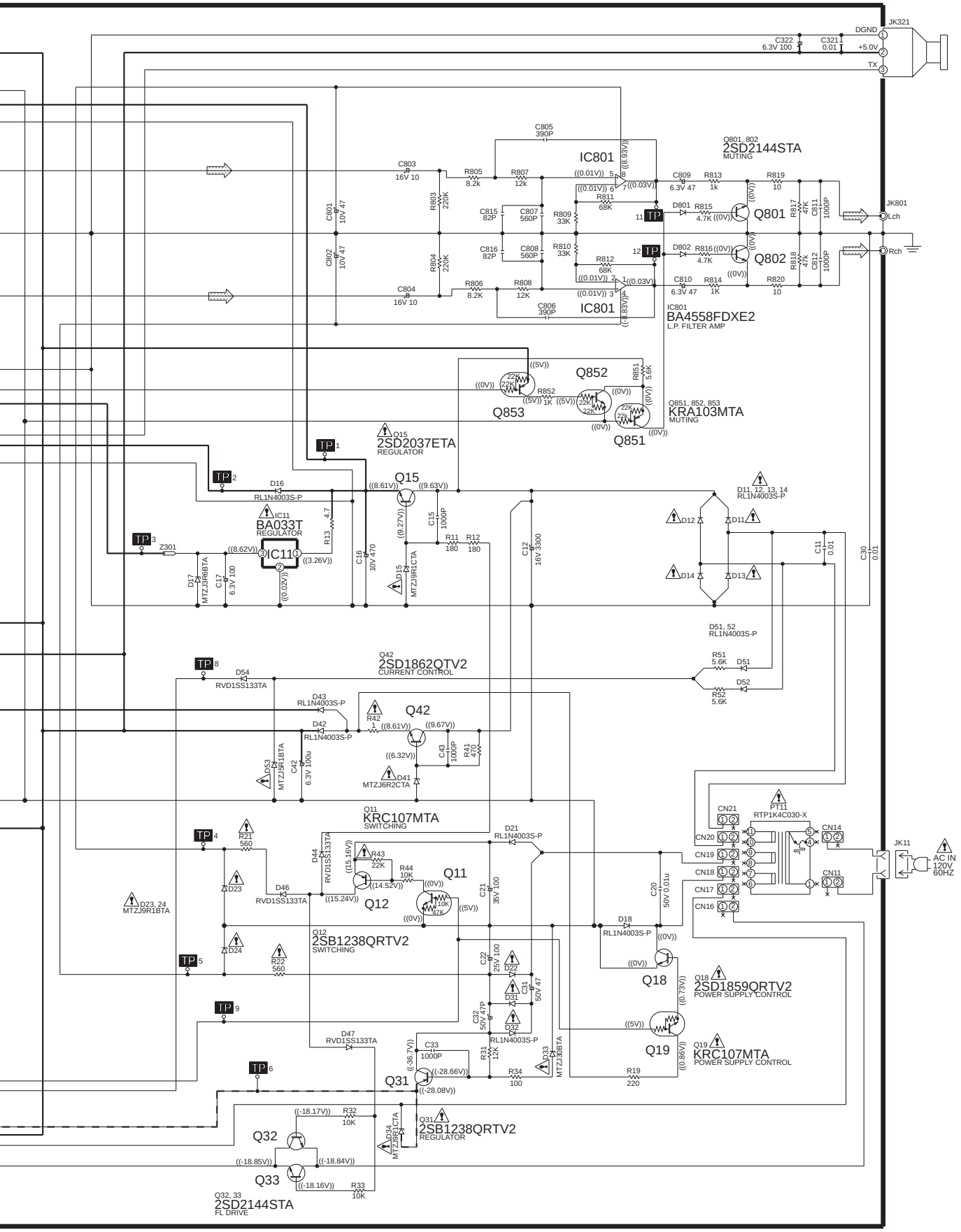
CN401, CN402

TO C PANEL CIRCUIT (CN601) ON SCHEMATIC DIAGRAM-5

TO C PANEL CIRCUIT (CN602) ON SCHEMATIC DIAGRAM-5

SCHEMATIC DIAGRAM-4

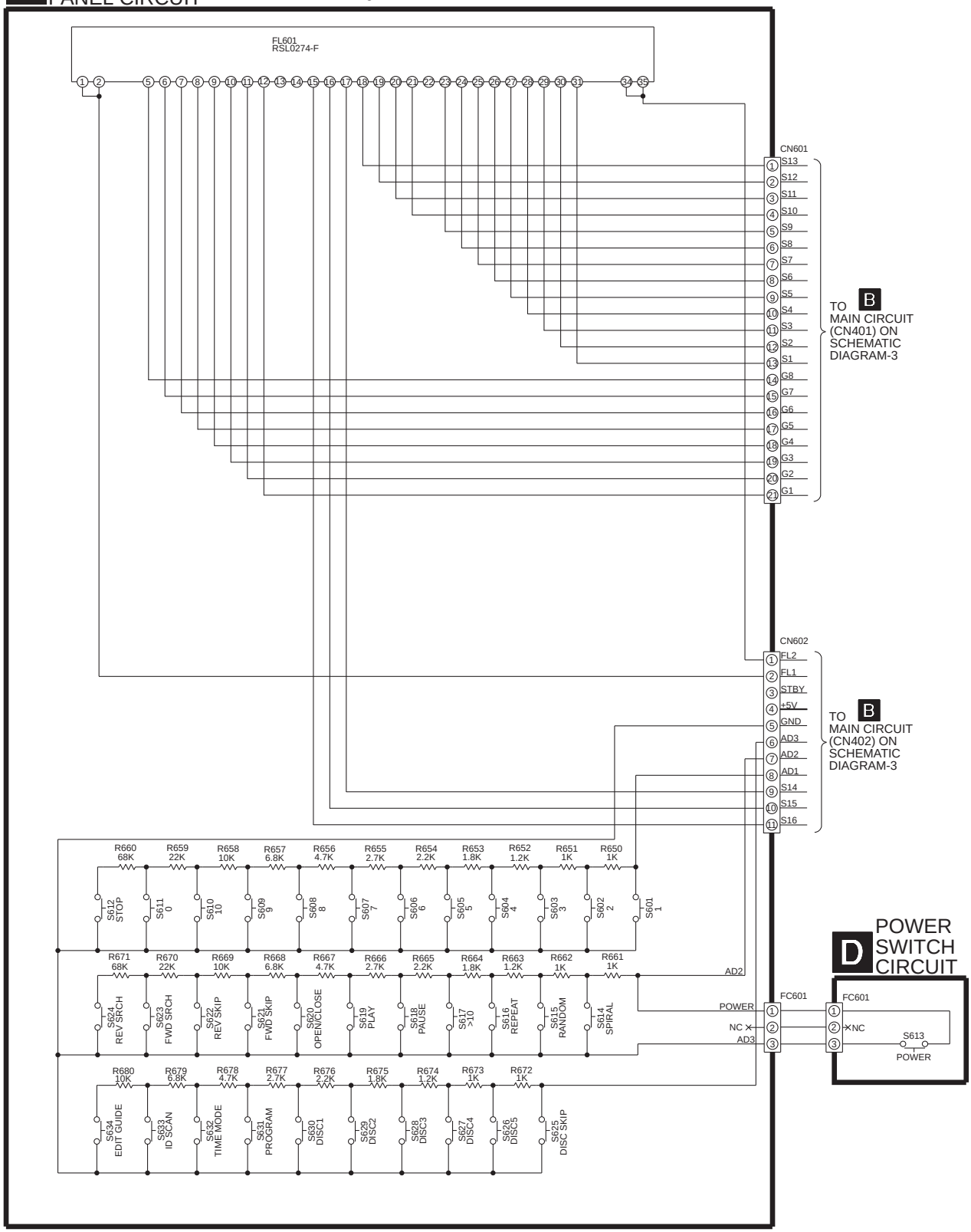
—— : +B Signal Line　– – – : -B Signal Line　⇨ : CD Signal line



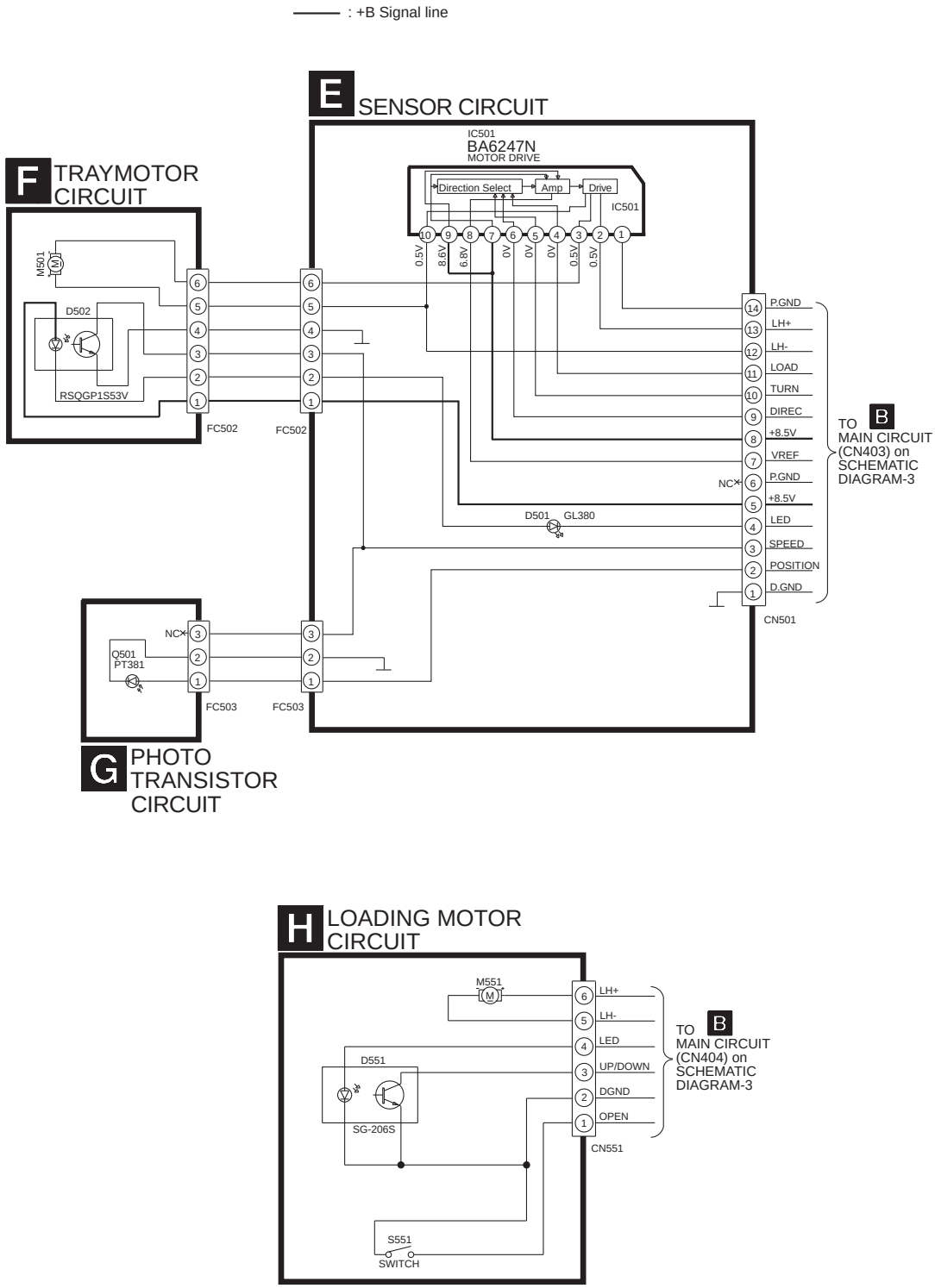
SCHEMATIC DIAGRAM-5

C PANEL CIRCUIT

——— :+B Signal Line

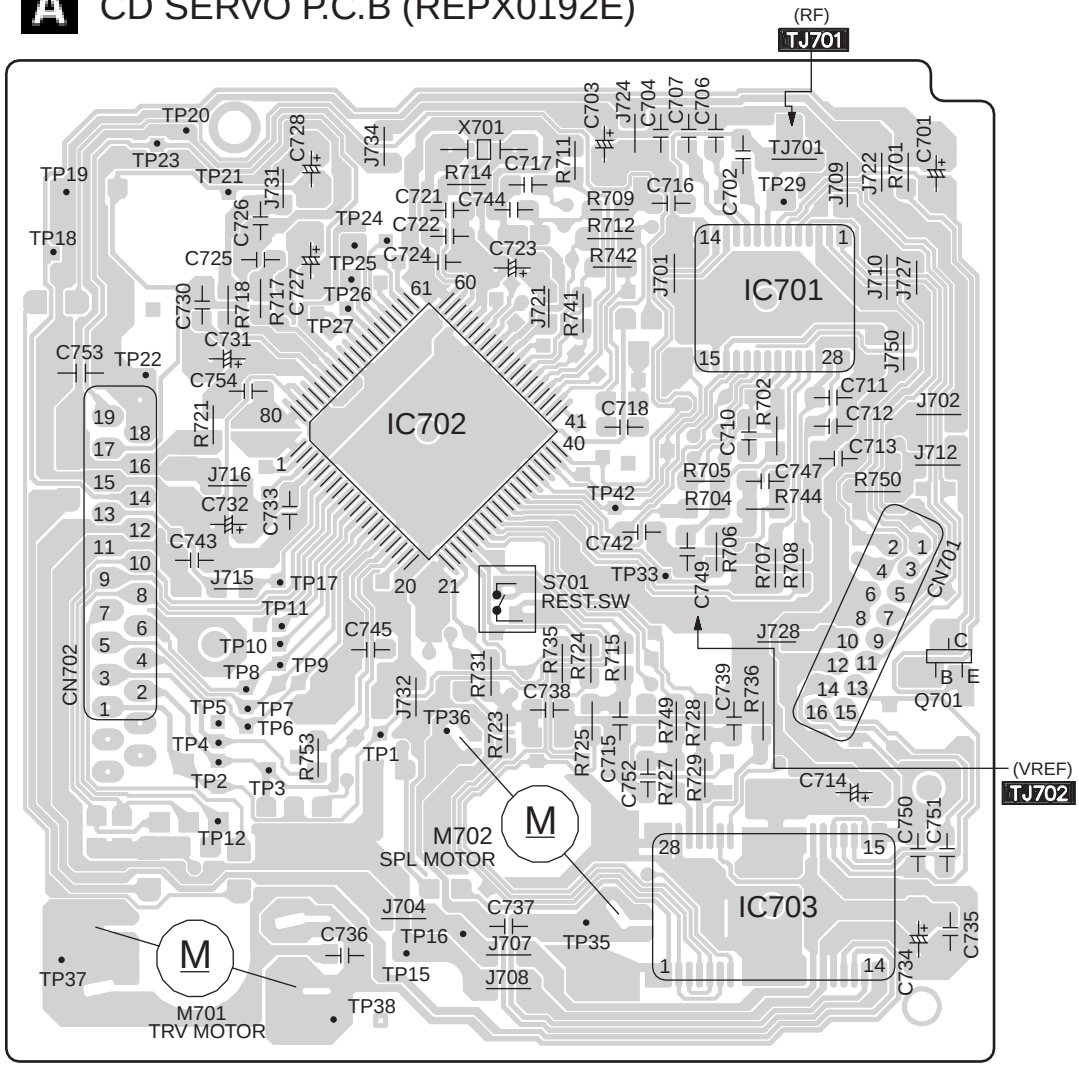


SCHEMATIC DIAGRAM-6

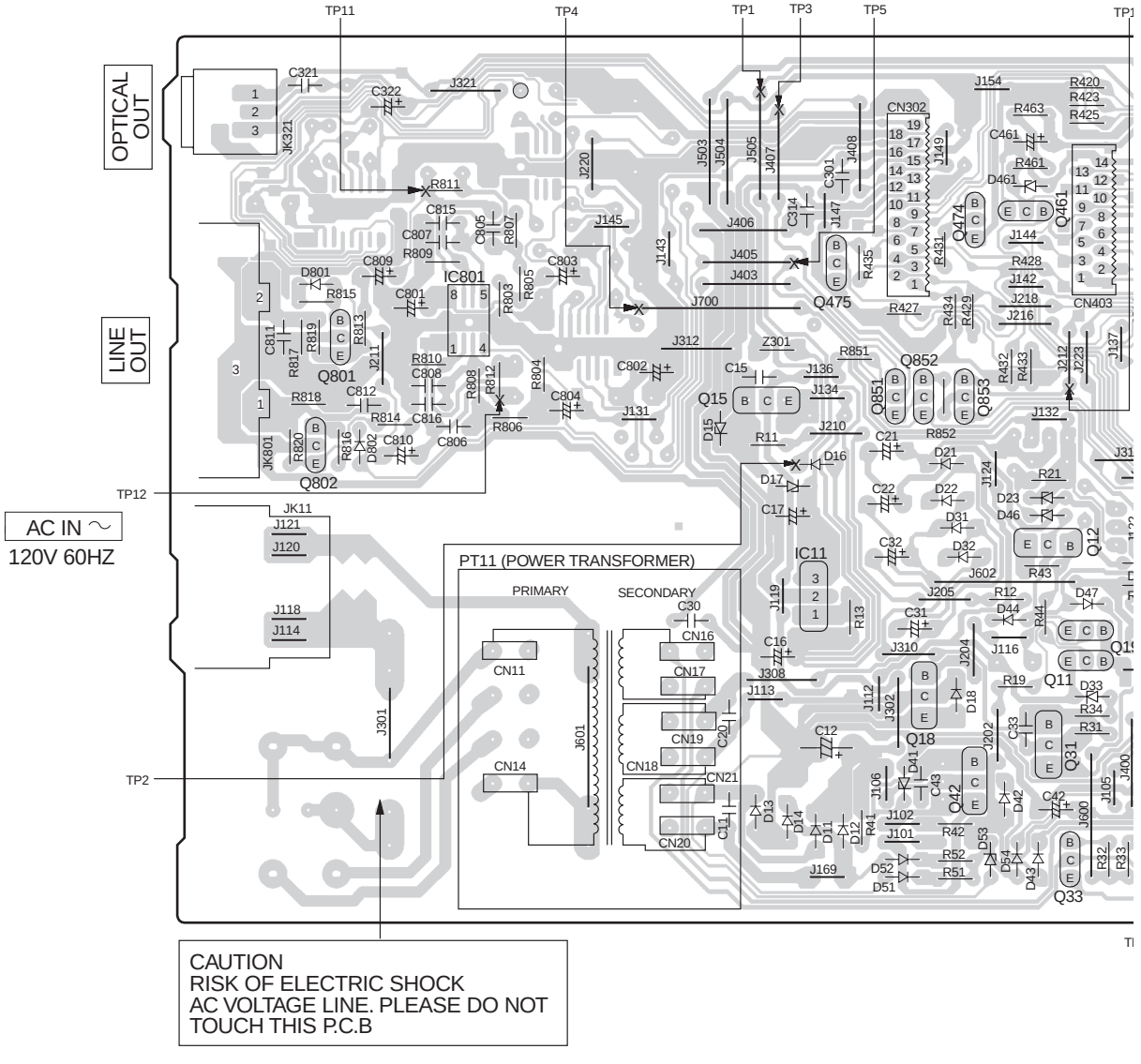


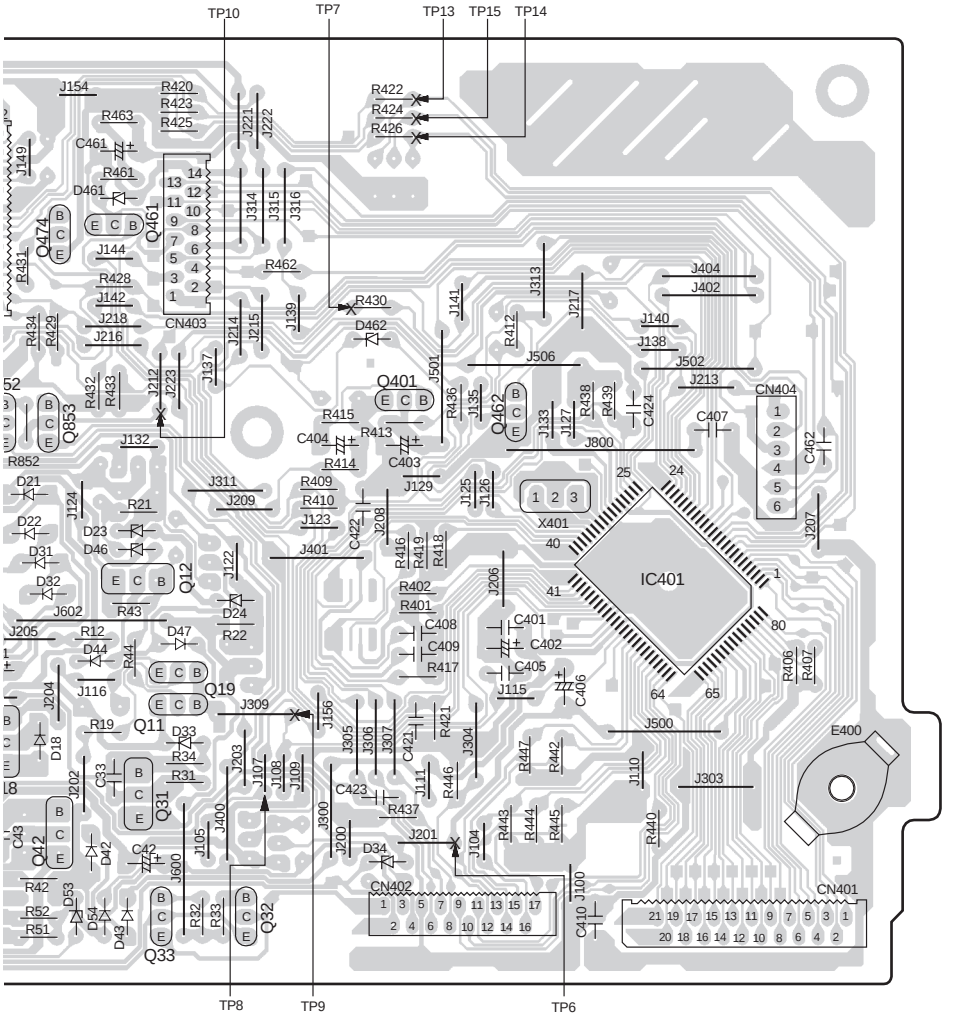
14 Printed Circuit Board

A CD SERVO P.C.B (REPX0192E)



B MAIN P.C.B. (REPX0249D)

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TP13
TP15
TP14
TP8
TP9
TP6
IC401
X401
Q401
Q461
Q474
Q853
Q462
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Q11
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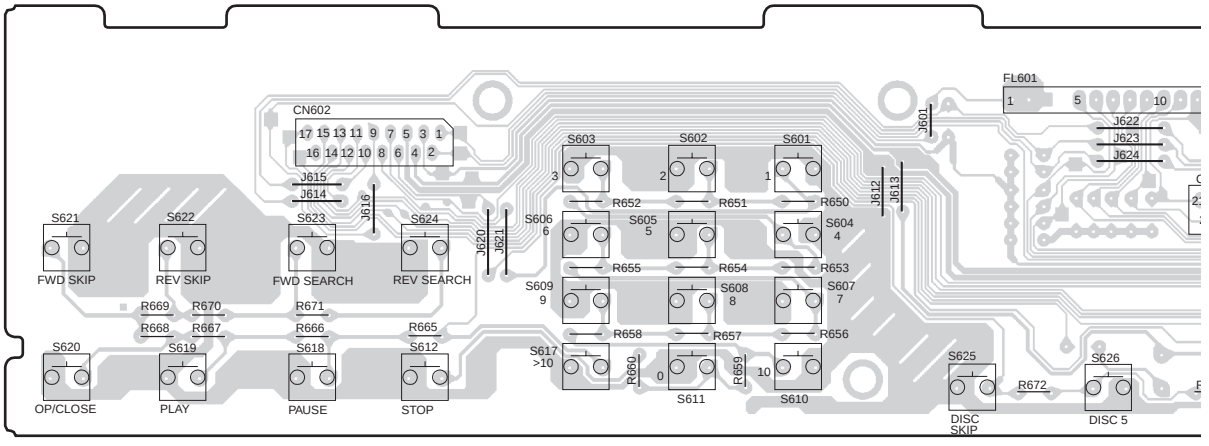
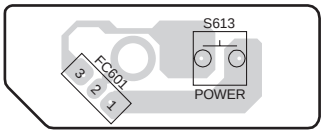
Q42
Q32
Q33
CN402
CN401
CN403
CN404
E400

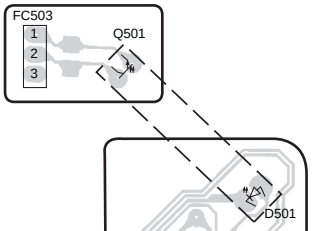
C PANEL P.C.B. (REPX0248D)



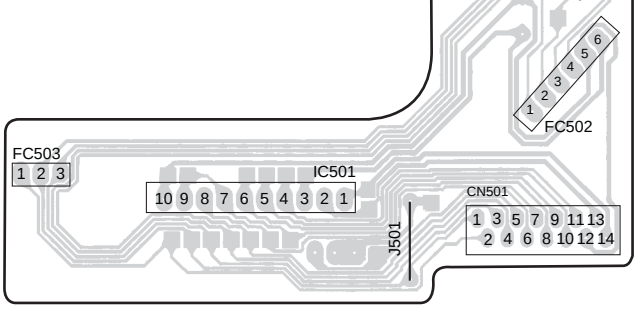
D POWER SWITCH P.C.B. (REPX0248D)

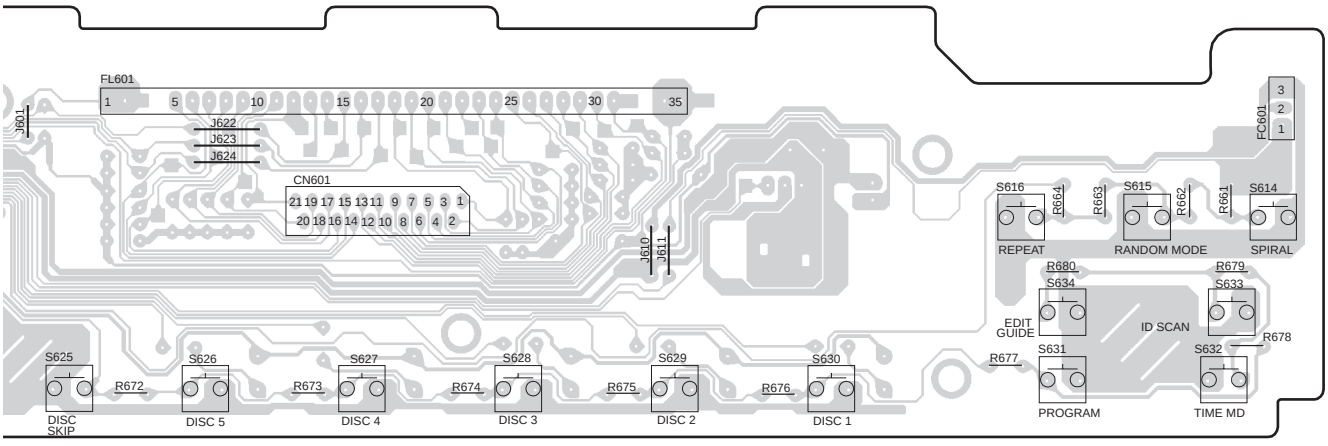


G PHOTO TRANSISTOR P.C.B. (REPX0096A-N)

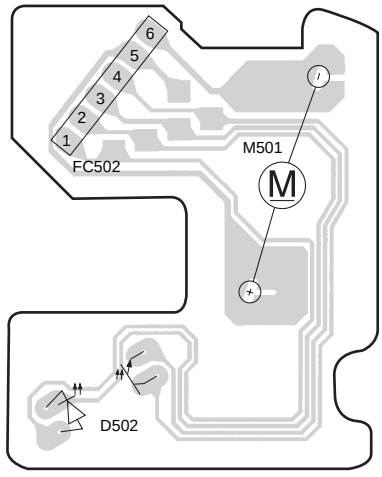


E SENSOR P.C.B. (REPX0096A-N)

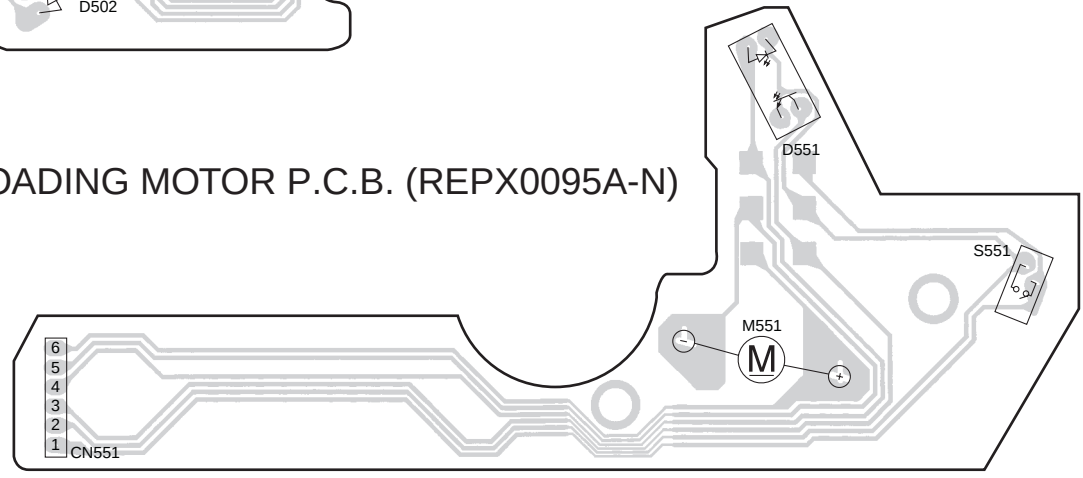




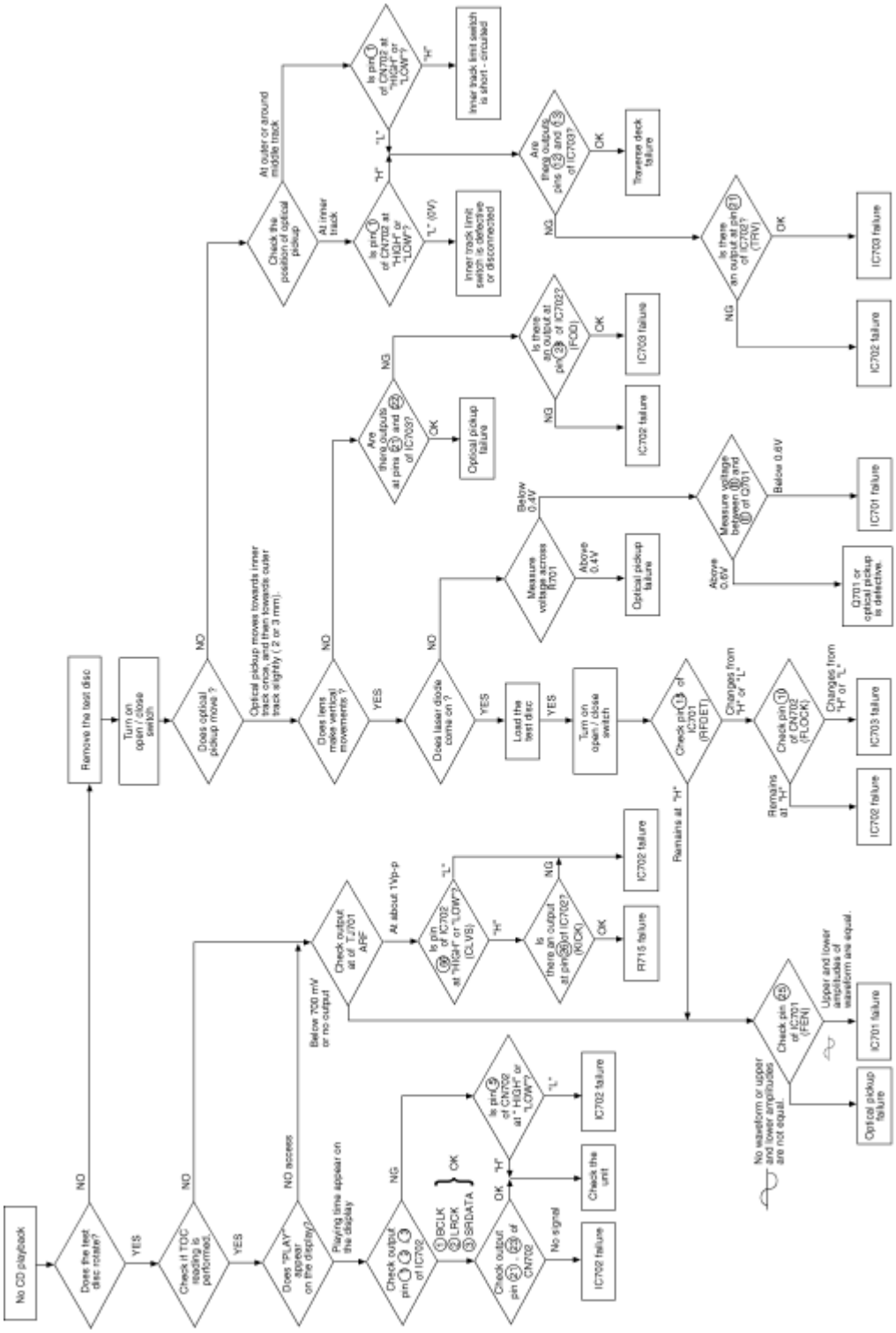
F TRAY MOTOR P.C.B. (REPX0096A-N)



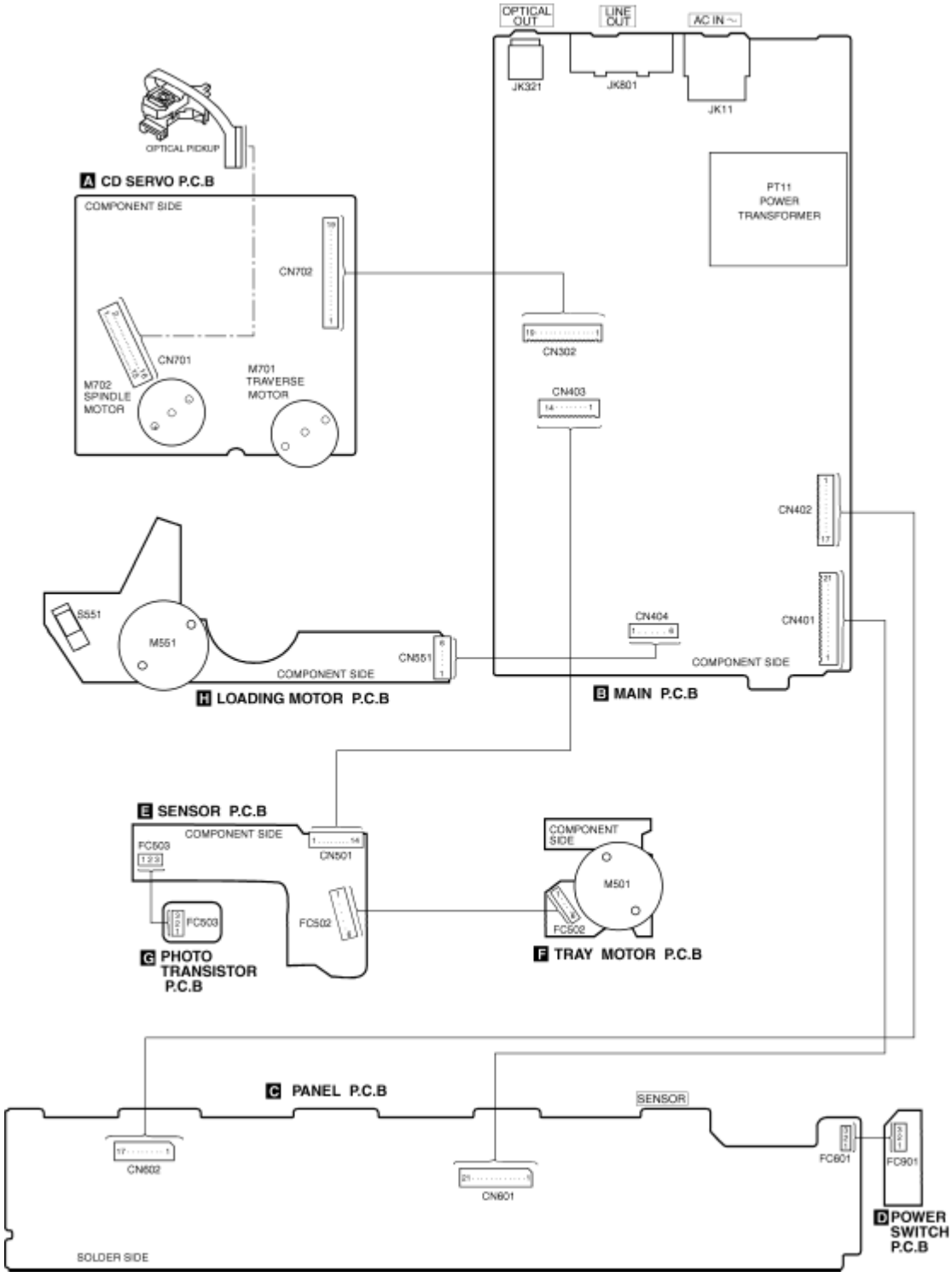
H LOADING MOTOR P.C.B. (REPX0095A-N)



15 Troubleshooting Guide



16 Wiring Connection Diagram



17 Parts Location and 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 these components, be sure to use only manufacturers's specified parts shown in the parts list.

- The parenthesized indications in the Remarks column specify the areas or color. (Refer to the cover page for area or color.)

  Parts without these indications can be used for all areas.

- Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads(pF); Farads.

- Resistance values are in ohms, unless specified otherwise, 1K=1,000(ohms).

- The marking (RTL) indicates that the 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 availabilityis dependant on the type of assembly, and in accordance with the laws govening part and product retention. After the end of this period, the assembly will no longer be available.

- [M] indicates in the Remarks columns indicates parts that are supplied by MESA .

- The "(SF)" mark denotes the standard part.

- Reference for O/I book languages are as follows :

Ar : Arabic	Cf : Canadian French	Cz : Czech	Da : Danish
Du : Dutch	En : English	Fr : French	Ge : German
It : Italian	Ko : Korean	Po : Polish	Ru : Russian
Sp : Spanish	Sw : Swedish	Co : Traditional Chinese	Cn : Simplified Chinese

17.1 CD Loading Mechanism

17.1.1 CD Loading Mechanism Part Location

17.1.2 CD Loading Mechanism Part List

17.2 Cabinet

17.2.1 Cabinet Parts Location

17.2.2 Cabinet Parts List

17.3 Electrical Parts List

17.4 Packing Materials& Accessories Parts List

17.5 Packaging

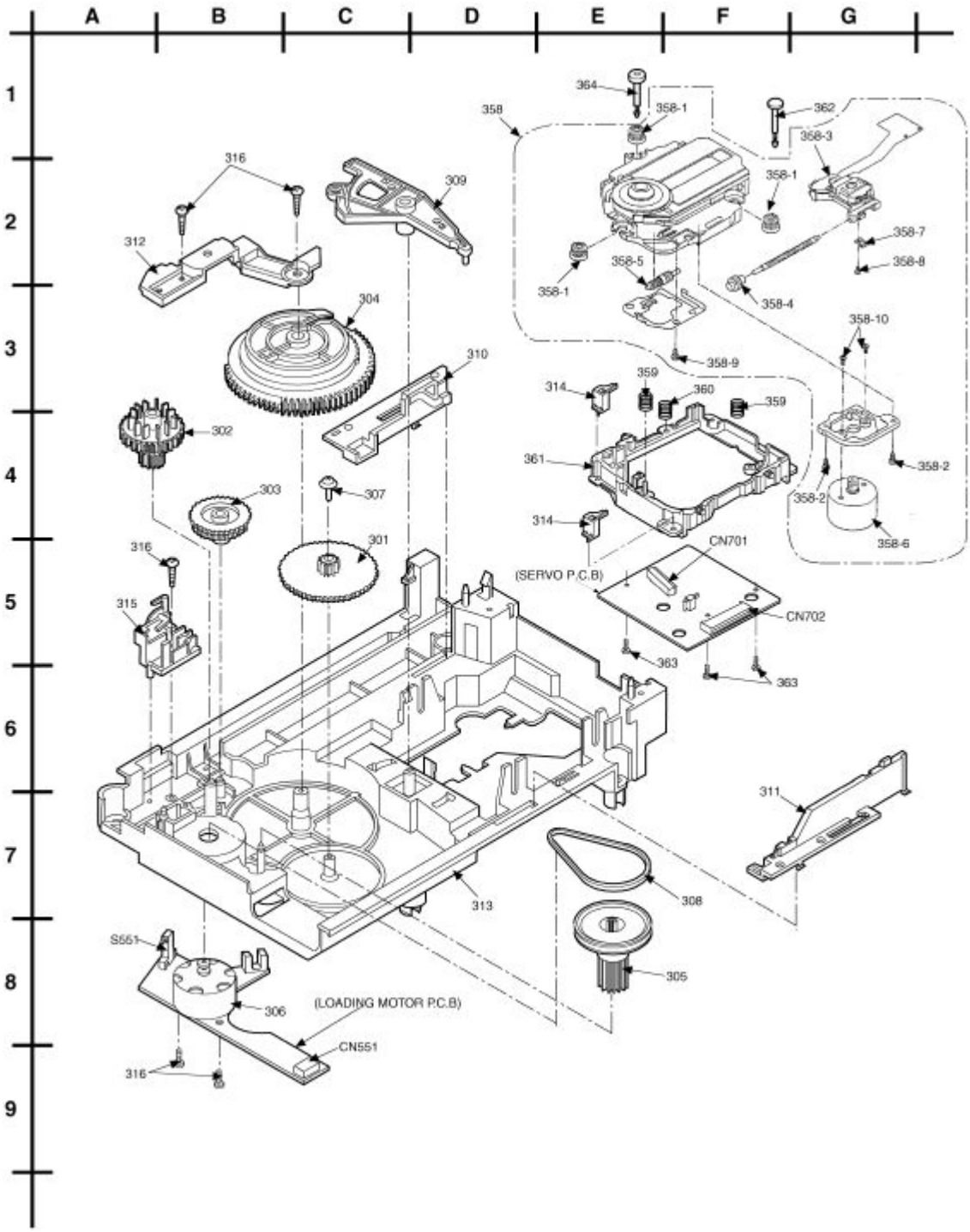
17.1 CD Loading Mechanism

17.1.1 CD Loading Mechanism Part Location

17.1.2 CD Loading Mechanism Part List

17.1.1 CD Loading Mechanism Part Location

TOP PREVIOUS NEXT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358-8
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302
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358-2
358-2
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358-6
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CN701
(SERVO P.C.B)
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CN702
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S551
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(LOADING MOTOR P.C.B)
CN551
316

17.1.2 CD Loading Mechanism Part List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RDG0270	SPEED REDUCTION GEAR	[M]
302	RDG0271	DRIVE GEAR A	[M]
303	RDG0272	DRIVE GEAR B	[M]
304	RDK0025	DRIVE CAM	[M]
305	RDP0050	PULLEY GEAR	[M]
306	RFKPLPD667PB	LOADING MOTOR ASS'Y	[M]
307	RHD26019	SCREW	[M]
308	RMG0268-K	BELT	[M]
309	RML0334	CHANGE LEVER	[M]
310	RMM0117	SLIDE PLATE 1	[M]
311	RMM0118-1	SLIDE PLATE 2	[M]
312	RMR0746-W	STRENGTHENING PLATE	[M]
313	RFKNDCV51CAK	MECHA BASE ASS'Y	[M]
314	RMX0094	TRAY GUIDE	[M]
315	RXQ0346-1	SLIDER ASS'Y	[M]
316	XTB3+10JFZ	SCREW	[M]
358	RAE0152Z-3	TRAVERSE	[M]
358-1	SHGD113-1	FLOATING CUSHION	[M]
358-10	XQS17+A35FZ	TRAVERSE MOTOR SCREW	[M]
358-2	SNSD38	TRAVERSE MOTOR ASS'Y	[M]
358-3	RAF0150A-4S	50A OPU	[M]
358-4	RDG0247	DRIVE GEAR	[M]
358-5	RDG0248	RELAY GEAR	[M]
358-6	RXQ0339	TRAVERSE MOTOR ASS'Y	[M]
358-7	RXQ0304-1	NUT PLATE ASS'Y	[M]
358-8	XQN17+CG5	NUT PLATE ASSY SCREW	[M]
358-9	XQS2+A3FZ	SPINDLE MOTOR SCREW	[M]
359	RME0142	FLOATING SPRING A	[M]
360	RME0109	FLOATING SPRING B	[M]
361	RMR0698-K1	TRAVERSE CHASSIS	[M]
362	RMS0123-1	FIXED PIN B	[M]
363	XTN2+6G	SCREW	[M]
364	RMS0350	FIXED PIN A	[M]

17.2 Cabinet

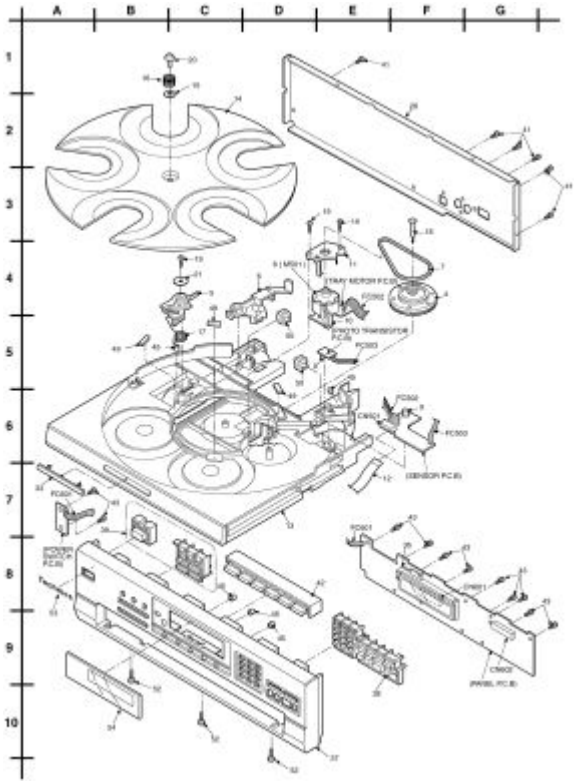
TOP PREVIOUS NEXT

17.2.1 Cabinet Parts Location

17.2.2 Cabinet Parts List

TOP PREVIOUS NEXT

17.2.1 Cabinet Parts Location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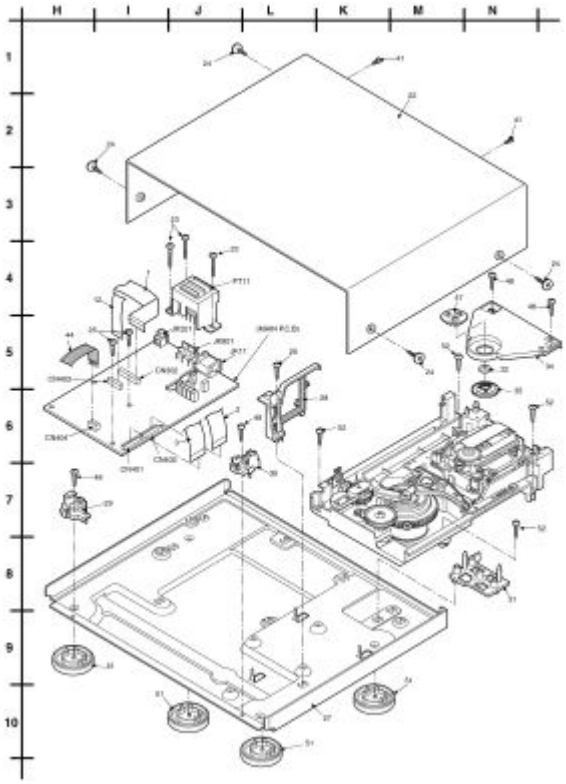
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17.2.2 Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEX0112	19P FFC WIRE	[M]
2	REEX0113	21P FFC WIRE	[M]
3	REEX0117	11P FFC WIRE	[M]
4	RDG0267	TRAY REDUCTION GEAR	[M]
5	RDG0268-1	CLOSE LOCK GEAR	[M]
6	RDG0269-3	OPEN LOCK GEAR	[M]
7	RDV0031	BELT	[M]
8	RFKPLPD667PA	TRAY MOTOR ASS'Y	[M]
9	RMN0254-1	LED HOLDER	[M]
10	RMN0255-2	SENSOR HOLDER	[M]
11	RMN0263	MOTOR HOLDER	[M]
12	REZ0648	14P FFC	[M]
13	RMR0745E-K1	TRAY BASE	[M]
14	RGT0019-2	ROTARY TRAY	[M]
15	RHW81001-1	WASHER	[M]
16	RMB0365	TRAY SPRING	[M]
17	RME0152-3	LOCK GEAR SPRING	[M]
18	RMS0123-1	FIXED PIN B	[M]
19	XTB3+10G	SCREW	[M]
20	XTWS3+10S	SCREW	[M]
21	XWE3D13	WASHER	[M]
22	RKM0339-K1	TOP CABINET	[M]
23	XTB3+20J	SCREW	[M]
24	SNE2129-3	SCREW	[M]
25	XTB3+8J	SCREW	[M]
26	RGR0308C-A	REAR PANEL	[M]P
26	RGR0308C-B	REAR PANEL	[M]PC
27	RMK0485	BOTTOM CHASSIS	[M]
28	RMR0749-W	CABLE HOLDER	[M]
29	RMR0742-K	TRAY BASE GUIDE L	[M]
30	RMR0743-K	TRAY BASE GUIDE R	[M]
31	RMR0765B-H1	TRANSFORMER BASE	[M]
32	RHM0001	MAGNET	[M]
33	RGBX0007-K	CHANGER BADGE	[M]
34	RMR0744-W	CLAMPER PLATE	[M]
35	RMR0624-W2	CLAMPER	[M]
36	RMN0185	FL HOLDER	[M]
37	RGPX0028H-K	FRONT PANEL	[M]
38	RGUX0322-K	CONTROL BUTTON	[M]
39	RYQX0021-K1	PROGRAM BUTTON UNIT	[M]
41	XTBS3+8JFZ1	SCREW	[M]
42	RGUX0315A-K	DISC BUTTON	[M]
43	XTBS26+12J	SCREW	[M]
44	RWJ1806115XX	6P WIRE	[M]
45	RMG0200	SHUTTER RUBBER	[M]
47	RMR0334	FIXED PLATE	[M]

48	XTB3+10JFZ	SCREW	[M]
49	RMF0182	TRAY FELT	[M]
50	RMR0546-W2	ROLLER	[M]
51	RKA0079-A	FOOT	[M]
52	XTB3+8JFZ	SCREW	[M]
53	RGB0031-A	TECHNICS BADGE	[M]
54	RGKX0041-Q	DISPLAY WINDOW	[M]

TOP PREVIOUS NEXT

17.3 Electrical Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		P.C.B.	
	REPX0192E	CD SERVO P.C.B.	[M]RTL
	REPX0249D	MAIN P.C.B.	[M]RTL
	REPX0248D	PANEL P.C.B./POWER SWITCH P.C.B.	[M]RTL
	REPX0096A-N	PHOTO TRANSISTOR P.C.B./SENSOR P.C.B./TRAY MOTOR P.C.B.	[M]RTL
	REPX0095A-N	LOADING MOTOR P.C.B.	[M]RTL
		INTEGRATED CIRCUITS	
IC11	BA033T	IC 3.3V REC	[M] ⚠
IC401	C2BBGD000075	IC MICRO PROCESSOR	[M]
IC501	BA6247N	IC	[M]
IC701	AN8885SBE1	IC RFAMP	[M]
IC702	MN662790RSC	IC LSI	[M]
IC703	AN8739SBE2	IC 4CH DRIVER	[M]
IC801	BA4558FDXE2	IC	[M]
		TRANSISTORS	
Q11	KRC107MTA	TRANSISTOR	[M]
Q12	2SB1238QRTV2	TRANSISTOR	[M]
Q15	2SD2037ETA	TRANSISTOR	[M] ⚠
Q18	2SD1859QRTV2	TRANSISTOR	[M] ⚠
Q19	KRC107MTA	TRANSISTOR	[M] ⚠
Q31	2SB1238QRTV2	TRANSISTOR	[M] ⚠
Q32	2SD2144STA	TRANSISTOR	[M]
Q33	2SD2144STA	TRANSISTOR	[M]
Q42	2SD1862QTV2	TRANSISTOR	[M]
Q401	2SC2785FETA	TRANSISTOR	[M]
Q461	KRC111MTA	TRANSISTOR	[M]
Q462	KRC111MTA	TRANSISTOR	[M]
Q474	KRC101MTA	TRANSISTOR	[M]
Q475	KRC101MTA	TRANSISTOR	[M]
Q501	PT381	TRANSISTOR	[M]
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q801	2SD2144STA	TRANSISTOR	[M]
Q802	2SD2144STA	TRANSISTOR	[M]
Q851	KRA103MTA	TRANSISTOR	[M]
Q852	KRC103MTA	TRANSISTOR	[M]
Q853	KRA103MTA	TRANSISTOR	[M]
		DIODES	
D11	RL1N4003S-P	DIODE	[M] ⚠
D12	RL1N4003S-P	DIODE	

			[M] ⚠
D13	RL1N4003S-P	DIODE	[M] ⚠
D14	RL1N4003S-P	DIODE	[M] ⚠
D15	MTZJ9R1CTA	DIODE	[M] ⚠
D16	RL1N4003S-P	DIODE	[M]
D17	MTZJ3R6BTA	DIODE	[M]
D18	RL1N4003S-P	DIODE	[M]
D21	RL1N4003S-P	DIODE	[M]
D22	RL1N4003S-P	DIODE	[M] ⚠
D23	MTZJ9R1BTA	DIODE	[M]
D24	MTZJ9R1BTA	DIODE	[M]
D31	RL1N4003S-P	DIODE	[M] ⚠
D32	RL1N4003S-P	DIODE	[M] ⚠
D33	MTZJ30BTA	DIODE	[M] ⚠
D34	MTZJ9R1CTA	DIODE	[M] ⚠
D41	MTZJ6R2CTA	DIODE	[M] ⚠
D42	RL1N4003S-P	DIODE	[M]
D43	RL1N4003S-P	DIODE	[M]
D44	RVD1SS133TA	DIODE	[M]
D46	RVD1SS133TA	DIODE	[M]
D47	RVD1SS133TA	DIODE	[M]
D51	RVD1SS133TA	DIODE	[M]
D52	RVD1SS133TA	DIODE	[M]
D53	MTZJ5R1BTA	DIODE	[M] ⚠
D54	RVD1SS133TA	DIODE	[M]
D461	MTZJ6R8CTA	DIODE	[M]
D462	MTZJ5R6BTA	DIODE	[M]
D501	GL380	DIODE	[M]
D502	RSQGP1S53V	DIODE	[M]
D551	SG-206S	DIODE	[M]
D801	RVD1SS133TA	DIODE	[M]
D802	RVD1SS133TA	DIODE	[M]
		SWITCHES	
S551	RSH1A005-1U	SWITCH	[M]
S601	EVQ21405R	SW TRACK 1	[M]
S602	EVQ21405R	SW TRACK 2	[M]
S603	EVQ21405R	SW TRACK 3	[M]
S604	EVQ21405R	SW TRACK 4	[M]
S605	EVQ21405R	SW TRACK 5	[M]
S606	EVQ21405R	SW TRACK 6	[M]
S607	EVQ21405R	SW TRACK 7	[M]
S608	EVQ21405R	SW TRACK 8	[M]
S609	EVQ21405R	SW TRACK 9	[M]
S610	EVQ21405R	SW TRACK 10	[M]
S611	EVQ21405R	SW TRACK 0	[M]
S612	EVQ21405R	SW STOP	[M]
S613	EVQ21405R	SW POWER	[M]
S614	EVQ21405R	SW SPIRAL	[M]
S615	EVQ21405R	SW RANDOM MODE	[M]

S616	EVQ21405R	SW REPEAT	[M]
S617	EVQ21405R	SW >10	[M]
S618	EVQ21405R	SW PAUSE	[M]
S619	EVQ21405R	SW PLAY	[M]
S620	EVQ21405R	SW OPEN/CLOSE	[M]
S621	EVQ21405R	SW FWD SKIP	[M]
S622	EVQ21405R	SW REV SKIP	[M]
S623	EVQ21405R	SW FWD SEARCH	[M]
S624	EVQ21405R	SW REV SEARCH	[M]
S625	EVQ21405R	SW DISC SKIP	[M]
S626	EVQ21405R	SW DISC 5	[M]
S627	EVQ21405R	SW DISC 4	[M]
S628	EVQ21405R	SW DISC 3	[M]
S629	EVQ21405R	SW DISC 2	[M]
S630	EVQ21405R	SW DISC 1	[M]
S631	EVQ21405R	SW PROGRAM	[M]
S632	EVQ21405R	SW TIME MODE	[M]
S633	EVQ21405R	SW 1D SCAN	[M]
S634	EVQ21405R	SW EDIT GUIDE	[M]
S701	RSH1A043-U	SW REST	[M]
		CONNECTORS	
CN11	RJS1A1101T1	CONNECTOR	[M]
CN14	RJS1A1101T1	CONNECTOR	[M]
CN16	RJS1A1101T1	CONNECTOR	[M]
CN17	RJS1A1101T1	CONNECTOR	[M]
CN18	RJS1A1101T1	CONNECTOR	[M]
CN19	RJS1A1101T1	CONNECTOR	[M]
CN20	RJS1A1101T1	CONNECTOR	[M]
CN21	RJS1A1101T1	CONNECTOR	[M]
CN302	RJS1A9419	FFC CONNECTOR	[M]
CN401	RJS1A9421	CONNECTOR	[M]
CN402	RJS1A9411	11P FFC TOP INSERT	[M]
CN403	RJS1A9414	FF CONNECTOR	[M]
CN404	RJS1A6606T1	TAPING CONNECTOR	[M]
CN501	RJS1A6714-Q	14P CONNECTOR	[M]
CN551	RJS2A1506	6P CONNECTOR	[M]
CN601	RJS1A6221-1	21P FFC BOTTOM INSER	[M]
CN602	RJS1A6211-1	11P FFC BOTTOM INSER	[M]
CN701	RJS2A6016	16P FFC CONNECTOR	[M]
CN702	RJS1A6719-1Q	19P FFC CONNECTOR	[M]
		COMPONENT COMBINATION	
Z301	BL02RN2R65T2	COIL	[M]
		OSCILLATORS	
X401	RSXY4M23M01T	CRYSTAL RESONATOP	[M]
X701	RSXB16M9J02T	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL601	RSL0274-F	FL DISPLAY	[M]

		FUSE HOLDERSS	
FC502	RWJ4406087KK	6P FLAT CABLE	[M]
FC503	RWJ4403102KK	3P FLAT CABLE	[M]
FC601	RWJ1803085KK	3P WIRE	[M]
		JACKS	
JK11	SJSD16-J	JK AC INLET	[M] ⚠
JK321	GP1F32T	JK OPTICAL TERMINAL	[M]
JK801	RJH3201N-J	JK RCA	[M]
		EARTH TERMINAL	
E400	SNE1004-2	EARTH TERMINAL	[M]
		RESISTORS	
R11	ERDS2TJ181T	180 1/4W	[M]
R12	ERDS2TJ181T	180 1/4W	[M]
R13	ERD2FCVJ4R7T	4.7 1/4W	[M]
R19	ERDS2TJ221T	220 1/4W	[M]
R21	ERDS1FVJ561T	560 1/2W	[M] ⚠
R22	ERDS1FVJ561T	560 1/2W	[M] ⚠
R31	ERDS2TJ123T	12K 1/4W	[M]
R32	ERDS2TJ103T	10K 1/4W	[M]
R33	ERDS2TJ103T	10K 1/4W	[M]
R34	ERDS2TJ101T	100 1/4W	[M]
R41	ERDS2TJ471T	470 1/4W	[M]
R42	ERDS1FVJ1R0T	1 1/2W	[M] ⚠
R43	ERDS2TJ223T	22K 1/4W	[M]
R44	ERDS2TJ103T	10K 1/4W	[M]
R51	ERDS2TJ562T	5.6K 1/4W	[M]
R52	ERDS2TJ562T	5.6K 1/4W	[M]
R401	ERDS2TJ472T	4.7K 1/4W	[M]
R402	ERDS2TJ472T	4.7K 1/4W	[M]
R406	ERDS2TJ472T	4.7K 1/4W	[M]
R407	ERDS2TJ472T	4.7K 1/4W	[M]
R409	ERDS2TJ182T	1.8K 1/4W	[M]
R410	ERDS2TJ103T	10K 1/4W	[M]
R411	ERDS2TJ472T	4.7K 1/4W	[M]
R412	ERDS2TJ223T	22K 1/4W	[M]
R413	ERDS2TJ103T	10K 1/4W	[M]
R414	ERDS2TJ471T	470 1/4W	[M]
R415	ERDS2TJ563T	56K 1/4W	[M]
R416	ERDS2TJ473T	47K 1/4W	[M]
R417	ERDS2TJ223T	22K 1/4W	[M]
R418	ERDS2TJ104T	100K 1/4W	[M]
R419	ERDS2TJ223T	22K 1/4W	[M]
R420	ERDS2TJ103T	10K 1/4W	[M]
R421	ERDS2TJ103T	10K 1/4W	[M]
R422	ERDS2TJ472T	4.7K 1/4W	[M]

R423	ERDS2TJ103T	10K 1/4W	[M]
R424	ERDS2TJ472T	4.7K 1/4W	[M]
R425	ERDS2TJ103T	10K 1/4W	[M]
R426	ERDS2TJ472T	4.7K 1/4W	[M]
R427	ERDS2TJ103T	10K 1/4W	[M]
R428	ERDS2TJ472T	4.7K 1/4W	[M]
R429	ERDS2TJ103T	10K 1/4W	[M]
R430	ERDS2TJ472T	4.7K 1/4W	[M]
R431	ERDS2TJ103T	10K 1/4W	[M]
R432	ERDS2TJ472T	4.7K 1/4W	[M]
R433	ERDS2TJ472T	4.7K 1/4W	[M]
R434	ERDS2TJ472T	4.7K 1/4W	[M]
R435	ERDS2TJ103T	10K 1/4W	[M]
R436	ERDS2TJ102T	1K 1/4W	[M]
R437	ERDS2TJ103T	10K 1/4W	[M]
R438	ERDS2TJ103T	10K 1/4W	[M]
R439	ERDS2TJ103T	10K 1/4W	[M]
R440	ERDS2TJ472T	4.7K 1/4W	[M]
R442	ERDS2TJ472T	4.7K 1/4W	[M]
R443	ERDS2TJ472T	4.7K 1/4W	[M]
R444	ERDS2TJ472T	4.7K 1/4W	[M]
R445	ERDS2TJ472T	4.7K 1/4W	[M]
R446	ERDS2TJ472T	4.7K 1/4W	[M]
R447	ERDS2TJ472T	4.7K 1/4W	[M]
R461	ERDS2TJ121T	120 1/4W	[M]
R462	ERDS2TJ221T	220 1/4W	[M]
R463	ERDS2TJ121T	120 1/4W	[M]
R650	ERDS2TJ102T	1K 1/4W	[M]
R651	ERDS2TJ102T	1K 1/4W	[M]
R652	ERDS2TJ122T	1.2K 1/4W	[M]
R653	ERDS2TJ182T	1.8K 1/4W	[M]
R654	ERDS2TJ222T	2.2K 1/4W	[M]
R655	ERDS2TJ272T	2.7K 1/4W	[M]
R656	ERDS2TJ472T	4.7K 1/4W	[M]
R657	ERDS2TJ682T	6.8K 1/4W	[M]
R658	ERDS2TJ103T	10K 1/4W	[M]
R659	ERDS2TJ223T	22K 1/4W	[M]
R660	ERDS2TJ683T	68K 1/4W	[M]
R661	ERDS2TJ102T	1K 1/4W	[M]
R662	ERDS2TJ102T	1K 1/4W	[M]
R663	ERDS2TJ122T	1.2K 1/4W	[M]
R664	ERDS2TJ182T	1.8K 1/4W	[M]
R665	ERDS2TJ222T	2.2K 1/4W	[M]
R666	ERDS2TJ272T	2.7K 1/4W	[M]
R667	ERDS2TJ472T	4.7K 1/4W	[M]
R668	ERDS2TJ682T	6.8K 1/4W	[M]
R669	ERDS2TJ103T	10K 1/4W	[M]
R670	ERDS2TJ223T	22K 1/4W	[M]
R671	ERDS2TJ683T	68K 1/4W	[M]
R672	ERDS2TJ102T	1K 1/4W	[M]
R673	ERDS2TJ102T	1K 1/4W	[M]
R674	ERDS2TJ122T	1.2K 1/4W	[M]
R675	ERDS2TJ182T	1.8K 1/4W	[M]
R676	ERDS2TJ222T	2.2K 1/4W	[M]
R677	ERDS2TJ272T	2.7K 1/4W	[M]

R678	ERDS2TJ472T	4.7K 1/4W	[M]
R679	ERDS2TJ682T	6.8K 1/4W	[M]
R680	ERDS2TJ103T	10K 1/4W	[M]
R701	ERJ3GEYJ4R7V	4.7 1/16W	[M]
R702	ERJ3GEYJ103V	10K 1/16W	[M]
R704	ERJ3GEYJ102V	1K 1/16W	[M]
R705	ERJ3GEYJ154V	150K 1/16W	[M]
R706	ERJ3GEYJ102V	1K 1/16W	[M]
R707	ERJ3GEYJ393V	39K 1/16W	[M]
R708	ERJ3GEYJ223V	22K 1/16W	[M]
R709	ERJ3GEYJ473V	47K 1/16W	[M]
R711	ERJ3GEYJ823V	82K 1/16W	[M]
R712	ERJ3GEYJ221V	220 1/16W	[M]
R714	ERJ3GEYJ121V	120 1/16W	[M]
R715	ERJ3GEYJ102V	1K 1/16W	[M]
R717	ERJ3GEYJ102V	1K 1/16W	[M]
R718	ERJ3GEYJ102V	1K 1/16W	[M]
R721	ERJ3GEYJ101V	100 1/16W	[M]
R723	ERJ3GEYJ682V	6.8K 1/16W	[M]
R724	ERJ6GEYJ183V	18K 1/10W	[M]
R725	ERJ3GEYJ391V	390 1/16W	[M]
R727	ERJ3GEYJ392V	3.9K 1/16W	[M]
R728	ERJ3GEYJ392V	3.9K 1/16W	[M]
R729	ERJ3GEYJ392V	3.9K 1/16W	[M]
R731	ERJ6GEYJ682V	6.8K 1/10W	[M]
R735	ERJ6GEYJ101V	100 1/10W	[M]
R736	ERJ3GEYJ101V	100 1/16W	[M]
R741	ERJ3GEYJ473V	47K 1/16W	[M]
R742	ERJ6GEYJ224V	220K 1/10W	[M]
R744	ERJ3GEYJ124V	120K 1/16W	[M]
R749	ERJ3GEYJ472V	4.7K 1/16W	[M]
R750	ERJ6GEYJ4R7V	4.7 1/10W	[M]
R753	ERJ3GEYJ100V	10 1/16W	[M]
R803	ERDS2TJ224T	220K 1/4W	[M]
R804	ERDS2TJ224T	220K 1/4W	[M]
R805	ERDS2TJ822T	8.2K 1/4W	[M]
R806	ERDS2TJ822T	8.2K 1/4W	[M]
R807	ERDS2TJ123T	12K 1/4W	[M]
R808	ERDS2TJ123T	12K 1/4W	[M]
R809	ERDS2TJ333T	33K 1/4W	[M]
R810	ERDS2TJ333T	33K 1/4W	[M]
R811	ERDS2TJ683T	68K 1/4W	[M]
R812	ERDS2TJ683T	68K 1/4W	[M]
R813	ERDS2TJ102T	1K 1/4W	[M]
R814	ERDS2TJ102T	1K 1/4W	[M]
R815	ERDS2TJ472T	4.7K 1/4W	[M]
R816	ERDS2TJ472T	4.7K 1/4W	[M]
R817	ERDS2TJ473T	47K 1/4W	[M]
R818	ERDS2TJ473T	47K 1/4W	[M]
R819	ERDS2TJ100T	10 1/4W	[M]
R820	ERDS2TJ100T	10 1/4W	[M]
R851	ERDS2TJ562T	5.6K 1/4W	[M]
R852	ERDS2TJ102T	1K 1/4W	[M]

		CAPACITORS	
C11	ECBT1H103ZF5	0.01 50V	[M]
C12	ECEA1CM332E	3300 16V	[M]
C15	ECBT1H102KB5	1000P 50V	[M]
C16	ECEA1AM471B	470 10V	[M]
C17	ECEA0JKA101B	100 6.3V	[M]
C20	ECBT1H103ZF5	0.01 50V	[M]
C21	RCA1VM101BT	100P 35V	[M]
C22	RCA1EM101BT	100P 25V	[M]
C30	ECBT1H103ZF5	0.01 50V	[M]
C31	RCA1HM470BT	47P 50V	[M]
C32	RCA1HM470BT	47P 50V	[M]
C33	ECBT1H102KB5	1000P 50V	[M]
C42	ECEA0JKA101B	100 6.3V	[M]
C43	ECBT1H102KB5	1000P 50V	[M]
C301	ECBT1C103NS5	0.01 16V	[M]
C314	ECBT1C103NS5	0.01 16V	[M]
C321	ECBT1C103MS5	0.01 16V	[M]
C322	ECEA0JKA101B	100 6.3V	[M]
C401	ECBT1C103NS5	0.01 16V	[M]
C402	ECA0JM471B	470 6.3V	[M]
C403	ECEA1HKA010B	1 50V	[M]
C404	ECEA1EKA4R7B	4.7 25V	[M]
C405	ECBT1C103NS5	0.01 16V	[M]
C406	ECEA1HKA010B	1 50V	[M]
C407	ECBT1H104ZF5	0.1 50V	[M]
C408	ECBT1H101KB5	100P 50V	[M]
C409	ECBT1H103KB5	0.01 50V	[M]
C410	ECBT1H104KB5	0.1 50V	[M]
C421	ECBT1H102KB5	1000P 50V	[M]
C422	ECBT1H102KB5	1000P 50V	[M]
C423	ECBT1H102KB5	1000P 50V	[M]
C424	ECBT1H102KB5	1000P 50V	[M]
C461	ECEA1AKA470B	47 10V	[M]
C462	ECBT1C103NS5	0.01 16V	[M]
C701	ECEA0JKA330I	33 6.3V	[M]
C702	ECUV1C104KBV	0.1 16V	[M]
C703	ECEA0JKA101I	100 6.3V	[M]
C704	ECUV1C104KBV	0.1 16V	[M]
C706	ECUV1H272KBV	2700P 50V	[M]
C707	ECUV1E273KBV	0.027 25V	[M]
C710	ECUV1H121KCV	120P 50V	[M]
C711	ECUV1C104ZFV	0.1 16V	[M]
C712	ECUV1C104ZFV	0.1 16V	[M]
C713	ECUV1C104KBV	0.1 16V	[M]
C714	ECEA0JKA101I	100 6.3V	[M]
C715	ECUV1H272KBV	2700P 50V	[M]
C716	ECUV1H821KBN	820P 50V	[M]
C717	ECUV1C104ZFV	0.1 16V	[M]
C718	ECUV1A224KBV	0.22 10V	[M]
C721	ECUV1H100DCV	10P 50V	[M]
C722	ECUV1H100DCV	10P 50V	[M]
C723	ECEA1AKA221I	220 10V	[M]
C724	ECUZ1E104MBN	0.1 25V	[M]

C725	ECUV1H102KBV	1000P 50V	[M]
C726	ECUV1H102KBV	1000P 50V	[M]
C727	ECA1HAK010XI	1 50V	[M]
C728	ECA1HAK010XI	1 50V	[M]
C730	ECUV1C104ZFV	0.1 16V	[M]
C731	ECEA0JKA221I	220 6.3V	[M]
C732	ECEA0JKA221I	220 6.3V	[M]
C733	ECUV1C104KBV	0.1 16V	[M]
C734	ECEA1AKA221I	220 10V	[M]
C735	ECUZ1E104ZFN	0.1 25V	[M]
C736	ECUV1C104ZFV	0.1 16V	[M]
C737	ECUV1C104ZFV	0.1 16V	[M]
C738	ECUV1H103KBN	0.01 50V	[M]
C739	ECUV1H152KBV	1500P 50V	[M]
C742	ECUV1E273KBV	0.027 25V	[M]
C743	ECUV1C104ZFV	0.1 16V	[M]
C744	ECUV1H562KBV	5600P 50V	[M]
C745	ECUV1H102KBV	1000P 50V	[M]
C747	ECUV1H181KCV	180P 50V	[M]
C749	ECUV1H222KBV	2200P 50V	[M]
C750	ECUZ1E104MBN	0.1 25V	[M]
C751	ECUV1C104KBV	0.1 16V	[M]
C752	ECUV1H102KBV	1000P 50V	[M]
C753	ECUV1H471KBV	470P 50V	[M]
C754	ECUV1H471KBV	470P 50V	[M]
C801	ECEA1AKA470B	47 10V	[M]
C802	ECEA1AKA470B	47 10V	[M]
C803	ECEA1CKA100B	10 16V	[M]
C804	ECEA1CKA100B	10 16V	[M]
C805	ECCR1H391J5	390P 50V	[M]
C806	ECCR1H391J5	390P 50V	[M]
C807	ECQP1561JZT	560P 100V	[M]
C808	ECQP1561JZT	560P 100V	[M]
C809	ECEA0JKA470B	47 6.3V	[M]
C810	ECEA0JKA470B	47 6.3V	[M]
C811	ECBT1H102KB5	1000P 50V	[M]
C812	ECBT1H102KB5	1000P 50V	[M]
C815	ECBT1H820KB5	82P 50V	[M]
C816	ECBT1H820KB5	82P 50V	[M]
		CHIP JUMPER	
RJ701	ERJ6GEY0R00V	0 1/10W	[M]
RJ702	ERJ6GEY0R00V	0 1/10W	[M]
RJ704	ERJ6GEY0R00V	0 1/10W	[M]
RJ710	ERJ6GEY0R00V	0 1/10W	[M]
RJ712	ERJ6GEY0R00V	0 1/10W	[M]
RJ713	ERJ6GEY0R00V	0 1/10W	[M]
RJ714	ERJ6GEY0R00V	0 1/10W	[M]
RJ721	ERJ3GEY0R00V	0 1/16W	[M]
RJ722	ERJ3GEY0R00V	0 1/16W	[M]
RJ723	ERJ3GEY0R00V	0 1/16W	[M]
RJ724	ERJ3GEY0R00V	0 1/16W	[M]
RJ725	ERJ3GEY0R00V	0 1/16W	[M]

RJ726	ERJ3GEY0R00V	0 1/16W	[M]
RJ727	ERJ3GEY0R00V	0 1/16W	[M]
RJ728	ERJ3GEY0R00V	0 1/16W	[M]
RJ729	ERJ3GEY0R00V	0 1/16W	[M]
RJ730	ERJ3GEY0R00V	0 1/16W	[M]
RJ731	ERJ3GEY0R00V	0 1/16W	[M]
RJ732	ERJ3GEY0R00V	0 1/16W	[M]
RJ733	ERJ3GEY0R00V	0 1/16W	[M]
RJ734	ERJ3GEY0R00V	0 1/16W	[M]
RJ735	ERJ3GEY0R00V	0 1/16W	[M]
RJ736	ERJ3GEY0R00V	0 1/16W	[M]
RJ737	ERJ3GEY0R00V	0 1/16W	[M]
RJ738	ERJ3GEY0R00V	0 1/16W	[M]
RJ739	ERJ3GEY0R00V	0 1/16W	[M]
RJ740	ERJ3GEY0R00V	0 1/16W	[M]
RJ741	ERJ3GEY0R00V	0 1/16W	[M]
RJ742	ERJ3GEY0R00V	0 1/16W	[M]
		TEST JUMPER	
TJ701	EYF8CU	TEST JUMPER	[M]

TOP PREVIOUS NEXT

17.4 Packing Materials& Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX0745	PACKING CASE	[M]
P2	RPNX0099-2	POLYFOAM (SET)	[M]
P3	RPFX0005	MIRAMAT BAG	[M]
		ACCESSORIES	
A1	RJA0065-A	AC CORD	[M]
A2	RQT5763-P	O/I BOOK	[M]
A2	RQT5764-C	O/I BOOK	[M]PC
A3	RJL2P004B08A	STEREO CONNECTOR	[M]

17.5 Packaging

TOP PREVIOUS

P2 (RPNX0099-2)
- P2 (A)
- P2 (B)
- P2 (C)
- P2 (D)