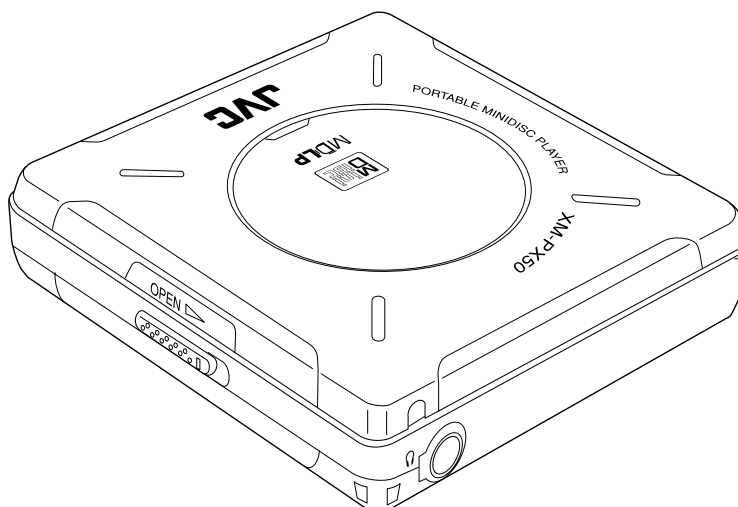


JVC

SERVICE MANUAL

PORTABLE MINIDISC PLAYER

XM-PX50WT



Area Suffix

UB Hong Kong

MDLP



Contents

Safety Precautions	1-2
Important for laser products	1-3
Attention when	
MD pick up is exchanged	1-4
Disassembly method	1-5
Adjustment method	1-11
Maintenance of laser pickup	1-12
Replacement of laser pickup	1-12
Description of major ICs	1-13~25

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (\triangle) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

5. Leakage current check (Electrical shock hazard testing)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

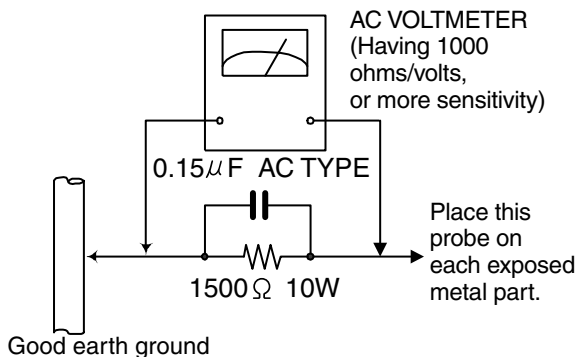
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

● Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

CAUTION Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The compact disc player uses invisible laserradiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

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

! **CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åbning,når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

DANGER : Invisible laser radiation when open and interlock or defeated. AVOID DIRECT EXPOSURE TO BEAM (e)	VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (d)
VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)	ADVARSEL :Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)



Attention when MD pickup is exchanged

1. About the static electricity protection measures

The laser diode in the traverse unit (optical pick up) is easy to be destroyed by clothes and the human body to the electrified static electricity.

Please note the explosion by static electricity when repairing.

2. About the earth processing for the electrostatic destruction prevention

In the equipment which uses an optical pick up (laser diode), an optical pick up is destroyed by the static electricity of the work environment.

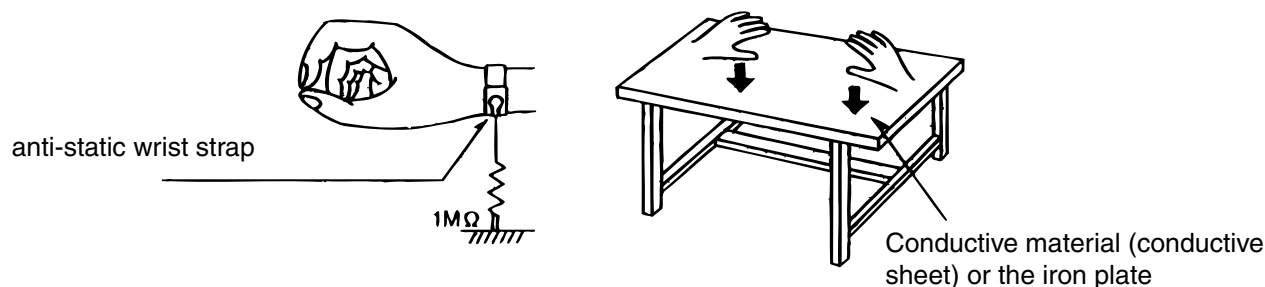
Please do the earth processing and work.

1) Earth of work stand

Please pull the conductive material (conductive sheet) or the iron plate to the depository place of the traverse unit (optical pick up), and take the earth to ground.

2) Human body earth

Please use the anti-static wrist strap to exhaust the electrified static electricity to the human body.



3. Handling the optical pick up

1) Please return according to a correct procedure based on short processing after exchanging parts.

2) Do not use a tester to check the condition of the laser diode in the optical pick up. The tester's internal power source can easily destroy the laser diode.

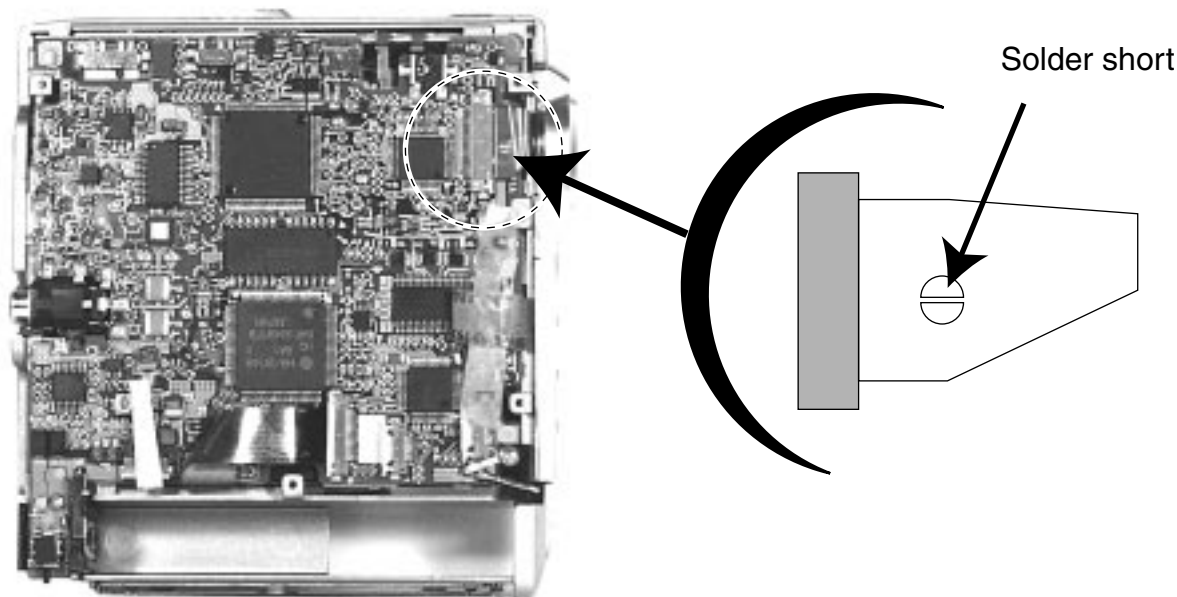
4. Attention when unit is disassembled

Please refer to "Disassembling method" for how to detach.

1) Please be sure to solder before a flexible wire is removed from connector on a main printed circuit board as shown.

if you removes without soldering, the MD picking up assembly might destroy

2) When installing, solder in the part of short round should be removed after a flexible wire is connected with connector.



Disassembly method

■ Removing the MD door assembly (See Fig.1 and 2)

1. Shift the door lever to open the door.
2. Remove the four screws **A** and detach the MD door assembly from the main body.

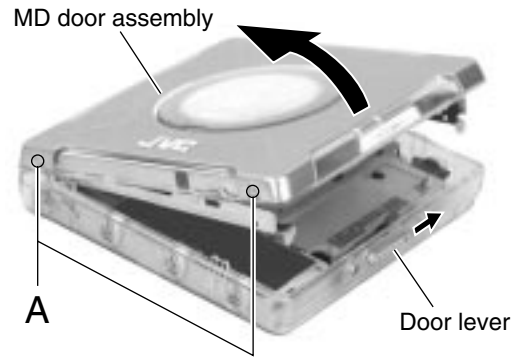


Fig.1

■ Removing the holder assembly (See Fig.3 and 4)

• Prior to performing the following procedure, remove the MD door assembly.

1. Turn the Holder assembly as shown in Fig.3.
2. Pull the side arm (L) marked **a** and remove outward. Open the Holder assembly as shown in Fig.4.
3. Move the “U-shaped” notch marked **b** in the direction of the arrow and release it from the shaft.
4. Move the part **c** inward and pull out the Holder assembly from the shaft.

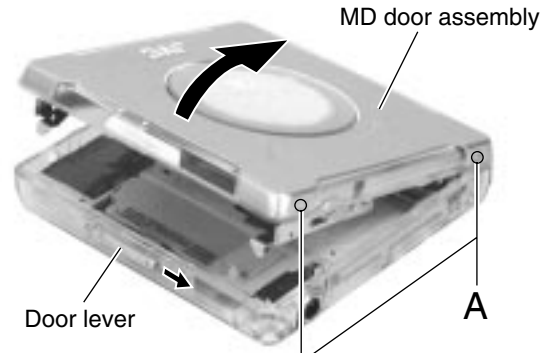


Fig.2

ATTENTION: When reassembling, first reattach the part **c** to the shaft of the Chassis assembly. And next, fit the “U-shaped” notch to the shaft.

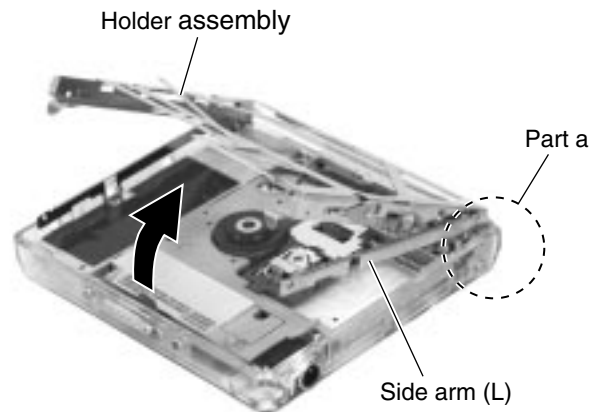


Fig.3

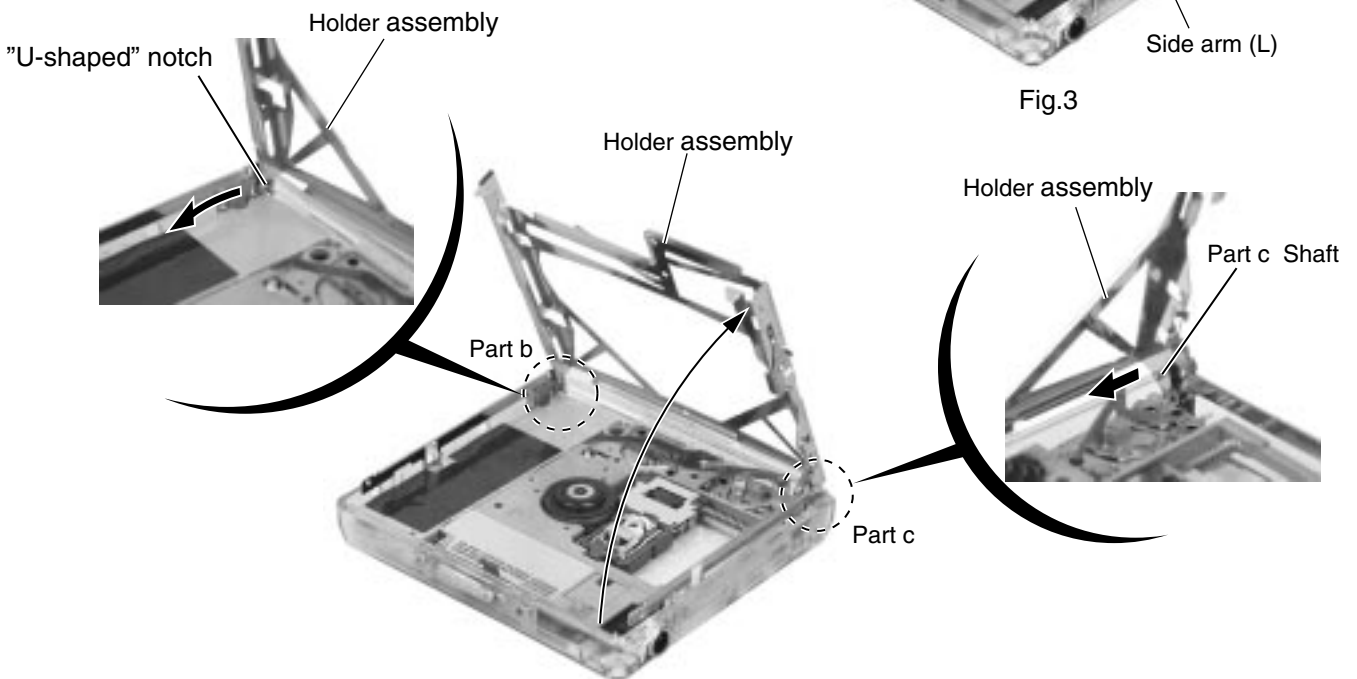


Fig.4

■ Removing the chassis assembly
(See Fig.5 to 7)

• Prior to performing the following procedure, remove the MD door assembly and the holder assembly.

1. Open the battery lid. Release the tab **d** and pull out the battery lid.
2. Remove the screw **B** and pull out the side arm (R) upward.
3. Remove the two screws **C** and pull out the eject unit.
4. Remove the screw **D**, **E**, **F** and **G** attaching the chassis assembly respectively.
5. Disengage the three joints **e** of the bottom case and the battery holder. Remove the chassis assembly and the jack cover at once.

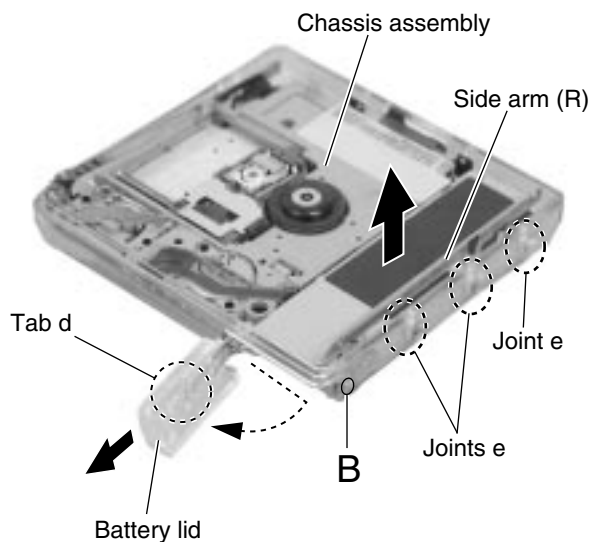


Fig.5

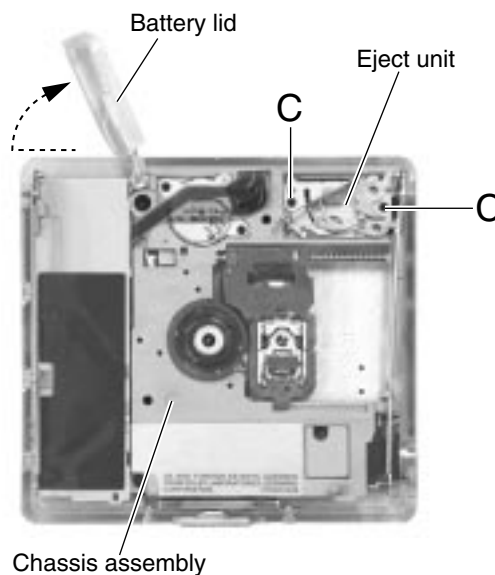


Fig.6

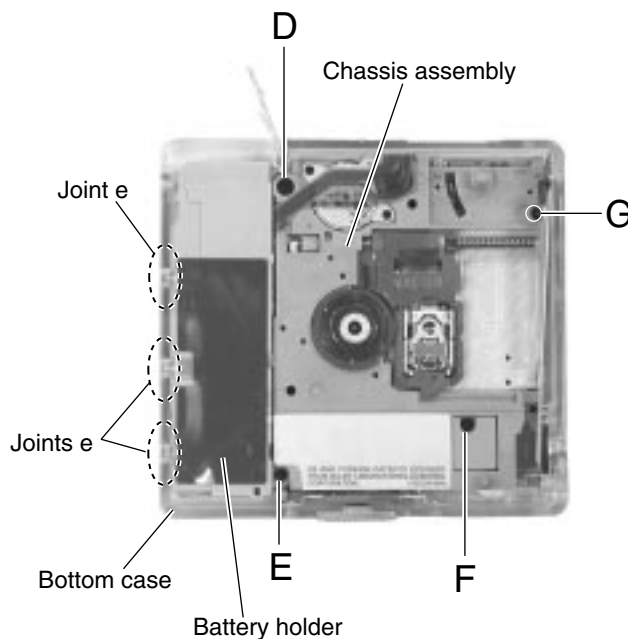


Fig.7

■ Removing the main board and the battery holder (See Fig.8 and 9)

- Prior to performing the following procedures, remove the MD door assembly, the holder assembly and the chassis assembly.

ATTENTION: Before disconnecting the flexible wire extending from the pickup, make sure to solder the short circuit round to prevent damage to the pickup.

1. Solder the short circuit round of the flexible wire on the main board.

Disconnect the flexible wires from connector CN301 and CN401 on the main board.

Remove the one screw **H** attaching the main board. Remove the main board with the battery holder .

Unsolder the four soldered parts **f** retaining the main board and the battery holder.

ATTENTION: When reassembling, connect the flexible wire extending from the pickup to the connector on the main board and unsolder the short circuit round.

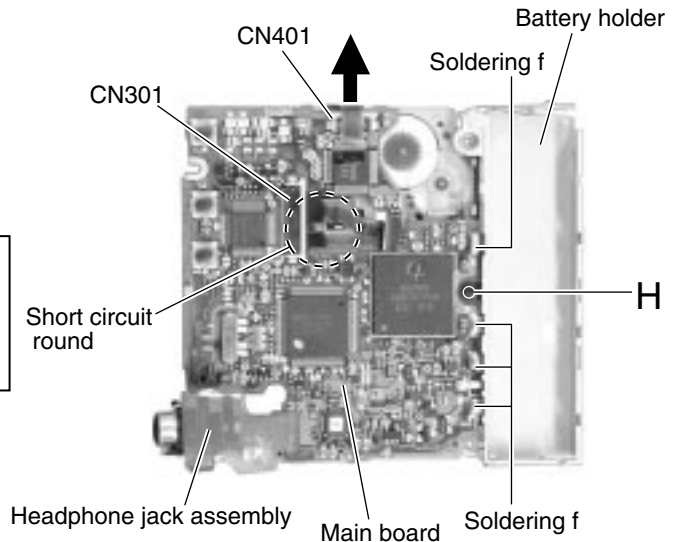


Fig.8

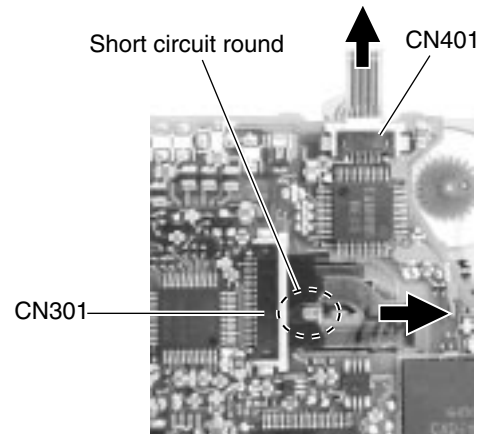


Fig.9

■ Removing the headphone jack assembly (See Fig.10)

- Prior to performing the following procedures, remove the MD door assembly, the holder assembly, chassis assembly and the main board.

1. Disconnect the flexible wire extending from the headphone jack from connector CN601 on the main board.

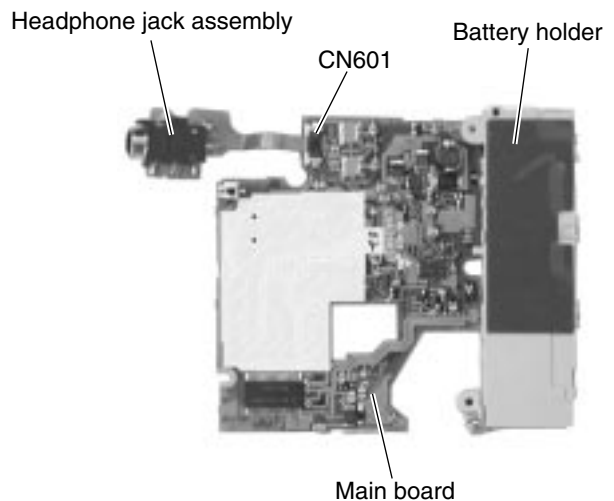


Fig.10

<Removal of the MD mechanism section>

- Prior to performing the following procedures, remove the MD door assembly, the holder assembly, the chassis assembly and the main board.

■ Removing the spindle motor

(See Fig.11)

1. Unsolder the part **g** on the flexible wire extending from the underside of the Chassis assembly to the spindle motor.

ATTENTION: Do not spill flux on the gear and others.

2. Remove the three screws **I** attaching the spindle motor.

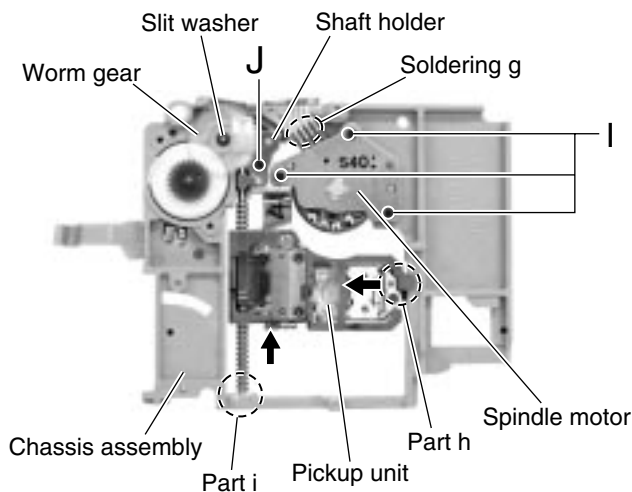


Fig.11

■ Removing the pickup unit (See Fig.11)

ATTENTION: When handling the Pickup unit, touch the parts marked in Fig.13 only.

1. Remove the slit washer and the worm gear from the underside of the Chassis assembly.
2. Remove the screw **J** attaching the shaft holder and draw out the shaft (lead screw).
3. Pull out the Pickup unit and the lead screw while disengaging the part **h** and **i**.

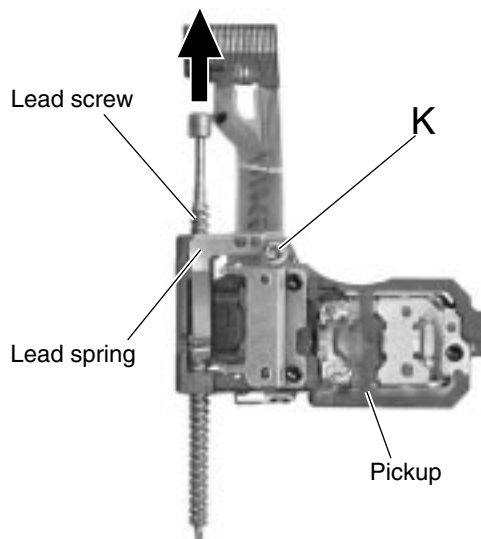


Fig.12

■ Removing the pickup (See Fig.12 and 13)

ATTENTION: When handling the pickup unit, touch the parts marked in Fig.13 only.

1. Remove the screw **K** and the lead spring.
2. Pull out the shaft from the pickup.

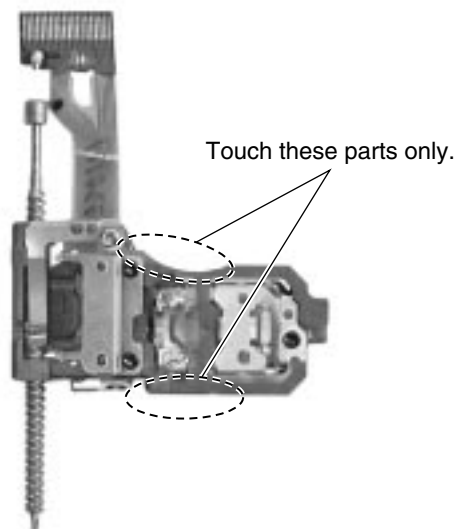


Fig.13

■ Removing the feed motor (See Fig.14)

1. Peel off the adhesive tape **j** on the flexible wire on the underside of the feed motor.
2. Unsolder soldering **k** connecting the flexible wire to the feed motor.
3. Remove the two screws **L** attaching the feed motor.

ATTENTION: When reassembling, reattach the flexible wire with an adhesive tape and solder.

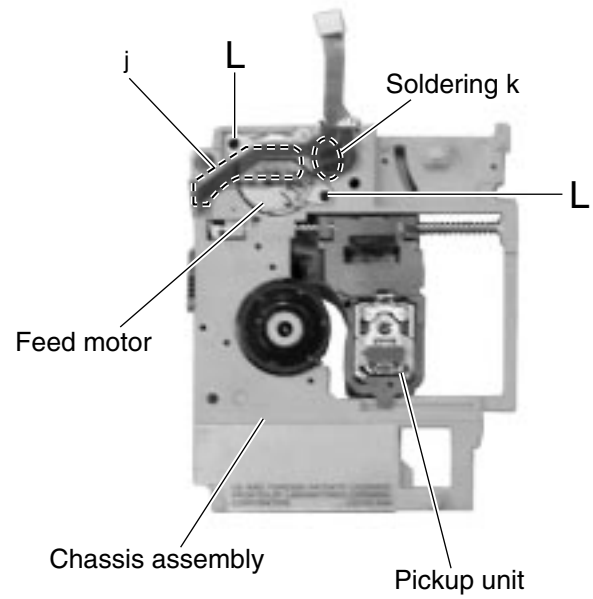


Fig.14

<Charge stand>

■ Removing the charge board

(See Fig.1 to 3)

1. Remove the four screws **A** on the bottom of the body.
2. Remove the top cover upward while pushing the front part **a**. Pull out the charge board from the bottom cover.

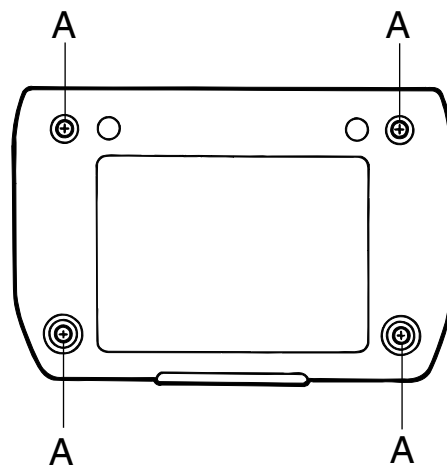


Fig.1

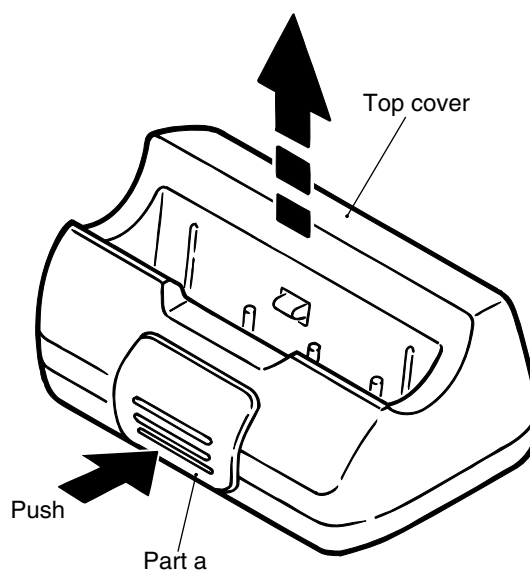


Fig.2

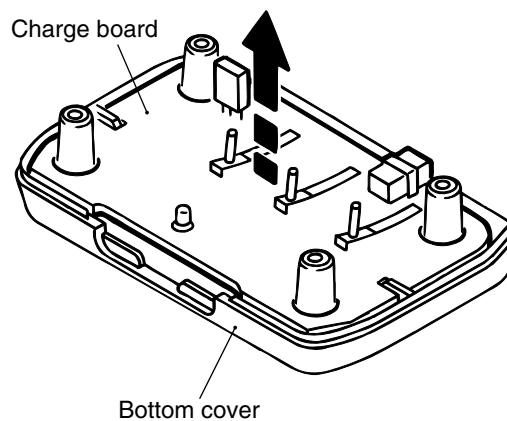


Fig.3

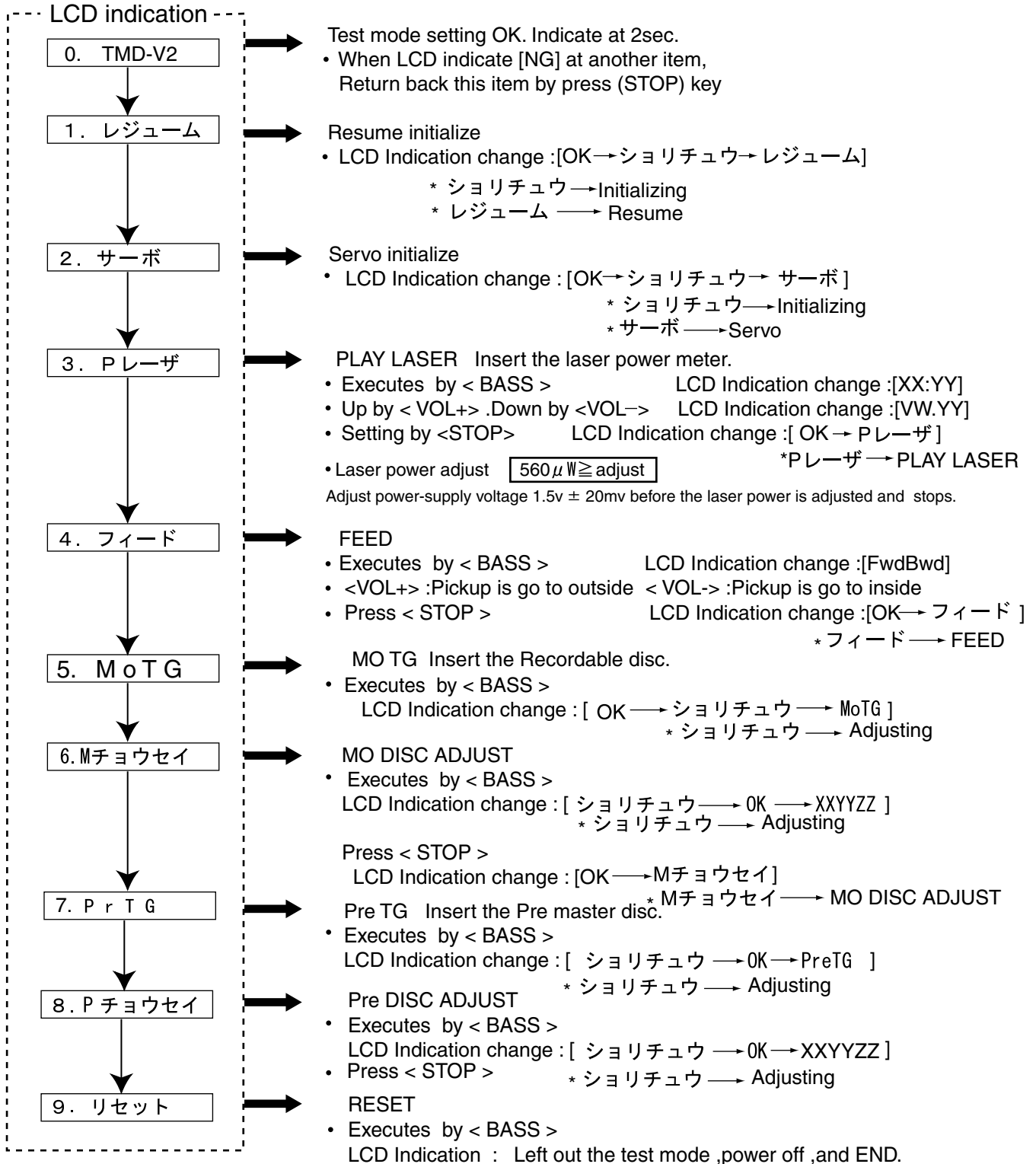
Adjustment method

This model is auto adjustment by Remote Controller.
Please adjust the attached remote controller.

- Equipments-----
- | | |
|-----------------------------|--------------------|
| 1. Remote controller | 2. DC power supply |
| 3. Laser power meter | 4. MO disc (AU-1) |
| 5. Pre master disc (TGYS 1) | |

<Test mode setting method>

Press < PLAY MODE + DISPLAY + BASS > and < PLAY >key together more than 3sec. at power off condition.
< VOL- >→next item .< VOL+ >before item.



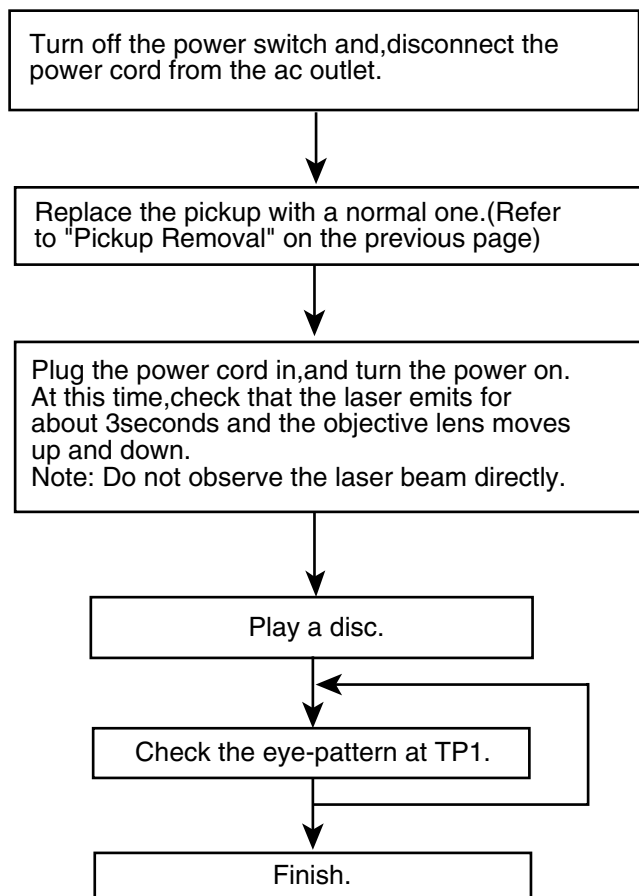
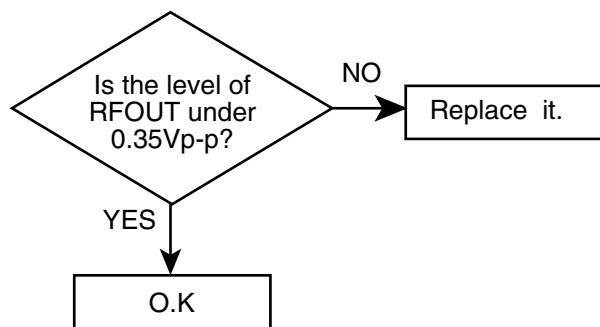
Maintenance of laser pickup

Replacement of laser pickup

(1) Cleaning the pick up lens
 Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode
 When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output: amplitude of eye pattern) will below.

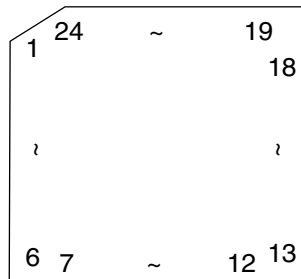


(3) Semi-fixed resistor on the APC PC board The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
 If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
 If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

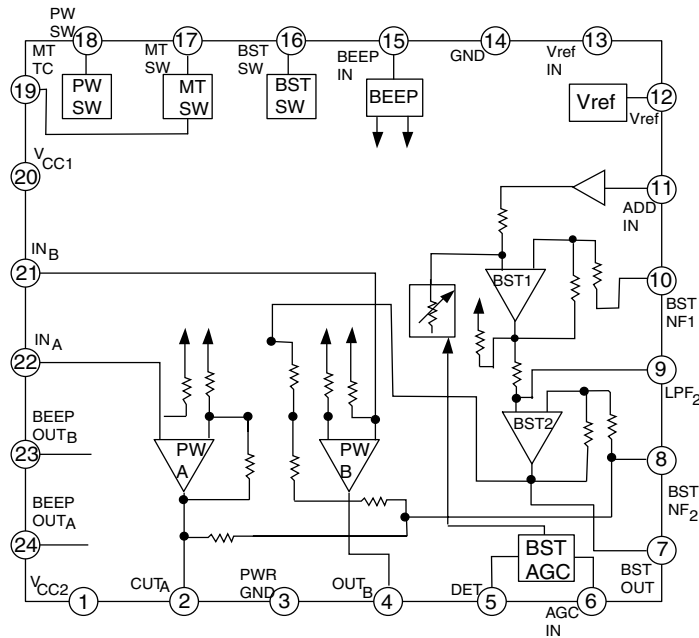
Description of major ICs

■ JCV8002-W (IC601) : Head phone amp

1. Pin layout



2. Block diagram

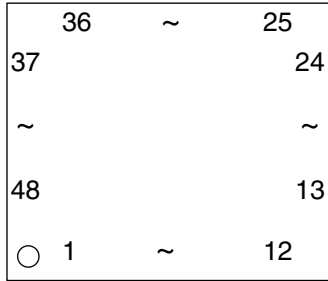


3. Pin function

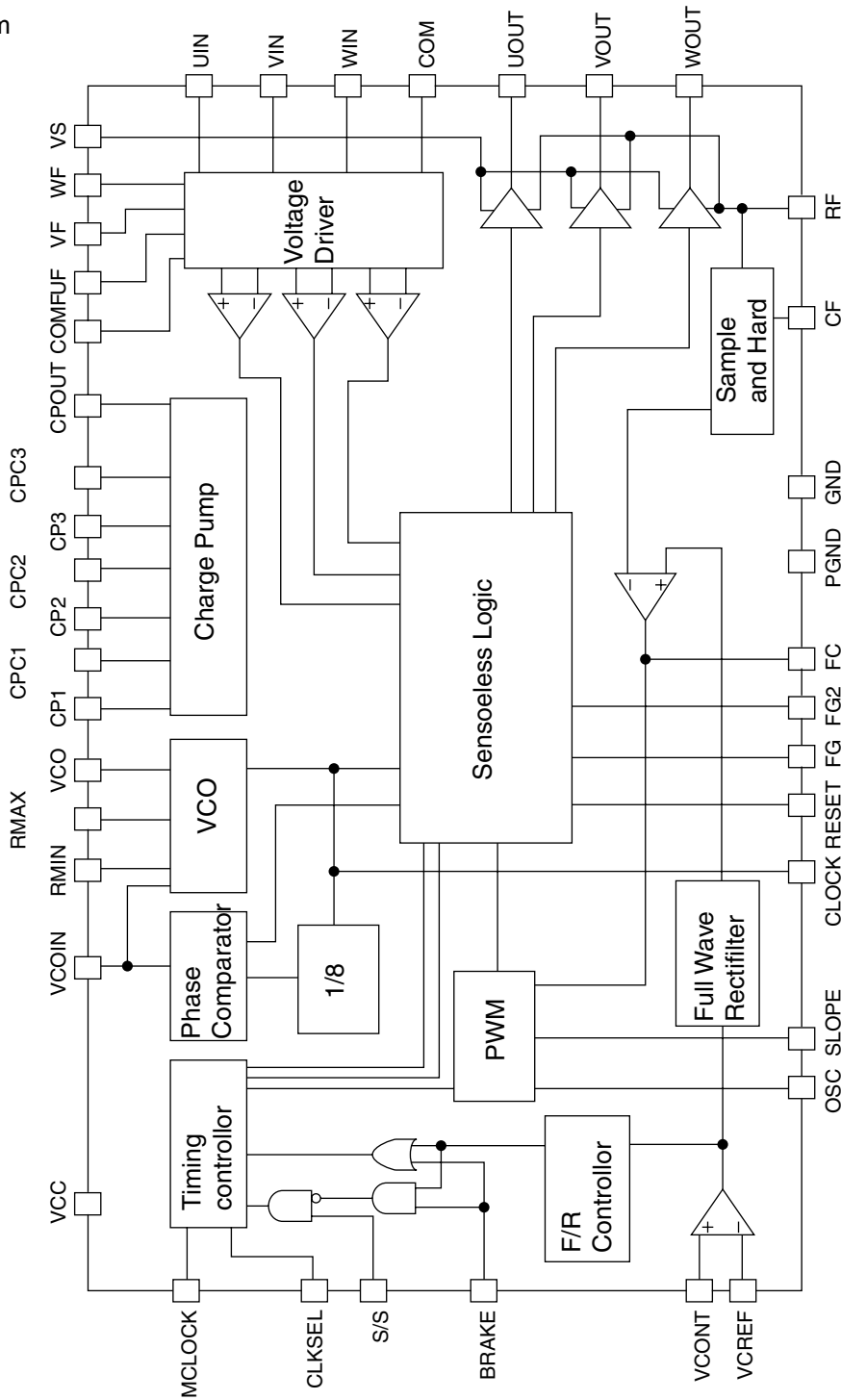
Pin no.	Symbol	FUNCTION
1	V _{CC2}	V _{CC2} (+B) in power amplifier output steps
2	OUT _A	Power amplifier output
3	PWR GND	GND in power amplifier output steps
4	OUT _B	Power amplifier output
5	DET	Smoothness of level detection of boost AGC
6	AGC IN	BST amplifier input signal level variable control by input lever to boost AGC input terminal
7	BST OUT	Output terminal of BST amplifier2
8	BST NF ₂	Terminal NF of BST amplifier2
9	LPF ₂	Output BST amplifier1
10	BST NF ₁	NF of BST amplifier1
11	ADD IN	ADD amplifier input
12	V _{ref}	Standard potential circuit
13	V _{ref} IN	Standard potential circuit
14	GND	Power part input steps GND
15	BEEP IN	Beep input terminal
16	BST SW	Beep output terminal
17	MT SW	Mute switch
18	PW SW	Power On/OFF switch
19	MT TC	Mute smoothing Power mute switch
20	V _{CC1}	Main parts V _{CC}
21	IN _B	Power amplifier input
22	IN _A	Power amplifier input
23	BEEP OUT _B	Beep output terminal
24	BEEP OUT _A	Beep output terminal

■ CXA8059Q (IC450) : Motor driver

1. Pin layout



2. Block diagram

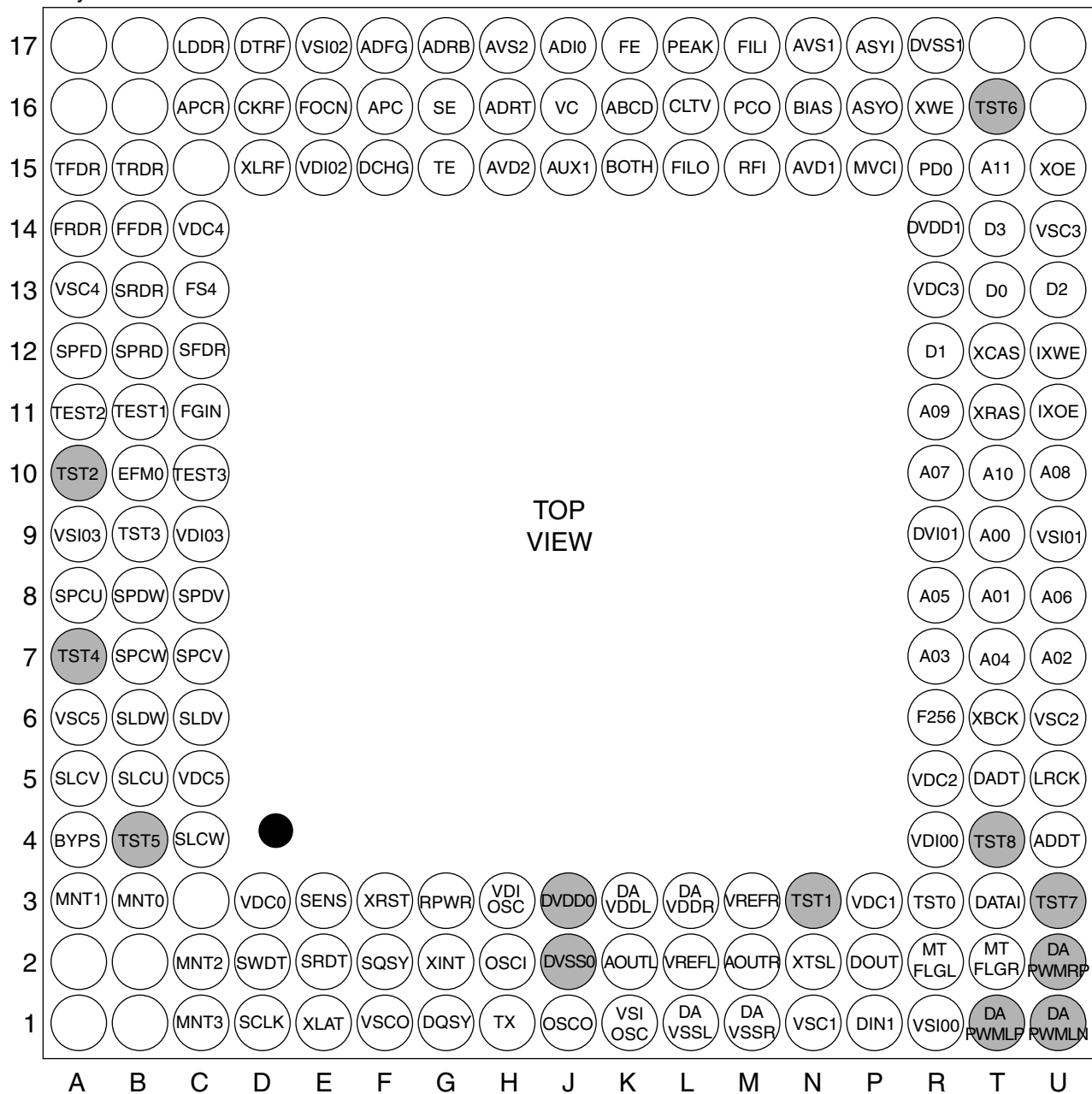


3.Pin function

Pin no.	Symbol	Function
1	PGND	The GND to guard the power stage.
2	COM	The terminal to detect the voltage.
3	VS	The terminal to supply the voltage for the power stage.
4	CPOUT	The terminal to connect the capacitor in the final charge pump.
5	CPC3	The terminal to connect the capacitor in the third charge pump.
6	CP3	The terminal to connect the capacitor in the third charge pump.
7	CPC2	The terminal to connect the capacitor in the second charge pump.
8	CP2	The terminal to connect the capacitor in the second charge pump.
9	CPC1	The terminal to connect the capacitor in the first charge pump.
10	CP1	The terminal to connect the capacitor in the first charge pump.
11	GND	The GND for the part except the power section.
12	S/S	The terminal for start and stop.
13	BRAKE	The terminal for braking.
14	VCONT	The terminal for controlling velocity.
15	VCREF	The terminal as referable voltage of controlling velocity.
16	FC	The terminal to compensate the frequency characteristics of the loop controlling velocity.
17	CF	The terminal of sampling and holding for detecting motor current.
18	FG	The terminal to output FG pulse.
19	FG2	The terminal to output FG pulse divided Pin15 signal by 2.
20	VCO	The terminal to set oscillation frequency of VCO.
21	RMAX	The terminal to set maximum oscillation frequency of VCO.
22	RMIN	The terminal to set minimum oscillation frequency of VCO.
23	VCOIN	The terminal to control oscillation frequency of VCO.
24	CLKSEL	The terminal to select inside and outside clock.
25	OSC	The terminal to oscillation sawtooth for PWM signal.
26	SLOPE	The terminal to oscillation sawtooth for soft-switching signal.
27	CLOCK	The terminal to monitor CLOCK signal.
28	GND	The GND for the part except the power section.
29	WF	The terminal to shape waveform of motor voltage.
30	VF	The terminal to shape waveform of motor voltage.
31	UF	The terminal to shape waveform of motor voltage.
32	COMF	The terminal to shape waveform of motor voltage.
33	VCC	The terminal to supply the voltage except the power section.
34	MCLOCK	The terminal to input clock.
35	VS	The terminal to supply the voltage for the power stage.
36	RESET	The terminal to reset a register for checking the movement.
37	RF	The terminal to monitor current.
38	NC	Non connect
39	NC	Non connect
40	WIN	The terminal to sense the back electro magnetic force of coils.
41	WOUT	The terminal to supply the motor current.
42	VIN	The terminal to sense the back electro magnetic force of coils.
43	VOUT	The terminal to supply the motor current.
44	UIN	The terminal to sense the back electro magnetic force of coils.
45	UOUT	The terminal to supply the motor current.
46	NC	Non connect
47	NC	Non connect
48	RF	The terminal to monitor current.

■ CXD2672GA(IC351):DSP

1.Pin layout



2.Pin function (1)

Pin No.	Symbol	I/O	Function
A-1			
A-2	NC	-	Open
A-3	NC	-	Open
B-1	MNT1	O	Monitor output
B-2	NC	-	Open
B-3	NC	-	Open
C-1	MNT0	I/O	Monitor in/output
C-2	MNT3	O	Monitor output
C-3	MNT2	O	Monitor output
D-1	NC	-	Open
D-2	SCLK	I	Micon serial bus clock input
D-3	SWDT	I	Micon serial bus data write input
	VDC0	-	Internal logic VDD(1.8V)

2.Pin function(2)

Pin No.	Symbol	I/O	Function
E-1	XLAT	I	Micon serial bus latch input
E-2	SRDT	O	Micon serial bus data read out output
E-3	SENS	O	Internal output of micon serial bus address
F-1	VSC0	-	Internal logic GND
F-2	SQSY	O	PTGR=0 ADIPsink output / PTGR=1 DISC SUB-Q sink output
F-3	XRST	I	Reset input L:reset
G-1	DQSY	O	Ubit SUB-Q sink output from digital audio input from MD or CD
G-2	XINT	O	Request status output L:request status
G-3	RPWR	I	Laser power select input (H=rec power / L=playback power)
H-1	TX	I	Output permit input of recorded data
H-2	OSCI	I	X'tal osc circuit input
H-3	VDIOOSC	-	OSC sel VDD (2.5V)
J-1	OSCO	O	X'tal osc circuit output
J-2	DVSS0	-	Internal 16bit DRAM GND
J-3	DVDD0	-	Internal 16bit DRAM GND
K-1	VSIOOSC	-	OSC sel GND
K-2	AOUTL	O	Internal DAC Lch output
K-3	DAVDDL	-	Internal DAC VDD (Lch,2.5V)
L-1	DAVSSL	-	Internal DAC GND
L-2	VREFL	O	Internal DAC GND VREF(Lch)
L-3	DAVDDR	-	Internal DAC VDD (Rch,2.5V)
M-1	DAVSSR	-	Internal DAC GND (Rch)
M-2	AOUTR	O	Internal DAC Rch output
M-3	VREFR	O	Internal DAC VREF (Rch)
N-1	VSC1	-	Internal logic GND
N-2	XTSL	I	X'tal frequency select (L=45.1584MHz/H=22.5792MHz)
N-3	TST1	I	Test terminal Connect to GND
P-1	DIN1	I	Digital audio input Outer I/F mode EXRQ input
P-2	DOUT	O	Digital audio output
P-3	VDC1	-	Internal logic VDD (1.8V)
U-1	DAPWMLN	O	Internal DAC PWM output L-
T-1	DAPWMLP	O	Internal DAC PWM output L+
R-1	VSIO0	-	2.5V I/O VSS
U-2	DAPWMRP	O	Internal DAC PWM output R+
T-2	MTFLGR	O	Internal DAC zero detect flag (Rch)
R-2	MTFLGL	O	Internal DAC zero detect flag (Lch)
U-3	TST7	I	Test terminal Connect to GND
T-3	DATAI	I	Serial data input
R-3	TST0	O	Open
U-4	ADDT	I	Data input from A/D converter
T-4	TST8	I	Test terminal Connect to GND
R-4	VDIO0	-	2.5V I/O VDD
U-5	LRCK	O	LR clock(44.1kHz) for A/D, internal DAC
T-5	DADT	O	Data output for internal DAC / Internal DAC PWM output R-
R-5	VDC2	-	Internal logic VDD (1.8V)
U-6	VSC2	-	Internal logic GND
T-6	XBCK	O	A/D, internal DAC bit clock (2.8224MHz)
R-6	F256	O	11.2896MHz clock output (X'tal)
U-7	A02	O	External DRAM address output
T-7	A04	O	External DRAM address output
R-7	A03	O	External DRAM address output
U-8	A06	O	External DRAM address output
T-8	A01	O	External DRAM address output
R-8	A05	O	External DRAM address output

2.Pin function (3)

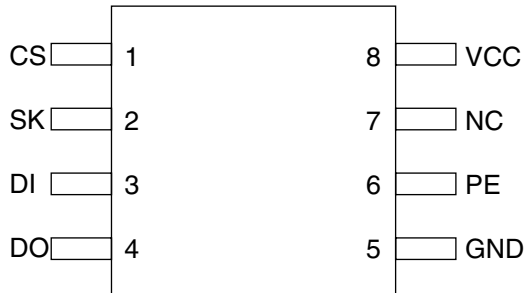
Pin No.	Symbol	I/O	Function
U-9	VSIO1	-	2.5V I/O sel Vss
T-9	A00	O	External DRAM address output
R-9	ADIO1	-	2.5V I/O sel VDD
U-10	A08	O	External DRAM address output
T-10	A10	O	External DRAM address output
R-10	A07	O	External DRAM address output
U-11	IXOE	O	Open
T-11	XRAS	O	External DRAM RAS output
R-11	A09	O	External DRAM address output
U-12	IXWE	O	Open
T-12	XCAS	O	External DRAM CAS output
R-12	D1	I/O	External DRAM data input/output
U-13	D2	I/O	External DRAM data input/output
T-13	D0	I/O	External DRAM data input/output
R-13	VDC3	-	Internal logic VDD
U-14	VSC3	-	Internal logic GND
T-14	D3	I/O	External DRAM data input/output
R-14	DVDD1	-	Internal 16Mbit DRAM VDD
U-17	NC	-	Open
U-16	NC	-	Open
U-15	XOE	O	External DRAM output chip enable output
T-17	NC	-	Open
T-16	TST6	O	Open
T-15	A11	O	Open
R-17	DVSS1	-	Internal 16Mbit DRAM GND
R-16	XWE	O	External DRAM write enable output
R-15	PDO	O	Analog PLL phase compare output
P-17	ASYI	I	Playback EFM comparator slice level input
P-16	ASYO	O	Playback EFM binarization signal output
P-15	MVCI	I	Clock input from external VCO
N-17	AVS1	-	Analog GND
N-16	BIAS	I	Playback EFM comparator bias current input
N-15	AVD1	O	Analog power supply (2.5V)
M-17	FILI	I	Filter input for playback EFM system mastering PLL
M-16	PCO	I	Phase comparison output for playback EFM system mastering PLL
M-15	RFI	I	Playback EFM RF signal input
L-17	PEAK	O	Peak holding input optical amount signal
L-16	CLTV	I	Internal VCO control voltage input for playback EFM system mastering PLL
L-15	FILO	I	Filter output for playback EFM system mastering PLL
K-17	FE	I	Focus error signal input
K-16	ABCD	O	Optical amount signal input
K-15	BOTOM	I	Bottom holding input of optical amount signal
J-17	ADIO	I	Open
J-16	VC	-	Middle point voltage input
J-15	AUX1	I	Assistance A/D input
H-17	AVS2	-	Analog GND
H-16	ADRT	I	A/D converter operation range upper bound voltage input
H-15	AVD2	-	Analog power supply (2.5V)
G-17	ADRB	I	A/D converter operation range lower bound voltage input
G-16	SE	I	Sled error input
G-15	TE	I	Tracking error input
F-17	ADFG	I	ADIP binary-coded FM signal input
F-16	APC	I	Error signal input for laser digital APC
F-15	DCHG	I	Connects with an analog power supply of low impedance

2.Pin function (4)

Pin No.	Symbol	I/O	Function
E-17	VSIO2	-	2.5V I/O Vss
E-16	F0CN	O	Filter cutoff control output
E-15	VDIO2	-	2.5V I/O VDD
D-17	DTRF	O	Controller data output
D-16	CKRF	O	Controller clock output
D-15	XLRF	O	Controller latch output
A-17	NC	-	Open
B-17	NC	-	Open
C-17	LDDR	O	Laser digital APC PWM output
A-16	NC	-	Open
B-16	NC	-	Open
C-16	APCR	O	Laser APC reference PWM output
A-15	TFDR	O	Tracking servo drive PWM output (+)
B-15	TRDR	O	Tracking servo drive PWM output (-)
C-15	NC	-	Open
A-14	FRDR	O	Focus servo drive PWM output (-)
B-14	FFDR	O	Focus servo drive PWM output (+)
C-14	VDC4	-	Internal logic VDD (1.8V)
A-13	VSC4	-	Internal logic GND
B-13	SRDR	O	Sled servo drive PWM output (-)
C-13	FS4	O	176.4kHz clock output (X'tal system)
A-12	SPFD	O	Spindle servo drive output
B-12	SPRD	O	Spindle servo drive output
C-12	SFRD	O	Sled servo drive PWM output (+)
A-11	TEST2	I	Test terminal Connect to GND
B-11	TEST1	I	Test terminal Connect to GND
C-11	FGIN	I	Spindle CAV servo FG input
A-10	TST2	O	Test terminal Open
B-10	EFMO	O	EFM output at recording
C-10	TEST3	I	Test terminal Connect to GND
A-9	VSIO3	-	2.5V I/O Vss
B-9	TST3	O	Test terminal Open
C-9	VDIO3	-	2.5V I/O VDD
A-8	SPCU	I	Blush less spindle motor drive comparate input (U)
B-8	SPDW	O	Blush less spindle motor 3 phase drive truth output (W)
C-8	SPDV	O	Blush less spindle motor 3 phase drive truth output (V)
A-7	TST4	O	Test terminal Open
B-7	SPCW	I	Blush less spindle motor drive comparete input (W)
C-7	SPCV	I	Blush less spindle motor drive comparate input (V)
A-6	VSC5	-	Internal logic GND
B-6	SLDW	O	Blush less sled motor 3 phase drive truth output (W)
C-6	SLDV	O	Blush less sled motor 3 phase drive truth output (V)
A-5	SLCV	I	Blush less sled motor 3 phase drive comparate input (V)
B-5	SLCU	I	Blush less sled motor 3 phase drive comparate input (U)
C-5	VDC5	-	Internal logic VDD (1.8V)
A-4	BYPS	O	Open
B-4	TST5	O	Test terminal Open
C-4	SLCW	I/O	Blush less sled motor 3 phase drive comparate input

■ **AK93C55BH-W (IC502) : EEPROM**

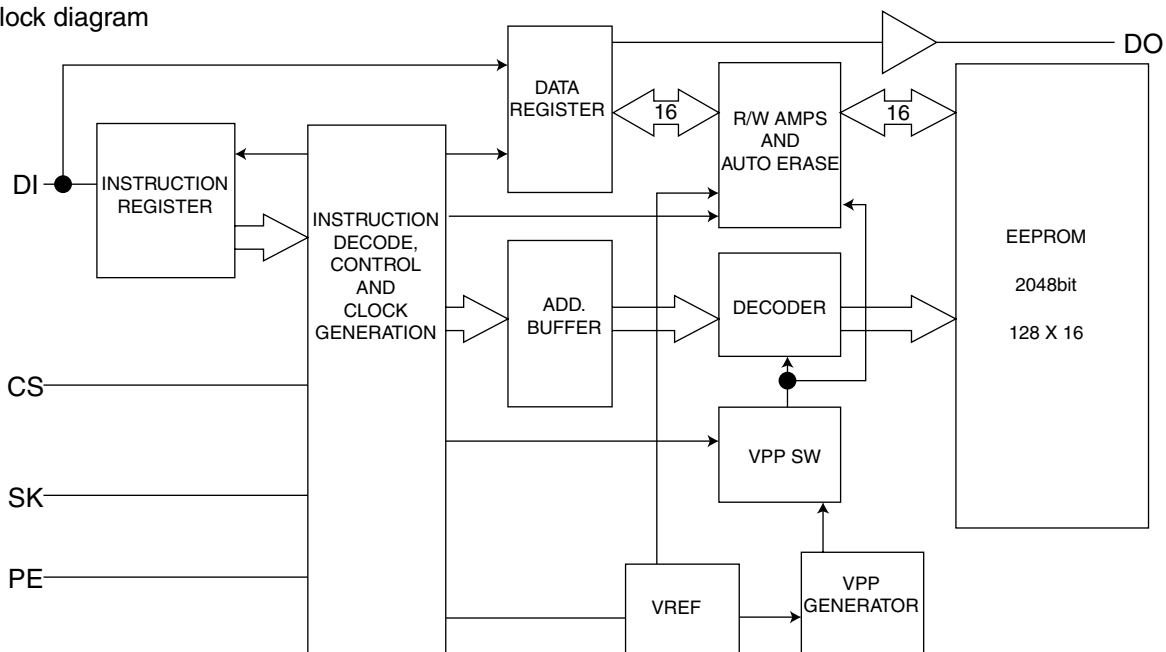
1. Pin layout



2. Pin function

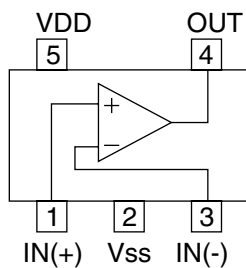
Pin name	Fncion
CS	Chip select
SK	Serial data clock
DI	Serial data input
DO	Serial data output
PE	Program enable
VCC	Ground
GND	Power supply
NC	Not connected

3. Block diagram



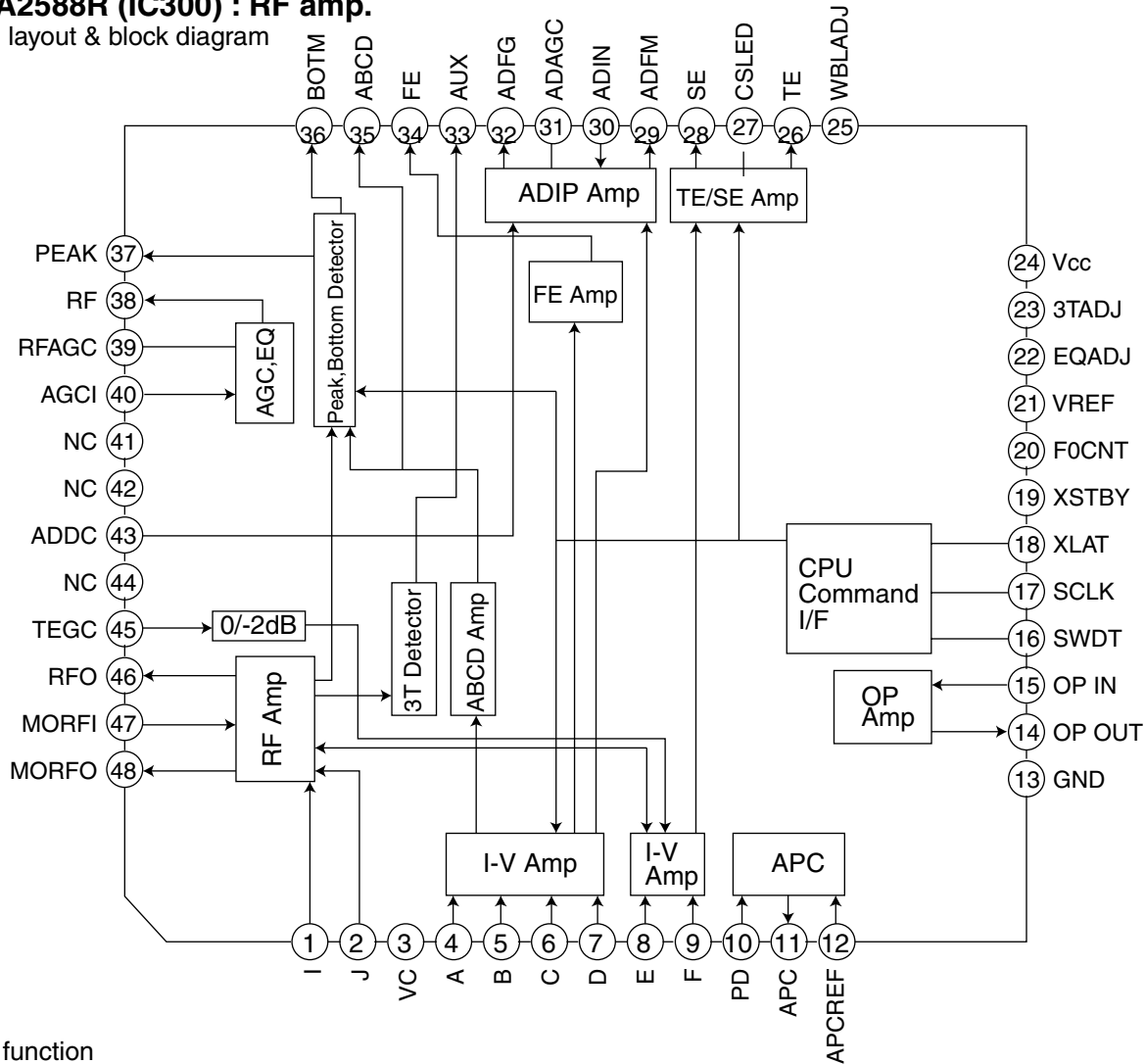
■ **TC75S51F-X(IC505):Ope amp**

1. Pin layout/Block diagram



■ CXA2588R (IC300) : RF amp.

1. Pin layout & block diagram

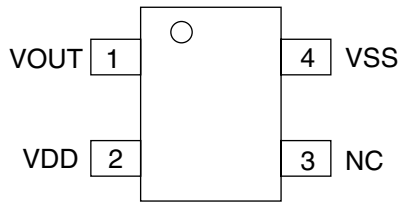


2. Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	I	I	I-V converted RF signal I input	25	WBLADJ	I/O	BPF3T IF setting terminal
2	J	I	I-V converted RF signal J input	26	TE	O	Tracking error signal output terminal
3	VC	O	Vcc/2 voltage output	27	CSLED	-	Sled error signal LPF capacitor connect terminal
4	A	I	A current input for main beam servo signal	28	SE	O	Sled error signal output terminal
5	B	I	B current input for main beam servo signal	29	ADFM	O	ADIP FM signal output terminal
6	C	I	C current input for main beam servo signal	30	ADIN	I	ADIP signal completer input terminal
7	D	I	D current input for main beam servo signal	31	ADAGC	-	ADIP AGC capacitor connect terminal
8	E	I	E current input for side beam servo signal	32	ADFG	O	ADIP binary signal output
9	F	I	F current input for side beam servo signal	33	AUX	O	I3 output/temp.signal output
10	PD	I	Reflection light q'ty monitor signal input	34	FE	O	Focus error signal output
11	APC	O	Laser APC output	35	ABCD	O	Reflection light q'ty signal output for main beam servo detector
12	APCREF	I	Ref. voltage input for laser power intensity setting	36	BOTM	O	RF/ABCD bottom-hold signal output
13	GND	-	Ground	37	PEAK	O	RF/ABCD peak-hold signal output
14	OPOUT	O	Ope. amp output terminal	38	RF	O	RF equalizer output
15	OPIN	I	21dB ope. amp input terminal	39	RFAGC	-	RFAGC capacitor connection
16	SWDT	I	Serial data input terminal	40	AGCI	I	RFAGC input
17	SCLK	I	Shift clock input terminal	41	NC	-	Non connect
18	XLAT	I	Latch input terminal	42	NC	-	Non connect
19	XSTBY	I	Stand by setting terminal	43	ADDC	I/O	ADIP amp. feedback circuit capacitor connection
20	F0CNT	I	F0 count setting terminal	44	NC	-	Non connection
21	VREF	O	Reference voltage output terminal	45	TEGC	I	TE amp. gain switching
22	EQADJ	I/O	EQ IF setting terminal	46	RFO	O	RF amp. output
23	3TADJ	I/O	BPF3T IF setting terminal	47	MORFI	I	Groove RF signal AC-coupled input
24	Vcc	-	Power supply	48	MORFO	O	Groove RF signal output

■ IC-PST3421U-X(IC504):System reset

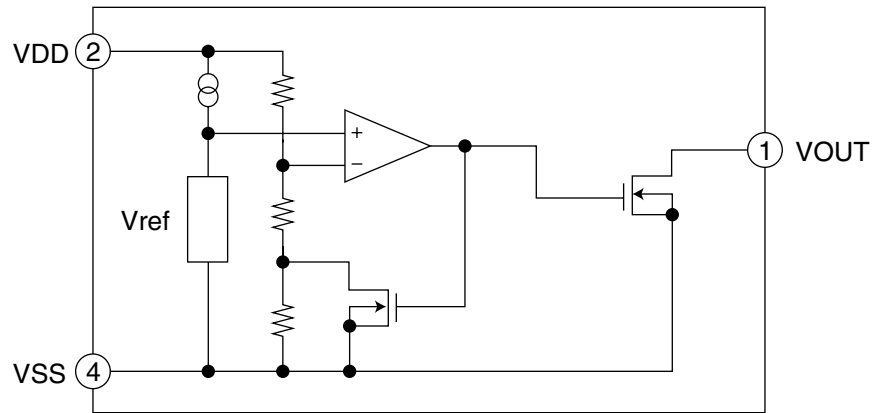
1.Pin layout



2.Pin function

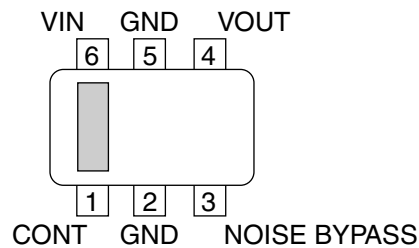
Pin No.	Symbol	Function
1	VOUT	Reset signal output terminal
2	VDD	Power supply terminal
3	NC	Non connect
4	VSS	VSS terminal

3.Block diagram

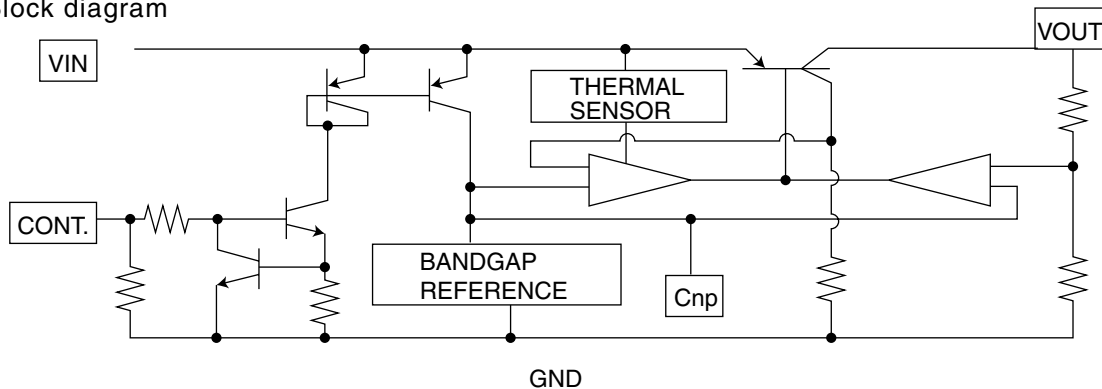


■ TK11223BMC-X (IC961) : Regulator

1. Pin layout

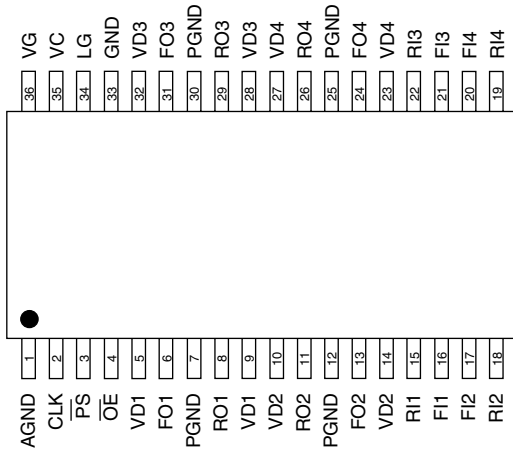


2. Block diagram



■ MPC17A139MTB-X (IC400) : 4ch bridge driver

1.Pin layout



2.Pin function

Driver section

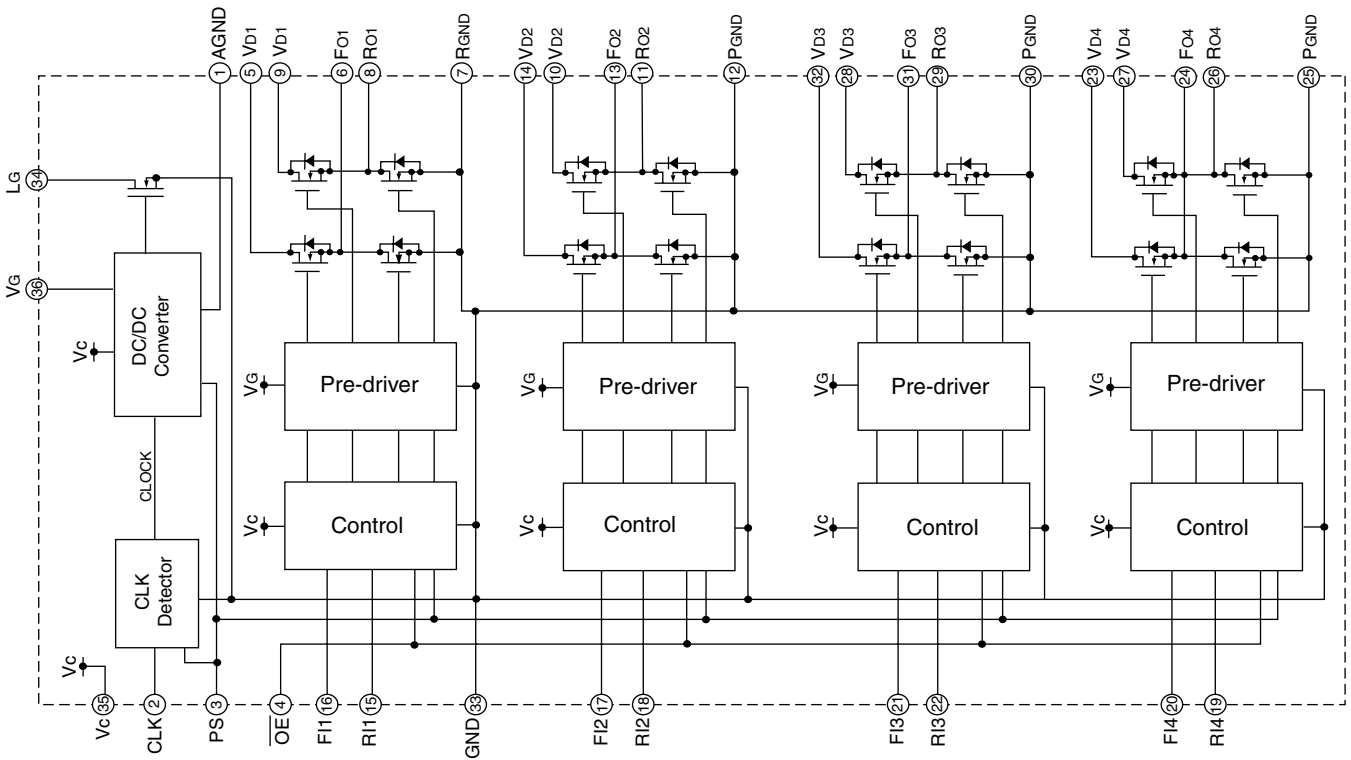
PS,OE		INPUT		OUTPUT 1~4	
PS	OE	FI	RI	FO	RO
H	L	L	L	L	L
H	L	L	H	L	H
H	L	H	L	H	L
H	L	H	H	L	L
H	H	X	X	L	L
L	X	X	X	Z	Z

X:Don't Care
Z:High Impedance

Clock detector section

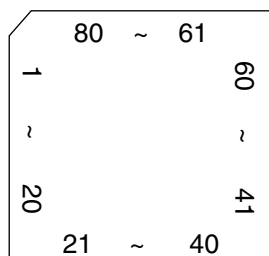
CLK	PS	OSC circuit
X	H	Auto
	H	Syncro
X	L	Stop

3.Block diagram



■ UPD784225GK-617C(IC501):CPU

1.Pin layout

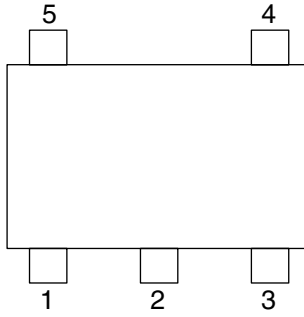


2.Pin function

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	ANI5	GND	41	-	Non connect
2	ANI6	GND	42	-	Non connect
3	SPSEL	Non connect	43	-	Non connect
4	AVSS	GND	44	-	Test terminal
5	-	Non connect	45	DPON	Test terminal
6	VADJ	Voltage adjust	46	-	Non connect
7	AVREF1	Analog reference voltage	47	RFVCTL	Test terminal
8	RMRX	Remocon data input terminal	48	PSAVE	Non connect
9	RMTX	Remocon data output terminal	49	RPON	RP ON signal input terminal
10	-	Non connect	50	DPON	DP ON signal input terminal
11	SRDT	Serial data read input terminal	51	REMOFF	Remocon OFF signal output terminal
12	SWDT	Serial data write input terminal	52	CS2	Chip select 2
13	SCLK	Serial bus clock output terminal	53	SCL	Serial clock signal output terminal
14	-	Non connect	54	DI	Data output terminal
15	BEEP	BEEP output terminal	55	CS1	Chip select 1
16	PSW	Power ON/OFF output terminal	56	MNT0	Monitor 0 input terminal
17	MONDATA	Test terminal	57	MNT3	Monitor 3 input terminal
18	MONCLK	Test terminal	58	SENS	DSP internal status input terminal
19	XRST2	Standby setting output terminal	59	DO	Data input terminal
20	TG	Tracking gain setting terminal	60	RESET	Reset signal input terminal
21	ACB	Non connect	61	XINT	Interrupt status data input terminal
22	TRAIN	Non connect	62	SQSY	Sink input terminal
23	XRST	Reset signal output terminal	63	-	Non connect
24	XLAT	Serial bus latch output terminal	64	RPLY	Remocon PLAY detect terminal
25	LVCTL	LSI power supply control signal output	65	DOOR	Door open/close detect terminal
26	LDON	Laser diode ON signal output terminal	66	PLAYKEY	PLAY key detect terminal
27	RFOFF	RF OFF signal input terminal	67	VSS0	GND
28	SLOFF	Sled OFF signal output terminal	68	VDD1	Reference voltage terminal
29	-	Non connect	69	X2	Connect to X'tal osc
30	MUTE	Mute signal output terminal	70	X1	Connect to X'tal osc
31	-	Non connect	71	VPP	Test terminal
32	DIR	Test terminal	72	XT2	Non connect
33	VSS1	GND	73	XT1	GND
34	PS	Standby mode output terminal	74	VDD0	GND
35	SS	Start/Stop output terminal	75	AVD0	Reference voltage terminal
36	MON1	Test terminal	76	KEY	Remocon STOP key detect terminal
37	MON2	Test terminal	77	BATTERY	Battery voltage detect terminal
38	MONXLAT	Test terminal	78	TEMP	Connect to temp. detect
39	-	Non connect	79	ANI3	GND
40	-	Non connect	80	ANI4	GND

XC6367A251M-X(IC901):Regulator

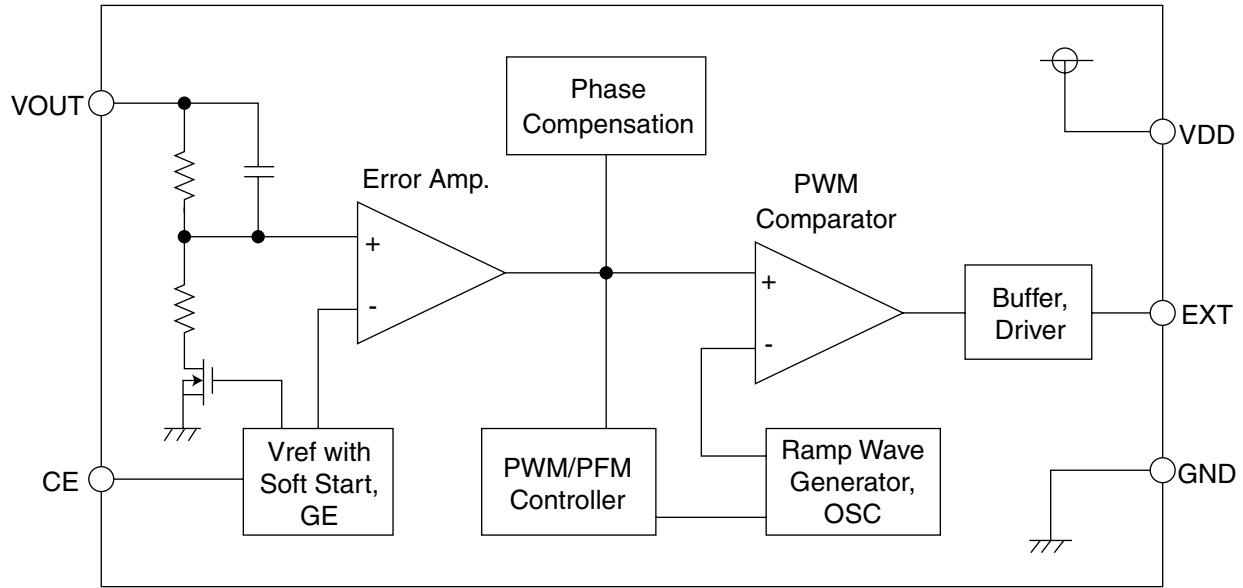
1.Pin layout



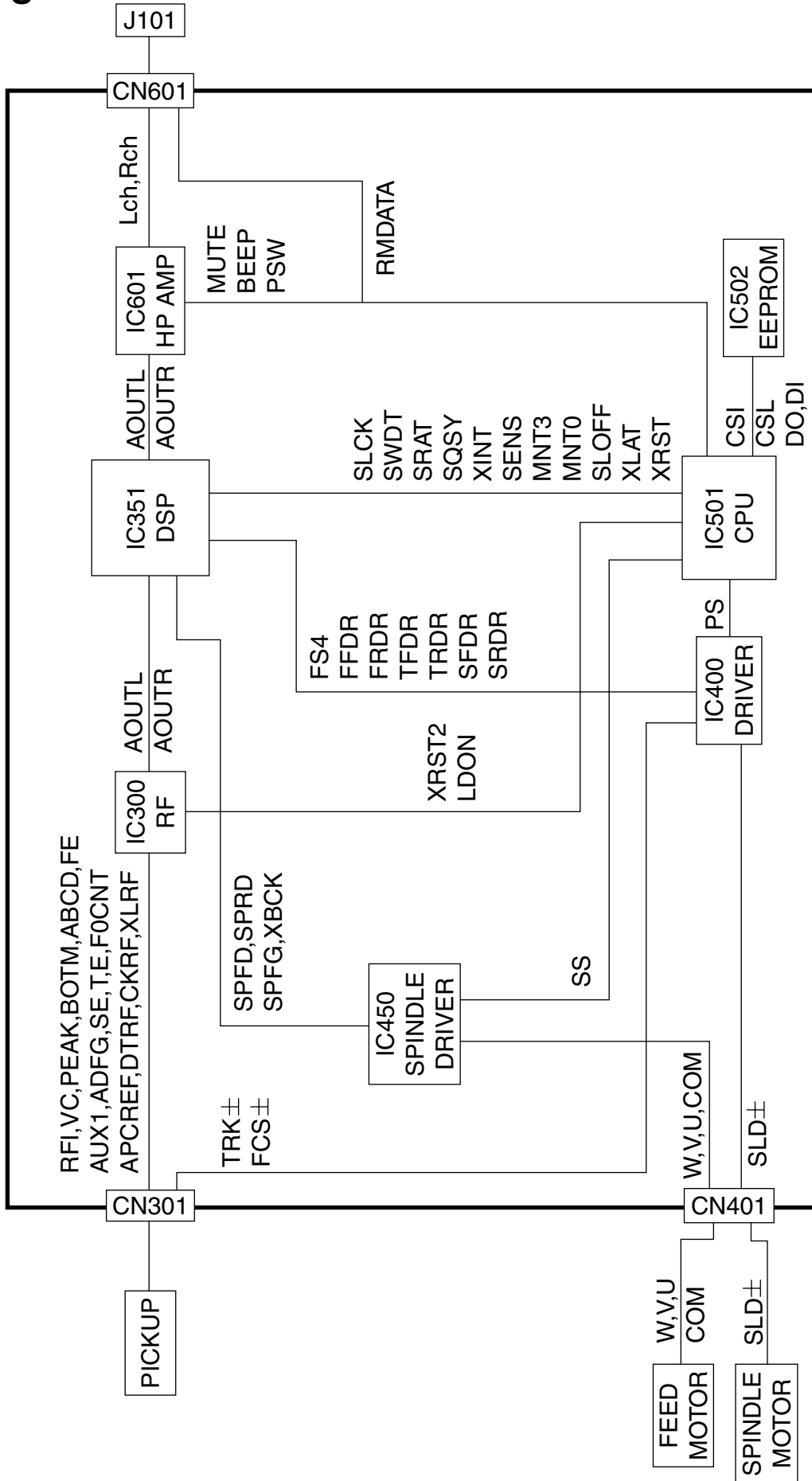
2.Pin function

Pin No.	Symbol	Function
1	VOUT	Output voltage det.
2	VDD	Power supply
3	CE	Chip enable
4	GND	GND
5	EXT	Ext. Tr connect

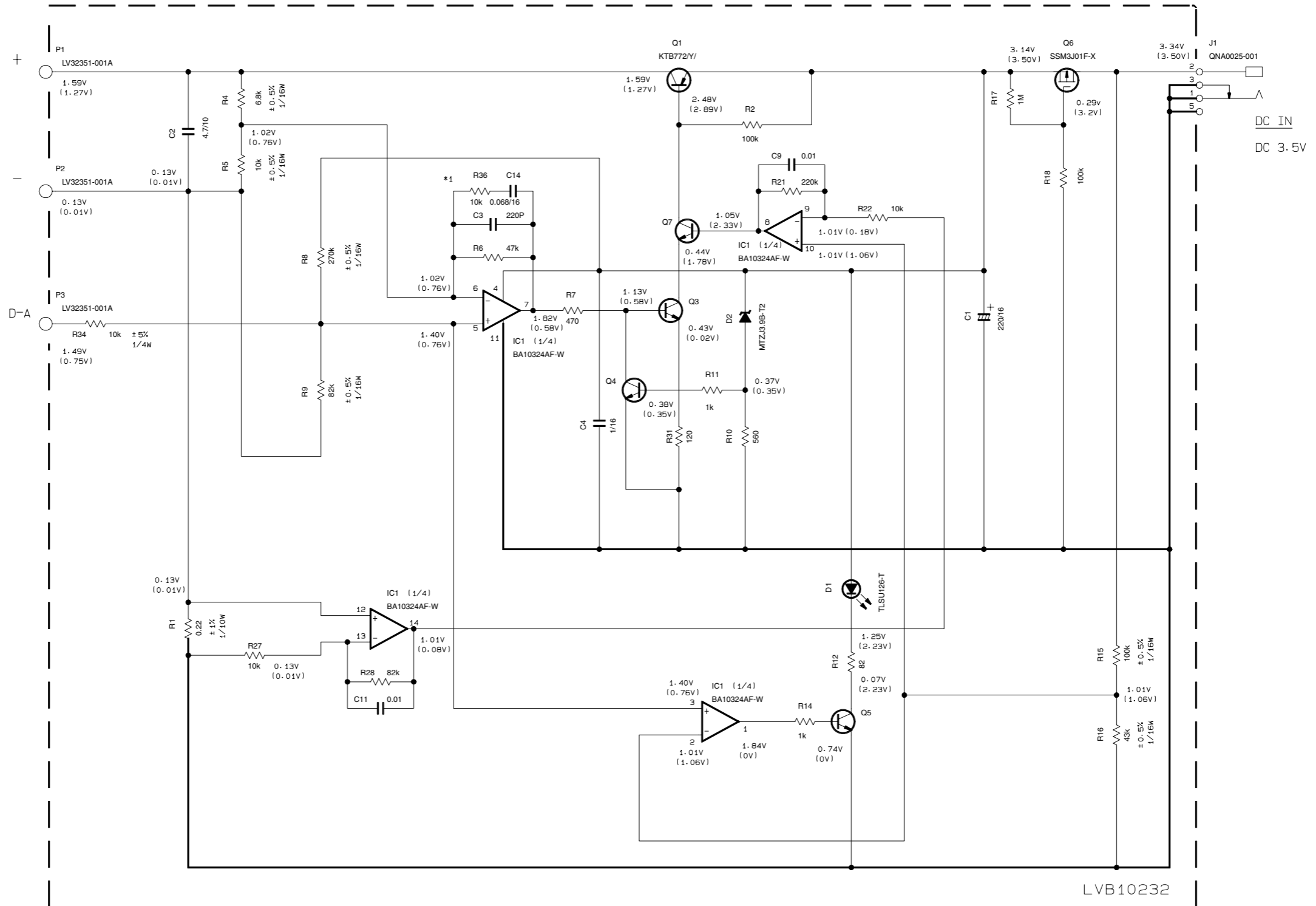
3.Block diagram



Block diagram



■ Charger section



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.

CONDITION 1. --- CHARGE MODE
BATTERY: 1.15V

CONDITION 2. () --- MD PLAY MODE
VOL:20 ACBASS:ON
NO BATTERY

2. UNLESS OTHERWISE SPECIFIED.

ALL RESISTORS ARE 1/16W ± 5% METAL GLAZE RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR.
ALL CAPACITANCE VALUES ARE IN #F(P=pF).
ALL E. CAPACITORS ARE SHOWN IN THE FORM
OF CAPACITANCE(#F) /RATED VOLTAGE (V).
ALL NPN TRANSISTORS ARE 2SC2412K/R/-X

LVB10232

A

B

C

D

E

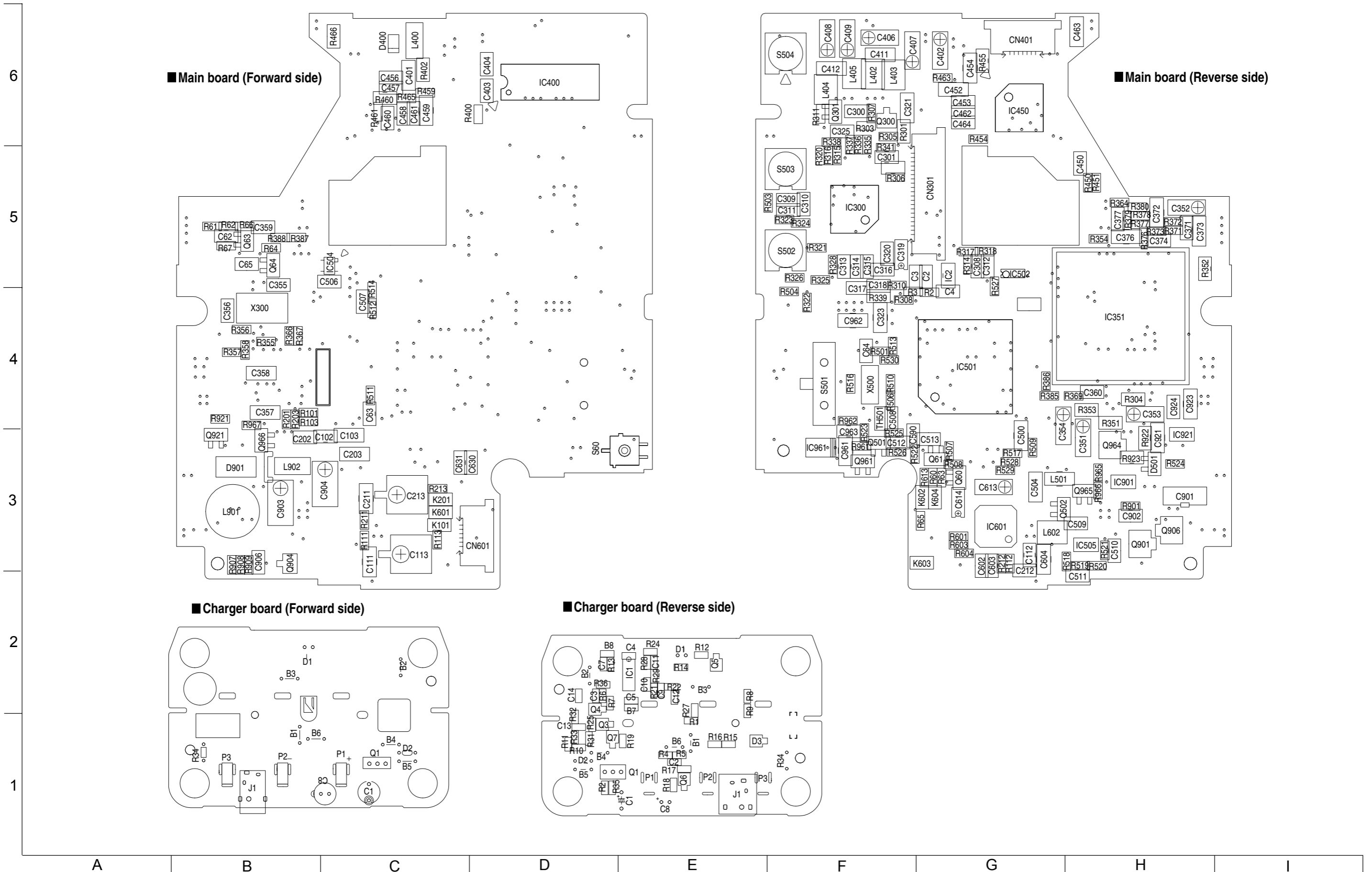
F

G

H

I

Printed circuit boards



< MEMO >

PARTS LIST

[XM-PX50WT]

* All printed circuit boards and its assemblies are not available as service parts.

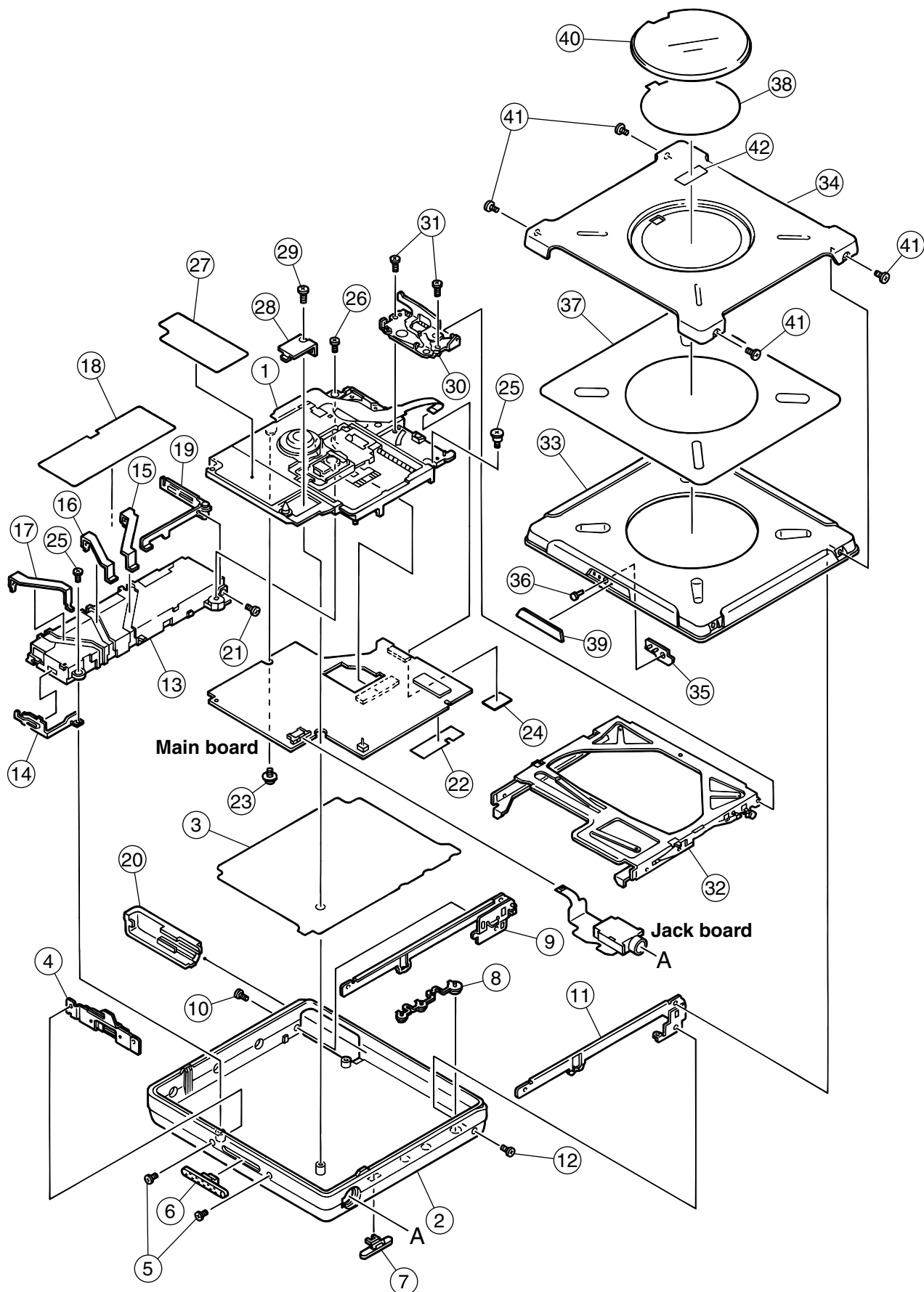
Area suffix
 UB ----- Hong Kong

- Contents -

Exploded view of general assembly and parts list	3-2
Charger assembly and parts list	3-4
MD mechanism assembly and parts list	3-5
Electrical parts list	3-6
Packing materials and accessories parts list	3-9

Exploded view of general assembly and parts list

Block No. M 1 M M



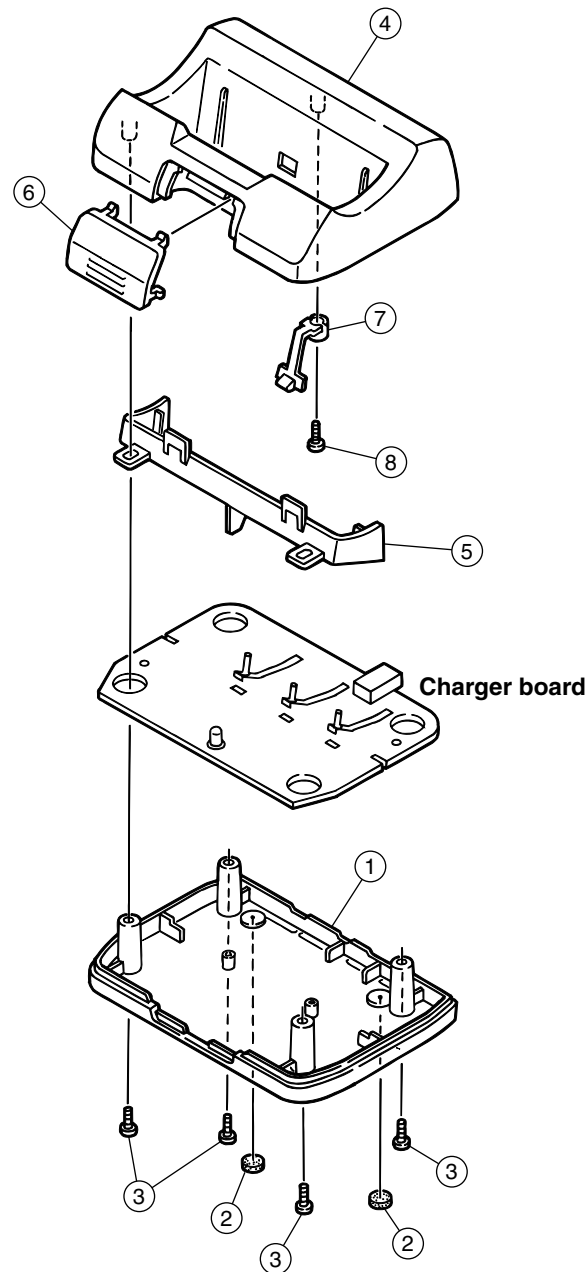
■ Parts list (General assembly)

Block No. M1MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	1	-----	FLM-FPM	1		
	2	LV10439-004A	BOTTOM CASE	1		
	3	LV41969-001A	SHIELD SHEET	1		
	4	LV32205-001A	EJECT ASSY	1		
	5	LV41215-006A	MINI SCREW	2	FOR EJECT ASSY	
	6	LV32198-001A	OPEN KNOB	1		
	7	LV32200-001A	SLIDE KNOB	1	VOL/SKIP/HOLD	
	8	LV32199-001A	PUSH BUTTON	1		
	9	LV32211-002A	ARM ASSY(L)	1		
	10	LV41215-006A	MINI SCREW	1	FOR ARM ASSY(L)	
	11	LV32210-001A	ARM ASSY(R)	1		
	12	LV41215-006A	MINI SCREW	1	FOR ARM ASSY(R)	
	13	LV20899-001A	BATT HOLDER	1		
	14	LV31334-003A	BATT CONTACT(-)	1		
	15	LV31332-003A	CHG CONTACT (+)	1		
	16	LV31333-005A	CHG CONTACT (-)	1		
	17	LV32352-001A	CHG CONTACT(S)	1		
	18	LV42142-002A	SHEET	1		
	19	LV32242-001A	B.CONTACT ASSY	1		
	20	LV32201-002A	BATTERY LID	1		
	21	VKZ4616-008	SCREW	1	B.CONTACT ASSY	
	22	LV42222-001A	PROTECTOR	1	FOR PCB	
	23	LV40242-001A	MINI SCREW	1	FOR PCB-MECHA	
	24	LV30225-0A6A	SPACER	1	FOR MECHA(F)-PC	
	25	QYSPSGU1425M	TAP SCREW	2	FOR PCB	
	26	LV40241-004A	SPECIAL SCREW	1	FOR MECHA	
	27	LV31339-004A	CAUTION LABEL	1		
	28	LV32202-001A	H.P JACK COVER	1		
	29	QYSPSGU1425M	TAP SCREW	1		
	30	LV31294-001A-S	EJECT UNIT	1		
	31	QYSPSFT1425M	MINI SCREW	2	(M1.4 PX2.5,B)	
	32	LV20881-003A	HOLDER ASS'Y	1		
	33	LV10424-002A	MD DOOR BASE	1		
	34	LV20873-004A	MD DOOR COVER	1		
	35	LV41967-001A	HOOK	1		
	36	VKZ4616-008	SCREW	1		
	37	LV42158-001A	D.F TAPE	1	FOR MD DOOR	
	38	LV42147-004A	SHEET	1	FOR LENS	
	39	LV41968-002A	OPEN LABEL	1		
	40	LV32197-002A	LENS	1		
	41	LV41215-006A	MINI SCREW	4	FOR MD DOOR	
	42	LV30225-0A1A	SPACER	1	FOR SHEET	

Charger assembly and parts list

Block No. M 2 M M



■ Parts list (Charger)

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV20897-005A	BOTTOM CASE	1	PC CLEAR	
	2	LV40243-001A	FOOT	2	FOR BOTTOM	
	3	QYSDSF2006Z	SCREW	4	BOTTOM+TOP	
	4	LV10451-001A	TOP COVER	1	PC	
	5	LV20898-001A	INNER CABI	1	PC	
	6	LV32349-002A	LENS	1	PMMA	
	7	LV32350-001A	HOOK	1	POM	
	8	QYSDSF2006Z	SCREW	1	FOR HOOK	

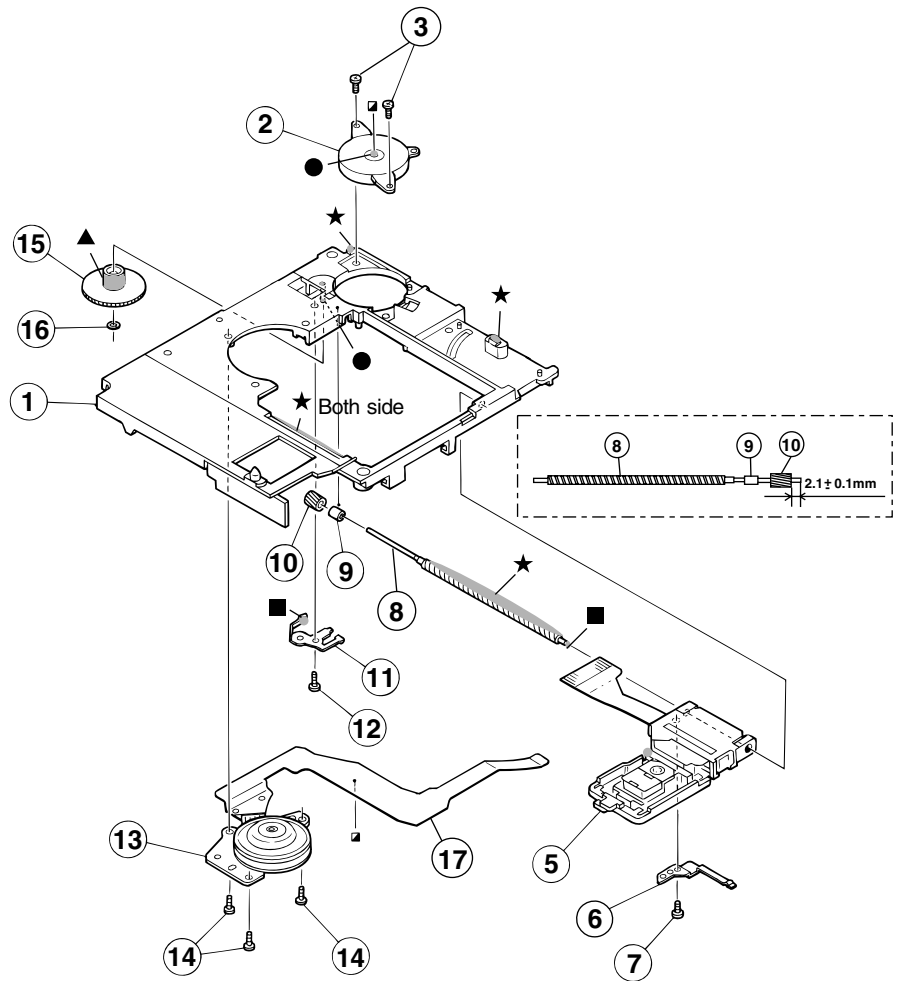
MD mechanism assembly and parts list

Block No. M 2 M M

FLM-FPM

Grease

- ★ = FL-7750
- ▲ = CFD-4007HY2
- = FG-87HS
- = 948P



■ Parts list (MD mechanism)

Block No. M3MM

▲	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV20882-001A	CHASSIS ASS'Y	1		
	2	QAR0113-001	FEED MOTOR	1		
	3	QYSPSFT1425M	MINI SCREW	2	(M1.4 PX2.5,B)	
	5	QAL0237-001	PICK UP	1		
	6	LV32031-001A	LEAD SPRING	1		
	7	QYSPSGT1425N	MINI SCREW	1	(M1.4 BX2.5,N)	
	8	LV32114-001A	LEAD SCREW	1		
	9	LV41132-001A	METAL	1		
	10	LV41133-001A	WHEEL GEAR	1		
	11	LV41134-003A	SHAFT HOLDER	1		
	12	QYSPSFT1425M	MINI SCREW	1	(M1.4 PX2.5,B)	
	13	QAR0112-001	SPINDLE MOTOR	1		
	14	QYSPSFT1425M	MINI SCREW	3	(M1.4 PX2.5,B)	
	15	LV41141-002A	WORM GEAR	1		
	16	WDM082520	SLIT WASHER	1		
	17	LVB10188-001A	MECHA FPC	1		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	C 62	NCB31HK-102X	C CAPACITOR		
	C 63	NCB31HK-102X	C CAPACITOR		
	C 64	NCB31HK-102X	C CAPACITOR		
	C 65	NCB31HK-103X	C CAPACITOR		
	C 102	NCS31HJ-391X	C CAPACITOR		
	C 103	NCB21AK-105X	C CAPACITOR		
	C 111	NCB21CK-224X	C CAPACITOR		
	C 112	NCB31AK-224X	C CAPACITOR		
	C 113	NBFA0GM-157X	TS E CAPACITOR		
	C 202	NCS31HJ-391X	C CAPACITOR		
	C 203	NCB21AK-105X	C CAPACITOR		
	C 211	NCB21CK-224X	C CAPACITOR		
	C 212	NCB31AK-224X	C CAPACITOR		
	C 213	NBFA0GM-157X	TS E CAPACITOR		
	C 300	NCB31HK-103X	C CAPACITOR		
	C 301	NCB31CK-273X	C CAPACITOR		
	C 302	NCB31CK-823X	C CAPACITOR		
	C 308	NCB31HK-682X	C CAPACITOR		
	C 309	NCB30JK-105X	C CAPACITOR		
	C 310	NCB31HK-472X	C CAPACITOR		
	C 311	NCB30JK-105X	C CAPACITOR		
	C 312	NCB31CK-333X	C CAPACITOR		
	C 313	NCB31AK-224X	C CAPACITOR		
	C 314	NCB31HK-103X	C CAPACITOR		
	C 315	NCB31EK-223X	C CAPACITOR		
	C 316	NCB31CK-104X	C CAPACITOR		
	C 317	NCB31HK-682X	C CAPACITOR		
	C 318	NCB31HK-102X	C CAPACITOR		
	C 319	NBE90JM-106X	TS E CAPACITOR		
	C 320	NCB31HK-103X	C CAPACITOR		
	C 321	NCB21CK-474X	C CAPACITOR		
	C 323	NCB21AK-105X	C CAPACITOR		
	C 325	NCB31CK-104X	C CAPACITOR		
	C 351	NBE20JM-106X	TA E CAPACITOR		
	C 352	NBE20JM-106X	TA E CAPACITOR		
	C 353	NBE20JM-106X	TA E CAPACITOR		
	C 354	NBE20JM-106X	TA E CAPACITOR		
	C 355	NCS31HJ-7R0X	C CAPACITOR		
	C 356	NCS31HJ-7R0X	C CAPACITOR		
	C 357	NCB21AK-105X	C CAPACITOR		
	C 358	NCB21AK-105X	C CAPACITOR		
	C 359	NCB30JK-105X	C CAPACITOR		
	C 360	NCB31CK-104X	C CAPACITOR		
	C 371	NCB31HK-103X	C CAPACITOR		
	C 372	NCB21CK-474X	C CAPACITOR		
	C 373	NCB21AK-105X	C CAPACITOR		
	C 374	NCS31HJ-471X	C CAPACITOR		
	C 376	NCB21CK-474X	C CAPACITOR		
	C 377	NCB31HK-153X	C CAPACITOR		
	C 401	NCB21AK-105X	C CAPACITOR		
	C 402	NBE21CM-335X	TS E CAPACITOR		
	C 403	NCB30JK-105X	C CAPACITOR		
	C 404	NCB30JK-105X	C CAPACITOR		
	C 450	NCB31CK-473X	C CAPACITOR		
	C 454	NCB21AK-105X	C CAPACITOR		
	C 456	NCB31HK-222X	C CAPACITOR		
	C 457	NCB31HK-102X	C CAPACITOR		
	C 458	NCB31CK-473X	C CAPACITOR		
	C 459	NCB21AK-105X	C CAPACITOR		
	C 460	NCB31HK-682X	C CAPACITOR		
	C 461	NCB31CK-473X	C CAPACITOR		
	C 463	NCB21AK-105X	C CAPACITOR		
	C 500	NCB21AK-105X	C CAPACITOR		

△	Item	Parts number	Parts name	Remarks	Area
	C 503	NCB31CK-104X	C CAPACITOR		
	C 504	NCB21AK-105X	C CAPACITOR		
	C 506	NCB31CK-104X	C CAPACITOR		
	C 507	NCB31CK-104X	C CAPACITOR		
	C 509	NCB31CK-104X	C CAPACITOR		
	C 510	NCB31HK-102X	C CAPACITOR		
	C 512	NCB31CK-104X	C CAPACITOR		
	C 513	NCB31HK-102X	C CAPACITOR		
	C 590	NCB31HK-102X	C CAPACITOR		
	C 602	NCB30JK-105X	C CAPACITOR		
	C 603	NCB30JK-105X	C CAPACITOR		
	C 604	NCB21AK-105X	C CAPACITOR		
	C 613	NBE20JM-106X	TA E CAPACITOR		
	C 614	NBE90JM-475X	TA E CAPACITOR		
	C 630	NCS31HJ-331X	C CAPACITOR		
	C 631	NCS31HJ-331X	C CAPACITOR		
	C 901	NCB11AK-475X	C CAPACITOR		
	C 902	NCS31HJ-221X	C CAPACITOR		
	C 903	NBG40GM-226X	TS E CAPACITOR		
	C 904	NBE40JM-476X	TS E CAPACITOR		
	C 906	NCB31CK-104X	C CAPACITOR		
	C 921	NCB21AK-225X	C CAPACITOR		
	C 923	NCB21AK-105X	C CAPACITOR		
	C 924	NCB31CK-104X	C CAPACITOR		
	C 961	NCB21AK-105X	C CAPACITOR		
	C 962	NCB21AK-225X	C CAPACITOR		
	C 963	NCB31CK-104X	C CAPACITOR		
	CN300	QGF0515F3-20X	FFC CONNECTOR	PICK	
	CN301	QGF0515F3-20X	FFC CONNECTOR	PICK	
	CN401	QGF0515F3-07X	FFC CONNECTOR	MECHA	
	CN601	QGF0515F4-06X	FFC CONNECTOR	HP	
	D 400	F02J4L-X	DIODE		
	D 901	F1J2E-X	DIODE		
	IC300	CXA2588R	IC		
	IC351	CXD2672GA	IC	DSP	
	IC400	MPC17A139MTB-X	IC		
	IC450	CXA8095Q	IC		
	IC501	UPD784225GK-617	IC(MCU)		
	IC502	AK93C55BH-W	IC		
	IC504	IC-PST3421U-X	IC		
	IC505	TC75S51F-X	IC		
	IC601	JCV8002-W	IC		
	IC901	XC6367A251M-X	IC		
	IC921	TK11118SC-W	IC		
	IC961	TK11223BMC-X	IC		
	K 101	NQR0129-004X	FERRITE BEADS		
	K 201	NQR0129-004X	FERRITE BEADS		
	K 601	NQR0129-004X	FERRITE BEADS		
	K 602	NQR0129-004X	FERRITE BEADS		
	K 603	NQR0129-004X	FERRITE BEADS		
	K 604	NQR0129-004X	FERRITE BEADS		
	L 400	NQL114K-471X	INDUCTOR		
	L 501	NQL302N-100X	INDUCTOR		
	L 602	NQL38DM-1R0X	INDUCTOR		
	L 901	NQL32CM-220X	INDUCTOR		
	L 902	NQL114M-1R0X	INDUCTOR		
	Q 60	2SA2018-X	TRANSISTOR		
	Q 61	DTC144EE-X	TRANSISTOR		
	Q 63	2SC4617/QR/-X	TRANSISTOR		
	Q 64	2SC4617/QR/-X	TRANSISTOR		
	Q 300	2SB1219/RS/-X	TRANSISTOR		
	Q 301	DTA144EE-X	DIGI TRANSISTOR		
	Q 501	2SC4617/QR/-X	TRANSISTOR		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
	Q 502	DTA143TE-X	TRANSISTOR		
	Q 901	FMMT617-X	TRANSISTOR		
	Q 904	DTA124XUA-X	TRANSISTOR		
	Q 906	SSM3K01F-X	MOS FET		
	Q 961	DTA143TE-X	TRANSISTOR		
	Q 964	SSM3J01F-X	FET		
	Q 965	DTC144EE-X	TRANSISTOR		
	Q 966	DTA143TE-X	TRANSISTOR		
	R 60	NRSA6AJ-472W	MG RESISTOR		
	R 61	NRSA6AJ-474W	MG RESISTOR		
	R 62	NRSA6AJ-474W	MG RESISTOR		
	R 64	NRSA6AJ-474W	MG RESISTOR		
	R 101	NRSA6AJ-223W	MG RESISTOR		
	R 103	NRSA6AJ-392W	MF RESISTOR		
	R 111	NRSA6AJ-100W	MG RESISTOR		
	R 112	NRSA6AJ-392W	MF RESISTOR		
	R 113	NRSA6AJ-103W	MG RESISTOR		
	R 201	NRSA6AJ-223W	MG RESISTOR		
	R 203	NRSA6AJ-392W	MF RESISTOR		
	R 211	NRSA6AJ-100W	MG RESISTOR		
	R 212	NRSA6AJ-392W	MF RESISTOR		
	R 213	NRSA6AJ-103W	MG RESISTOR		
	R 301	NRZ0053-R22X	MG RESISTOR		
	R 303	NRSA6AJ-124W	MG RESISTOR		
	R 304	NRSA63J-1R0X	MG RESISTOR		
	R 305	NRSA6AJ-122W	MG RESISTOR		
	R 306	NRSA6AJ-124W	MG RESISTOR		
	R 307	NRSA6AJ-104W	MG RESISTOR		
	R 308	NRSA6AJ-0R0W	MG RESISTOR		
	R 310	NRSA6AJ-562W	MG RESISTOR		
	R 311	NRSA6AJ-103W	MG RESISTOR		
	R 314	NRSA6AJ-104W	MG RESISTOR		
	R 315	NRSA6AJ-133W	MG RESISTOR		
	R 316	NRSA6AJ-243W	MG RESISTOR		
	R 317	NRSA6AJ-104W	MG RESISTOR		
	R 318	NRSA6AJ-103W	MG RESISTOR		
	R 320	NRSA6AJ-563W	MG RESISTOR		
	R 321	NRSA6AJ-331W	MG RESISTOR		
	R 322	NRSA6AJ-331W	MG RESISTOR		
	R 323	NRSA6AJ-331W	MG RESISTOR		
	R 324	NRSA6AJ-102W	MG RESISTOR		
	R 325	NRSA6AJ-331W	MG RESISTOR		
	R 326	NRSA6AJ-331W	MG RESISTOR		
	R 328	NRSA6AJ-101W	MG RESISTOR		
	R 335	NRSA6AJ-102W	MG RESISTOR		
	R 336	NRSA6AJ-102W	MG RESISTOR		
	R 337	NRSA6AJ-102W	MG RESISTOR		
	R 338	NRSA6AJ-102W	MG RESISTOR		
	R 339	NRSA63J-100X	MG RESISTOR		
	R 341	NRSA6AJ-562W	MG RESISTOR		
	R 351	NRSA63J-1R0X	MG RESISTOR		
	R 352	NRSA63J-1R0X	MG RESISTOR		
	R 353	NRSA63J-1R0X	MG RESISTOR		
	R 354	NRSA6AJ-104W	MG RESISTOR		
	R 355	NRSA6AJ-0R0W	MG RESISTOR		
	R 356	NRSA6AJ-0R0W	MG RESISTOR		
	R 357	NRSA6AJ-0R0W	MG RESISTOR		
	R 364	NRSA6AJ-101W	MG RESISTOR		
	R 366	NRSA6AJ-101W	MG RESISTOR		
	R 367	NRSA6AJ-472W	MG RESISTOR		
	R 369	NRSA6AJ-102W	MG RESISTOR		
	R 371	NRSA6AJ-103W	MG RESISTOR		
	R 372	NRSA6AJ-104W	MG RESISTOR		

△	Item	Parts number	Parts name	Remarks	Area
	R 373	NRSA6AJ-684W	MG RESISTOR		
	R 376	NRSA6AJ-332W	MG RESISTOR		
	R 377	NRSA6AJ-102W	MG RESISTOR		
	R 378	NRSA6AJ-105W	MG RESISTOR		
	R 379	NRSA6AJ-102W	MG RESISTOR		
	R 380	NRSA6AJ-151W	MG RESISTOR		
	R 385	NRSA6AJ-103W	MG RESISTOR		
	R 386	NRSA6AJ-103W	MG RESISTOR		
	R 387	NRSA6AJ-103W	MG RESISTOR		
	R 388	NRSA6AJ-103W	MG RESISTOR		
	R 400	NRSA6AJ-474W	MG RESISTOR		
	R 402	NRSA63J-1R0X	MG RESISTOR		
	R 450	NRSA6AJ-223W	MG RESISTOR		
	R 451	NRSA6AJ-223W	MG RESISTOR		
	R 454	NRSA6AJ-474W	MG RESISTOR		
	R 455	NRSA63J-1R0X	MG RESISTOR		
	R 459	NRSA6AJ-105W	MG RESISTOR		
	R 460	NRSA63J-225X	MG RESISTOR		
	R 461	NRSA6AJ-333W	MG RESISTOR		
	R 463	NRSA6AJ-0R0W	MG RESISTOR		
	R 466	NRSA63J-1R0X	MG RESISTOR		
	R 501	NRSA6AJ-473W	MG RESISTOR		
	R 503	NRSA6AJ-273W	MG RESISTOR		
	R 504	NRSA6AJ-473W	MG RESISTOR		
	R 506	NRSA6AJ-0R0W	MG RESISTOR		
	R 507	NRSA6AJ-273W	MG RESISTOR		
	R 508	NRSA6AJ-222W	MG RESISTOR		
	R 509	NRSA6AJ-104W	MG RESISTOR		
	R 510	NRSA6AJ-103W	MG RESISTOR		
	R 511	NRSA6AJ-474W	MG RESISTOR		
	R 512	NRSA6AJ-474W	MG RESISTOR		
	R 513	NRSA6AJ-474W	MG RESISTOR		
	R 514	NRSA6AJ-474W	MG RESISTOR		
	R 516	NRSA6AJ-473W	MG RESISTOR		
	R 517	NRSA6AJ-102W	MG RESISTOR		
	R 518	NRSA6AJ-104W	MG RESISTOR		
	R 519	NRSA6AJ-564W	MG RESISTOR		
	R 520	NRSA6AJ-104W	MG RESISTOR		
	R 521	NRSA6AJ-564W	MG RESISTOR		
	R 522	NRSA6AJ-474W	MG RESISTOR		
	R 523	NRSA6AJ-474W	MG RESISTOR		
	R 524	NRSA6AJ-103W	MG RESISTOR		
	R 525	NRSA6AJ-103W	MG RESISTOR		
	R 527	NRSA6AJ-474W	MG RESISTOR		
	R 529	NRSA6AJ-0R0W	MG RESISTOR		
	R 530	NRSA6AJ-0R0W	MG RESISTOR		
	R 601	NRSA6AJ-474W	MG RESISTOR		
	R 603	NRSA6AJ-474W	MG RESISTOR		
	R 604	NRSA6AJ-474W	MG RESISTOR		
	R 613	NRSA6AJ-4R7W	MG RESISTOR		
	R 901	NRSA6AJ-562W	MG RESISTOR		
	R 908	NRSA6AJ-0R0W	MG RESISTOR		
	R 909	NRSA6AJ-124W	MG RESISTOR		
	R 922	NRSA63J-0R0X	MG RESISTOR		
	R 961	NRSA6AJ-221W	MG RESISTOR		
	R 962	NRSA6AJ-474W	MG RESISTOR		
	R 965	NRSA6AJ-474W	MG RESISTOR		
	R 966	NRSA6AJ-472W	MG RESISTOR		
	R 967	NRSA6AJ-220W	MG RESISTOR		
	S 60	NSW0140-001X	DETECT SWITCH		
	S 501	NSW0117-001X	SLIDE SWITCH		
	S 502	NSW0134-001X	TACT SWITCH	ALPS	
	S 503	NSW0134-001X	TACT SWITCH	ALPS	
	S 504	NSW0134-001X	TACT SWITCH	ALPS	
	X 300	NAX0439-001X	CRYSTAL		
	X 500	NAX0427-001X	C RESONATOR		

■ Electrical parts list (Jack board)

Block No. 02

△	Item	Parts number	Parts name	Remarks	Area
	J 101	QNS0098-002	3.5 JACK		

■ Electrical parts list (Charger board)

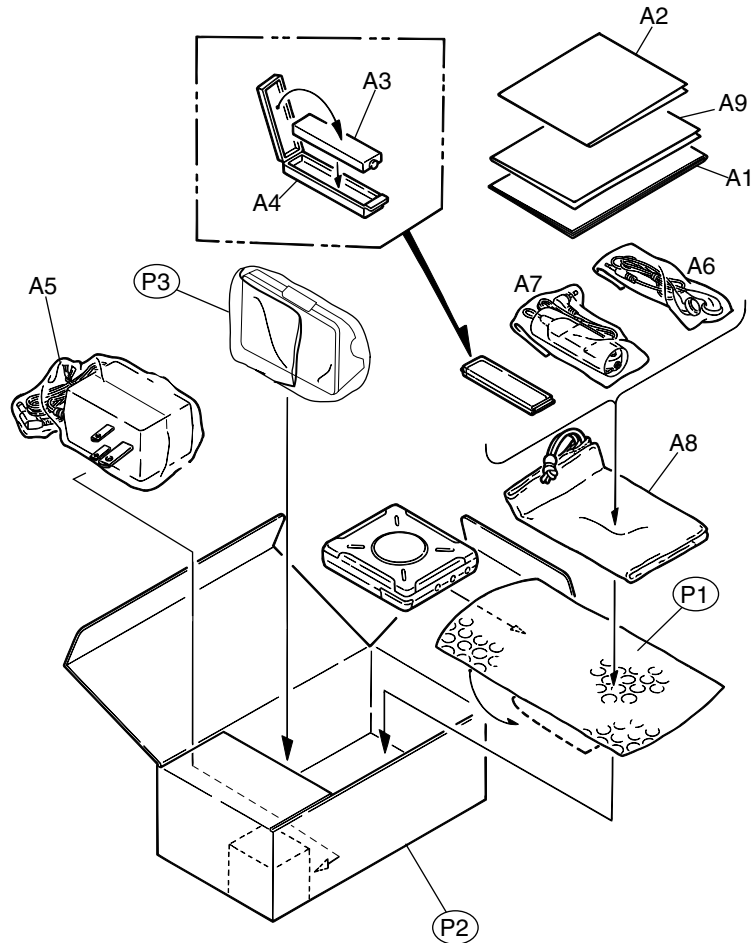
Block No. 03

△	Item	Parts number	Parts name	Remarks	Area
	C 1	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V	
	C 2	NCF21AZ-475X	C CAPACITOR		
	C 3	NCS31HJ-221X	C CAPACITOR		
	C 4	NCF21CZ-105X	C CAPACITOR		
	C 9	NCB31HK-103X	C CAPACITOR		
	C 11	NCB31HK-103X	C CAPACITOR		
	C 14	NCB31CK-683X	C CAPACITOR		
	D 1	TLSU126-T	LED	RED LED	
	D 2	MTZJ3.9B-T2	Z DIODE		
	IC 1	BA10324AF-XE	IC		
	J 1	QNA0025-001	3.5V	DC JACK	
	P 1	LV32351-001A	ASSY		
	P 2	LV32351-001A	ASSY		
	P 3	LV32351-001A	ASSY		
	Q 1	KTB772/Y/	TRANSISTOR	POWER TR	
	Q 3	2SC2412K/R/-X	TRANSISTOR		
	Q 4	2SC2412K/R/-X	TRANSISTOR		
	Q 5	2SC2412K/R/-X	TRANSISTOR		
	Q 6	SSM3J01F-X	FET		
	Q 7	2SC2412K/R/-X	TRANSISTOR		
	R 1	NRZ0063-R22X	MF RESISTOR		
	R 2	NRSA63J-104X	MG RESISTOR		
	R 4	NRSA63D-682X	MF RESISTOR		
	R 5	NRSA63D-103X	MG RESISTOR		
	R 6	NRSA63J-473X	MG RESISTOR		
	R 7	NRSA63J-471X	MG RESISTOR		
	R 8	NRSA63D-274X	MG RESISTOR		
	R 9	NRSA63D-823X	MG RESISTOR		
	R 10	NRSA63J-561X	MG RESISTOR		
	R 11	NRSA63J-102X	MG RESISTOR		
	R 12	NRSA63J-820X	MG RESISTOR		
	R 14	NRSA63J-102X	MG RESISTOR		
	R 15	NRSA63D-104X	MG RESISTOR		
	R 16	NRSA63D-433X	MG RESISTOR		
	R 17	NRSA63J-105X	MG RESISTOR		
	R 18	NRSA63J-104X	MG RESISTOR		
	R 21	NRSA63J-224X	MG RESISTOR		
	R 22	NRSA63J-103X	MG RESISTOR		
	R 27	NRSA63J-103X	MG RESISTOR		
	R 28	NRSA63J-823X	MG RESISTOR		
	R 31	NRSA63J-121X	MG RESISTOR		
	R 34	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 36	NRSA63J-103X	MG RESISTOR		

Packing materials and accessories parts list

Block No. M 4 M M

Block No. M 5 M M



Parts list (Packing)

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	LV30245-003A	POLY BAG	1	FOR SET	
	P 2	LV32550-002A	PACKING CASE	1		
	P 3	QPA01202505	POLY BAG	1	FOR CHARGER	

Parts list (Accessories)

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	LVT0593-001A	INST BOOK	1	ENG	
	A 2	LV42298-001A		1		
	A 3	QAB0024-006	NI-MH BATTERY	1	1400MAH	
	A 4	LV30791-001A	BATTERY CASE	1		
⚠	A 5	QAL0281-001	AC ADAPTER	1	AA-R352 FOR CHA	
	A 6	QAN0021-006	HEAD PHONE	1		
	A 7	QAL0252-004	REMOCON	1		
	A 8	LV32289-001A	SOFT CASE	1		
	A 9	LV30258-075A	UB SHEET	1	FOR UB MODEL	

XM-PX50WT

JVC

VICTOR COMPANY OF JAPAN, LIMITED

AUDIO & COMMUNICATION BUSINESS DIVISION

PERSONAL & MOBILE NETWORK BUSINESS UNIT. 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

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