DVD PLAYER

DVD-S559

SERVICE MANUAL

DVD-S559

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.

■ CONTENTS

TO SERVICE PERSONNEL 1–4
PREVENTION OF ELECTROSTATIC DISCHARGE ... 4
LOCALE MANAGEMENT INFORMATION 4
FRONT PANEL 5
REAR PANEL 5
REMOTE CONTROL 5
SPECIFICATIONS 6
DIMENSIONS 7
INTERNAL VIEW 7
REPAIR NOTES 8
DISASSEMBLY PROCEDURES 9–12
TROUBLESHOOTING 13-14
BLOCK DIAGRAMS 15–18
WIRING DIAGRAM 19
PRINTED CIRCUIT BOARDS 20–21
SCHEMATIC DIAGRAMS 22–29
REPLACEMENT PARTS LIST 30–31
REMOTE CONTROL 32–33

このサービスマニュアルは、エコマーク認定の再生紙を使用しています。
This Service Manual uses recycled paper.

101003

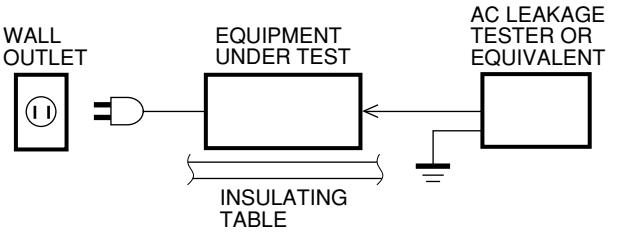
YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

UP VIDEO '06. 02

■ TO SERVICE PERSONNEL

1. Critical Components Information
   Components having special characteristics are marked ⚠ 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 0.15µF.



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

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

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

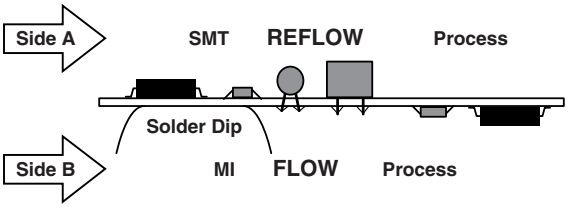
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

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

The P.C.B.s installed in this unit are soldered using the following solder.

	Side A	Side B
DVD P.C.B.	Lead Free Solder	Lead Free Solder
POWER P.C.B.	–	Lead Free Solder
OPERATION 1 P.C.B.	–	Lead Free Solder
OPERATION 2 P.C.B.	–	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:
1. 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.
2. If lead solder must be used, be sure to remove lead free solder from each terminal section of the parts to be replaced and from the area around it completely before soldering, or make sure that the lead free solder and lead solder melt together fully.

WARNING: Laser Safety

This product contains a laser beam component. This component may emit invisible, as well as visible radia-tion, which may cause eye damage. To protect your eyes and skin from laser radiation, the following pre-cautions 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 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 perform-ance 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 compo-nent 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.

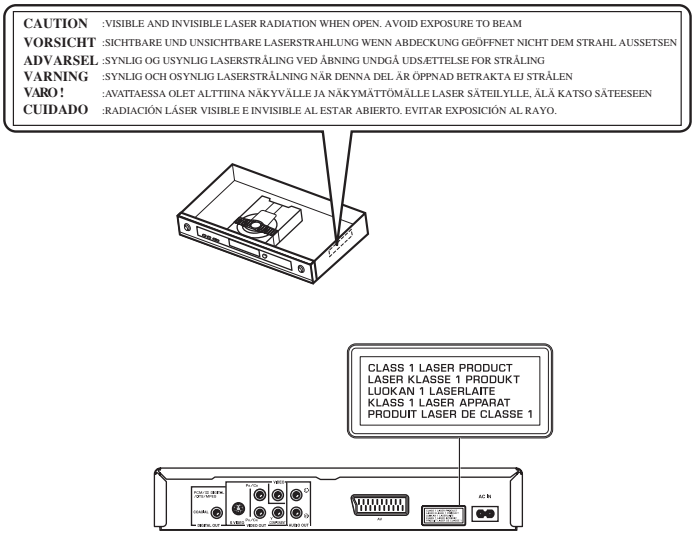
Laser Diode Propeties

Type:	Semiconductor laser GaAlAs
Wave length:	650 nm (DVD)
	780 nm (VCD/CD)
Output Power:	5 mW (DVD/VCD/CD)
Beam divergence	60 degree

VARO! :	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER-SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING! :	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

WARNING

The use of optical instruments with this product will increase eye hazard.
Repair handling should take place as much as possible with a disc loaded inside the player.



CAUTION	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL	SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARNING	SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
VARO!	AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄ TEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VORSICHT	SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETSEN.
DANGER	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ATTENTION	RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE 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 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

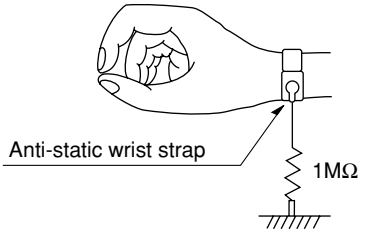
The laser diode in the DVD mechanism may be damaged due to static electricity from clothes or the human body. Use caution to prevent electrostatic damage when servicing or handling the DVD-mechanism.

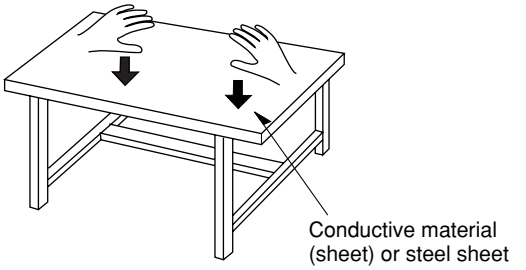
1. Grounding for electrostatic damage prevention

Some devices, such as the DVD player, use an optical pickup (laser diode) that will be damaged by static electricity in the working environment. Only attempt service after ensuring that all grounding procedures have been completed.

1. Worktable grounding
   Put a grounded conductive material (sheet) or iron sheet on the area where the optical pickup is placed.

2. Human body grounding
   Use an anti-static wrist strap to discharge the static electricity from your body.



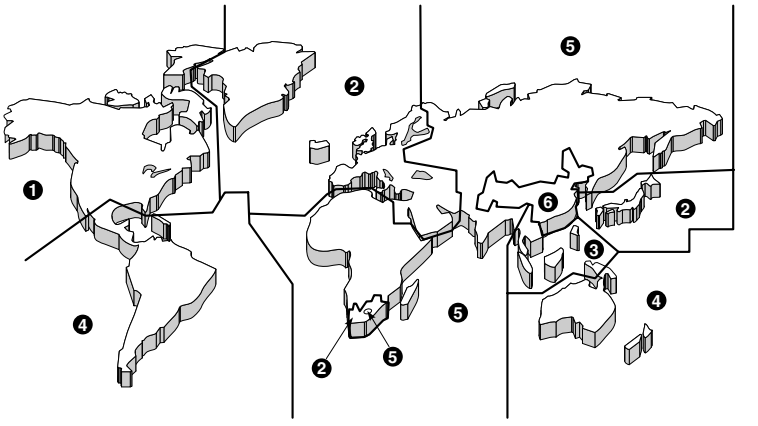


2. Handling Precautions for DVD mechanism

1. Handle the DVD mechanism gently, as it is an extremely high-precision assembly.
2. The flexible cable lines may break if an excessive force is applied to it. Use caution when handling the cable.
3. The semi-fixed resistor for laser power adjustment should not be adjusted. Do not turn the resistor.

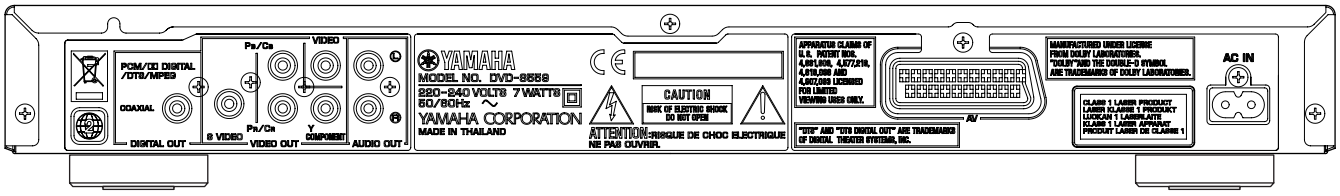
■ LOCALE MANAGEMENT INFORMATION

Locale Management Information : This DVD player is designed and manufactured to respond to the Locale Management Information that is recorded on a DVD disc. If the Locale number described on the DVD disc does not correspond to the Locale number of this DVD player, this DVD player cannot play this disc.

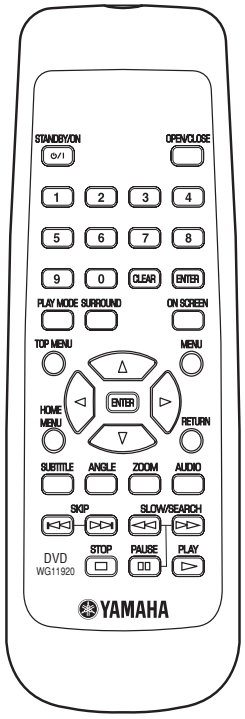


■ FRONT PANEL

■ REAR PANEL



■ REMOTE CONTROL



■ SPECIFICATIONS

● RGB (SCART) output

Output level ..... 0.7 Vp-p (75 ohms)
Connection ..... Euroconnector

● Component video output

Y (luminance) - Output level .... 1 Vp-p (75 ohms)(Green)
Pb/Cb (color) - Output level ..... 0.7 Vp-p (75 ohms)(Blue)
Pr/Cr (color) - Output level ..... 0.7 Vp-p (75 ohms)(Red)
Connection ..... RCA

● S-video output

Y (luminance) - Output level ..... 1 Vp-p (75 ohms)
C (color) - Output level ..... 286 mVp-p (75 ohms)
Connection ..... S-video (Mini, DIN, 4 pins)

● Video output

Output level ..... 1 Vp-p (75 ohms)
Connection ..... RCA

● Audio output (1 stereo pair)

Output level ..... During audio output
200 mVrms (1 kHz, -20 dB)
Number of channels 2
Connection ..... RCA

● Digital audio characteristics

Frequency response ..... 4 Hz to 44 kHz (DVD fs: 96 kHz)
S/N ratio ..... 115 dB
Dynamic range ..... 101 dB
Total harmonic distortion ..... 0.0023 %

● Digital output

Coaxial digital output ..... RCA
IEC60958 for CDDA/LPCM
IEC61937 for MPEG 1/2,
Dolby Digital and DTS

● General

System ..... DVD player
Power requirements ..... AC 220–240 V, 50/60 Hz
Power consumption ..... 7 W
Power consumption (standby) ..... 0.7 W
Weight ..... 1.8 kg (3 lbs. 15 oz.)
Dimensions (W x H x D) ..... 435 mm x 61 mm x 213 mm
(17-1/8" x 2-3/8" x 8-3/8")
Finish ..... Black color
Silver color

● Accessories

Audio/video cable x 1
Power cable x 1
Remote control x 1
AA/R6 dry cell batteries x 2

* Specifications subject to change without notice.

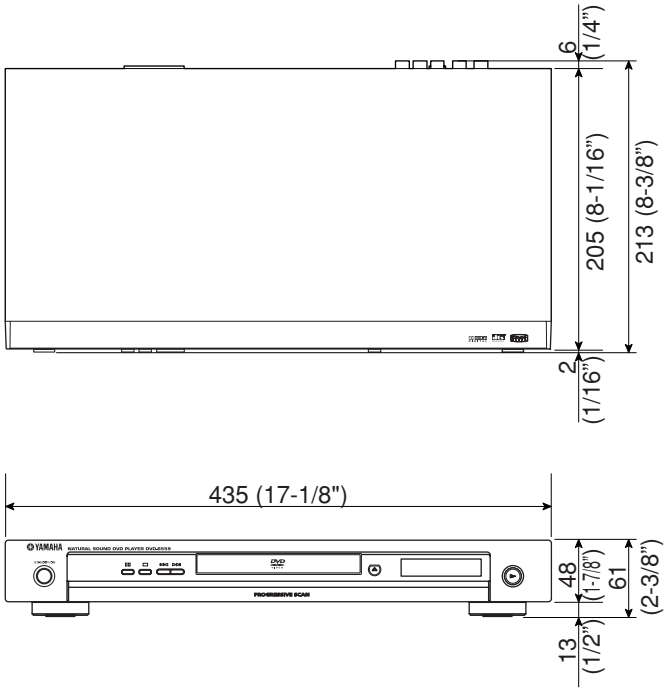
G ..... European model

Manufactured under license from Dolby Laboratories.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

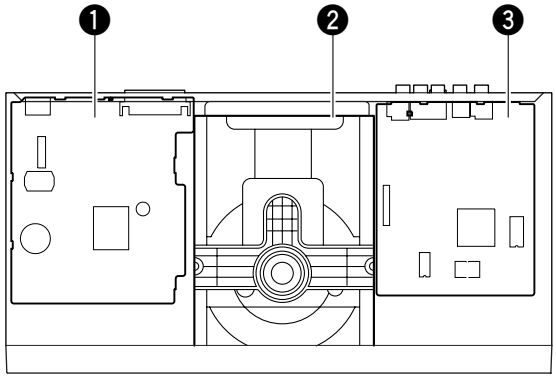
"DTS" and "DTS Digital Out" are trademarks of Digital Theater Systems, Inc.

DivX and associated logos are trademarks of DivXNetworks, Inc and are used under license.

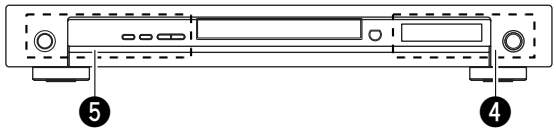
■ DIMENSIONS



■ INTERNAL VIEW



❶ POWER P.C.B.
❷ DVD Mechanism Unit
❸ DVD P.C.B.



❹ OPERATION 1 P.C.B.
❺ OPERATION 2 P.C.B.

■ REPAIR NOTES

• Repair Tips

None of the components of the following units can be supplied separately.
Each unit must be replaced as a whole in case of a failure.

- DVD Mechanism Unit
- POWER P.C.B.
- DVD P.C.B.
- OPERATION 1 P.C.B.
- OPERATION 2 P.C.B.

• When replacing DVD Mechanism Unit

1. Removing the DVD Mechanism Unit

Before removing DVD P.C.B. connector (Ref CP2301), short circuit the position shown in **Fig. 1** using a soldering iron. If you remove the DVD Mechanism Unit with no soldering, the Laser may be damaged.

2. Installing the DVD Mechanism Unit

Remove all the soldering on the short circuit position after the connection of DVD P.C.B. connector (Ref CP2301).

NOTE

- Before your operation, please read “PREPARATION OF SERVICING” .
- Use the Lead Free solder.
- Manual soldering conditions
  - Soldering temperature: 320 ± 20°C
  - Soldering time: Within 3 seconds
  - Soldering combination: Sn-3.0Ag-0.5Cu
- When Soldering/Removing of solder, use the draw in equipment over the Pick Up Unit to prevent the Flux smoke from it.

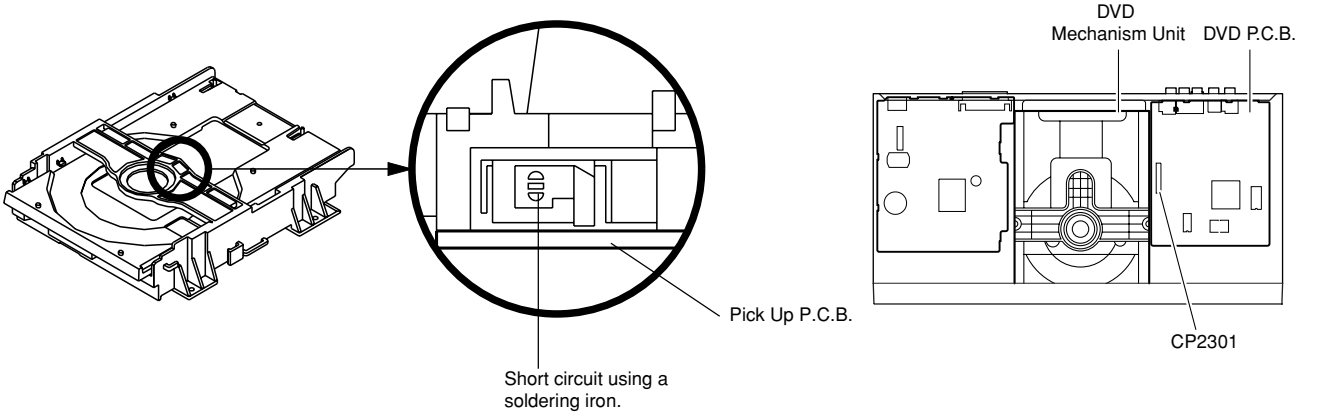


Fig. 1

PREPARATION OF SERVICING

The laser diode used for a pickup head may be destroyed with external static electricity. Moreover, even if it is operating normally after repair, when static electricity discharge is received at the time of repair, the life of the product may be shortened. Please perform the following measure against static electricity, be careful of destruction of a laser diode at the time of repair.

- Place the unit on a workstation equipped to protect against static electricity, such as conductive mat.
- Soldering iron with ground wire or ceramic type is used.
- A worker needs to use a ground conductive wrist strap for body.

■ DISASSEMBLY PROCEDURES

• Remove parts in disassembly order as numbered.
• Disconnect the power cable from the AC outlet.

* **How to manually eject the tray (Fig. 1)**

a. Turn the player bottom up.
b. Move the slider in the direction indicated with a screw driver until the tray is ejected.
c. Gently pull the tray out.

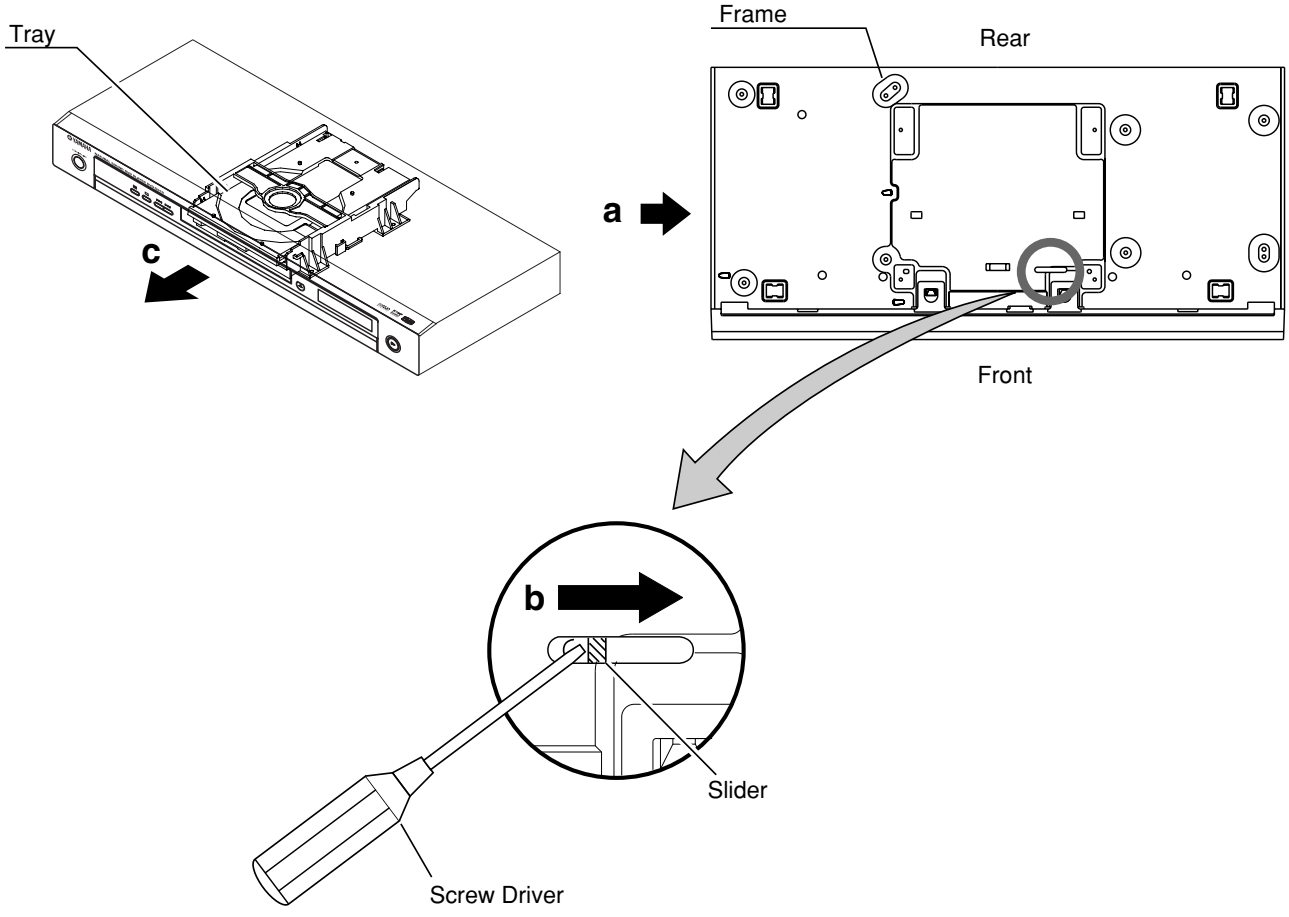


Fig. 1

1. Removal of Top Cabinet (Fig. 2)

a. Remove 5 screws (①).
b. Remove the Top Cabinet in the direction of arrow (A).

2. Removal of Front Cabinet . (Fig. 2)

a. Remove 2 screws (②).
b. Remove 2 Legs.
c. Remove 2 Sheet Earth. (Silver model)
d. Remove 1cable connection. [CP4002]
e. Remove 1 screw (③) and the cable. [CD602] (Silver model)
f. Unlock the Front Cabinet by releasing successively 4 snaps. (2 on the side and 2 on the bottom).
g. Remove the Front Cabinet.

*** The Sheet Earth once removed cannot be reused.**

Be sure to use a new Sheet Earth for replacement.

3. Removal of OPERATION 1 and OPERATION 2 P.C.B.s. (Fig. 2)

a. Remove 4 screws (④).
b. Remove the OPERATION 1 P.C.B..
c. Remove 1 cable connection. [CP603]
d. Remove 3 screws (⑤).
e. Remove the OPERATION 2 P.C.B..

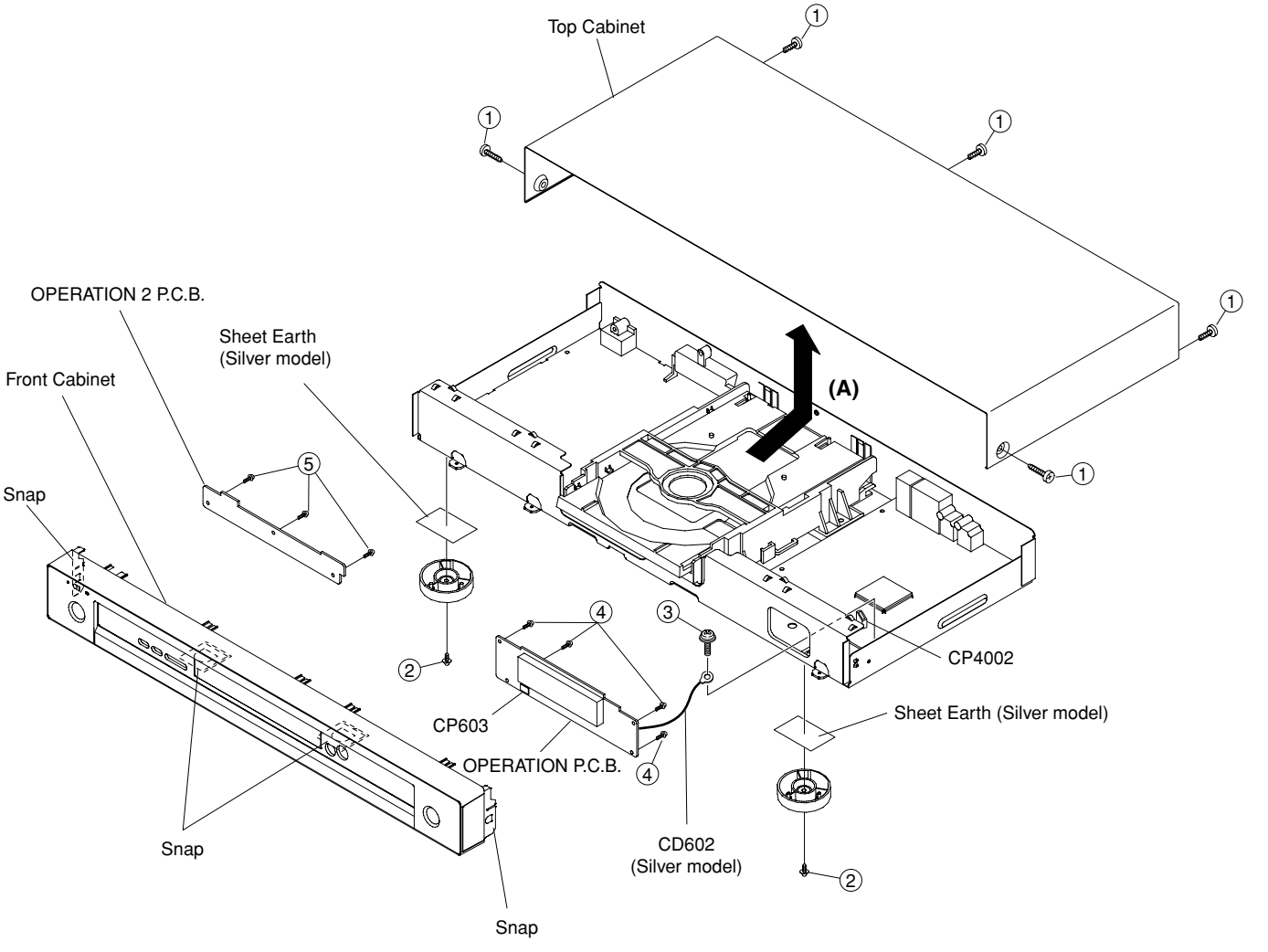


Fig. 2

4. Removal of DVD Mechanism Unit. (Fig. 3)

a. Short circuit the position shown in Fig. 3 using a soldering iron. If you remove the DVD Mechanism Unit with no soldering, the Laser may be damaged.
b. Remove 4 screws (⑥).
c. Remove 3 cable connections. [CP2301], [CP2302], [CP2303]
d. Remove the DVD Mechanism Unit.

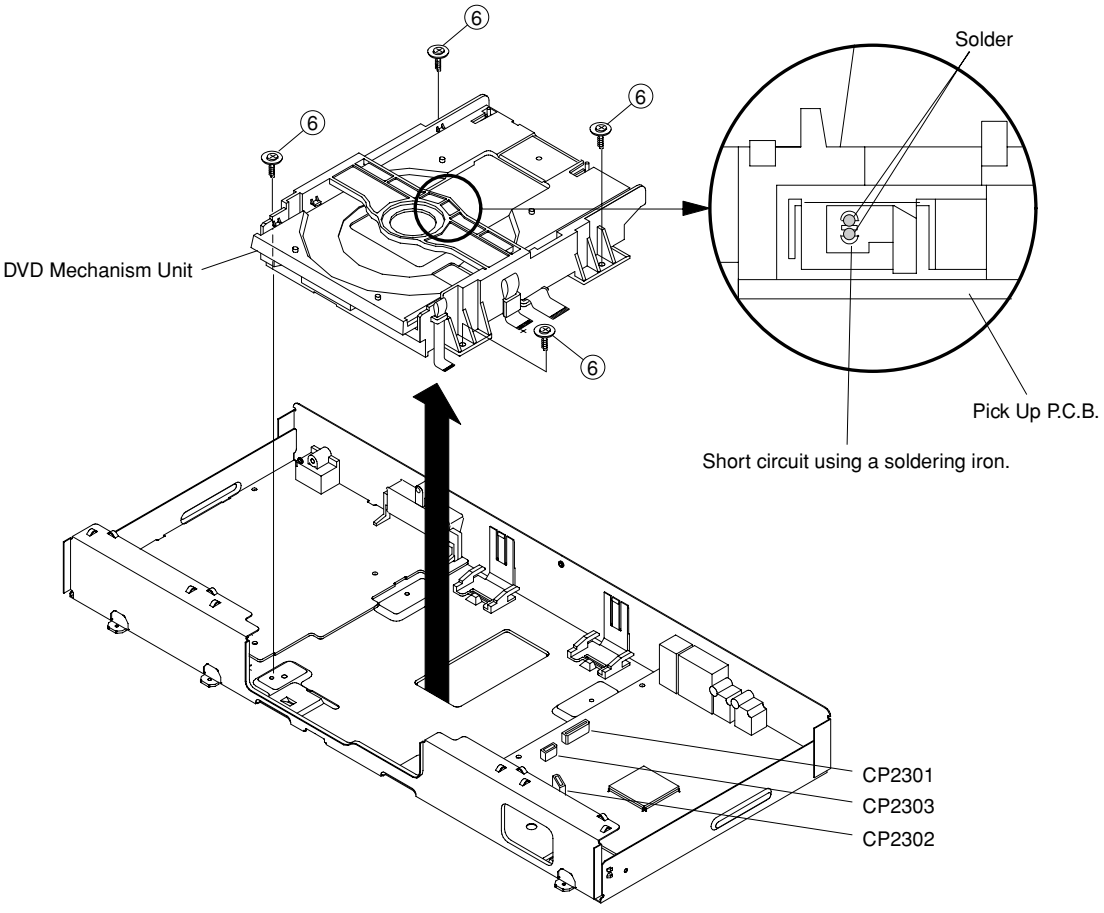


Fig. 3

5. Removal of POWER P.C.B.. (Fig. 4)

a. Remove 4 screws (⑦) and 2 screws (⑧).
b. Remove 3 cable connections. [CP503], [CP4001], [CP4003]
c. Remove the POWER P.C.B..

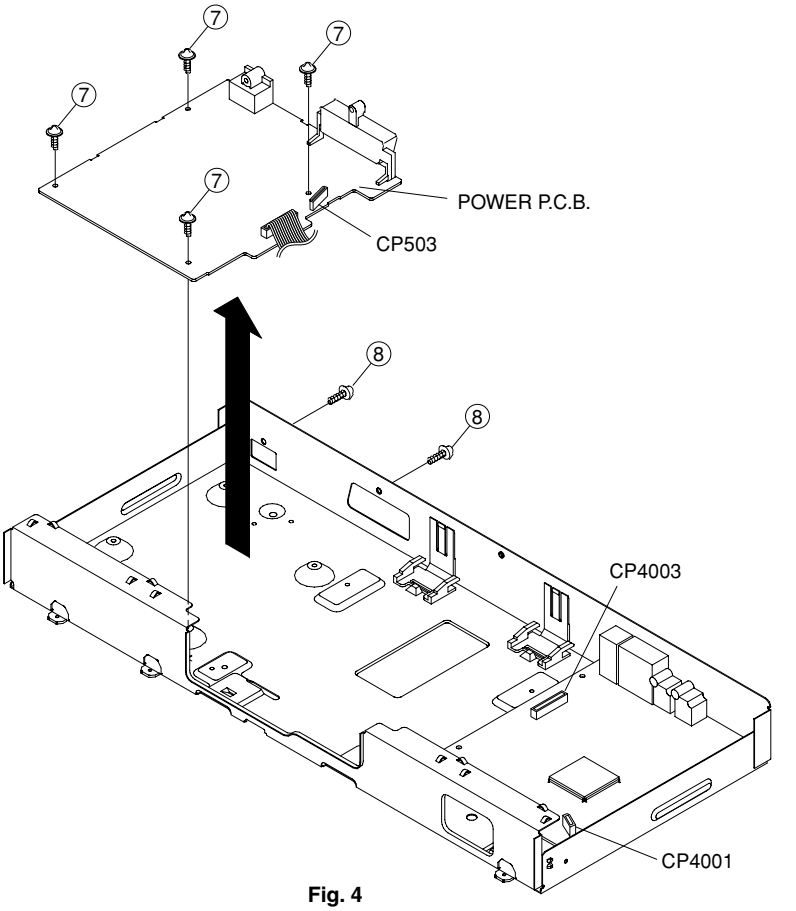


Fig. 4

6. Removal of DVD P.C.B. (Fig. 5)

a. Remove 4 screws (⑨) and 4 screws (⑩).
b. Remove the DVD P.C.B. in the direction of arrow (B).

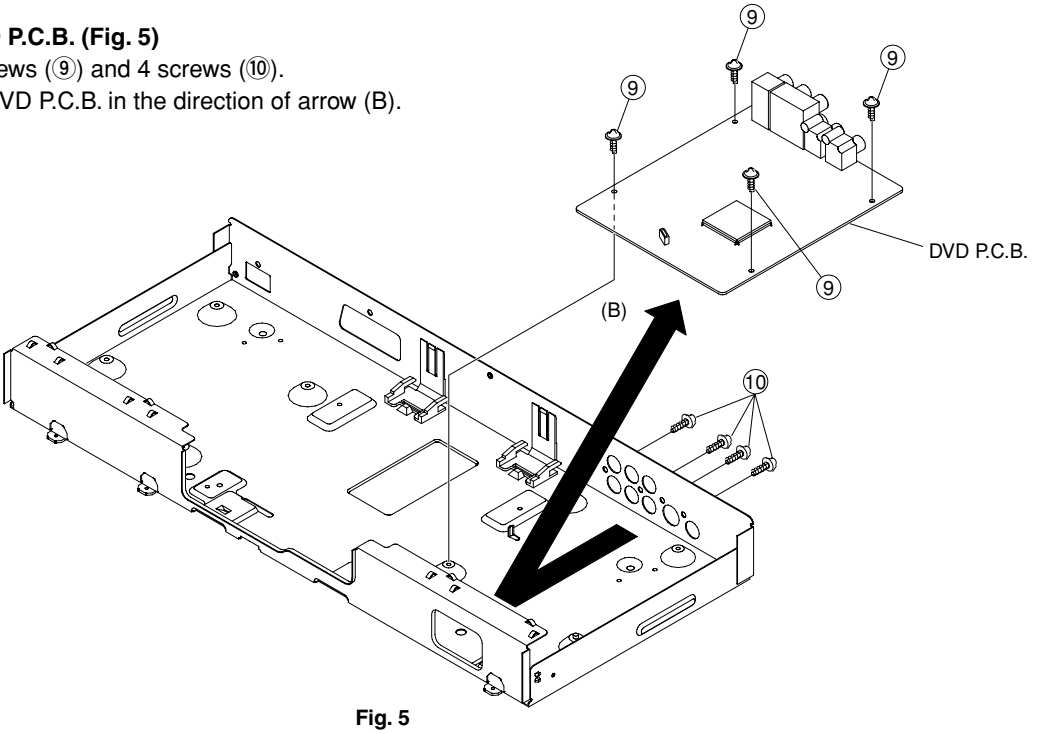


Fig. 5

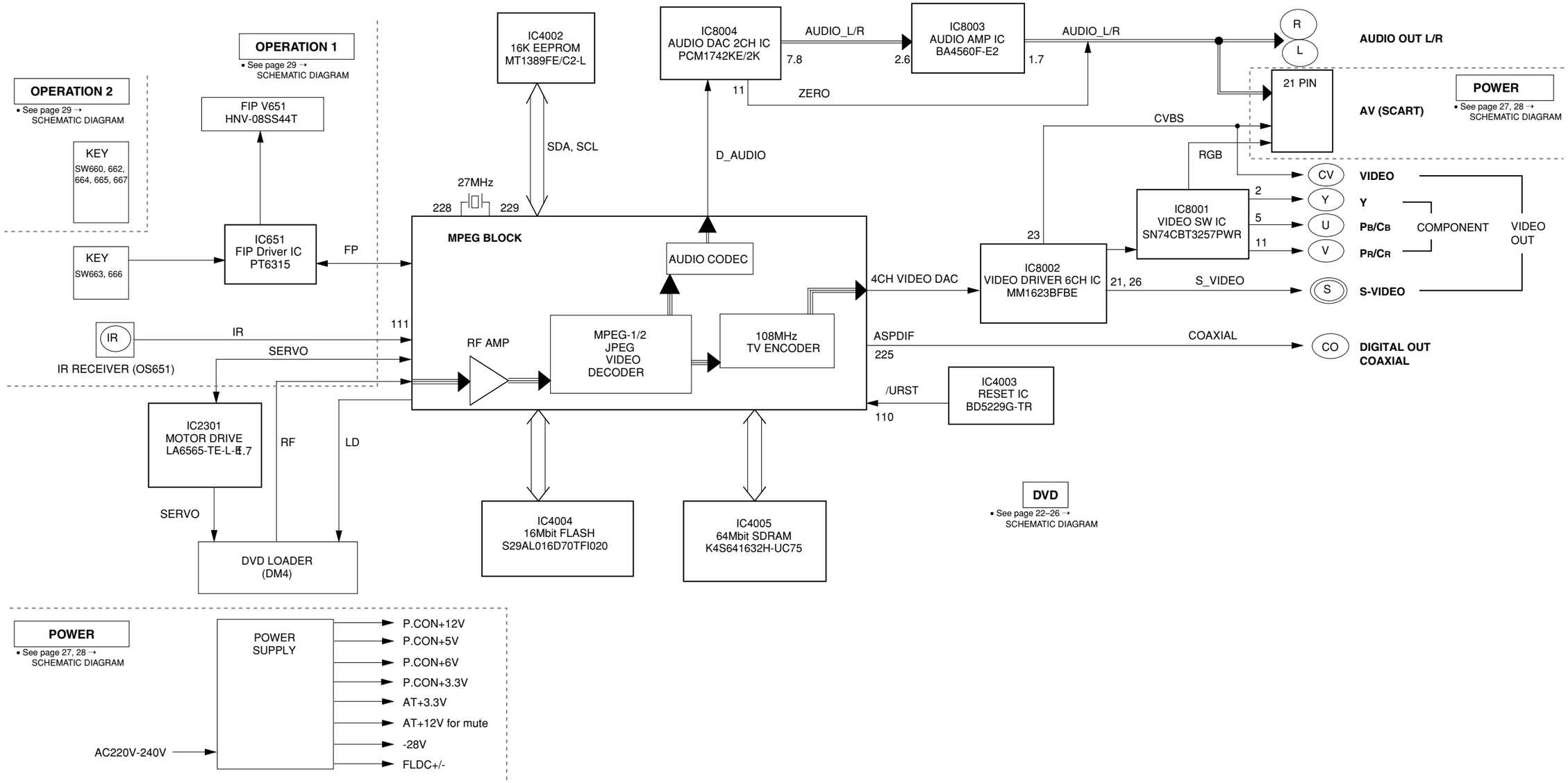
■ TROUBLESHOOTING

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	The power is not turned on.	"Check the voltage of AT+3.3V, -28V and FL-DC+/- on the POWER P.C.B. Ass'y."	POWER P.C.B. Ass'y
		Are wires of output connector CP502 on the POWER P.C.B. Ass'y and CP4003 on the DVD P.C.B. Ass'y disconnected or damaged ?	Connector CP502 on the POWER P.C.B. Ass'y and CP4003 on the DVD P.C.B. Ass'y. Cable (From POWER P.C.B. Ass'y to DVD P.C.B. Ass'y).
		Check that the voltage at IC651-pin 10 (K 1) on the OPERATION 1 P.C.B. Ass'y "becomes about 2.7V when the POWER key (SW667, OPERATION 2 P.C.B. Ass'y)" is pressed and 0 V when it is released.	Tact SW (SW660,662,664,665,667) on the OPERATION 2 P.C.B. Ass'y. (when operation of only the POWER key on the main unit is not accepted)
		Check that the voltage at OS651-pin 1 (IR) on the OPERATION 1 P.C.B. Ass'y is in the range between 0 and 3.3 V while receiving signals from the Remote Control when any key on it is pressed.	Remote receiver section on the OPERATION 1 P.C.B. Ass'y. (when operation of only the POWER key on the Remote Control is not accepted)
2	An opening screen is not displayed on the monitor. (The FL display (V651) lights. The mechanism does not work.)	Check the voltage of E+6.8V and SW+3.3V on the POWER SUPPLY Unit. Check the voltage of P.ON-H is about 2.8V on the POWER SUPPLY Unit.	POWER P.C.B. Ass'y.
		Check the voltage of IC4006-pin 2 is 1.8V on the DVD P.C.B. Ass'y.	1.8V Regulator IC (IC4006) on the DVD P.C.B. Ass'y.
		Is a resonator (X4001 : 27MHz) on the DVD P.C.B. Ass'y oscillating ?	Crystal resonator (X4001) on the DVD P.C.B. Ass'y.
		Is a signal input into IC4004-pin26 (PCE#) on the DVD P.C.B. Ass'y ? (Is a signal "H" for 80 mS and then "L" after the power is turned on ?) → Communication with flash ROM. Are the signals input into IC4005-pin 16 (DWE#), pin 19 (DCS#) and pin 38 (SDCLK) on the DVD P.C.B. Ass'y ? (Is a signal fluctuating ?) → Communication with SDRAM	DVD IC (IC4002), Flash ROM (IC4004) and SDRAM (IC4005) on the DVD P.C.B. Ass'y.
		Is a signal output from IC4004-pin 28 (PRD#) on the DVD P.C.B. Ass'y ? (Is a signal fluctuating for several hundred mS after the power is turned on ?)	Flash ROM (IC4004) on the DVD P.C.B. Ass'y.
		Are the signals of IC4001-pin 5 (SDA) and pin 6 (SCL) on the DVD P.C.B. Ass'y fluctuating for one or two seconds after the power is turned ?	EEPROM (IC4001) on the DVD P.C.B. Ass'y.
		Check the video signal path between DVD IC (IC4002) on the DVD P.C.B. Ass'y and Video-out (J8001) terminal.	Video circuit after DVD IC (IC4002) on the DVD P.C.B. Ass'y.
3	A tray cannot be opened. (An opening screen is displayed on the monitor)	Does the voltage of CP2302-pin 3 and pin 1 on the DVD P.C.B. Ass'y change normally ? SW-1-pin 3 (OPEN) on the DVD Mechanism Unit : Tray is fully opened: "L" SW-2-pin 5 (CLOSE) on the DVD Mechanism Unit : Tray is fully closed: "L"	Tray SW on the DVD Mechanism Unit.
		Is a LOAD-DRV signal reaching ?	DVD IC (IC4002) on the DVD P.C.B. Ass'y.
		Are the signals output from IC101-pin 36 and pin 37 (CN103-pin 1 and pin 2) on the DVD Mechanism Unit ? Pin 4: Approx. 45V during opening tray approx. 0V during closing tray. Pin 5: Approx. 0V during opening tray approx. 4.5V during closing tray.	DVD P.C.B. Ass' y FTS Driver IC (IC2301)
		Are wires of CP2302 and CP2303 on the DVD P.C.B. Ass'y disconnected or damaged ?	Connector CP2302 and CP2303 on the DVD P.C.B. Ass'y. Cable (From DVD P.C.B. Ass'y to DVD Mechanism Unit).

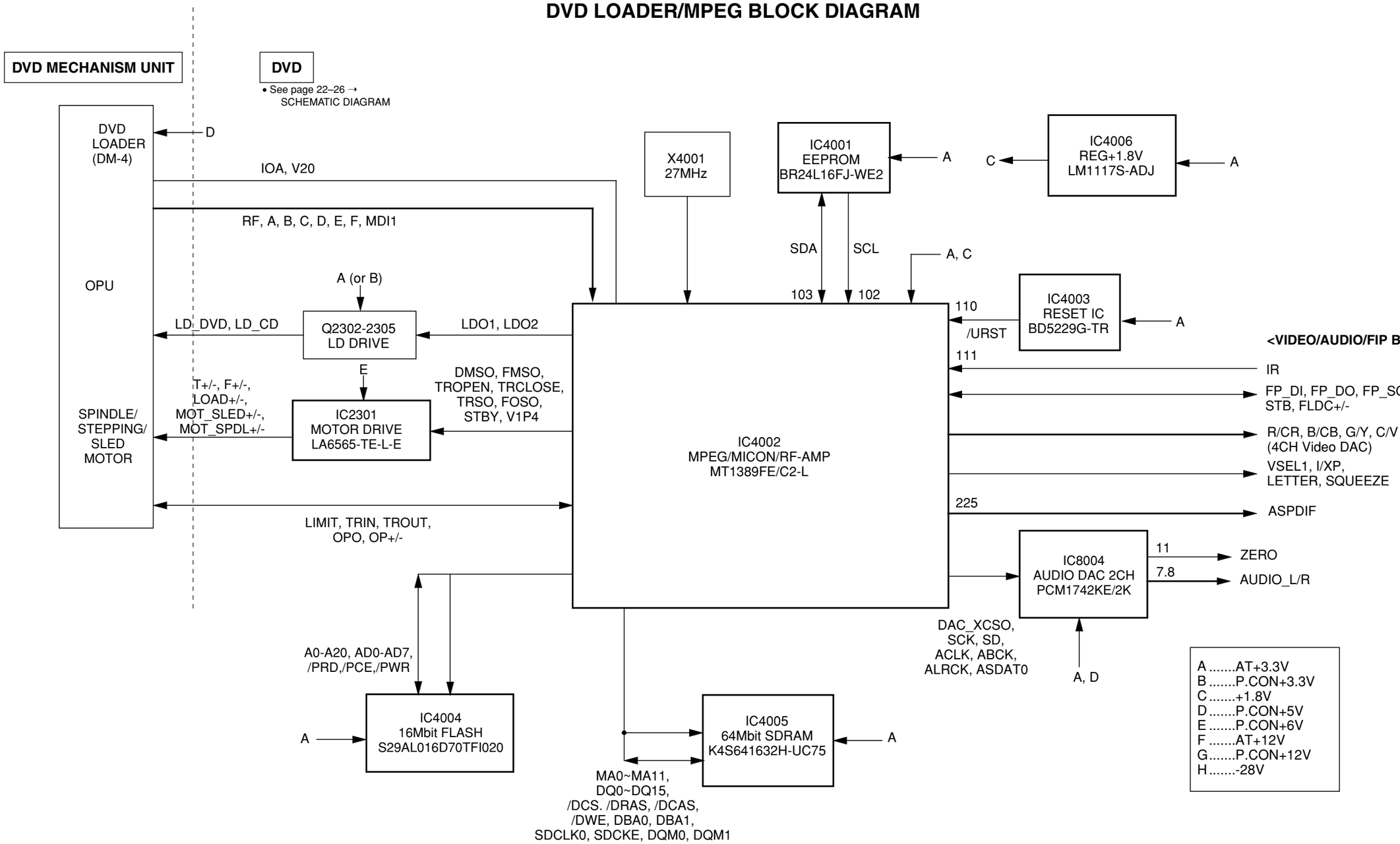
No.	Symptoms	Diagnosis Contents	Possible Defective Points
		Does the voltage of CP2301-pin 5 on the DVD Mechanism Unit change by pressing the Inside switch (SW2).	Inside switch (SW2) on the DVD Mechanism Unit.
4	Playback impossible (no focusing)	Are the signals output from IC2301-pin 9 (F+) and pin 8 (F-) on the DVD P.C.B. Ass'y ?	FTS Driver IC (IC2301) on the DVD P.C.B. Ass'y.
		Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?	Pickup on the DVD Mechanism Unit.
		Are plastic parts damaged ? Or is a shaft detached ? Is the turntable detached or tilted ?	Mechanism section (motor) on the DVD Mechanism Unit.
		Is cable of CP2301 on the DVD P.C.B Ass'y disconnected or damaged ?	Connector CP2301 on the DVD P.C.B. Ass'y. Cable (From DVD P.C.B. Ass'y to DVD Mechanism Unit).
		Is signal output from IC4002-pin 42 (FOSO) on the DVD P.C.B. Ass'y ? (Device control of about 1.4 V is output usually. It is fluctuated by about ± 250 mV with focus up / down.)	DVD IC (IC4002) on the DVD P.C.B. Ass'y.
5	Playback impossible (Spindle does not turn)	Are the signals output from IC2301-pin 10 (MOT SPDL-), and pin 11 (MOT SPDL+)" on the DVD P.C.B. Ass'y ? Is IC2301-pin 33,34 (STBY) on the DVD P.C.B. Ass'y fixed LOW ?	FTS Driver IC (IC2301) on the DVD P.C.B. Ass'y.
		Is there any part detached from the spindle motor ? Or Is there any foreign object lodged in it ?	Mechanism section (Spindle motor) on the DVD Mechanism Unit.
		Are wires of CP2303 on the DVD P.C.B. Ass'y disconnected or damaged ?	Connector CP2301 on the DVD P.C.B. Ass'y. Cable (From DVD P.C.B. Ass'y to DVD Mechanism Unit).
		Is signal output from IC4002-pin 37 (DMSO) on the DVD P.C.B. Ass'y ?	DVD IC (IC4002) on the DVD P.C.B. Ass'y.
6	Playback impossible (Playback stops)	Does 650-nm LD deteriorate ? If the voltage at each both ends of R2303 and R2305 on the DVD Mechanism Unit is 0.4 V or more, the 650-nm LD is definitely deteriorated.	650-nm LD deteriorated. (When playback of a DVD is impossible)
		Does 780-nm LD deteriorate ? If the voltage at each both ends of R2302 and R2304 on the DVD Mechanism Unit is 0.4 V or more, the 780-nm LD is definitely deteriorated.	780-nm LD deteriorated. (When playback of a CD is impossible)
7	Picture disturbance during playback (block noise, freeze, other)	Are there scratches or dirt on the disc ?	Disc
		Are there scratches or dirt on the disc ? Is there a problem with the format of the disc ?	Disc
8	No sound (Picture is normal)	Check the waveform. IC4002-213pin (ALRCK), 214pin (ABCK), 215pin (ACLK), 217pin (ASDATA)	DVD IC (IC4002)
		Is signal output from IC8004-pin 7 and pin 8 on the DVD P.C.B. Ass'y ?	Audio Dac IC (IC8004) on the DVD P.C.B. Ass'y.

■ BLOCK DIAGRAMS

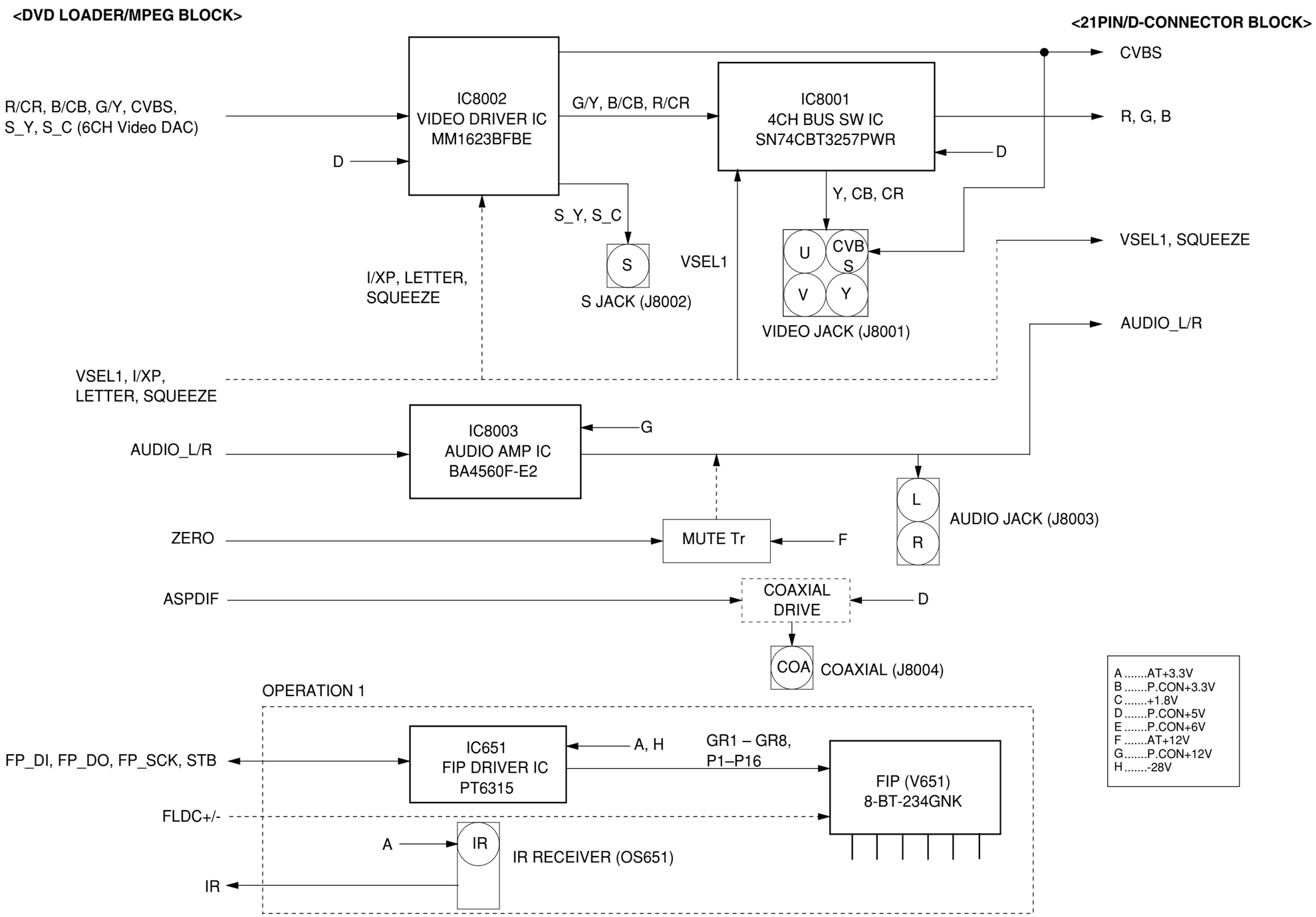
OVERALL BLOCK DIAGRAM



DVD LOADER/MPEG BLOCK DIAGRAM

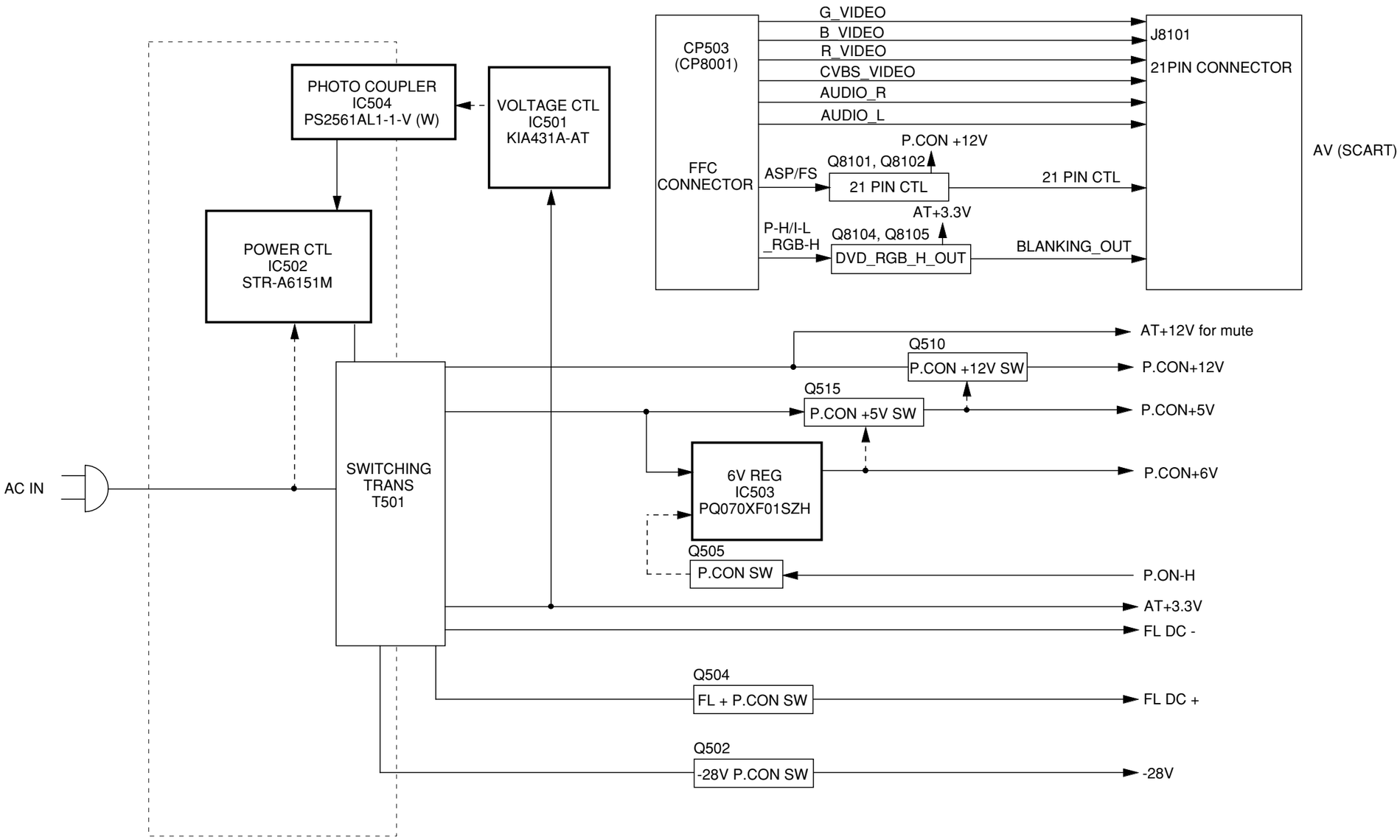


VIDEO/AUDIO/FIP BLOCK DIAGRAM

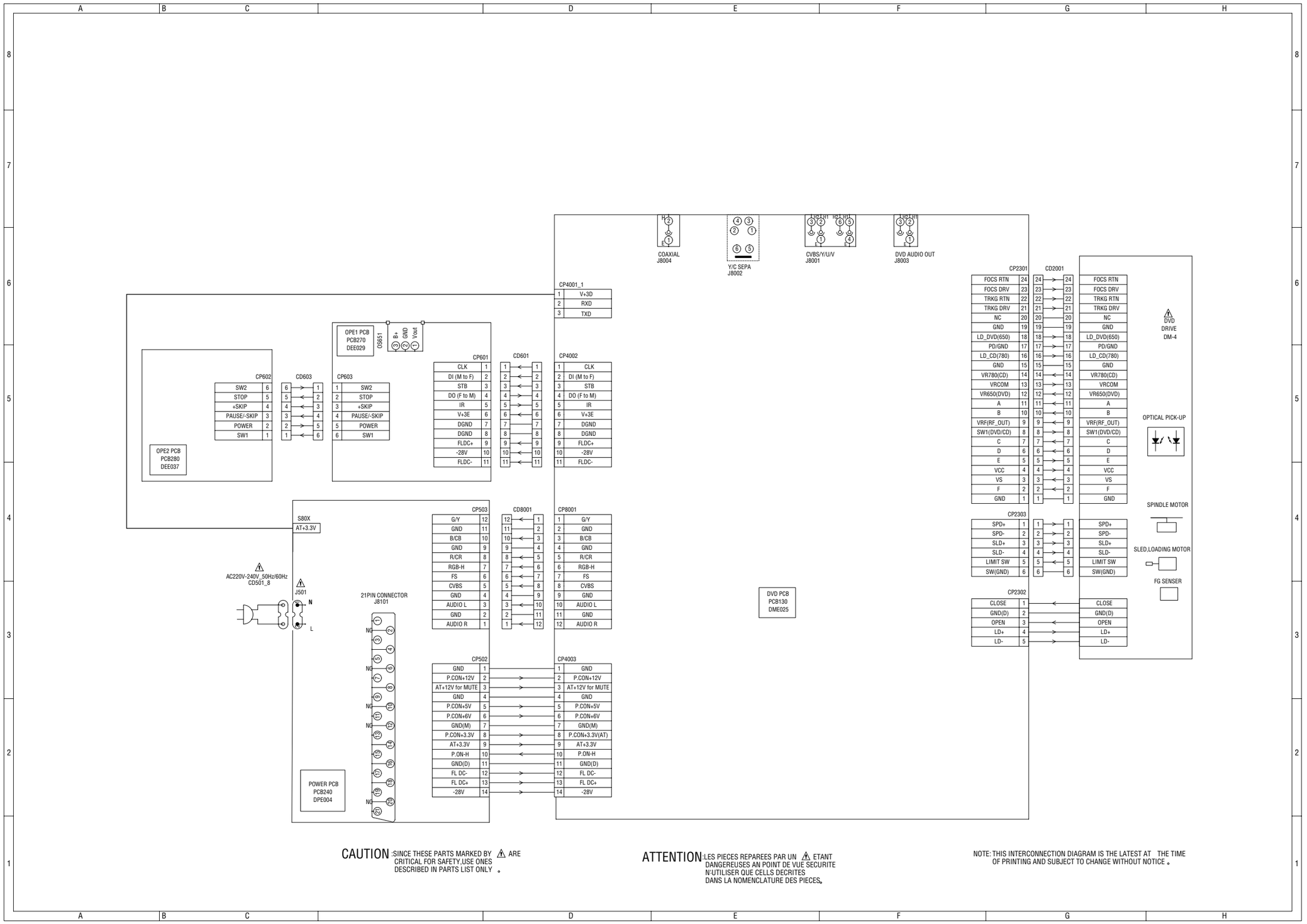


A .....AT+3.3V
B .....P.CON+3.3V
C .....+1.8V
D .....P.CON+5V
E .....P.CON+6V
F .....AT+12V
G.....P.CON+12V
H.....-28V

POWER/21 PIN BLOCK DIAGRAM



■ WIRING DIAGRAM



CAUTION :SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION:LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

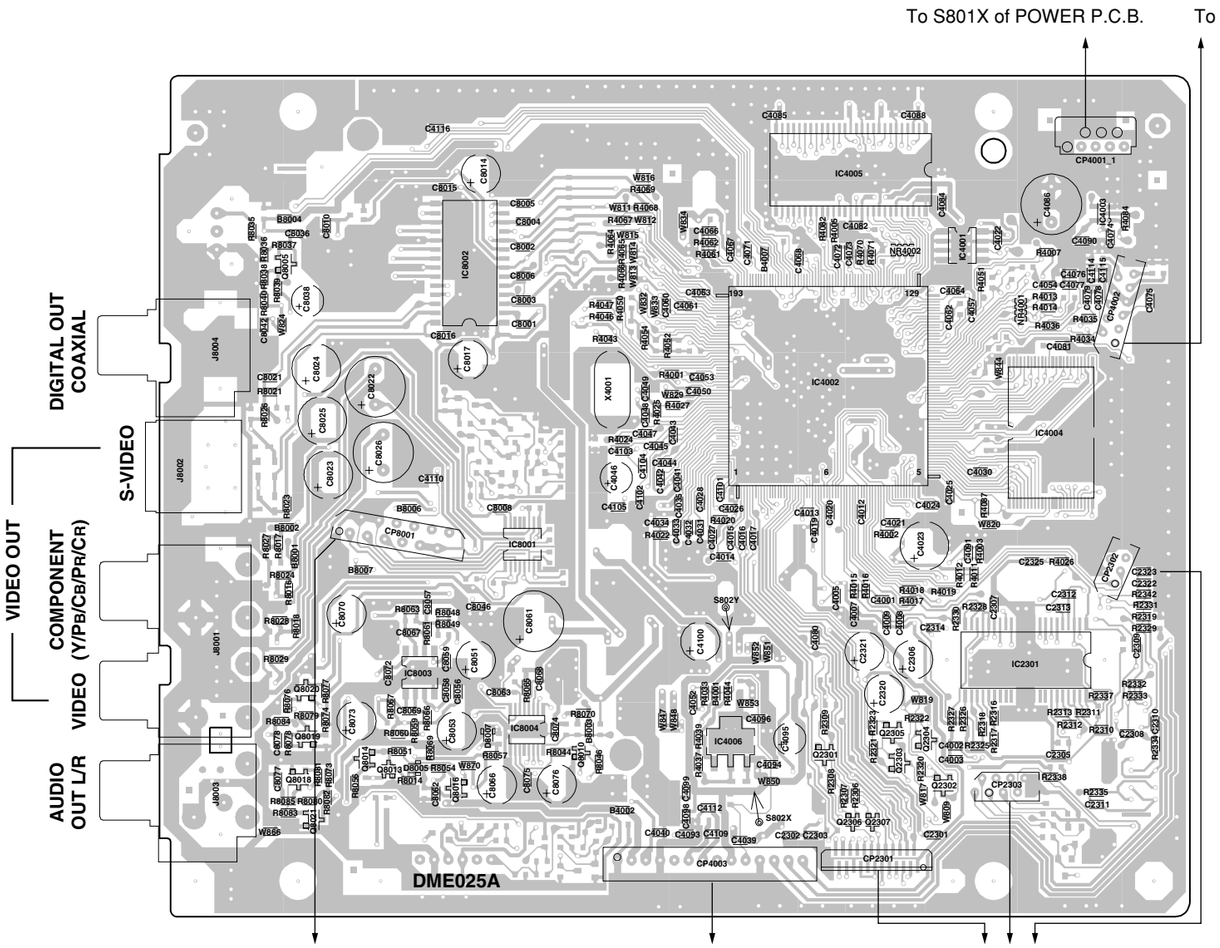
NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

■ PRINTED CIRCUIT BOARDS

FOR INFORMATION ONLY (NO REPLACEMENT COMPONENT PARTS WILL BE AVAILABLE)

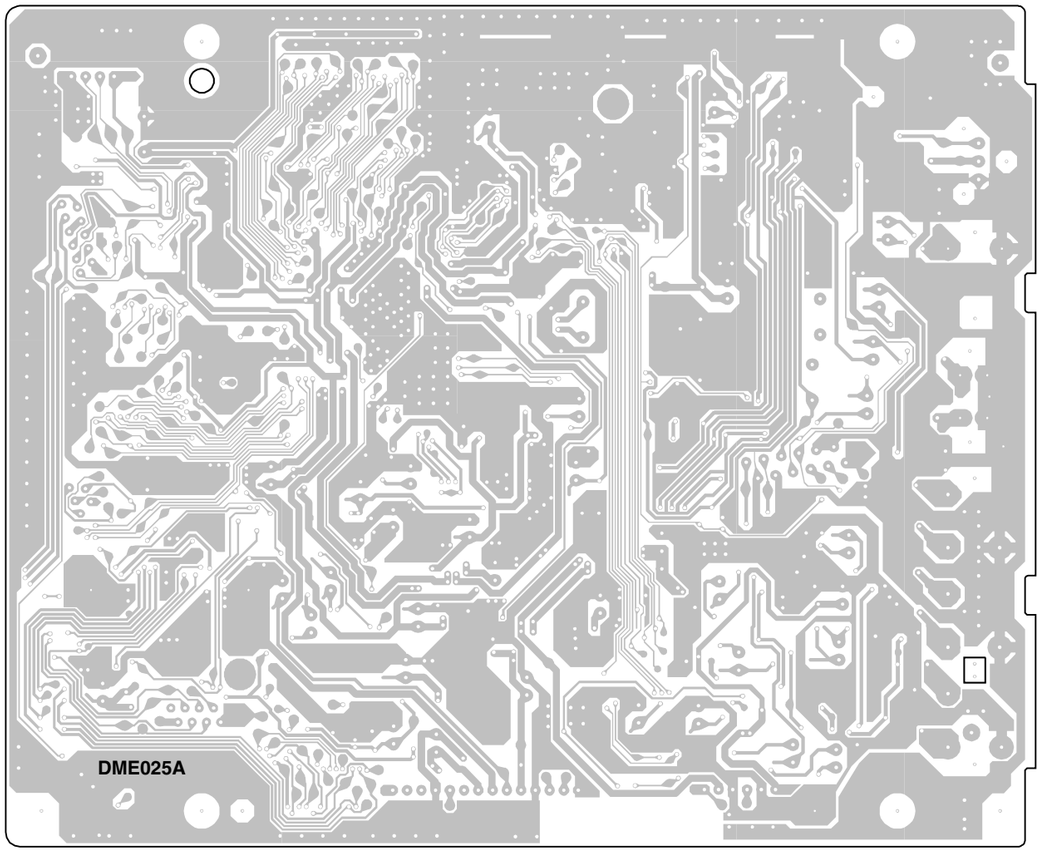
DVD (TOP VIEW)

Lead Free Solder Used

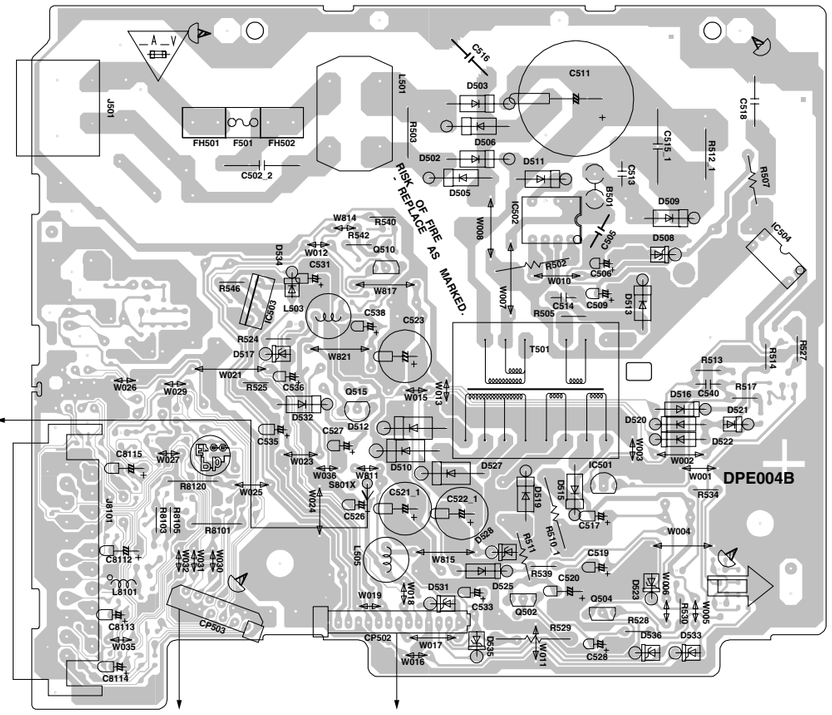


DVD (BOTTOM VIEW)

Lead Free Solder Used

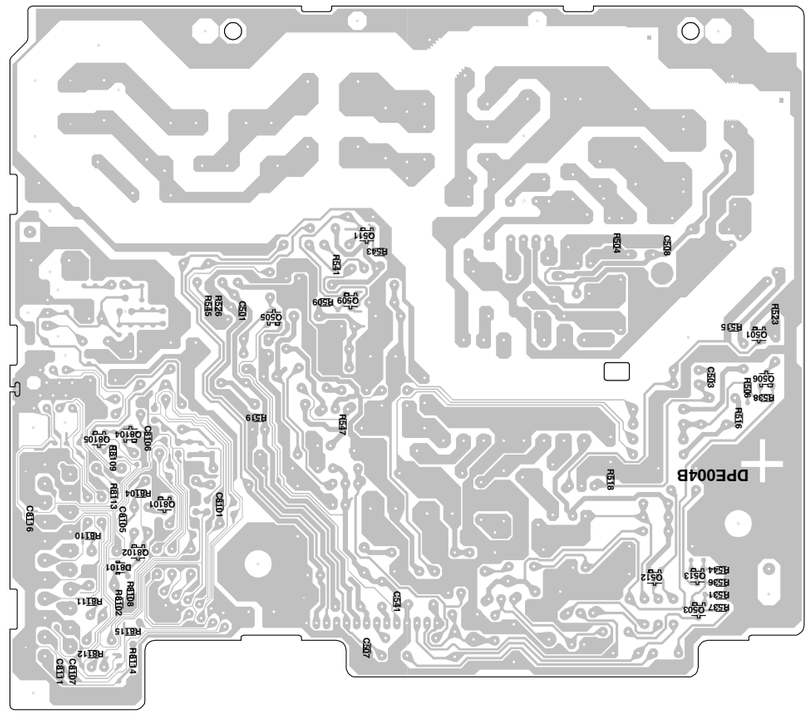


POEWR (INSERTED PARTS) SOLDER SIDE

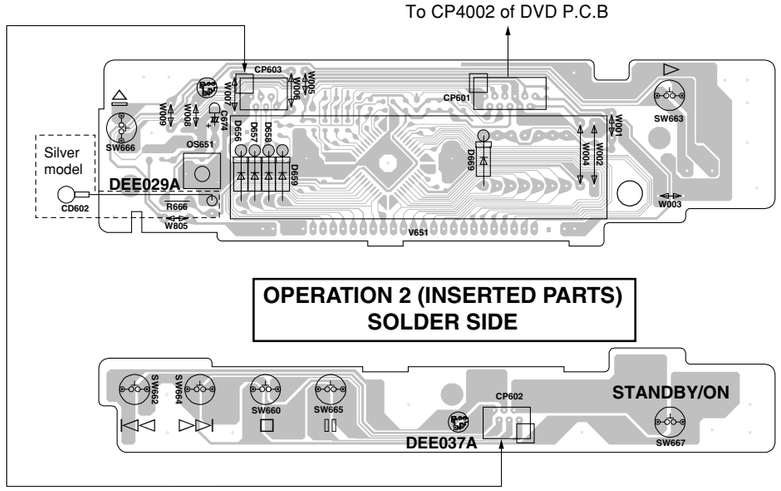


POEWR (CHIP MOUNTED PARTS) SOLDER SIDE

Lead Free Solder Used

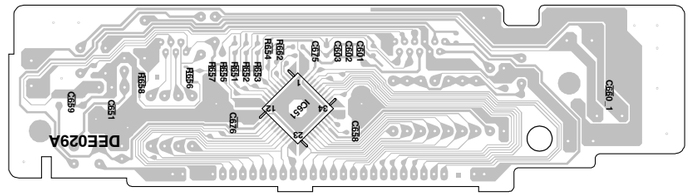


OPERATION 1 (INSERTED PARTS) SOLDER SIDE



OPERATION 1 (CHIP MOUNTED PARTS) SOLDER SIDE

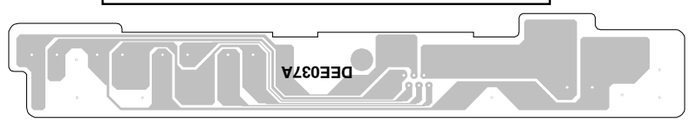
Lead Free Solder Used



OPERATION 2 (INSERTED PARTS) SOLDER SIDE

OPERATION 2 (CHIP MOUNTED PARTS) SOLDER SIDE

Lead Free Solder Used

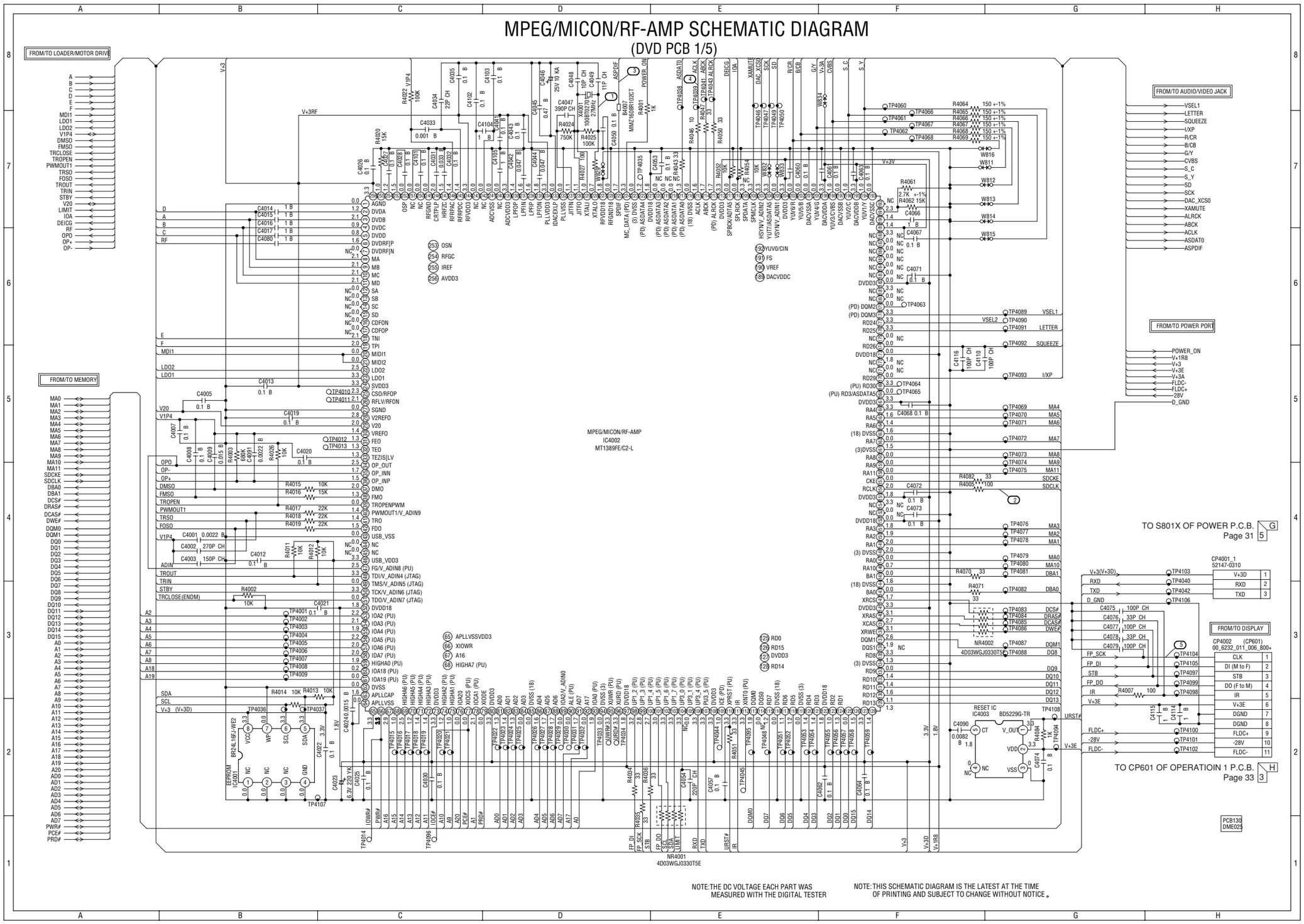


■ SCHEMATIC DIAGRAMS

FOR INFORMATION ONLY (NO REPLACEMENT COMPONENT PARTS WILL BE AVAILABLE)

MPEG/MICON/RF-AMP SCHEMATIC DIAGRAM

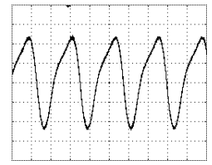
(DVD PCB 1/5)



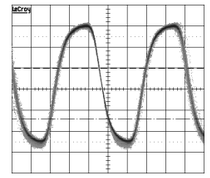
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

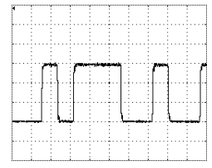
Point ①
500 µs
200 mV



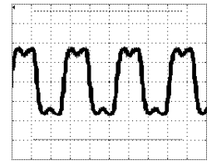
Point ②
2 ns
1.0 V



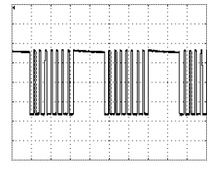
Point ③
200 ns
1.0 V



Point ④
20 ns
1.0 V



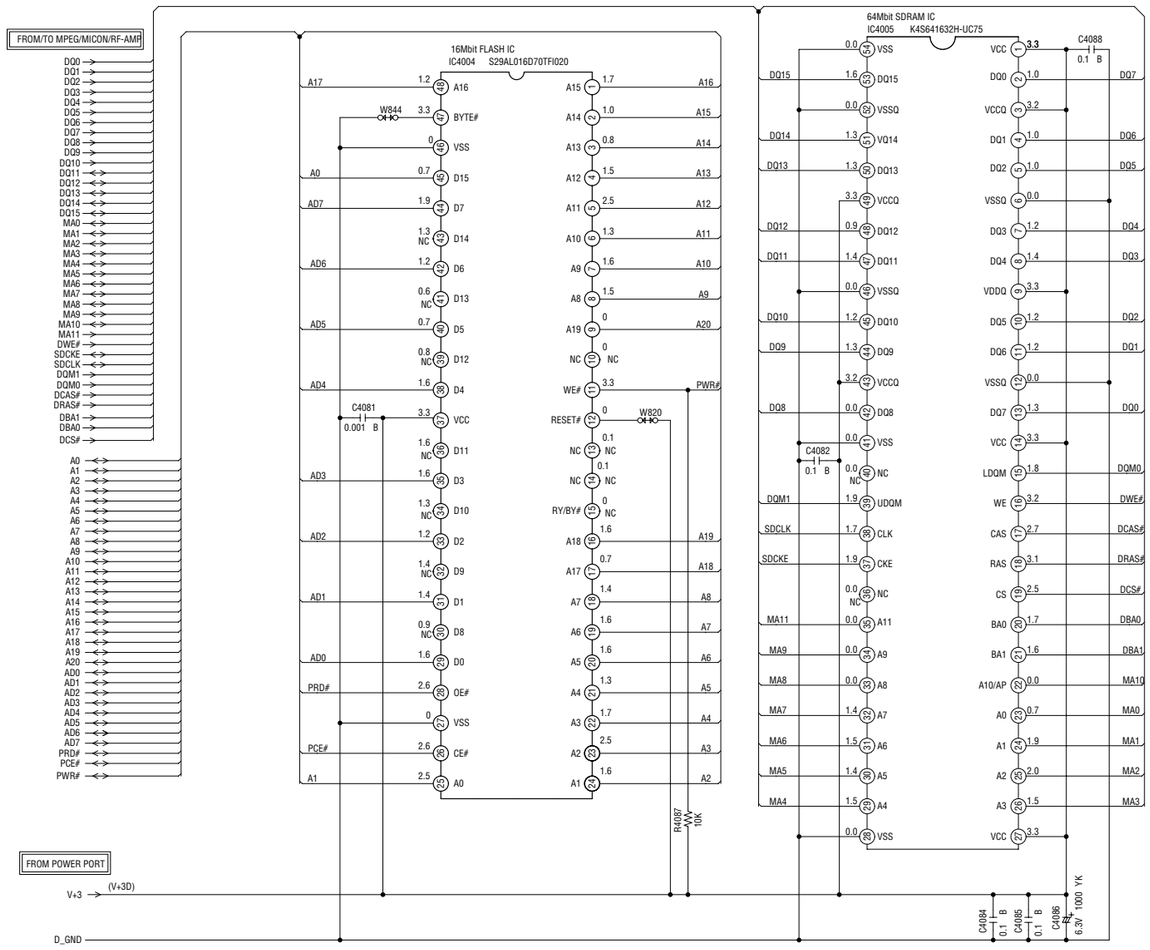
Point ⑤
20 µs
1.0 V



* 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.

MEMORY SCHEMATIC DIAGRAM

(DVD PCB 2/5)



NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

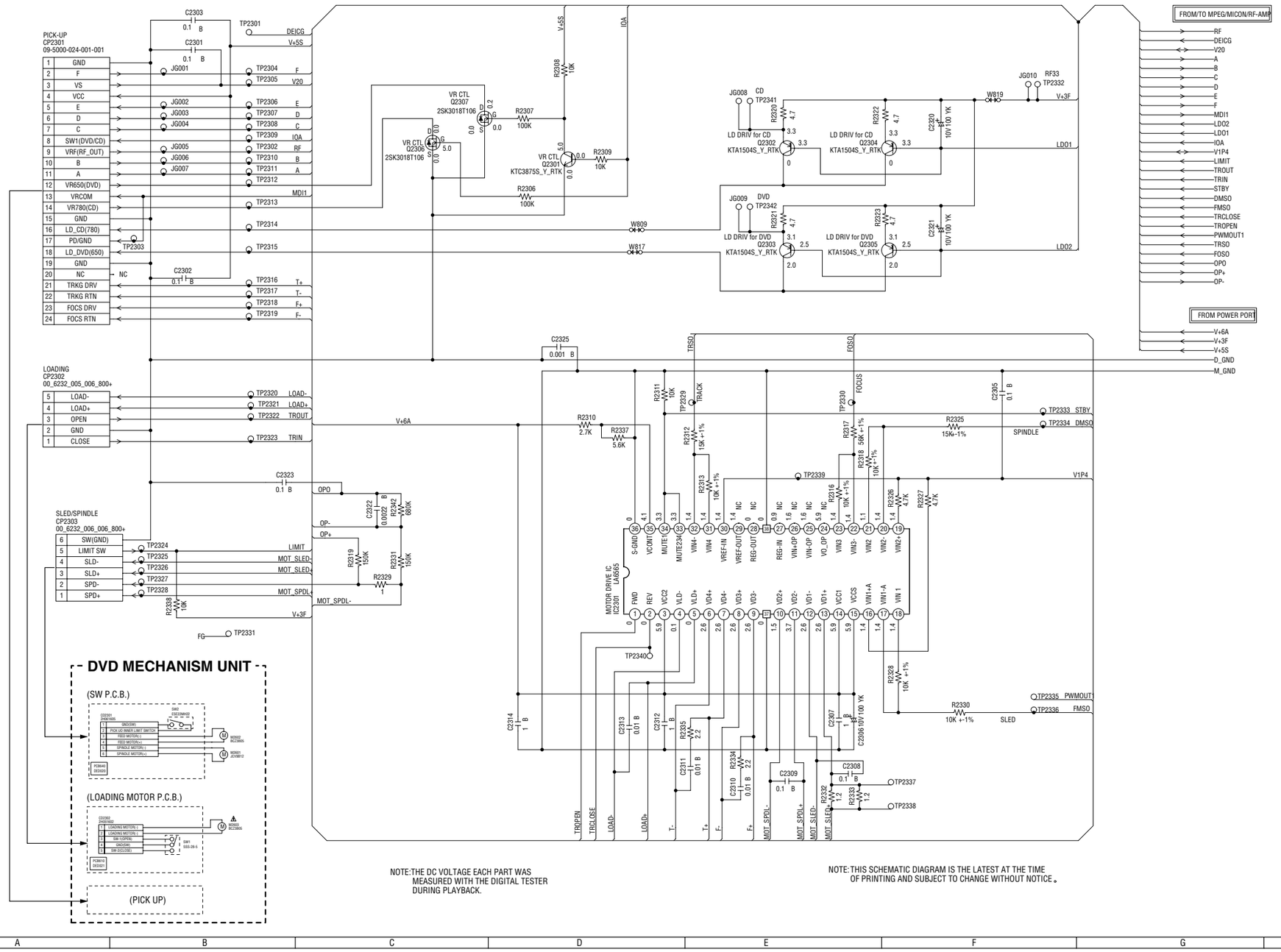
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PCB130
DME025

* 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.

LOADER/MOTOR DRIVE SCHEMATIC DIAGRAM

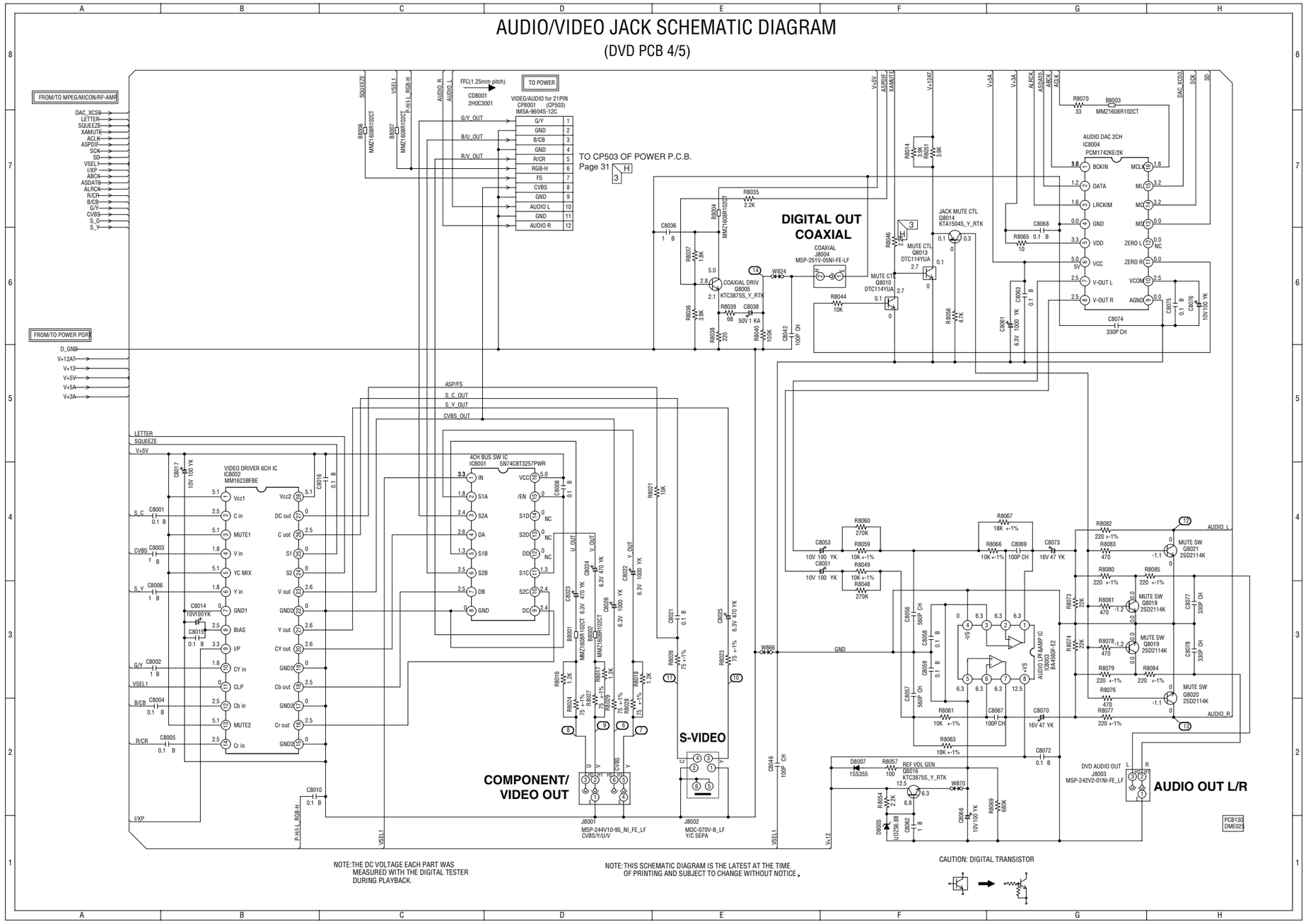
(DVD PCB 3/5)



* 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.

AUDIO/VIDEO JACK SCHEMATIC DIAGRAM

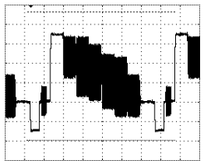
(DVD PCB 4/5)



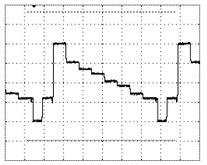
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

Point ⑥
10 µs
200 mV

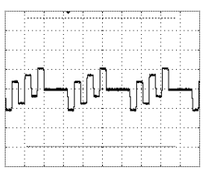


Point ⑦
10 µs
500 mV

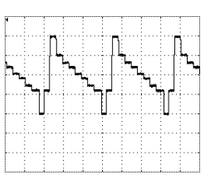


Point ⑧
20 µs
500 mV

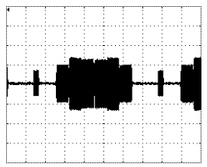
Point ⑨
20 µs
500 mV



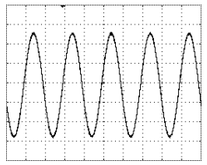
Point ⑩
20 µs
500 mV



Point ⑪
10 µs
500 mV



Point ⑫
500 µs
1.0 V



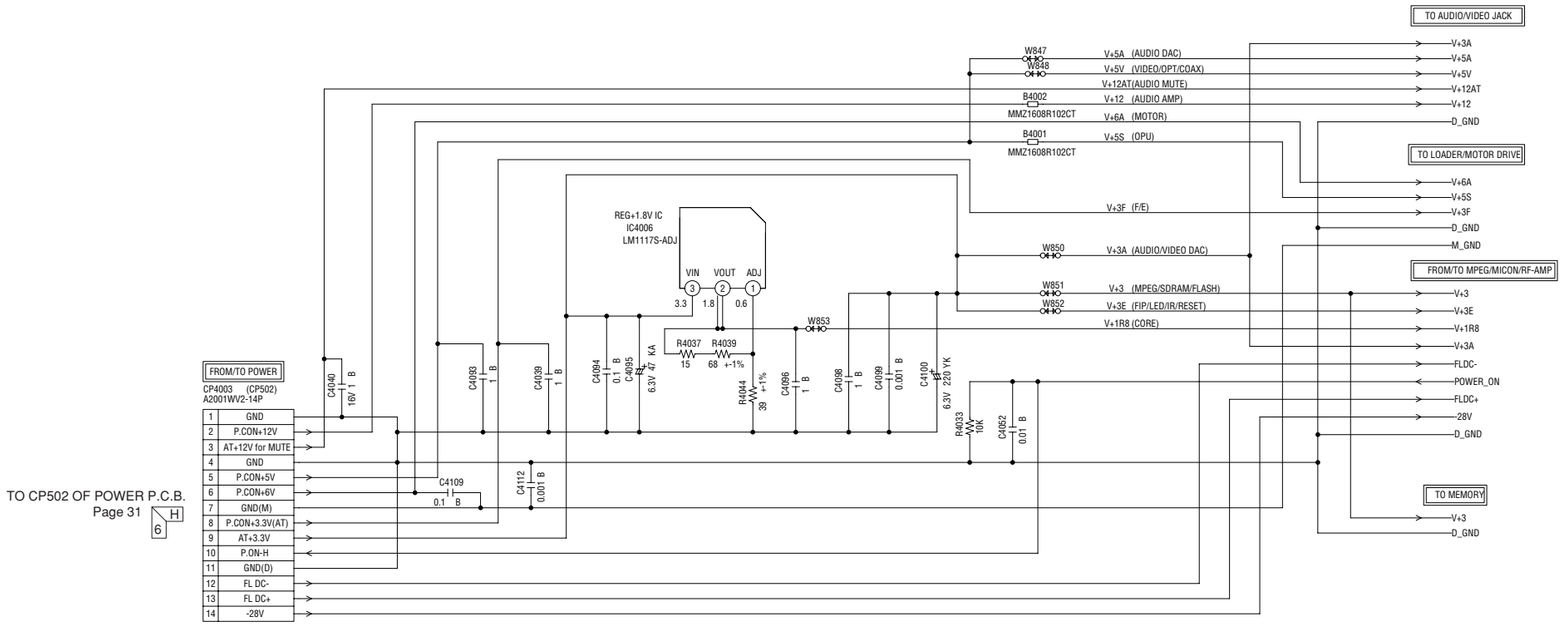
Point ⑬
500 µs
1.0 V

Point ⑭
200 ns
500 mV

* 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.

POWER PORT SCHEMATIC DIAGRAM

(DVD PCB 5/5)



CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

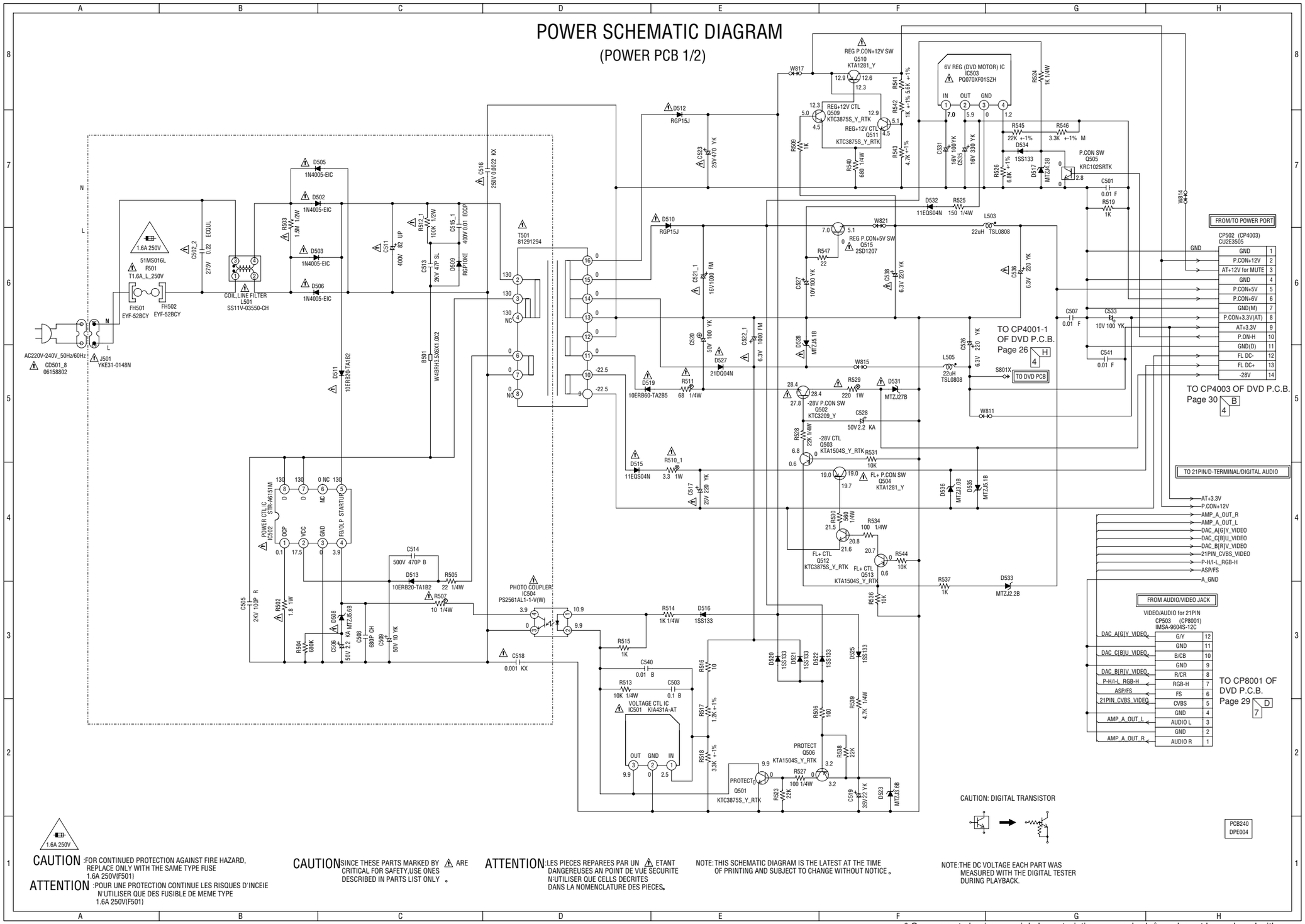
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

* 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.

POWER SCHEMATIC DIAGRAM

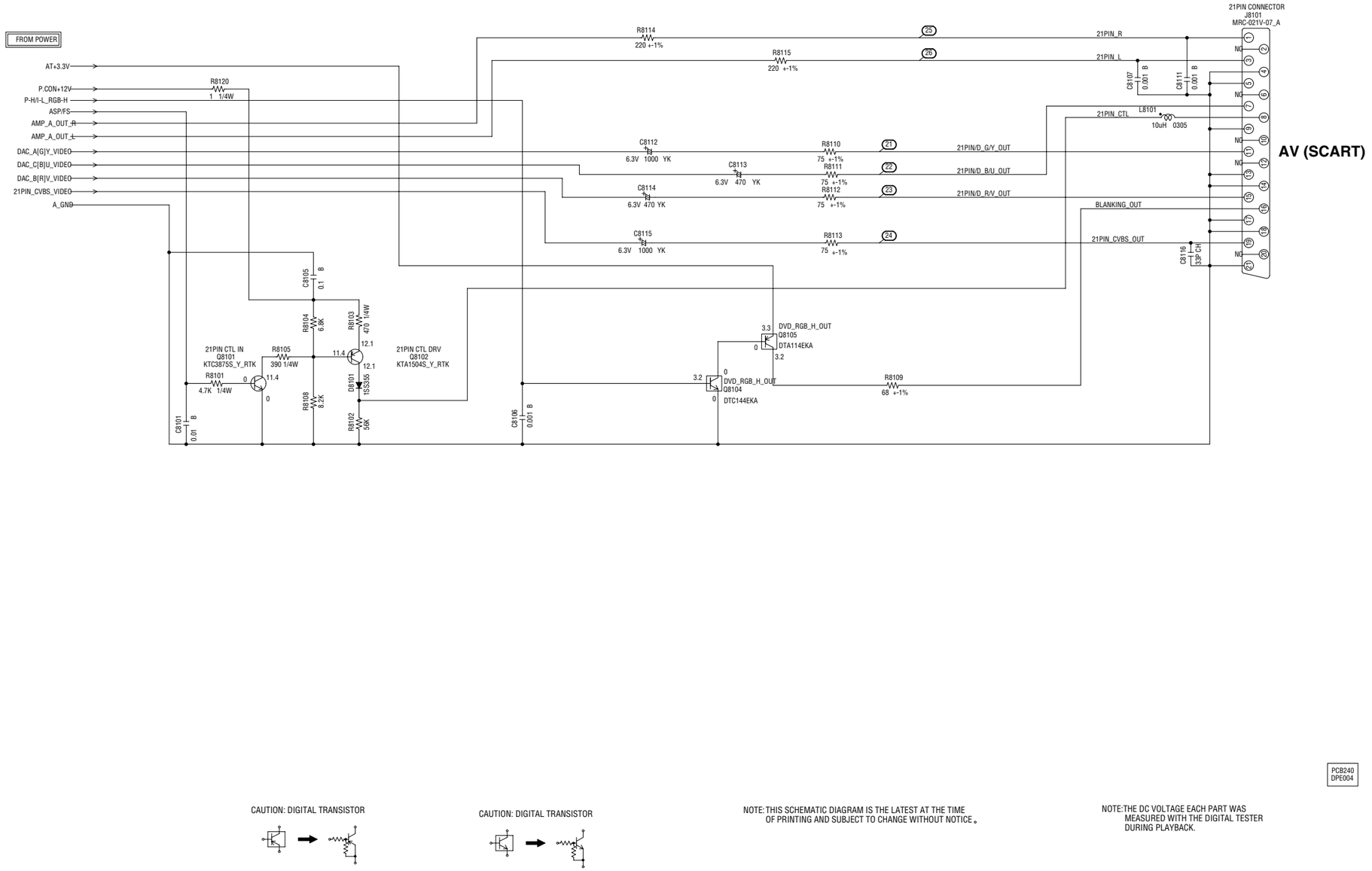
(POWER PCB 1/2)



* 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.

21PIN/D-TERMINAL/DIGITAL AUDIO SCHEMATIC DIAGRAM

(POWER PCB 2/2)



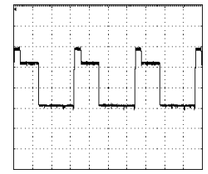
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

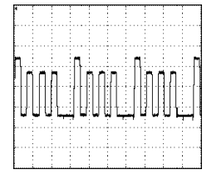
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

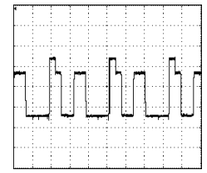
Point ㉑
20 µs
500 mV



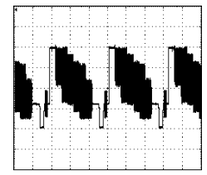
Point ㉒
20 µs
500 mV



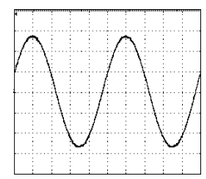
Point ㉓
20 µs
500 mV



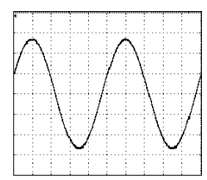
Point ㉔
20 µs
500 mV



Point ㉕
200 µs
1.0 V



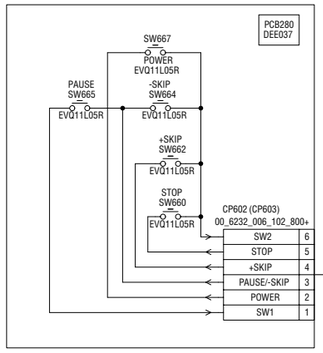
Point ㉖
200 µs
1.0 V

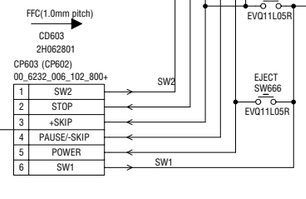


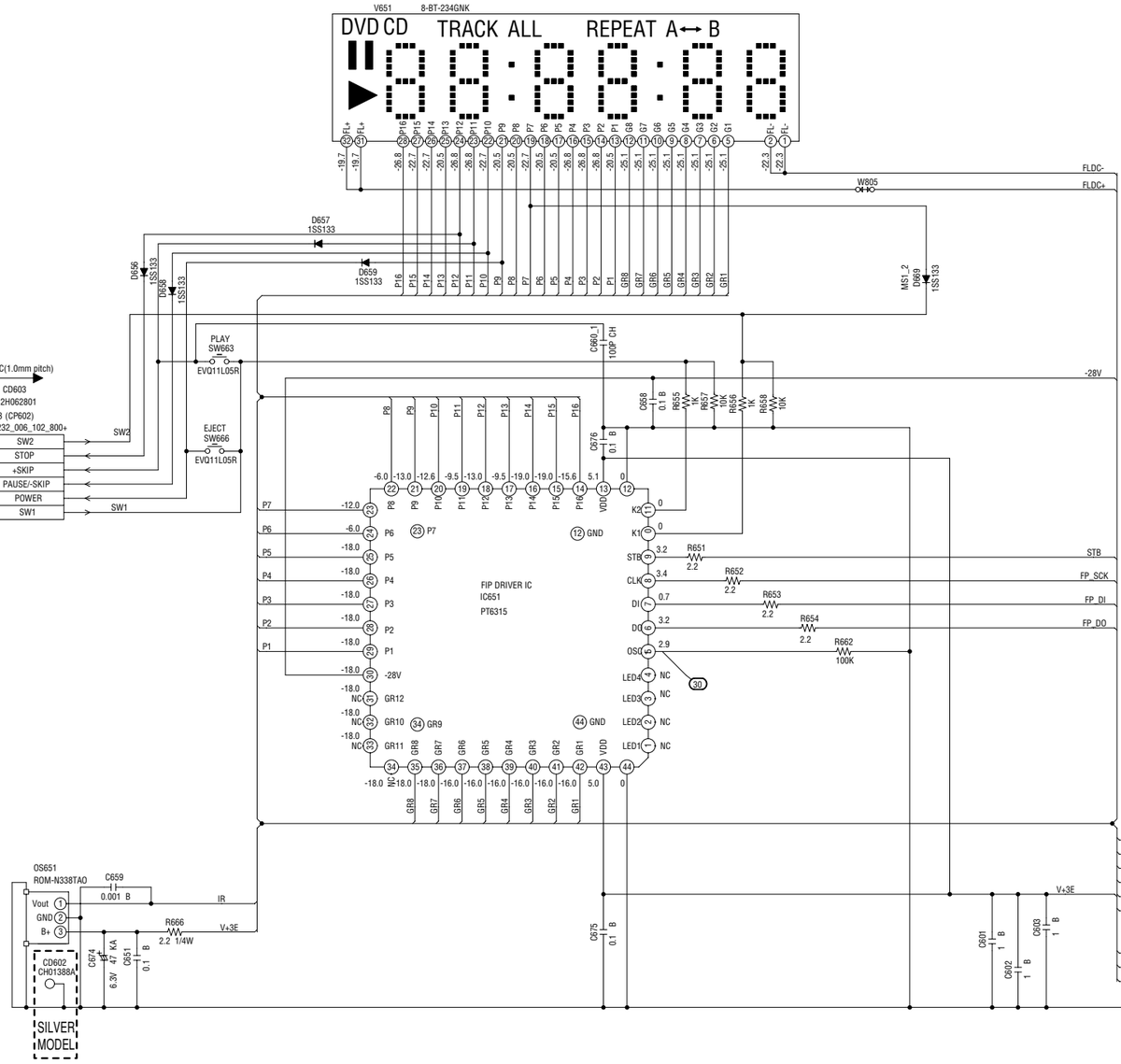
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

DISPLAY SCHEMATIC DIAGRAM
(OPERATION 1 PCB)

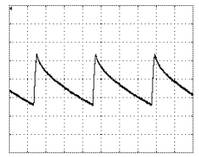
PANEL KEY SCHEMATIC DIAGRAM
(OPERATION 2 PCB)







Point ㉚
1 µs
500 mV



NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

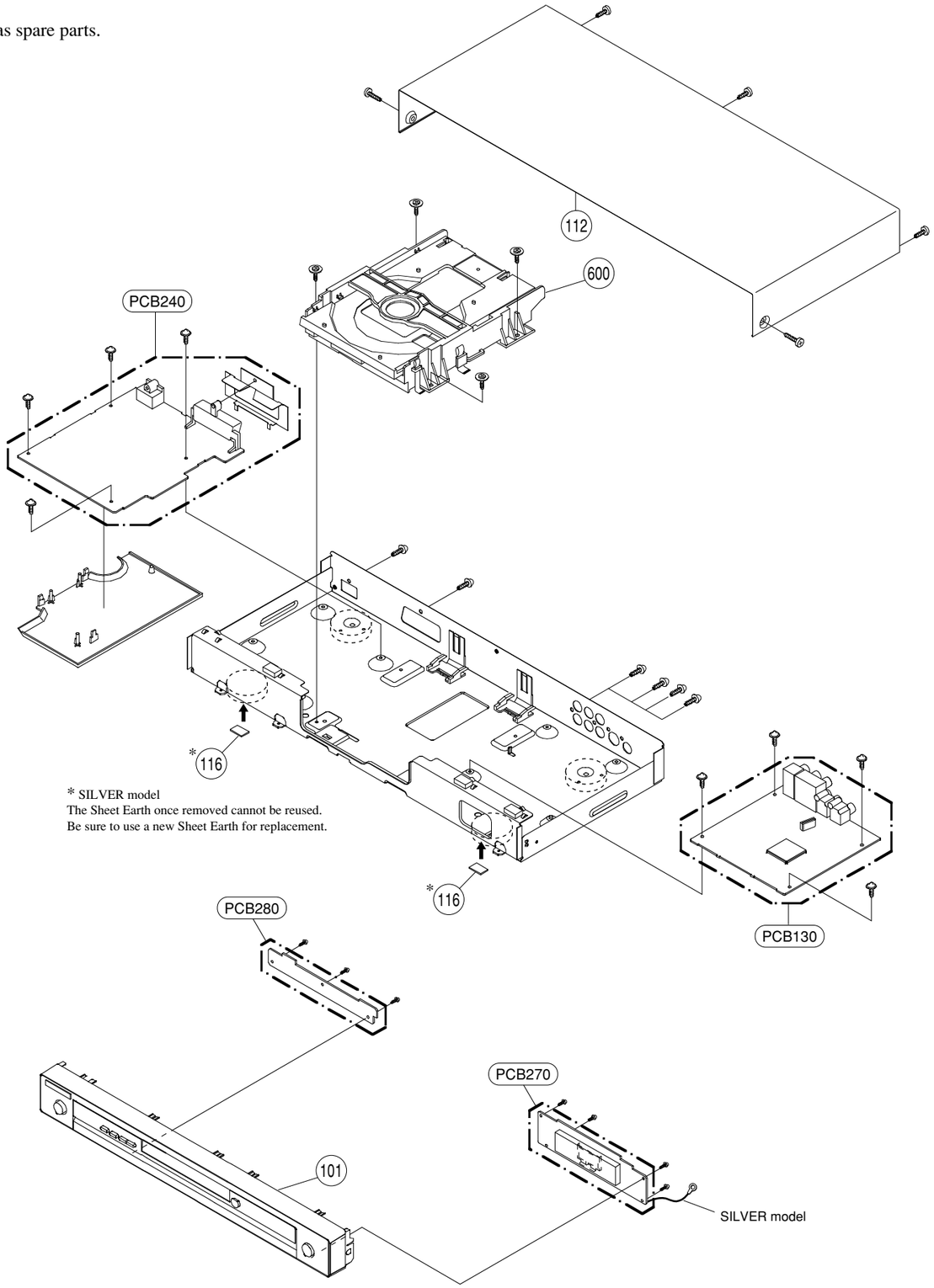
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

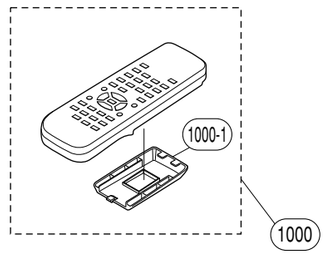
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

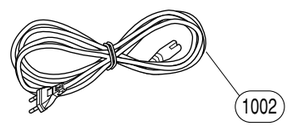
■ REPLACEMENT PARTS LIST

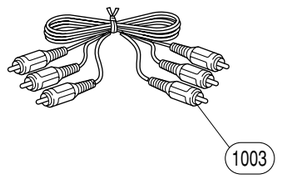
● EXPLODED VIEW

Note: Those parts without Ref. No. are not supplied as spare parts.









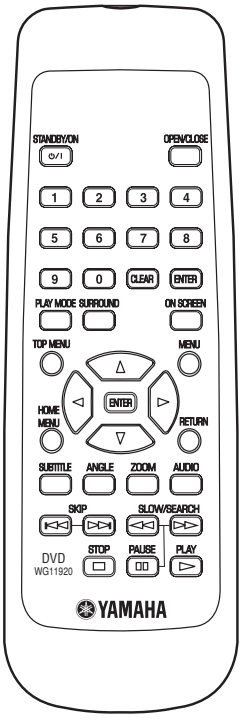
● REPLACEMENT PARTS LIST

	Ref. No.	Part No.	Description		Remarks	Markets
*	101	AAX75690	FRONT CABINET ASS'Y	BL	7A701A605A	
*	101	AAX75680	FRONT CABINET ASS'Y	SI	7A701A604A	
*	112	AAX75660	TOP CABINET	BL	702WSB0119	
*	112	AAX75670	TOP CABINET	SI	702WSB0120	
	116	AAX75720	SHEET EARTH	S1, 20x10	753WEAA001	
*	600	AAX75550	DVD MECHANISM UNIT	DM-4	A2G539A650	
*	PCB130	AAX75560	P.C.B. ASS'Y	DVD	A2G540A130	
⚠ *	PCB240	AAX75600	P.C.B. ASS'Y	POWER	F2G502A24B	
*	PCB270	AAX75570	P.C.B. ASS'Y	OPERATION1 BL	A2G539A270	
*	PCB270	AAX75580	P.C.B. ASS'Y	OPERATION1 SI	A2G540A270	
*	PCB280	AAX75590	P.C.B. ASS'Y	OPERATION2	A2G540A280	
			ACCESSORIES			
*	1000	WG119200	REMOTE CONTROL	RR3899-1301EM	07650LZ010	
	1000-1	AAX07830	BATTERY COVER		103RRS-093-01R	
⚠ *	1002	AAX75850	POWER CABLE	1.5m 1pc	1206158802	
	1003	V8966300	AUDIO/VIDEO CABLE	3P 1.5m RE/WH/YE 1pc		
			BATTERY MANGANESE	R6P (2pcs)		

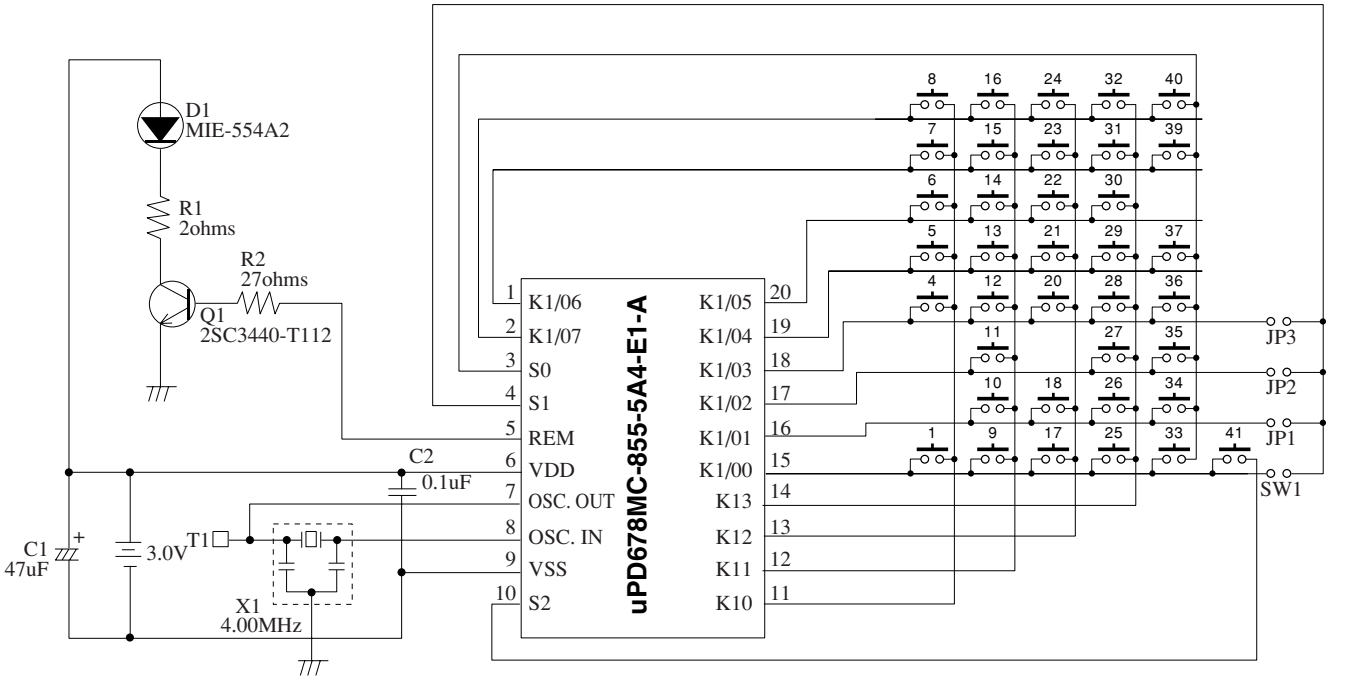
* New Parts

■REMOTE CONTROL

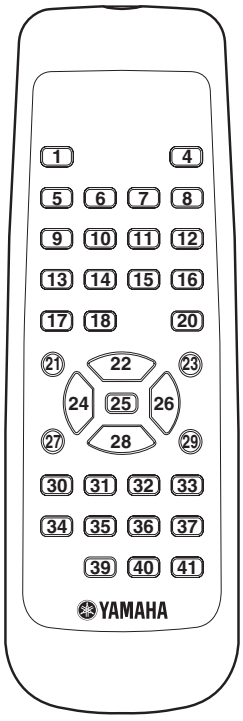
• FRONT PANEL



• SCHEMATIC DIAGRAM



• PANEL/KEY NO. LAYOUT



• KEY CODE

Key No.	FUNCTION	CODE (HEX) DATA
1	STANDBY/BY	7C-80
2	—	—
3	—	—
4	OPEN/CLOSE	7C-81
5	DIGIT 1	7C-94
6	DIGIT 2	7C-95
7	DIGIT 3	7C-96
8	DIGIT 4	7C-97
9	DIGIT 5	7C-98
10	DIGIT 6	7C-99
11	DIGIT 7	7C-9A
12	DIGIT 8	7C-9B
13	DIGIT 9	7C-9C
14	DIGIT 0	7C-93
15	CLEAR	7C-9F
16	ENTER	7C-B8
17	PLAY MODE	7C-BD
18	SURROUND	7C-E3
19	—	—
20	ON SCREEN	7C-A6
21	TOP MENU	7C-B1

Key No.	FUNCTION	CODE (HEX) DATA
22	Up	7C-B4
23	MENU	7C-B2
24	Left	7C-B5
25	Enter	7C-B8
26	Right	7C-B6
27	HOME MENU	7C-AC
⚠ 28	Down	7C-B3
29	RETURN	7C-B7
30	SUBTITLE	7C-AA
31	ANGLE	7C-AE
32	ZOOM	7C-D7
33	AUDIO	7C-AD
34	SKIP (-)	7C-B9
35	SHIP (+)	7C-BA
36	SERACH (-)	7C-86
37	SERACH (+)	7C-87
38	—	—
39	STOP	7C-85
40	PAUSE	7C-83
41	PLAY	7C-82

DVD-S559

YAMAHA