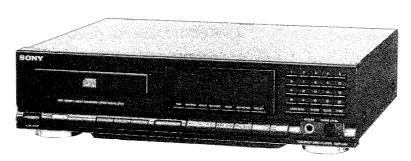
CDP-591/M51

SERVICE MANUAL

Ver. 1.2 2006.11



US Model Canadian Model CDP-591

AEP Model Australian Model UK Model E Model

CDP-591/M51

PHOTO: CDP-M51

Model Name Using Similar Mechanism	CDP-291/391
CD Mechanism Name	CDM14-5BD1
Base Unit Name	BU-5BD1

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz -20 kHz ±0.5 dB
Signal to noise ratio	More than 100 dB
Dynamic range	More than 98 dB
Harmonic distortion	Less than 0.003%
Channel separation	More than 97 dB

Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kiloohms) Load impedance over 10 kiloohms
LINE OUT (VARIABLE) (phono jacks)	Output level max. 2 V (at 50 kiloohms) Load impedance over 50 kiloohms
HEADPHONES (Stereo phone jack)	Output level max. 10 mW Load impedance 32 ohms

General

Power requirements	Model for Continental Europe 220 – 230 V AC, 50/60 Hz Model for Australia 240 V AC, 50/60 Hz Model for other countries 110 – 120, 220–240 V AC adjustable, 50/60 Hz
Power consumption	12 W
Dimensions (approx., including projections)	CDP-591: 430×110×280 mm (w/h/d) CDP-M51: 355 × 95 × 310 mm (w/h/d)
Weight (approx).	CDP-591: 3.7 kg CDP-M51: 3.3 kg

Remote commander RM-D591

Remote control system	Infrared control
Power requirements	3 V DC with two batteries size AA (IEC designation R6)
Dimensions	40×20×175 mm (w/h/d)
Weight	95 g Including batteries

COMPACT DISC PLAYER



TABLE OF CONTENTS

Supplied accessories

Connecting cord	1 (2 phono plugs ↔ 2 phono plugs)
Remote commander	1
R6 (size AA) batteries	2

Design and specifications subject to change without notice.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

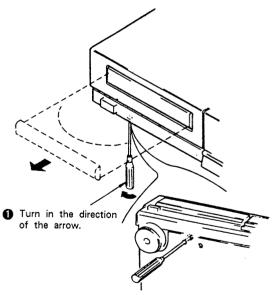
Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

CLASS 1 LASER PRODUCT LUOKAN 1 LASERLAITE KLASS 1 LASERAPPARAT This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

Se	<u>Title</u>	<u>Page</u>
1. 1-1	GENERAL Location and Function of Controls	5
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6. (1) (2) (3) (4)	EXPLODED VIEWS Overall Assembly (CDP-591) Overall Assembly (CDP-M51) MD Block Assembly (CDM14-5BD1) Optical Block Assembly (BU-5BD1)	·· 23 ·· 24
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HOW TO OPEN THE DISC TRAY WHEN POWER SWTCH TURNS OFF



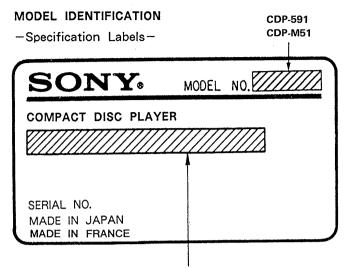
Caution: When you work, keep the set horizontal.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK A OR DOTTED LINE WITH MARK A ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE A SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.



US, Canadian model: AC: 120V 60Hz

UK, AEP model: AC: 220-230V~50/60Hz

E model: AC: 110-120V, 220-240V~50/60Hz

Australian model: AC: 240V~50/60Hz

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

SAFETY CHECK-OUT

(US Model only)

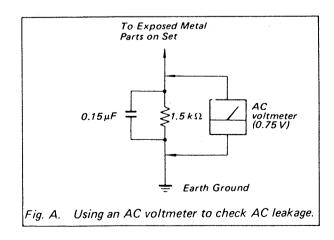
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- 2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties

Material: GaAlAsWavelength: 780 nm

Emission Duration: continuous
 Laser Output: max. 44.6 μW*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

 During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit.
 If there is a breakdown in the APC circuit (including laser diode), replace the entire Optiocal Pick-up Block (including APC borad).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-didoe data

Materiale: GaAlAs
Bølgelængde: 780 nm
Udstråling: Kontinuerlig
Laseroutput: Max. 0,4 mW*

* Målt i 1,6 mm afstand fra overfladen af objektivlinsen på den optiske pick-up enhed.

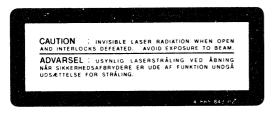
• Klassifikation: Klasse IIIb.

 Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laserdioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

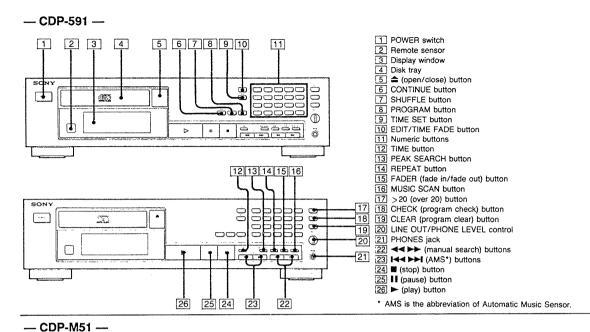
1. Advarsel Mærkning

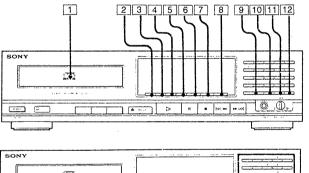


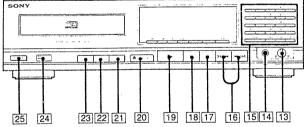
VAROITUS: Laite sisāltāā, laserdiodin, joka lāhettāā (nākymātontā) silmille vaarallista lasersateilyā.

SECTION 1 **GENERAL**

LOCATION AND FUNCTION OF CONTROLS

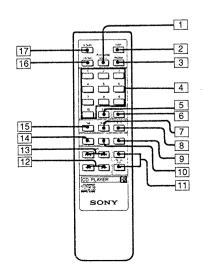






- 1 Disc tray
 2 TIME button
- 3 AUTO SPACE (auto space) button
- 4 REPEAT button
 5 PEAK SEARCH button
- 6 FADER (fade in/fade out) button
 7 EDIT/TIME FADE button
 8 TIME SET button
 9 MUSIC SCAN button

- 9 MUSIC SCAN button
 10 CHECK (program check) button
 11 CLEAR (program clear) button
 12 > 20 (over 20) button
 13 LINE OUT/PHONE LEVEL control
 14 PHONES jack
 15 Numeric buttons
 16 ◄◄ ◄◄ ▶ ▶► (AMS*/manual search) button
 17 (stop) button
- 18 II (pause) button
- 19 ► (play) button
 20 ♠ (open/close) button
 21 PROGRAM button
 22 SHUFFLE button
- 23 CONTINUE button 24 Remote sensor 25 Power switch



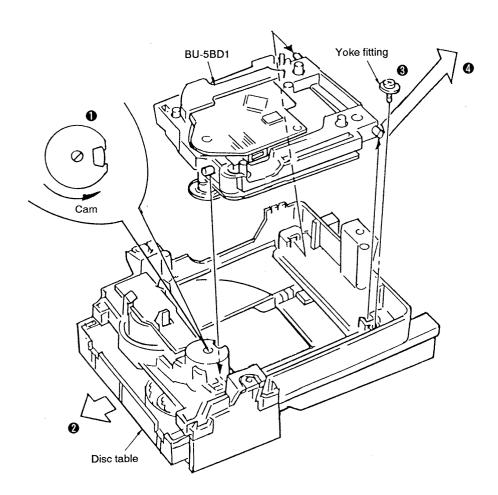
- 1 SHUFFLE button
- 2 FADER (fade in/fade out) button
 3 PROGRAM button
- 4 Numeric button
- 5 > 10 (over 10) button
- 6 A.SPACE (auto space) button
 7 REPEAT (A B repeat clear/r
- REPEAT (A B repeat clear/repeat) button
- A B repeat button
- 9 (stop) button 10 (pause) button
- III LINE OUT LEVEL (line out/headphone level) buttons
- 12 (manual search) button
- 13 I← ►► AMS buttons
- 14 ► (play) button 15 TIME button

- 16 CONTINUE button
 17 M.SCAN (music scan) button

SECTION 2 DISASSEMBLY

[Removal of MD block (BU-5BD1)]

- Disassemble in the order instructed by numbers, such as **1**.
- Turn the cam in the arrow direction with slotted screwdriver.
- 2 Draw out the disc table.
- **3** Remove the yoke fitting.
- 4 Remove BD-5BD1 in the arrow direction.



SECTION 3 IC101 (CXA1372Q) PIN FUNCTION

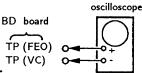
Pin No.	Pin Name	I/O	Function
1	VC		When ± power: GND. When signal power: middle point (2.5V)
2 3	FGD FS3	I	FGD terminal of gain select (time constant) in focus gain normal, down Connecting terminal between FS3 terminals
4	FLB	† i	Capacitor connecting terminal for equalizing low-frequency response of focus servo
5	FEO	0	Focus drive output
6	FE-	I	Focus amplifier inverting input
7	SRCH	I	Time constant connecting terminal to create focus search waveform
8	TGU	I	TGU terminal of gain select time constant in tracking gain normal, up
9	TG2	I	Connecting terminal between TG2 terminals
10	AVcc		Analog power (when ± power: +5V, when single power: +5V)
11	TAO	0	Tracking drive output
12	TA-	I	Tracking amplifier inverting input
13	SL+	I	Sled amplifier non-inverting input
14	SLO	0	Sled drive output
15	SL-	I	Sled amplifier non-inverting input
16	FSET	I .	Resistor of 510 kΩ connecting terminal for phase compensation setting
17	ISET	I	Resistor connecting terminal for current source setting
18	SSTOP	I	Limit switch connecting terminal
19	AVEE		Analog power (when ± power: -5V, when single power: GND)
20	DIRC	I	Direct control terminal
21	LOCK	·I	"L": sled free-run protector operates
22	CLK	I	Serial data transmission clock input from CPU (or DSP)
23	XLT	I	Latch input from CPU (or DSP)
24	DATA	I	Serial data input from CPU (or DSP)
25	SENS	0	SENS signal output
26	XRST	I	System reset. "L": reset
27	C. OUT	0	Output for tracking counter
28	DGND		Digital ground (when ± power: GND, when single power: GND)
29	MIRR	0	Mirror output
30	DFCT	0	Defect output. "H": when defected
31	ASY	I	Auto asymmetry control input
32	EFM	0	EFM comparator output
33	FOK	0	Focus OK
34	CC2	I	Defect bottom hold input (fed by capacitor coupling)
35	CC1	0	Defect bottom hold output
36	DVcc		Digital power (when ± power: +5V, when single power: +5V)
37	CB	I	Defect bottom hold capacitor connecting terminal
38	CP	I	Mirror hold capacitor connecting terminal
39	RFI	I	RF signal input (fed by capacitor coupling)
40	RFO	I	RF signal input (fed by DC coupling)
41	DVEE		Digital power (when ± power: -5V, when single power: GND)
42	TZC	I	Tracking zero-cross comparator input
43	TE	I	Tracking error input
44	TDFCT	I	Hold capacitor connecting terminal against defects
45	ATSC	I	Anti-shock input
46	FZC	I	Focus zero-cross comparator input
47	FE	I	Focus error input
48	FDFCT	1	Hold capacitor connecting terminal against defects

SECTION 4 ELECTRICAL BLOCK CHECKING

Note:

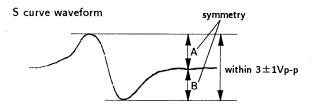
- 1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
- 2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
- 3. Use the oscilloscope with more than $10M\Omega$ impedance.
- 4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



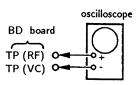
Procedure:

- Connect oscilloscope to test point TP (FEO) on BD board.
- 2. Connect between test point TP (FES) and TP (VC) by lead wire.
- 3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
- 4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within $3\pm1\mathrm{Vp-p}$.



- 5. After check, remove the lead wire connected in step 2.
- Note: Try to mesure several times to make sure that the ratio of A:B or B:A is more than $10\cdot 7$
 - Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

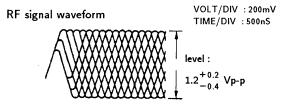


Procedure:

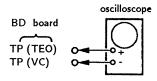
- 1. Connect oscilloscope to test point TP (RF) on BD board.
- 2. Turn Power switch on.
- 3. Put disc (YEDS-18) in and playback.
- 4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note:

Clear RF signal waveform means that the shape "\$\rightarrow\$" can be clearly distinguished at the center of the waveform.



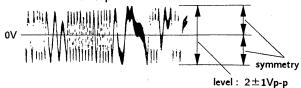
E-F Balance Check



Procedure:

- 1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
- 2. Connect oscilloscope to test point TP (TEO) on BD board.
- 3. Turn Power switch on.
- 4. Put disc (YEDS-18) in and playback.
- 5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

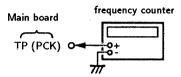


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure:

1. Connect frequency counter to test point (PCK) with lead wire.



- 2. Turn Power switch on.
- Confirm that reading on frequency counter is
 3218MHz.

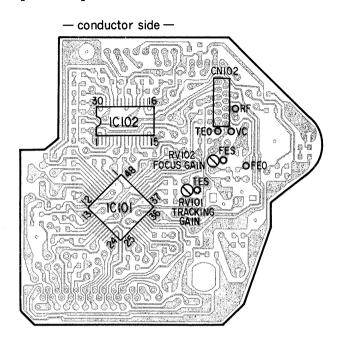
Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.

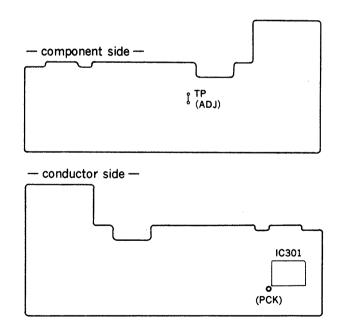
Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Locations: [BD board]



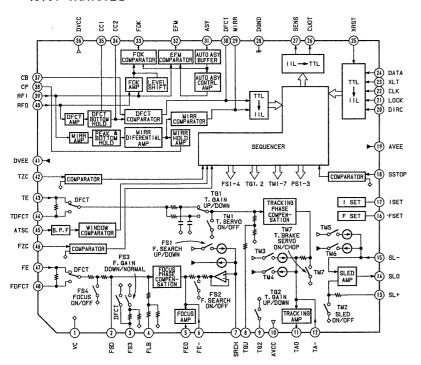
[Main board]



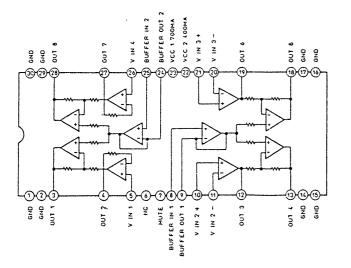
• IC BLOCK DIAGRAMS

SECTION 5 DIAGRAMS

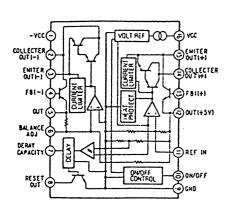
IC101 CXA1372Q



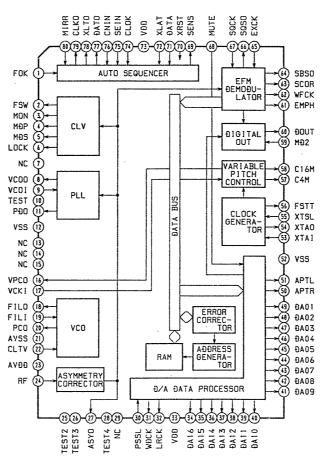
IC102 LA6532M



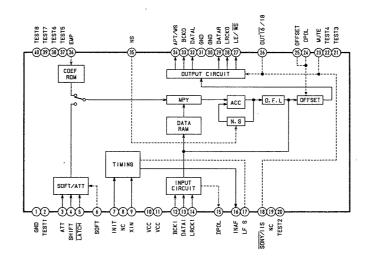
IC202 M5290P-16



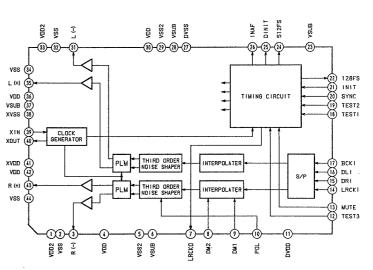
IC301 CXD2500Q



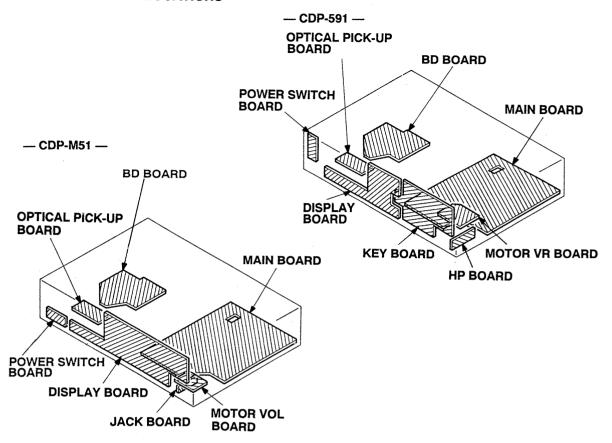
IC302 CXD1244S



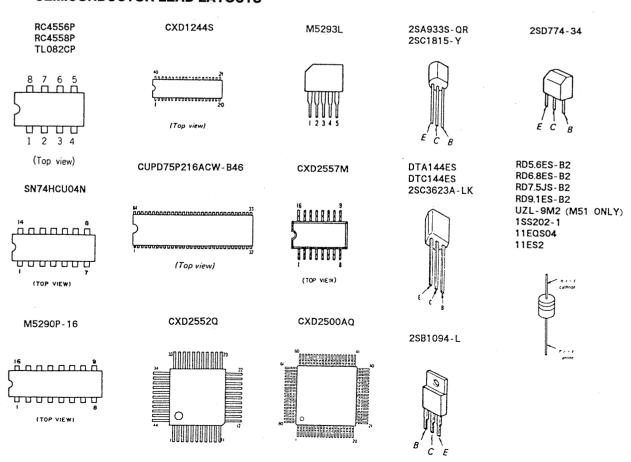
IC305 CXD2552AQ



• CIRCUIT BOARD LOCATIONS



• SEMICONDUCTOR LEAD LAYOUTS



Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	F-3	IC201	F-30
D201	E-30	IC202	G-28
D202	I-30	IC203	F-27
D203	E-29	IC301	H-27
D204	E-29	IC302	G-26
D205	E-28	IC303	F-25
D206	E-28	IC304	G-24
D207	F-30	IC305	E-26
D208	F-28	IC306	C-26
D209	F-28	IC307	C-26
D341	F-27	IC401	C-20 (591)
D351	G-25		C-6 (M51)
D401	B-21	IC402	B-13 (591)
D402	B-21 (591)		F-11 (M51)
	B-8 (M51)	IC451	H-18 (591)
D403	B-21 (591)		H-10 (M51)
	B-9 (M51)	IC471	H-18 (591)
D404	B-21 (591)		J-10 (M51)
	C-9 (M51)		
D405	B-21 (591)	Q101	I-3
	C-9 (M51)	Q201	F-30
D406	B-21 (591)	Q202	G-29
	C-8 (M51)	Q203	F-29
D407	B-20 (591)	Q204	H-29
	C-8 (M51)	Q205	H-29
D408	B-20 (591)	Q206	H-28
	C-8 (M51)	Q207	G-29
D409	B-20 (591)	Q208	F-29
	C-8 (M51)	Ω209	F-27
D410	B-20 (591)	Q341	D-25
D411	B-6 (M51)	Q342	D-25
D412	C-21 (591)	Q343	D-24
	C-8 (M51)	Q344	G-24
D471	I-18 (591)	Q371	B-25
	I-10 (M51)	Q372	C-27
IC101	H-2	Q373	B-25
IC102	G-2	Q374	B-27
IC103	F-2	Q375	B-25
		Q376	B-27

....

- • : parts extracted from the component side.
- parts mounted on the conductor side.
- Pattern on the side which is seen.
- Pattern of the rear side.

• PRINTED WIRING BOARDS

• See page 11, 12 for IC Block Diagrams. • See page 13 for Semiconductor Lead Layouts. 22 23 24 25 26 27 28 29 30 _______ CDP-591 MODEL [DISPLAY BOARD] [MAIN BOARD] [POWER SWITCH BOARD] LOADING BOARD POWER SWITCH BOARD THP BOARD I OPTICAL PICK-UP BLOCK POWER PHONE ______

fied by mark M or dotted line with mark M

are critical for safety.

• All capacitors are in μ F unless otherwise noted. pF: $\mu\mu$ F • B+ Line 50WV or less are not indicated except for electrolytics and tantalums

The components identi- Les composants identifiés par

ullet All resistors are in Ω and $^{1}\!/_{4}W$ or less unless otherwise

 Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.

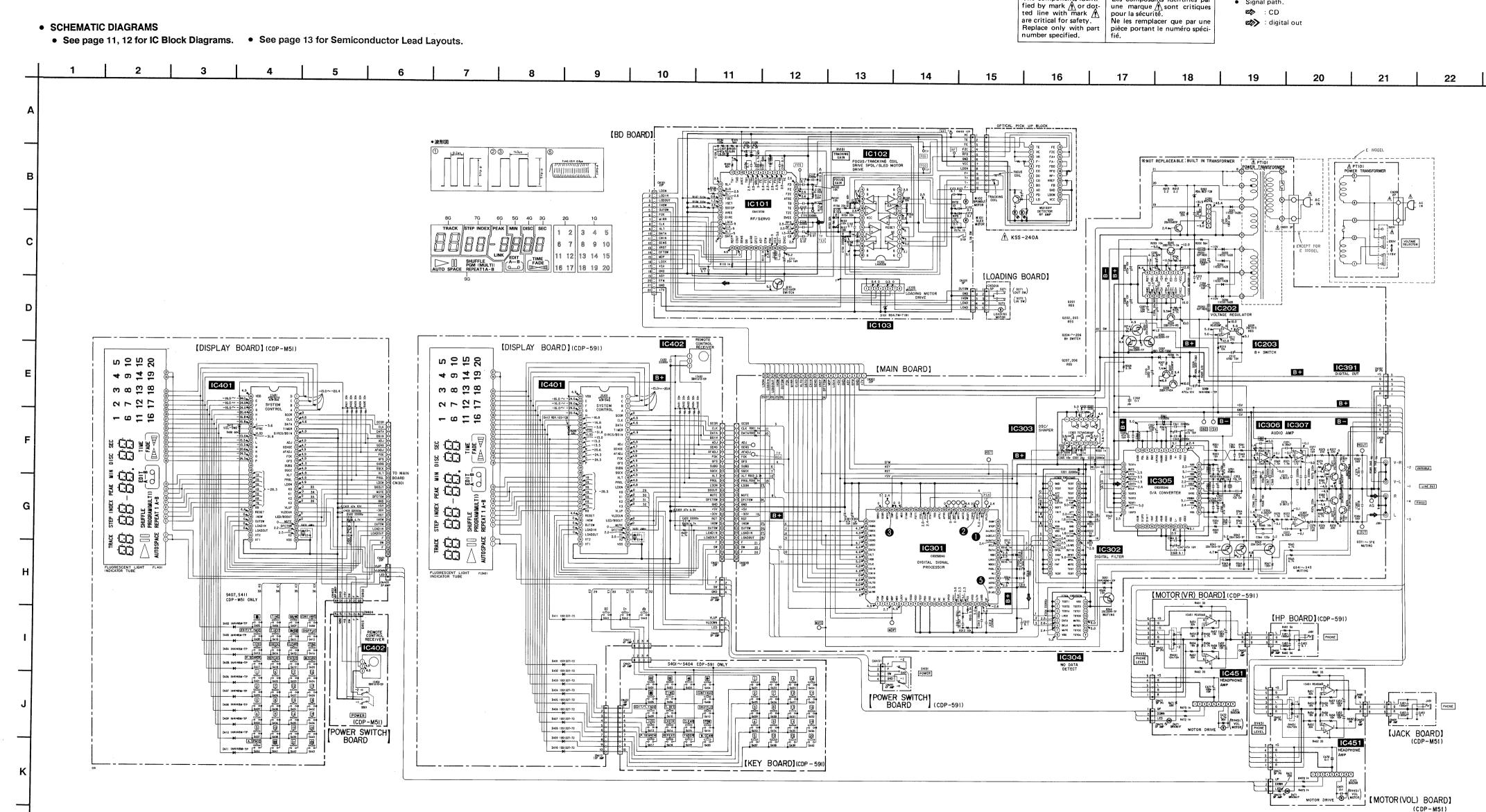
adjustment for repair.

• Circled numbers refer to waveforms.

Signal path.

☞ : CD : digital out

B- : B- Line

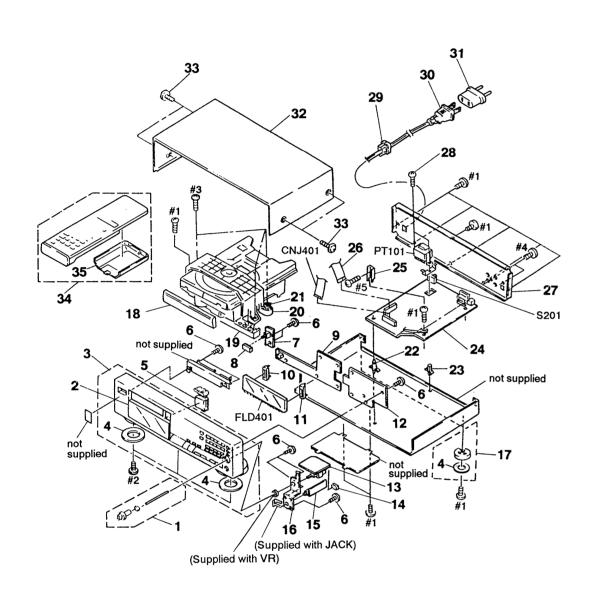


SECTION 6 EXPLODED VIEWS

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark
- Color Indication of Appearance Parts KONB, BALANCE (WHITE) . . . (RED)
 - Parts color Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the
- The components identified by mark A or dotted line with mark A are critical for safety.

 Replace only with part number
- Les composants identifiés par une marque 🐧 sont critiques pour la
- sécurité. pièce portant le numéro spécifié.

(1) OVERALL ASSEMBLY (CDP-591)



Ref. No.		Part No.	Description	Remark
1			KNOB (HP) ASSY	
2		4-941-165-01	PLATE, INDICATION	
3			PANEL ASSY, FRONT (US, Canadian)	
3		X-4941-122-4	PANEL ASSY, FRONT (AEP, AUS, E, UK) 4
4		4-923-836-11		
			BUTTON (OPEN. CLOSE)	
6			SCREW, +BV (2.6X8) TAPPING	
•	*		POWER SWITCH BOARD	
8		4-922-921-01	BUTTON (POWER)	
9	*	1-636-853-11	DISPLAY BOARD	
10	*	4-941-171-01	HOLDER (L)	
11	*	4-941-172-01	HOLDER (R)	
		1-636-850-11		
13	*	1-636-854-11	MOTOR VR BOARD	
			HOLDER (LED)	
		1-636-851-11		
16	*	4-941-167-01	BRACKET (HP)	
17		X-4885-950-1	FOOT ASSY (US. Canadian)	4
17		X-3304-938-2	FOOT ASSY (AEP, UK, E, Australian)	4
18		4-941-168-22	PANEL, LOADING	
19		4-941-169-01	BASE (MD/F)	
20		4-941-170-01	BASE (MD/R)	
21	*	4-933-220-01	SPACER (MD)	
22	*	4-924-098-01	HOLDER, PC BOARD	
23	*	3-349-025-41	HOLDER, PC BOARD	
24	*	A-4617-666-A	MAIN BOARD, COMPLETE (MADE IN F	RANCE)
24	*	A-4617-745-A	MAIN BOARD, COMPLETE (MADE IN J	
24	*	A-4617-746-A	AEP, US, AUS, Ca MAIN BOARD, COMPLETE (E)	naqıan

27	*	4-941-173-11	PANEL, BACK (US)
27	*	4-941-173-21	PANEL, BACK (Canadian)
			PANEL, BACK (E)
			PANEL, BACK (Australian)
			PANEL, BACK (AEP, UK)
			, , , , , , , , , , , , , , , , , , ,
28		4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6
29	*	3-703-571-11	BUSHING (S) (4516). COAR (US, Canadian, E)
29			BUSHING (2104), COAR
			(AEP, Australian, UK)
30			CORD, POWER (MADE IN JAPAN; AEP)
30			CORD, POWER (POLAR. SPT-1) (US, Canadian)
30		1-574-358-31	CORD. POWER (WITH CONNECTOR) (Australian)
30		1-575-653-21	CORD, POWER (E)
30		1-574-127-31	CORD, POWER (MADE IN FRANCE: AEP)
			CORD, POWER (MADE IN FRANCE: UK)
30	 •	1-575-651-21	CORD, POWER (MADE IN JAPAN: AEP)
31	⚠.	1-569-007-11	ADAPTOR, CONVERSION 2P (E)
32	*	4-937-817-01	
33			SCREW (CASE) (M3X8)
34		1-465-595-11	COMMANDER. REMOTE (RM-D591)
35		2-181-754-01	COVER. BATTERY
			JUMPER, FILM (WITH TERMINAL)
FLD40	1	1-519-618-21	INDICATOR TUBE, FLUORECENT
	_		TRANSFORMER, POWER (E)
			TRANSFORMER, POWER (US, Canadian)
			TRANSFORMER, POWER (AEP, Australian)
PT101	ا. ا	1-449-925-11	TRANSFORMER, POWER (MADE IN FRANCE)
\$201	∱ •	1-571-722-11	SWITCH, VOLTAGE SELECTOR (E)

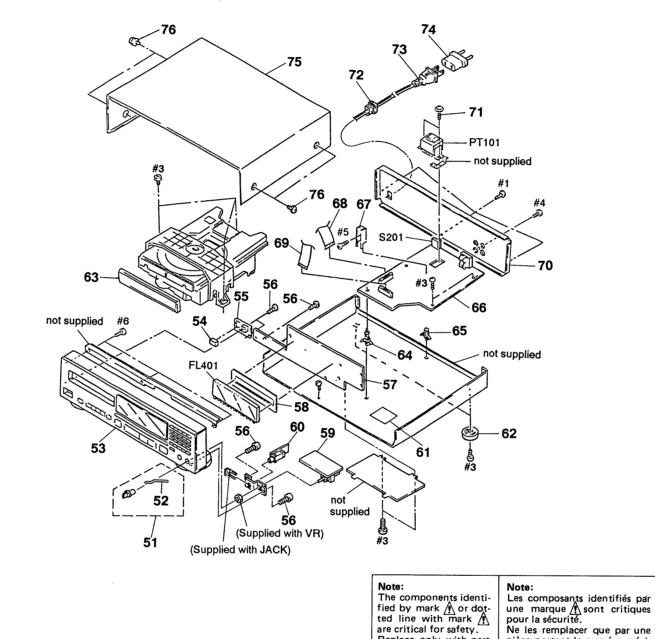
Remark

Ref. No. Part No. Description

25 * 4-941-237-01 HEAT SINK

1-575-002-11 WIRE. FLAT TYPE (22 CORE)

(2) OVERALL ASSEMBLY (CDP-M51)



52	A-4604-798-A	KNOB (HP) ASSY	52
	4-922-979-01	INDICATOR	
		PANEL ASSY, FRONT (MADE IN JAPA	
53	X-4941-171-2	PANEL ASSY, FRONT (MADE IN FRAN	CE)
54	4-941-982-01	BUTTON (POWER)	
55 *	1-636-967-11	POWER SW BOARD	
56	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
57 *	A-4617-652-A	DISPLAY BOARD, COMPLETE (MADE IN	FRANCE
57 *	1-636-966-11	DISPLAY BOARD (MADE IN JAPAN)	
58	4-941-981-01	HOLDER, FL TUBE	
59 *	1-637-598-11	MOTOR VOL BOARD (MADE IN FRANCE)
59 *	1-636-969-11	MOTOR VOL BOARD (MADE IN JAPAN)	
60 *	1-636-970-11	JACK BOARD	
51	9-911-863-XX	CUSHION (INSULATOR)	
52 *	4-934-883-01	CUSHION (INSULATOR) FOOT	
		PANEL, LOADING	
34 *	4-924-098-31	HOLDER, PC BOARD	
S5 *	3-349-025-41	HOLDER, PC BOARD	
66 *	A-4617-666-A	MAIN BOARD, COMPLETE (MADE IN F	RANCE)
		MAIN BOARD, COMPLETE (MADE IN J	

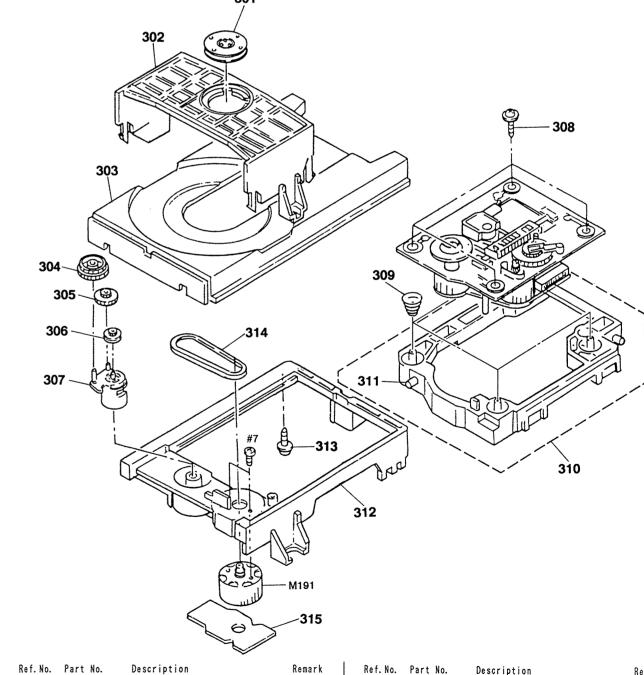
Replace only with part number specified. Ref. No. Part No. Description 67 * 4-941-237-01 HEAT SINK 1-575-160-11 WIRE, FLAT TYPE (22 CORE) 1-535-871-11 JUMPER, FILM (WITH TERMINAL) 70 * 4-941-552-42 PANEL, BACK (E) 70 * 4-941-552-31 PANEL, BACK (Australian) 70 * 4-941-552-21 PANEL, BACK (AEP, UK) 71 4-886-821-11 SCREW, S TIGHT, +PTTWH 3X6 72 * 3-703-571-11 BUSHING (S) (4516), CORD (E) 72 * 3-703-244-00 BUSHING (2104), CORD (AEP, UK, Australian) 73 A. 1-574-358-31 CORD, POWER (WITH CONNECTOR) (Australian) 73 **Δ**⋅ 1-575-635-21 CORD, POWER (E) 73 A. 1-574-127-31 CORD, POWER (MADE IN FRANCE: AEP) 73 A. 1-574-390-31 CORD, POWER (MADE IN FRANCE:UK) 73 A. 1-575-651-21 CORD, POWER (MADE IN JAPAN:AEP) 74 A. 1-569-007-11 ADAPTOR, CONNECSION 2P (E) 75 * 4-939-802-71 CASE 76 3-704-366-01 SCREW (CASE) (M3X8) FL401 1-519-618-11 INDICATOR TUBE, FLUORECENT PT101 A. 1-449-922-11 TRANSFORMER, POWER (AEP, Australian) PT101 1 1-449-923-11 TRANSFORMER, POWER (E) PT101 ⚠ 1-449-925-11 TRANSFORMER, POWER (MADE IN FRANCE)

S201 ⚠ 1-571-722-11 SWITCH, VOLTAGE SELECTION (E)

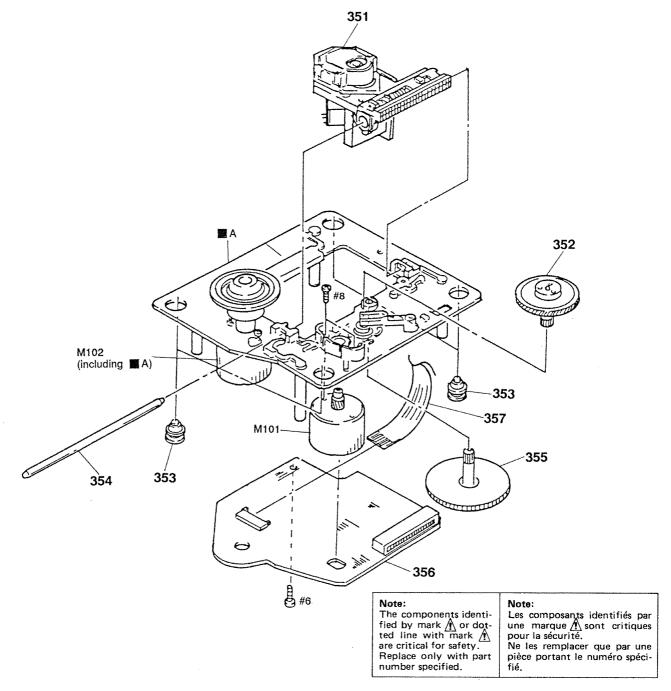
are critical for safety.

(3) MD BLOCK ASSEMBLY (CDM14-5BD1)

306



(4) OPTICAL BLOCK ASSEMBLY (BU-5BD1)



Ref. No.	Part No.	Description	Remark .	Ref. No.	Part No.	Description	Remark
		vage was not any little wat one our and able that		~ ~ ~ ~ ~ ~ ~			
351	4-917-567-01 4-933-126-01	DEVICE, OPTICAL KSS-240A/J1RP GEAR (M) INSULATOR (A) SHAFT. SLED		357 M101	1-575-001-11 X-4917-504-1	BD BOARD, COMPLETE WIRE, FLAT TYPE (12 CORE) MOTOR ASSY (SLED) MOTOR ASSY (SPINDLE)	
355		GEAR (P). FLATNESS		MIOZ	X 4511 020 0	MOTOR ADDI (DITRUEL)	



SECTION 7 ELECTRICAL PARTS LIST

NOTE:

The components identified by mark \bigwedge or dotted line with mark \bigwedge are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque A sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifé.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
 All resistors are in ohms
 METAL: Metal-film resistor
 METAL OXIDE: Metal Oxide-film resistor
 F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS In each case, u: μ , for example: uA...: μ A..., uPA...: μ PA..., uPB...: μ PC..., uPD...: μ PC..., uPD...: μ PD...
- CAPACITORS uF: μF
- COILS uH : μH

Ref. No.	Part No.	Description			Remark 	Ref. No.	Part No.	Descrip	tion			Remar
*	k A-4617-161-A	BD BOARD, COMP						< CONNE	CTOR >			
						CN101	1-568-796-11					
		< CAPACITOR >				CN102	1-568-795-11	SOCKET.	CONNECT	OR 12P		
						CN103	* 1-564-721-11	PIN, CO	NNECTOR	(SMALL	TYPE)	5P
C101		CERAMIC CHIP	0. 1uF	4 4 4 4 4	25V							
C102		CERAMIC CHIP	0.033uF		25V			< DIODE	>			
C103	1-126-163-11		4. 7uF	20%	50V							
C104		CERAMIC CHIP	0. 1uF	0.00/	25V	D101	8-719-105-72	DIODE R	D4. 7M-81			
C105	1-126-154-11	ELECT	47uF	20%	6. 3V							
0100	1 100 154 11	FLEAT	475	0.00/	C 21/			< 1C >				
C106 C107	1-126-154-11		47uF 47uF		6.3V 6.3V	10101	0 750 050 00	10 0/11	0700			
C107	1-163-038-00		47ur 0. 1uF	20%	0. 3 V 25 V	IC101 IC102	8-752-050-82					
C100	1-163-038-00		0. 1uF		25V 25V	1C102	8-759-822-36					
C103	1-163-989-11		0. 147 0. 033uF	10%	25V 25V	10103	8-759-633-65	IC M345	4 I L			
0110	1-103-363-11	CLIMMIC CHIL	0. 033ui	10/0	2 J V			/ TAMPE	D .			
C111	1-131-367-00	TANTALIM	22uF	1.0%	20V			< JAMPE	n >			
C112	1-164-232-11		0.01uF	1070	50V	J101	1-216-295-00	METAL C	H I D	0	5%	1/10W
C113	1-164-232-11		0. 01uF		50V	J102	1-216-295-00			0	5%	1/10W
C114	1-164-161-11		0.0022uF	10%	100V		1 210 200 00	me inc		•	376	17 1011
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V			< TRANS	ISTOR >			
C117	1-163-038-00		0. 1uF		25V	0101	8-729-901-01	TRANSIS	TOR DTC1	44EK		
C118	1-163-038-00		0. 1uF		25V							
C119	1-164-161-11		0.0022uF		100V			< RESIS	TOR >			
C120	1-163-989-11		0.033uF	10%	25V							
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50 V	R101	1-216-097-00			100K	5%	1/10W
						R102	1-216-095-00			82K	5%	1/10W
C152	1-163-038-00		0. 1uF		25V	R103	1-216-091-00			56K	5%	1/10W
C153	1-163-006-11		560PF	10%	50V	R104	1-216-099-00			120K	5%	1/10W
C154	1-164-161-11		0. 0022uF	10%	100V	R105	1-216-069-00	METAL CI	1119 1	6.8K	5%	1/10W
0155	1-163-023-00		0.015uF	5%	50V							
0171	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	R106	1-216-061-00			3.3K	5%	1/10W
0470	4 400 000 00	0504410 01115			0.514	R107	1-216-114-00			510K	5%	1/10W
0172	1-163-038-00		0. 1uF		25V	R108	1-216-105-00			220K	5%	1/10W
C173	1-163-038-00		0. 1uF		25V	R109	1-216-061-00			3. 3K	5%	1/10W
C174	1-163-038-00	CERAMIC CHIP	0. 1uF		25V	R110	1-216-049-00	METAL CI	111	1 K	5%	1/10W



Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Description			Remark
R111	1-216-049-00			1/10W	D407		D10DE 188202-1			
R112	1-216-083-00			1/10W	D408		DIODE 188202-1			
R113	1-216-071-00			1/10W	D409		DIODE 188202-1			
R114 R152	1-216-105-00 1-216-073-00			1/10W 1/10W	D410 D411		DIODE 188202-1			
NIUZ	1-210-073-00	METAL CHIE ION	\ J/6	17 1011	D411		DIODE RD9. 1ES-			
R153	1-216-085-00	METAL CHIP 33K	5%	1/10W	0412	0 113 110 10	D1001 1103. 110	UZ		
R154	1-216-085-00			1/10W			< FLUORESCENT	INDICATOR	>	
R155	1-216-093-00	METAL CHIP 68K	5%	1/10W						
R156	1-216-081-00			1/10W	FLD401	1-519-618-21	INDICATOR TUBE	. FLUORESC	ENT	
R157	1-216-079-00	METAL CHIP . 18k	5%	1/10W						
		UETAL AULD 400	, 50/	1 /1 AW	ļ		< 10 >			
R158	1-216-079-00	· ·		1/10W 1/10W	10401	0 750 150 00	10 DD75016104			
R159 R160	1-216-079-00 1-216-049-00		5%	1/10W	1C401 1C402		IC uPD75216ACW	-845		
R171	1-216-001-00		5%	1/10W	10402	0-741-100-40	10 30X1010-39			
R172	1-216-001-00		5%	1/10W			< RESISTOR >			
11112	1 210 001 00	merine onti	. •	,, , , , , ,			· HEOTOTOM >			
R173	1-216-001-00	METAL CHIP 10	5%	1/10W	R401	1-249-435-11	CARBON	33K	5%	1/4W
R174	1-216-001-00	METAL CHIP 10	5%	1/10W	R402	1-249-435-11	CARBON	33K	5%	1/4W
					R403	1-249-435-11	CARBON	33K	5%	1/4W
		< VARIABLE RESISTO	OR >		R404	1-249-435-11	CARBON	33K	5%	1/4W
RV101		RES. ADJ. CARBON 1			R405	1-249-435-11			5%	1/4W
RV102	1-238-016-11	RES, ADJ, CARBON 1	IUK		R406	1-249-425-11				1/4W
		< SWITCH >			R407 R408	1-249-425-11			5% 5%	1/4W
		C SHITCH >			1400	1-243-433-11	CANDUN	001	J76	1/4W
\$101	1-572-085-11	SWITCH, LEAF					< SWITCH >			
******	******	*******	******	*****	\$441	1-554-303-21	SWITCH, TACTIL	E (11) (MAD	E IN	JAPAN)
					\$441	1-554-303-81	SWITCH, TACTIL	E (II) (MAI	E IN	FRANCE)
*	1-636-853-11	DISPLAY BOARD (591			\$442		SWITCH, TACTIL			
		**********	**		\$442		SWITCH, TACTIL			
ı.	4-941-171-01	HULDED (1)			\$443 \$443		SWITCH, TACTIL SWITCH, TACTIL			
	4-941-171-01 4-941-172-01	1.1			3443	1-334-303-61	SHITTON, TACTIL	[. (=) (MAL	L IN	(NANGE)
7	. 4 341 112 01	HOLDEN (II)					< CERAMIC >			
		< CAPACITOR >								
					X401	1-577-358-21	VIBRATOR, CERA	MIC (4MHz)		
C401	1-126-154-11			6. 3V						
C402	1-161-494-00)22uF	25V 25V	*****	******	**********	******	****	******
C403	1-161-494-00	CERAMIC U. U)22uF	23 V		¥ 1-636-851-11	HP BOARD (591)			
		< CONNECTOR >				* 1-000-001-11	*******	:		
CN401	1-535-872-11	JUMPER, FILM (WITH	H TERMINAL)				< CAPACITOR >			
		< DIODE >			C481	1-162-294-31		0.001uF		50 V
D. / O. *	0.740.407.5	DIODE 100000 1			C482	1-162-294-31		0.001uF	10%	50V
D401		DIODE 188202-1			C483	1-164-159-11	CERAMIC	0. 1uF		50V
D402		DIODE 188202-1			-		/ CONNECTOR >			
D403		DIODE 188202-1 DIODE 188202-1			,		< CONNECTOR >			
D404 D405		DIODE 188202-1			CNARI	* 1-568-Q/1-11	PIN, CONNECTOR	3 P		
D403		DIODE 188202-1				. , 000 071 11	, •••••••••	• • •		
					1					

HP KEY

Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Descrip	tion		Remark
		< JACK >			\$433	1-554-303-21	SWITCH,	TACTILE	(4)	
					\$434	1-554-303-21	SWITCH,	TACTILE	(9)	
J481	1-568-519-21	JACK. LARGE TYPE	(PHONE) (MADE	IN JAPAN)	\$435	1-554-303-21	SWITCH,	TACTILE	(14)	
	1-568-519-41	JACK. LARGE TYPE	(PHONE) (MADE	IN FRANCE)	\$436	1-554-303-21	SWITCH,	TACTILE	(19)	
		< RESISTOR >			\$437	1-554-303-21	SWITCH,	TACTILE	(5)	
					\$438	1-554-303-21	SWITCH.	TACTILE	(10)	
R481	1-249-402-11	CARBON 5	6 5%	1/4W	\$439	1-554-303-21	SWITCH.	TACTILE	(15)	
R482	1-249-402-11	CARBON 5	6 5%	1/4W	\$440	1-554-303-21	SWITCH,	TACTILE	(20)	
******	******	*******	******	******		<	SWITCH >	(MADE IN	FRANCE)	
*	: 1-636-850-11	KEY BOARD BOARD	(591)		\$401	1-554-303-81	SWITCH,	TACTILE ((144)	
		******	****		\$402	1-554-303-81				
					\$403	1-554-303-81	SWITCH.	TACTILE ((◀◀)	
		< CONNECTOR >			\$404	1-554-303-81	SWITCH.	TACTILE ((▶▶)	
			_		\$405	1-554-303-81				
		PIN, CONNECTOR 4 PIN, CONNECTOR 1			\$406	1-554-303-81	SWITCH	TACTILE	(TIME)	
011422 7	. 1 000 301 11	1111, 001111201011 1	• •		\$408	1-554-303-81				
	(SWITCH > (MADE IN	JAPAN)		\$409	1-554-303-81				
	`	0 1 1 0 1 7 (mile 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·		\$410	1-554-303-81				
\$401	1-554-303-21	SWITCH, TACTILE	(144)		\$412	1-554-303-81				
\$402		SWITCH, TACTILE							(00, . 22)	
\$403		SWITCH, TACTILE			\$413	1-554-303-81	SWITCH.	TACTILE	(>20)	
S 4 0 4	1-554-303-21	SWITCH, TACTILE	(▶▶)		\$414	1-554-303-81				
\$405		SWITCH, TACTILE			\$415	1-554-303-81				
0 100	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************	•		\$416	1-554-303-81				
\$406	1-554-303-21	SWITCH, TACTILE	(TIME)		\$417	1-554-303-81				
\$408		SWITCH, TACTILE							(, , , , , , , , , , , , , , , , , , ,	
\$409		SWITCH, TACTILE			\$418	1-554-303-81	SWITCH.	TACTILE	(REPEAT)	
\$410		SWITCH, TACTILE			\$419	1-554-303-81				
\$412		SWITCH, TACTILE	, ,		\$420	1-554-303-81				
0412		• • • • • • • • • • • • • • • • • • • •	(******		\$421	1-554-303-81			•	
\$413	1-554-303-21	SWITCH, TACTILE	(>20)		\$422	1-554-303-81				
\$414		SWITCH, TACTILE							(-,	
\$415		SWITCH, TACTILE			\$423	1-554-303-81	SWITCH.	TACTILE	(11)	
\$416		SWITCH, TACTILE			\$424	1-554-303-81				
\$417		SWITCH, TACTILE			\$425	1-554-303-81			• •	
• 111	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• • • • • • • • • • • • • • • • • • • •	(,		\$426	1-554-303-81				
\$418	1-554-303-21	SWITCH, TACTILE	(REPEAT)		\$427	1-554-303-81				
\$419		SWITCH, TACTILE					•		. ,	
\$420		SWITCH, TACTILE			\$428	1-554-303-81	SWITCH.	TACTILE	(17)	
\$421		SWITCH, TACTILE			\$429	1-554-303-81				
\$422		SWITCH, TACTILE			\$430	1-554-303-81			• •	
					\$431	1-554-303-81				
\$423	1-554-303-21	SWITCH, TACTILE	(11)		\$432	1-554-303-81				
\$424		SWITCH, TACTILE	•				,		, ,	
\$425		SWITCH, TACTILE			\$433	1-554-303-81	SWITCH.	TACTILE	(4)	
\$426		SWITCH, TACTILE			\$434	1-554-303-81				
\$427		SWITCH, TACTILE			\$435	1-554-303-81				
V 72:	, 554 000 E1		· -/		\$436	1-554-303-81			,	
\$428	1-554-303-21	SWITCH, TACTILE	(17)		\$437	1-554-303-81				
\$429		SWITCH, TACTILE			0.701	, 00+ 000 01	VIII 1 VIII,	MOTILE	(~)	
		SWITCH, TACTILE			\$438	1-554-303-81	SWITCH	TACTUE	(10)	
\$430		SWITCH, TACTILE			\$439	1-554-303-81				
\$431 \$432		SWITCH, TACTILE			\$440	1-554-303-81				
	1-774-3113-71	SWILLER, LAULILE	110/		1 3440	1-004-000-01	oniilli,	INVIILE	(Z U)	

LOADING MAIN

Ref. No		Description			Remark	Ref. No.		Part No.	Description			Remark
	* 1-632-202-11		D			C341		1-161-494-00		0. 022uF		25V
	. , , , , , , , , , , , , , , , , , , ,	*******				C342		1-126-022-11	ELECT	47uF	20%	
						C343		1-161-494-00	CFRAMIC	0. 022uF		25V
		< CONNECTOR	>		1	C344		1-161-494-00		0. 022uF		25V
		COMMEDIAN				C345		1-126-022-11		47uF	20%	
CN301	* 1-564-707-11	PIN CONNECT	OR (SMALL	TVPF	5P	0040		1 120 022 11	LLLOI	4701	2 0 / 0	104
CHOOL	# 1 004 PVF 11	TH, OURILOT	on towner	111 67	01	C346		1-164-159-11	CERAMIC	0. 1uF		50V
		< SWITCH >				C347		1-126-022-11		47uF	20%	
		V SHITCH >				C348		1-164-159-11		0. 1uF	2070	50V
0071	1-572-086-11	OWITOU LEAF	AMP THAY			C349		1-161-494-00		0. 14r 0. 022uF		25V
\$271		SWITCH, LEAF				C350					0.00/	
\$272	1-372-000-11	SWITCH, LEAF	(IN SH)			0330		1-126-022-11	ELEGI	47uF	20%	104
****	******	******	******	****	*****	C351		1-161-494-00	CERAMIC	0. 022uF		25V
*****						C352		1-126-022-11		47uF	20%	
	* A-4617-666-A	MAIN BOARD	COMPLETE (MADE	IN FRANCE)	C353		1-162-199-31		10PF	5%	50V
	* A-4617-745-A					C354		1-162-199-31		10PF	5%	50V
	* A-4017-143-A	MAIN BUAND,			S. Canadian)	C355		1-161-494-00		0. 022uF	376	25V
	* A-4617-746-A	MAIN BOARD			o, Ganaulan,	0000		1-101-454-00	CENAMIC	0. 02201		7 3 V
	* X-4011-140-X	*******			*****	C356		1-126-022-11	FLECT	47uF	20%	161/
		*****	********	****		C357		1-124-997-11		470uF	20%	
		HEAT CLAY				C361				180PF	10%	
	* 4-902-345-01							1-162-285-31				
	1-682-541-09	SCREW +B 3X6				C362		1-162-285-31		180PF	10%	
						C363		1-162-283-31	CERAMIC	120PF	10%	50V
		< CAPACITOR :	>			0001		1 100 000 01	05011110	40005		5411
						C364		1-162-283-31		120PF	10%	50V
C201	1-124-572-11		100uF	20%		C365		1-162-283-31		120PF	10%	
C202	1-126-059-11		10uF	20%		C366		1-162-283-31		120PF	10%	
C203	1-124-887-00		3300uF	20%	3	C367		1-161-494-00		0.022uF		25V
C204	1-126-937-11	ELECT	4700uF	20%		C368		1-161-494-00	CERAMIC	0.022uF		25V
C205	1-126-163-11	ELECT	4. 7uF	20%	50V							
						C371		1-130-479-00	MYLAR	0.0047uF	5%	50 V
C206	1-126-059-11	ELECT	10uF	20%	50V	C372		1-130-479-00	MYLAR	0.0047uF	5%	50 V
C207	1-126-059-11	ELECT	10uF	20%	50V	C373		1-130-472-00	MYLAR	0.0012uF	5%	50 V
C208	1-124-997-11	ELECT	470uF	20%	10V	C374		1-130-472-00	MYLAR	0.0012uF	5%	50 V
C209	1-124-997-11	ELECT	470uF	20%	10V	C375		1-161-494-00	CERAMIC	0.022uF		25V
C210	1-126-024-11	ELECT	220uF	20%	16V							
						C376		1-161-494-00	CERAMIC	0.022uF		25V
C211	1-124-997-11	ELECT	470uF	20%	10V	C377		1-126-022-11	ELECT	47uF	20%	16V
C212	1-124-997-11		470uF	20%		C378		1-126-022-11		47uF	20%	
C221	1-164-159-11		0. 1uF		50V	C379		1 100 174 00	MVI AD	0.0018uF		50V
C301	1-126-022-11			20%		C380		1-130-474-00	MYLAR	0.0018uF		50V
C302	1-126-301-11		1uF	20%	50V	C392		1-130-474-00 1-130-474-00 1-164-159-11	CERAMIC	0. 1uF	070	50V
0002	1 120 001-11	LLLU!		2070		7302				** 141		
C311	1-130-491-00	MYI AR	0.047uF	5%	50V				< CONNECTOR	>		
C311	1-161-374-11		0. 0015uF	20%					. VVIIILVIVII	•		
C312	1-161-494-00		0. 022uF	2 470	25V	CN201	¥	1-580-230-11	PIN, CONNECT	ባይ (ይር ይርላ	BU) 3	p
C314	1-162-306-11		0. 01uF	20%					SOCKET. CONN		110) 0	ı
	1-126-300-11		0. 47uF	20%	50V				SOCKET, CONN			
C315	1-120-300-11	LLLOI	0. 4741	2 0 70	301				PIN, CONNECT		TVDE	6 P
0216	1-161-494-00	CERAMIC	0.022uF		25V				PIN. CONNECT			
C316			0. 022ur 0. 1uF		50V .	011002	Ť	1 004 101-11	I IR, CONNECT	ON COMMEL	111 E)	O1
C317	1-164-159-11								< DIODE >			
C321	1-161-494-00		0. 022uF	E0/	25V				< DIODE >			
C331	1-162-208-31	CEKAMIC	24PF	5%	50V	0004		0 710 000 00	DIADE 11500			
	4 400 400	LDVI 1.D	A 45	En/	501/	D201		8-719-200-82		0 00		
C332	1-130-495-00		0. 1uF	5%	50V .	D202			DIODE RD6. 8E	2-87		
C333	1-161-494-00		0.022uF		25V	D203		8-719-200-82				
C334	1-161-494-00		0.022uF		25V	D204		8-719-200-82				
C335	1-162-205-31	CERAMIC	18PF	5%	50V	D205		8-719-200-82	DIODE 11ES2			

MAIN

Ref. No.	Part No.	Description Remar	1	Part No.	Description			Remark
D206	8-719-200-82				< RESISTOR >			
D207	•		0001	1 040 405 11	0.1.2.2.0.11	0011		
D208		DIODE RD5. 6ES-B2	R201	1-249-435-11		33K	5%	1/4W
D209		DIODE 188120	R202	1-249-438-11		56K	5%	1/4W
D341		DIODE 11EQS04	R203	1-249-429-11		10K	5%	1/4W
D351	8-719-912-20	DIODE 188120	R204	1-249-425-11		4.7K	5%	1/4W
		< 1C >	R205	1-249-425-11	CARBON	4. 7K	5%	1/4W
			R206	1-249-417-11	CARBON	1 K	5%	1/4W
IC201	8-759-633-42	IC M5293L	R207	1-249-417-11	CARBON	1 K	5%	1/4W
1C202	8-759-630-21	IC M5290P-16	R208	1-249-423-11	CARBON	3.3K	5%	1/4W
1C203	8-759-945-58	IC RC4558P	R209	1-249-413-11	CARBON	470	5%	1/4W
1C301	8-752-337-26	IC CXD2500AQ	R210	1-249-429-11	CARBON	10K	5%	1/4W
10302	8-752-328-61	IC CXD1244S					•,•	.,
			R211	1-249-410-11	CARBON	270	5%	1/4W
1C303	8-759-917-18	IC SN74HCU04AN	R212	1-249-385-11		2. 2	5%	1/6W
10304	8-752-339-86		R213	1-249-385-11		2. 2	5%	1/6W
1C305	8-752-334-87		R214	1-249-417-11		1 K	5%	1/4W
10306	8-759-990-82		R301	1-249-417-11		1 K	5%	1/4W
10307	8-759-900-72		1,007	1 243 411 11	CANDON	1.6	3/0	1/411
10301	0-133-300-12	10 RE00021	R302	1-249-417-11	CADDON	1 K	5%	1 / 4511
		< JACK >	R303	1-249-421-11				1/4W
		C JACK >	T I			2. 2K	5%	1/4W
1001	. 1 500 140 11	JACK. PIN 4P (LINE OUT VARIABLE/FIXE	R304	1-249-417-11		1 K	5%	1/4W
J381	* 1-509-443-11	JACK, PIN 4P (LINE OUT VARIABLE/FIXE		1-249-423-11		3.3K	5%	1/4W
		< COIL >	R312	1-249-429-11	CARBON	10K	5%	1/4W
			R313	1-249-423-11	CARBON	3.3K	5%	1/4W
L331	1-408-403-00	INDUCTOR 3. 3uH	R314	1-249-429-11	CARBON	10K	5%	1/4W
			R315	1-249-417-11	CARBON	1 K	5%	1/4W
		< LINK >	R316	1-249-417-11	CARBON	1 K	5%	1/4W
			R317	1-249-420-11		1.8K	5%	1/4W
PS201	1-532-685-00	LINK, IC						*,
PS202	1-532-637-00		R318	1-249-441-11	CARBON	100K	5%	1/4W
			R321	1-249-417-11		1 K	5%	1/4W
		< TRANSISTOR >	R322	1-249-417-11		1 K	5%	1/4W
			R323	1-249-417-11		1 K	5%	1/4W
Q201	8-729-119-76	TRANSISTOR 2SA1175-HFE	R324	1-249-418-11		1. 2K	5%	1/4W
0202		TRANSISTOR 2SD774-34	,,,,,	1 240 410 11	ombon	1. ZK	370	17 411
0203		TRANSISTOR 2SB1094-L	R331	1-249-409-11	CARRON	220	5%	1/4W
0204		TRANSISTOR DTA144ES	R332	1-247-887-00		220K	5%	1/4W
0205		TRANSISTOR DTC144ES	R333	1-249-417-11		1 K	5%	1/4W
4200	0 123 300 03	THANGIOTON DIOTAGE	R334	1-249-409-11		220	5%	•
Q206	8-720-000-80	TRANSISTOR DTC144ES	R341	1-249-393-11		10	5%	1/4W
Q207		TRANSISTOR 2SC2458-YGR	1,041	1 243 030 11	OMNOVII	10	J%	1/4W
0208		TRANSISTOR 2SB1274SA-RS	R342	1-249-417-11	CADDON	1 K	C 0/	1 / 450
0209		TRANSISTOR 2SC1815-Y	R343	1-249-441-11			5% 5%	1/4W
Q341		TRANSISTOR DTA144ES	R344	1-249-441-11		100K	5%	1/4W
4341	0-123-300-03	TRANSISION DIA144ES	R345	1-249-425-11		100K	5%	1/4W
0240	0 700 000 CE	TRANSISTOR DTA144ES	1			4. 7K	5%	1/4W
0342			R346	1-249-425-11	CARBUN	4. 7K	5%	1/4W
Q3 43		TRANSISTOR DTA144ES	00.47	1 040 444 44		400"		
0344		TRANSISTOR DTC144ES	R347	1-249-441-11		100K	5%	1/4W
Q371		TRANSISTOR 2SC3623A-LK	R348	1-249-429-11		10K	5%	1/4W
0372	8-729-141-30	TRANSISTOR 2SC3623A-LK	R351	1-249-429-11		10K	5%	1/4W
			R352	1-249-429-11		10 K	5%	1/4W
Q373		TRANSISTOR 2SC3623A-LK	R353	1-249-429-11	CARBON	10K	5%	1/4W
Q374		TRANSISTOR 2SC3623A-LK						
Q375	8-729-231-55	TRANSISTOR 2SC2878-AB						
Q376	8-729-231-55	TRANSISTOR 2SC2878-AB						
			1					

MAIN MOTOR VR POWER SWITCH

Ref. No.	Part No.	Description			Remark	Ref. No.		Part No.	Desci	ription			Remar
-	1-249-429-11		10K	5%	1/4W				< 001	INECTOR >			
355	1-247-848-11		5. 1K	5%	1/4W								
356	1-249-405-11		100	5%	1/4W	CN451	*	1-564-708-11	PIN,	CONNECTOR	(SMALL	TYPE)	6 P
161	1-247-840-00		2. 4K	5%	1/4W			1-564-707-11			•		
62	1-247-840-00		2. 4K	5%	1/4W			1-568-941-11			•	, - ,	
002	1-241-640-00	OKINDON	2. 410	٧,,	17 711	0	•				•,		
63	1-247-840-00	CARBON	2.4K	5%	1/4W				< D10	DE >			
64	1-247-840-00	CARBON	2. 4K	5%	1/4W								
65	1-249-432-11	CARBON	18K	5%	1/4W	D471		8-719-970-49	DIODI	BR4361F			
866	1-249-432-11	CARBON	18K	5%	1/4W								
67	1-249-432-11	CARBON	18K	5%	1/4W				< 10	>			
	4 040 400 11	0.4.00.0.11	100	E0/	1/414	10451		8-759-981-89	IC D	245560			
368	1-249-432-11		18K	5%	1/4W								
369	1-249-419-11		1. 5K	5%	1/4W	10471		8-759-962-08	10 8	40208			
70	1-249-419-11		1. 5K	5%	1/4W								
171	1-249-419-11	CARBON	1. 5K	5%	1/4W				< RE	SISTOR >			
72	1-249-419-11	CARBON	1. 5K	5%	1/4W			•					
						R451		1-249-435-11			33K	5%	1/4W
73	1-247-887-00	CARBON	220K	5%	1/4W	R452		1-249-435-11	CARB	NC	33K	5%	1/4W
174	1-247-887-00	CARBON	220K	5%	1/4W	R453		1-249-432-11	CARB	NC	18K	5%	1/4W
375	1-249-409-11		220	5%	1/4W	R454		1-249-432-11	CARB	N	18K	5%	1/4W
376	1-249-409-11		220	5%	1/4W	R455		1-249-422-11			2.7K	5%	1/4W
	1-249-409-11		220	5%	1/4W	,,,,,,		, 2.10 .22	•	•		• • • • • • • • • • • • • • • • • • • •	.,
377	1-249-409-11	CANDUN	220	070	1/ 7"	R456		1-249-422-11	CARR	าม	2.7K	5%	1/4W
	4 0 10 100 11	OADDON	200	5%	1/4W	R457		1-249-429-11			10K	5%	1/4W
378	1-249-409-11		220			-					10K	5%	1/4W
179	1-249-425-11		4. 7K	5%	1/4W	R458		1-249-429-11					•
380	1-249-425-11		4. 7K	5%	1/4W	R461		1-249-399-11			33	5%	1/4W
381	1-249-425-11	CARBON	4. 7K	5%	1/4W	R462		1-249-399-11	CARB	UN	33	5%	1/4W
382	1-249-425-11	CARBON	4. 7K	5%	1/4W			*					
						R471		1-249-411-11	CARB	ON	330	5%	1/4W
383	1-249-414-11	CARBON	560	5%	1/4W	R472		1-249-417-11	CARB	ON	1 K	5%	1/4W
384	1-249-414-11	CARBON	560	5%	1/4W	R473		1-249-417-11	CARB	ON	1 K	5%	1/4W
385	1-249-393-11	CARBON	10	5%	1/4W								
386	1-249-393-11		10	5%	1/4W				< VA	RIABLE RES	ISTOR >		
389	1-249-414-11		560	5%	1/4W								
1390	1-249-414-11		560	5%	1/4W	RV451		1-241-302-11	RES,	VAR, CARB	ON 10K/	10K (F	HONE LEVE
		< CRYSTAL >	•			*****	**	******	****	******	*****	*****	******
351	1-579-161-11	VIBRATOR, CF	RYSTAL (45	5MHz)			*	1-636-852-11	POWE	R SWITCH B	OARD (5	91)	
		. 01117011							****	*******	*****	***	
		< SWITCH >							< SW	ITCH >			
201 🛦	• 1-571-722-11	SWITCH, VOL	TAGE SELEC	TOR (E))	\$491		1-554-118-00	cwit	CH PIICH I	'1 KEV)	(PNWFR	ON/OFF)
*****	******	******	*******	*****	*******	0431		1 004 110 00	,	011, 10011	(1 K21)	(, 0,,,,,,	011, 011,
;	¥ 1-636-854 - 11	MOTOR VR BOA											٠
	* 4-922-980-01	HOLDER (LED)											
		< CAPACITOR	>										
151	1_104_004_11	FLECT	100uF	20	% 10V								
2451	1-124-994-11			20									
2452	1-124-994-11		100uF										
	1-124-994-11	ELECT	100uF	20	% 10V	1							
C471 C472	1-124-277-11		4. 7uF	20	% 35V	1							

Note:

The components identified by mark A or dotted line with mark R are critical for safety.

Replace only with part number specified.

Les composants identifiés par une marque A sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

DISPLAY POWER SW MOTOR VOL JACK

Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Description			Remark
:	* A-4617-652-A	DISPLAY BOARD O		IN FRANCE)			< DIODE >			
	+ 1_636_066_11	DISPLAY BOARD			D402	0 710 010 00	DIODE 188120			
,	* 1 000 500 11	*********			D402		DIODE 188120			
,	* 1-636-967-11	POWER SW BOARD		1	D403		DIODE 188120			
		POWER SW BOARD			D404		DIODE 188120			
	T 1 001 050 11	*********			D405		DIODE 133120 DIODE 188120			
,	* 1-636-969-11	MOTOR VOL BOARI			5400	0-713-312-20	01006 133120			
		********	• •		D407	8-719-912-20	DIODE 188120			
,	* 1-636-970-11	JACK BOARD (M5		N)	D408		DIODE 188120			
		JACK BOARD (M5			D409		DIODE 188120			
		********			D410		DIODE 188120			
					D411		DIODE 188120			
	1-535-871-11	JUMPER, FILM (WITH TERMINAL)	1	J	0 110 012 20	D100E 100120			
;	* 4-922-980-01	•	•		D412	8-719-001-15	DIODE UZL-9M2			
	4-941-981-01	HOLDER, FL TUBI	E		D471		DIODE BR4361F			
		< CAPACITOR >			÷		< FLUORESCENT	INDICATOR	>	
C401	1-126-022-11	FLECT	47uF 20%	100	FL401	1 510 610 11	INDICATOR TURE	FLUADEO	ACUT	
C402	1-161-494-00		0. 022uF	25V	1 640 1	1-319-010-11	INDICATOR TUBE	, FLOURES	CENI	
C402	1-161-494-00		0. 022uF	25V			< 10 >			
C404	1-161-494-00		0. 022uF	25V			(10)			
C451	1-124-443-00		100uF 20%	i	10401	9_750_152_26	IC uPD75216ACW	0.40		
0401	1 124 440 00	LLLV.	10041 2011		10401		IC SBX1610-59	-040		
C452	1-124-443-00	FLECT	100uF 20%	10V	10451	8-759-981-85				
C471	1-164-159-11		0. 1uF	50V	10431	8-759-962-08				
C472	1-164-159-11		0. 1uF	50V	10411	0 133-302-00	IC DAUZUO			
C481	1-162-294-31		0.001uF 10%	1			< JACK >			
C482	1-162-294-31		0.001uF 10%	1			C SAUR /			
C483	1-164-159-11		0. 1uF	50V	J481	1-568-519-21	JACK, LARGE TY	DE (DHUNE)) (MADI	E IN IADAM
					J481		JACK, LARGE TY			
		< CONNECTOR >		-	0401	7 300 313 41	JACK, LANGE II	IL (FNONE)	MADE	IN FRANCE)
							< RESISTOR >			
CN401 >	* 1-564-708-11	PIN. CONNECTOR	(SMALL TYPE) 6	Ρ			· ALVIVION /			
•		PIN. CONNECTOR	•		R401	1-249-435-11	CARBON	33K	5%	1/4W
		PIN, CONNECTOR		P	R402	1-249-435-11		33K		1/4W
		PIN. CONNECTOR			R403	1-249-435-11		33K		1/4W
					R404	1-249-435-11		33K		1/4W
								11	J/0	1/ 311

DISPLAY POWER SW MOTOR VOL JACK

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Descrip	tion		Remark
R405	1-249-435-11	CARRON	33K	5%	1/4W	S430	1-554-303-21	CWITCH	 TACTILE	/0\	
R406	1-249-425-11		4. 7K	5%	1/4W	\$431	1-554-303-21				
R407	1-249-425-11		4. 7K	5%	1/4W	\$432	1-554-303-21				
R408	1-249-439-11		68K	5%	1/4W	\$433	1-554-303-21				
R451	1-249-435-11		33K	5%	1/4W	S434					
N4J1	1-245-455-11	CANDON	331	3/8	17 411	3434	1-554-303-21	SWITCH.	IACTILE	(9)	
R452	1-249-435-11		33K	5%	1/4W	\$435	1-554-303-21	SWITCH,	TACTILE	(14)	
R453	1-249-432-11		18K	5%	1/4W	\$436	1-554-303-21			• •	
R454	1-249-432-11		18K	5%	1/4W	\$437	1-554-303-21				
R455	1-249-422-11		2. 7K	5%	1/4W	\$438	1-554-303-21			•	
R456	1-249-422-11	CARBON	2.7K	5%	1/4W	\$439	1-554-303-21	SWITCH.	TACTILE	(15)	
R457	1-249-429-11	CARBON	10K	5%	1/4W	\$440	1-554-303-21	SWITCH,	TACTILE	(20)	
R458	1-249-429-11	CARBON	10K	5%	1/4W	\$441	1-554-303-21	SWITCH,	TACTILE	(11)	
R461	1-249-399-11	CARBON	33	5%	1/4W	\$442	1-554-303-21	SWITCH.	TACTILE	(▶)	
R462	1-249-399-11	CARBON	33	5%	1/4W	\$443	1-554-303-21	SWITCH,	TACTILE	(▲)	
R471	1-249-411-11	CARBON	330	5%	.1/4W	\$444	1-554-303-21	SWITCH,	TACTILE	(A. SPACE)	
						\$501	1-554-118-00	SWITCH,	PUSH (1	KEY) (POWER ON/)FF)
R472	1-249-417-11	CARBON	1 K	5%	1/4W						,
R473	1-249-417-11	CARBON	1 K	5%	1/4W			< SWITC	H > (MADE	IN FRANCE)	
R481	1-249-402-11	CARBON	56	5%	1/4W						
R482	1-249-402-11	CARBON	56	5%	1/4W	\$405	1-554-303-81	SWITCH.	TACTILE	(■)	
						\$406	1-554-303-81			· /	
		< VARIABLE RES	ISTOR >			\$407	1-554-303-81				
						\$408	1-554-303-81				
RV451	1-241-343-11	RES, VAR, CARB	ON 10K/10	K (PH	ONE LEVEL)	\$409				(EDIT/T. FADE)	
		< SWITCH > (MA	DF IN JAP	AN)		\$410	1-554-303-81	SWITCH	TACTILE	(T SET)	
				,		\$411	1-554-303-81				
\$405	1-554-303-21	SWITCH, TACTIL	F (=)			\$412	1-554-303-81				
\$406		SWITCH, TACTIL				\$413	1-554-303-81			•	
\$407		SWITCH, TACTIL		/ ← ←)		\$414	1-554-303-81				
\$408		SWITCH, TACTIL				0414	1 004 000 01	01111011,	INOTICE	(OILOK)	
\$409		SWITCH, TACTIL)	\$415	1-554-303-81	SWITCH	TACTILE	(CLEAR)	
0403	1 004 000 21	OMITON, INOTIL	(2011)		,	\$416	1-554-303-81			, ,	
\$410	1-554-303-21	SWITCH, TACTIL	F (T SFT)			\$417	1-554-303-81				
\$411		SWITCH, TACTIL)		\$418	1-554-303-81				
\$412		SWITCH, TACTIL				\$419	1-554-303-81				
\$413		SWITCH. TACTIL	•	۲,		0413	1 334 300 01	on i ion,	INCITEL	(I AUCh)	
\$414		SWITCH, TACTIL				\$420	1-554-303-81	SWITCH	TACTILE	(M SCANI)	
7170	. 004 000 21	onliving Invite	L (OHLON)			\$421	1-554-303-81				
\$415	1-554-303-21	SWITCH, TACTIL	E (CLFAR)			\$422	1-554-303-81				
\$416		SWITCH, TACTIL				\$423	1-554-303-81				
\$417		SWITCH, TACTIL		CH)		\$424	1-554-303-81				
\$418		SWITCH, TACTIL				0121	1 004 000 01	01111011	INVITEL	(10)	
\$419		SWITCH, TACTIL		,		\$425	1-554-303-81	SWITCH	TACTILE	(2)	
0413	1 004 000 21	VIII, 17,011C	(17.02.11)			\$426	1-554-303-81			1.1	
\$420	1-554-303-21	SWITCH, TACTIL	F (M. SCAN)		\$427	1-554-303-81				
\$421		SWITCH, TACTIL		,		\$428	1-554-303-81				
S421		SWITCH, TACTIL	2 2			\$429	1-554-303-81				
S422		SWITCH, TACTIL				0723	, 004 000 01	OH 1 1011,	INVIILE	(0)	
\$424		SWITCH, TACTIL				\$430	1-554-303-81	SWITCH	TACTILE	(8)	
3444	1 304 303-21	OHITOH, INVITE	- (10)			\$431	1-554-303-81			• •	
2012	1554202 01	SWITCH, TACTIL	= (2)								
\$425		SWITCH, TACTIL				\$432 \$432	1-554-303-81				
\$426 \$427						\$433	1-554-303-81				
\$427		SWITCH, TACTILI				\$434	1-554-303-81	SWITCH,	TACHTLE	(9)	
\$428		SWITCH, TACTIL									
\$429	1-554-303-21	SWITCH, TACTIL	(3)								

CDP-591/M51

DISPLAY POWER SW MOTOR VOL JACK

Ref. No. Part	t No.	Description	Remark
	4-303-81	SWITCH, TACTILE (14)	
		SWITCH, TACTILE (19)	
		SWITCH, TACTILE (5)	
		SWITCH, TACTILE (10)	
•		SWITCH, TACTILE (15)	
		SWITCH, TACTILE (20)	
*		SWITCH, TACTILE (II)	
\$442 1-55	14-303-81	SWITCH, TACTILE (►) SWITCH, TACTILE (▲)	•
		SWITCH, TACTILE (A. SP.	ACE)
		SWITCH, PUSH (1 KEY) (•
3301 1-33	14-110-00	oniton, took (1 kc) (OREN DRY OLLY
		< CERAMIC >	
		VIBRATOR, CERAMIC (4M	·
*********	*******	********	*******
		MISCELLANEOUS	

			\O.E.\ (E.A.+\\
26 1-57	5-002-11	WIRE, FLAT TYPE (22 CC	JKE) (591)
30, 73 <u>∧</u> 1-57	4-12/-31	CORD, POWER (MADE IN F CORD, POWER(WITH CONNE	CTOP) (Augtralian)
30, 73 A 1-57	4-330-31	CORD, POWER (MADE IN F	RANCE: UK)
30, 73 1 1-57	5-651-21	CORD, POWER (MADE IN J	APAN: AEP)
30, 73 ⚠ 1-57	5-653-21	CORD, POWER (E)	
31, 74 🛕 1-56	9-007-11	ADAPTOR, CONVERSION 2P	(E MODEL)
68 🛕 1-57	5-160-11	WIRE, FLAT TYPE (22 CO	RE) (M51)
		JUMPER, FILM (WITH TER	MINAL) (M51)
	2-538-11	MAGNET DEVICE, OPTICAL KSS-24	10.1 / IADD
		WIRE, FLAT TYPE (12 CC	
		MOTOR ASSY (SLED)	/////
		MOTOR ASSY (SPINDLE)	
		MOTOR (L) ASSY	
		TRANSFORMER, POWER (US	S. Canadian)
		TRANSFORMER, POWER (AE	
		TRANSFORMER. POWER (E)	
Matter		TRANSFORMER, POWER (MA	
*********	******	*********	*******
	ACCECCODY	& PACKING MATERIAL	

		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1-46	5-595-11	COMMANDER, REMOTE (RM-	D591)
1 22	0_971 11	CORD, CONNECTION (MADE	(Including ※1)
		CORD, CONNECTION (MADE	
			. IN SAFAN)
		COVER, BATTERY (※1) MANUAL. INSTRUCTION (E	NGLISH E E P)
3 13	2 213 11		E, Australian, UK)
3-75	2-279-21	MANUAL, INSTRUCTION (E	
		1	(US, Canadian)
		MANUAL, INSTRUCTION (
		INSTRUCTION (ENGLISH, F	
* 3-79	5-629-11	INSTRUCTION (DENMARK)	(AEP)
		LABEL, CLASS 1 (AEP, E, A	ustralian)
		CUSHION (M51)	
		CUSHION (591) INDIVIDUAL CARTON (M51	IN AMADE IN TADAMA
		INDIVIDUAL CARTON (M51	
		INDIVIDUAL CARTON (MS)	
		INDIVIDUAL CARTON (591	
*********	******	**********	*******

Ref. No.	Part No.	Description	Remark
		HARDWARE LIST **********	
# 1 2 3 4 5 6 7 # 8	7-685-647-79 7-682-547-04 7-685-646-79 7-682-547-09 7-685-134-19 7-621-775-10	SCREW +BVTT 3X8 (\$) SCREW +BVTP 3X10 TYPE2 N-S SCREW +BVTT 3X6 (\$) SCREW +BVTP 3X8 TYPE2 N-S SCREW +B 3X6 SCREW +B 3X6 SCREW +BTP 2.6X8 TYPE2 N-S SCREW +B 2.6X4 SCREW +P 2X3	

Note:
The components identified by mark 1 or dotted line with mark 1 are critical for safety.
Replace only with part number specified.

Note:

Les composants identifiés par une marque A sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

REVISION HISTORY

Clicking the version allows you to jump to the revised page. Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision	
1.0	1991.03	New	
1.1	2006.10	Correction of Part No. of MOTOR ASSY (SLED) and	
		MOTOR ASSY (SPINDLE)	(SPM-06065)
1.2	2006.11	Correction of Description of M101 and M102	(SPM-06068)
	1		