

COMPACT DISC PLAYER CD-C600

SERVICE MANUAL

CD-C600

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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YAMAHA

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'09.09

■ TO SERVICE PERSONNEL

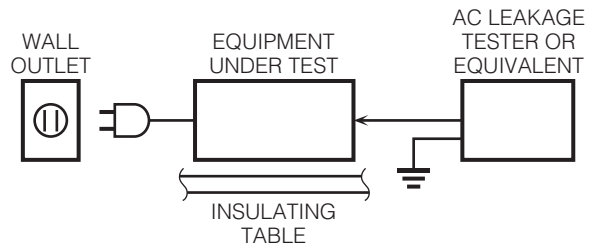
1. Critical Components Information

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

2. Leakage Current Measurement (For 120V Models Only)

When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohms shunted by 0.15 μ F.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



For U model "CAUTION"

"F801: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 500mA, 250V FUSE."

For C model

CAUTION

F801: REPLACE WITH SAME TYPE 500mA, 250V FUSE.

ATTENTION

F801: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 500mA, 250V.

WARNING: CHEMICAL CONTENT NOTICE!

This product contains chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

About lead free solder

All of the P.C.B.s installed in this unit and solder joints are soldered using the lead free solder.

Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

Caution:

As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.

WARNING: Laser Safety

This product contains a laser beam component. This component may emit invisible, as well as visible radiation, which may cause eye damage. To protect your eyes and skin from laser radiation, the following precautions must be used during servicing of the unit.

- 1) When testing and/or repairing any component within the product, keep your eyes and skin more than 30 cm/1 feet away from the laser pick-up unit at all times. Do not stare at the laser beam at any time.
- 2) Do not attempt to readjust, disassemble or repair the laser pick-up, unless noted elsewhere in this manual.
- 3) CAUTION: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Emitting conditions:

- 1) When the Top Cover is removed, and the STANDBY/ON SW is turned to the "ON" position, the laser component will emit a beam for several seconds to detect if a disc is present. During this time (5-10 sec.) the laser may radiate through the lens of the laser pick-up unit. Do not attempt any servicing during this period!
If no disc is detected, the laser will stop emitting the beam. When a disc is loaded, you will not be exposed to any laser emissions.
- 2) The laser power level can be adjusted with the VR on the pick-up PWB, however, this level has been set by the factory prior to shipping from the factory. Do not adjust this laser level control unless instruction is provided elsewhere in this manual. Adjustment of this control can increase the laser emission level from the device.

Laser Diode Properties

Type: GaAlAs

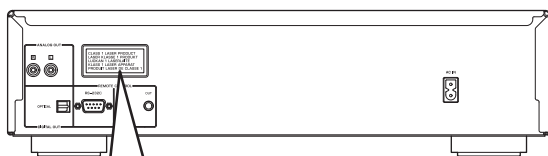
Wavelength: 790 nm

Laser output: max. 1.23 μ W *

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

CAUTION

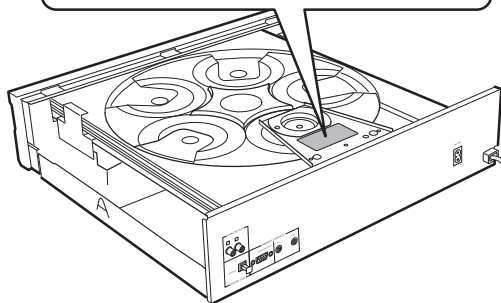
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



CLASS 1 LASER PRODUCT
LASER KLASSE 1 PRODUKT
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT
PRODUIT LASER DE CLASSE 1

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

CAUTION - VISIBLE AND / OR INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.
WARNING - SYNLIG OCH / ELLER OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STRÅLEN ÄR FARLIG.
VARO ! AVTÄSSÄ OLET ALTTIINA NÄKYVÄLLE JA / TÄI NÄKYMÄTÖMÄLLE LASERSÄTELYLLE. ÄLÄ KATSO SÄTEESEEN.
WARNING - SYNLIG OCH / ELLER OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
VORSICHT ! SICHTBARE UND / ODER UNSICHTBARE LASERSTRÄHLUNG WEENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ATTENTION - RADIATION VISIBLE ET / OU INVISIBLE LORSQUE L'APPAREIL EST OUVERT. ÉVITEZ TOUTE EXPOSITION AU FAISCEAU.



Warning for power supply

The primary side of the power supply carries live mains voltage when the player is connected to the mains even when the player is switched off !

This primary area is not shielded so it is possible to accidentally touch copper tracks and/or components when servicing the player.

Service personnel have to take precautions to prevent touching this area or components in this area.

Note:

The screws on the DVD mechanism may never be touched, removed or re-adjusted.

Handle the DVD mechanism with care when the unit has to be exchanged!

The DVD mechanism is very sensitive for dropping or giving shocks.

■ PREVENTION OF ELECTROSTATIC DISCHARGE

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

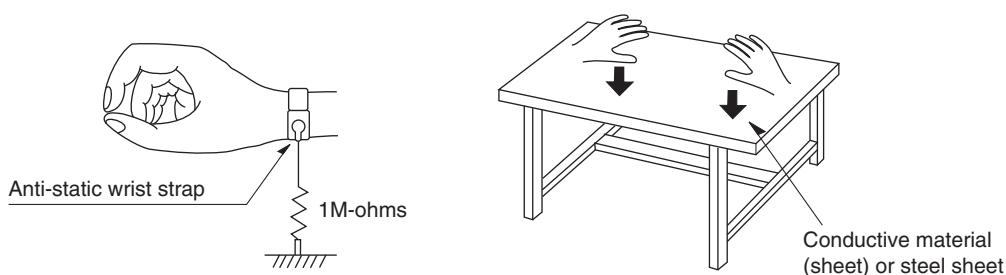
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as brushing together of your fabric clothes or lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

Grounding for electrostatic breakdown prevention

1. Human body grounding.
Use the antistatic wrist strap to discharge the static electricity from your body.
2. Work table grounding.
Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed and ground the sheet.

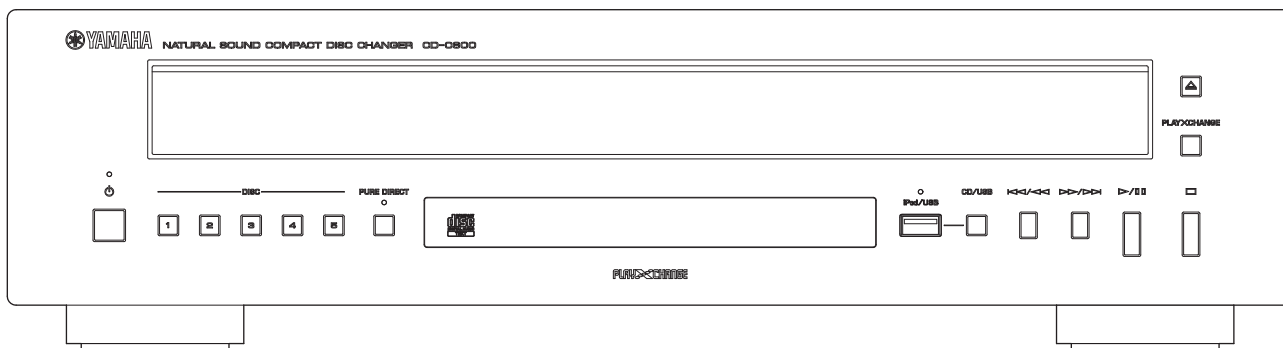
Caution:

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



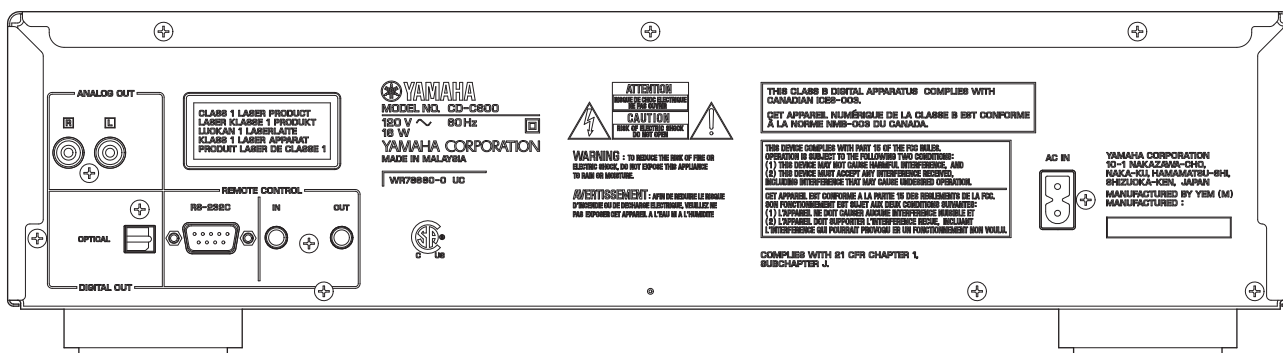
FRONT PANEL

U, C, R, A, G, L models

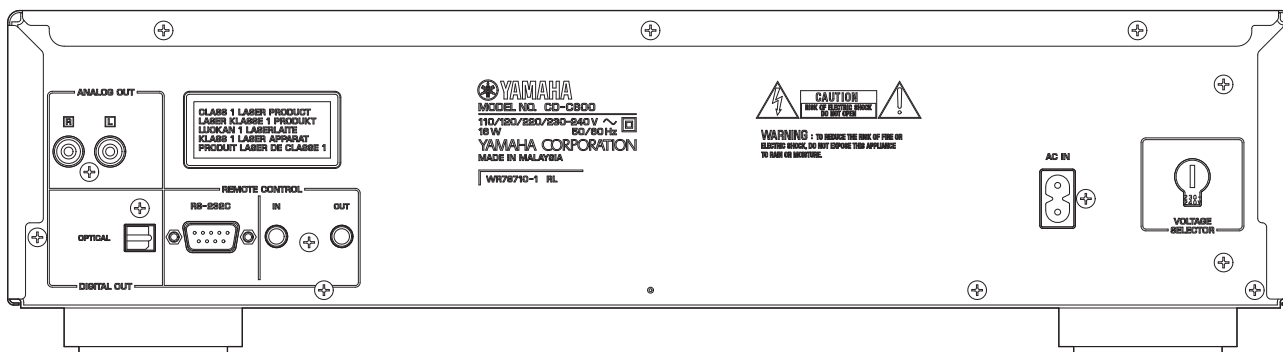


REAR PANELS

U, C models

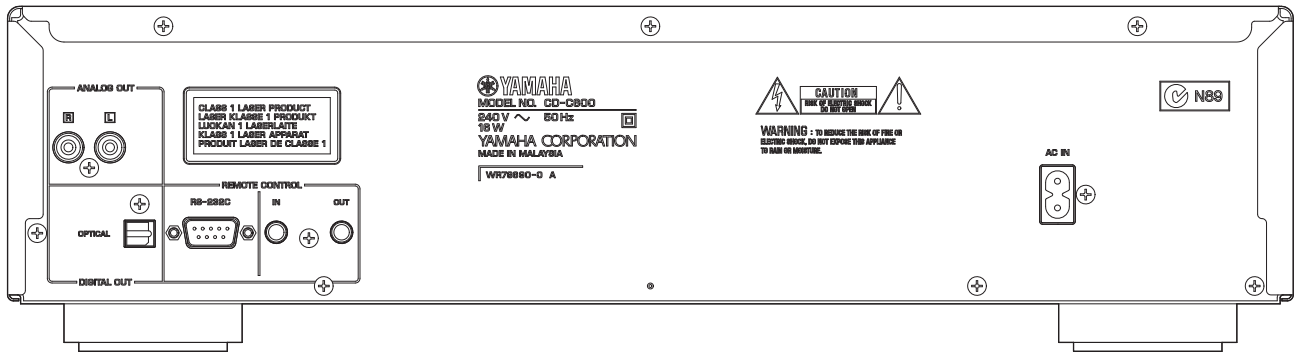


R, L models

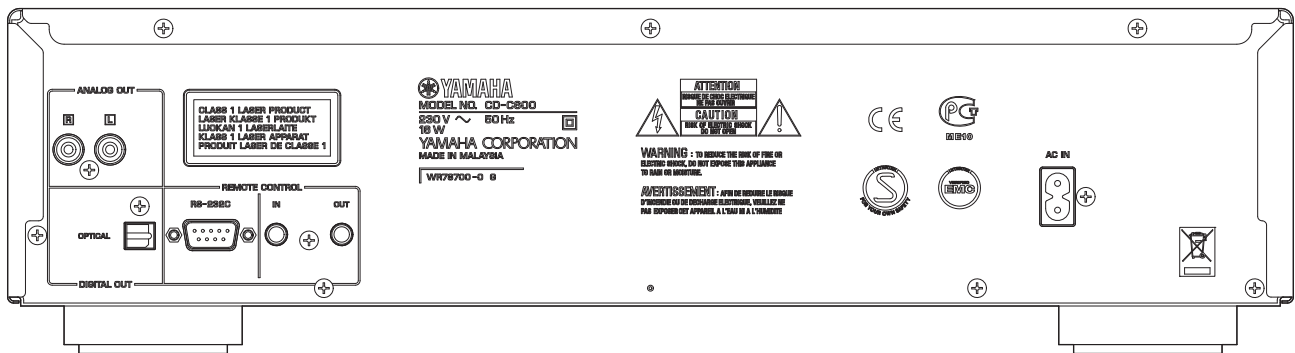


CD-C600

A model



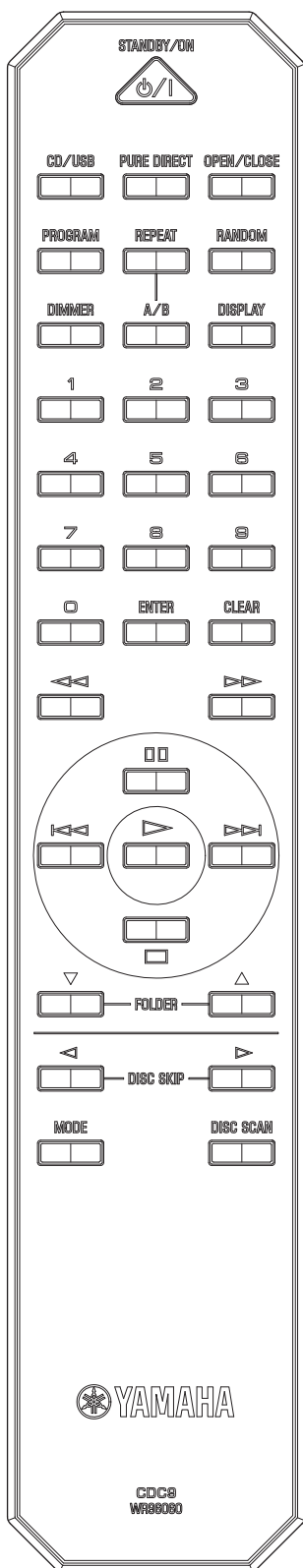
G model



CD-C600

■ REMOTE CONTROL PANEL

CDC9



Caution for moving this unit

- When moving this unit, first remove all discs from the disc tray and close the tray by pressing the OPEN/CLOSE button, and then switch off the power after you confirm that the front panel display indicates as follows.

NO DISC

Never switch off the power if the front panel display is not pictured as above, otherwise the unit will break down during moving because the internal mechanism is not locked.

As long as this unit is connected to the wall outlet, it is not disconnected from the AC power source even if you turn off this unit by ϕ .

■ SPECIFICATIONS

■ Audio Section

Output Level (1 kHz, 0 dB)	.....2.0 ±0.3 V
Signal to Noise Ratio	..... 105 dB or more
Dynamic Range	..... 96 dB or more
Total Harmonic Distortion (1 kHz)	.....0.003 % or less
Frequency Response (2 Hz to 20 kHz)	..... ±0.5 dB
Digital Output Terminal	..... Optical x 1
Other Input/Output Terminal	..... Analog out L/R USB RS-232C Remote control IN/OUT

■ General

Power Supply	U, C models AC 120 V, 60 Hz
	R, L models AC 110/120/220/230–240 V, 50/60 Hz
	A model AC 240 V, 50 Hz
	G model AC 230 V, 50 Hz
Power Consumption	..... 16 W
Standby Power Consumption	.....0.5 W or less
Dimensions (W x H x D)	..... 435 x 116 x 405 mm (17-1/8" x 4-5/8" x 16")
Weight	..... 6.2 kg (13.7 lbs.)
Finish	Black color U, C, R, A, G, L models
	Silver color R, A, G models

Accessories

Remote control (CDC9)	.....x 1
Battery (R6, AA, UM-3)	.....x 1
Audio pin cable (1.0 m)	.....x 1
Power cable (1.5 m)	.....x 1

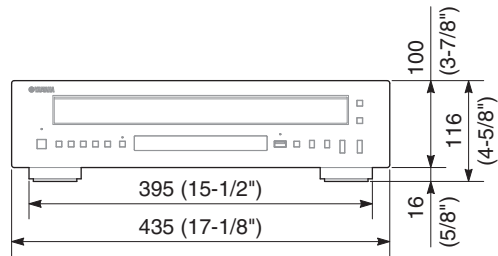
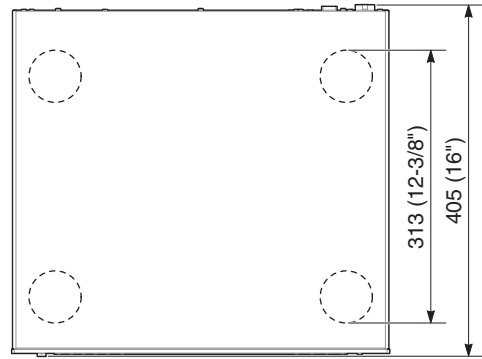
* Specifications are subject to change without notice due to product improvements.

U U.S.A. model	A Australian model
C Canadian model	G European model
R General model	L Singapore model

iPod™

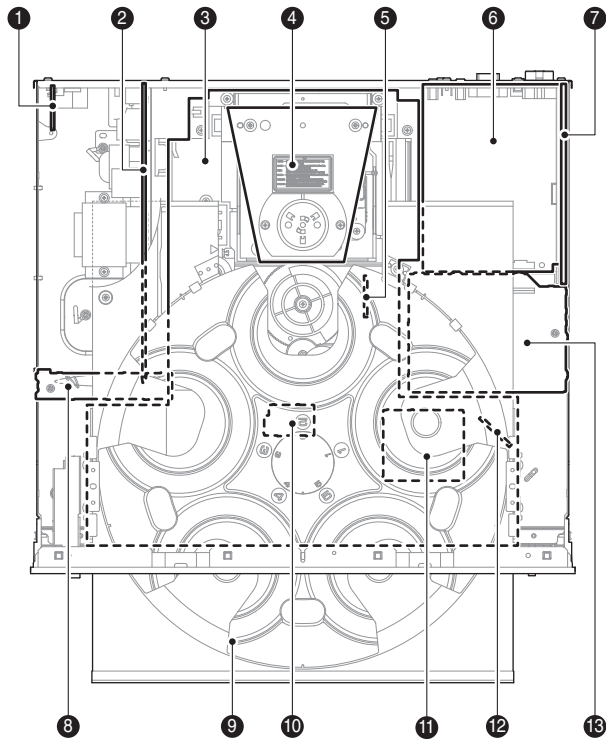
"iPod" is a trademark of Apple Inc., registered in U.S. and other countries. "Made for iPod" means that an electronic accessory has been designed to connect specifically to iPod and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

• DIMENSIONS

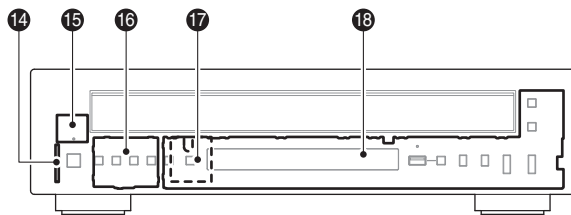


Unit: mm (inch)

INTERNAL VIEW



- ① OPERATION (13) P.C.B. (R, L models)
- ② OPERATION (10) P.C.B.
- ③ CM-230B UNIT
- ④ CLAMP ASS'Y
- ⑤ OPERATION (6) P.C.B.
- ⑥ MAIN P.C.B.
- ⑦ OPERATION (9) P.C.B.
- ⑧ OPERATION (14) P.C.B.
- ⑨ TRAY ASS'Y
- ⑩ OPERATION (5) P.C.B.
- ⑪ OPERATION (8) P.C.B.
- ⑫ OPERATION (7) P.C.B.
- ⑬ OPERATION (11) P.C.B.
- ⑭ OPERATION (12) P.C.B.
- ⑮ OPERATION (3) P.C.B.
- ⑯ OPERATION (2) P.C.B.
- ⑰ OPERATION (4) P.C.B.
- ⑱ OPERATION (1) P.C.B.



■ DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

1. Removal of Top Cover

- Remove 4 screws (①) and 3 screws (②). (Fig. 1)
- Lift the top cover at the rear and move it rearward slantingly.

2. Removal of Clamp Ass'y

- Remove 2 screws (③). (Fig. 1)
- Remove the clamp ass'y. (Fig. 1)

3. Removal of Disc Tray Ass'y

- Remove screw (④). (Fig. 1)
- Turn gear/L0 counter clockwise gradually and stop before the disc tray starts to move. (Fig. 2)

CAUTION:

Gear/L0, if turned counter clockwise continuously, will mesh with the gear of the disc tray and the disc tray will come out. When removing the disc tray, use care so that gear/L0 will not mesh with the gear of the tray.

- Pull out the disc tray ass'y.

4. Removal of Table

- Remove screw (⑤) and then remove the support/T. (Fig. 1)
- Remove the plate/table. (Fig. 1)
 - * The plate/table cannot be reused. When removed, be sure to replace them with new ones.
- Remove screw (⑥) and then take off the table. (Fig. 1)

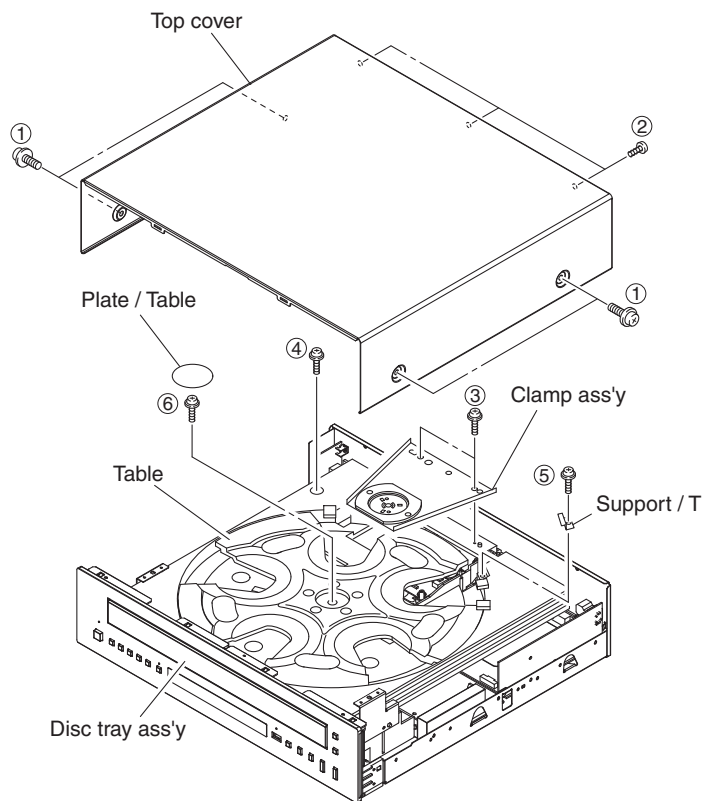


Fig. 1

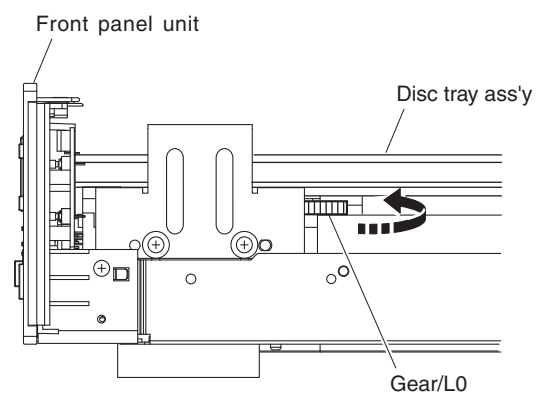


Fig. 2

• **Precaution for installation of the Disc Tray Ass'y.**

On disc tray ass'y setting.

Check the direction of marking "▲" on gear according to this drawing. (Fig. 3)

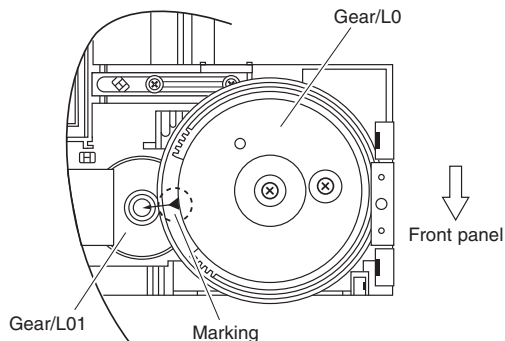


Fig. 3

• **IMPORTANT: Installation of Table.**

Install the table according to the following procedure.

- Slide the lever so that the gear/RT1 becomes free. (Fig. 4)
 - With the "▲" mark on the gear/RT1 aligned with the same mark on the disc tray, lock it with the lever. (Fig. 4)
 - Install the table by aligning it to the thick line on "/" mark. (Fig. 5)
- * Check that the table is locked after installation.

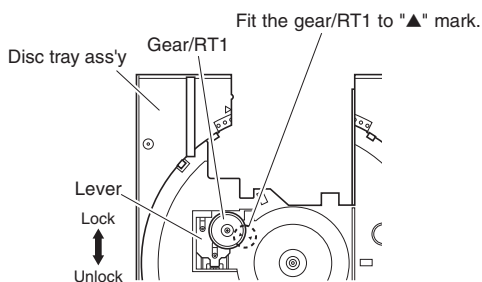


Fig. 4

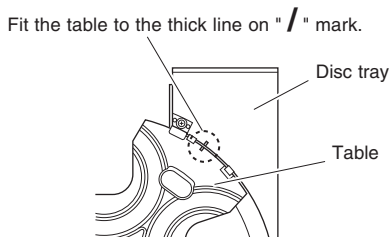


Fig. 5

CM-230B unit can not be removed without removing the Front Panel Unit.

5-A. Removal of Front Panel Unit

- Remove 2 screws (⑦) and 3 screws (⑧). (Fig. 6)
- Remove CB6, CB304, CB804 and CB809. (Fig. 7)
- Remove the front panel unit. (Fig. 6)

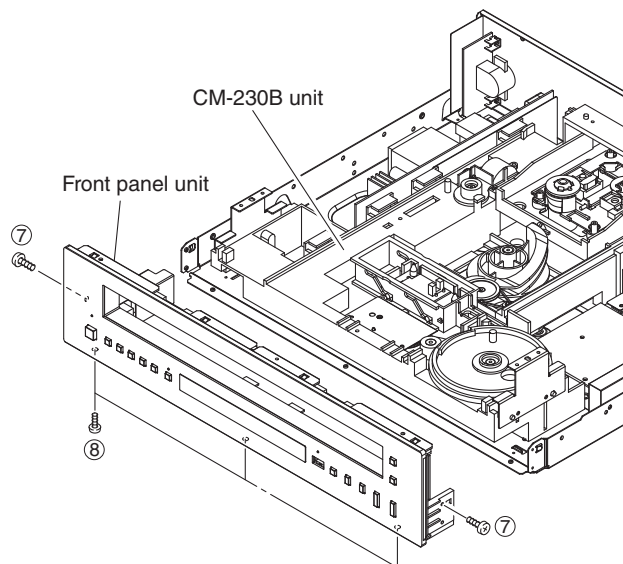


Fig. 6

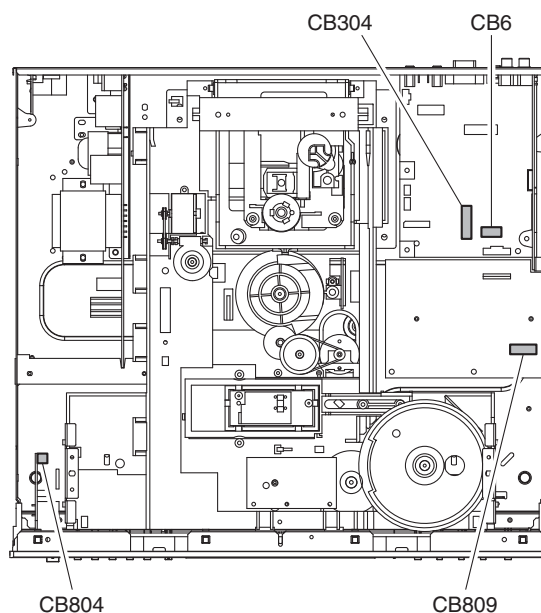


Fig. 7

5-B. Removal of CM-230B Unit

- a. Remove 2 push rivets and remove the barrier main. (Fig. 8)
- b. Remove 2 push rivets and remove the barrier cable. (Fig. 8)
- c. Remove 5 screws (9). (Fig. 8)
- d. Remove CB3-4, CB302, CB306, CB805-806, CB808 and CB851. (Fig. 9)
- e. Take the CM-230B unit out slowly. (Fig. 8)

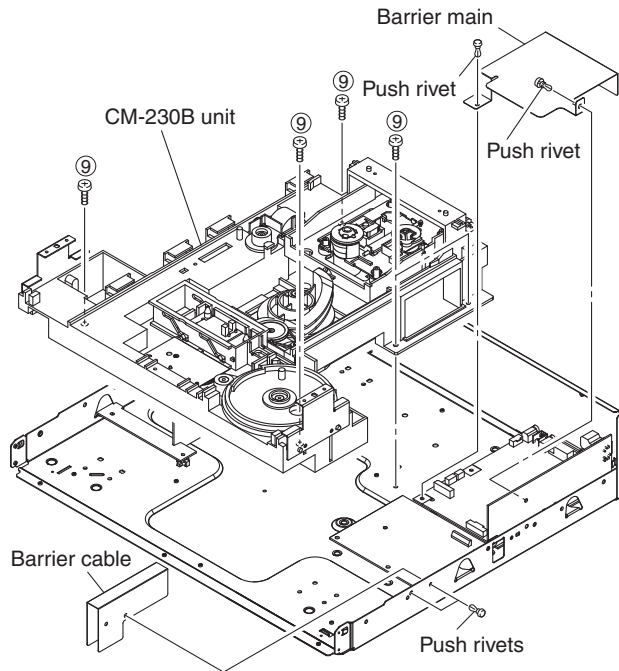


Fig. 8

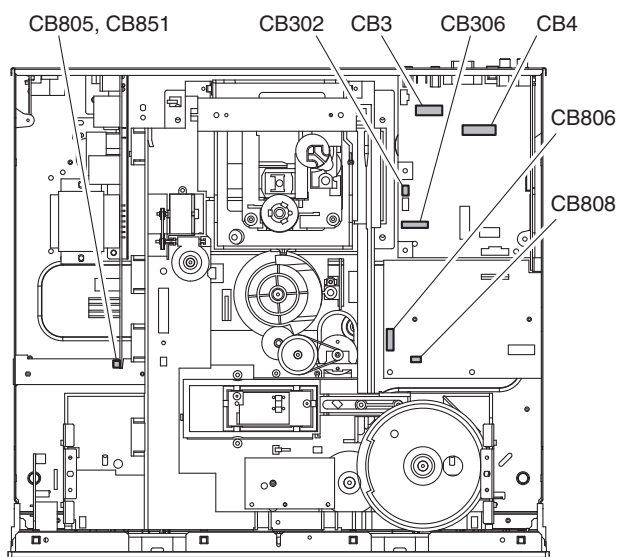


Fig. 9

6. Removal of PU Mechanism Unit

- a. Remove 2 screws (10) and then remove the PU unit ass'y. (Fig. 10)

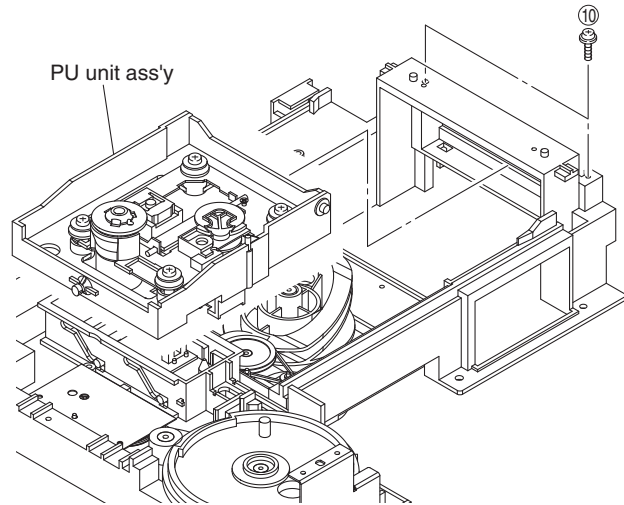


Fig. 10

- b. Remove 4 screws (11) and then remove the PU mechanism unit. (Fig. 11)

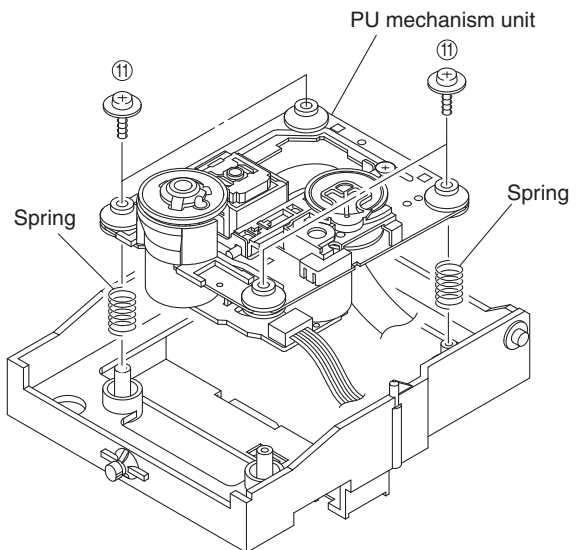


Fig. 11

- **Operation Check Procedure**

- a. Disassembly
 - 1) Remove the top cover.
 - 2) Remove the clamp ass'y.
 - 3) Unlock and remove the stabilizer from the holder.

Turn the plate clockwise by 30° while holding the stabilizer, and the plate will come off. Remove the stabilizer from the holder. (Fig. 12)

- b. Clamp the disc by using the stabilizer.
- c. Set to the TEST mode and check for any faulty.

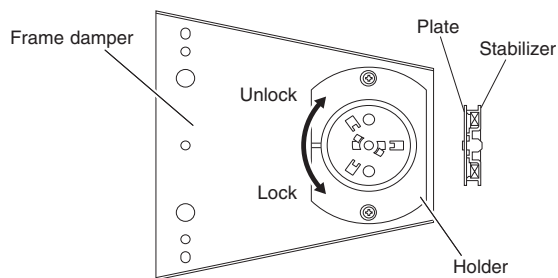


Fig. 12

- **When checking the P.C.B.s:**

- a. Remove the top cover.
- b. Remove the disc tray ass'y.
- c. Remove 3 screws (①) and 2 jack screws (②). (Fig. 1)
- d. Remove push rivet. (Fig. 1)
- e. Remove screw (③) and screw (④). (Fig. 1)
- f. Release 4 hooks. (Fig. 1)

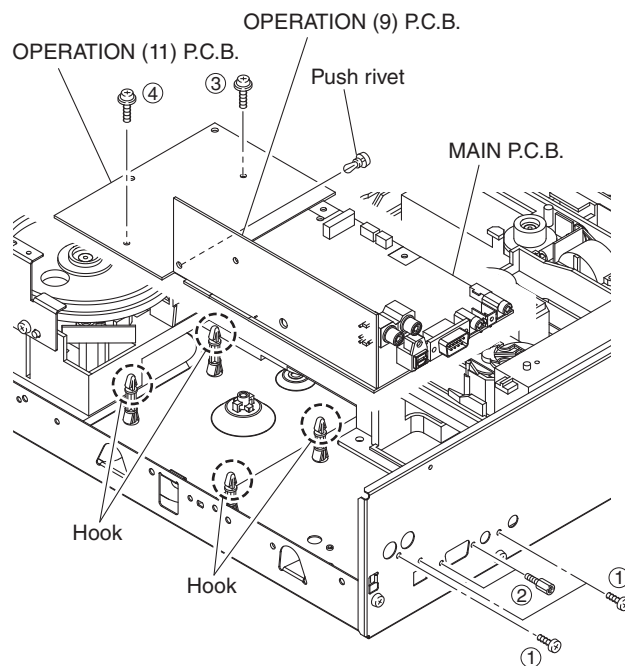


Fig. 1

- g. Spread a cloth over the chassis. (Fig. 2)
- h. Put the MAIN, OPERATION (9) and (11) P.C.B.s on end. (Fig. 2)
- i. Remove 2 screws (5) and 3 screws (6). (Fig. 3)
- j. Remove the front panel unit from the chassis.

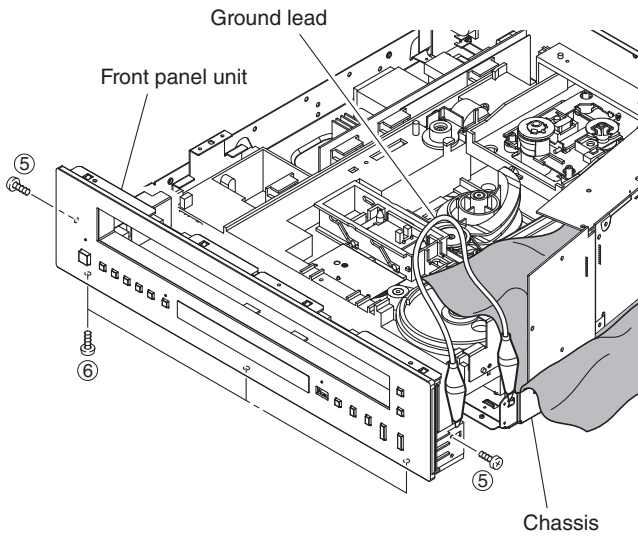


Fig. 3

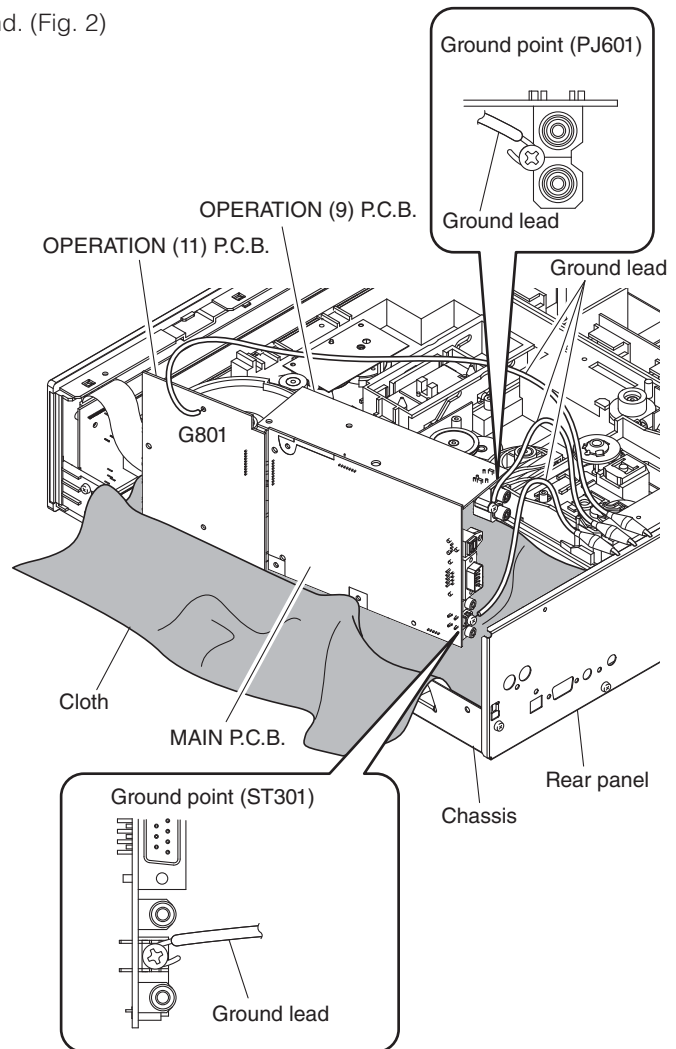
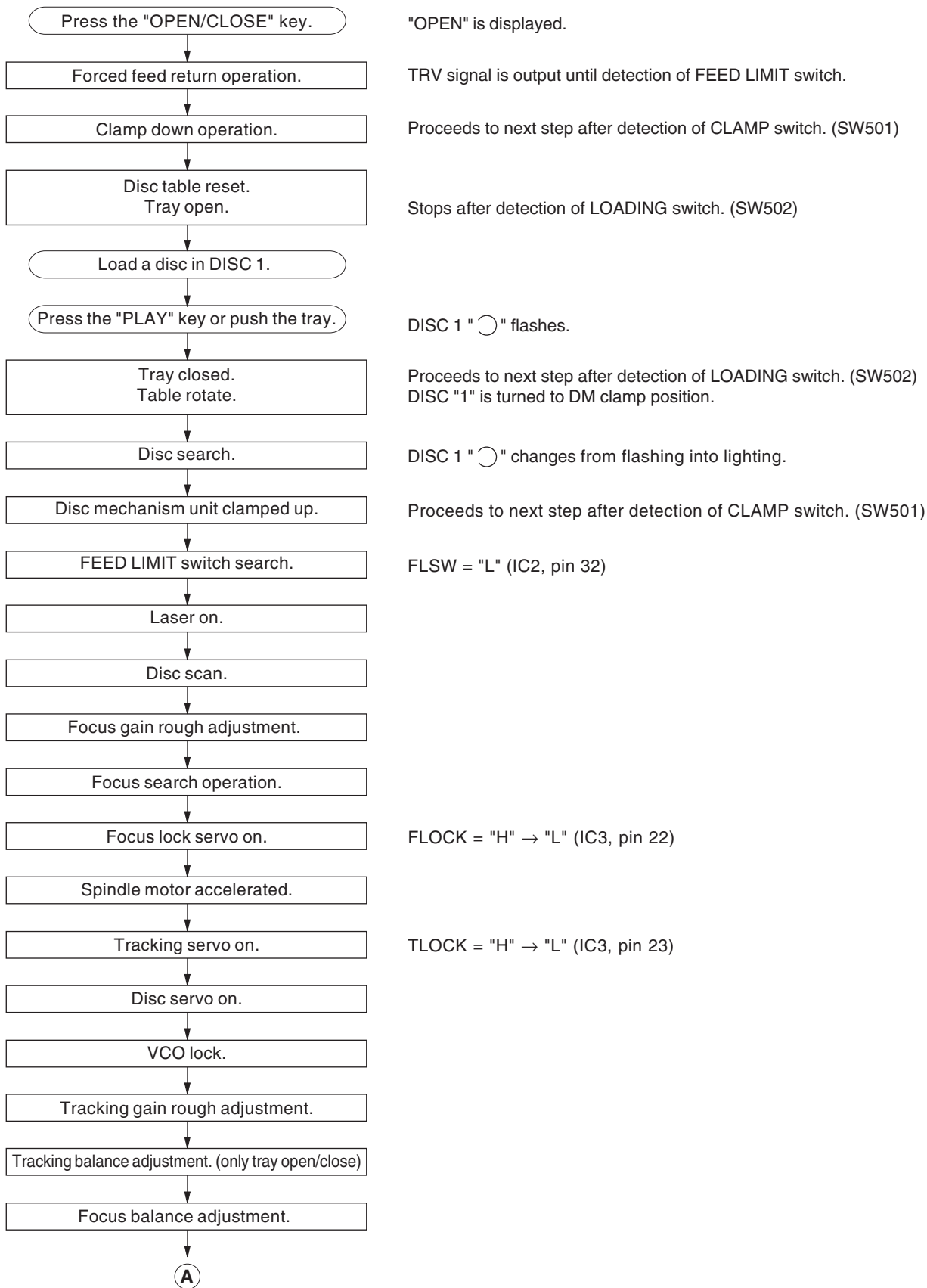
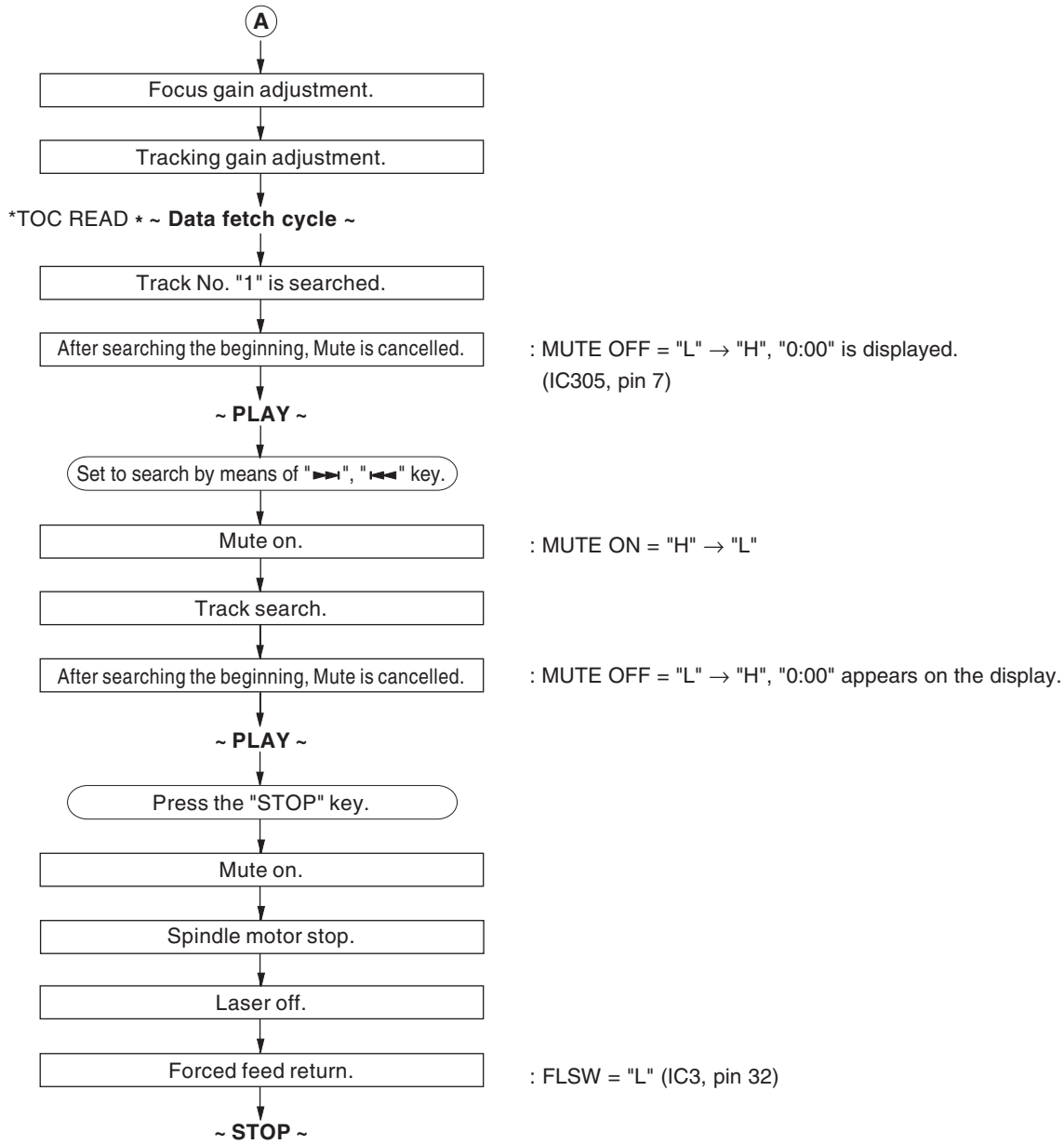


Fig. 2

- Connect the ground points of the front panel unit to the chassis and MAIN P.C.B. (ST301), OPERATION (9) P.C.B. (PJ601) and OPERATION (11) P.C.B. (G801) to the rear panel with a ground lead or the like. (Fig. 3)
- When connecting the flexible flat cable, be careful with polarity.
- Reconnect all cables (connectors) that have been disconnected.

■ STANDARD OPERATION CHART



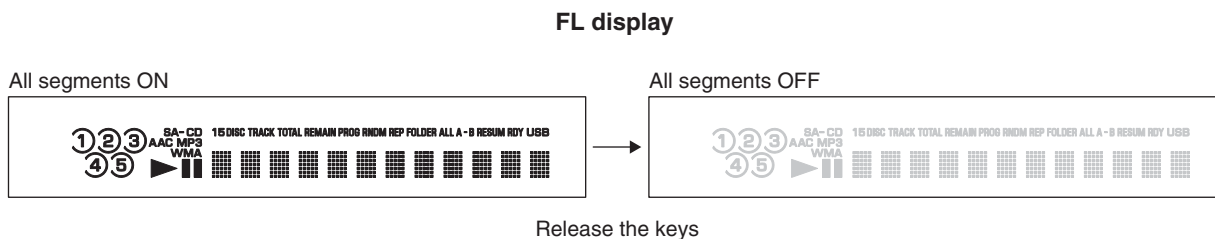
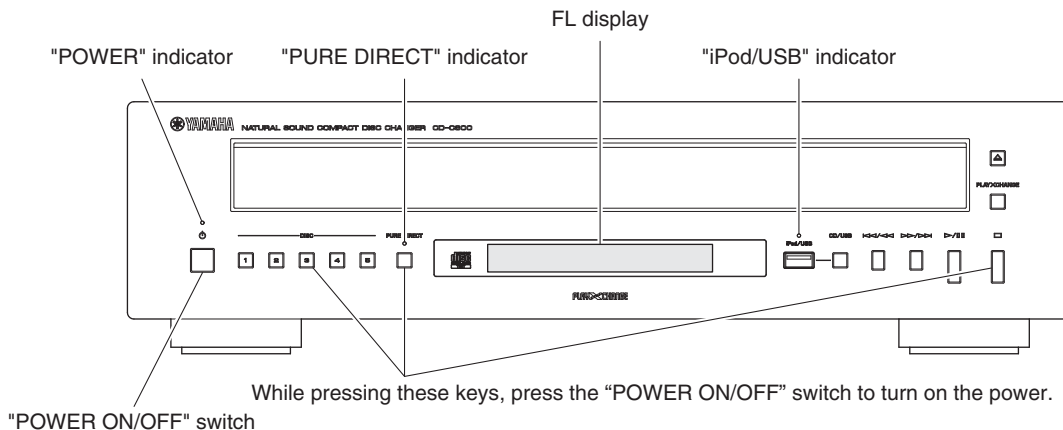


■ TEST MODE

● Starting Test Mode

When starting the test mode, check the FL display and indicators for display/indication condition.

1. While pressing the “DISC 3”, “PURE DIRECT” and “□” (Stop) keys of this unit as shown in the figure below, press the “POWER ON/OFF” switch to turn on the power and keep pressing those 3 keys.



2. While keep pressing those 3 keys, check that all indicators (POWER, iPod/USB, PURE DIRECT) are lit. At the same time, check that all segments of the FL display are lit.
3. Release those 3 keys. Then check that USB and PURE DIRECT indicators as well as all segments of the FL display are turned off.
4. The Test Mode is activated.

● Operation Procedure of Test Mode

Function list of remote control keys

Key	Key code	Function
OPEN/CLOSE	79-01	—
1	79-11	Laser on
2	79-12	Laser off
3	79-13	Focus operation
4	79-14	Traverse in * Press the “5” key to stop traverse.
5	79-15	Traverse stop
6	79-16	Traverse out * Press the “5” key to stop traverse.
7	79-17	Spindle reverse * Press the “8” key to stop spindle.
8	79-18	Spindle off
9	79-19	Spindle on * Press the “8” key to stop spindle.

● Canceling Test Mode

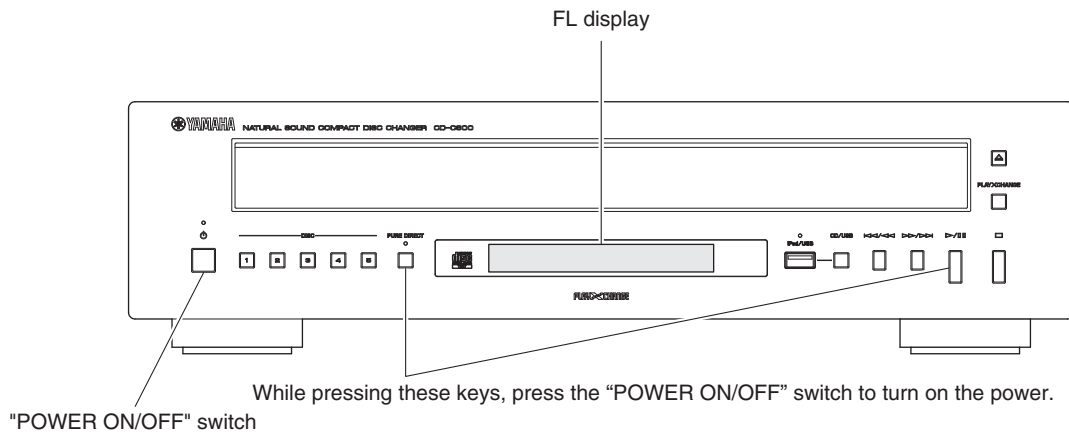
Press the “POWER ON/OFF” switch of this unit to turn off the power.

■ FACTORY MODE

● Starting Factory Mode

While pressing the "PURE DIRECT" and "▶/⏸" (Play/Pause) keys of this unit as shown in the figure below, press the "POWER ON/OFF" switch to turn on the power.

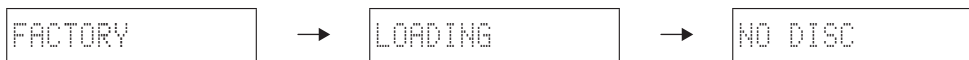
The Factory Mode is activated.



While pressing these keys, press the "POWER ON/OFF" switch to turn on the power.

FL display

Display provided when factory mode started



● Operation Procedure of Factory Mode

Function list of remote control keys

Key	Key code	Function
DISPLAY	79-0A	Firmware version of the microprocessor (IC305 of the MAIN P.C.B.) is displayed. * Press the "CD/USB" key to select the CD mode
		Firmware version of the USB IC (IC7 of the MAIN P.C.B.) is displayed. * Press the "CD/USB" key to select the USB mode
CLEAR	79-0D	EEPROM (IC304 of the MAIN P.C.B.) is initialized.

● Canceling Factory Mode

Press the "POWER ON/OFF" switch of this unit to turn off the power.

■ UPDATING FIRMWARE

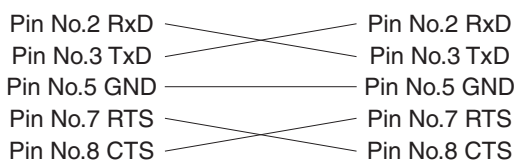
After replacing the following parts with the replacement parts, update the latest firmware according to the following procedure.

MAIN P.C.B.

Microprocessor (IC305) of MAIN P.C.B.

● Required tools

- Program down loader program
..... FlashSta.exe
- Firmware
..... C5S3_xxxx.mot
..... C5S3_xxxx.id
- RS232C cross cable "D-sub 9 pin female"
(Specifications)



● Preparation and precautions

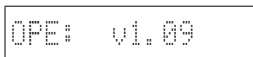
- Download the firmware down loader program and the latest firmware from the specified source to the same folder of the PC.
- Prepare the above specified RS232C cross cable.
- While writing the firmware, keep the other application software on the PC closed.
It is also recommended to keep the software on the task tray closed as well.

● Confirmation of firmware version

Before and after updating the firmware, check the firmware version by using the factory mode menu.

Start up the factory mode of this unit, and press the "DISPLAY" key of the remote control. The firmware version is displayed. (See "FACTORY MODE")

Note down the displayed firmware version.



Firmware version

● Connection

- * Turn off the power of this unit and disconnect the power cable from the AC outlet.
1. Remove 4 screws (①) and 3 screws (②), and remove the top cover. (Fig. 1)
 2. Eject the disc tray.
 - a. Turn gear/L0 counter clockwise gradually and stop before the disc tray starts to move. (Fig. 1)
 - b. Pull out the disc tray ass'y. (Fig. 1)

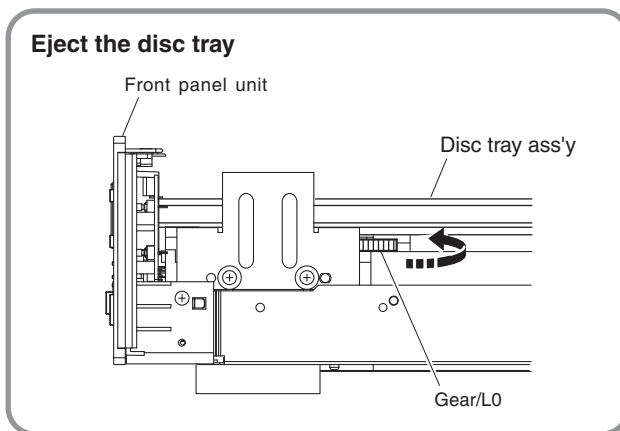
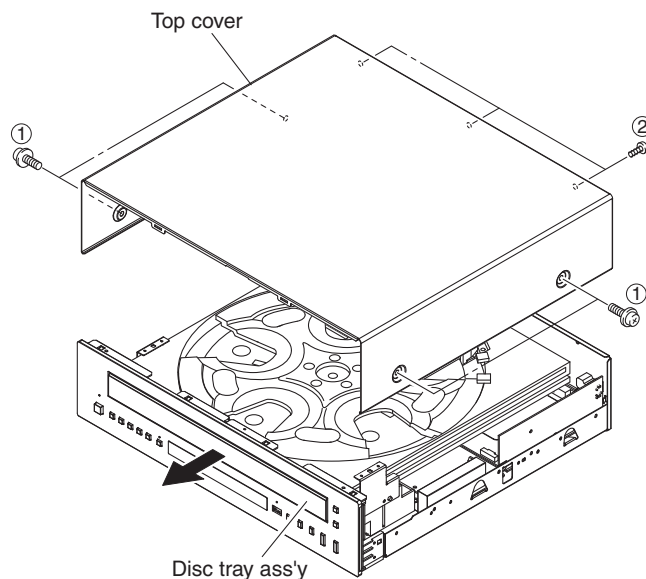


Fig. 1

CD-C600

3. Short circuit between both terminals of CB311 of the MAIN P.C.B.. (Fig. 2)

Note) Be sure to return the shorted terminals to their original condition after updating firmware.

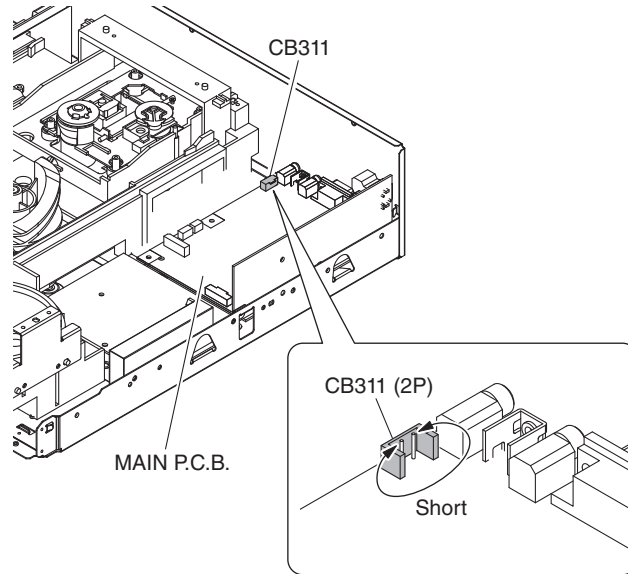


Fig. 2

4. Connect the RS-232C terminal located on the rear panel of this unit to the serial port (RS232C) of the PC with RS232C cross cable as shown below. (Fig. 3)

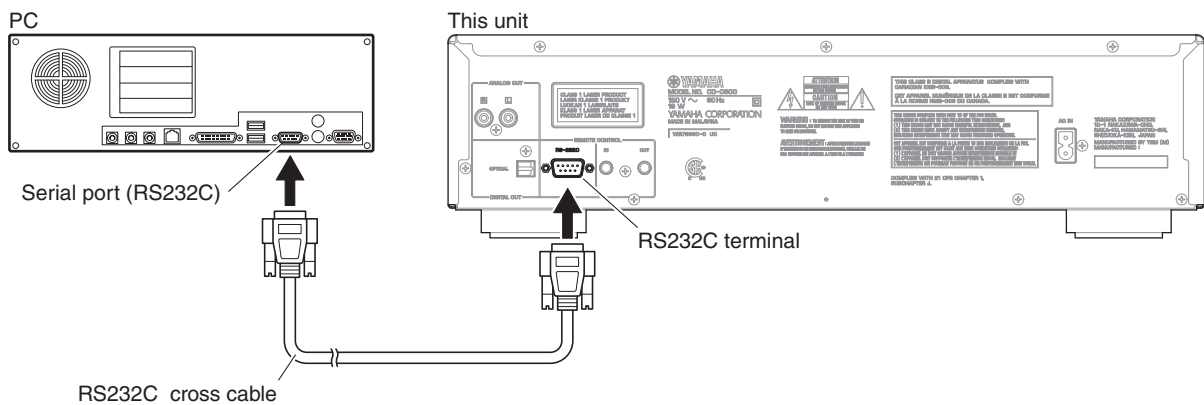


Fig. 3

● Operation procedure

1. Connect the power cable of this unit to the AC outlet.
2. Press the "POWER ON/OFF" switch of this unit to turn on the power.
3. Start up FlashSta.exe.
The screen appears as shown below. (Fig. 4)
4. Select the data to be transmitted and port. (Fig. 4)
 - Select Program
Select Internal flash memory
 - RS232C
Select the port of RS-232C

* For selection of the port, COM1 to 4 can be used.
As COM5 or higher port cannot be used, select out of COM 1 to 4 of the setting on the PC side.

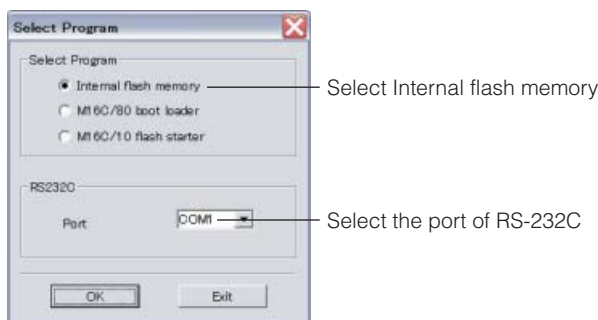
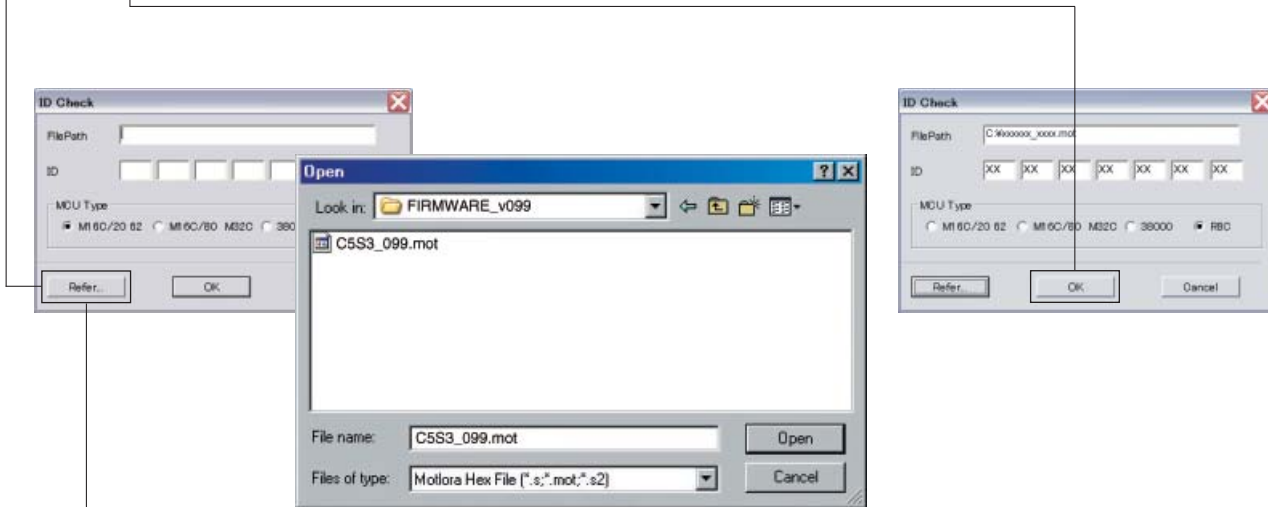


Fig. 4

5. Click [Refer...] and select the firmware name. (Fig. 5)

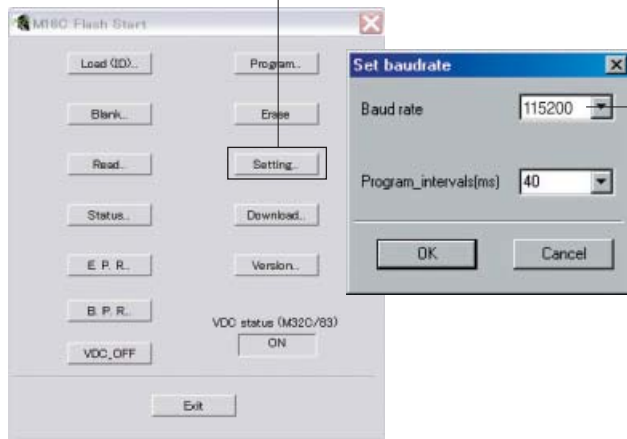
* The ID and MCU Type are loaded automatically when the file is selected. (Fig. 5)
Click [OK]. (Fig. 5)



When [Refer...] is clicked, the "Open" screen appears.

Fig. 3

6. Click [Setting], and set the baud rate. (Fig. 6)

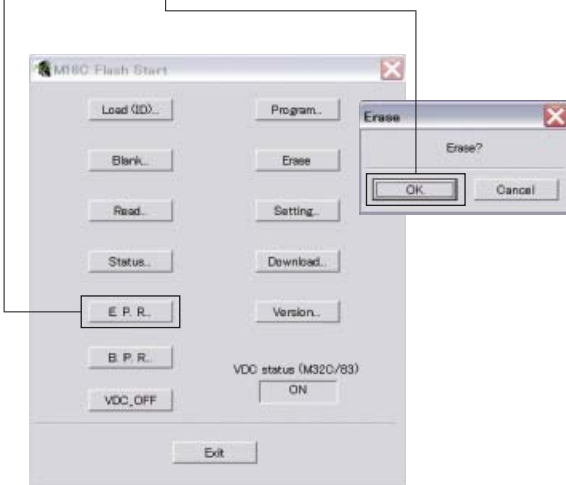


Select 115200 bps for the baud rate and 40 ms for the program intervals.
 * Reduce the baud rate if a transmission error occurs frequently.

Fig. 6

7. Click [E.P.R.], then the “Erase” screen appears. (Fig. 7)

8. Click [OK] to start writing. (Fig. 7)



Writing being executed.

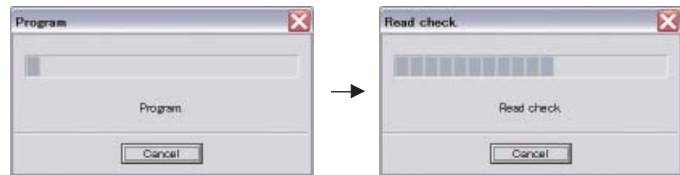


Fig. 7

- When writing of the firmware is completed, the screen appears as shown below. (Fig. 8)
Click [OK]. (Fig. 8)

- Click [Exit] to end FlashSta.exe. (Fig. 8)

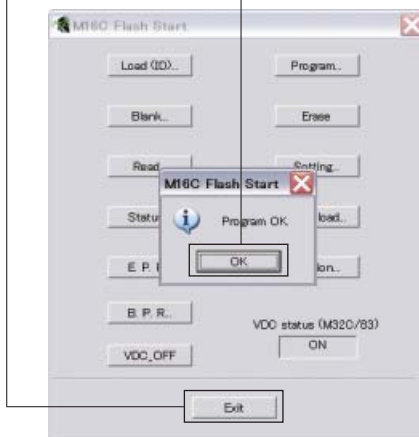


Fig. 8

- Check that the firmware version is the same as written one by using the factory mode.



* When the firmware version is different from written one, perform the “UPDATING FIRMWARE” procedure all over again.

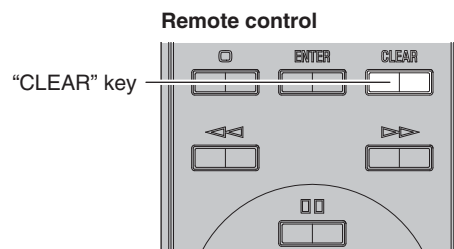
- Press the “POWER ON/OFF” switch of this unit to turn off the power.
- Disconnect the power cable of this unit from the AC outlet.

Note) Be sure to return the shorted terminals to their original condition. (Fig.2)

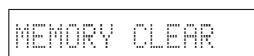
● **Initializing the EEPROM (IC304 of the MAIN P.C.B.)**

Be sure to initialize the EEPROM (IC304 of the MAIN P.C.B.) by using the procedure below after updating the firmware, otherwise the set up information (CD/USB mode, PURE DIRECT ON/OFF, RS-232C ON/OFF, and DISC loaded/unloaded) can not be memorized properly.

- Connect the power cable of this unit to the AC outlet.
- While pressing the “PLAY/PAUSE” key and “PURE DIRECT” key of this unit, press the “POWER ON/OFF” switch to turn on the power.
The FACTORY mode is activated.
- Press the “CLEAR” key on the remote control.
The EEPROM (IC304 of the MAIN P.C.B.) is initialized, and “MEMORY CLEAR” is displayed.
- Press “POWER ON/OFF” switch of this unit to turn off the power.
- Disconnect the power cable of this unit from the AC outlet.

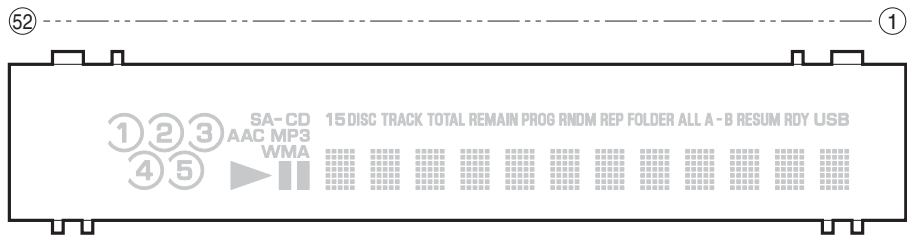


FL display



■ DISPLAY DATA

● V701: 14-ST-68GINK (OPERATION P.C.B.)

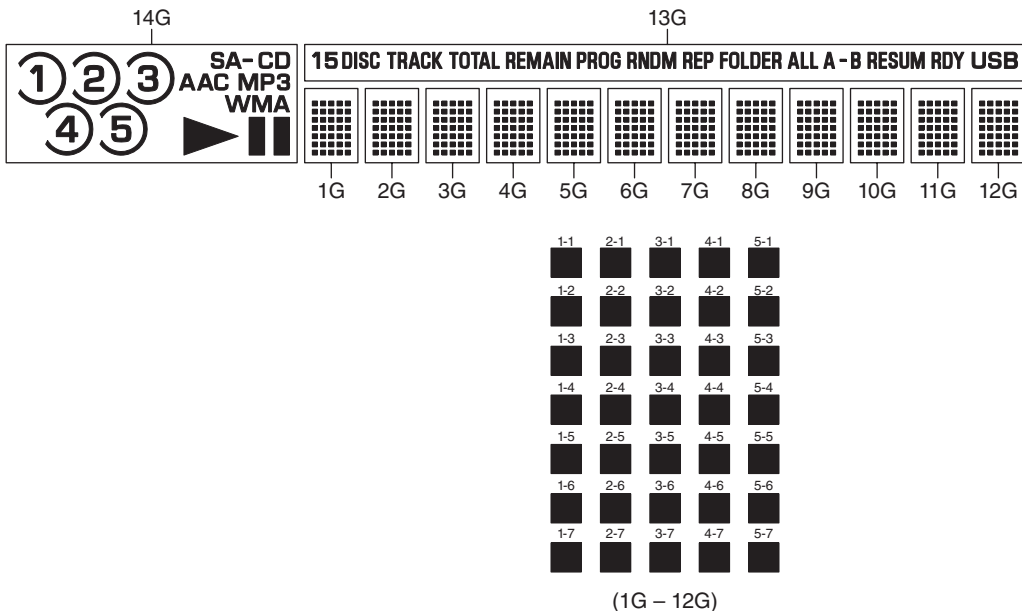


● PIN CONNECTION

Pin No.	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	
Connection	F2	NP	NP	GND	VFL	VDDH	VDD	OSC	RESET	CS	CP	DA	TSA	TSB	NX	NX	NX	
Pin No.	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	
Connection	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	
Pin No.	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	14G	13G	Q14G	Q13G	NP	NP	F1

Note: 1) F1, F2 Filament 2) NP No pin 3) NX No extended pin 4) GND GND pin 5) VFL VFD driving voltage sink pin
 6) VDD Logic voltage supply pin 7) VDDH VFD driving voltage source pin 8) CP Shift register clock 9) DA Serial data input 10) TSA, TSB Test pin
 11) CS Chip select input pin 12) RESET Reset input 13) OSC Pin for self-oscillation 14) 13G, 14G Grid 15) Q13G, Q14G Driver output port

● GRID ASSIGNMENT

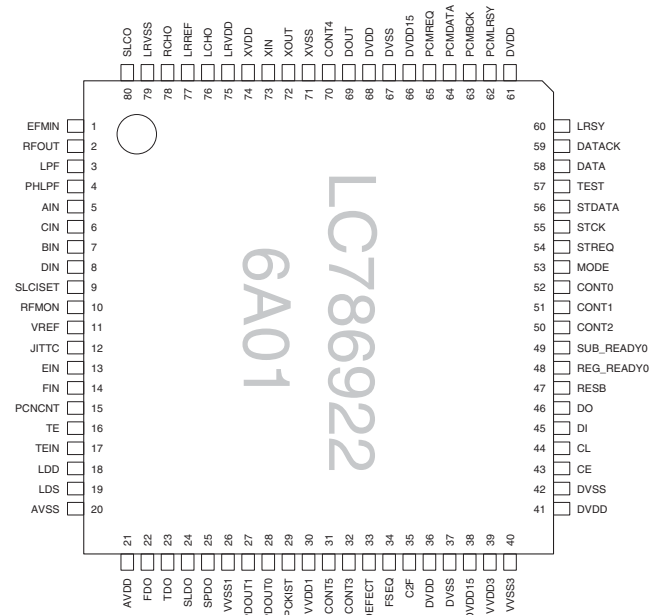
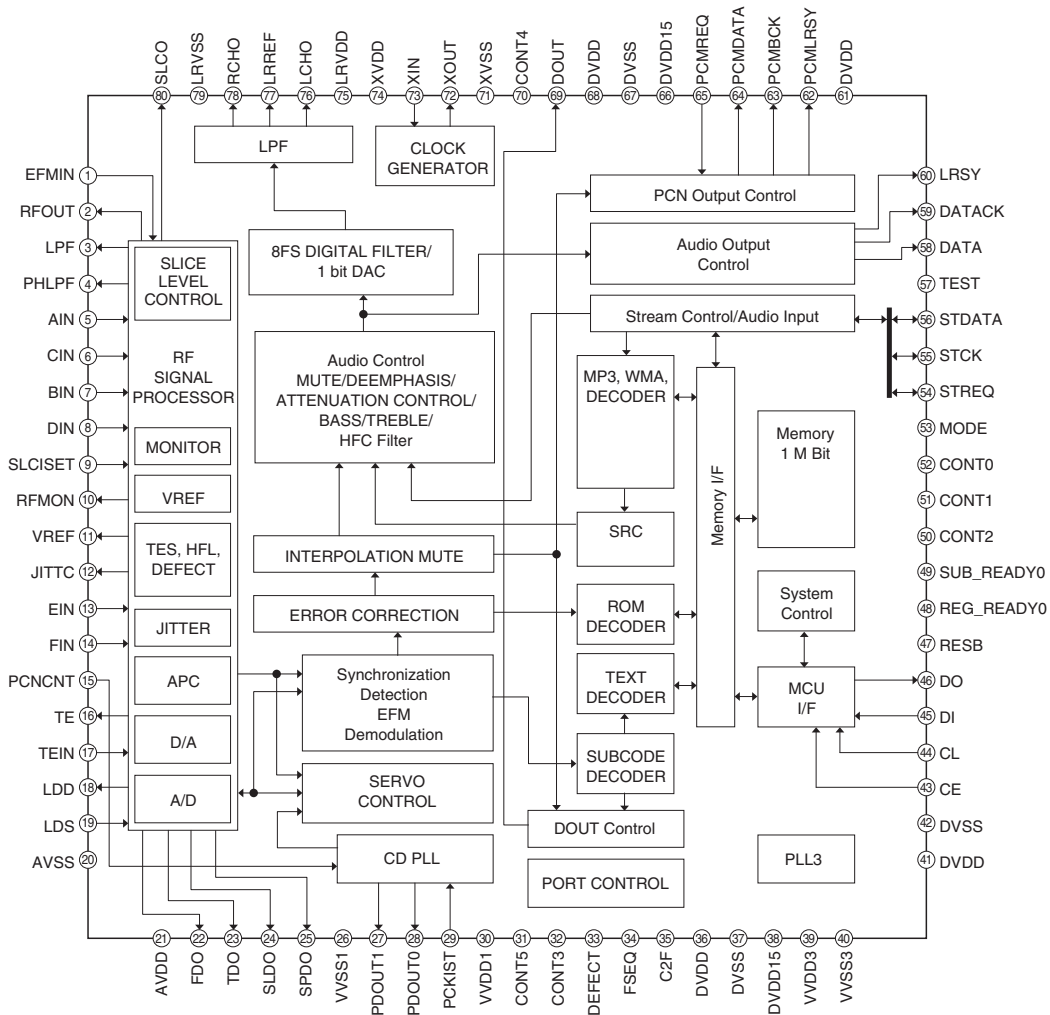


● ANODE CONNECTION

	1G - 12G	13G	14G		1G - 12G	13G	14G		1G - 12G	13G	14G
D0	1-1	1	1	D12	3-3	B	AAC	D24	5-5	—	—
D1	2-1	5	○ (1)	D13	4-3	RESUM	MP3	D25	1-6	—	—
D2	3-1	DISC	2	D14	5-3	RDY	WMA	D26	2-6	—	—
D3	4-1	TRACK	○ (2)	D15	1-4	USB	▶	D27	3-6	—	—
D4	5-1	TOTAL	3	D16	2-4	—	||	D28	4-6	—	—
D5	1-2	REMAIN	○ (3)	D17	3-4	—	—	D29	5-6	—	—
D6	2-2	PROG	4	D18	4-4	—	—	D30	1-7	—	—
D7	3-2	RNDM	○ (4)	D19	5-4	—	—	D31	2-7	—	—
D8	4-2	REP	5	D20	1-5	—	—	D32	3-7	—	—
D9	5-2	FOLDER	○ (5)	D21	2-5	—	—	D33	4-7	—	—
D10	1-3	ALL	SA-	D22	3-5	—	—	D34	5-7	—	—
D11	2-3	A-	CD	D23	4-5	—	—				

■ IC DATA

IC2: LC786922E-01UY-E (MAIN P.C.B.)
CMOS LSI compact disc player IC



CD-C600

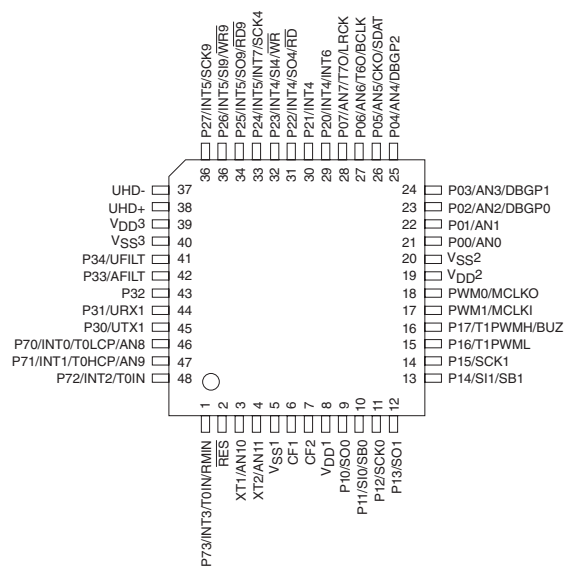
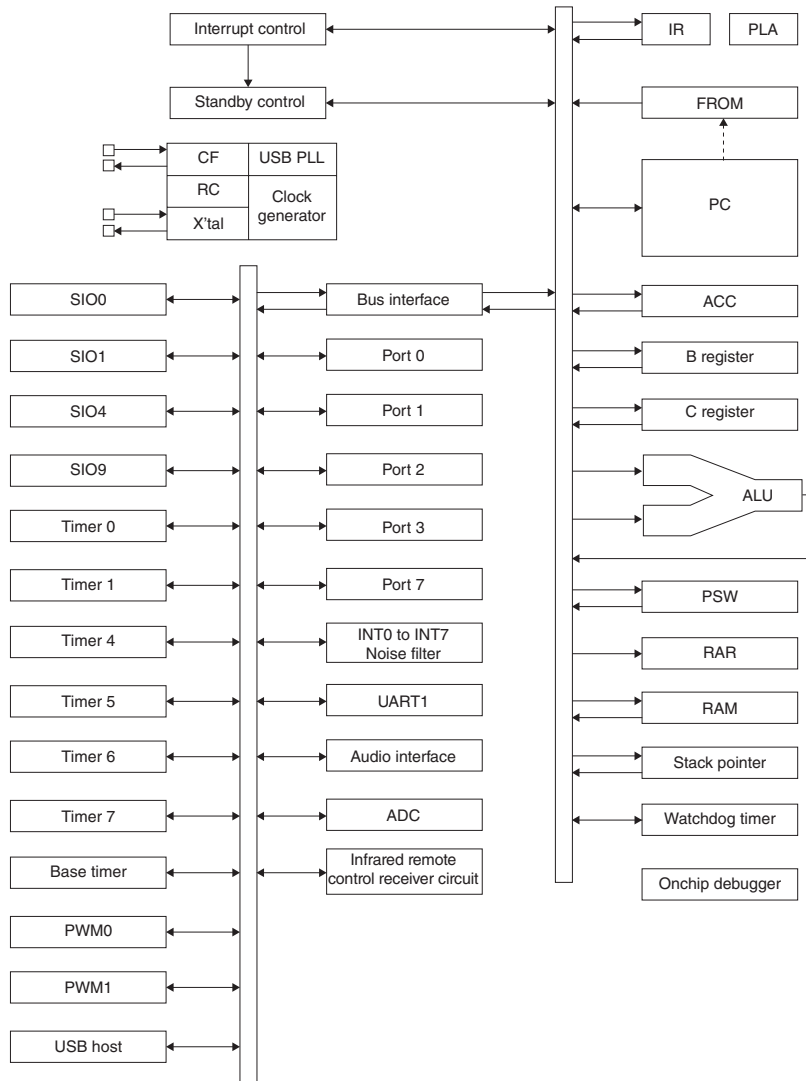
Pin No.	Function Name	I/O	State During a Reset	Detail of Function
1	EFGMIN	AI	Input	RF signal input
2	RFOUT	AO	Undefined	RF signal output
3	LPF	AO	Undefined	RF signal DC level detection low-pass filter capacitor connection
4	PHLPP	AO	Undefined	Defect detection low-pass filter capacitor connection
5	AIN	AI	Input	A signal input
6	CIN	AI	Input	C signal input
7	BIN	AI	Input	B signal input
8	DIN	AI	Input	D signal input
9	SLCISSET	AI	Input	SLCO output current setting resistor connection
10	RFMON	AO	Undefined	IC internal analog signal monitor
11	VREF	AO	AVDD/2	VREF voltage output
12	JITTC	AO	Undefined	Jitter detection capacitor connection
13	EIN	AI	Input	E signal input
14	FIN	AI	Input	F signal input
15	PCNCNT	AI	Input	EFM PLL charge pump control voltage input
16	TE	AO	Undefined	TE signal output
17	TEIN	AI	Input	TE signal input used for TES signal generation
18	LDD	AO	Undefined	Laser power control signal output
19	LDS	AI	Input	Laser power detection signal input
20	AVSS	—	—	Analog system ground / This pin must be connected to the 0 V level
21	AVDD	—	—	Analog system power supply
22	FDO	AO	AVDD/2	Focus control signal output / D/A converter output
23	TDO	AO	AVDD/2	Tracking control signal output / D/A converter output
24	SLDO	AO	AVDD/2	Sled control signal output / D/A converter output
25	SPDO	AO	AVDD/2	Spindle control signal output / D/A converter output
26	VVSS1	—	—	Internal VCO ground / This pin must be connected to the 0 V level
27	PDOUT1	O	Undefined	Internal VCO control phase comparator output 1
28	PDOUT0	O	Undefined	Internal VCO control phase comparator output 0
29	PCKIST	AI	Input	PDOUT0, 1 output current setting resistor connection pin
30	VVDD1	—	—	Internal VCO power supply
31	CONT5	O	Low	General purpose output
32	CONT3	I/O	Input	General purpose input/output (Built-in pull-up resistor)
33	DEFECT	I/O	Input	Monitor output pin (Defect detection signal output : High-active)
34	FSEQ	I/O	Input	Monitor output pin (CD sync. signal detection output : High-active)
35	C2F	I/O	Input	Monitor output pin (C2 error signal output : High-active)
36	DVDD	—	—	Digital system power supply
37	DVSS	—	—	Digital system ground / This pin must be connected to the 0 V level
38	DVDD15	AO	High	Digital circuit power supply capacitor connection
39	VVDD3	—	—	Internal PLL power supply
40	VVSS3	—	—	Internal PLL ground / This pin must be connected to the 0 V level
41	DVDD	—	—	Digital system power supply
42	DVSS	—	—	Digital system ground / This pin must be connected to the 0 V level
43	CE	I	Input	Host microprocessor interface
44	CL	I	Input	
45	DI	I	Input	
46	DO	O	Hi-Z (H)	
47	RESB	I	—	IC reset input / This pin must be set low once after power is first applied
48	REG_READY0	O	Low	Host microprocessor interface
49	SUB_READY0	O	Low	
50	CONT2	I/O	Input	General purpose input/output
51	CONT1	I/O	Input	General purpose input/output
52	CONT0	I/O	Input	General purpose input/output
53	MODE	I	—	Set input / This pin must be connected to the DVDD
54	STREQ	I/O	Input	Stream data demand signal output
55	STCK	I/O	Input	Stream data bit clock input
56	STDATA	I/O	Input	Stream data input
57	TEST	I	—	Test input / This pin must be connected to the 0 V level
58	DATA	I/O	Input	Monitor pin / Audio data output
59	DATACK	I/O	Input	Monitor pin / Audio bit clock output
60	LRSY	I/O	Input	Monitor pin / Audio Left/Right channel clock output
61	DVDD	—	—	Digital system power supply
62	PCMLRSY	O	Low	Monitor pin / Audio Left/Right channel clock output
63	PCMBCK	O	Low	Monitor pin / Audio data shift clock output
64	PCMDATA	O	Low	Monitor pin / Audio data serial output
65	PCMREQ	I	Input	Monitor pin / Audio data output request signal input
66	DVDD15	AO	High	Digital circuit power supply capacitor connection
67	DVSS	—	—	Digital system ground / This pin must be connected to the 0 V level
68	DVDD	—	—	Digital system power supply

Pin No.	Function Name	I/O	State During a Reset	Detail of Function	
69	DOUT	O	Low	Monitor pin / Digital audio data output (EIAJ format)	
70	CONT4	I/O	Input (Low)	General purpose input/output 4 (Initial : Input, internal pull-down resistor ON)	
71	XVSS	—	—	Oscillator ground / This pin must be connected to the 0 V level	
72	XOUT	O	Oscillation	Oscillation	16.9344 MHz oscillation pins
73	XIN	I	Oscillation		16.9344 MHz oscillation pins
74	XVDD	—	—	Oscillator power supply	
75	LRVDD	—	—	D/A Converter	Left/Right channel power supply
76	LCHO	AO	LRVDD/2		Left channel output
77	LRREF	AO	LRVDD/2		Reference output for Left/Right channel
78	RCHO	AO	LRVDD/2		Right channel output
79	LRVSS	—	—		Left/Right channel ground
80	SLCO	AO	Undefined	Slice level control output	

Note

- ① For the unused pins:
 - The unused input pins must be connected to the GND (0 V) level
 - The unused output pins must be leave open (No connection)
 - The unused input/output pins must be connected to the GND (0 V) or power supply pin for I/O in input pin mode or must be left open (No connection) in output pin mode
- ② NC pins must be left open
- ③ For power supply pins:
 - Same voltage must be supplied to DVDD, AVDD, XVDD, LRVDD, VVDD1, VVDD3 power supply pins (Refer to allowable operating ranges)
- ④ MODE pin must be connected to the DVDD
- ⑤ TEST pins must be connected to GND (0 V)
- ⑥ During power-on, RESB pin must be set to "Low" for more than 20 ms
- ⑦ Nch-opendrain output pin must put the pull-up resistance outside

IC7: LC87F1HC8A (MAIN P.C.B.)
CMOS LSI

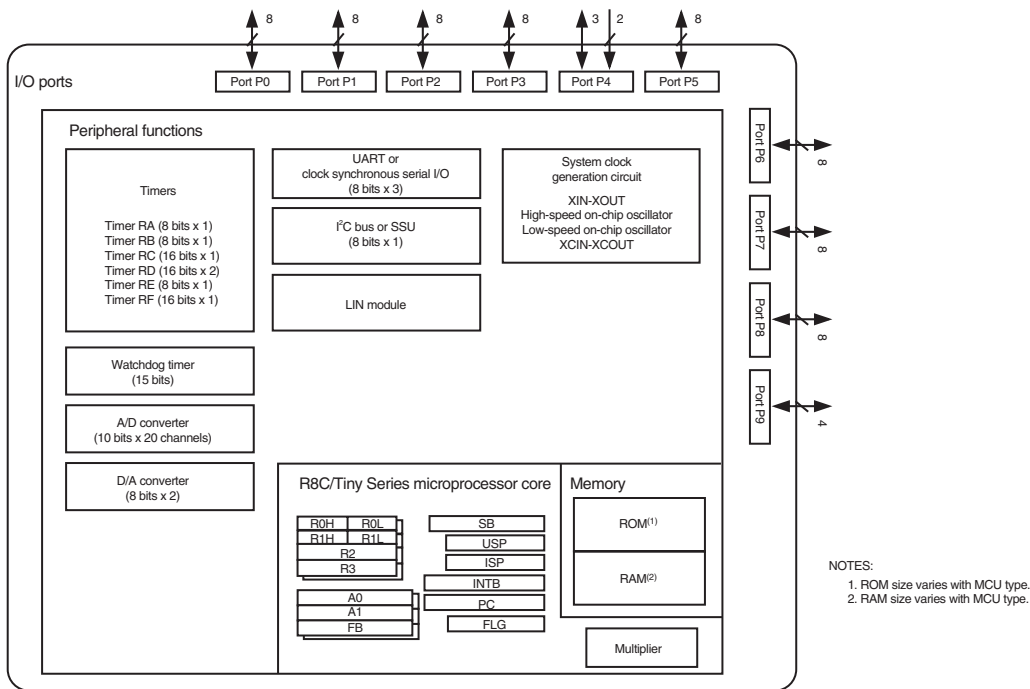


CD-C600

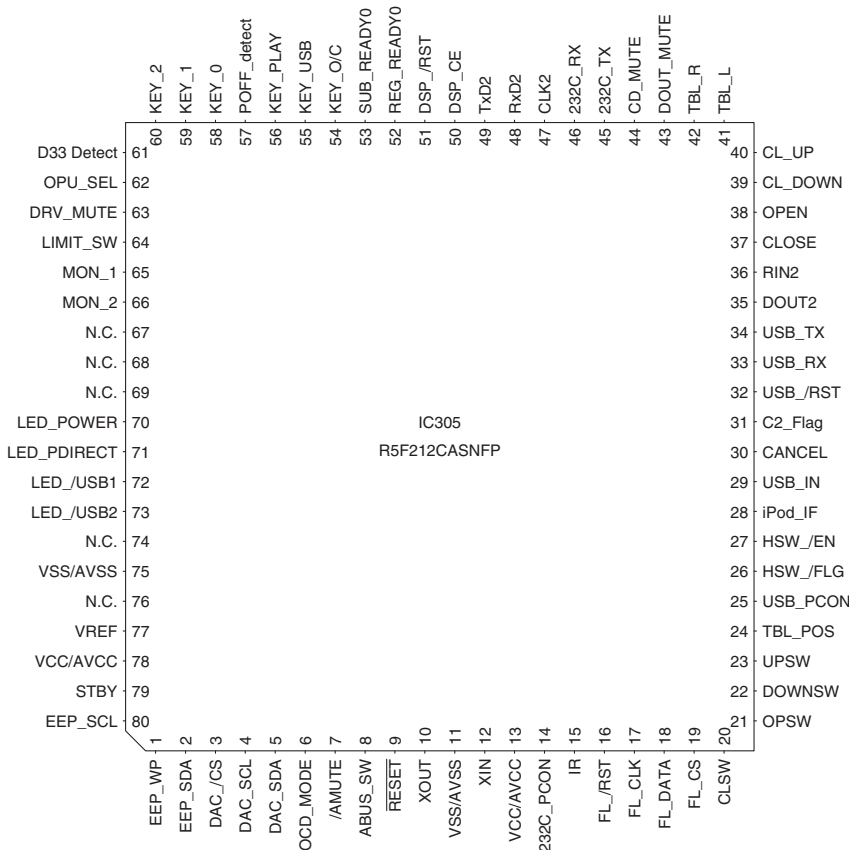
Pin No.	Function Name	I/O	Detail of Function	Option																														
5, 20, 40	VSS1, VSS2, VSS3	-	- power supply	No																														
8, 19	VDD1, VDD2	-	+ power supply	No																														
39	VDD3	-	USB reference voltage	Yes																														
21, 22, 23, 24, 25, 26, 27, 28	Port 0 P00 to P07	I/O	<ul style="list-style-type: none"> 8-bit I/O ports I/O specifiable in 4-bit units Pull-up resistors can be turned on and off in 4-bit units HOLD reset input Port 0 interrupt input Pin functions <p>AD converter input ports : AN0 to AN7 (P00 to P07) On chip debugger pins : DBG P0 to DBG P2 (P02 to P04) P05 : System clock output/audio interface SDAT input/output P06 : Timer 6 toggle output/audio interface BCLK input/output P07 : Timer 7 toggle output/audio interface LRCK input/output</p>	Yes																														
9, 10, 11, 12, 13, 14, 15, 16	Port 1 P10 to P17	I/O	<ul style="list-style-type: none"> 8-bit I/O ports I/O specifiable in 1-bit units Pull-up resistors can be turned on and off in 1-bit units Pin functions <p>P10 : SIO0 data output P11 : SIO0 data input/bus input/output P12 : SIO0 clock input/output P13 : SIO1 data output P14 : SIO1 data input/bus input/output P15 : SIO1 clock input/output P16 : Timer 1 PWML output P17 : Timer 1 PWMH output/beeper output</p>	Yes																														
29, 30, 31, 32, 33, 34, 35, 36	Port 2 P20 to P27	I/O	<ul style="list-style-type: none"> 8-bit I/O ports I/O specifiable in 1-bit units Pull-up resistors can be turned on and off in 1-bit units Pin functions <p>P20 to P23 : INT4 input/HOLD reset input/timer 1 event input/timer 0L capture input/ timer 0H capture input P24 to P27 : INT5 input/HOLD reset input/timer 1 event input/timer 0L capture input/ timer 0H capture input P20 : INT6 input/timer 0L capture 1 input P22 : SIO4 data input/output/parallel interface \overline{RD} output P23 : SIO4 data input/output/parallel interface \overline{WR} output P24 : SIO4 clock input/output/INT7 input/timer 0H capture 1 input P25 : SIO9 data input/output/parallel interface $\overline{RD9}$ output P26 : SIO9 data input/output/parallel interface $\overline{WR9}$ output P27 : SIO9 clock input/output Interrupt acknowledge types</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Rising</th> <th>Falling</th> <th>Rising and Falling</th> <th>H level</th> <th>L level</th> </tr> </thead> <tbody> <tr> <td>INT4</td> <td>enable</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>disable</td> </tr> <tr> <td>INT5</td> <td>enable</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>disable</td> </tr> <tr> <td>INT6</td> <td>enable</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>disable</td> </tr> <tr> <td>INT7</td> <td>enable</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>disable</td> </tr> </tbody> </table>		Rising	Falling	Rising and Falling	H level	L level	INT4	enable	enable	enable	disable	disable	INT5	enable	enable	enable	disable	disable	INT6	enable	enable	enable	disable	disable	INT7	enable	enable	enable	disable	disable	Yes
	Rising	Falling	Rising and Falling	H level	L level																													
INT4	enable	enable	enable	disable	disable																													
INT5	enable	enable	enable	disable	disable																													
INT6	enable	enable	enable	disable	disable																													
INT7	enable	enable	enable	disable	disable																													
41, 42, 43, 44, 45	Port 3 P30 to P34	I/O	<ul style="list-style-type: none"> 5-bit I/O ports I/O specifiable in 1-bit units Pull-up resistors can be turned on and off in 1-bit units Pin functions <p>P30 : UART1 transmit P31 : UART1 receive P33 : Audio interface PLL filter pin P34 : USB interface PLL filter pin</p>	Yes																														

Pin No.	Function Name	I/O	Detail of Function	Option																														
1, 46, 47, 48	Port 7 P70 to P73	I/O	<ul style="list-style-type: none"> • 4-bit I/O port • I/O specifiable in 1-bit units • Pull-up resistors can be turned on and off in 1-bit units • Pin functions <p>P70 : INT0 input/HOLD reset input/timer 0L capture input/watchdog timer output</p> <p>P71 : INT1 input/HOLD reset input/timer 0H capture input</p> <p>P72 : INT2 input/HOLD reset input/timer 0 event input/timer 0L capture input/high speed clock counter input</p> <p>P73 : INT3 input (input with noise filter)/timer 0 event input/timer 0H capture input/IR remote control receiver input</p> <p>AD converter input ports : AN8 (P70), AN9 (P71)</p> <p>Interrupt acknowledge types</p> <table border="1"> <thead> <tr> <th></th> <th>Rising</th> <th>Falling</th> <th>Rising and Falling</th> <th>H level</th> <th>L level</th> </tr> </thead> <tbody> <tr> <td>INT0</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>enable</td> <td>enable</td> </tr> <tr> <td>INT1</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>enable</td> <td>enable</td> </tr> <tr> <td>INT2</td> <td>enable</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>disable</td> </tr> <tr> <td>INT3</td> <td>enable</td> <td>enable</td> <td>enable</td> <td>disable</td> <td>disable</td> </tr> </tbody> </table>		Rising	Falling	Rising and Falling	H level	L level	INT0	enable	enable	disable	enable	enable	INT1	enable	enable	disable	enable	enable	INT2	enable	enable	enable	disable	disable	INT3	enable	enable	enable	disable	disable	No
	Rising	Falling	Rising and Falling	H level	L level																													
INT0	enable	enable	disable	enable	enable																													
INT1	enable	enable	disable	enable	enable																													
INT2	enable	enable	enable	disable	disable																													
INT3	enable	enable	enable	disable	disable																													
18 17	PWM0 PWM1	I/O	<p>PWM0, PWM1 output port</p> <p>General-purpose input port</p> <ul style="list-style-type: none"> • Pin functions <p>PWM0 : Audio interface master clock output</p> <p>PWM1 : Audio interface master clock input</p>	No																														
37	UHD-	I/O	USB data I/O pin UHD-/general-purpose I/O port	No																														
38	UHD+	I/O	USB data I/O pin UHD+/general-purpose I/O port	No																														
2	RES	I	Reset pin	No																														
3	XT1	I	<ul style="list-style-type: none"> • 32.768 kHz crystal oscillator input • Pin functions <p>General-purpose input port</p> <p>AD converter input ports : AN10</p> <p>Must be connected to VDD1 when not to be used</p>	No																														
4	XT2	I/O	<ul style="list-style-type: none"> • 32.768 kHz crystal oscillator output • Pin functions <p>General-purpose I/O</p> <p>AD converter input port : AN11</p> <p>Must be set for oscillation and kept open if not to be used</p>	No																														
6	CF1	I	Ceramic/crystal resonator input	No																														
7	CF2	I	Ceramic/crystal resonator output	No																														

IC305: R5F212CASNFP (MAIN P.C.B.)
Single chip 16-bit microprocessor



CD-C600



Pin No.	Function Name	I/O	Detail of Function
1	EEP_WP	O	Wright protection of EEPROM (IC304)
2	EEP_SDA	O	Serial data to EEPROM (IC304)
3	DAC_CS	O	Chip select to audio DAC (IC302)
4	DAC_SCL	O	Serial clock to audio DAC (IC302)
5	DAC_SDA	O	Serial data output to audio DAC (IC302)
6	OCD_MODE	I	Input High --> Normal, Low --> Writing ROM mode
7	/AMUTE	O	Muting control signal to audio circuit High --> Muting is active
8	ABUS_SW	O	No use
9	RESET	I	Input RESET signal of IC305
10	XOUT	O	Oscillator OUT
11	VSS/AVSS	GND	DGND
12	XIN	I	Oscillator IN
13	VCC/AVCC	Power	S+33
14	232C_PCON	O	Turn 232C function ON/OFF High --> 232C function is active
15	IR	I	Input the signal from remote control
16	FL_RST	O	RESET signal to FL-display
17	FL_CLK	O	Serial clock to FL-display (V701)
18	FL_DATA	O	Serial data output to FL-display (V701)
19	FL_CS	O	Chip select to FL-display (V701)
20	CLSW	I	Detect CLOSE SW of changer mechanism
21	OPSW	I	Detect OPEN SW of changer mechanism
22	DOWNSW	I	Detect CLAMP-DOWN SW of changer mechanism
23	UPSW	I	Detect CLAMP-UP SW of changer mechanism
24	TBL_POS	I	Detect table position of changer mechanism
25	USB_PCON	O	Control IC301(DC/DC converter) and USB+5V is ON/OFF High --> USB+5V is supplied
26	HSW_FLG	I	Detect the status of IC6 (current limiter) High --> Normal, Low --> Over current
27	HSW_EN	O	Control IC6 (current limiter) Low --> Enable output
28	iPod_IF	I	Control signal from iPod to change communication format
29	USB_IN	I	Detect to plug in USB memory or iPod High --> Detect USB memory or iPod
30	CANCEL	I	Request signal for cancel busy condition
31	C2_Flag	I	Input FMON2 (C2F) signal from CD-DSP (IC2)
32	USB_RST	O	RESET signal to USB-ucom (IC7)
33	USB_RX	I	RX signal from USB-ucom (IC7)
34	USB_TX	O	TX signal to USB-ucom (IC7)
35	DOUT2	O	Reserved (for 232C)
36	RIN2	I	Reserved (for 232C)
37	CLOSE	O	Control signal for closing tray
38	OPEN	O	Control signal for opening tray
39	CL_DOWN	O	Control signal for CLAMP_DOWN
40	CL_UP	O	Control signal for CLAMP_UP
41	TBL_L	O	Control signal for rotating table
42	TBL_R	O	Control signal for rotating table
43	DOUT_MUTE	O	Muting digital-out signal on pure direct Low --> Digital-output signal is muting
44	CD_MUTE	I	Detect the muting control signal from CD-DSP (IC2) during loading disc or searching track
45	232C_TX	O	TX signal to 232C terminal
46	232C_RX	I	RX signal from 232C terminal
47	CLK2	O	Output the clock signal to CD-DSP
48	RxD2	I	Input the status signal from CD-DSP
49	TxD2	O	Output the status signal to CD-DSP
50	DSP_CE	O	Output chip_enable signal to CD-DSP

Pin No.	Function Name	I/O	Detail of Function
51	DSP_RST	O	Reset signal to CD-DSP
52	REG_READY0	I	Input R_RDY signal from CD-DSP
53	SUB_READY0	I	Input S_RDY signal from CD-DSP
54	KEY_O/C	I	Detect [O/C] KEY on front-panel
55	KEY_USB	I	Detect [CD/USB] KEY on front-panel
56	KEY_PLAY	I	Detect [PLAY/PAUSE] KEY on front-panel
57	POFF_detect	I	Detect PRIMARY_POWER_OFF condition
58	KEY_0	I	Detect KEY_0 signal on front-panel PlayXchang, STOP, SKIP+
59	KEY_1	I	Detect KEY_1 signal on front-panel SKIP-, Pure direct, DISC5
60	KEY_2	I	Detect KEY_2 signal on front-panel DISC1, DISC2, DISC3, DISC4
61	D33 Detect	I	Reserved (Detect D+3.3)
62	OPU_SEL	I	Input the signal to select OPU 0V : CD traverse 1.65V : DVD/CD traverse 3.3V : DVD/CD traverse
63	DRV_MUTE	O	Mute control to actuator driver (IC1) Low --> Muting output on actuator driver
64	LIMIT_SW	I	Detect inner position SW on CD-traverse mechanism
65	MON_1	I	Input FMON0 (defect) signal from CD-DSP (IC2)
66	MON_2	I	Input FMON1(FSEQ) signal from CD-DSP (IC2)
67	N.C.		
68	N.C.		
69	N.C.		
70	LED_POWER	O	Control LED_POWER on front-panel
71	LED_PDIRECT	O	Control LED_PURE DIRECT on front-panel
72	LED_USB1	O	Control LED_USB (orange) on front-panel
73	LED_USB2	O	Control LED_USB (green) on front-panel
74	N.C.		
75	VSS/AVSS	GND	DGND
76	SLED_CTL	O	Reserved
77	VREF	Power	Input the reference voltage (D+3.3V) for A/D port (pin 58-60, pin 62)
78	VCC/AVCC	Power	Input S+33
79	STBY	O	Relay control on primary power High --> Primary power relay is ON
80	EEP_SCL	O	Serial clock to EEPROM (IC304)

Key detection for A/D port

Key input (A/D) pull-up resistance 10 k-ohms

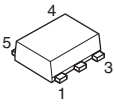
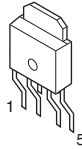
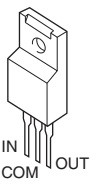
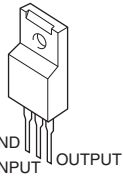
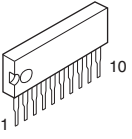
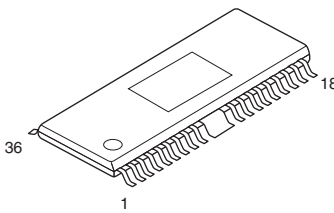
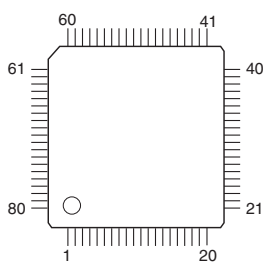
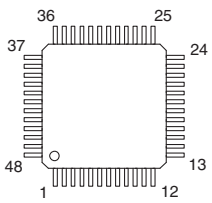
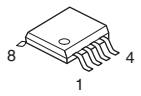
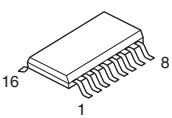
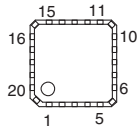
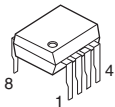
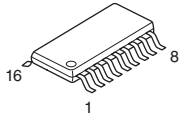
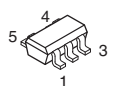
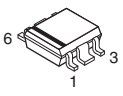
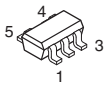
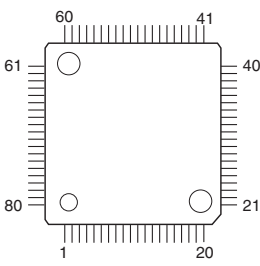
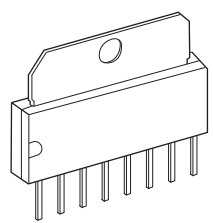
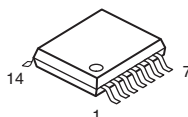
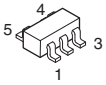
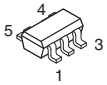
Ohm	0	+820	+3.3 k	+12.0 k
V	0	0.2-0.3	0.9-1.0	2.0-2.1
A/D value (3.3 V = 255)	0	15-25	70-78	153-162
KEY0 (58 pin)	—	PLAY X CHANGE	STOP	SKIP +/SEARCH +
KEY1 (59 pin)	—	SKIP -/SEARCH -	PURE DIRECT	DISC 5

Ohm	0	+100	+3.3 k	+6.8 k	+22.0 k
V	0	0.03-0.1	0.8-0.9	1.65-1.75	2.45-2.55
A/D value (3.3 V = 255)	0	3-7	60-70	125-135	190-200
KEY2 (60 pin)	—	DISC 4	DISC 3	DISC 2	DISC 1

Ohm	0
V	0
A/D value (3.3 V = 255)	0
KEY_O/C (54 pin)	OPEN/CLOSE
KEY_USB (55 pin)	CD/USB
KEY_PLAY (56 pin)	PLAY/PAUSE

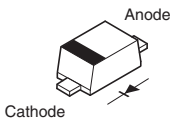
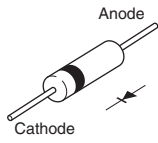
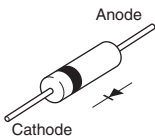
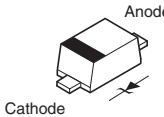
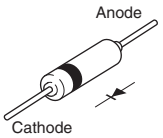
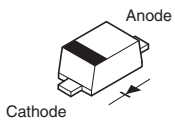
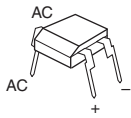
PIN CONNECTION DIAGRAMS

• ICs


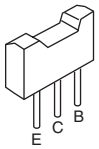


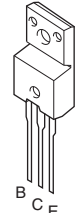




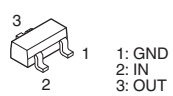
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<p>LA6565-TE-L-E</p> 	<p>LC786922E-01UY-E</p> 	<p>LC87F1HC8A-F5AL1-E</p> 	<p>LE24C023M-TLM-E</p> 	
<p>MAX3232CDWR</p> 	<p>MFI341S2161</p> 	<p>NJM2068D-D</p> 	<p>PCM1780DBQR</p> 	<p>R1154N033B-TR-F</p> 
<p>R1172S331B-E2-F</p> 	<p>R5523N001A-TR-F</p> 	<p>R5F212CASNFP</p> 	<p>TA7291P</p> 	
<p>TC74VHC126FT</p> 	<p>TC7SH08F</p> 	<p>TC7SH08FU</p> 	<p></p>	

CD-C600

• Diodes

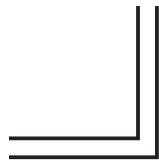
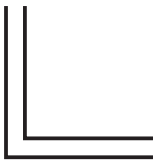
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<p>MTZJ5.6B 5.6V MTZJ6.2B 6.2V MTZJ7.5B 7.5V MTZJ8.2A 8.2V MTZJ30A 30V</p> 	<p>RB050LA-40TR TP RB501V-40</p> 	<p>S1NB20 1A 200V</p> 	

• Transistors

<p>2SA1037K</p> 	<p>2SA1708</p> 	<p>2SC1815 Y</p> 	<p>2SC2412K</p> 	<p>2SC3852</p> 
<p>2SK208-Y</p> 	<p>2SD1938F</p> 	<p>2SD2394</p> 	<p>12A01C-TB-E</p> 	<p>DTA114EKA DTC114EKA DTC144EKA</p> 

CD-C600

MEMO



1 ■ BLOCK DIAGRAM

2

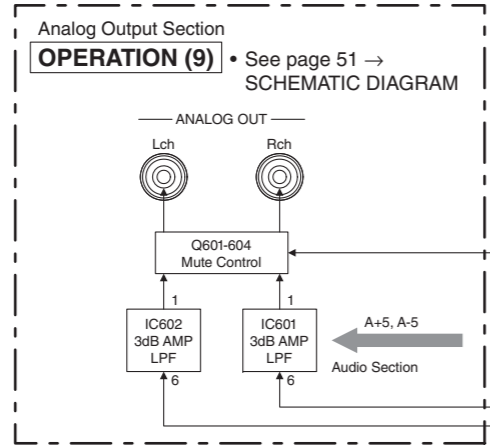
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4

5

6

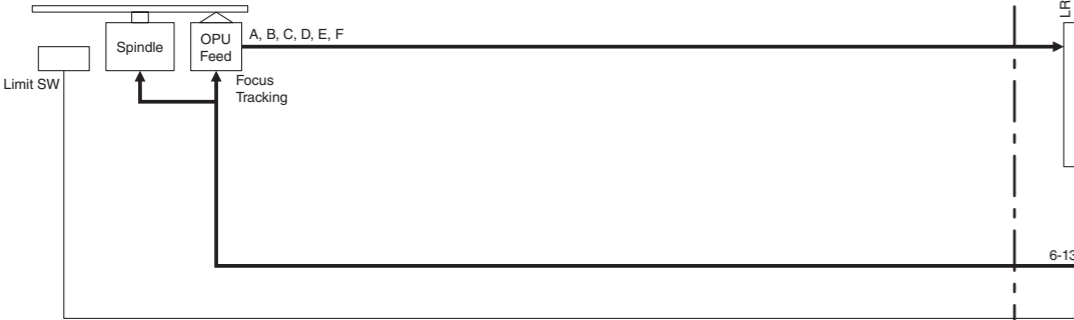
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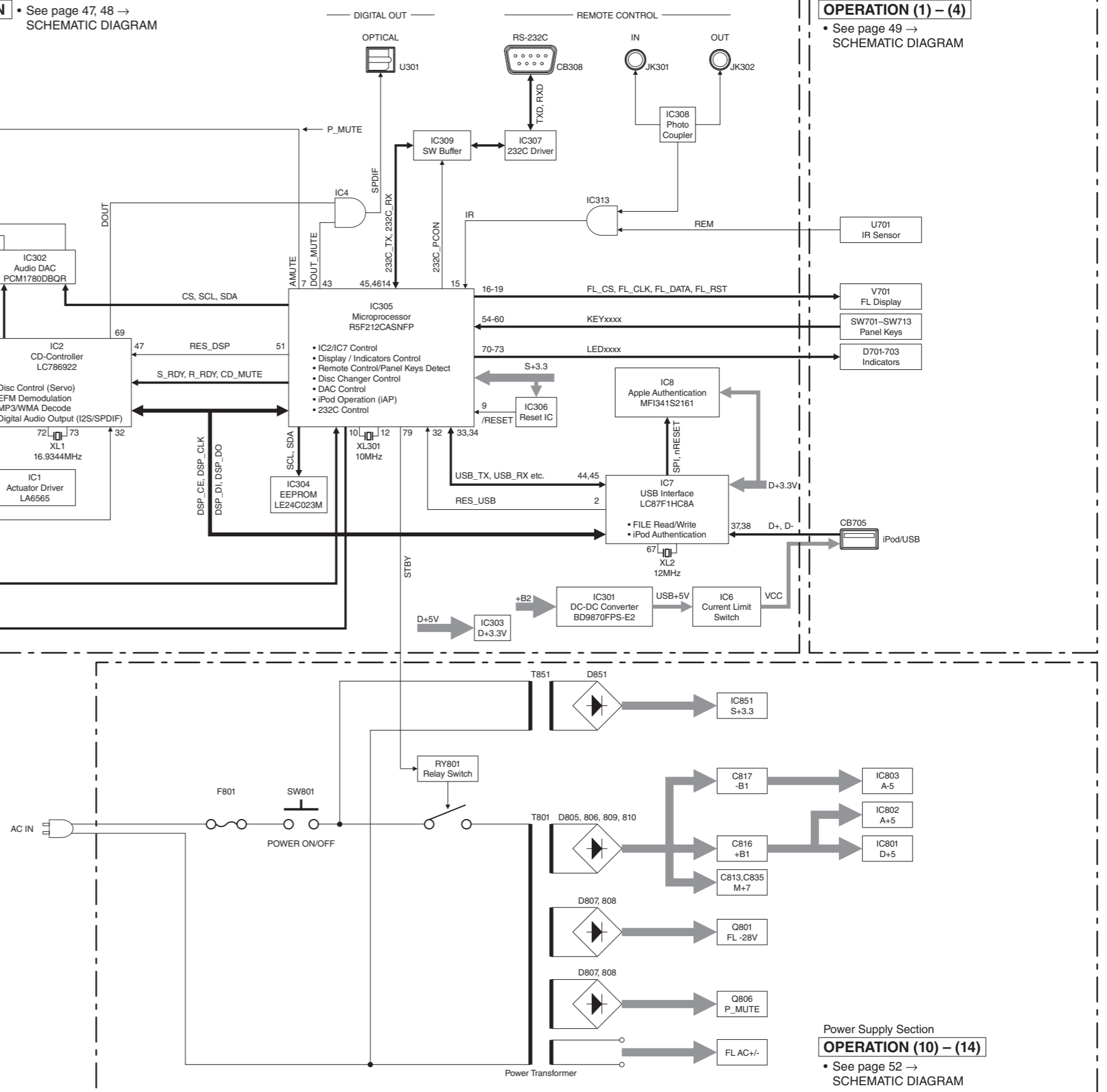
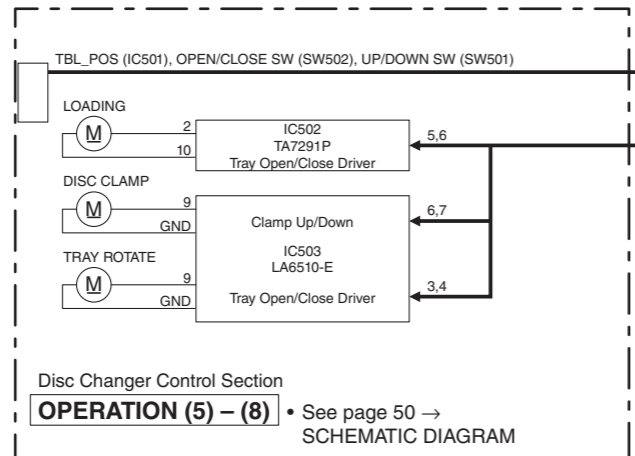
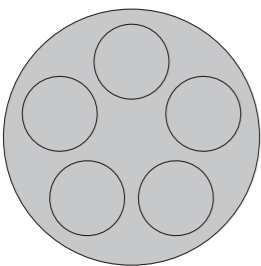
MAIN • See page 47, 48 → SCHEMATIC DIAGRAM

Front Section
OPERATION (1) - (4)
 • See page 49 → SCHEMATIC DIAGRAM

PU Mechanism Unit

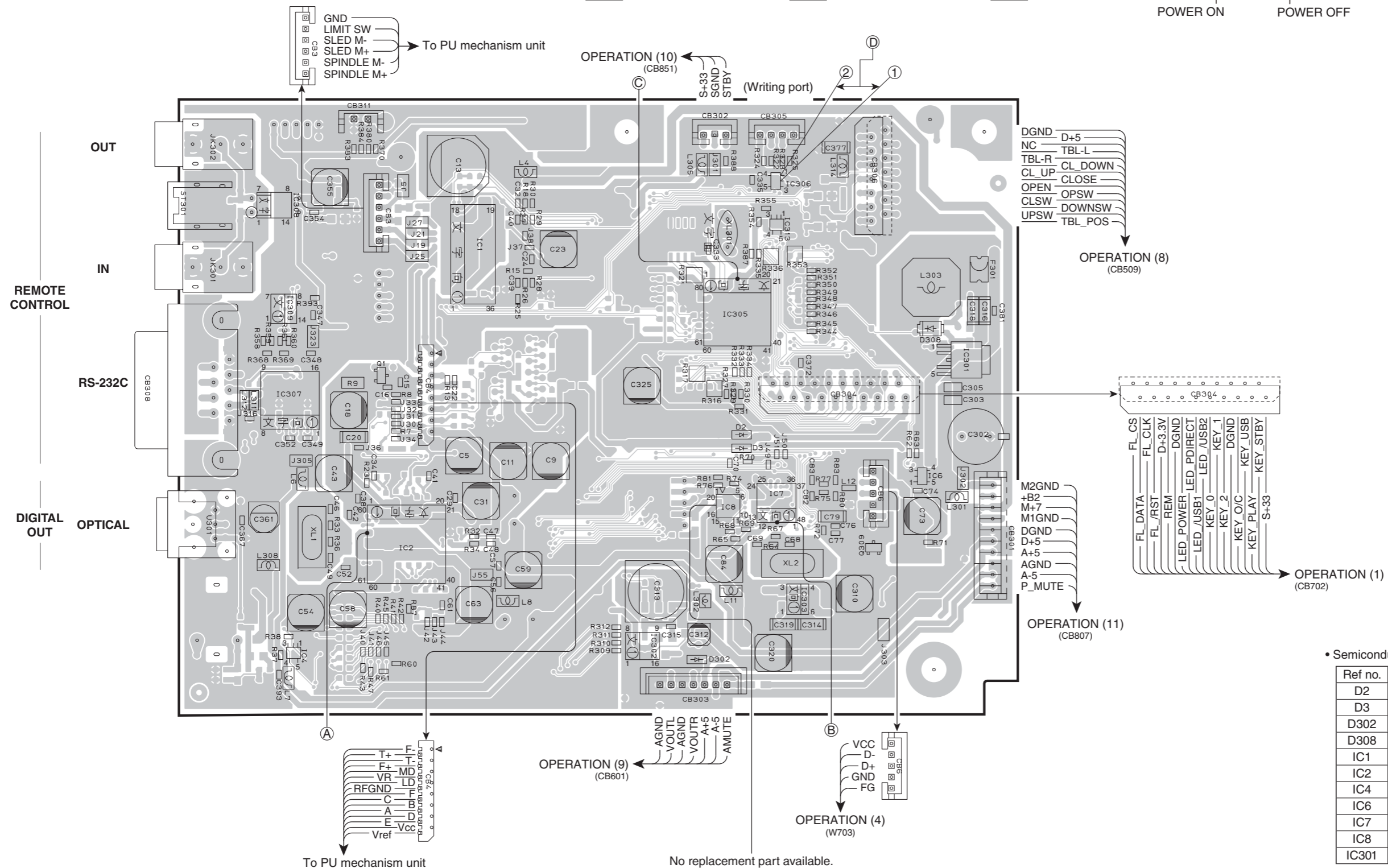
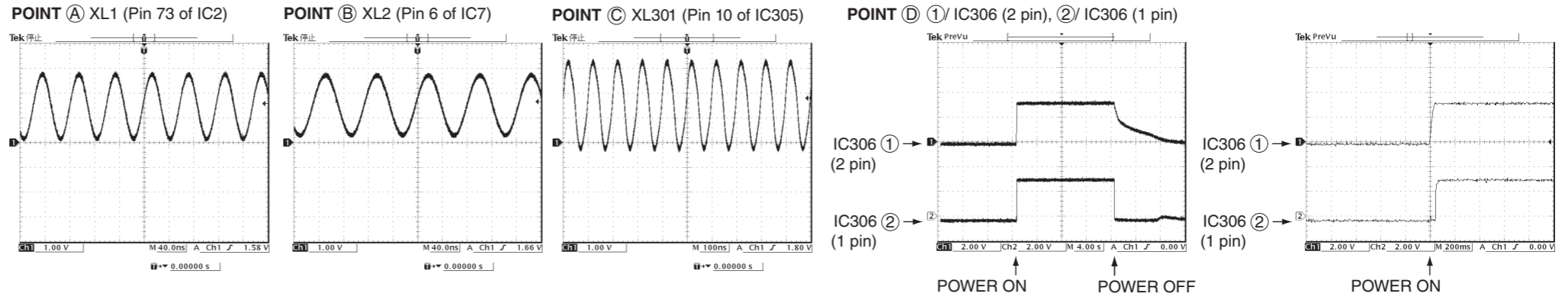


Disc Tray Ass'y



PRINTED CIRCUIT BOARDS

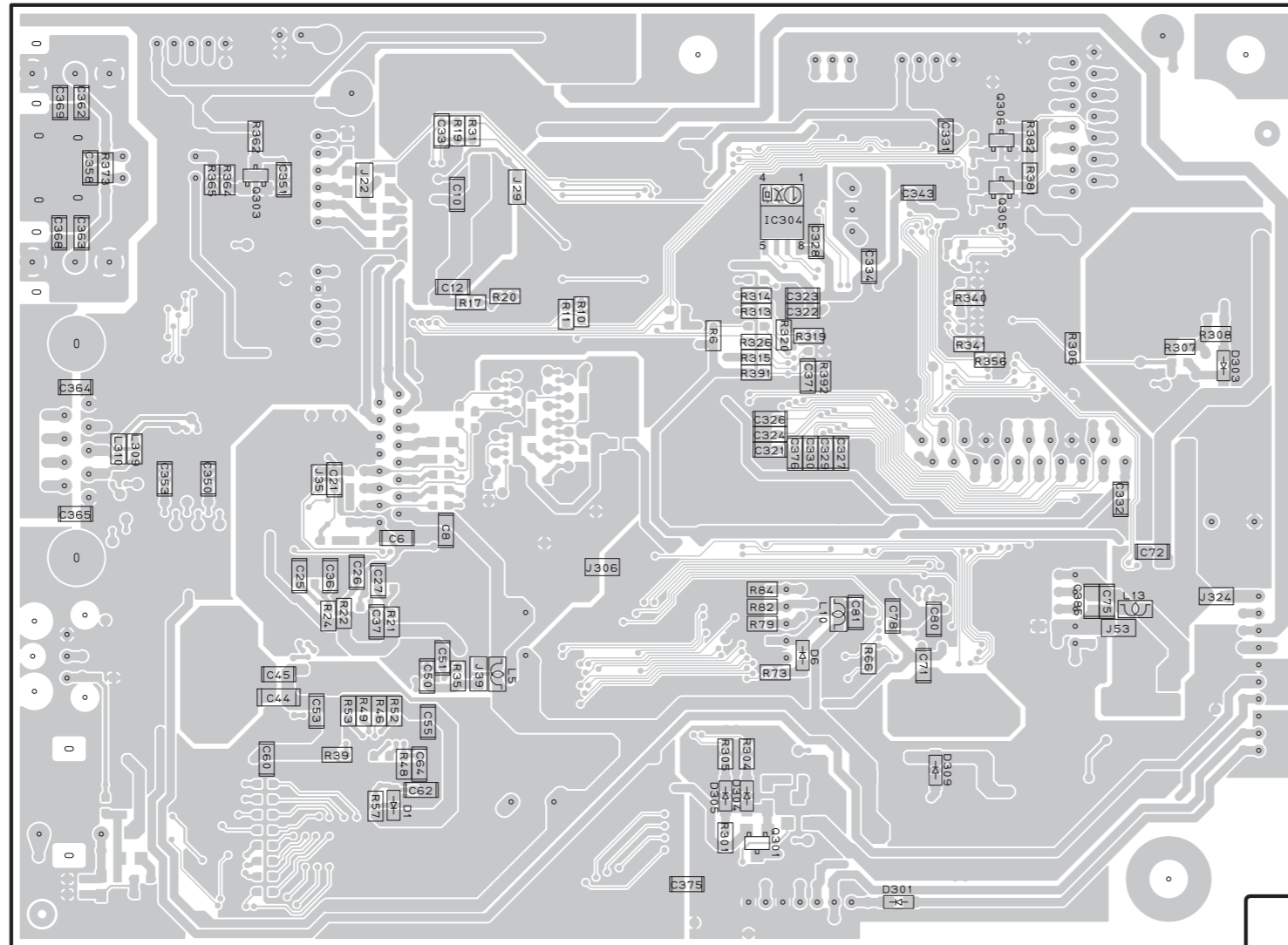
MAIN P.C.B. (Side A)



• Semiconductor Location

Ref no.	Location	Ref no.	Location
D2	E5	IC302	E6
D3	E5	IC303	F6
D302	E6	IC305	E4
D308	F4	IC306	F3
IC1	D4	IC307	C4
IC2	C5	IC308	C3
IC4	C6	IC309	C4
IC6	F5	IC313	F3
IC7	F5	Q1	C4
IC8	E5	Q309	F5
IC301	G1		

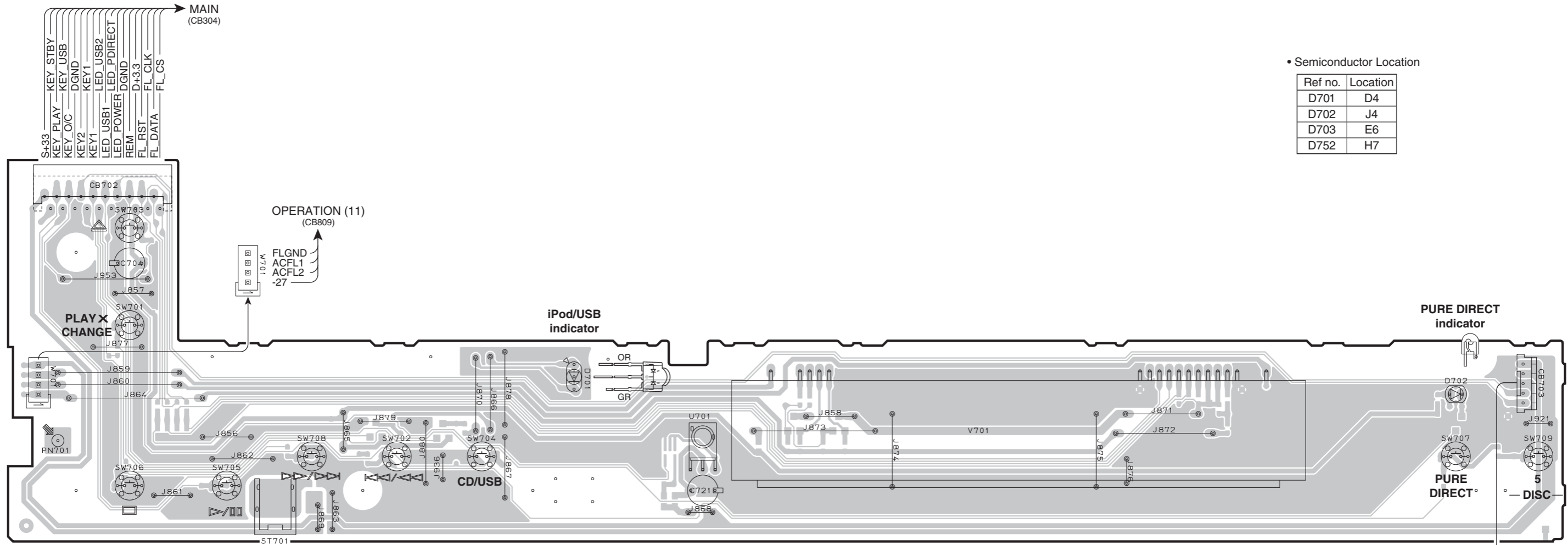
MAIN P.C.B. (Side B)



• Semiconductor Location

Ref no.	Location
D1	C6
D6	E5
D301	E6
D303	G4
D304	E6
D305	E6
D309	E6
IC304	E3
Q301	E6
Q303	C3
Q305	F3
Q306	F3

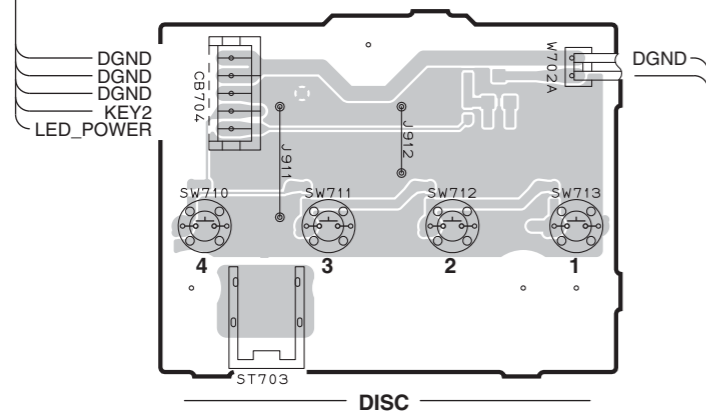
OPERATION (1) P.C.B. (Side A)



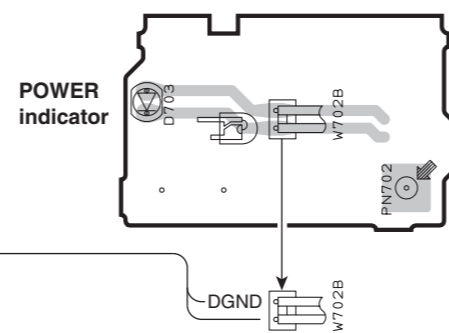
• Semiconductor Location

Ref no.	Location
D701	D4
D702	J4
D703	E6
D752	H7

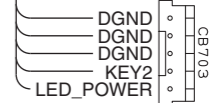
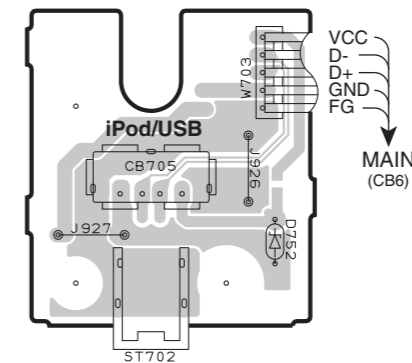
OPERATION (2) P.C.B. (Side A)



OPERATION (3) P.C.B. (Side A)



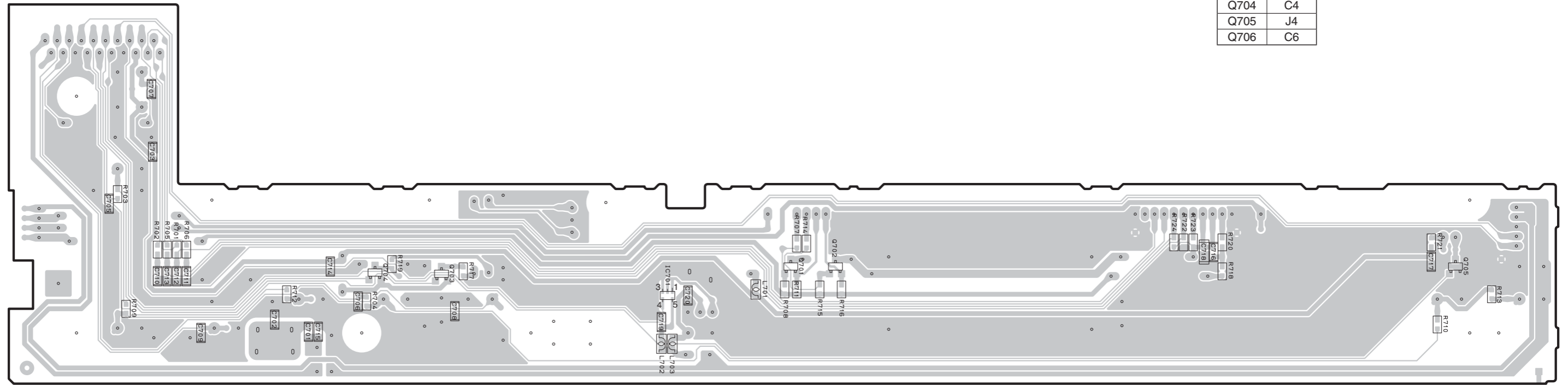
OPERATION (4) P.C.B. (Side A)



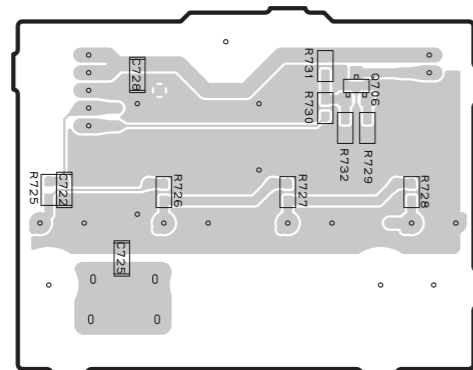
OPERATION (1) P.C.B. (Side B)

• Semiconductor Location

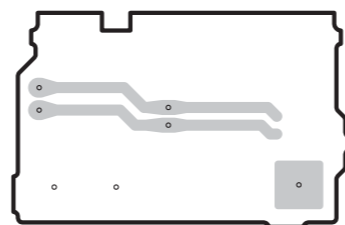
Ref no.	Location
IC701	E4
Q701	F4
Q702	F4
Q703	D4
Q704	C4
Q705	J4
Q706	C6



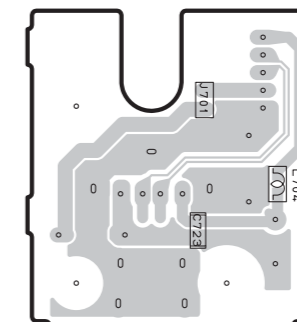
OPERATION (2) P.C.B. (Side B)



OPERATION (3) P.C.B. (Side B)

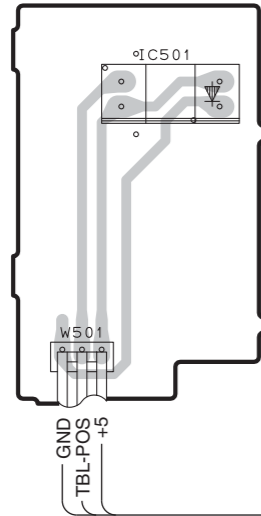


OPERATION (4) P.C.B. (Side B)



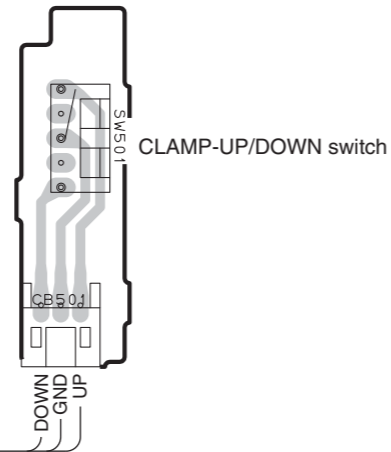
OPERATION (5) P.C.B.

(Side A)



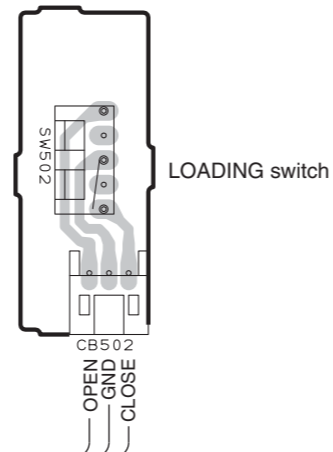
OPERATION (6) P.C.B.

(Side A)



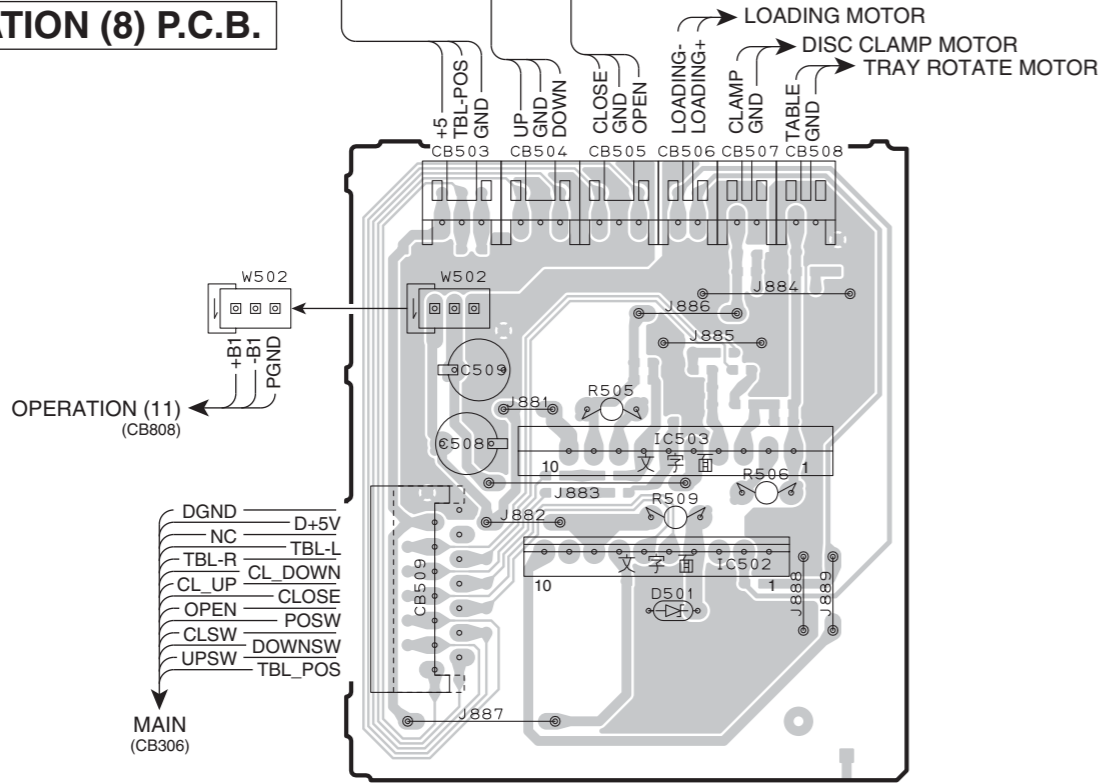
OPERATION (7) P.C.B.

(Side A)



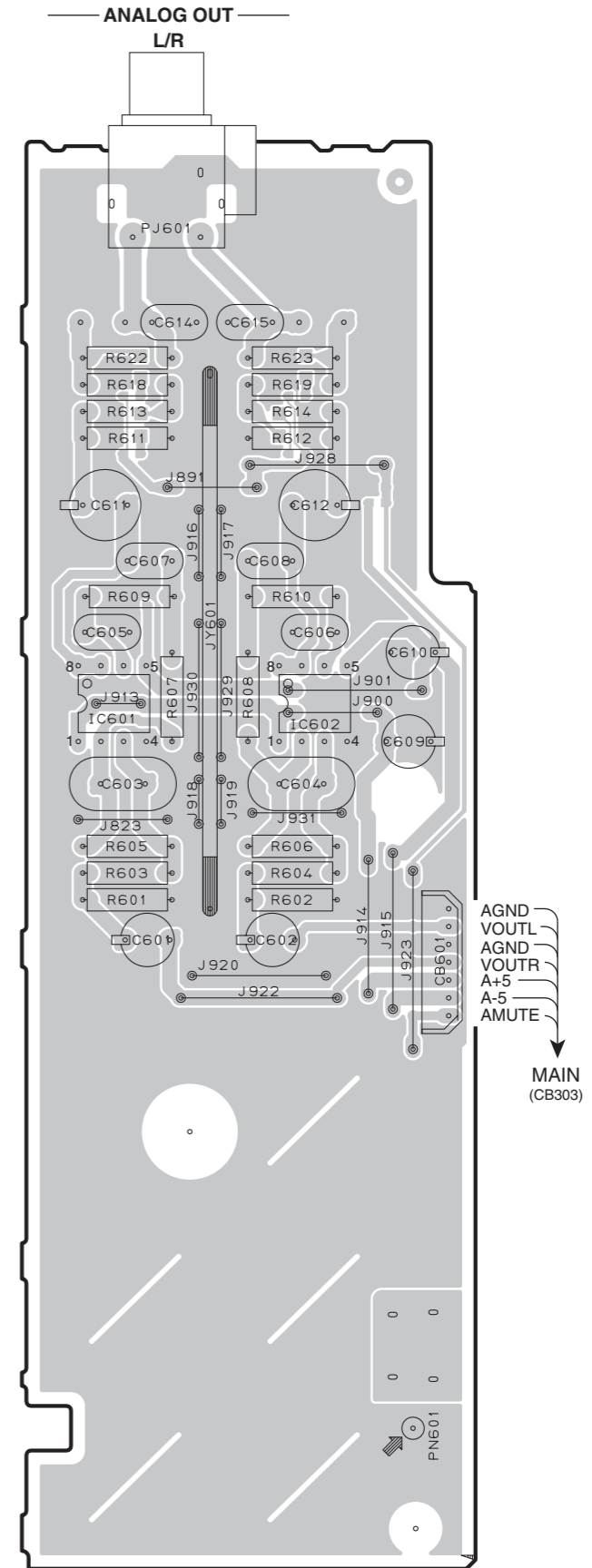
OPERATION (8) P.C.B.

(Side A)



OPERATION (9) P.C.B.

(Side A)



• Semiconductor Location

Ref no.	Location
D501	D6
IC501	B2
IC502	D6
IC601	H4
IC602	I4

1

OPERATION (5) P.C.B.

(Side B)

OPERATION (6) P.C.B.

(Side B)

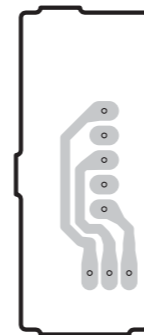
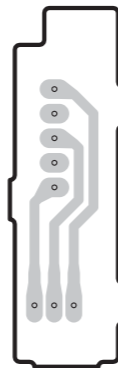
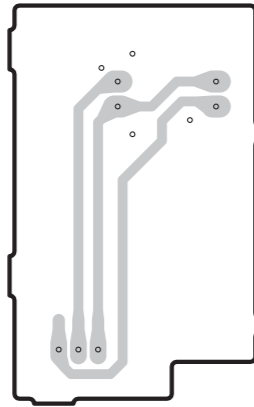
OPERATION (7) P.C.B.

(Side B)

OPERATION (9) P.C.B.

(Side B)

2

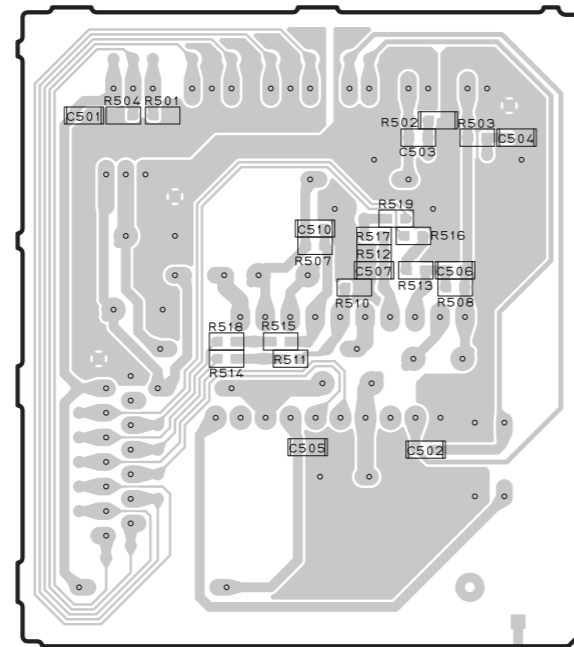


3

4

OPERATION (8) P.C.B.

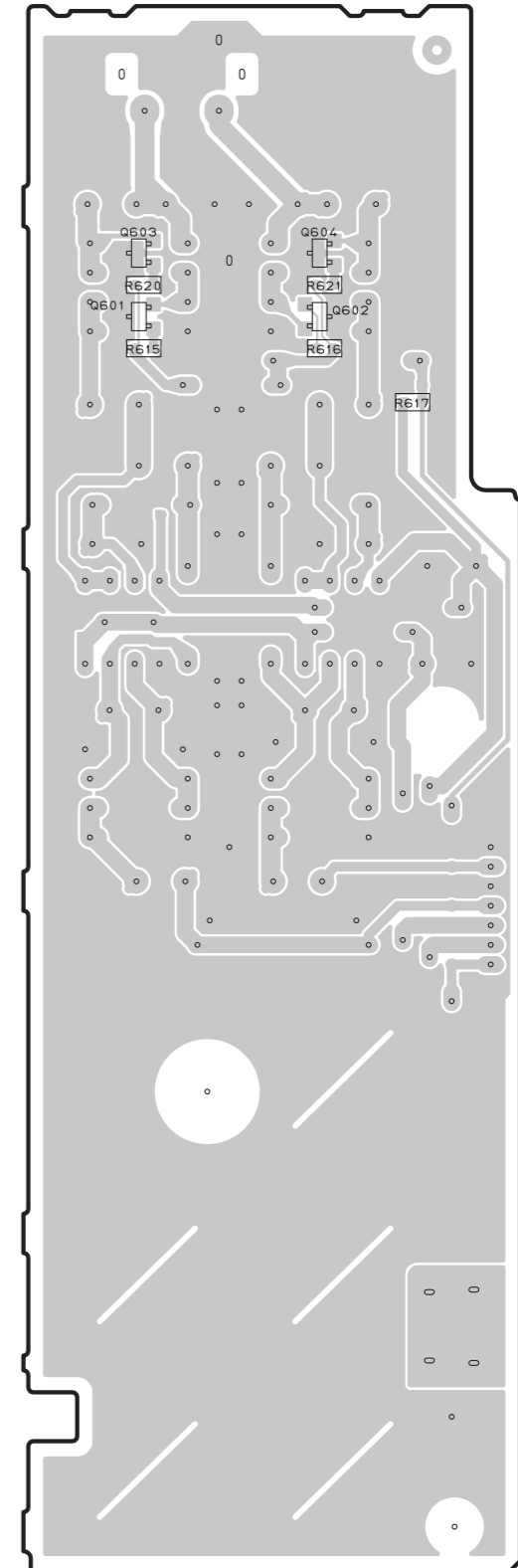
(Side B)



• Semiconductor Location

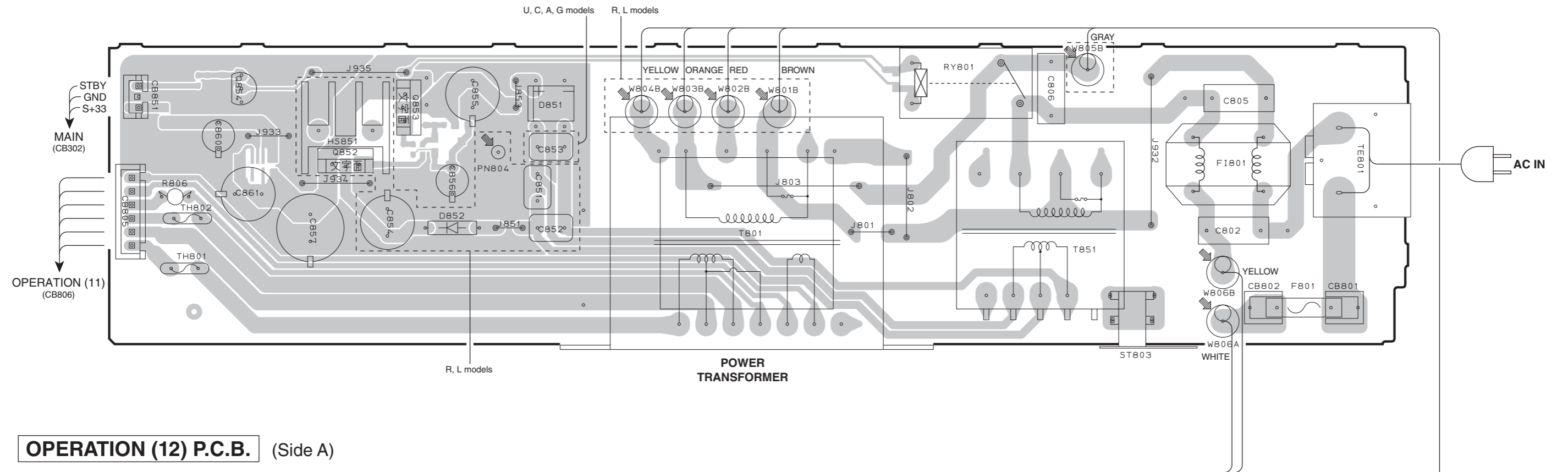
Ref no.	Location
Q601	H3
Q602	I3
Q603	H3
Q604	I3

7

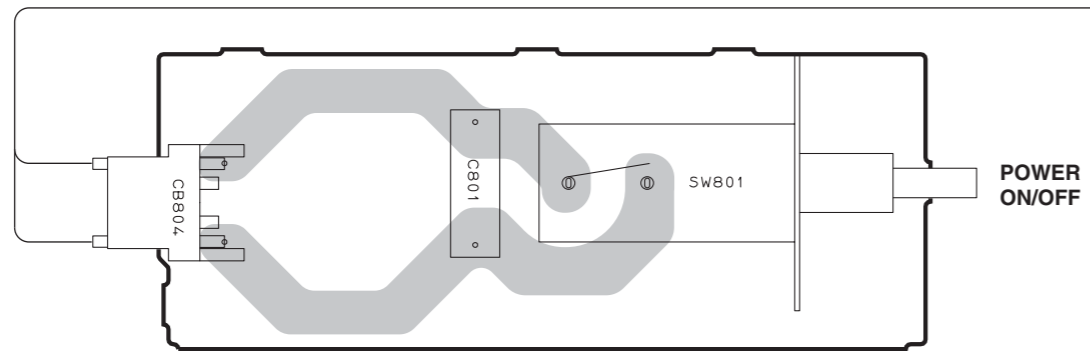


OPERATION (10) P.C.B. (Side A)

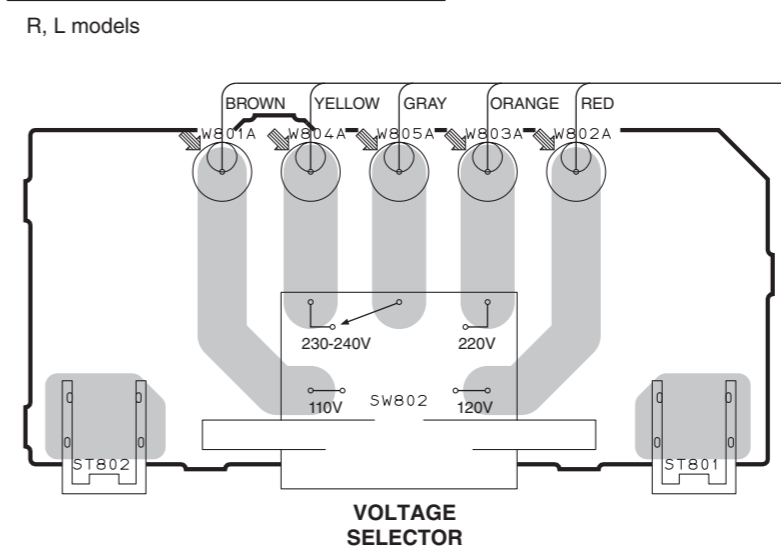
Circuit No.	U, C, A, G	R, L
J801, 803	O	X
J802	X	O



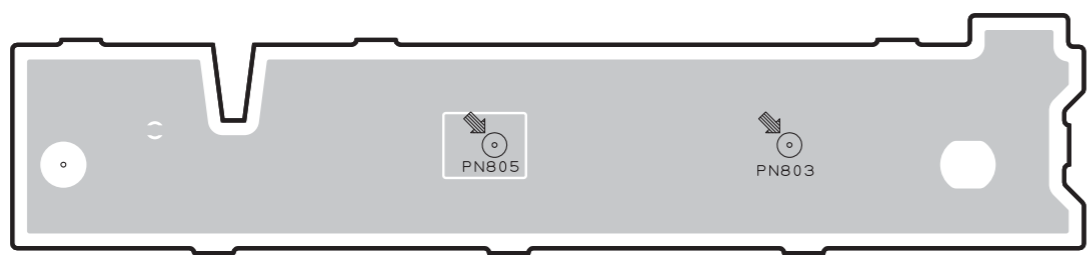
OPERATION (12) P.C.B. (Side A)



OPERATION (13) P.C.B. (Side A)



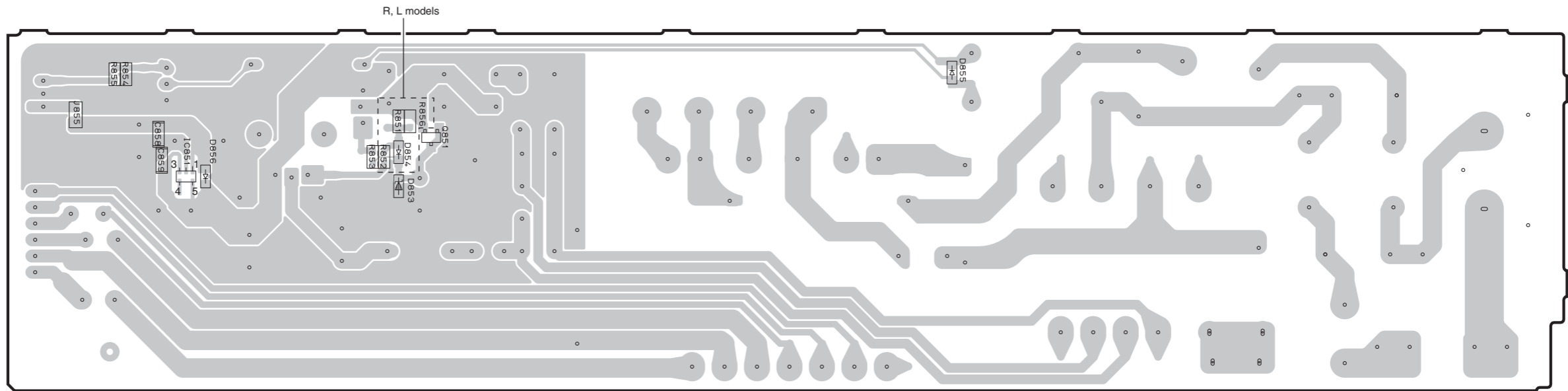
OPERATION (14) P.C.B. (Side A)



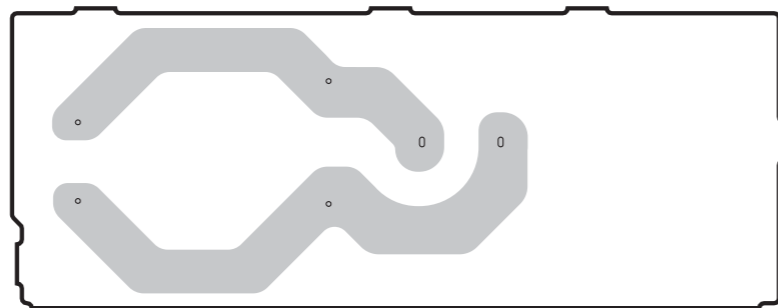
• Semiconductor Location

Ref no.	Location
D851	D2
D852	D3
Q852	C2
Q853	D2
Q854	C2

OPERATION (10) P.C.B. (Side B)

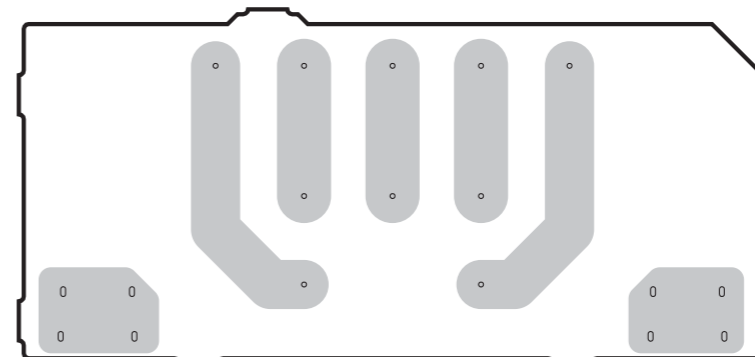


OPERATION (12) P.C.B. (Side B)

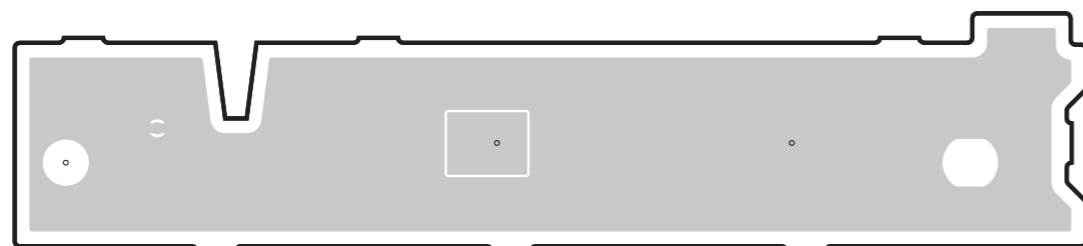


OPERATION (13) P.C.B. (Side B)

R, L models



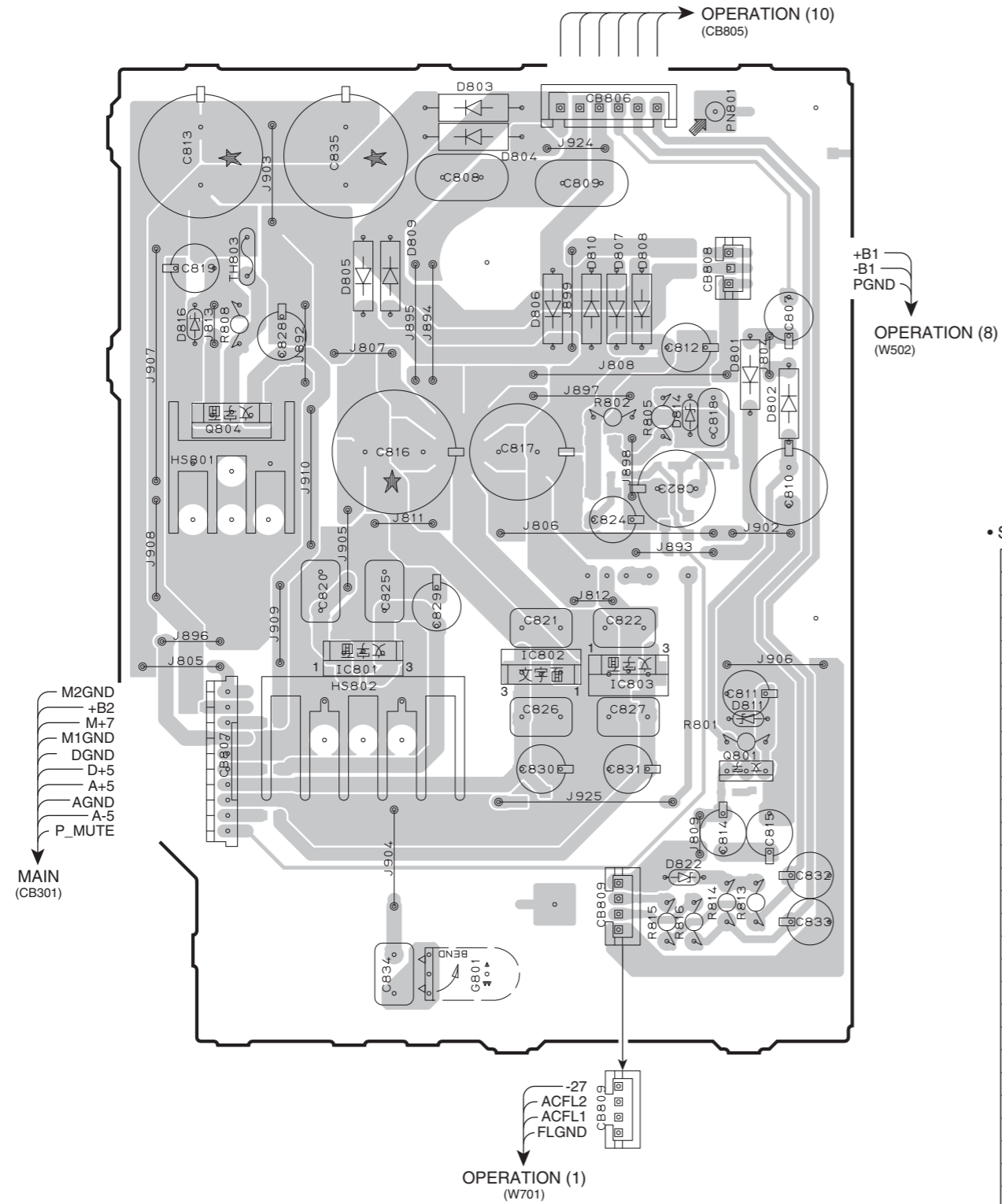
OPERATION (14) P.C.B. (Side B)



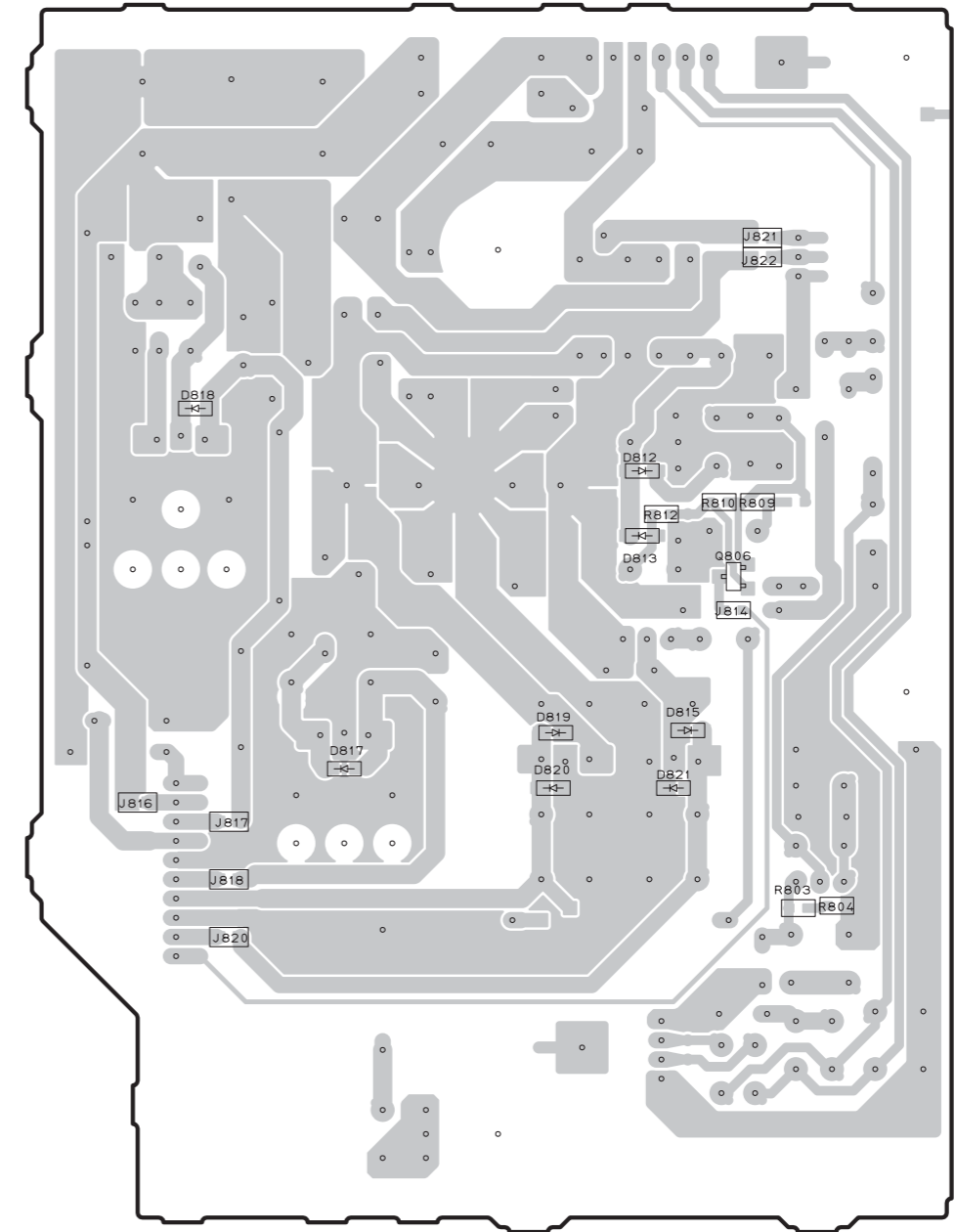
• Semiconductor Location

Ref no.	Location
D853	D3
D854	D2
D855	F2
D856	C3
IC851	C3
Q851	D2

OPERATION (11) P.C.B. (Side A)



OPERATION (11) P.C.B. (Side B)



• Semiconductor Location

Ref no.	Location
D801	E4
D802	E4
D803	D3
D804	D3
D805	C3
D806	D3
D807	D3
D808	D3
D809	C3
D810	D3
D811	E5
D812	I4
D813	I4
D814	D4
D815	I5
D816	B3
D817	H5
D818	G4
D819	I5
D820	I5
D821	I5
D822	D6
IC801	C5
IC802	D5
IC803	D5
Q801	E5
Q804	C4
Q806	I4

SCHEMATIC DIAGRAMS
MAIN 1/2

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
△	CARBON FILM RESISTOR (P=10)
□	METAL OXIDE FILM RESISTOR
⊠	METAL FILM RESISTOR
⊞	POLYESTER FILM RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
⊞	CHIP RESISTOR

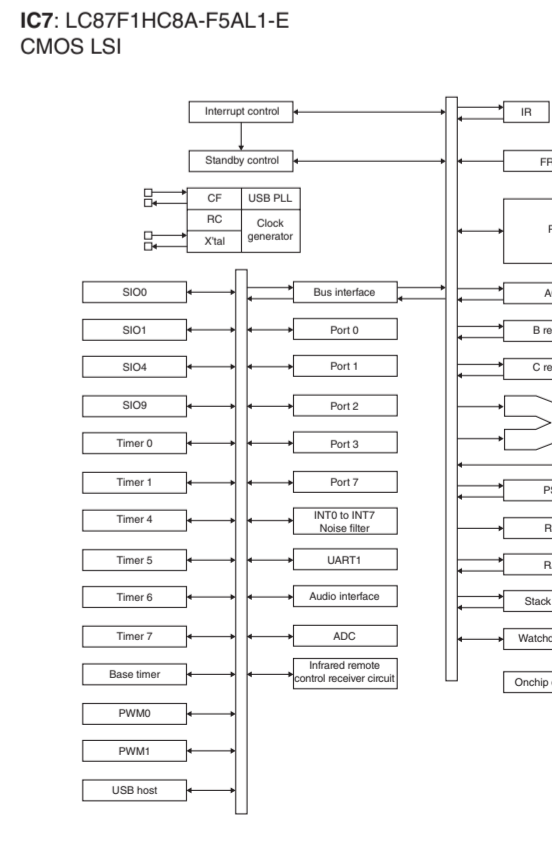
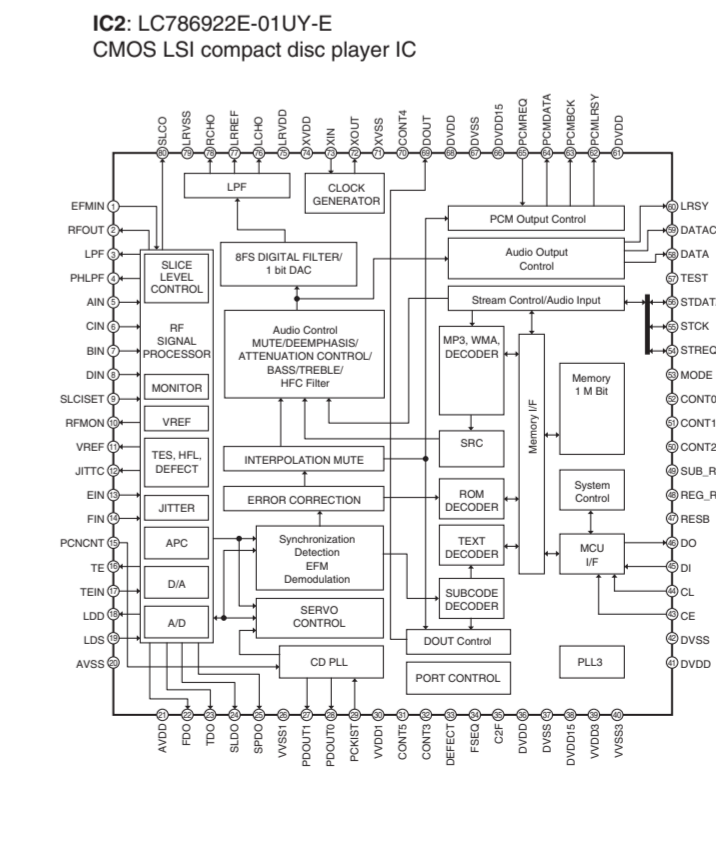
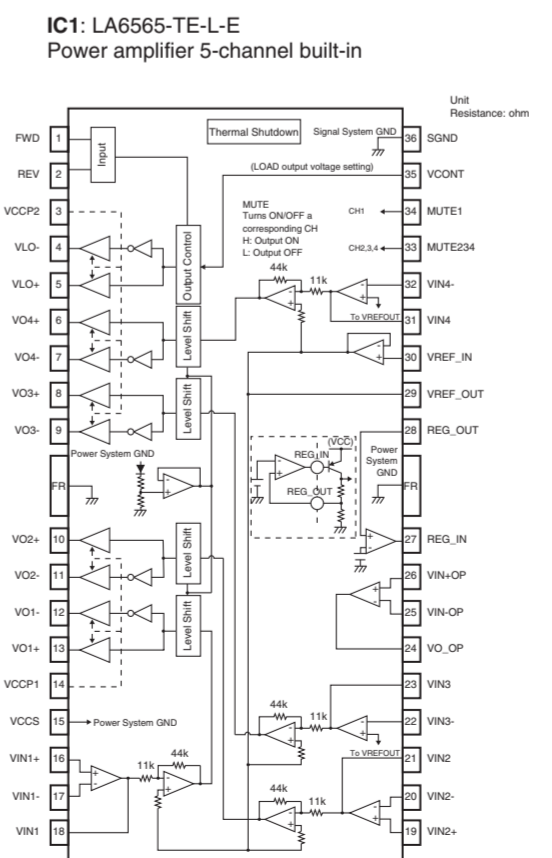
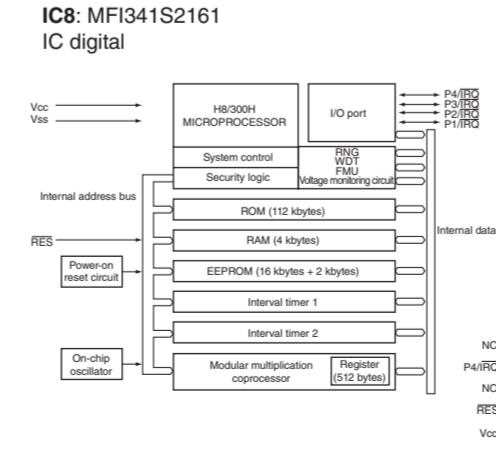
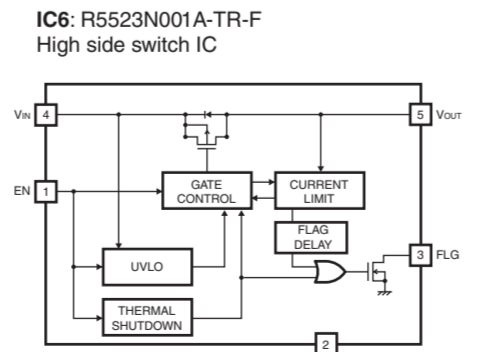
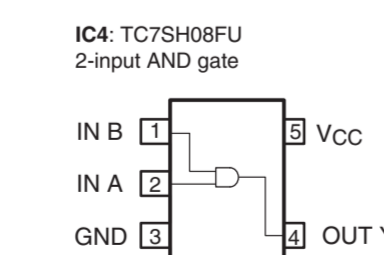
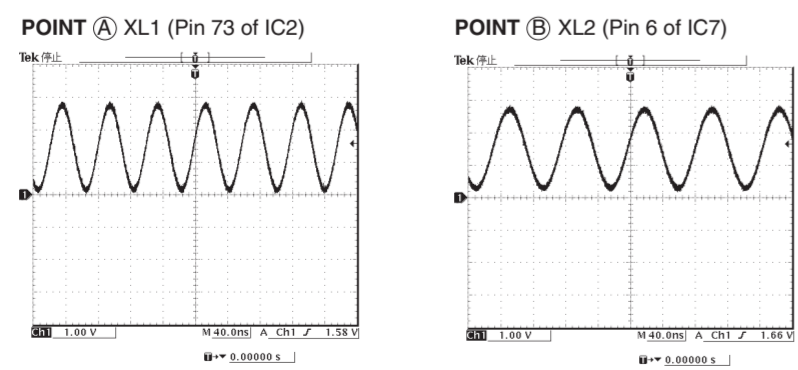
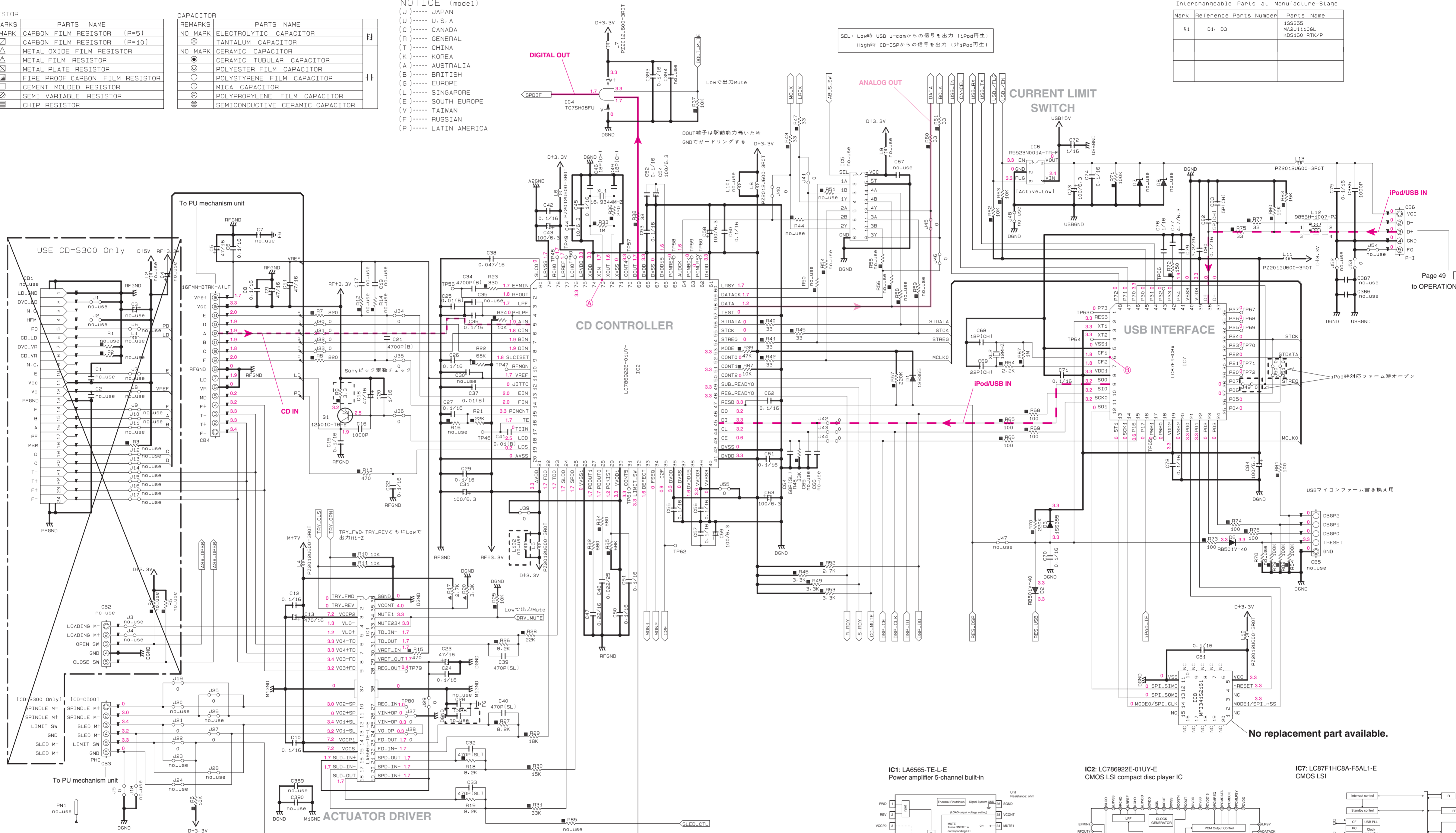
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
⊙	POLYESTER FILM CAPACITOR
⊙	POLYSTYRENE FILM CAPACITOR
⊙	MICA CAPACITOR
⊙	POLYPROPYLENE FILM CAPACITOR
⊙	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE (model)

(J)..... JAPAN
(U)..... U.S.A
(C)..... CANADA
(R)..... GENERAL
(T)..... CHINA
(K)..... KOREA
(A)..... AUSTRALIA
(B)..... BRITISH
(G)..... EUROPE
(L)..... SINGAPORE
(E)..... SOUTH EUROPE
(V)..... TAIWAN
(F)..... RUSSIAN
(P)..... LATIN AMERICA

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
△1	D1- D3	1S5355 MA2J1106L KDS160-RTK/P



No replacement part available.

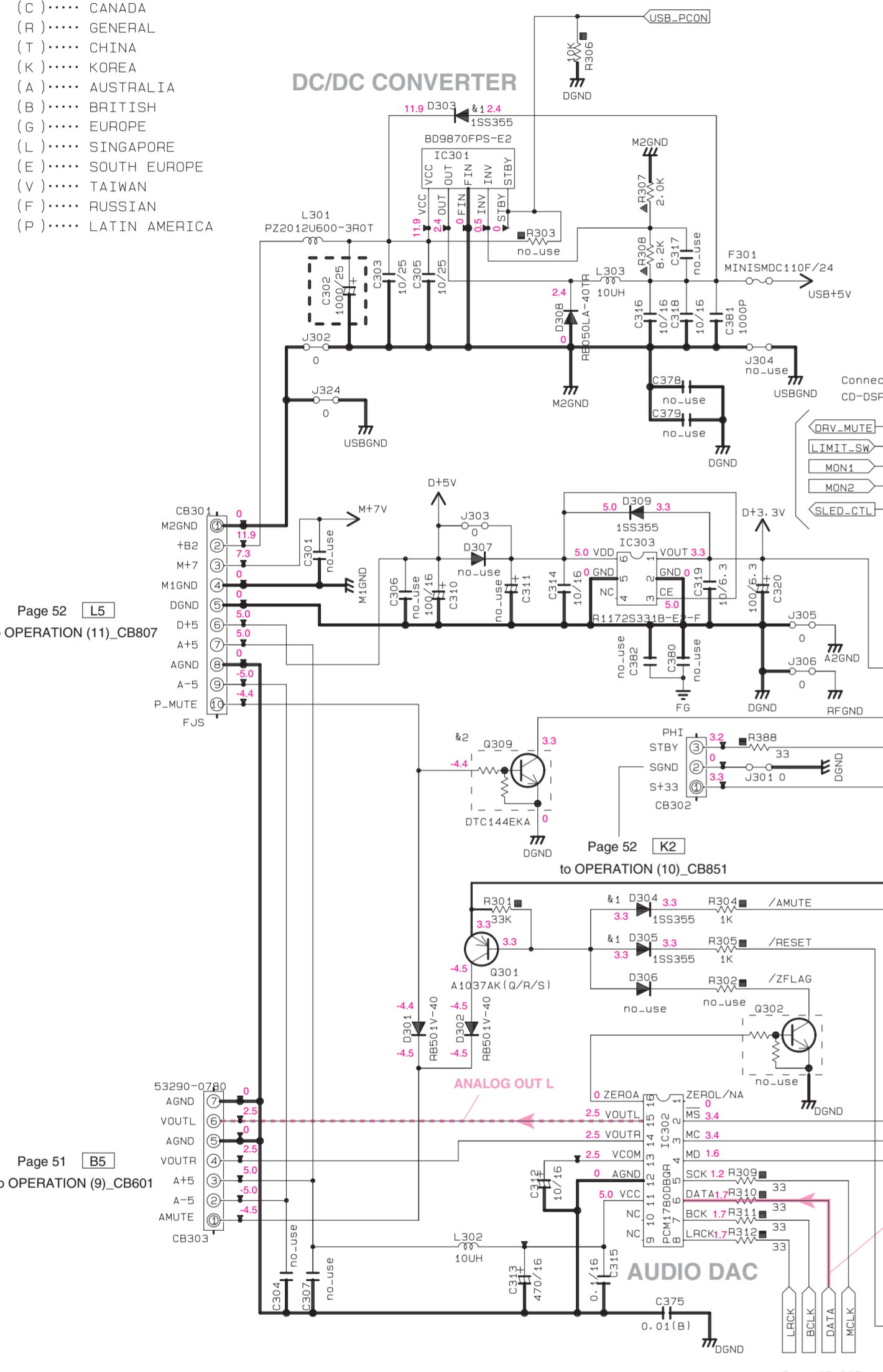
• All voltages are measured with a 10MΩ/V DC electronic voltmeter.
• Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
• Schematic diagram is subject to change without notice.

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
⊠	METAL PLATE RESISTOR
⊞	METAL FILM RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
⊞	CHIP RESISTOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
⊙	POLYESTER FILM CAPACITOR
⊙	POLYSTYRENE FILM CAPACITOR
⊙	MICA CAPACITOR
⊙	POLYPROPYLENE FILM CAPACITOR
⊙	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE (model)
 (J)..... JAPAN
 (U)..... U.S.A
 (C)..... CANADA
 (R)..... GENERAL
 (T)..... CHINA
 (K)..... KOREA
 (A)..... AUSTRALIA
 (B)..... BRITISH
 (G)..... EUROPE
 (L)..... SINGAPORE
 (E)..... SOUTH EUROPE
 (V)..... TAIWAN
 (F)..... RUSSIAN
 (P)..... LATIN AMERICA

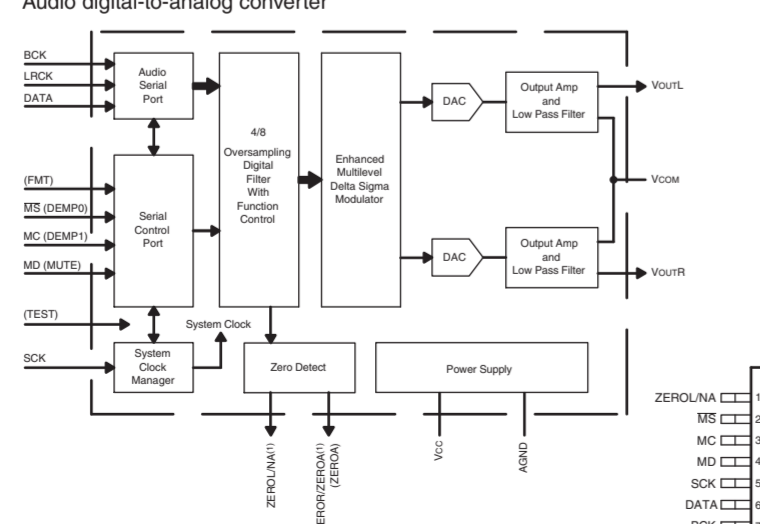
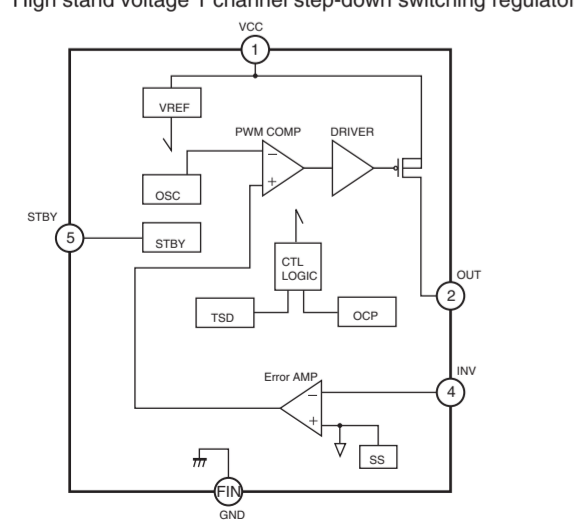
DC/DC CONVERTER



Page 51 [B5] to OPERATION (9)_CB601

IC301: BD9870FPS-E2 High stand voltage 1 channel step-down switching regulator

IC302: PCM1780DBQR Audio digital-to-analog converter

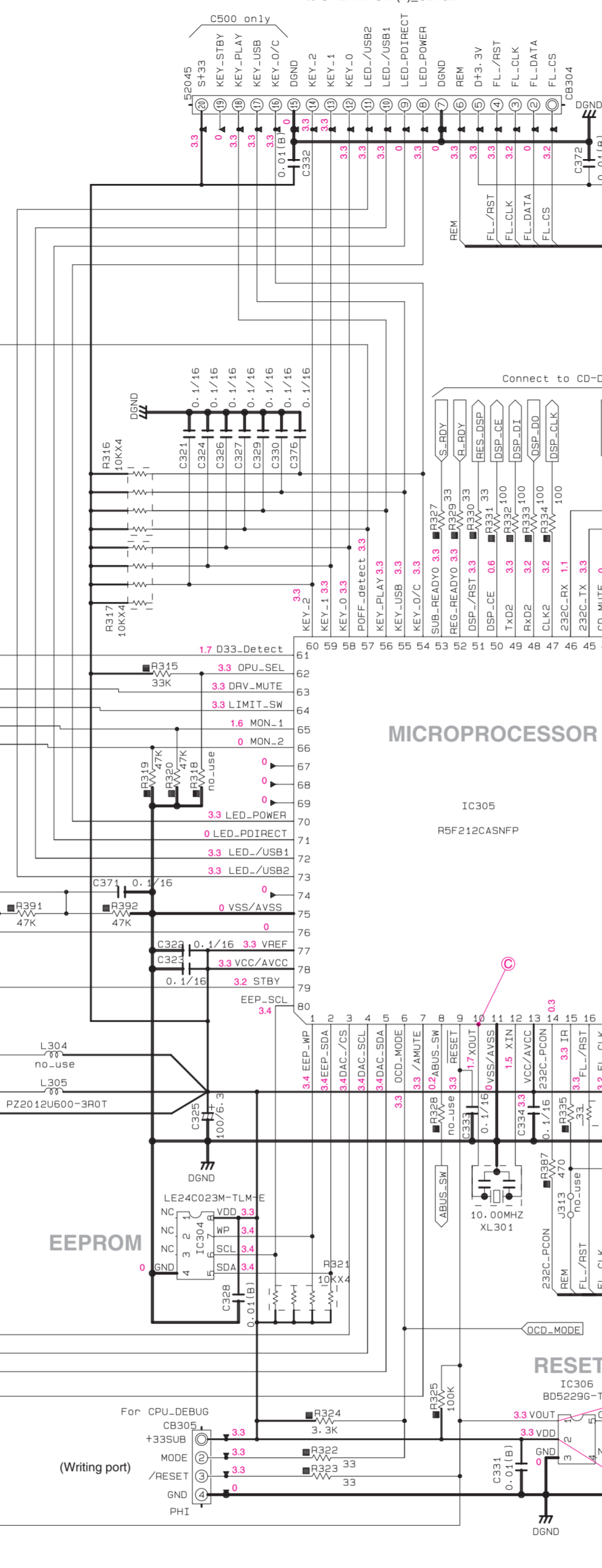


* All voltages are measured with a 10MΩ/V DC electronic voltmeter.
 * Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

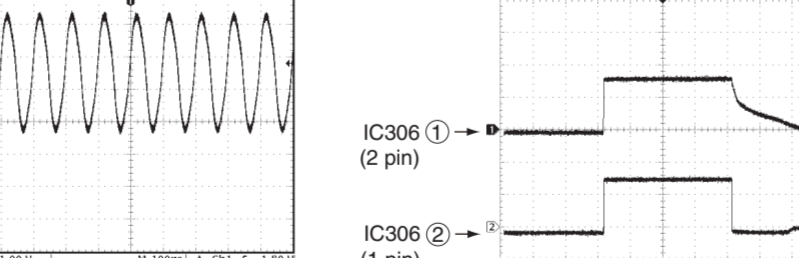
(1) Open-drain output for nPnP/CM1782

NOTE: Signal names in parenthesis () are for the PCM1781.

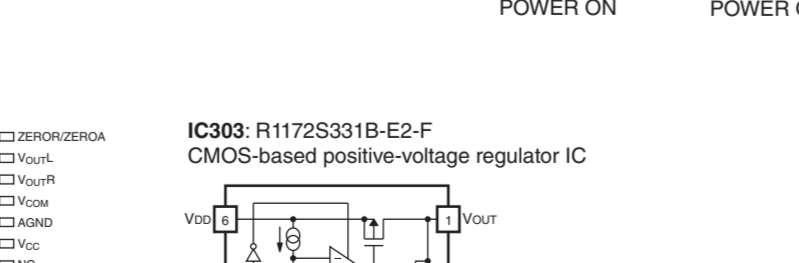
Page 49 [B5] to OPERATION (1)_CB702



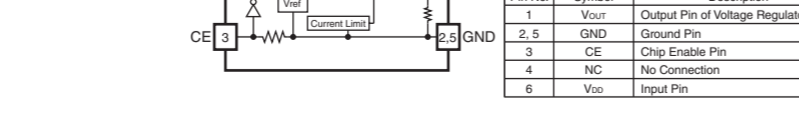
POINT C XL301 (Pin 10 of IC305)



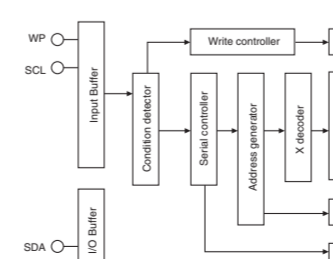
POINT D ① IC306 (2 pin), ② IC306 (1 pin)



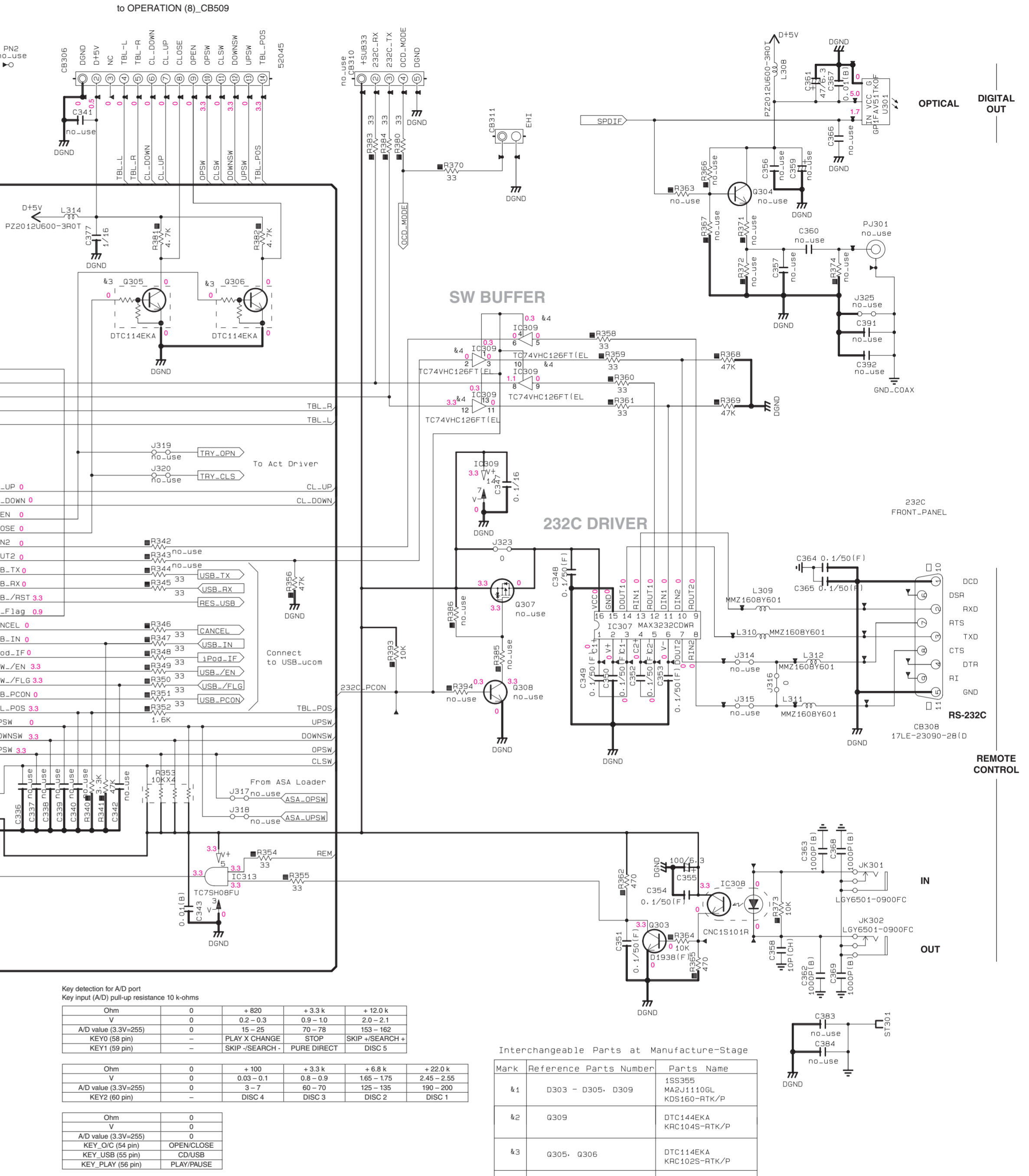
IC303: R1172S331B-E2-F CMOS-based positive-voltage regulator IC



IC304: LE24C023M-TLM-E Two wire serial interface EEPROM



Page 50 [L4] to OPERATION (8)_CB509



Key detection for A/D port
 Key input (A/D) pull-up resistance 10 k-ohms

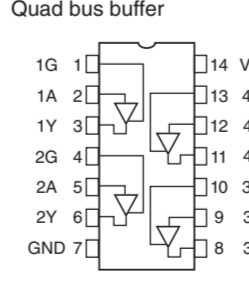
Ohm	0	+ 820	+ 3.3 k	+ 12.0 k
A/D value (3.3V=255)	0	0.2 - 0.3	0.9 - 1.0	2.0 - 2.1
KEY0 (56 pin)	-	15 - 25	70 - 78	133 - 162
KEY1 (59 pin)	-	STOP	PLAY X CHANGE	SKIP +SEARCH +
	-	SKIP +SEARCH -	PURE DIRECT	DISC 5

Ohm	0	+ 100	+ 3.3 k	+ 6.8 k	+ 22.0 k
A/D value (3.3V=255)	0	0.03 - 0.1	0.8 - 0.9	1.65 - 1.75	2.45 - 2.55
KEY_0C (54 pin)	-	OPEN/CLOSE	CD/USB	CD/USB	CD/USB
KEY_PLAY (56 pin)	-	DISC 4	DISC 3	DISC 2	DISC 1

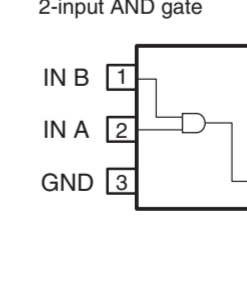
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	D303 - D305, D309	1SS395 MA2J1106L KDS160-RTK/P
&2	Q309	DTC144EKA KRC104S-RTK/P
&3	Q305, Q306	DTC114EKA KRC102S-RTK/P
&4	IC309	TC74VHC126FT (EL-K) TC74VHC126FT (EK2-M)

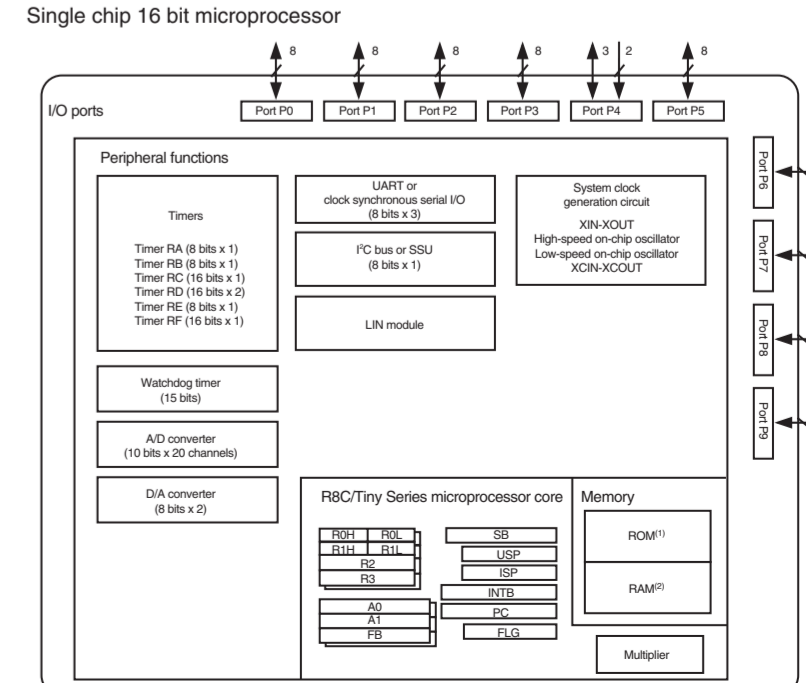
IC309: TC74VHC126FT Quad bus buffer



IC313: TC7SH08FU 2-input AND gate

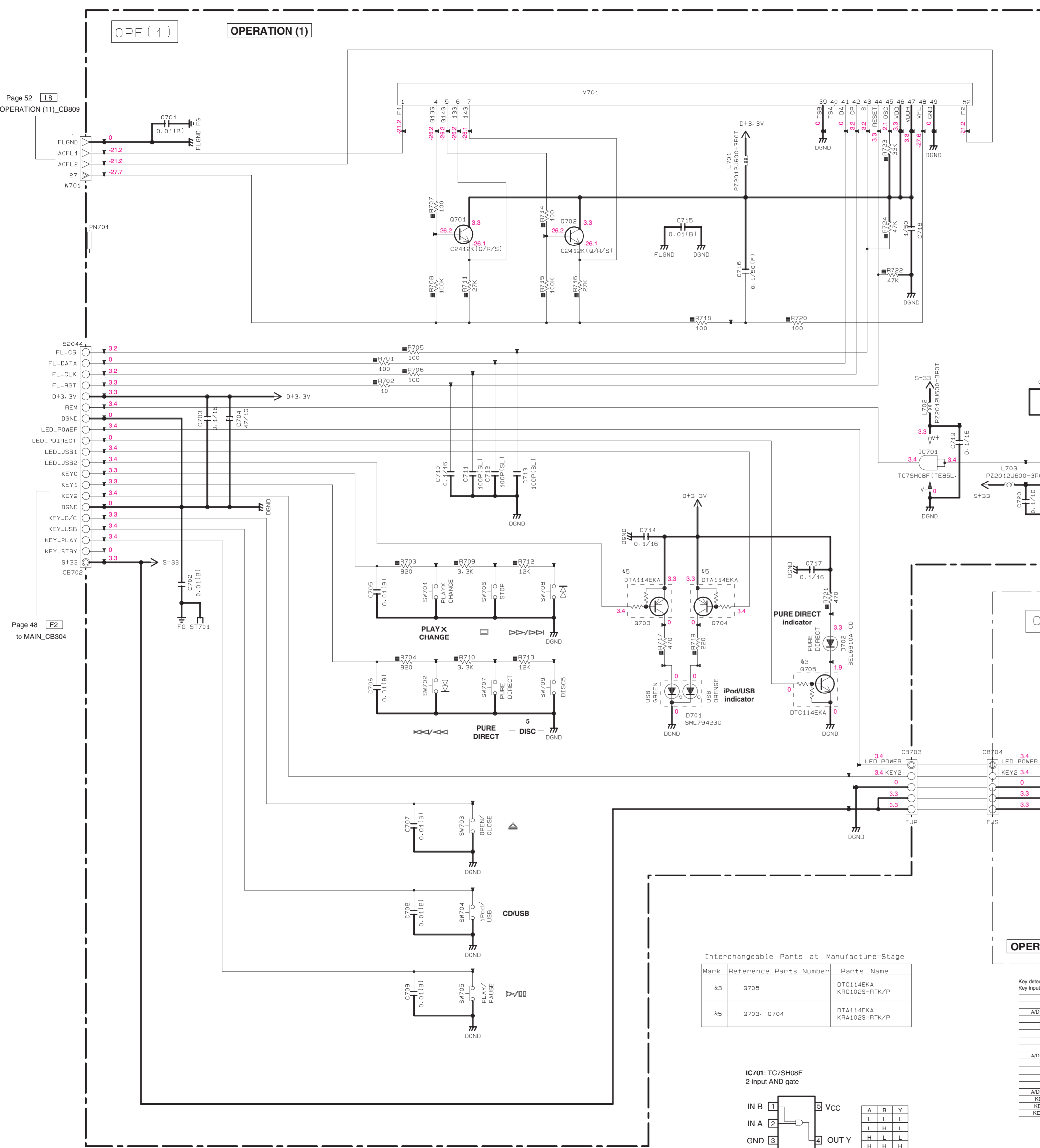


IC305: R5F212CASNFP Single chip 16 bit microprocessor



NOTES
1. PCW size varies with MCU type.
2. PWR size varies with MCU type.

OPERATION 1/4



Page 52 L8 to OPERATION (11)_CB809

Page 48 F2 to MAIN_CB304

Page 47 M3 to MAIN_CB6

RESISTOR

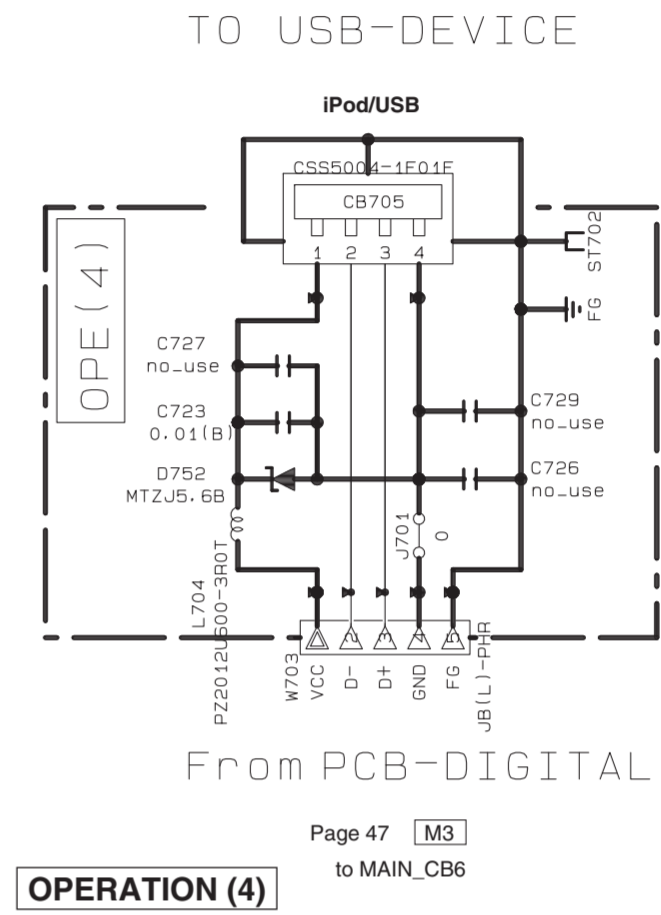
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▴	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
▣	FIRE PROOF CARBON FILM RESISTOR
◻	CEMENT MOLDED RESISTOR
◊	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
●	CERAMIC TUBULAR CAPACITOR
⊙	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
⊕	POLYPROPYLENE FILM CAPACITOR
⊗	SEMICONDUCTIVE CERAMIC CAPACITOR

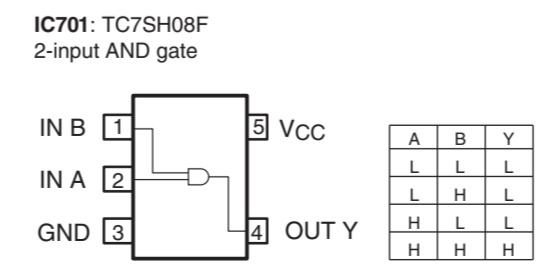
NOTICE (model)

(J)..... JAPAN
 (U)..... U. S. A
 (C)..... CANADA
 (R)..... GENERAL
 (T)..... CHINA
 (K)..... KOREA
 (A)..... AUSTRALIA
 (B)..... BRITISH
 (G)..... EUROPE
 (L)..... SINGAPORE
 (E)..... SOUTH EUROPE
 (V)..... TAIWAN
 (F)..... RUSSIAN
 (P)..... LATIN AMERICA



Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k3	Q705	DTC114EKA KRC102S-RTK/P
k5	Q703, Q704	DTA114EKA KRA102S-RTK/P



Key detection for A/D port
 Key input (A/D) pull-up resistance 10 k-ohms

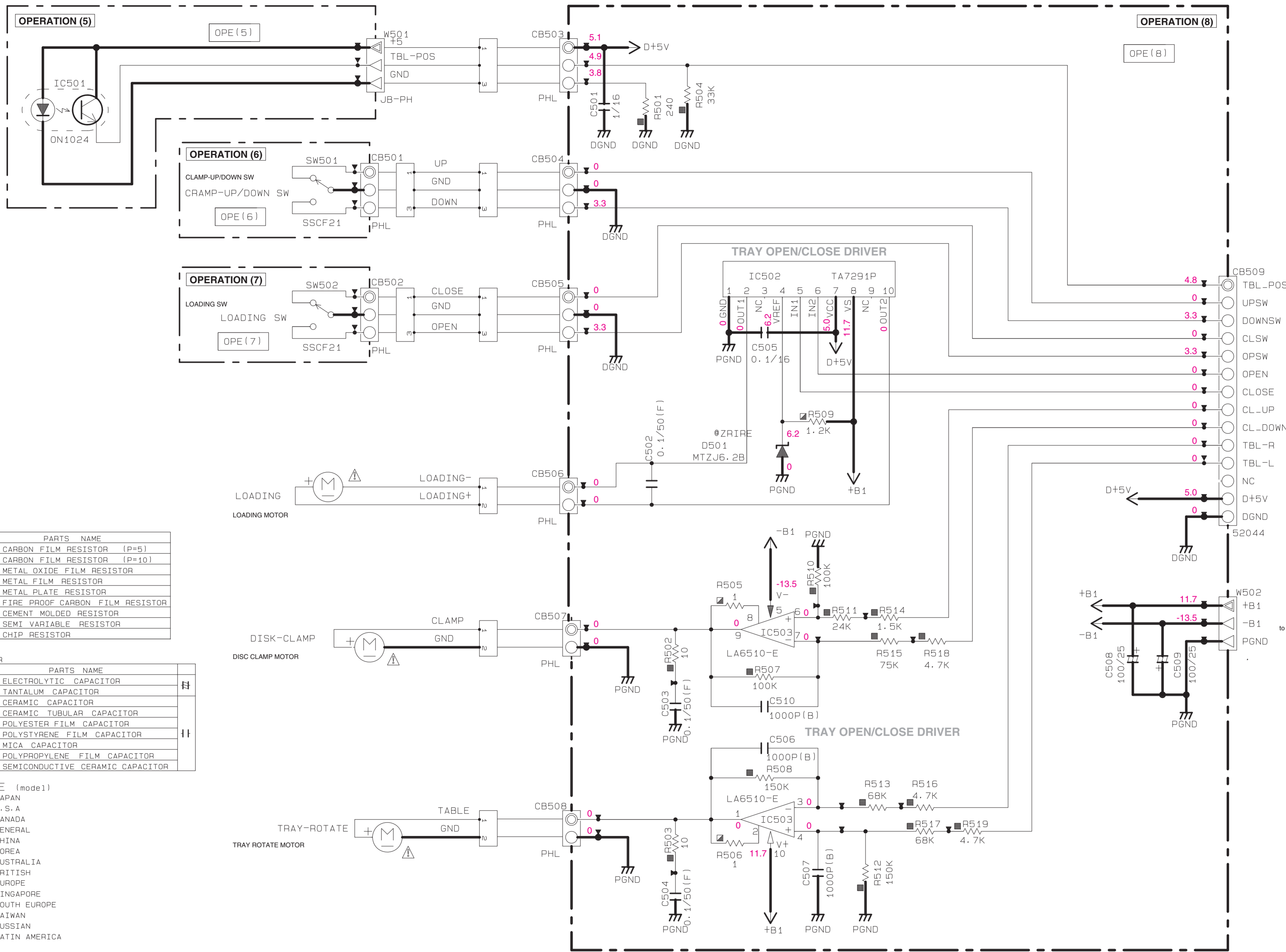
Ohm	0	+ 820	+ 3.3 k	+ 12.0 k
V	0	0.2 - 0.3	0.9 - 1.0	2.0 - 2.1
A/D value (3.3V-255)	0	15 - 25	70 - 78	153 - 162
KEY0 (58 pin)	-	PLAY X CHANGE	STOP	SKIP +SEARCH +
KEY1 (59 pin)	-	SKIP -SEARCH -	PURE DIRECT	DISC 5

Ohm	0	+ 100	+ 3.3 k	+ 6.8 k	+ 22.0 k
V	0	0.03 - 0.1	0.8 - 0.9	1.65 - 1.75	2.45 - 2.55
A/D value (3.3V-255)	0	3 - 7	60 - 70	125 - 135	190 - 200
KEY2 (60 pin)	-	DISC 4	DISC 3	DISC 2	DISC 1

Ohm	0
V	0
A/D value (3.3V-255)	0
KEY_O/C (54 pin)	OPENCLOSE
KEY_USB (55 pin)	CD/USB
KEY_PLAY (56 pin)	PLAY/PAUSE

* All voltages are measured with a 10MΩ/V DC electronic voltmeter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

OPERATION 2/4



REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊗	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

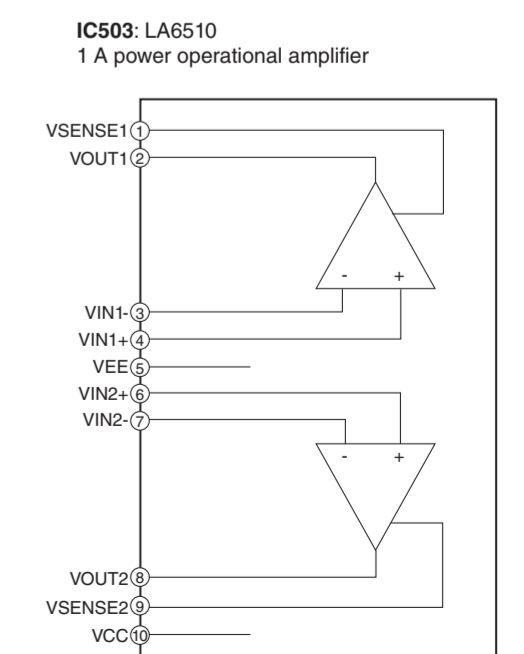
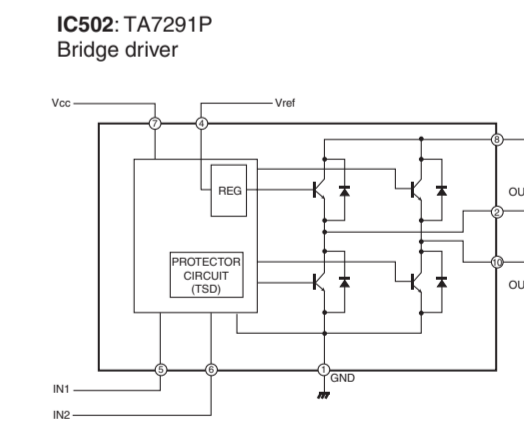
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
●	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
Ⓜ	MICA CAPACITOR
Ⓢ	POLYPROPYLENE FILM CAPACITOR
Ⓣ	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE (model)

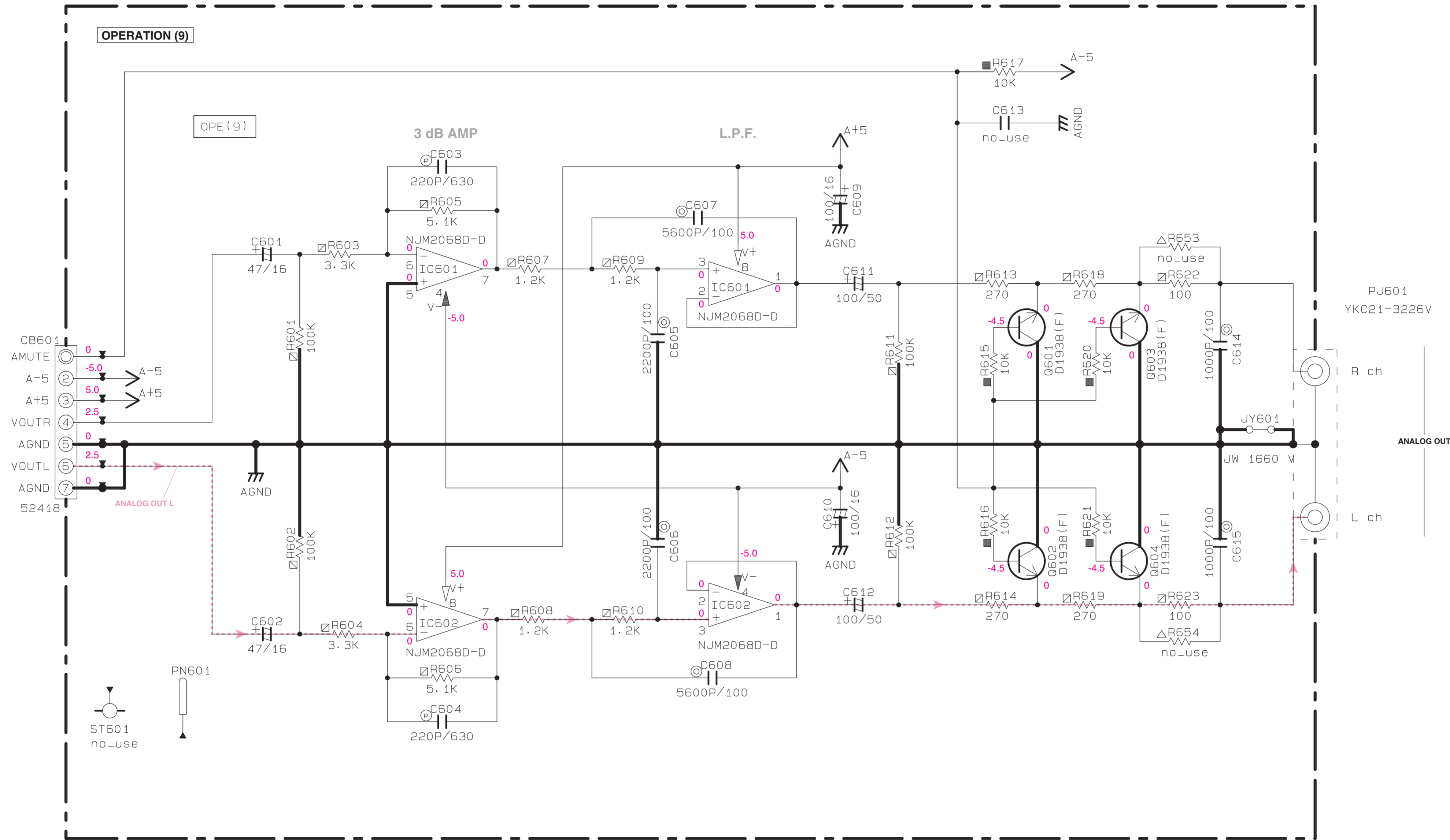
(J)..... JAPAN
 (U)..... U.S.A
 (C)..... CANADA
 (R)..... GENERAL
 (T)..... CHINA
 (K)..... KOREA
 (A)..... AUSTRALIA
 (B)..... BRITISH
 (G)..... EUROPE
 (L)..... SINGAPORE
 (E)..... SOUTH EUROPE
 (V)..... TAIWAN
 (F)..... RUSSIAN
 (P)..... LATIN AMERICA

Page 48 L2 to MAIN_CB306

Page 52 L8 to OPERATION (11)_CB808



* All voltages are measured with a 10MΩ/V DC electronic voltmeter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

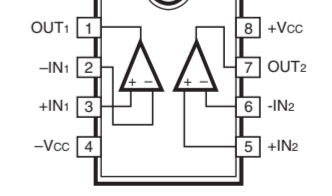
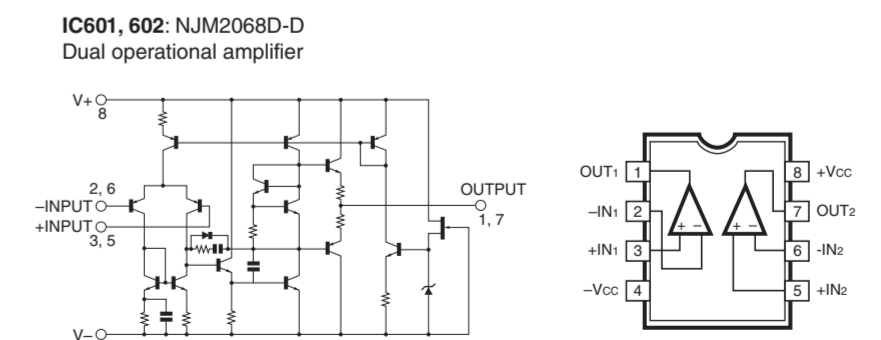


Page 48 B7
to MAIN_CB303

NOTICE (model)
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 (C)..... CANADA
 (R)..... GENERAL
 (T)..... CHINA
 (K)..... KOREA
 (A)..... AUSTRALIA
 (B)..... BRITISH
 (G)..... EUROPE
 (L)..... SINGAPORE
 (E)..... SOUTH EUROPE
 (V)..... TAIWAN
 (F)..... RUSSIAN
 (P)..... LATIN AMERICA

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
●	CERAMIC TUBULAR CAPACITOR
⊙	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
⊙	POLYPROPYLENE FILM CAPACITOR
⊙	SEMICONDUCTIVE CERAMIC CAPACITOR



* All voltages are measured with a 10MΩ/V DC electronic voltmeter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

OPERATION 4/4

sxx	LOC	UC	RL	A	G
s1	WB01B	X	MH1030	X	X
s2	WB02B	X	MH12030	X	X
s3	WB03B	X	MH13030	X	X
s4	WB04A	X	MH14030	X	X
s5	WB05B	X	MH18020	X	X
s6	WB02A	X	MH13030	X	X
s7	STB02	X	V404050	X	X
s8	TB01	YA77140	YA77240	YA77540	YA77440
s9	JB01	VNS0000	X	VNS0000	VNS0000
s10	JB02	X	VNS0000	X	X
s11	TB51	YAB7940	YAB8140	YAB8040	YAB8040
s12	CB51	X	WN16530	X	X
s13	CB53	WN16530	X	WN16530	WN16530
s14	JB51	X	VNS0000	X	X
s15	DB52	X	V599780	X	X
s16	CB54	X	UR24910	X	X
s17	HSB51	X	VP50680	X	X
s18	QB52	X	VC93850	X	X
s19	QB51	VR04310	VR04310	VR04310	VR04310
s20	DB53	VU99230	VU99230	VU99230	VU99230
s21	CB55	MA280476HL	MA280476HL	MA280476HL	MA280476HL
s22	RB51	X	RD38722	X	X
s23	RB52	X	RD38510	X	X
s24	DB54	X	VT33290	X	X
s25	JB54	X	X	X	X
s26	TEB01	WR90380	WR90380	WR90380	WR90380
s27	RB53	RD38510	RD38510	RD38510	RD38510
s28	QB53	VC93850	VC93850	VC93850	VC93850
s29	PNB04	X	V963750	X	X
s30	CB55	UR24910	UR24910	UR24910	UR24910

NOTICE (model)
 (J)..... JAPAN
 (U)..... U.S.A
 (C)..... CANADA
 (R)..... GENERAL
 (T)..... CHINA
 (K)..... KOREA
 (A)..... AUSTRALIA
 (B)..... BRITISH
 (G)..... EUROPE
 (L)..... SINGAPORE
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 (V)..... TAIWAN
 (F)..... RUSSIAN
 (P)..... LATIN AMERICA

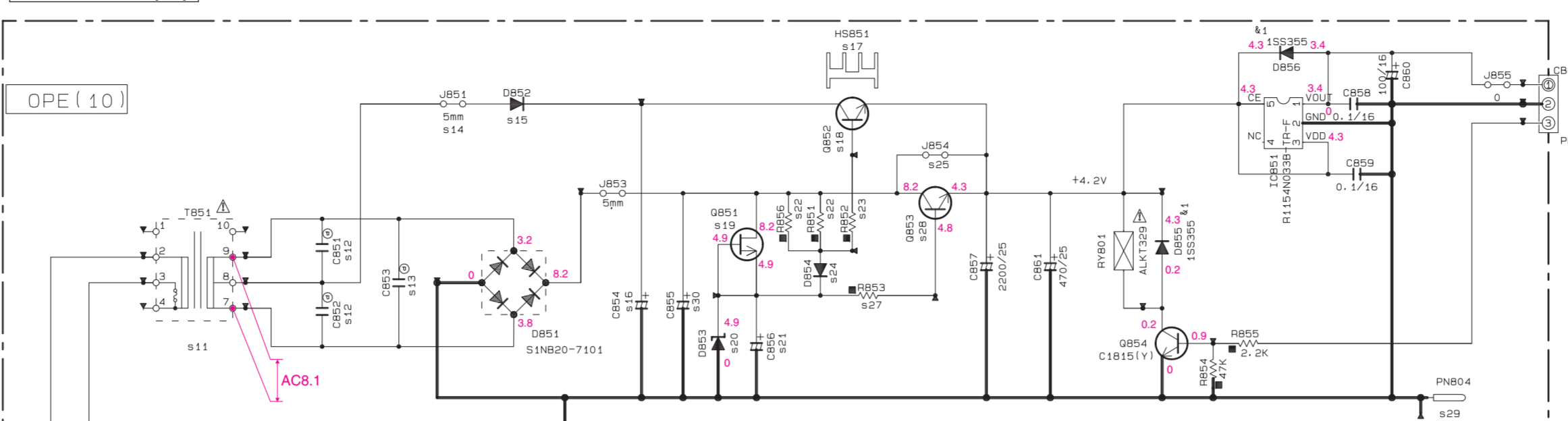
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
⊠	METAL FILM RESISTOR
▢	METAL PLATE RESISTOR
▣	FIRE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOLDED RESISTOR
⊟	SEMI VARIABLE RESISTOR
⊠	CHIP RESISTOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊞	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
⊚	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
⊕	POLYPROPYLENE FILM CAPACITOR
⊗	SEMICONDUCTIVE CERAMIC CAPACITOR

Interchangeable Parts at Manufacture-Stage

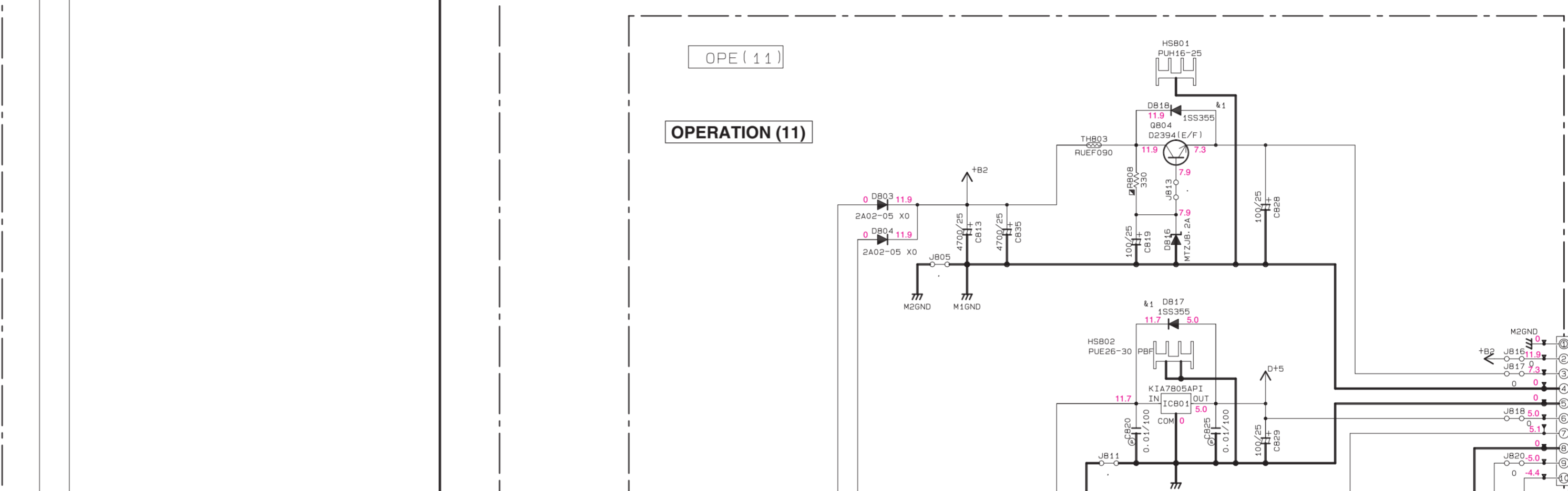
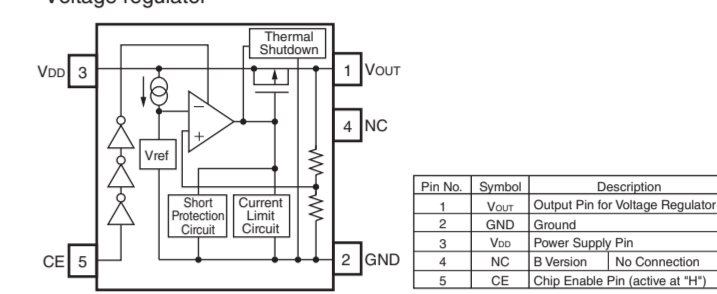
Mark	Reference Parts Number	Parts Name
k1	DB12, DB13, DB15	1S5355
	DB17, DB19, DB55	MA2J110GL
	DB56	KDS160-RTK/P

OPERATION (10)



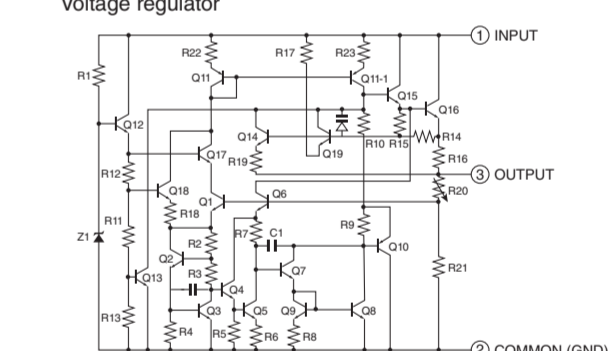
Page 48 [D6] to MAIN_CB302

IC851: R1154N033B-TR-F Voltage regulator



Page 48 [B5] to MAIN_CB301

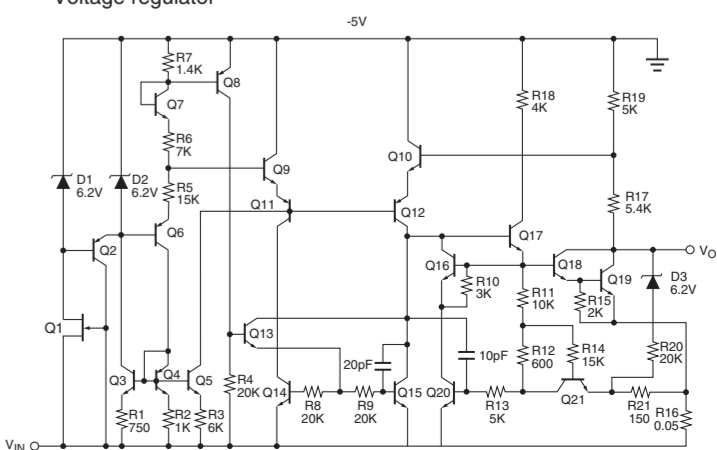
IC801, 802: KIA7805API Voltage regulator



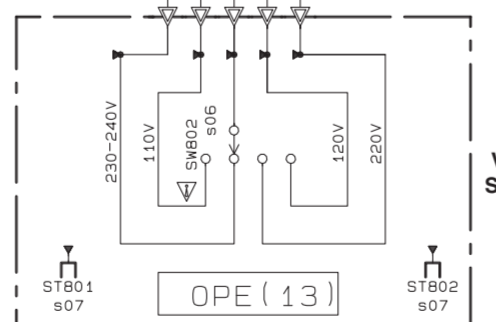
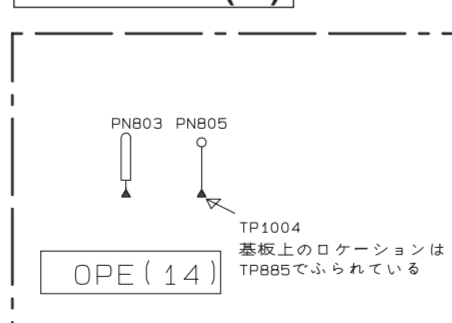
Page 50 [L7] to OPERATION (8)_W502

Page 49 [B2] to OPERATION (1)_W701

IC803: KIA79M05PI-U Voltage regulator



OPERATION (14)



OPERATION (13) R, L models

* All voltages are measured with a 10MΩ/V DC electronic voltmeter.
 * Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

■ REPLACEMENT PARTS LIST

• ELECTRICAL COMPONENT PARTS

WARNING

- Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED,INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR,RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN,TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR.	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIP RESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.CEMENT	: CEMENT RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TIGHT SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR,BASE PIN	SCR.CUP	: CUP TIGHT SCREW
CN.CANNON	: CONNECTOR,CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR,DIN	SCR.TR	: SCREW,TRANSISTOR
CN.FLAT	: CONNECTOR,FLAT CABLE	SUPRT.PCB	: SUPPORT,P.C.B.
CN.POST	: CONNECTOR,BASE POST	SURG.PRTCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL,AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL,FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL,FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL,FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWER TRANSFORMER ASS'Y
FLTR.LC.RF	: LC FILTER,EMI	TUNER.AM	: TUNER PACK,AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK,FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-ENDTUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRTCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER,TEST POINT	VR.SLIDE	: SLIDE POTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	VR.TRIM	: TRIMMER POTENTIOMETER

P.C.B. MAIN

CD-C600

Ref No.	Part No.	Description	Markets
*	WS180800	P. C. B.	MAIN
CB3	VB390200	CN. BS. PIN	6P
CB4	V2731000	CN. FMN	16P
CB6	VB390100	CN. BS. PIN	5P
CB301	VK217300	CN	10P
CB302	VB389900	CN. BS. PIN	3P
CB303	VQ962800	CN. BS. PIN	7P
CB304	VQ047500	CN. BS. PIN	20P
CB305	VB390000	CN. BS. PIN	4P
CB306	VN394900	CN. BS. PIN	14P
CB308	V3768800	SOCKET	17LE-23090-28
CB311	VCO14600	CN. BS. PIN	2P
C5	UF437470	C. EL. CHP	47uF 16V
C6	US135100	C. CE. CHP	0. 1uF 16V
C8	US135100	C. CE. CHP	0. 1uF 16V
C9	UF437470	C. EL. CHP	47uF 16V
C10	US135100	C. CE. CHP	0. 1uF 16V
C11	UF437470	C. EL. CHP	47uF 16V
C12	US135100	C. CE. CHP	0. 1uF 16V
C13	WC892500	C. EL. CHP	470uF 16V
C15	US135100	C. CE. CHP	0. 1uF 16V
C16	US163100	C. CE. CHP	1000pF 50V
C18	UF437470	C. EL. CHP	47uF 16V
C20	WC666800	C. CE. CHP	1uF 16V
C21	US063470	C. CE. CHP	4700pF 50V B
C22	US135100	C. CE. CHP	0. 1uF 16V
C23	UF437470	C. EL. CHP	47uF 16V
C24	US135100	C. CE. CHP	0. 1uF 16V
C25	US064100	C. CE. CHP	0. 01uF 50V B
C26-27	US135100	C. CE. CHP	0. 1uF 16V
C29	US135100	C. CE. CHP	0. 1uF 16V
C31	UF418100	C. EL. CHP	100uF 6. 3V
C32-33	US062470	C. CE. CHP	470pF 50V B
C34	US063470	C. CE. CHP	4700pF 50V B
C36	US135100	C. CE. CHP	0. 1uF 16V
C37	US064100	C. CE. CHP	0. 01uF 50V B
C38	US034470	C. CE. CHP	0. 047uF 16V B
C39-40	US062470	C. CE. CHP	470pF 50V B
C41	US064100	C. CE. CHP	0. 01uF 50V B
C42	US135100	C. CE. CHP	0. 1uF 16V
C43	UF418100	C. EL. CHP	100uF 6. 3V
* C44	WP882000	C. CE. CHP	10uF 6. 3V
C45	US135100	C. CE. CHP	0. 1uF 16V
C46	US061180	C. CE. CHP	18pF 50V B
C47	US135220	C. CE. CHP	0. 22uF 16V
C48	US044220	C. CE. CHP	0. 022uF 25V B
C49	US061180	C. CE. CHP	18pF 50V B
C50-53	US135100	C. CE. CHP	0. 1uF 16V
C54	UF418100	C. EL. CHP	100uF 6. 3V
C55-57	US135100	C. CE. CHP	0. 1uF 16V
C58-59	UF418100	C. EL. CHP	100uF 6. 3V
C60-62	US135100	C. CE. CHP	0. 1uF 16V
C63	UF418100	C. EL. CHP	100uF 6. 3V
C64	US061680	C. CE. CHP	68pF 50V B
C68	US061180	C. CE. CHP	18pF 50V B
C69	US061220	C. CE. CHP	22pF 50V B
C70-71	US135100	C. CE. CHP	0. 1uF 16V

* New Parts

Ref No.	Part No.	Description	Markets
C72	WJ881200	C. CE. CHP	1uF 16V
C73	UF418100	C. EL. CHP	100uF 6. 3V
C74-75	US135100	C. CE. CHP	0. 1uF 16V
C76	WJ881200	C. CE. CHP	1uF 16V
C77	WG251600	C. CE. CHP	4. 7uF 6. 3V
C78	US135100	C. CE. CHP	0. 1uF 16V
C79	WP258700	C. CE. CHP	2. 2uF 25V
C80-81	US135100	C. CE. CHP	0. 1uF 16V
C82-83	US060500	C. CE. CHP	5pF 50V B
C84	UF418100	C. EL. CHP	100uF 6. 3V
C302	UR249100	C. EL	1000uF 25V
C303	WF547900	C. CE. CHP	10uF 25V
C305	WF547900	C. CE. CHP	10uF 25V
C310	UF438100	C. EL. CHP	100uF 16V
* C312	WC891800	C. EL. CHP	10uF 16V
C313	WC892500	C. EL. CHP	470uF 16V
C314	WK004400	C. CE. M. CHP	10uF 16V
C315	US135100	C. CE. CHP	0. 1uF 16V
C316	WK004400	C. CE. M. CHP	10uF 16V
C318	WK004400	C. CE. M. CHP	10uF 16V
* C319	WP882000	C. CE. CHP	10uF 6. 3V
C320	UF418100	C. EL. CHP	100uF 6. 3V
C321-324	US135100	C. CE. CHP	0. 1uF 16V
C325	UF418100	C. EL. CHP	100uF 6. 3V
C326-327	US135100	C. CE. CHP	0. 1uF 16V
C328	US064100	C. CE. CHP	0. 01uF 50V B
C329-330	US135100	C. CE. CHP	0. 1uF 16V
C331-332	US064100	C. CE. CHP	0. 01uF 50V B
C333-334	US135100	C. CE. CHP	0. 1uF 16V
C335	US063220	C. CE. CHP	2200pF 50V B
C343	US064100	C. CE. CHP	0. 01uF 50V B
C347	US135100	C. CE. CHP	0. 1uF 16V
C348-354	US065100	C. CE. CHP	0. 1uF 50V B
C355	UF418100	C. EL. CHP	100uF 6. 3V
C358	US061100	C. CE. CHP	10pF 50V B
* C361	UF417470	C. EL. CHP	47uF 6. 3V
C362-363	US063100	C. CE. CHP	1000pF 50V B
C364-365	US065100	C. CE. CHP	0. 1uF 50V B
C367	US064100	C. CE. CHP	0. 01uF 50V B
C368-369	US063100	C. CE. CHP	1000pF 50V B
C371	US135100	C. CE. CHP	0. 1uF 16V
C372	US064100	C. CE. CHP	0. 01uF 50V B
C375	US064100	C. CE. CHP	0. 01uF 50V B
C376	US135100	C. CE. CHP	0. 1uF 16V
C377	WC666800	C. CE. CHP	1uF 16V
C381	US163100	C. CE. CHP	1000pF 50V
C385	US163100	C. CE. CHP	1000pF 50V
C393	US135100	C. CE. CHP	0. 1uF 16V
D1	VT332900	DIODE	1SS355
D2	VV220700	DIODE. SHOT	RB501V-40
D3	VT332900	DIODE	1SS355
D6	VV220700	DIODE. SHOT	RB501V-40
D301-302	VV220700	DIODE. SHOT	RB501V-40
D303-305	VT332900	DIODE	1SS355
* D308	WP292300	DIODE	RB050LA-40TR TP
D309	VT332900	DIODE	1SS355
F301	WH983200	SW. POLY	MINISMDC110F/24-2

* New Parts

P.C.B. MAIN and P.C.B. OPERATION

Ref No.	Part No.	Description	Markets
* IC1	YA727A00	IC	LA6565
* IC2	YA748A00	IC. CD	LC786922 (MASKROM)
IC4	XR680A00	IC	TC7SH08FU (TE85L, JF)
IC6	X8096A00	IC	R5523N001A-TR-F
* IC7	YA724A00	IC. USB	LC87F1HC8A (written)
IC301	X9850A00	IC	BD9870FPS
IC302	X7356A00	IC	PCM1780DBQR
IC303	X8897A00	IC	R1172S331B-E2-F
* IC304	YA765A00	IC	LE24C023M
* IC305	YA749A00	IC. CPU	R5F212CASNFP CPU (unwritten)
IC306	YA514A00	IC	BD5229G-TR
IC307	X5359A00	IC	MAX3232CDWR
IC308	VT522800	PHOT. CPL	ON3131
IC309	X2891B00	IC	TC74VHC126FT (EL, K)
IC313	XR680A00	IC	TC7SH08FU (TE85L, JF)
JK301-302	WE260000	JACK. MNI	LGY6501-0900FC
* Q1	WS074200	TR	12A01C PNP
Q301	VV556500	TR	2SA1037K Q, R, S
Q303	VZ725900	TR	2SD1938F S, T
Q305-306	VV655400	TR. DGT	DTC114EKA
Q309	VV655700	TR. DGT	DTC144EKA
U301	WH536900	CN. PHOTO. T	1P GP1FAV51TKOF
XL1	WB872100	RSNR. CRY5	16. 9344MHz
XL2	WG538400	RSNR. CRY5	12MHz
XL301	V8222200	RSNR. CE	10MHz CSTLS10MO
* WS181200	P. C. B.	OPERATION	UC
* WS181300	P. C. B.	OPERATION	RL
* WS181400	P. C. B.	OPERATION	A
* WS181500	P. C. B.	OPERATION	G
△ CB501-505	VB858200	CN. BS. PIN	3P
CB506-508	VB858100	CN. BS. PIN	2P
CB509	VF982200	CN. BS. PIN	14P
CB601	VQ961000	CN. BS. PIN	7P
CB702	VQ045000	CN. BS. PIN	20P
CB703	VP768100	CN. BS. PIN	5P
CB704	VP768200	CN	5P
CB705	WP170400	CN. USB	CSS5004-1F01 4P TE
CB801-802	WN103000	CLIP. FUSE	TP00351-31
CB804	VP245700	CN. BS. PIN	VA 2P SE
CB805-806	LB918060	CN. BS. PIN	6P
CB807	VK216500	CN	10P
CB808	VB389900	CN. BS. PIN	3P
CB809	VB390000	CN. BS. PIN	4P
CB851	VB389900	CN. BS. PIN	3P
C501	WJ881200	C. CE. CHP	1uF 16V
C502-504	US065100	C. CE. CHP	0. 1uF 50V B
C505	US135100	C. CE. CHP	0. 1uF 16V
C506-507	US063100	C. CE. CHP	1000pF 50V B
C508-509	UR848100	C. EL	100uF 25V
C510	US063100	C. CE. CHP	1000pF 50V B
C601-602	UU237470	C. EL	47uF 16V
C603-604	WE100900	C. PP	220pF 630V
* C605-606	WJ609300	C. MYLAR	2200pF 100V
* C607-608	WJ609800	C. MYLAR	5600pF 100V

* New Parts

Ref No.	Part No.	Description	Markets
C609-610	UU238100	C. EL	100uF 16V
C611-612	WQ331800	C. EL	100uF 50V
C614-615	WJ608900	C. MYLAR	1000pF 100V
C701-702	US064100	C. CE. CHP	0. 01uF 50V B
C703	US135100	C. CE. CHP	0. 1uF 16V
C704	WG780700	C. EL	47uF 16V
C705-709	US064100	C. CE. CHP	0. 01uF 50V B
C710	US135100	C. CE. CHP	0. 1uF 16V
C711-713	US062100	C. CE. CHP	100pF 50V B
C714	US135100	C. CE. CHP	0. 1uF 16V
C715	US064100	C. CE. CHP	0. 01uF 50V B
C716	US065100	C. CE. CHP	0. 1uF 50V B
C717	US135100	C. CE. CHP	0. 1uF 16V
C718	WF752900	C. CE. M. CHP	1uF 50V Z
C719-720	US135100	C. CE. CHP	0. 1uF 16V
C721	WG780700	C. EL	47uF 16V
C722-723	US064100	C. CE. CHP	0. 01uF 50V B
C725	US064100	C. CE. CHP	0. 01uF 50V B
C728	US135100	C. CE. CHP	0. 1uF 16V
△ * C801	WT498900	C. MYLAR	0. 001uF 275V
△ C802	V6185300	C. CE. SAFTY	0. 01uF 275V
△ C805-806	V6185300	C. CE. SAFTY	0. 01uF 275V
C807	UR267470	C. EL	47uF 50V
C808-809	WE102900	C. PP	0. 01uF 100V
C810	UR278100	C. EL	100uF 63V
C811	UR267220	C. EL	22uF 50V
C812	UR267470	C. EL	47uF 50V
C813	UR249470	C. EL	4700uF 25V
C814-815	UR267220	C. EL	22uF 50V
C816	UR249470	C. EL	4700uF 25V
C817	UR249220	C. EL	2200uF 25V
C818	WJ608900	C. MYLAR	1000pF 100V
C819	UR248100	C. EL	100uF 25V
C820-822	WN165300	C. PP	0. 01uF 100V
C823	UR239100	C. EL	1000uF 16V
C824	UR266330	C. EL	3. 3uF 50V
C825-827	WN165300	C. PP	0. 01uF 100V
C828-831	UR248100	C. EL	100uF 25V
C832-833	UR267220	C. EL	22uF 50V
C834	WN165300	C. PP	0. 01uF 100V
C835	UR249470	C. EL	4700uF 25V
C851-852	WN165300	C. PP	0. 01uF 100V
C853	WN165300	C. PP	0. 01uF 100V
C854	UR249100	C. EL	1000uF 25V
C855	UR249100	C. EL	1000uF 25V
C855	UR268470	C. EL	470uF 50V
C856	UR267100	C. EL	10uF 50V
C857	UR249220	C. EL	2200uF 25V
C858-859	US135100	C. CE. CHP	0. 1uF 16V
C860	UR238100	C. EL	100uF 16V
C861	UR248470	C. EL	470uF 25V
D501	VG438000	D1ODE. ZENR	MTZJ6. 2B 6. 2V
D701	WP947300	LED	ORANGE/GREEN
D702-703	WA467800	LED	SEL6910A-CD
D752	VG437700	D1ODE. ZENR	MTZJ5. 6B 5. 6V
D801-802	VS997800	D1ODE	1T2
D803-804	VV731400	D1ODE	2A02M

* New Parts

CD-C600

P.C.B. OPERATION

Ref No.	Part No.	Description	Markets
D805-810	VS997800	DIODE 1T2	
D811	VG443200	DIODE. ZENR MTZJ30A 30V	
D812-813	VT332900	DIODE 1SS355	
D814	VG438600	DIODE. ZENR MTZJ7. 5B 7. 5V	
D815	VT332900	DIODE 1SS355	
D816	VG438800	DIODE. ZENR MTZJ8. 2A 8. 2V	
D817-819	VT332900	DIODE 1SS355	
D820-821	VV220700	DIODE. SHOT RB501V-40	
D822	VG438000	DIODE. ZENR MTZJ6. 2B 6. 2V	
D851	VR253700	DIODE. BRG S1NB20 1A 200V	
D852	VS997800	DIODE 1T2	RL
D853	VU992300	DIODE. ZENR MAZ8047GHL 4. 9V	
D854	VT332900	DIODE 1SS355	RL
D855-856	VT332900	DIODE 1SS355	
△ F801	KB000710	FUSE 500mA 250V	
IC501	V2363400	PHOT. INTR ON1024	
IC502	XK583A00	IC TA7291P	
IC503	XF947A00	IC LA6510	
IC601-602	XA987A00	IC NJM2068D-D	
IC701	X2656A00	IC TC7SH08F AND	
IC801-802	X4928A00	IC KIA7805AP1 5V	
IC803	X7973A00	IC KIA79M05PI-U	
IC851	X9117A00	IC R1154N033B-TR-F	
PJ601	VV411100	JACK. PIN 2P	
Q601-604	VZ725900	TR 2SD1938F S, T	
Q701-702	VV556400	TR 2SC2412K Q, R, S	
Q703-704	VV655000	TR. DGT DTA114EKA	
Q705	VV655400	TR. DGT DTC114EKA	
Q706	VV556400	TR 2SC2412K Q, R, S	
Q801	VP872600	TR 2SA1708 S, T	
Q804	VS883400	TR 2SD2394 E, F	
Q806	VV556500	TR 2SA1037K Q, R, S	
Q851	VR043100	FET 2SK208 Y	
Q852	VC938500	TR 2SC3852	RL
Q853	VC938500	TR 2SC3852	
Q854	iC181510	TR 2SC1815 Y	
R505-506	HV753100	R. CAR. FP 1Ω 1/4W	
R509	HV756120	R. CAR. FP 1. 2KΩ 1/4W	
R801	HV756470	R. CAR. FP 4. 7KΩ 1/4W	
* R802	HL006470	R. MTL. OXD 4. 7KΩ 1/2W	
R805	V8071600	R. MTL. FLM 1KΩ 1W	
△ R806	V8071300	R. MTL. FLM 470Ω 1W	
R808	HV755330	R. CAR. FP 330Ω 1/4W	
R813-814	HV755100	R. CAR. FP 100Ω 1/4W	
R815-816	HV753470	R. CAR. FP 4. 7Ω 1/4W	
△ RY801	WK441000	RELAY DC ALKT329 M01	
ST701-703	V4040500	SCR. TERM M3	
ST801-802	V4040500	SCR. TERM M3	RL
SW501-502	Vi294000	SW. LEVER SSCF21	
SW701-713	V4757100	SW. TACT EVQ11A	
△ SW801	V8377400	SW. POWER SY16-52-4	
△ * SW802	WH813600	VOLT. SELCT VSA-14-3	RL
△ * T801	YA771A00	TRANS. PWR	UC
△ * T801	YA772A00	TRANS. PWR	RL
△ * T801	YA775A00	TRANS. PWR	A
△ * T801	YA774A00	TRANS. PWR	G
△ * T851	YA879A00	TRANS. PWR	UC

* New Parts

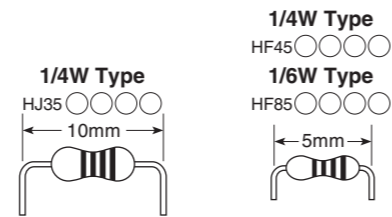
Ref No.	Part No.	Description	Markets
* T851	YA881A00	TRANS. PWR	RL
* T851	YA880A00	TRANS. PWR	AG
△ * TE801	WR903000	INLET. AC 2P HJC-036AP	UC
△ * TE801	WS090800	INLET. AC 2P HJC-036P	RAGL
△ TH801-802	VU847300	POSISTOR RUE185 1. 85A 30V	
TH803	VV457600	SW. POLY RUE090 0. 90A 30V	
U701	WK918500	L. DTCT GP1UE271RKVF	
* V701	WR861000	FL. DSPLY 14-ST-68G1NK	
*	WS050700	SHEET. FL 118x20. 5	
	V3422300	SPACER FL-WIDE	
	WE983600	SCR. BND. HD 3x8 MFZN2B3	

* New Parts

CD-C600

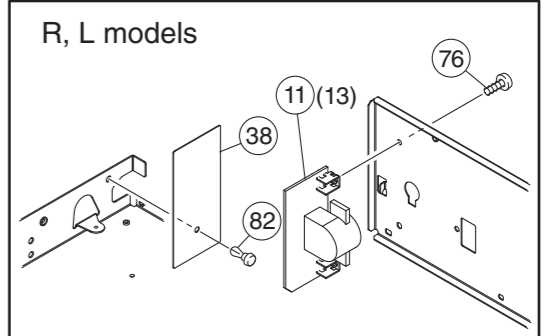
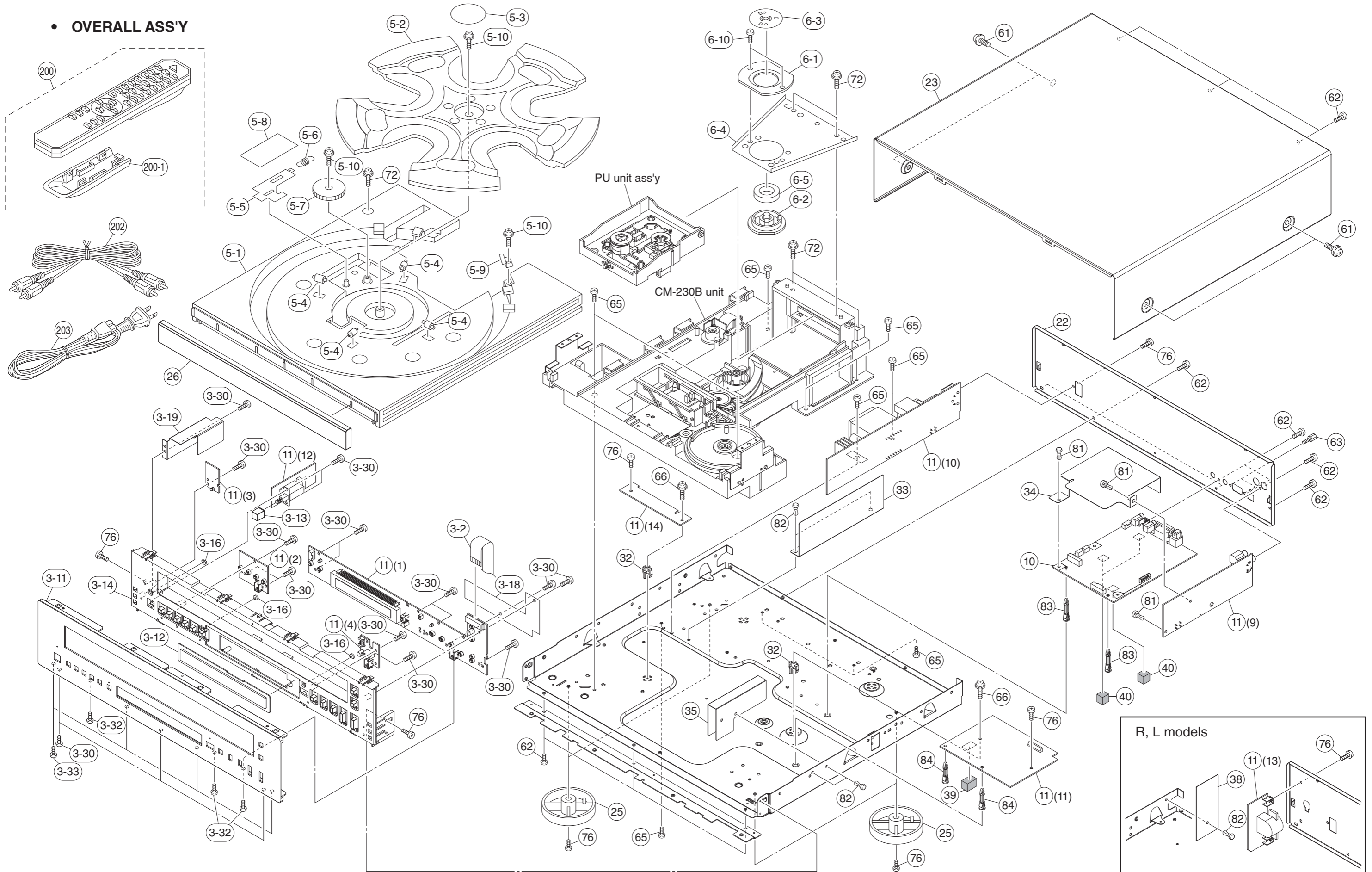
Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ35 3100	HF85 3100	11 kΩ	HF45 7110	HF45 7110
1.8 Ω	HJ35 3180	*	12 kΩ	HJ35 7120	HF85 7120
2.2 Ω	HJ35 3220	HF85 3220	13 kΩ	HF45 7130	HF45 7130
3.3 Ω	HJ35 3330	HF85 3330	15 kΩ	HF45 7150	HF45 7150
4.7 Ω	HJ35 3470	HF85 3470	18 kΩ	HF45 7180	HF45 7180
5.6 Ω	HJ35 3560	HF85 3560	22 kΩ	HF45 7220	HF45 7220
10 Ω	HF45 4100	HF45 4100	24 kΩ	HF45 7240	HF45 7240
15 Ω	HJ35 4150	HF85 4150	27 kΩ	HJ35 7270	HF85 7270
22 Ω	HF45 4220	HF45 4220	30 kΩ	HF45 7300	HF45 7300
27 Ω	HJ35 4270	HF85 4270	33 kΩ	HF45 7330	HF45 7330
33 Ω	HF45 4330	HF45 4330	36 kΩ	HF45 7360	HF45 7360
39 Ω	HJ35 4470	HF85 4390	39 kΩ	HF45 7390	HF45 7390
47 Ω	HF45 4470	HF45 4470	47 kΩ	HF45 7470	HF45 7470
56 Ω	HF45 4560	HF45 4560	51 kΩ	HF45 7510	HF45 7510
68 Ω	HF45 4680	HF45 4680	56 kΩ	HF45 7560	HF45 7560
75 Ω	HF45 4750	HF45 4750	62 kΩ	HF45 7620	HF45 7620
82 Ω	HF45 4820	HF45 4820	68 kΩ	HF45 7680	HF45 7680
91 Ω	HF45 4910	HF45 4910	82 kΩ	HF45 7820	HF45 7820
100 Ω	HF45 5100	HF45 5100	91 kΩ	HF45 7910	HF45 7910
110 Ω	HJ35 5110	HF85 5110	100 kΩ	HF45 8100	HF45 8100
120 Ω	HF45 5120	HF45 5120	110 kΩ	HF45 8110	HF45 8110
150 Ω	HF45 5150	HF45 5150	120 kΩ	HF45 8120	HF45 8120
160 Ω	HJ35 5160	*	130 kΩ	HF45 8130	*
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	*
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	*
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
2.4 kΩ	HJ35 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF45 6330			
3.6 kΩ	HJ35 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			
10 kΩ	HF45 7100	HF45 7100			



* : Not available

• OVERALL ASS'Y



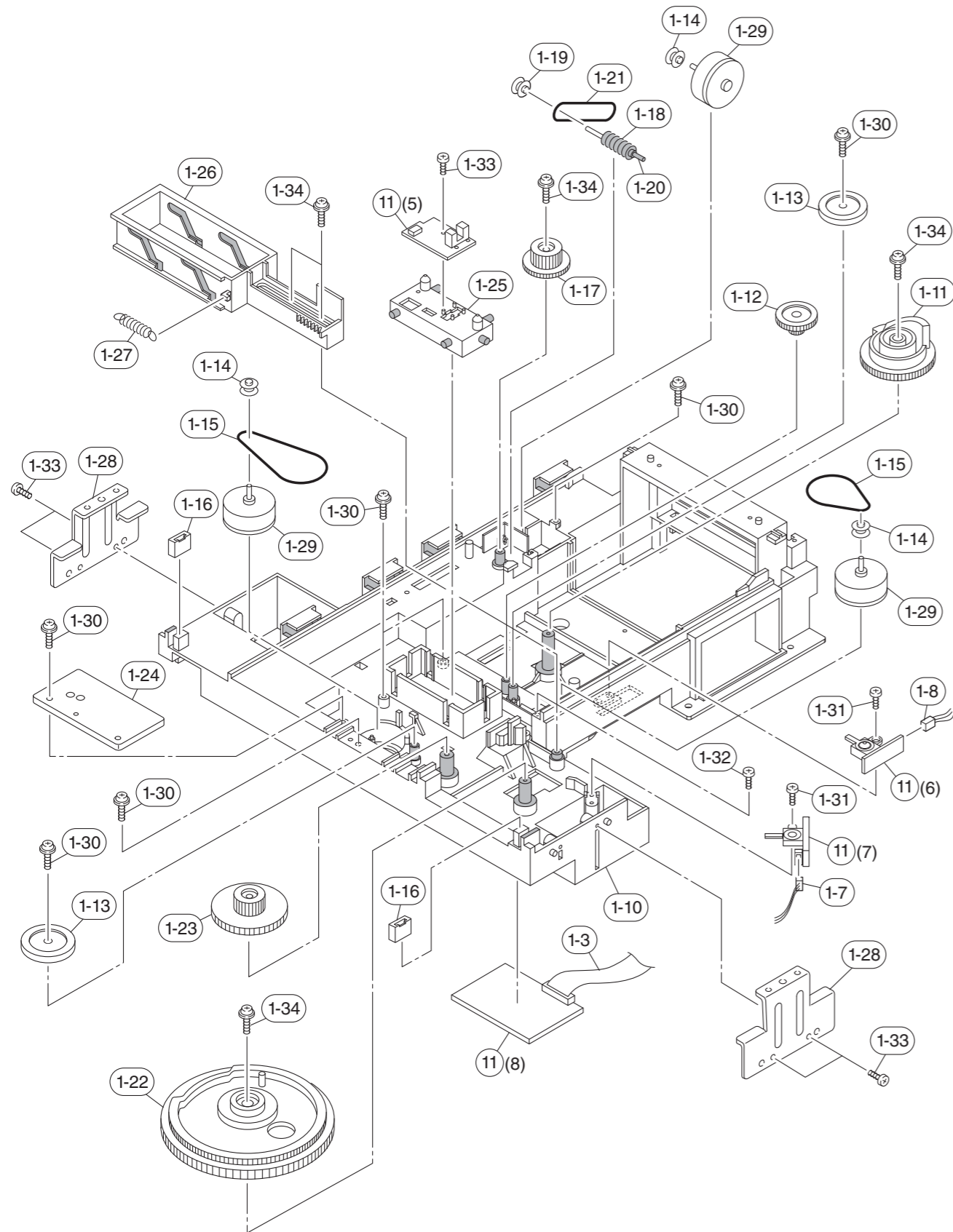
Ref No.	Part No.	Description	Remarks	Markets
3-2	MF120350	FLEXIBLE FLAT CABLE	20P 350mm P=1.25	
* 3-11	WR786000	FRONT PANEL		BL
* 3-11	WR785800	FRONT PANEL		SI
* 3-12	WR791600	WINDOW PANEL LID		
* 3-13	WQ433100	CAP	POWER ON/OFF	BL
* 3-13	WQ433000	CAP	POWER ON/OFF	SI
* 3-14	WR786700	SUB PANEL		BL
* 3-14	WR786600	SUB PANEL		SI
* 3-16	WP080600	LENS LED		
* 3-18	WS217000	BARRIER OPE		
* 3-19	WS354100	BARRIER POWER		
3-30	WE774800	BIND HEAD P-TIGHT SCREW	3x8 MFZN2W3	
3-32	WF787100	BIND HEAD BONDING B-T. SCREW	3x12 MFZN2B3	
3-33	WE774100	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2B3	
5-1	VZ761500	TRAY		
5-2	V2430500	TABLE C		
5-3	WG968300	PLATE TABLE		
5-4	VS037300	ROLLER		
5-5	VV014400	LEVER		
5-6	VS036900	SPRING RT		
5-7	VZ761800	GEAR RT1		
5-8	VS037900	SHEET TRAY		
5-9	V3316800	SUPPORT T		
5-10	WH292100	PW HEAD P-TIGHT SCREW	3x8-10 MFZN2W3	
6-1	V2430700	HOLDER CLAMPER C		
6-2	VL782500	STABILIZER		
6-3	VS500400	PLATE	STABILIZER	
6-4	VZ762600	FRAME CLAMPER		
6-5	VQ930900	MAGNET	DH29.6x18x3.6FMS	
6-10	WE936300	BIND HEAD B-TIGHT SCREW	3x6 MFZN2W3	
* 10	WS180800	P. C. B. ASS' Y	MAIN	
* 11	WS181200	P. C. B. ASS' Y	OPERATION	UC
* 11	WS181300	P. C. B. ASS' Y	OPERATION	RL
* 11	WS181400	P. C. B. ASS' Y	OPERATION	A
* 11	WS181500	P. C. B. ASS' Y	OPERATION	G
* 22	WR786800	REAR PANEL		UC
* 22	WR787100	REAR PANEL		RL
* 22	WR786900	REAR PANEL		A
* 22	WR787000	REAR PANEL		G
* 23	WR786300	TOP COVER		BL
* 23	WR786200	TOP COVER		SI
25	VQ982800	LEG	D60xH16	
* 26	WR786500	LID		BL
* 26	WR786400	LID		SI
32	VR264400	SPACER	H8	
* 33	WS215500	BARRIER INLET		
* 34	WT622200	BARRIER MAIN		
* 35	WT622300	BARRIER CABLE		
38	WJ070300	BARRIER VOL. SEL		RL
* 39	WS324200	SPACER	15x15x10	
* 40	WS324100	SPACER	10x10x14	
61	VH313200	PW HEAD S-TIGHT SCREW	4x8-10 MFN13BL	BL
61	VD069600	PW HEAD S-TIGHT SCREW	4x8-10 MFN133	SI


* New Parts

Ref No.	Part No.	Description	Remarks	Markets
62	WE774100	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2B3	
63	V6509600	JACK SCREW	SS6-A47511848	
65	WF821300	BIND HEAD S-TIGHT SCREW	4x7 MFZN2W3	
66	VT669400	PW HEAD B-TIGHT SCREW	3x15-8 MFC2	
72	WH292000	PW HEAD P-TIGHT SCREW	3x12-10 MFZN2W3	
76	WE774300	BIND HEAD B-TIGHT SCREW	3x8 MFZN2W3	
81	VQ368600	PUSH RIVET	P3555-B	
82	WG432900	PUSH RIVET	P3535	
83	V8225600	SPACER FOR PWB	KGLS-14RT	
84	WA857600	SPACER FOR PWB	KGLS-16RT	
		ACCESSORIES		
* 200	WR960600	REMOTE CONTROL	CDC9	
* 200-1	WT816600	BATTERY COVER	dark gray	60050010
202	VY952200	AUDIO PIN CABLE	2P 1m 1pc	
△ * 203	WS171000	POWER CABLE	1.5m 1pc	UC
△ * 203	WS171100	POWER CABLE	1.5m 1pc	R
△ * 203	WS184100	POWER CABLE	1.5m 1pc	A
△ * 203	WS171200	POWER CABLE	1.5m 1pc	GL
		BATTERY	R6, AA, UM-3 2pcs	
		SERVICE TOOLS		
	VQ472900	GREASE	FL01L G-31KB	
	AAX01170	GREASE	MOLYKOTE PG-663	

* New Parts

• CM-230B UNIT

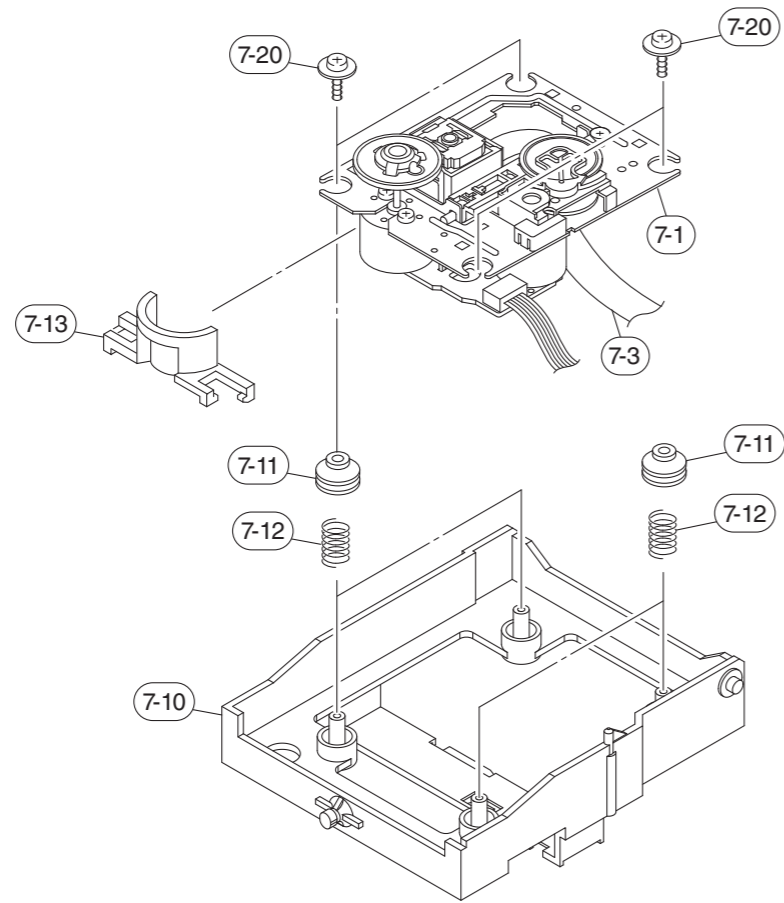


 : Apply the grease
G31KB (Part No. VQ472900)

Ref No.	Part No.	Description	Remarks	Markets
1-3	MF114200	FLEXIBLE FLAT CABLE	14P 200mm P=1.25	
1-7	V3175700	CONNECTOR ASS'Y	3P 220mm	
1-8	V3175900	CONNECTOR ASS'Y	3P 220mm	
1-10	VZ760500	CHASSIS	B type	
1-11	VZ760600	CAM CL		
1-12	VS035400	GEAR CL2		
1-13	VS036100	GEAR PULLEY		
1-14	VS036200	PULLEY		
1-15	VQ776900	BELT		
1-16	VQ775500	DAMPER TRAY		
1-17	VS035800	GEAR WW		
1-18	VS035700	GEAR WO		
1-19	V2009500	PULLEY RT		
1-20	VS036600	SHAFT 2		
1-21	VS036500	BELT RT		
1-22	VZ760700	GEAR LO		
1-23	VS035300	GEAR LO1		
1-24	WH533200	SHEET BELT		
1-25	VZ761000	HOLDER SENSOR		
1-26	VZ761200	CAM SLIDE		
1-27	VS036800	SPRING CAM		
1-28	VS037400	SUPPORT TRAY		
1-29	VM444200	MOTOR	RF-500TB-14415	
1-30	WH292100	PW HEAD P-TIGHT SCREW	3x8-10 MFZN2W3	
1-31	WH292200	PAN HEAD P-TIGHT SCREW	2.6x8 MFZN2W3	
1-32	WH412000	BIND HEAD SCREW	2.6x5 MFZN2W3	
1-33	WE774800	BIND HEAD P-TIGHT SCREW	3x8 MFZN2W3	
1-34	WH292000	PW HEAD P-TIGHT SCREW	3x12-10 MFZN2W3	
* 11	WS181200	P. C. B. ASS'Y	OPERATION	UC
* 11	WS181300	P. C. B. ASS'Y	OPERATION	RL
* 11	WS181400	P. C. B. ASS'Y	OPERATION	A
* 11	WS181500	P. C. B. ASS'Y	OPERATION	G

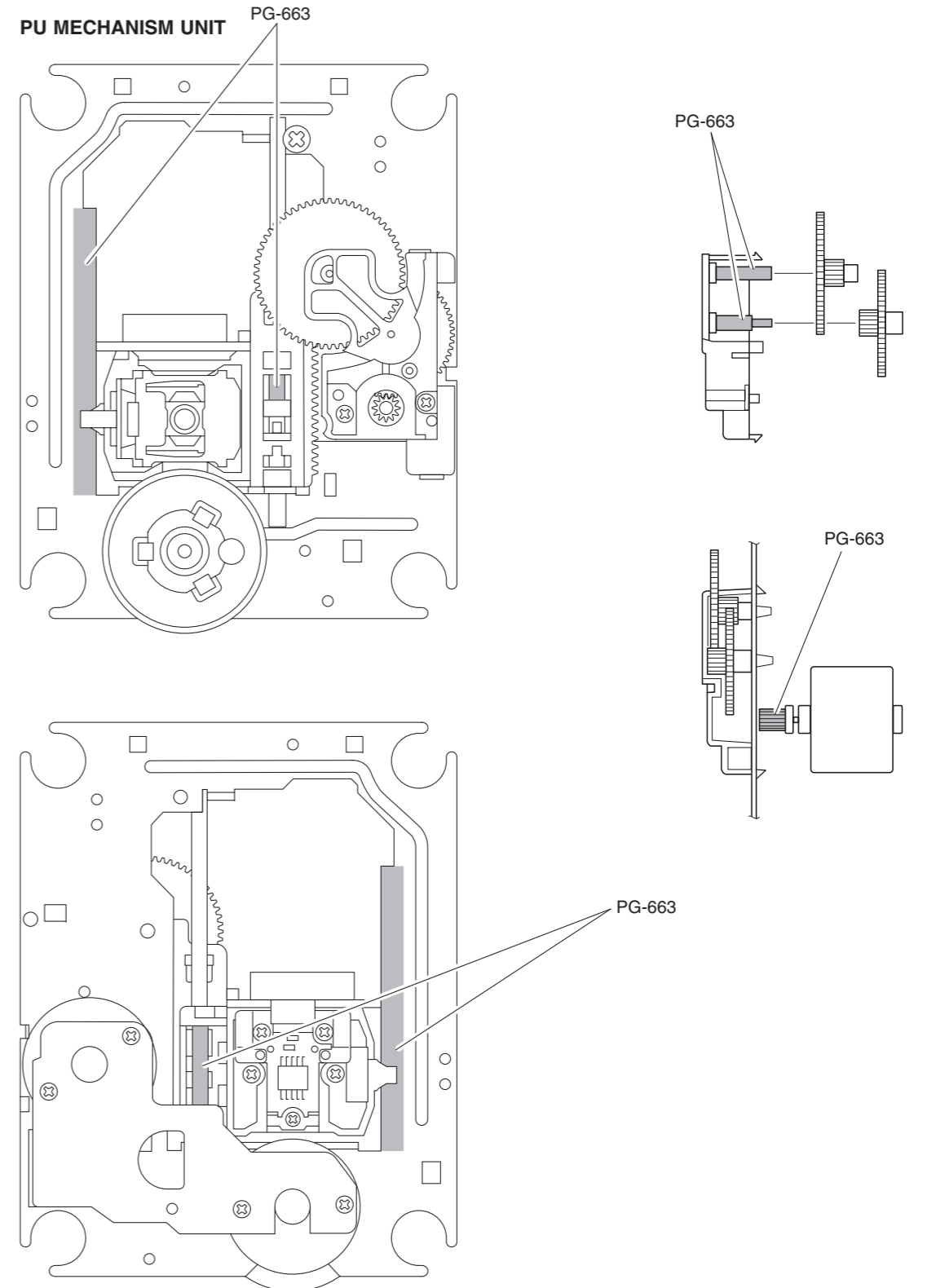
* New Parts

• PU UNIT ASS'Y



• GREASE APPLICATION DIAGRAM

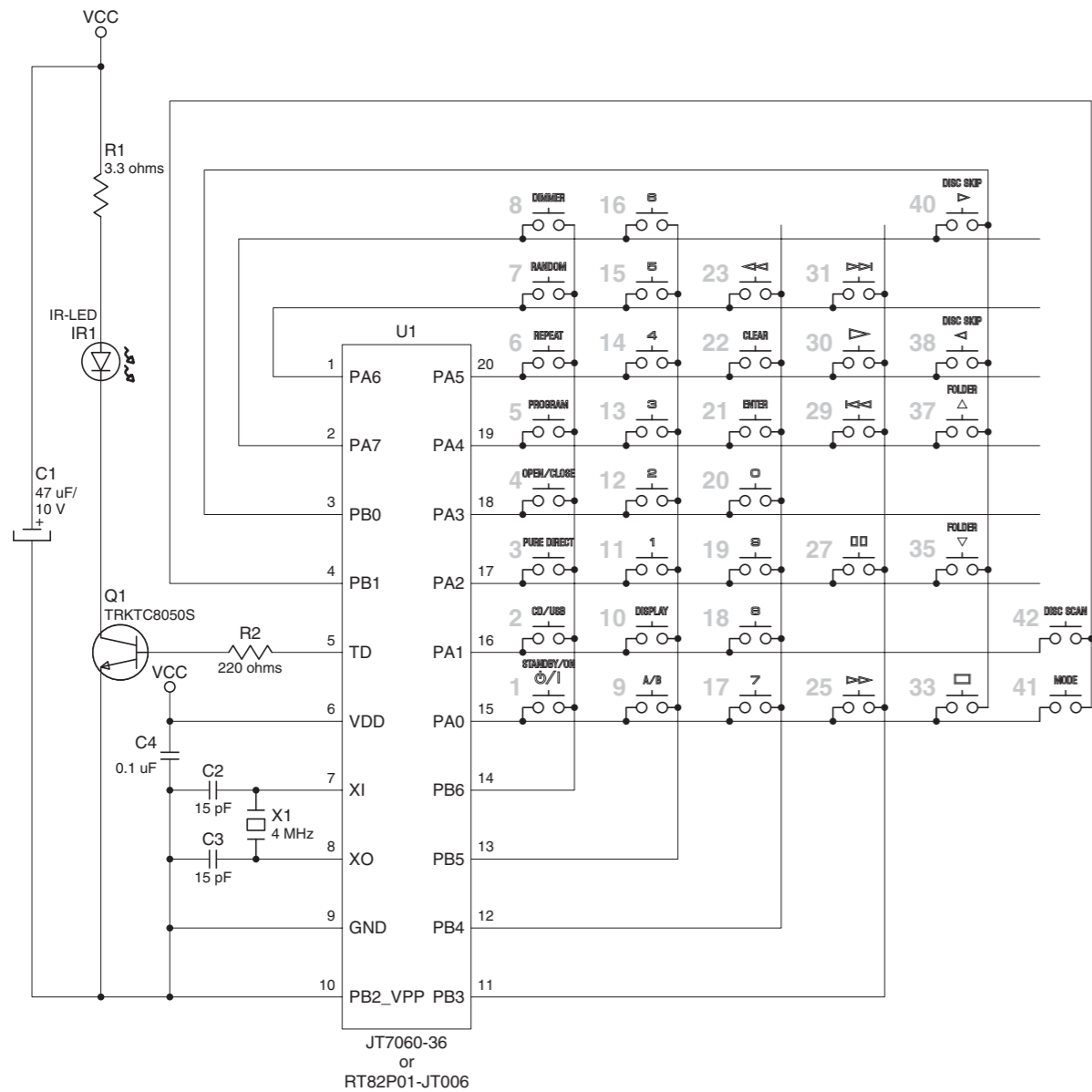
Apply the grease
Molykote PG-663 (Part No. AAX01170)



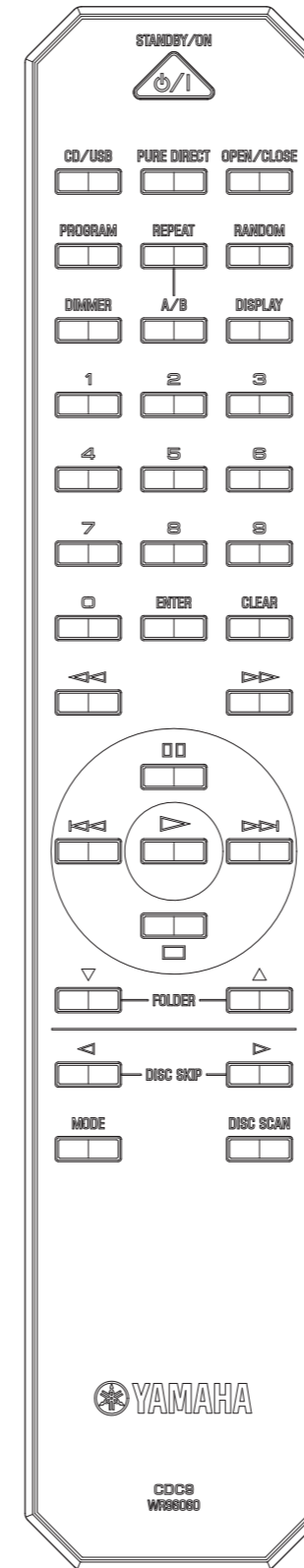
Ref No.	Part No.	Description	Remarks	Markets
* 7-1	WS067600	PU MECHANISM UNIT		
7-3	WS676100	FLEXIBLE FLAT CABLE	16P 320mm P=1.0	
7-10	V2430600	HOLDER PU/C		
7-11	V2430800	DAMPER CDC		
7-12	VQ386500	SPRING		
7-13	V2480800	BARRIER PU		
7-20	WH292300	PW HEAD P-TIGHT SCREW	2.6x8-12 MFZN2W3	

* New Parts

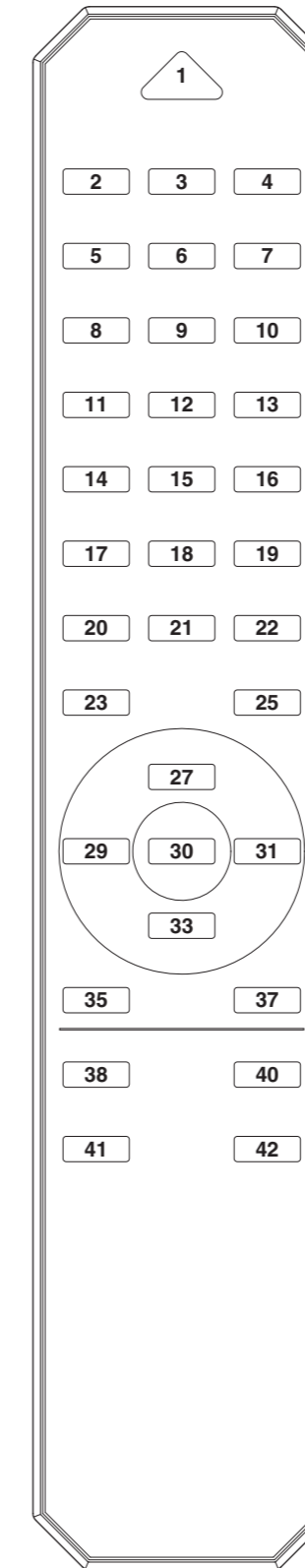
REMOTE CONTROL SCHEMATIC DIAGRAM



PANEL



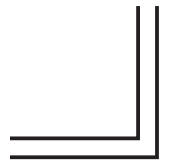
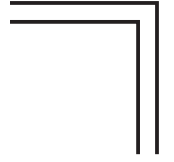
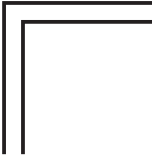
KEY LAYOUT



KEY CODE

Key No.	Function	Customer Code	Data Code
1	STANDBY/ON	79	60
2	CD/USB	79	6F
3	PURE DIRECT	79	6E
4	OPEN/CLOSE	79	01
5	PROGRAM	79	0C
6	REPEAT	79	08
7	RANDOM	79	1B
8	DIMMER	79	54
9	A/B	79	09
10	DISPLAY	79	0A
11	1	79	11
12	2	79	12
13	3	79	13
14	4	79	14
15	5	79	15
16	6	79	16
17	7	79	17
18	8	79	18
19	9	79	19
20	0	79	10
21	ENTER	79	3F
22	CLEAR	79	0D
23		79	05
25		79	06
27		79	55
29		79	04
30		79	02
31		79	07
33		79	56
35	FOLDER	79	6A
37	FOLDER	79	69
38	DISC SKIP	79	50
40	DISC SKIP	79	4F
41	MODE	79	00
42	DISC SCAN	79	53

MEMO



CD-C600

