

Service Manual

ORDER NO.
RRV1071

MULTI-PLAY COMPACT DISC PLAYER

PD-M603

PD-M503

- Refer to the service manual RRV1070 for PD-M603/KUXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	PD-M603	PD-M503		
WEMXJ	○	○	AC220 - 240V	_____
WBXJ	○	-	AC220 - 240V	_____
RD	○	-	AC110 - 127V/220 - 240V	With the voltage selector
WL	○	-	AC220 - 240V	_____
WPW	○	○	AC220 - 240V	_____
RDXJ	○	-	AC110 - 127V/220 - 240V	With the voltage selector

1. SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!

AVATTAESSA JA SUOJALUKITUS
OHITETTAESSA OLET ALTTIINA
NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.
ÄLÄ KATSO SÄTEESEEN.

ADVARSEL:

USYNLIG LASERSTRÅLING VED ÅBNING
NÅR SIKKERHEDSAFBRYDERE ER UDE AF
FUNKTION UNDGA UDSÆTTELSE FOR
STRÅLING.

VARNING!

OSYNLIG LASERSTRÅLNING NÅR DENNA
DEL ÄR ÖPPNAD OCH SPÄRREN
ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.



LASER
Kuva 1
Lasersäteilyn
varoitusmerkki

WARNING!

DEVICE INCLUDES LASER DIODE WHICH
EMITS INVISIBLE INFRARED RADIATION
WHICH IS DANGEROUS TO EYES. THERE IS
A WARNING SIGN ACCORDING TO PICTURE
1 INSIDE THE DEVICE CLOSE TO THE LASER
DIODE.



LASER
Picture 1
Warning sign for
laser radiation

IMPORTANT

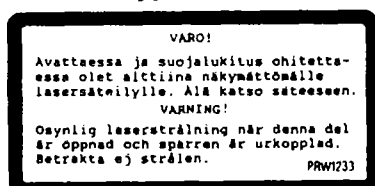
THIS PIONEER APPARATUS CONTAINS
LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS
SHOULD BE DONE BY A SPECIALLY
INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

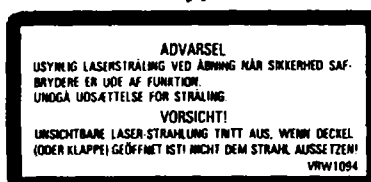
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LABEL CHECK (MULTI MAGAZINE type)

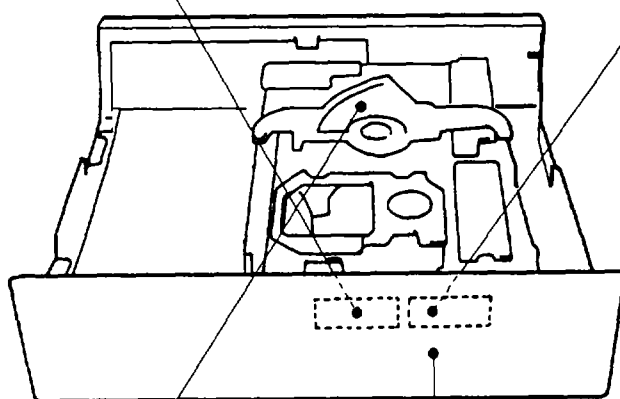
WEMXJ type



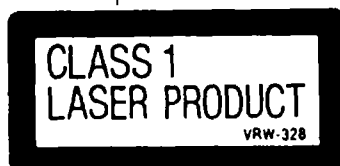
WEMXJ type



WBXJ type



WEMXJ and
WBXJ types



WEMXJ and WBXJ types

Additional Laser Caution

1. Laser Interlock Mechanism

The ON/OFF (ON : low level, OFF : high level) status of S601 (LPS1) and S602 (LPS2) switches for detecting the loading state is detected by the system microprocessor, and the design prevents laser diode oscillation except when both switches S601 and S602 are ON (low level or clamped state). Thus, interlock will no longer function if switches S601 (LPS1) and S602 (LPS2) are deliberately shorted (low level). The interlock also does not function in the test mode *.

Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the PRE AMP BOARD ASSY mounted on the pickup assembly is connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

2. When the cover is opened with the servo mechanism block removed and turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

'92M1B

* Refer to page 26 on the service manual RRV1070.

2. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "○" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

■ CONTRAST OF PD-M603/WEMXJ, WBXJ, RD, WL, WPW, RDXJ, PD-M503/WEMXJ, WPW AND PD-M603/KUXJ

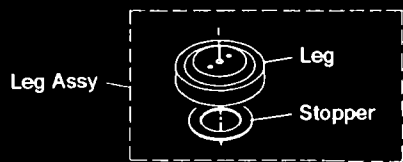
PD-M603/WEMXJ, WBXJ, RD, WL, WPW, RDXJ, PD-M503/WEMXJ, WPW and PD-M603/KUXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.								
		PD-M603/ KUXJ	PD-M603/ WEMXJ	PD-M603/ WBXJ	PD-M603/ RD	PD-M603/ WL	PD-M603/ WPW	PD-M603/ RDXJ	PD-M503/ WEMXJ	PD-M503/ WPW
Δ	Mother Board Assy	PWM1888	PWM1887	PWM1887	PWM1889	PWM1888	PWM1888	PWM1889	PWM1883	PWM1884
NSP	Sub Board Assy	PWX1380	PWX1380	PWX1380	PWX1380	PWX1380	PWX1380	PWX1380	PWX1359	PWX1359
	Function Board Assy	PWZ2814	PWZ2814	PWZ2814	PWZ2814	PWZ2814	PWZ2814	PWZ2814	PWZ2813	PWZ2813
NSP	Multi Mechanism Assy	PXA1489	PXA1489	PXA1489	PXA1547	PXA1547	PXA1547	PXA1489	PXA1489	PXA1547
Δ	Strain Relief	CM - 22C	CM - 22B	CM - 22B	CM - 22B	CM - 22B	CM - 22B	CM - 22B	CM - 22B	CM - 22B
Δ	Fuse (T5A) * 2	Not Used	Not Used	PEK1003	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Δ	Power Cord with Plug	PDG1002	PDG1003	PDG1055	PDG1056	PDG1003	RDG1022	PDG1056	PDG1003	RDG1022
Δ	Power Transformer (AC120V)	PTT1237	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Δ	Power Transformer (AC220 - 240V)	Not Used	PTT1236	PTT1236	Not Used	PTT1236	PTT1236	Not Used	PTT1236	PTT1236
Δ	Power Transformer (AC110 - 127/220 - 240V)	Not Used	Not Used	Not Used	PTT1238	Not Used	Not Used	PTT1238	Not Used	Not Used
	32P F.F.C/30V	PDD1125	PDD1125	PDD1125	PDD1125	PDD1125	PDD1125	PDD1125	Not Used	Not Used
	30P F.F.C/30V	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	PDD1126	PDD1126
	Display Window	PAM1807	PAM1808	PAM1808	PAM1807	PAM1807	PAM1807	PAM1807	PAM1805	PAM1800
	Rear Base	PNA2095	PNA2097	PNA2098	PNA2099	PNA2100	PNA2159	PNA2171	PNA2080	PNA2081
	Function Button	PAC1717	PAC1717	PAC1717	PAC1717	PAC1717	PAC1717	PAC1717	PAC1718	PAC1716
	Insulator	PNW1912	PNW1912	PNW1912	PNW1912	PNW1912	PNW1912	PNW1912	PNW1912	Not Used
	Leg Assy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	PEA1293
	Stopper	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	PNM1070
NSP	Leg	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	PNW1323
	Function Panel	PNW2459	PNW2459	PNW2459	PNW2459	PNW2459	PNW2459	PNW2459	PNW2392	PNW2392
	65 Label	ORW1089	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
	Caution Label	Not Used	Not Used	PRW1018	Not Used	PRW1018	Not Used	Not Used	Not Used	Not Used
	Caution Label HE	Not Used	PRW1233	Not Used	Not Used	Not Used	Not Used	Not Used	PRW1233	Not Used
	Caution Label (G)	Not Used	VRW - 329	VRW - 329	Not Used	VRW - 329	Not Used	Not Used	VRW - 329	Not Used
	Caution Label	Not Used	VRW1094	Not Used	Not Used	Not Used	Not Used	Not Used	VRW1094	Not Used
	CD Packing Case	PHG2014	PHG2016	PHG2017	PHG2018	PHG2019	PHG2071	PHG2084	PHG2008	PHG2007
	Connection Cord with Mini Plug (for SR cord)	PDE - 319	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	PDE - 319	PDE1247
	Connection Cord with Pin Plug (for Audio)	PDE1109	PDE1109	PDE1109	PDE1248	PDE1248	PDE1248	PDE1248	PDE1109	PDE1248
	Remote Control Unit	PWW1068	PWW1068	PWW1068	PWW1068	PWW1068	PWW1068	PWW1068	Not Used	Not Used
	Battery Cover	PZN1010	PZN1010	PZN1010	PZN1010	PZN1010	PZN1010	PZN1010	Not Used	Not Used
	Magazine Assy	PXA1504	PXA1523	PXA1523	PXA1549	PXA1549	PXA1549	PXA1504	PXA1523	PXA1549
	PP Case	PYY1189	Not Used	Not Used	PYY1189	PYY1189	PYY1189	PYY1189	Not Used	PYY1189
	Spacer	Not Used	Not Used	PHC1075	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
	Polyethylene Bag	Not Used	Not Used	Z21 - 013	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
	Bag	Z21 - 038	Z21 - 038	Z21 - 038	Z21 - 038	Z21 - 038	Z21 - 038	Z21 - 038	Not Used	Not Used
NSP	Sheet	Not Used	Z23 - 032	Z23 - 032	Not Used	Not Used	Not Used	Not Used	Z23 - 032	Not Used

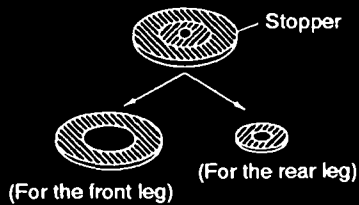
Mark	Symbol & Description	Part No.								
		PD-M603/ KUXJ	PD-M603/ WEMXJ	PD-M603/ WBXJ	PD-M603/ RD	PD-M603/ WL	PD-M603/ WPW	PD-M603/ RDXJ	PD-M503/ WEMXJ	PD-M503/ WPW
NSP	Dry Cell Battery (R03, AAA)	VEM - 022	VEM - 022	VEM - 022	VEM - 022	VEM - 022	VEM - 022	VEM - 022	Not Used	Not Used
	Operating instructions (English)	PRB1209	Not Used	PRB1209	Not Used	Not Used	PRB1209	Not Used	Not Used	PRB1209
	Operating instructions (English/French/Dutch/Italian/ German/Swedish/Spanish/ Portuguese)	Not Used	PRE1193	Not Used	Not Used	Not Used	Not Used	Not Used	PRE1193	Not Used
	Operating instructions (English/Spanish/Chinese)	Not Used	Not Used	Not Used	PRE1197	PRE1197	Not Used	PRE1197	Not Used	Not Used

C

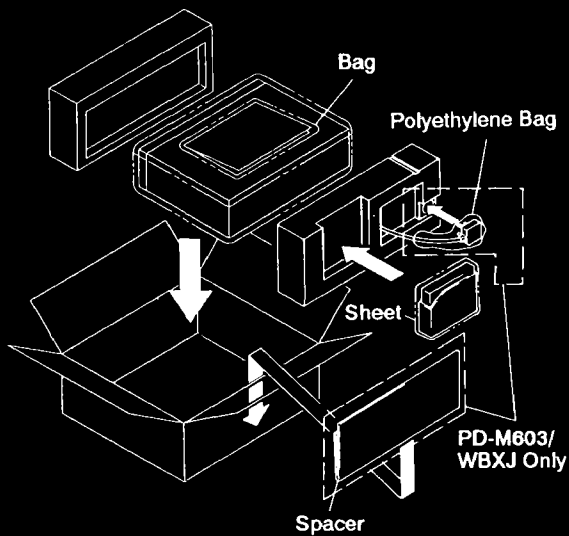
* 1 Leg Assy



- The stopper consist of the big ring part and the small ring part. If you stick the stopper to the leg, stick the big ring part to the front leg, and the small ring part to the rear leg.

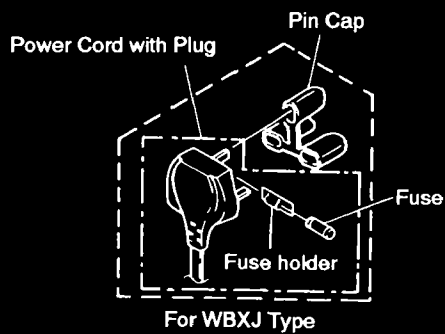


* 3 Packing



D

* 2 Power Cord with Plug



E

F

NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

1. When ordering service parts, be sure to refer to “PARTS LIST of EXPLODED VIEWS” or “PCB PARTS LIST”.
2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. CAPACITORS:
Unit: p:pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
5. COILS:
Unit: m:mH or μH unless otherwise noted.
6. VOLTAGE AND CURRENT:
 or $\pm$ V :
DC voltage (V) in PLAY mode unless otherwise noted.
 mA or $\pm$ mA :
DC current in PLAY mode unless otherwise noted.
Value in () is DC current in STOP mode.
7. OTHERS:
 - ⊗ or ⊙ : Adjusting point.
 -  : Measurement point.
 - The  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. SCH-□ ON THE SCHEMATIC DIAGRAM:
 - SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):

FUNCTION BOARD ASSY	SWITCH BOARD ASSY
S702 : EJECT 	S801 : POWER
S703 : DISC 2	LOADING BOARD ASSY
S704 : DISC 1	S601 : LPS1
S705 : AUTO FADER	S602 : LPS2
S706 : DELETE	
S708 : PROGRAM	
S709 : 1	
S710 : 2	
S711 : 3	
S712 : 4	
S713 : 5	
S714 : 6	
S715 : 7	
S716 : 8	
S717 : 9	
S718 : 10	
S719 : > 10	
S721 : COMPU TIME FADE	
S722 : HI – LITE	
S723 : DISC 3	
S724 : DISC 4	
S725 : ADLC	
S726 : MUSIC TYPE	
S727 : DISC 5	
S728 : DISC 6	
S729 : PAUSE 	
S730 : REPEAT	
S731 : STOP 	
S732 : TIME	
S733 : PLAY 	
S734 : RANDOM	
S735 : 	
S736 : 	

PD-M603, PD-M503

MULTI MECHANISM ASSY

PXA1547 and PXA1469 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PXA1469	PXA1547	
	Servo Mechanism Assy M	PXA1417	PXA1543	

Although PXA1417 and PXA1543 are different in part number, they have the same service parts.

MOTHER BOARD ASSY

PWM1867, PWM1869, PWM1868, PWM1863, PWM1864 and PWM1866 have the same construction except for the following:

Mark	Symbol & Description	Part No.					
		PWM1866	PWM1867	PWM1869	PWM1868	PWM1863	PWM1864
	IC31, IC32	Not Used	ICP-N10	ICP-N10	ICP-N10	ICP-N10	ICP-N10
	IC405	NJM4585D-D	NJM4585D-D	NJM4585D-D	NJM4585D-D	NJM4558D-D	NJM4558D-D
	Q451, Q452	Not Used	DTA124ES	Not Used	Not Used	DTA124ES	Not Used
	Q453, Q454	Not Used	2SB1296	Not Used	Not Used	2SB1296	Not Used
	D391	1SS254	Not Used	Not Used	Not Used	Not Used	Not Used
	D392 – D394	1SS254	Not Used	Not Used	Not Used	1SS254	1SS254
	L391	LAU010K	Not Used	Not Used	Not Used	LAU010K	LAU010K
	C393	CCCSL101J50	Not Used	Not Used	Not Used	CCCSL101J50	CCCSL101J50
	C433, C434	PCH1107	PCH1107	PCH1107	PCH1107	CEAS220M25	CEAS220M25
	C451, C452	Not Used	CEAS4R7M50	Not Used	Not Used	CEAS4R7M50	Not Used
	R392	RD1/6PM102J	Not Used	Not Used	Not Used	RD1/6PM102J	RD1/6PM102J
	R391	RD1/6PM244J	Not Used	Not Used	Not Used	RD1/6PM244J	RD1/6PM244J
	R445, R446	RD1/6PM471J	RD1/6PM271J	RD1/6PM471J	RD1/6PM471J	RD1/6PM271J	RD1/6PM471J
	R451, R452	Not Used	RD1/6PM473J	Not Used	Not Used	RD1/6PM473J	Not Used
	R453, R454	Not Used	RD1/6PM470J	Not Used	Not Used	RD1/6PM470J	Not Used
	R455 – R458	Not Used	RD1/6PM102J	Not Used	Not Used	RD1/6PM102J	Not Used
	R461, R462	Jumper Wire	RD1/6PM271J	Jumper Wire	Jumper Wire	RD1/6PM271J	Jumper Wire
	R459, R460	Not Used	RD1/6PM271J	Not Used	Not Used	RD1/6PM271J	Not Used
	CN351	9604S-32C	9604S-32C	9604S-32C	9604S-32C	9604S-30C	9604S-30C
	JA391, JA392	RKN1004	Not Used	Not Used	Not Used	RKN1004	RKN1004
	S5 Voltage selector (AC110 – 127/220 – 40V)	Not Used	Not Used	PSB1006	Not Used	Not Used	Not Used

FUNCTION BOARD ASSY

PWZ2813 and PWZ2814 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWZ2814	PWZ2813	
	CN701 Connector Remote Sensor	9604S-32F SBX1610-51	9604S-30F Not Used	

3. SCHEMATIC AND PCB DIAGRAM

A

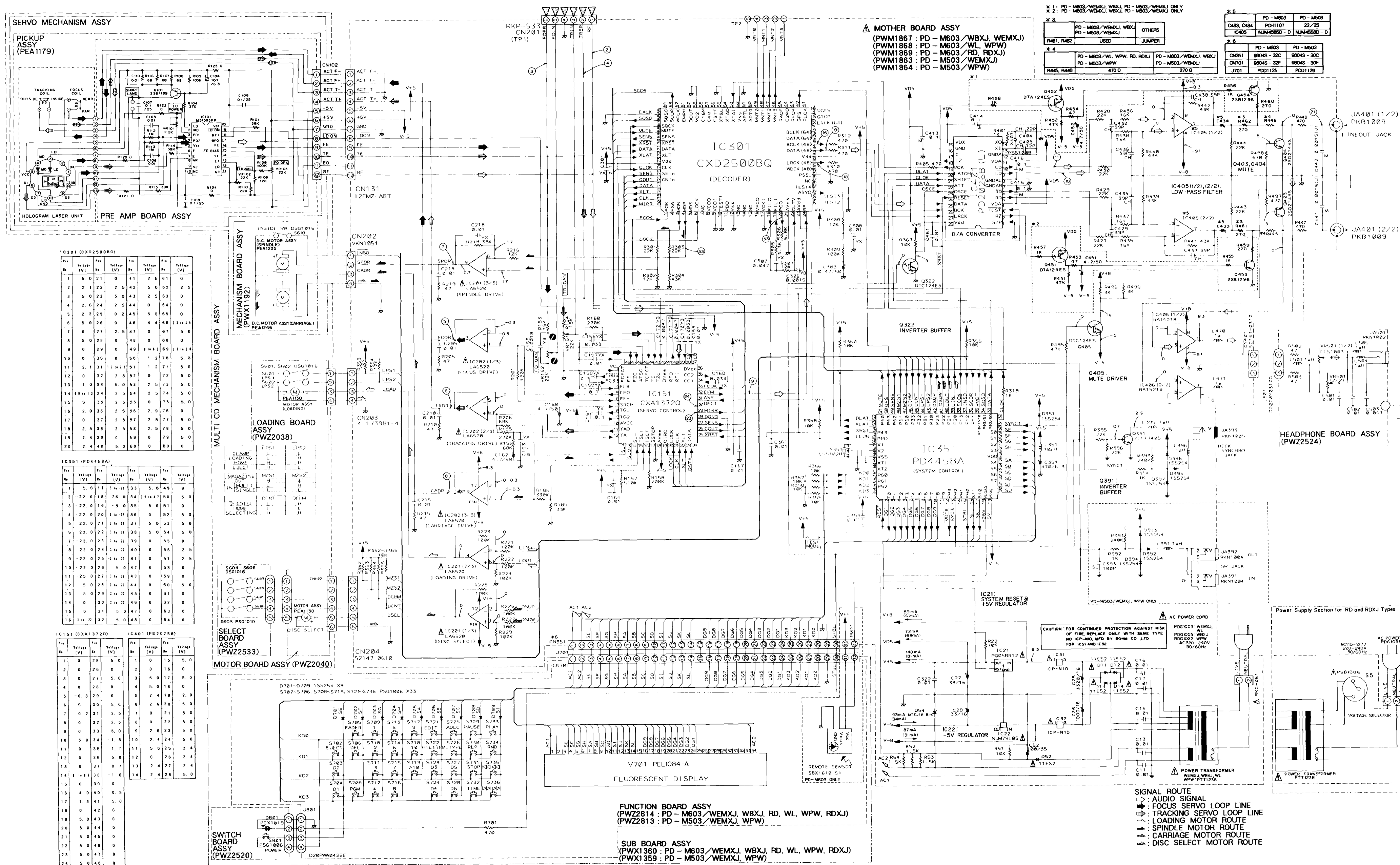
B

C

D

E

F



• This diagram is viewed from the mounted parts side.

PD-M603, PD-M503

NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or shows the emitter.
4. The diode terminal marked with or shows cathode side.
5. The capacitor terminal marked with or shows negative terminal.

NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

* 1	PD - M603	PD - M503
CN351	9604S - 32C	9604S - 30C
CN701	9604S - 32F	9604S - 30F

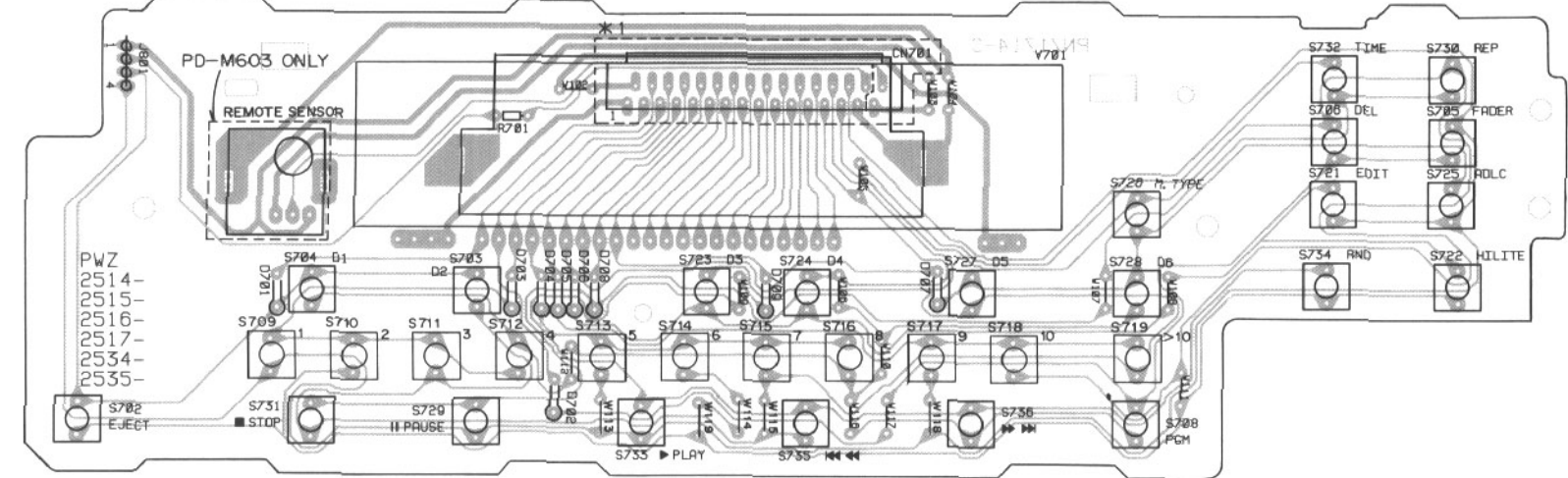
* 2 : PD - M503 / WEMXJ, WPW ONLY
* 3 : PD - M603 / RD, RDXJ ONLY

* 4	RD, RDXJ	OTHERS
W116		W115

* 5 : PD - M603 / WEMXJ, WBXJ, PD - 503 / WEMXJ, ONLY

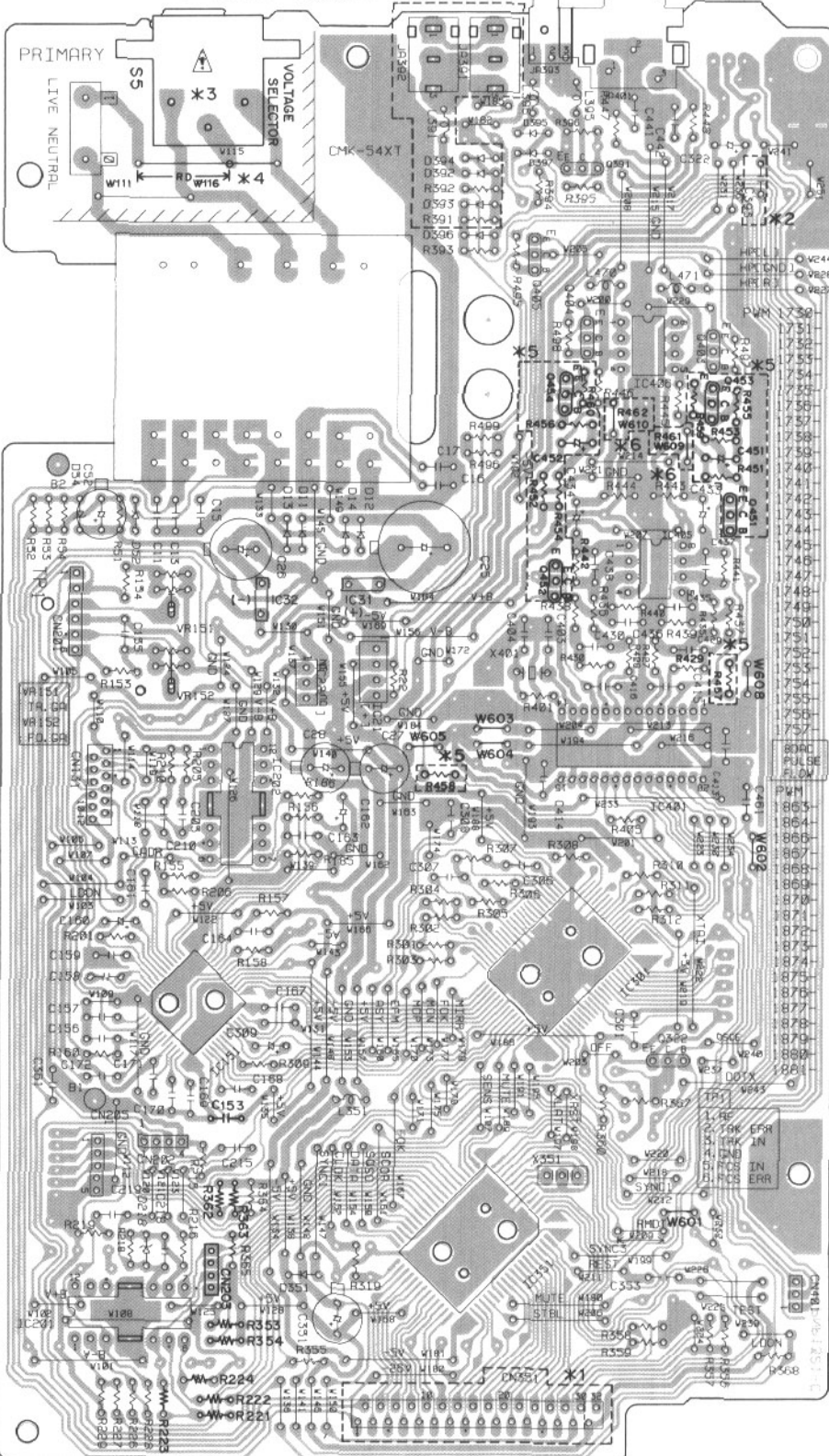
* 6	PD - M603 / WEMXJ, WBXJ PD - M503 / WEMXJ	OTHERS
R461, R462	USED	JUMPER

FUNCTION BOARD ASSY



PNP1323-D

MOTHER BOARD ASSY * 2



PNP1321-C

