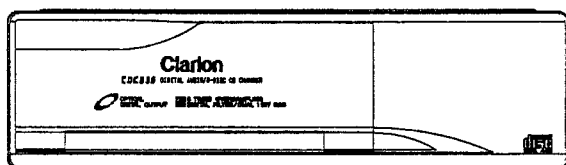


Service Manual



(CDC635)

6 Disc CD Changer

Model **RDC635**
(PE-2249B)

Model **CDC635**
(PE-2249C,E,K)

Model **RDC634**
(PE-2254B)

Model **M635**
(PE-2254C,E)

SPECIFICATIONS

Sampling frequency: 44.1kHz
Frequency response: 5Hz to 20kHz (± 1 dB)
Signal to noise ratio: 105dB (1kHz) IHF.A
Wow and flutter: below measurement limits
Power supply: DC14.4V (10.8V to 15.6V)
negative ground
Current consumption: Less than 1A
Weight: 3.8lb. (1.7kg)

※ Specification and design are subject to change without notice for further improvement.

DESTINATION

U.S.A.

Model	Digital-output
RDC635(PE-2249B-A)	○
CDC635(PE-2249C-A)	○
RDC634(PE-2254B-A)	—
M635(PE-2254C-A)	—

EUROPEAN

Model	Digital-output
CDC635(PE-2249E-A)	○
M635(PE-2254E-A)	—

OTHER COUNTRY

Model	Digital-output
CDC635(PE-2249K-A)	○

■ COMPONENTS

PE-2249B-A / C-A / E-A / K-A

PE-2254B-A / C-A / E-A

Main unit		1
Accessory box	CAA-355-200	1
Mounting bracket	300-9725-01	2
Mounting bracket	300-9811-00	2
Lock screw	716-1793-00	3
Extension lead	854-3227-00	1
(alternative part)	854-2654-50	1)
Parts bag		
Clamp	321-0774-00	1
Lead holder	335-0833-01	2
Machine screw	714-5006-79	1
M6 wing nut	722-0545-00	4
D-sems-hexagon bolt	734-5008-37	4
Parts bag		
Cushion rubber	345-7651-00	2

■ To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.

The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.

The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.

2. Place the parts and wiring back in their original positions after replacement or re-wiring.

For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.

If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.

3. Check for safety after repair.

Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary problems around the repaired spots.

If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

4. Caution in removal and making wiring connection to the parts for the automobile.

Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

5. Cautions regarding chips.

Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.

6. Cautions in handling flexible PWB

Before working with a soldering iron, make sure that the iron tip temperature is around 270°C. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.

7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

8. Cautions in checking that the optical pickup lights up.

The laser is focused on the disc reflection surface through the lens of the optical pickup. When checking that the laser optical diode lights up, keep your eyes more than 30cms away from the lens. Prolonged viewing of the laser within 30cms may damage your eyesight.

9. Cautions in handling the optical pickup

The laser diode of the optical pickup can be damaged by electrostatic charge caused by your clothes and body. Make sure to avoid electrostatic charges on your clothes or body, or discharge static electricity before handling the optical pickup.

9-1. Laser diode

The laser diode terminals are shorted for transportation in order to prevent electrostatic damage. After replacement, open the shorted circuit. When removing the pickup from the mechanism, short the terminals by soldering them to prevent this damage.

9-2. Actuator

The actuator has a powerful magnetic circuit. If a magnetic material is put close to it, its characteristics will change. Ensure that no foreign substances enter through the ventilation slots in the cover.

9-3. Cleaning the lens

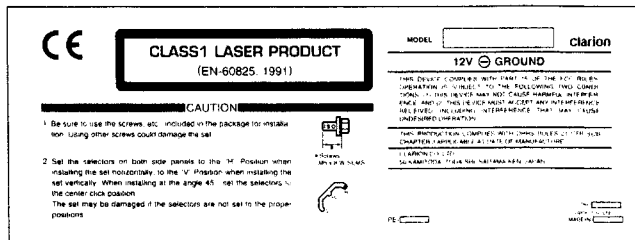
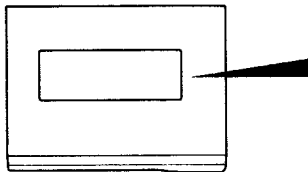
Dust on the optical lens affects performance. To clean the lens, apply a small amount of isopropyl alcohol to lens paper and wipe the lens gently.

■ CAUTION

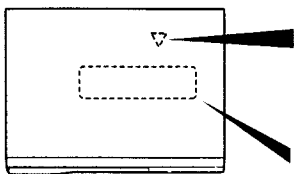
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on.

Bottom View of CD Changer Unit



Top View of CD Changer Unit



CAUTION -	INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM
VORSICHT!	UNSICHTBARE LASERSTRALHUNG TRITT AUS. WEHN DECKEL GEÖFFNET UND WEHN SICHERHEITSVERBODIGES ÜBERDRUCK IST NICHT DEM STRAHL AUSSETZEN!
WARNING -	OSYNLIG LASERSTRÄLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÄLEN ÄR FARLIG.
ADVARSEL -	USYNLIG LASERSTRÄLNING VED ÅBNING NÄR SIKKERHEDSFORBODIGE ER VED AFKUNST LØS UDSTÆLT. STRÅLEN ER FARLIG.

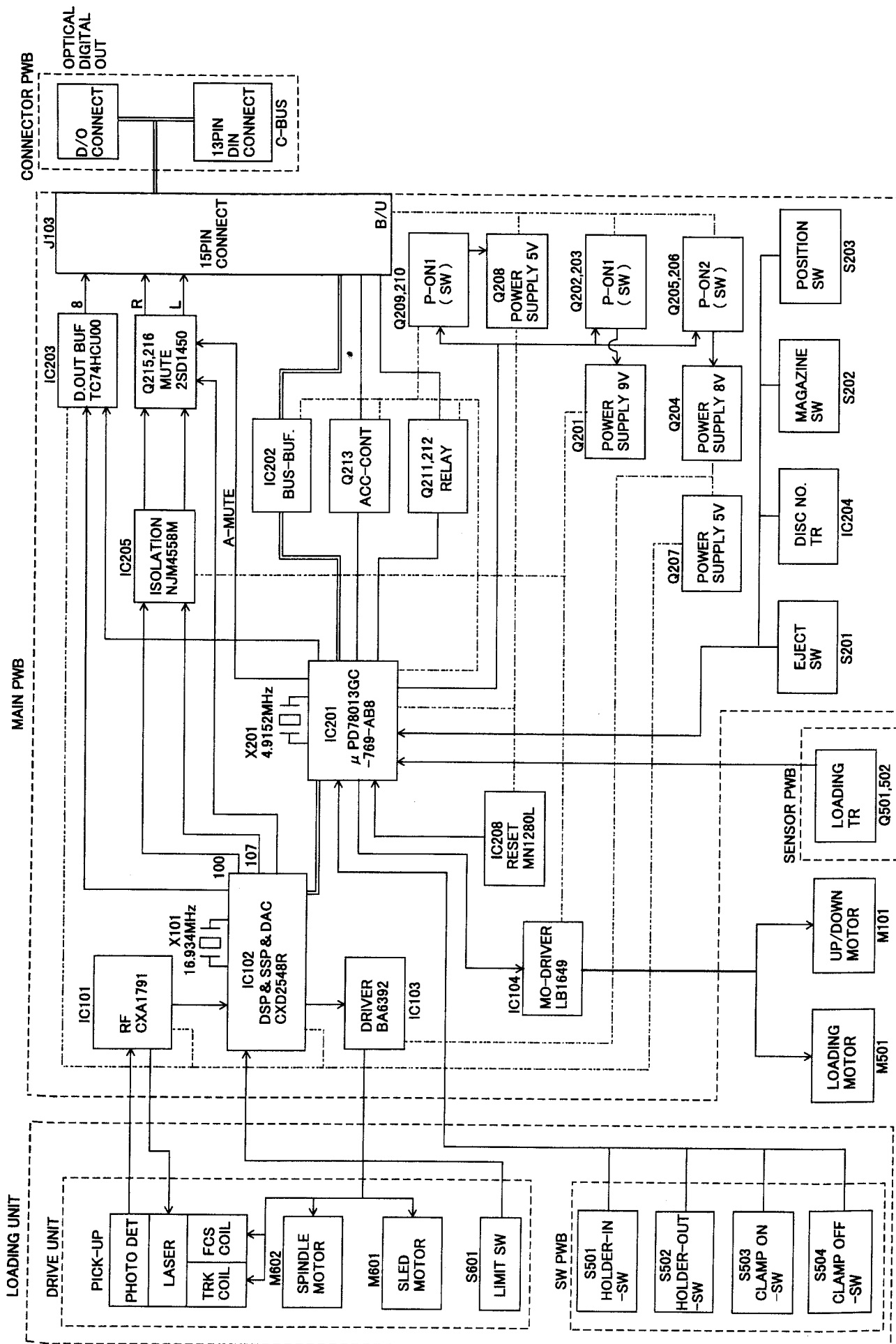
CAUTIONS:

This appliance contains a laser system and is classified as a "CLASS 1 LASER PRODUCT". To use this model properly, read this Owner's Manual carefully and keep this manual for your future reference. In case of any trouble with this player, please contact your nearest 'AUTHORIZED service station'. To prevent direct exposure to the laser beam, do not try to open the enclosure.

■ TROUBLESHOOTING

Symptom	Cause	Remedy
Loss of power	Bad connection	Check connections.
Magazine cannot be loaded	Magazine inserted wrongly	Insert correctly.
	A magazine is already in the player.	Eject the magazine and insert the other.
	Distorted magazine	Buy new magazine CAA-355.
“No Disc” sign appears when searching for discs.	Disc inserted upside-down	Read the section on “INSERTING THE CD” carefully and reinsert the CD correctly.
	Moisture or dirt on disc	Wipe disc free of moisture and dirt.
Noise, skipping	The installation selector levers are set to different positions on both sides.	Set the installation selector levers to the same position on both sides.
	The unit installation direction and the installation selector lever positions do not match.	Set the unit installation direction and the installation selector lever positions to match each other. When installed at an angle, change the installation selector lever to a position (H, 45°) not prone to noise or sound loss.
	Disc bent or badly damaged	Compare with another disc. If bad, discard the damaged disc.
	Disc is very dirty	Clean the disc.
Mechanism does not function.	Mechanism error	- Referring to section “INSTALLATION”, check the three angle of installation selector levers are properly set. If not, set them at the proper position for the angle of installation. - Check whether the CD magazine can be ejected by pressing eject button, then insert a new CD magazine.
Magazine is ejected even when inserted into the unit.	Disc holder is not correctly inserted into the magazine.	Read the section on “INSERTING THE CD” carefully and reinsert the disc holder correctly.

■ BLOCK DIAGRAM



EXPLANATION OF IC

■ μ PD78013GC-769-AB8 052-5019-00 CD CONTROLLER

Outward Form
64 pins, plastic QFP

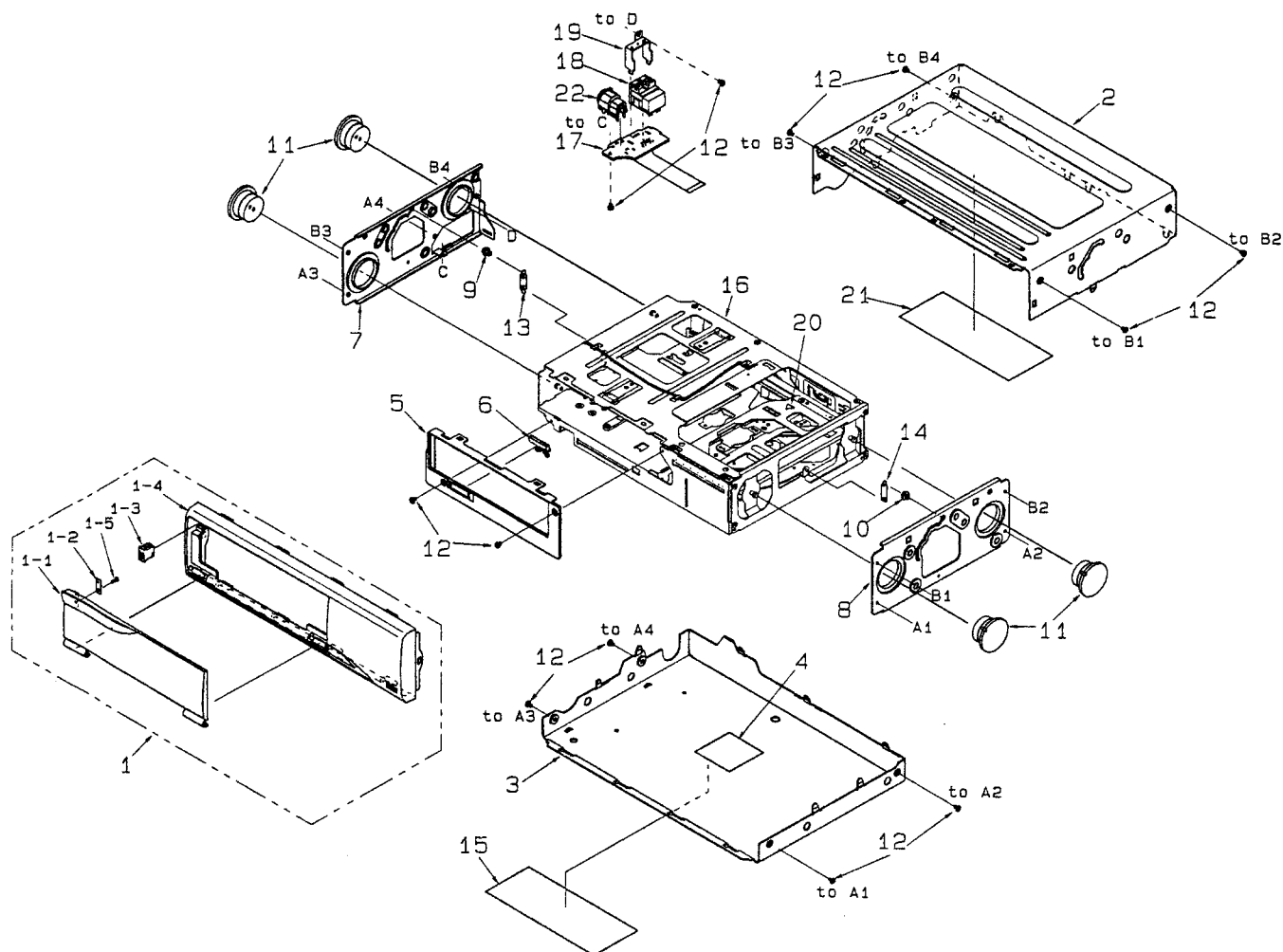
Terminal Description

No.	Symbol	I/O	Function
1	PWMI	O	Output terminal for spindle motor control
2	XRST	O	Reset output terminal to CXD2548R
3	CLOK	O	Clock output terminal for serial data transfer to CXD2548R
4	XLAT	O	Latch output terminal for serial data transfer to CXD2548R
5	DATA	O	Serial data output terminal to control CXD2548R
6	SCLK	O	Clock to read SENS data from CXD2548R
7	SENS	I	Input terminal for output of internal status of CDIC from CXD2548R
8	SYSM	O	Output terminal for analog MUTE circuit control
9	VSS		GND terminal
10	TEST 1	I	Not in use (open)
11	TEST 2		
12	TEST 3		
13	TEST 4		
14	N.C.	I	Not in use. Fixed to "H"
15			
16			
17	EJ-SEL	I	At "L", EJECT is disabled.
18	A-MUTE	O	Control terminal for analog MUTE circuit. Discontinue MUTE by "L" output at Play, Manual Search. Apply MUTE by "H" output at Stop, Track Search
19	D-Stop	O	Output control terminal for Digital Out Outputs "L" at STOP. Outputs "H" at PLAY
20	RELAY	O	Terminal controlling Audio-Relay for Switch-to-Out Box controlled by command of C-Bus. Outputs "H" while auto changer is in Play
21	PON 1	O	Control terminal for System-Power-1. Sets this control to "H" and supplies power to the whole system when: magazine is inserted and EJECT Key is "ON" and Acc-Cont terminal (37 pin) is "H" or Acc-Cont is "L".
22	PON 2	O	Control terminal for System-Power-2. Sets this port to "H" and supplies power to CD-IC: CXD2548R, at playback by auto changer. At Stop, sets the port to "L" after stopping spindle motor. Then cut off the CD-IC power supply.
23	N.C.	I	Not in use. Fixed to "H"
24	VSS	-	GND terminal
25	DNOTR	I	Input terminal for photo sensor detecting Disc No.
26	POSSW	I	Input terminal for SW detecting the position that sets the base level for the ups and downs of mechanism.
27	N.C.	I	Not in use. Fixed to "L"
28			
29			
30			
31	LDCCW	O	Output terminal controlling motor driver for Load/Unload action of mechanism
32	LDCW		
33	UDCCW	O	Output terminal controlling motor driver for Up/Down action of mechanism
34	UDCW		
35	RESET	I	RESET input to this IC
36	SCOR	I	SUB CODE SYNC for CXD2548R Terminal inputting signal from S0+S1 output terminal
37	ACC-CONT	I	ACC-CONT input terminal.

No.	Symbol	I/O	Function
38	MGSW	I	Input terminal for detection of magazine insertion "L": Inserted
39	EJECT	I	Input terminal for EJECT Key.
40	VDD	-	Power supply terminal +5V $\pm$ 10%
41	X 2	O	Ceramic resonator connecting terminal for system clock oscillation.
42	X 1	I	
43	N.C.	I	Not in use. Fixed to "L"
44	N.C.	O	Not in use
45	N.C.	I	Not in use. Fixed to "L"
46			
47	TEMP	I	Input terminal of signal from temperature detection circuit. When temperature is high input "L"
48	S/E	I	Input terminal for selection of mechanism control specification "H": side load type "L": end load type
49	HOLDER-IN	I	SW input terminal detecting holder inserted in magazine. L: Holder inserted
50	HOLDER-OUT	I	SW input terminal detecting if holder gets out from magazine. "L": holder is out
51	CLAMP-OFF	I	SW input terminal detecting if clamper is off. "L": Clamper is off
52	CLAMP-ON	I	SW input terminal detecting if clamper clamps "H": Clamper clamps
53	LOD-TR 2	I	Input terminal for photo transistor to determine clamped disk (8cm/12cm) and detecting its insertion into magazine. "dark": 12cm disk "bright": holder is in
54	LOD-TR 1	I	Input terminal for photo transistor to detect disk in the holder and holder in the magazine. "dark": disk is in "bright": holder is in
55	N.C.	I	Not in use. Fixed to "H"
56			
57	SQCK	O	Output terminal for clock reading SUB-Q DATA from CXD2548R
58	N.C.	I	Not in use. Fixed to "H"
59	SQS 0	I	Input terminal for SUB-Q data output from CXD2548R
60	N.C.	I	Not in use. Fixed to "L"
61	SRQ	O	Output terminal for C-BUS service request It changes "H" to "L" when slave CPU wants master to read data informing change of status. It changes "L" to "H" after receiving address from master.
62	SSI	I	Input only terminal for C-BUS DATA LINE
63	SSO	O	Output only terminal for C-BUS DATA LINE
64	SCK	I	Input terminal for C-BUS serial clock data line (transmission speed: 262kHz)

EXPLODED VIEW · PARTS LIST

Main section



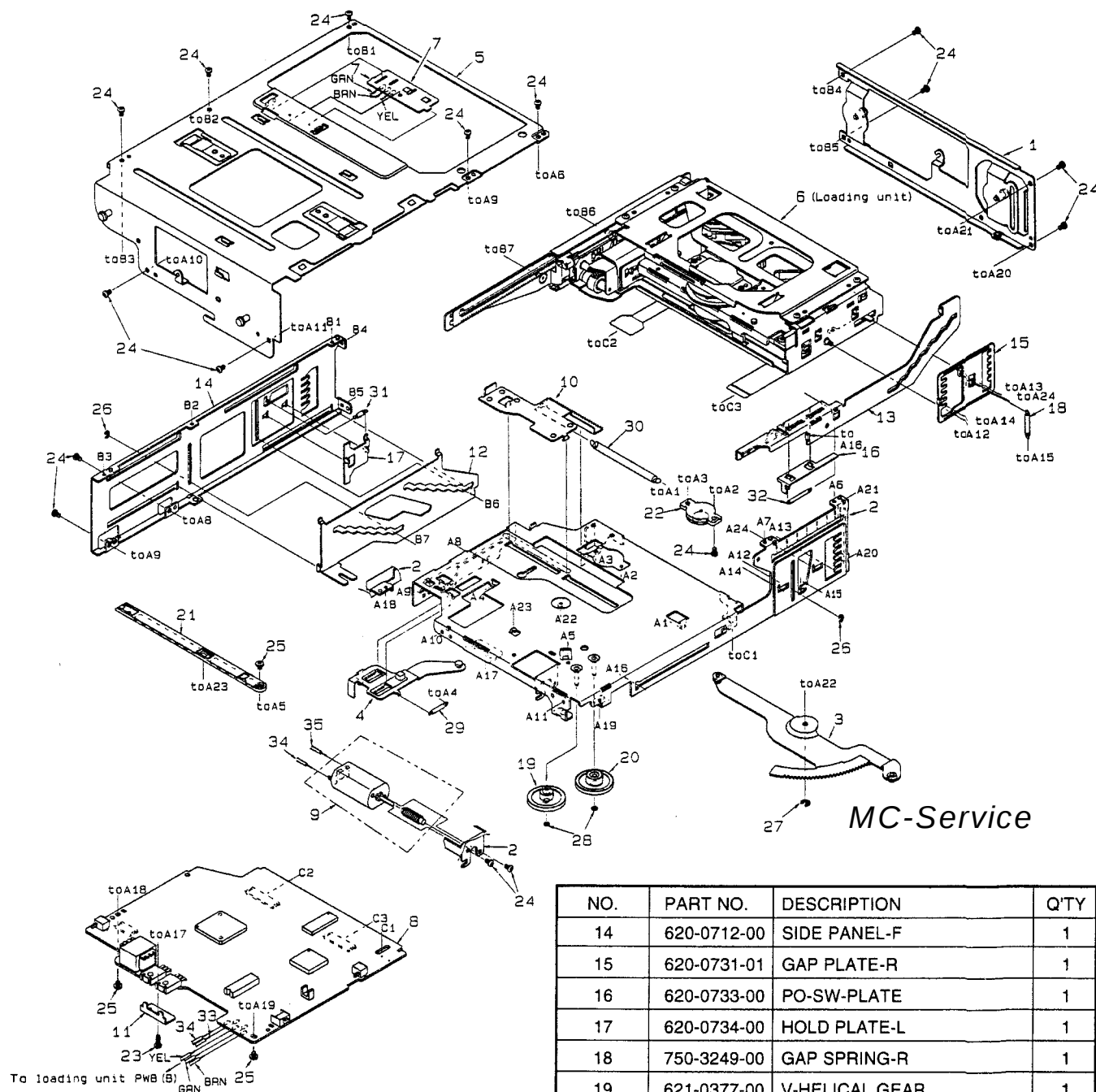
MC-Service

NO.	PART NO.	DESCRIPTION	Q'TY
1	940-7804-05 (PE-2249B) 940-7804-04 (PE-2249C) 940-7804-00 (PE-2249E,K) 940-7804-06 (PE-2254B) 940-7804-08 (PE-2254C) 940-7804-01 (PE-2254E)	ESCUTCHEON ASSY	1
1-1	320-0538-05 (PE-2249B) 320-0538-04 (PE-2249C) 320-0538-00 (PE-2249E,K) 320-0538-06 (PE-2254B) 320-0538-08 (PE-2254C) 320-0538-01 (PE-2254E)	DUSTPROOF CVR	1
1-2	331-2046-00	PLATE	1
1-3	335-5473-00	MAGNET	1
1-4	370-5673-00 370-5673-02	ESCUTCHEON ESCUTCHEON(PE-2254C only)	1
1-5	716-0872-00	PAD SCREW	1
2	310-1620-00 310-1620-03	UPPER CASE UPPER CASE(PE-2254C only)	1
3	311-1702-00 311-1702-01 311-1702-04	LOWER CASE(PE-2249) LOWER CASE(PE-2254B,E) LOWER CASE(PE-2254C)	1
4	347-5476-00	INSULATOR	1
5	371-3852-00	TRIM PLATE	1
6	382-4518-00	BUTTON(EJECT)	1
7	620-0726-01	DAMPER PLATE-L	1

NO.	PART NO.	DESCRIPTION	Q'TY
8	620-0727-01	DAMPER PLATE-R	1
9	622-1332-01	FL-PIN LEFT	1
10	622-1344-01	FL-PIN RIGHT	1
11	629-0060-00	DAMPER	4
12	716-1716-00 716-1716-01	SCREW SCREW-WHT(PE-2254C only)	12
13	750-3242-00	SPRING LEFT	1
14	750-3243-00	SPRING RIGHT	1
15	286-8785-00 286-8784-00 286-8770-00 286-8783-00 286-8786-00 286-8840-00 286-8781-00	SET PLATE(PE-2249B) SET PLATE(PE-2249C) SET PLATE(PE-2249E) SET PLATE(PE-2249K) SET PLATE(PE-2254B) SET PLATE(PE-2254C) SET PLATE(PE-2254E)	1
16	—	CHANGER MODULE	1
17	039-0925-00	CONNECTOR PWB	1
18	074-1126-01	OUTLET SOCKET(13P)	1
19	620-0732-00	DIN HOLDER	1
20	285-1426-00	GUIDE LABEL LASER (PE-2249E,2254E)	1
21	285-1691-00	CAUTION LABEL (PE-2249E,2254E)	1
22	075-0305-00	JACK(D-OUT) (RDC635,CDC635 only)	1

RDC635

CD changer mechanism section



NO.	PART NO.	DESCRIPTION	Q'TY
1	966-0455-01	REAR PANEL-ASS'Y	1
2	966-0460-01	V-CHASSIS-ASS'Y	1
3	966-0461-00	UD-GEAR-P-ASS'Y	1
4	966-0462-01	MG-LO-P-ASS'Y-S	1
5	966-0463-01	UP-PLATE-ASS'Y-S	1
6	—	LOADING UNIT	1
7	039-0922-00	LOADING UNIT PWB (B)	1
8	039-0921-00	MAIN PWB	1
9	SMA-155-100	MOTOR-ASS'Y	1
10	620-0705-01	MG-EJ-PLATE	1
11	620-0707-00	HEAT SINK	1
12	620-0710-00	SLIDE PLATE-L-S	1
13	620-0711-01	SLIDE PLATE-S	1

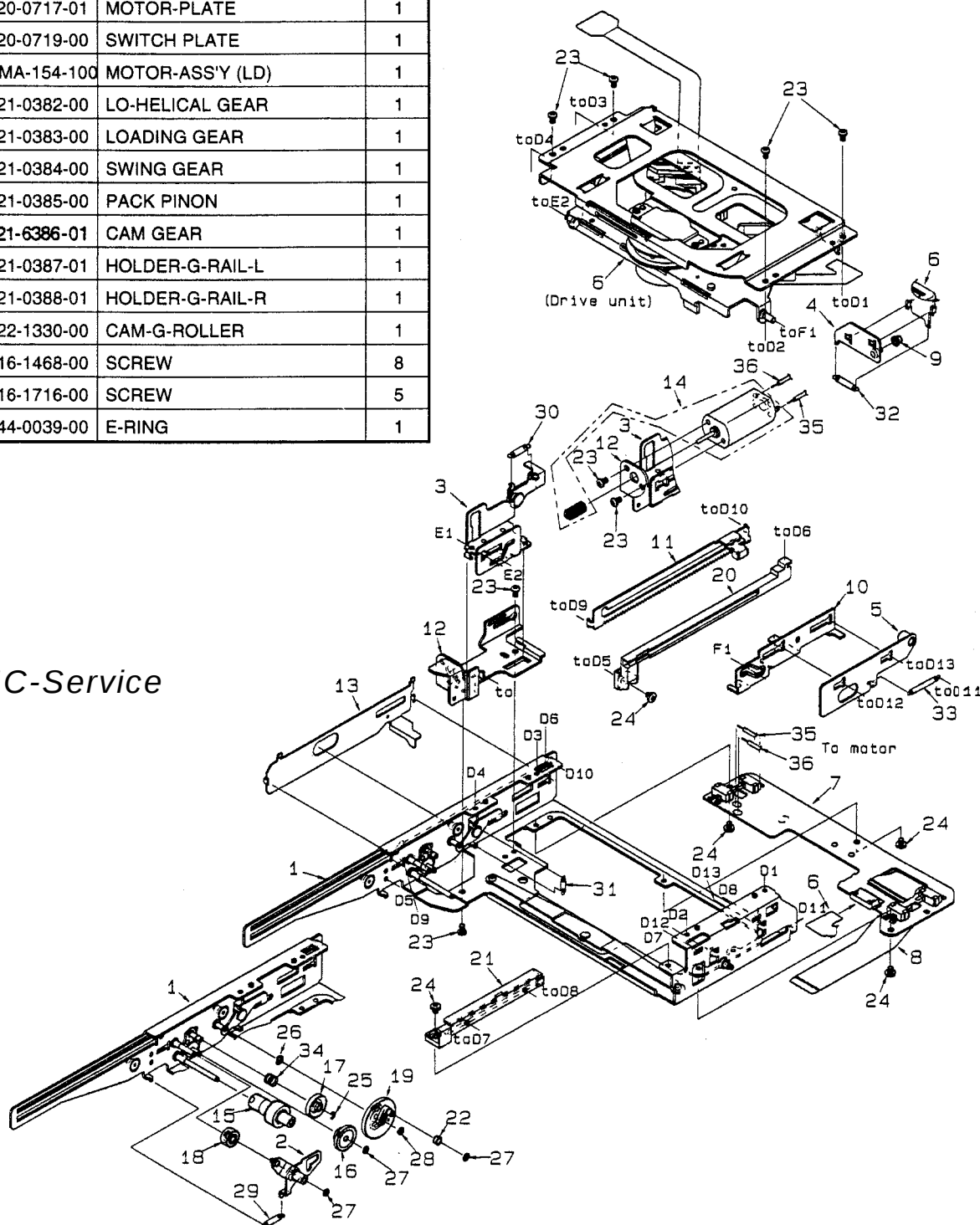
NO.	PART NO.	DESCRIPTION	Q'TY
14	620-0712-00	SIDE PANEL-F	1
15	620-0731-01	GAP PLATE-R	1
16	620-0733-00	PO-SW-PLATE	1
17	620-0734-00	HOLD PLATE-L	1
18	750-3249-00	GAP SPRING-R	1
19	621-0377-00	V-HELICAL GEAR	1
20	621-0378-00	V-GEAR A	1
21	621-0380-01	MAGAZINE RAIL	1
22	629-0061-00	GEAR DAMPER	1
23	714-2006-81	MACHINE SCREW (M2×6)	1
24	716-1468-00	SCREW (M2×2)	16
25	716-1716-00	SCREW (M2×3)	3
26	743-1500-20	E-RING	2
27	743-2000-20	E-RING	1
28	746-0761-00	WASHER (φ 2.0)	2
29	750-3238-00	MG-L-SPRING-S	1
30	750-3239-00	MG-EJ-SPRING-S	1
31	750-3244-00	HOLD SPRING	1
32	750-3247-00	PO-SW-SPRING	1
33	800-4910-60	WIRE (BLK)	1
34	802-4910-60	WIRE (RED)	1

Loading unit section

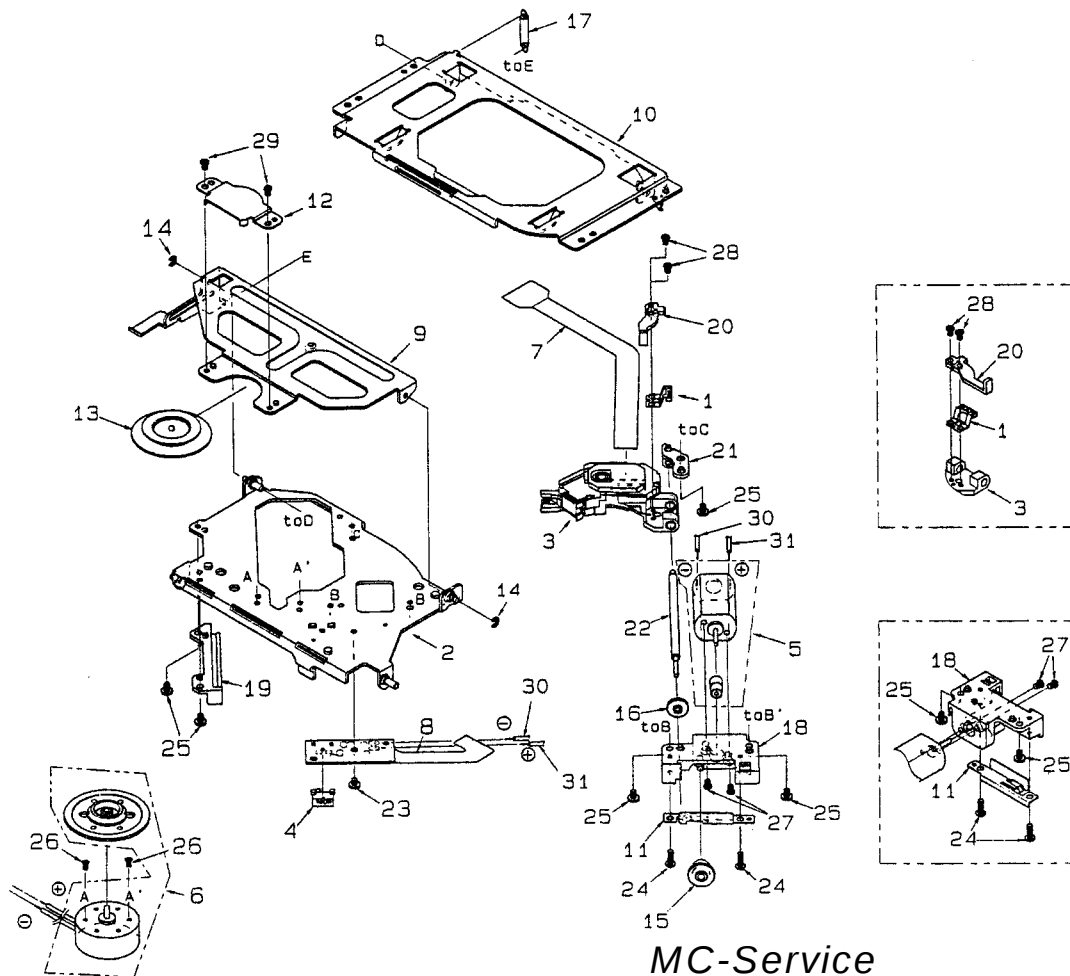
NO.	PART NO.	DESCRIPTION	Q'TY
1	966-0457-01	L-CHASSIS-ASS'Y	1
2	966-0458-00	LOCK-ARM-ASS'Y	1
3	966-0464-00	CLAMP-SE-ASS'Y	1
4	966-0467-00	PUSH PLATE-ASS'Y	1
5	966-0468-00	SIDE PUSH-ASS'Y	1
6	968-0100-00	DRIVE UNIT	1
7	039-0922-00	LOADING UNIT PWB (A)	1
8	039-0924-00	FLEXIBLE PWB	1
9	610-0367-00	PUSH-P-ROLLER	1
10	620-0713-01	CLAMP-SW-PLATE	1
11	620-0715-01	HOLDER SHIFT-PL	1
12	620-0717-01	MOTOR-PLATE	1
13	620-0719-00	SWITCH PLATE	1
14	SMA-154-100	MOTOR-ASS'Y (LD)	1
15	621-0382-00	LO-HELICAL GEAR	1
16	621-0383-00	LOADING GEAR	1
17	621-0384-00	SWING GEAR	1
18	621-0385-00	PACK PINON	1
19	621-6386-01	CAM GEAR	1
20	621-0387-01	HOLDER-G-RAIL-L	1
21	621-0388-01	HOLDER-G-RAIL-R	1
22	622-1330-00	CAM-G-ROLLER	1
23	716-1468-00	SCREW	8
24	716-1716-00	SCREW	5
25	744-0039-00	E-RING	1

NO.	PART NO.	DESCRIPTION	Q'TY
26	745-0748-01	WASHER	1
27	746-0761-00	WASHER	3
28	746-0762-00	WASHER	1
29	750-3240-00	LOCK ARM SPRING	1
30	750-3245-00	GAP-L-SPRING	1
31	750-3246-00	LOCK-L-SPRING	1
32	750-3258-00	PUSH-P-SPRING	1
33	750-3259-00	SIDE-P-SPRING	1
34	750-3261-00	SWING SPRING	1
35	800-4906-60	VINYL-COAT-WIRE	1
36	802-4906-60	VINYL-COAT-WIRE	1

MC-Service



Drive unit section



NO.	PART NO.	DESCRIPTION	Q'TY	NO.	PART NO.	DESCRIPTION	Q'TY
1	966-0454-00	SH-RACK-ASS'Y	1	17	750-3241-00	CLAMP A SPRING	1
2	966-0456-03	DRIVE-PL-ASS'Y	1	18	621-0389-01	MOTOR HOLDER	1
3	969-0006-00	PICK UP UNIT	1	19	621-0390-00	PICK UP GUIDE	1
4	013-3953-01	SWITCH	1	20	621-0391-01	SCREW-HOL-BASE	1
5	SMA-146-100	MOTOR-ASS'Y (SL)	1	21	621-0392-00	LS-HOLDER-R	1
6	SMA-156-100	MOTOR-ASS'Y (SP)	1	22	624-0017-00	LEAD SCREW	1
7	039-0923-00	FLEXIBLE PWB	1	23	716-0484-10	SCREW	1
8	039-0926-00	DRIVE UNIT PWB	1	24	716-0675-00	SCREW	2
9	620-0721-00	CLAMP ARM	1	25	716-1716-00	SCREW	5
10	620-0722-00	L-UPPER PLATE	1	26	716-1733-00	SCREW	2
11	620-0723-01	SCREW PUSH PLT	1	27	732-2004-11	LEAD SCREW	2
12	620-0724-00	CLAMPER PLATE	1	28	739-1735-17	PRECISION SCREW	2
13	621-0205-02	CLAMPER RING	1	29	739-2020-17	PRECISION SCREW	2
14	743-1500-20	E-RING	2	30	801-4912-60	VINYL-COAT-WIRE	1
15	621-0255-02	SECOND GEAR	1	31	803-4910-60	VINYL-COAT-WIRE	1
16	621-0256-01	LS-GEAR	1				

ELECTRICAL PARTS LIST

Main PWB section

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
C 101	183-3363-21	10V33 μ F	C 105	183-3363-21	10V33 μ F	C 109	176-3901-00	39pF Cj
C 102	178-1032-78	0.01 μ F	C 106	178-1032-78	0.01 μ F	C 110	176-2096-00	2pF Cj
C 103	183-3363-21	10V33 μ F	C 107	183-1073-12	6.3V100 μ F	C 114	178-2212-78	220pF
C 104	178-1032-78	0.01 μ F	C 108	178-1032-78	0.01 μ F	C 115	178-1042-78	0.1 μ F

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
C 116	178-2212-78	220pF	D 204	001-0377-31	MA4056L	R 131	117-4741-10	1/10W 470kΩ
C 117	178-1032-78	0.01 μF	D 205	001-0330-00	1SS119	R 132	117-3331-10	1/10W 33kΩ
C 118	178-4745-79	0.47 μF	D 206	001-0503-33	HZS6B2L	R 133	117-1041-10	1/10W 100kΩ
C 119	178-1032-78	0.01 μF	D 207	001-0330-00	1SS119	R 134	117-1231-10	1/10W 12kΩ
C 120	178-1042-78	0.1 μF	D 208	001-0423-24	MA4091	R 135	117-1231-10	1/10W 12kΩ
C 121	178-1522-78	1500pF	D 209	001-0423-24	MA4091	R 136	117-1231-10	1/10W 12kΩ
C 122	178-4732-78	0.047 μF	D 210	001-0423-24	MA4091	R 137	117-4711-10	1/10W 470Ω
C 123	178-1042-78	0.1 μF	D 211	001-0330-00	1SS119	R 138	117-1231-10	1/10W 12kΩ
C 124	178-1032-78	0.01 μF	D 212	001-0330-00	1SS119	R 139	117-1231-10	1/10W 12kΩ
C 125	178-1032-78	0.01 μF	D 213	001-0330-00	1SS119	R 140	117-1231-10	1/10W 12kΩ
C 126	176-1007-00	10pF CH	D 214	001-0330-00	1SS119	R 141	117-1811-10	1/10W 180Ω
C 127	178-4745-79	0.47 μF	D 215	001-0330-00	1SS119	R 142	117-1031-10	1/10W 10kΩ
C 128	178-1032-78	0.01 μF	IC 101	051-5703-00	CXA1791M	R 143	117-8231-10	1/10W 82kΩ
C 129	178-1032-78	0.01 μF	IC 102	051-6318-00	CXD2548R	R 144	117-4731-10	1/10W 47kΩ
C 130	176-1511-00	150pF CH	IC 103	051-6015-05	BA6392FP	R 201	117-2711-10	1/10W 270Ω
C 131	178-6812-78	680pF	IC 104	051-1408-00	LB1649	R 202	111-2211-81	1/2WS 220Ω
C 132	178-1032-78	0.01 μF	IC 201	052-5019-00	μPD78013GC-769-AB8	R 203	111-1001-81	1/2WS 10Ω
C 133	176-1501-00	15pF CH	IC 202	051-7400-06	HD74LS07FP	R 204	117-1211-10	1/10W 120Ω
C 134	176-1501-00	15pF CH	IC 203	051-0857-05	TC74HC00AF	R 205	117-1231-10	1/10W 12kΩ
C 135	178-1032-78	0.01 μF	IC 204	051-5806-00	GP1S94	R 206	117-1021-10	1/10W 1kΩ
C 136	176-1511-00	150pF CH	IC 205	051-0350-55	NJM4558M	R 207	117-2231-10	1/10W 22kΩ
C 137	178-6812-78	680pF	IC 206	051-0840-10	MN1280-L	R 208	117-4711-10	1/10W 470Ω
C 138	178-1032-78	0.01 μF	L 101	010-2230-72	10 μH	R 209	117-1011-10	1/10W 100Ω
C 139	178-1032-78	0.01 μF	M 101	SMA-155-100	UP/DOWN	R 210	117-1021-10	1/10W 1kΩ
C 140	178-1032-78	0.01 μF	Q 101	101-1237-50	2SB1237QR	R 211	117-1021-10	1/10W 1kΩ
C 141	183-1063-31	16V10 μF	Q 201	103-1683-50	2SD1683ST	R 212	117-1021-10	1/10W 1kΩ
C 142	178-1032-78	0.01 μF	Q 202	125-0002-02	RN2402	R 213	117-1021-10	1/10W 1kΩ
C 143	178-1032-78	0.01 μF	Q 203	125-2004-02	RN1402	R 214	117-1041-10	1/10W 100kΩ
C 144	178-4722-78	4700pF	Q 204	103-1683-50	2SD1683ST	R 215	117-1041-10	1/10W 100kΩ
C 201	184-4773-31	16V470 μF	Q 205	125-0002-02	RN2402	R 216	117-4731-10	1/10W 47kΩ
C 202	173-1021-11	1000pF	Q 206	125-2004-02	RN1402	R 217	117-4731-10	1/10W 47kΩ
C 203	178-1032-78	0.01 μF	Q 207	103-1858-50	2SD1858Q.R	R 218	117-4731-10	1/10W 47kΩ
C 204	042-0452-01	10V220 μF	Q 208	103-1858-50	2SD1858Q.R	R 219	117-4731-10	1/10W 47kΩ
C 205	178-1032-78	0.01 μF	Q 209	100-1586-50	2SA1586Y,G	R 220	117-4731-10	1/10W 47kΩ
C 206	042-0452-01	10V220 μF	Q 210	125-2004-02	RN1402	R 221	117-4731-10	1/10W 47kΩ
C 207	178-1032-78	0.01 μF	Q 211	125-0027-01	UN6111	R 222	117-1031-10	1/10W 10kΩ
C 208	183-1073-12	6.3V100 μF	Q 212	125-2004-02	RN1402	R 223	117-1031-10	1/10W 10kΩ
C 209	183-1073-12	6.3V100 μF	Q 213	100-1048-50	2SA1048Y,GR	R 224	117-1041-10	1/10W 100kΩ
C 210	183-1063-31	16V10 μF	Q 214	125-0002-02	RN2402	R 225	117-1041-10	1/10W 100kΩ
C 211	178-1032-78	0.01 μF	Q 215	103-1450-50	2SD1450S.T	R 226	117-4731-10	1/10W 47kΩ
C 212	178-1032-78	0.01 μF	Q 216	103-1450-50	2SD1450S.T	R 227	117-2711-10	1/10W 270Ω
C 213	172-1041-11	0.1 μF	R 101	117-1011-10	1/10W 100Ω	R 228	117-1021-10	1/10W 1kΩ
C 214	178-1032-78	0.01 μF	R 102	117-1341-10	1/10W 130kΩ	R 229	117-1031-10	1/10W 10kΩ
C 215	176-1011-00	100pF CH	R 103	117-8241-10	1/10W 820kΩ	R 230	117-1031-10	1/10W 10kΩ
C 216	176-1201-00	12pF CH	R 104	117-8241-10	1/10W 820kΩ	R 231	117-1231-10	1/10W 12kΩ
C 217	178-1032-78	0.01 μF	R 105	117-1341-10	1/10W 130kΩ	R 232	117-1231-10	1/10W 12kΩ
C 218	183-3363-21	10V33 μF	R 106	117-3331-10	1/10W 33kΩ	R 233	117-2211-10	1/10W 220Ω
C 219	183-3363-21	10V33 μF	R 107	117-3331-10	1/10W 33kΩ	R 234	117-4731-10	1/10W 47kΩ
C 220	176-4701-00	47pF CH	R 108	117-1001-10	1/10W 10Ω	R 235	117-2211-10	1/10W 220Ω
C 221	176-4701-00	47pF CH	R 109	117-6821-10	1/10W 6.8kΩ	R 236	117-4731-10	1/10W 47kΩ
C 222	183-3363-21	10V33 μF	R 110	117-1821-10	1/10W 1.8kΩ	R 237	117-1031-10	1/10W 10kΩ
C 223	173-1021-11	1000pF	R 111	117-3321-10	1/10W 3.3kΩ	R 238	117-1031-10	1/10W 10kΩ
C 224	183-3363-21	10V33 μF	R 112	117-1031-10	1/10W 10kΩ	R 239	117-1031-10	1/10W 10kΩ
C 225	173-1021-11	1000pF	R 113	117-1331-15	1/10W 13kΩ	R 240	117-8221-10	1/10W 8.2kΩ
C 226	178-1032-78	0.01 μF	R 114	117-2731-10	1/10W 27kΩ	R 241	117-1031-10	1/10W 10kΩ
C 227	183-1073-12	6.3V100 μF	R 120	117-3631-10	1/10W 36kΩ	R 242	117-1031-10	1/10W 10kΩ
C 228	183-1073-12	6.3V100 μF	R 121	117-1241-10	1/10W 120kΩ	R 243	117-1011-10	1/10W 100Ω
C 229	172-1041-11	0.1 μF	R 122	117-3631-10	1/10W 36kΩ	R 244	117-4731-10	1/10W 47kΩ
C 230	172-1041-11	0.1 μF	R 123	117-1031-10	1/10W 10kΩ	R 245	117-4731-10	1/10W 47kΩ
D 101	001-0330-00	1SS119	R 124	117-1041-10	1/10W 100kΩ	R 246	117-2211-10	1/10W 220Ω
D 102	001-0377-39	MA4068H	R 125	117-1051-10	1/10W 1MΩ	R 247	117-2211-10	1/10W 220Ω
D 103	001-0377-33	MA4056H	R 126	117-1031-10	1/10W 10kΩ	S 201	013-6100-10	
D 104	001-0563-00	GL380	R 127	117-6821-10	1/10W 6.8kΩ	S 202	013-7204-00	SPPB64
D 105	001-0563-00	GL380	R 128	117-3321-10	1/10W 3.3kΩ	S 203	013-3989-00	
D 201	001-0466-00	S5688B	R 129	117-1041-10	1/10W 100kΩ	X 101	061-3038-00	HC49 16.9344MHz
D 202	001-0377-47	MA4091M	R 130	117-1051-10	1/10W 1MΩ	X 201	060-0319-00	4.915MHz
D 203	001-0377-45	MA4082H						

Loading unit PWB(A) section

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
M 501	SMA-154-100	LOADING	S 502	013-3953-01		S 504	013-3953-01	
S 501	013-3953-01		S 503	013-3953-01				

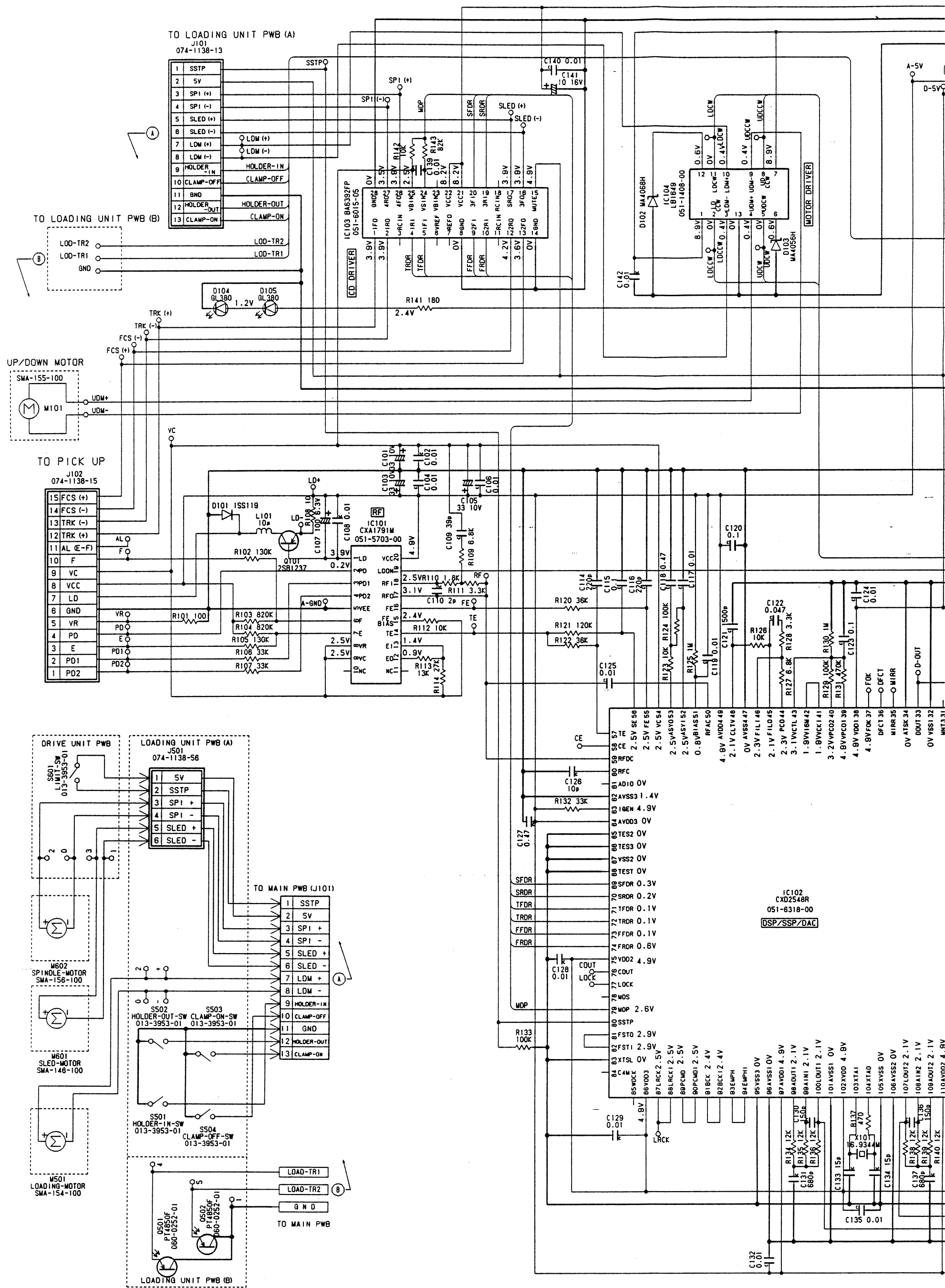
Loading unit PWB(B) section

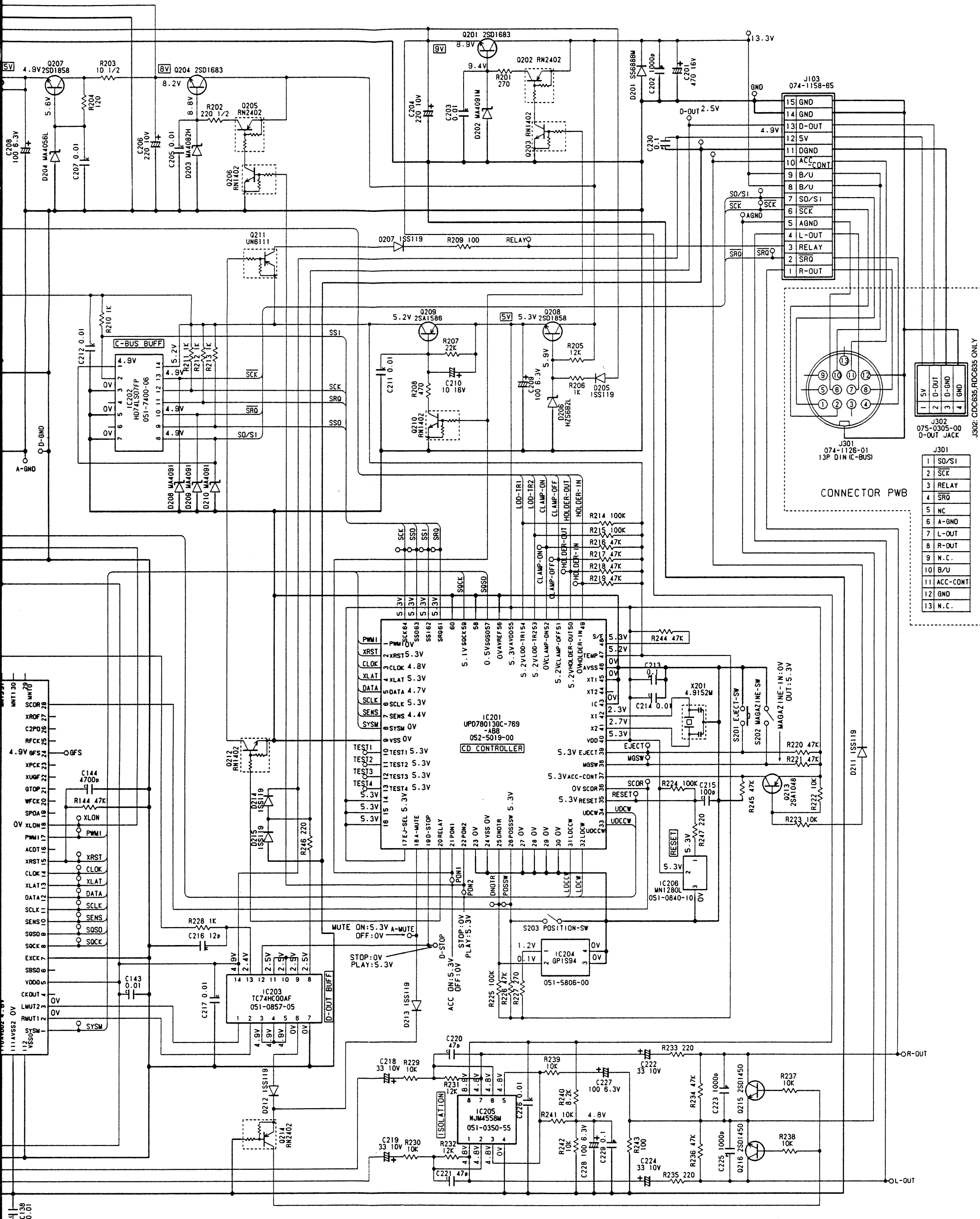
REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
Q 501	060-0252-01		Q 502	060-0252-01	

Drive unit PWB section

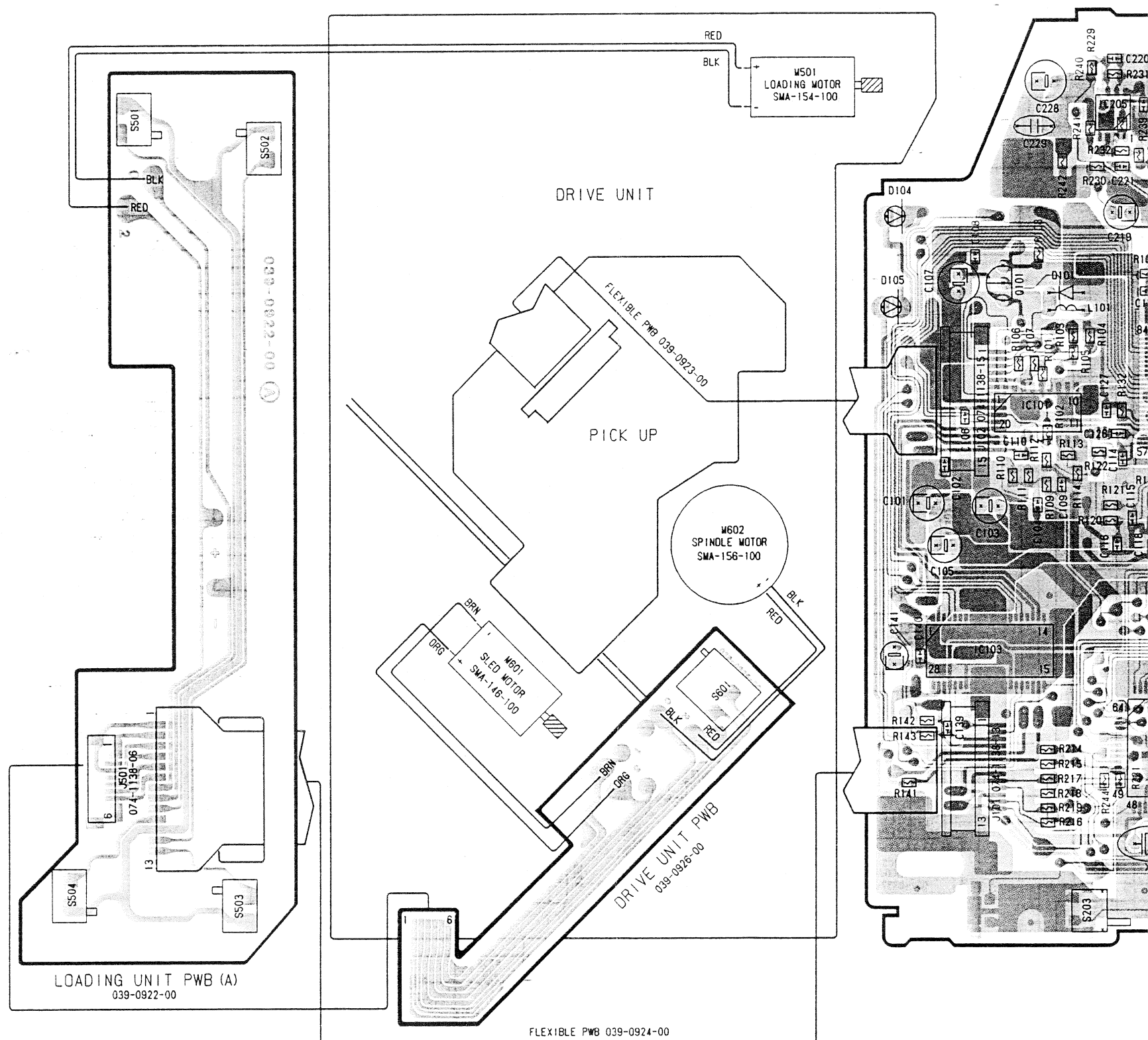
REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
M 601	SMA-146-100	SLED	M 602	SMA-156-100	SPINDLE	S 601	013-3953-01	

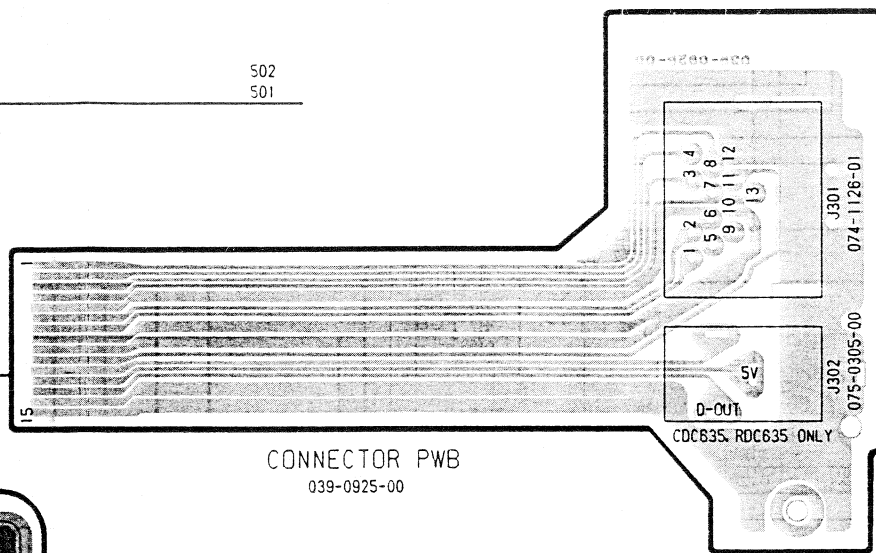
■ CIRCUIT DIAGRAM





0 | 103 101 205



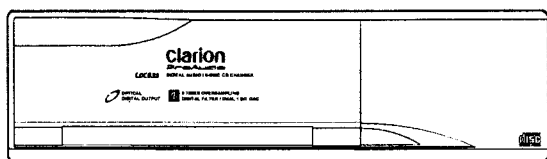


A circular arrangement of 13 numbered circles (1-13) with a blank box for the 14th circle.

No.	Description
1	SO/SI
2	SCK
3	RELAY
4	SRQ
5	NC
6	A-GND
7	L-CH
8	R-CH
9	NC
10	B/U
11	Acc CONTROL
12	GND
13	NC

D-OUT JACK 13P DIN
(TO DSP/EQ) (TO SOURCE UNIT)

Service Manual



6 Disc CD Changer

Model **RDC635**
(PE-2249B-B S/No. 131701~)

Model **CDC635**
(PE-2249C-B S/No. 126641~)
(PE-2249E-B S/No. 125741~)
(PE-2249K-D S/No. 128641~)

Model **RDC634**
(PE-2254B-B S/No. 196851~)

Model **CDC634**
(PE-2254E-C S/No. 199251~)

MARINE

Model **M635**
(PE-2254C-B S/No. 197851~)

ORIGINAL SERVICE MANUAL

This additional service manual is designed to be used together with Model RDC635, CDC635, RDC634 and M635. ⁴⁴³

Original model	Manual No.
RDC635 (PE-2249B-A)	298-5588-00
CDC635 (PE-2249C-A)	
(PE-2249E-A)	
(PE-2249K-A)	
RDC634 (PE-2254B-A)	
(PE-2254E-A)	
M635 (PE-2254C-A)	

DIFFERENCE FROM ORIGINAL MODEL

These models were changed into the one with the CD-R replay function.

DESTINATION

For North America

RDC635(PE-2249B-B) with digital output
CDC635(PE-2249C-B) with digital output
RDC634(PE-2254B-B)
M635(PE-2254C-B)

For Europe

CDC635(PE-2249E-B) with digital output
CDC634(PE-2254E-C)

For Asia, Oceania and Africa

CDC635(PE-2249K-D) with digital output

■ COMPONENTS

PE-2249B-B / C-B / E-B / K-D

PE-2254B-B / C-B / E-C

Main unit		1
CD magazine	CCA-335-201	1
(for PE-2249B-B C-B K-D)		
(for PE-2254B-B C-B)		
CD magazine	CCA-335-301	1
(for PE-2249E-B)		
(for PE-2254E-C)		
Mounting bracket with bolt	330-9725-01	2
Mounting bracket	300-9811-01	2
(for PE-2249B-B C-B E-B)		
(for PE-2254B-B C-B E-C)		
Mounting bracket	300-9811-00	2
(for PE-2254K-D)		
Lock screw	716-1793-00	3
Extension lead(13P DIN)	854-3227-00	1
Parts bag		
Clamp	321-0774-00	1
Lead holder	335-0833-01	2
Machine screw	714-5006-79	1
Wing nut(M6)	722-0545-00	4
D-sems-hex bolt	734-5008-37	4
Parts bag		
Cushion rubber	345-7651-00	2

■ To engineers in charge of repair or inspection of our products.

Before repair or inspection,make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.

The system uses parts with special safety features against fire and voltage.Use only parts with equivalent characteristics when replacing them.

The use of unspecified parts shall be regarded as remodeling for which we shall not be liable.The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.

2. Place the parts and wiring back in their original positions after replacement or re-wiring.

For proper circuit construction,use of insulation tubes,bonding,gaps to PWB,etc,is involved.The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts.Ensure that they are placed back in their original positions after repair or inspection.

If extended damage is caused due to negligence during repair,the legal responsibility shall be with the repairing company.

3. Check for safety after repair.

Check that the screws,parts and wires are put back securely in their original position after repair.Ensure for safety reasons there is no possibility of secondary

problems around the repaired spots.

If extended damage is caused due to negligence of repair,the legal responsibility shall be with the repairing company.

4. Caution in removal and making wiring connection to the parts for the automobile.

Disconnect the battery terminal after turning the ignition key off.If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur.If extensive damage is caused due to negligence of repair,the legal responsibility shall be with the repairing company.

5. Cautions regarding chips.

Do not reuse removed chips even when no abnormality is observed in their appearance.Always replace them with new ones.(The chip parts include resistors,capacitors,diodes,transistors,etc).The negative pole of tantalum capacitors is highly susceptible to heat,so use special care when replacing them and check the operation afterwards.

6. Cautions in handling flexible PWB

Before working with a soldering iron,make sure that the iron tip temperature is around 270°C.Take care not to apply the iron tip repeatedly(more than three times)to the same patterns.Also take care not to apply the tip with force.

7. Turn the unit OFF during disassembly and parts replacement.Recheck all work before you apply power to the unit.

8. Cautions in checking that the optical pickup lights up.

The laser is focused on the disc reflection surface through the lens of the optical pickup. When checking that the laser optical diode lights up,keep your eyes more than 30cms away from the lens.Prolonged viewing of the laser within 30cms may damage your eyesight.

9. Cautions in handling the optical pickup

The laser diode of the optical pickup can be damaged by electrostatic charge caused by your clothes and body.Make sure to avoid electrostatic charges on your clothes or body,or discharge static electricity before handling the optical pickup.

9-1. Laser diode

The laser diode terminals are shorted for transportation in order to prevent electrostatic damage.After replacement,open the shorted circuit.When removing the pickup from the mechanism,short the terminals by soldering them to prevent this damage.

9-2. Actuator

The actuator has a powerful magnetic circuit.If a magnetic material is put close to it,its characteristics will change.Ensure that no foreign substances enter through the ventilation slots in the cover.

9-3. Cleaning the lens

Dust on the optical lens affects performance.To clean the lens,apply a small amount of isopropylalcohol to lens paper and wipe the lens gently.

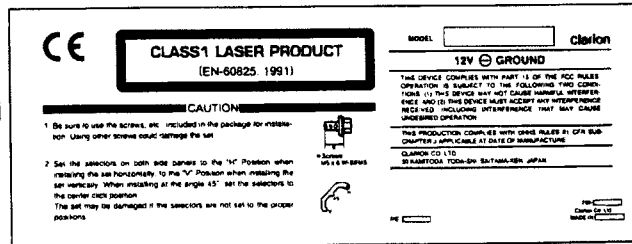
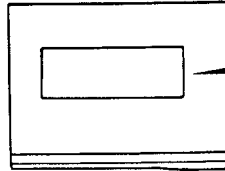
CAUTION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

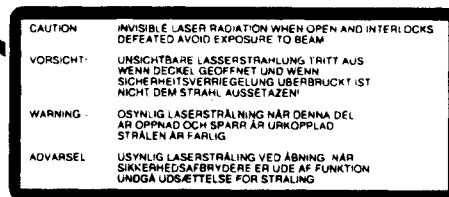
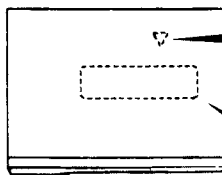
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses, and can radiate radio frequency energy and, if not installed and used in

accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on.

Bottom View of CD Changer Unit(U.S. model)



Top View of CD Changer Unit(European model)



CAUTIONS:

This appliance contains a laser system and is classified as a "CLASS 1 LASER PRODUCT".

EXPLANATION OF IC

■ μ PD78013GC-798-AB8 052-5019-20 CD CONTROLLER

This is the performance improvement IC of 052-5019-00(μ PD78013GC-769-AB8).

Refer to the terminal explanation of 052-5019-00(μ PD78013GC-769-AB8).

EXPLODED VIEW • PARTS LIST

CD changer mechanism section

Refet to the page 7 of the original manual.

NO.	PART NO.	DESCRIPTION	Q'TY
8	039-1180-00	MAIN PWB	1

Other parts are the same as the original model.

ELECTRICAL PARTS LIST

Main PWB section

Refet to the page 9 of the original manual.

REF No.	PART No.	DESCRIPTION
C 191	178-1042-78	0.1 μ F
IC 201	052-5019-20	μ PD78013GC-798-AB8
R 102	117-1541-10	1/10W 150k Ω
R 103	117-9141-10	1/10W 910k Ω
R 104	117-1151-15	1/10W 1.1M Ω
R 105	117-1541-10	1/10W 150k Ω
R 191	117-2231-10	1/10W 22k Ω
R 192	117-4721-10	1/10W 4.7k Ω
R 201	111-2711-91	1/4WS 270 Ω

Other parts are the same as the original model.

CIRCUIT DIAGRAM

Refet to the page 11 of the original manual.

The changed parts are as follows.

Addition

C191 0.1 μ F

R191 22k Ω

R192 4.7k Ω

Replacement

IC201 μ PD78013GC-798-AB8

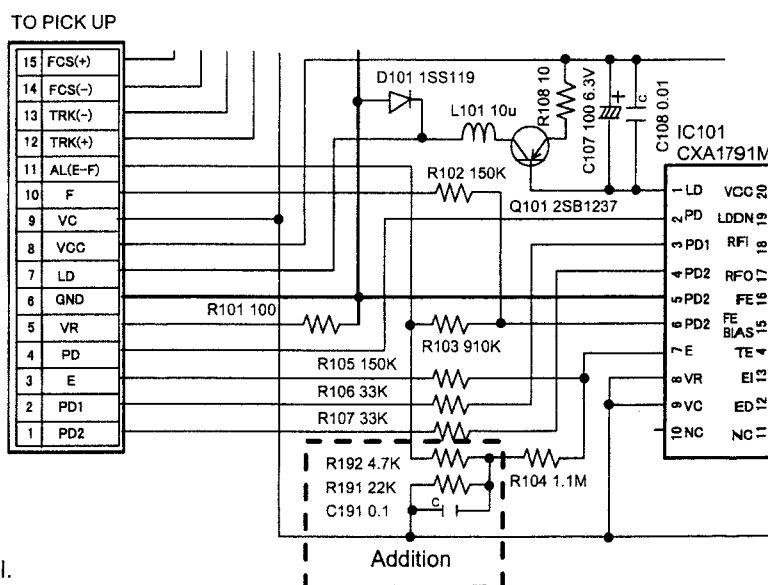
R102 150k Ω

R103 910k Ω

R104 1.1M Ω

R105 150k Ω

R201 270 Ω (Film resistor)



Other parts are the same as the original model.