

Service Manual



DV-380-S

ORDER NO.
RRV3111

DVD PLAYER

DV-380-S DV-380-K

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

Model	Type	Power Requirement	Region No.	Remarks
DV-380-S	WYXTL	AC220-240V	2	
DV-380-S	WVXTL	AC220-240V	2	
DV-380-K	WYXTL	AC220-240V	2	



For details, refer to "Important Check Points for Good Servicing" .

1234

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 650 nm
FOR CD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 780 nm

LABEL CHECK

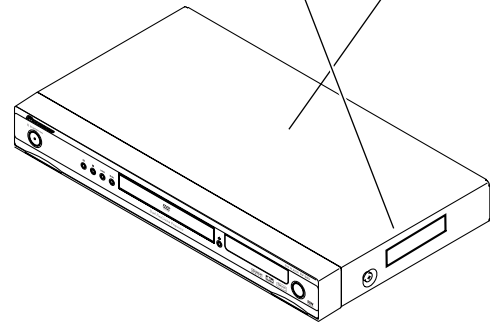
Location: inside of the unit

CAUTION : VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VORSICHT : SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN !
ADVARSEL : SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING : SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
VARO! : AVATTAESSA ALTISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLÄ. ÄLÄ KATSO SÄTEESSEN.
CUIDADO : RADIACIÓN LASER VISIBLE E INVISIBLE AL ESTAR ABIERTO. EVITAR EXPOSICIÓN AL RAYO.

7260000356 SH

**CLASS 1
LASER PRODUCT**

(The following caution label appears on your unit.)



Additional Laser Caution

1. Laser Interlock Mechanism
 - Laser diode is driving with Q2303, Q2305(650nm LD) and Q2302, Q2304(780nm LD) on the DVD MT PCB Assy.Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)
 - In the test mode *, there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

* : See page 51.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification (addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

	SAFETY INFORMATION.....	2
	1. SPECIFICATIONS	5
A	2. EXPLODED VIEWS AND PARTS LIST	6
	2.1 PACKING SECTION	6
	2.2 EXTERIOR SECTION.....	8
	2.3 05 DVD MECHA SECTION.....	10
	3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM.....	12
	3.1 BLOCK DIAGRAM	12
	3.2 OVERALL WIRING CONNECTION DIAGRAM.....	14
	3.3 DVD MT PCB ASSY (1/5)	16
	3.4 DVD MT PCB ASSY (2/5)	18
	3.5 DVD MT PCB ASSY (3/5)	20
	3.6 DVD MT PCB ASSY (4/5)	22
	3.7 DVD MT PCB ASSY (5/5)	24
B	3.8 OPERATION 1 and OPERATION 2 PCB ASSYS	26
	3.9 POWER PCB ASSY (1/2)	28
	3.10 POWER PCB ASSY (2/2)	30
	3.11 WAVE FORMS	32
	4. PCB CONNECTION DIAGRAM	35
	4.1 LOADING and SW PCB ASSYS.....	35
	4.2 DVD MT PCB ASSY.....	36
	4.3 OPERATION 1 and OPERATION 2 PCB ASSYS	40
	4.4 POWER PCB ASSY.....	42
	5. PCB PARTS LIST	44
	6. ADJUSTMENT	50
	6.1 WHEN REPLACING DVD DECK	50
	6.2 TEST MODE	51
C	6.3 TEST MODE IN.....	52
	6.4 DISC REMOVAL METHOD	53
	7. GENERAL INFORMATION	54
	7.1 DIAGNOSIS	54
	7.1.1 DISPLAY SPECIFICATION OF THE TEST MODE.....	54
	7.1.2 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY	55
	7.1.3 SPECIFICATION OF MODEL INFORMATION DISPLAY	56
	7.1.4 FUNCTIONAL SPECIFICATION OF THE SERVICE MODE	58
	7.1.5 METHOD FOR DIAGNOSING DEGRADATION OF THE LDS ON THE PICKUP ASSY	59
	7.1.6 TROUBLE SHOOTING	60
	7.2 DISASSEMBLY	63
D	7.3 DVD DECK SECTION.....	64
	7.4 IC INFORMATION.....	68
	7.5 DISC / CONTENT FORMAT PLAYBACK COMPATIBILITY	78
	8. PANEL FACILITIES	80
	8.1 FRONT PANEL SECTION	80
	8.2 DISPLAY	81
	8.3 REMOTE CONTROL	82

Specifications

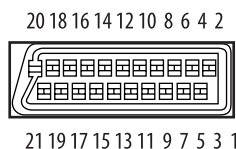
General

System DVD player
 Power requirements . . AC 220–240 V, 50/60 Hz
 Power consumption 7 W
 Power consumption (standby) 0.75 W
 Weight 1.7kg
 Dimensions:

DV-380. 420 (W) x 49.5 (H) x 213.6 (D) mm
 Operating temperature +5°C to +35°C
 Operating humidity 5% to 85%
 (no condensation)

AV connector output

AV Connector (21-pin connector assignment)
 AV connector output 21-pin connector
 This connector provides the video and audio signals for connection to a compatible colour TV or monitor.



PIN no.	
1	Audio 2/R out
3	Audio 1/L out
4	GND
7	B out
8	Status
11	G out
15	R out
17	GND
19	Video out
21	GND

Component video output

Y (luminance) - Output level . . . 1 Vp-p (75 Ω)
 P_B (color) - Output level 0.7 Vp-p (75Ω)
 P_R (color) - Output level 0.7 Vp-p (75 Ω)
 Jack RCA

S-video output

Y (luminance) - Output level 1 Vp-p (75Ω)
 C (color) - Output level 286 mVp-p (75 Ω)
 Jack S-video

Video output

Output level 1 Vp-p (75Ω)
 Jack RCA

Audio output (1 stereo pair)

Output level During audio output
 200 mVrms (1 kHz, –20 dB)
 Number of channels 2
 Jacks 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 %
 Wow and flutter Limit of measurement
 (±0.001% W. PEAK) or lower

Digital output

Coaxial digital output RCAjack

Accessories

Audio/video cable. 1
 Power cable. 1
 Remote control. 1
 AA/R6P dry cell batteries 2
 Warranty card. 1
 Operating Instructions

The specifications and design of this product are subject to change without notice, due to improvement.

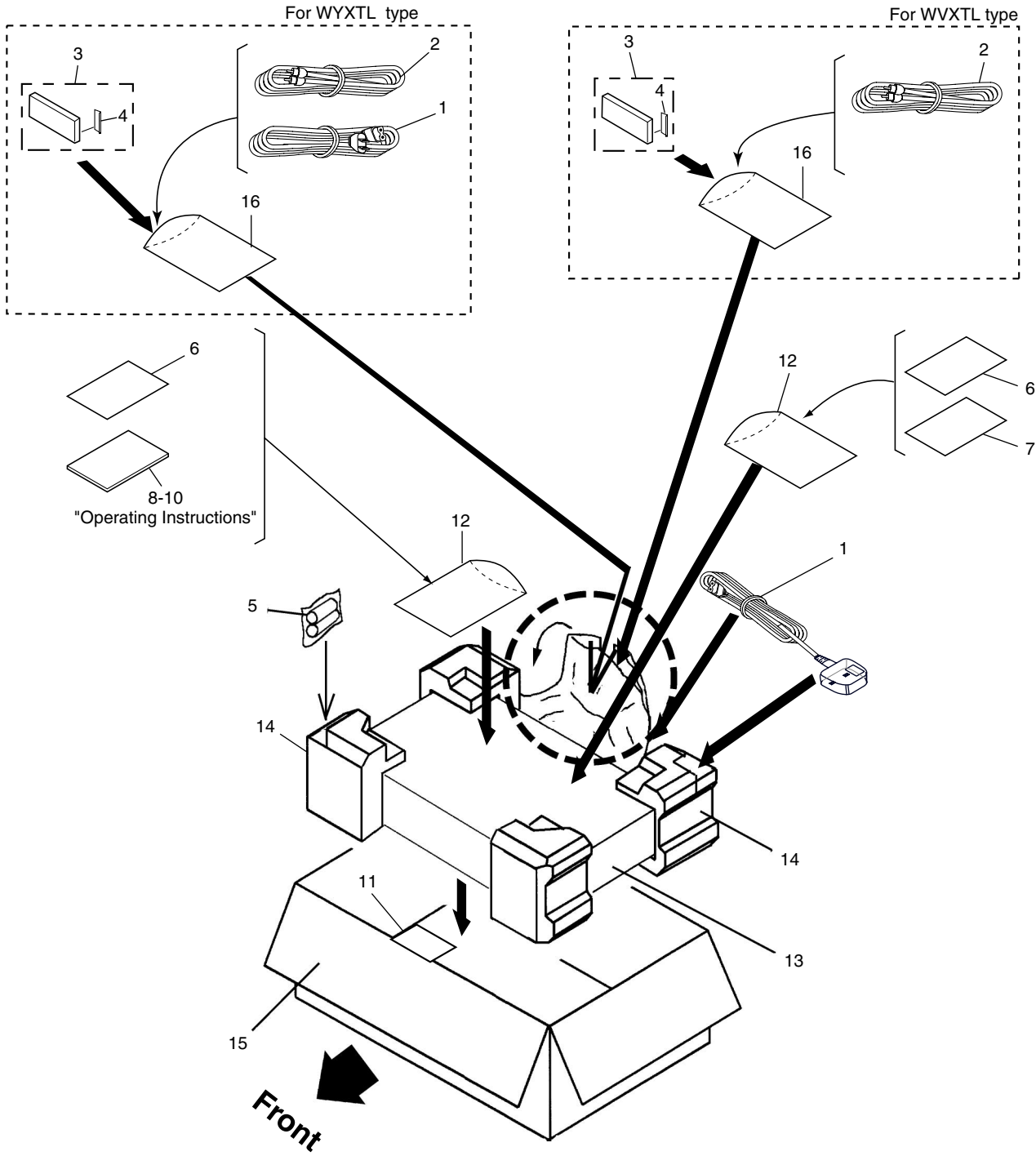
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2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
● The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
● Screws adjacent to ▼ mark on product are used for disassembly.
● For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

2.1 PACKING SECTION



PACKING SECTION parts List

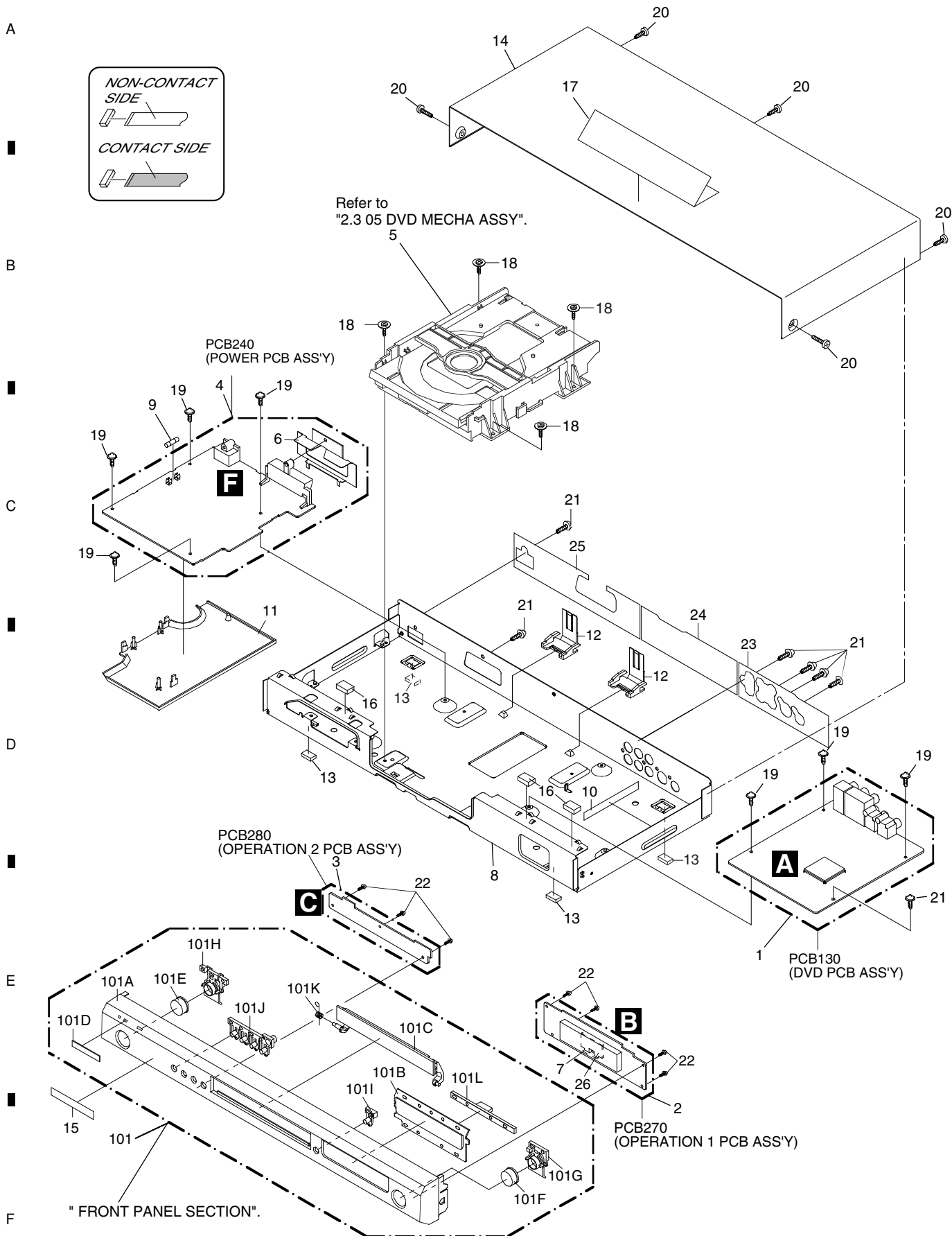
Mark No.	Description	Part No.	Mark No.	Description	Part No.
⚠	1 Cord set AC	See Contrast table (2)	11	Package.Pad	792WHA0604
	2 Cord, RCA Pin	06CPBA2006	12	Polyethylene Bag,Instruction	See Contrast table (2)
	3 Remote Control	VXX2914	13	Gift Sheet	791WHA0108
	4 Battery Cover	VNK4998	14	Package	See Contrast table (2)
NSP 5	Battery,Mangan (AR, R6P)	141L003010	15	Gift Box	See Contrast table (2)
NSP 6	Guarntee Card	J2G50202A	NSP 16	Poly. Bag	791WHAA040
7	Operating Instructions(English)	See Contrast table (2)			
8	Instruction Book	See Contrast table (2)			
9	Instruction Book	See Contrast table (2)			
10	Instruction Book	See Contrast table (2)			

(2) CONTRAST TABLE

DV-380-S/WVXTL and DV-380-S,-K/WYXTL are constructed the same except for the following :

Mark	No.	Symbol and Description	DV-380-S/WVXTL	DV-380-S/WYXTL	DV-380-K/WYXTL
⚠	1	Cord set AC	1206138802	1206158802	1206158802
	7	Instruction Manual (English)	J2G50101B	Not used	Not used
	8	Instruction Book (English, Italian)	Not used	J2G50321A	J2G50321A
	9	Instruction Book (German, French)	Not used	J2G50322A	J2G50322A
	10	Instruction Book (Spanish, Duch)	Not used	J2G50323A	J2G50323A
	12	Polyethylene Bag, Instruction	JB5KD200	JB5KD400	JB5KD400
	14	Package	792WHA0597	792WHA0588	792WHA0588
	15	Gift Box	793WCD1608	793WCD1635	793WCD1634

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DVD MT PCB Assy	A2G502A130	21	Screw, Tap Tite(B)Pan (3x6)	810913060U
2	OPERATION 1 PCB Assy	A2G502A270	22	Screw, Tap Tite(P) (2.6x8)	811022680U
3	OPERATION 2 PCB Assy	A2G502A280	23	Sheet, Jack 1	7226310057
⚠ 4	POWER PCB Assy	A2G502A240	24	Sheet, Jack 2	See Contrast table (2)
⚠ 5	DVD MECHA ASSY	A2F101A650	25	Sheet, Jack 3	See Contrast table (2)
6	Shield, 21Pin	761WSA0237	26	Double, Face-Tape	7290000156
7	Plate, FIP	752WSA0466	101	Front Cabi Assy	See Contrast table (2)
8	Plate, Bottom	702WSA0243	NSP 101A	Cabinet, Front	See Contrast table (2)
⚠ 9	Fuse (F501 : 1.6A)	080NT1R604	NSP 101B	Plate, Display	711WPA0225
10	Sheet, Caution	7260000356	101C	Flap, DVD	See Contrast table (2)
11	Plate, Cover power	755WPA0046	101D	Badge, Brand	See Contrast table (2)
12	Holder, FFC	761WPA0396	NSP 101E	Button, Cap power	See Contrast table (2)
13	Cushion, Leg	VEB1349	NSP101F	Button, Cap Play	See Contrast table (2)
14	Cabinet, Top	See Contrast table (2)	NSP 101G	Button, Frame 3	738WPA0131
15	POP Label	7236310006	NSP 101H	Button, Frame 4	738WPA0137
16	Cushion (15x20x16)	8965TS1015	NSP 101I	Button, Frame 1	See Contrast table (2)
17	POP Label	7236310019	NSP 101J	Button, Frame 2	See Contrast table (2)
18	Screw, Tap Tite(S)-Bind Wash.	816423063U	101K	Spring, Flap-DVD	743WKAA012
19	Screw, Tap Tite(S) (3x5.5)	8107D3055U	NSP 101L	Holder, Display	761WPA0368
20	Screw, Tap Tite(B) (3x6.0)	See Contrast table (2)			

(2) CONTRAST TABLE

DV-380-S/WVXTL, DV-380-S/WYXTL and DV-380-K/WYXTL are constructed the same except for the following :

Mark	No.	Symbol and Description	DV-380-S/WVXTL	DV-380-S/WYXTL	DV-380-K/WYXTL
	14	Cabinet, Top	702WSB0114	702WSB0114	702WSB0115
	20	Screw, Tap Tite(B) (3x6.0)	8109K3060U	8109K3060U	8109K3060S
	24	Sheet, Jack 2	7226310058	7226310058	7226310070
	25	Sheet, Jack 3	7226310059	7226310059	7226310071
	101	Front Cabi Assy	7A7010078A	7A7010078A	7A7010095A
NSP	101A	Cabinet, Front	701WPJ1318	701WPJ1318	701WPJ1333
	101C	Flap, DVD	712WPJ0914	712WPJ0914	712WPJ0932
	101D	Badge, Brand	7236310014	7236310014	7236310009
NSP	101E	Button, Cap Power	737WPB0001	737WPB0001	737WPA0024
NSP	101F	Button, Cap Play	737WPB0002	737WPB0002	737WPA0025
NSP	101I	Button, Frame 1	738WPB0050	738WPB0050	738WPA0156
NSP	101J	Button, Frame 2	738WPB0051	738WPB0051	738WPA0157

2.3 05 DVD MECHA SECTION

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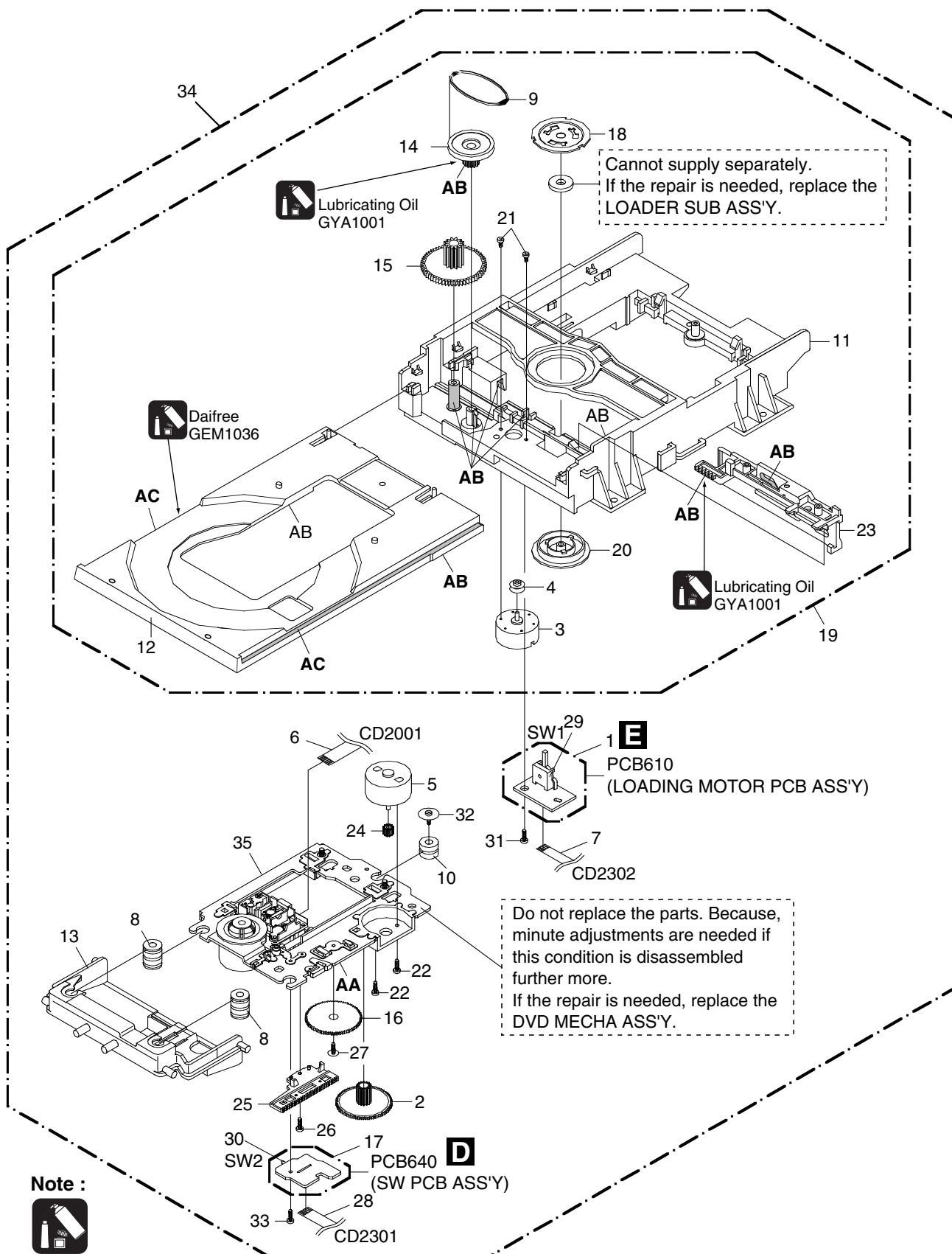
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CLASS	PART NO.	PART NAME	MARK
GREASE	GYA1001	G-555G	AA
	GYA1001	G-313Y	AB
	GEM1036	FL-78A	AC

NOTE: Applying positions AA, AB and AC for the grease are displayed for this section. Check if the correct grease is applied for each position.

05 DVD MECHA SECTION parts List

Mark No.	Description	Part No.
1	Loading Motor PCB Assy	A2F101A610
2	Gear,Middle	92P100117A
⚠ 3	Loading Motor	1515S98004
4	Pulley,Motor	92P100097A
⚠ 5	FEED Motor	1515S98004
6	Cord Jumper (24P)(CD2001)	122H002305
7	Cord Jumper (CD2302)	122H051602
8	Insulator (F)	92P200013A
9	Belt,Loading	92P200015A
10	Insulator (R)	92P200016A
11	Frame,main	92P100119A
12	Tray (B)	92P100127A
13	Holder ,Traverse	92P100125A
14	Gear,Pulley	92P100123A
15	Gear,Main	92P100124A
16	Gear,Feed	92P100116A
17	SW PCB Assy (PCB640)	A2F101A640
NSP 18	Magnet,Clamper	92P400007A
19	Loader SUB Assy	92AAA0019A
20	Clamper	92P100122A
21	Screw,Pan (M1.7x3 P3)	814011730U
22	Screw,Pan (M1.7x2.3 P3)	814011723U
23	Rack,Loading	92P100121A
24	Gear,Motor	92P100088A
25	Feed Rack Assy	92AAA0017A
26	Screw,T-Tite(B) (M1.7x5.0 P3)	813381750U
27	Screw,Gear Feed	92P700007A
28	Cord Jumper (CD2301)	122H061605
29	Switch (SW1)	0515S32003
30	Push Switch (SW2)	0500101036
31	Screw,Tap Tite(P) (2.6x8)	811022680U
32	Sems.Tap Tite(P) (2x8)	816112080U
33	Screw (Bind 2x8)	811022080U
⚠ 34	DVD MECHA ASSY	A2F101A650
NSP 35	Traverse Sub ASSY	92AAA0016A

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

A

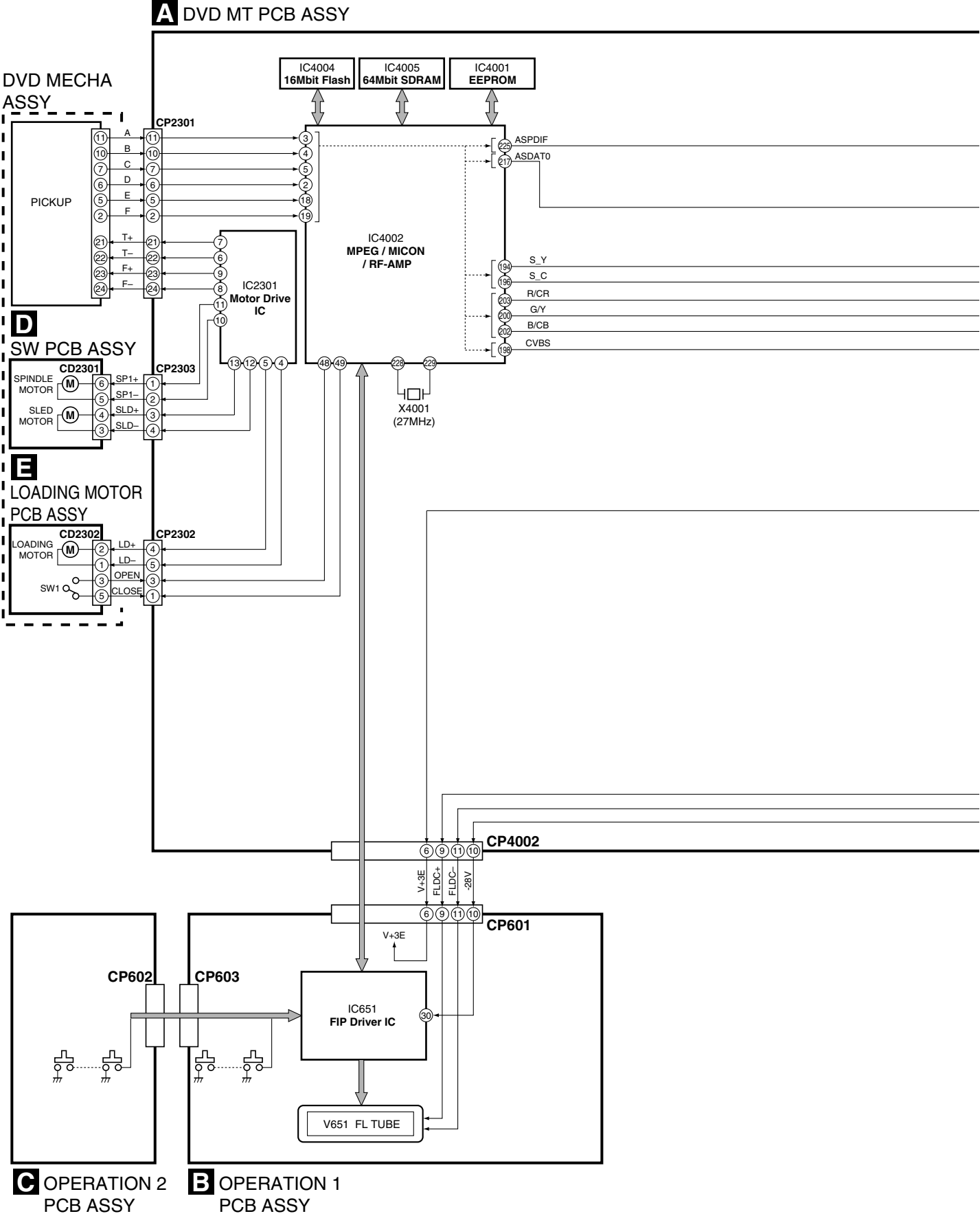
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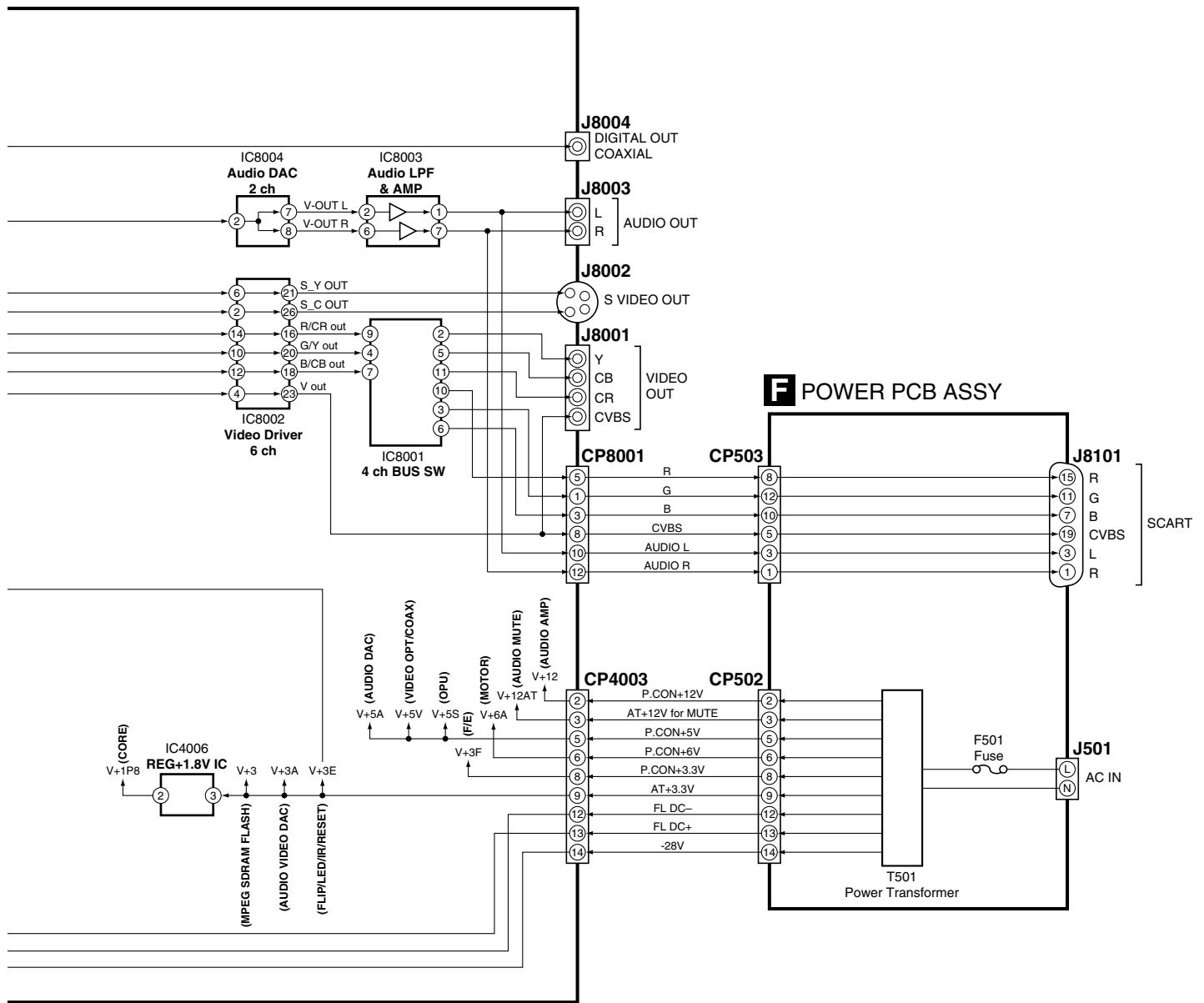
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3.2 OVERALL WIRING CONNECTION DIAGRAM

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DVD MECHA ASSY (A2F101A650)

OPTICAL PICKUP

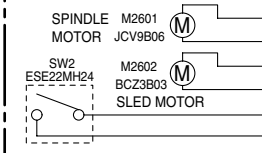


F-	24
F+	23
T-	22
T+	21
NC	20
GND(CD)	19
VOL(DVD)	18
GND(DVD)	17
LD(DVD)	16
GND(DVD)	15
VOL(CD)	14
MON(COM)	13
MON(DVD)	12
A	11
B	10
RF	9
DVD/CD(SW)	8
C	7
D	6
E	5
VCC	4
VREF	3
F	2
GND	1

CP2301	
24	FOCS RTN
23	FOCS DRV
22	TRKG RIN
21	TRKG DRV
20	NC
19	GND
18	LD_DVD(650)
17	PD/GND
16	LD_CD(780)
15	GND
14	VR780(CD)
13	VRCOM
12	VR650(DVD)
11	A
10	B
9	VRF(RF_OUT)
8	SW1(DVD/CD)
7	C
6	D
5	E
4	VCC
3	VS
2	F
1	GND

SW PCB ASSY (A2F101A640)

CD2301
2H062102

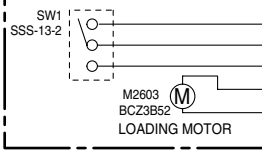


SPINDLE MOTOR (+)	6
SPINDLE MOTOR (-)	5
FEED MOTOR (+)	4
FEED MOTOR (-)	3
PICK UP INNER LIMIT SWITCH	2
GND(SW)	1

CP2303	
1	SP1+
2	SP1-
3	SLD+
4	SLD-
5	LIMIT SW
6	SW(GND)

LOADING MOTOR PCB ASSY (A2F101A610)

CD2302
2H052601



SW-2(CLOSE)	5
GND(SW)	4
SW-1(OPEN)	3
LOADING MOTOR(+)	2
LOADING MOTOR(-)	1

CP2302	
1	CLOSE
2	GND(D)
3	OPEN
4	LD+
5	LD-

CP4002

069EVB3030

1	2	3	4	5	6	7	8	9	10	11
CLK	DI (M to F)	STB	DO (F to M)	IR	V+ 8E	DGND	DGND	FL DC+	- 28V	FL DC -

CD601(11P FFC)
122H0B1002

OPERATION 2 PCB ASSY (A2G502A280)

CP602
069EV63050

SW1	1
POWER	2
PAUSE/-SKIP	3
+SKIP	4
STOP	5
SW2	6

CP603
069EV63050

SW1	6
POWER	5
PAUSE/-SKIP	4
+SKIP	3
STOP	2
SW2	1

CD603(6P FFC)
122H062801

CP601
069EVB3050

1	2	3	4	5	6	7	8	9	10	11
1	2	3	4	5	6	7	8	9	10	11

OPERATION 1 PCB ASSY (A2G502A270)

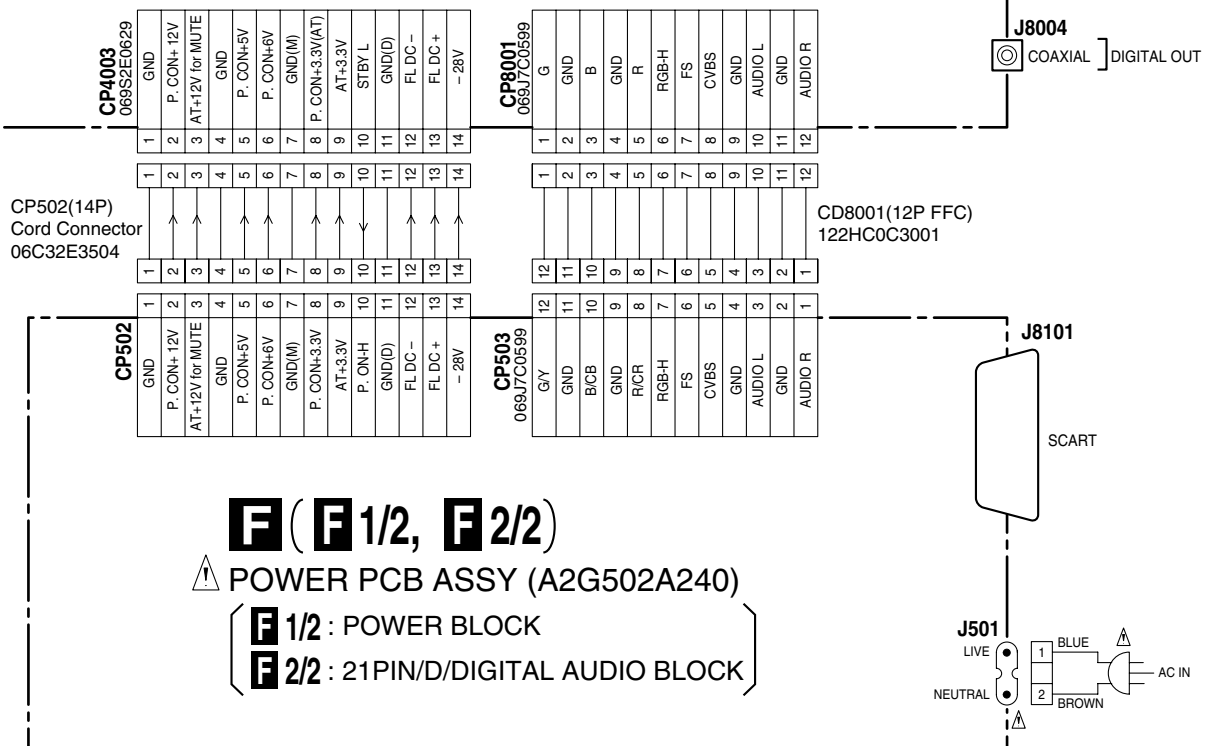
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- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
-  : The power supply is shown with the marked box.

A (A 1/5- A 5/5)

DVD MT PCB ASSY (A2G502A130)

- A 1/5 : MPEG/MICON/RF-AMP BLOCK
- A 2/5 : MEMORY BLOCK
- A 3/5 : LOADER/MOTOR DRV BLOCK
- A 4/5 : AUDIO/VIDEO JACK BLOCK
- A 5/5 : POWER PORT BLOCK



3.3 DVD MT PCB ASSY (1/5)

A1/5 DVD MT PCB ASSY (A2G502A130)
● MPEG/MICON/RAMP BLOCK

A

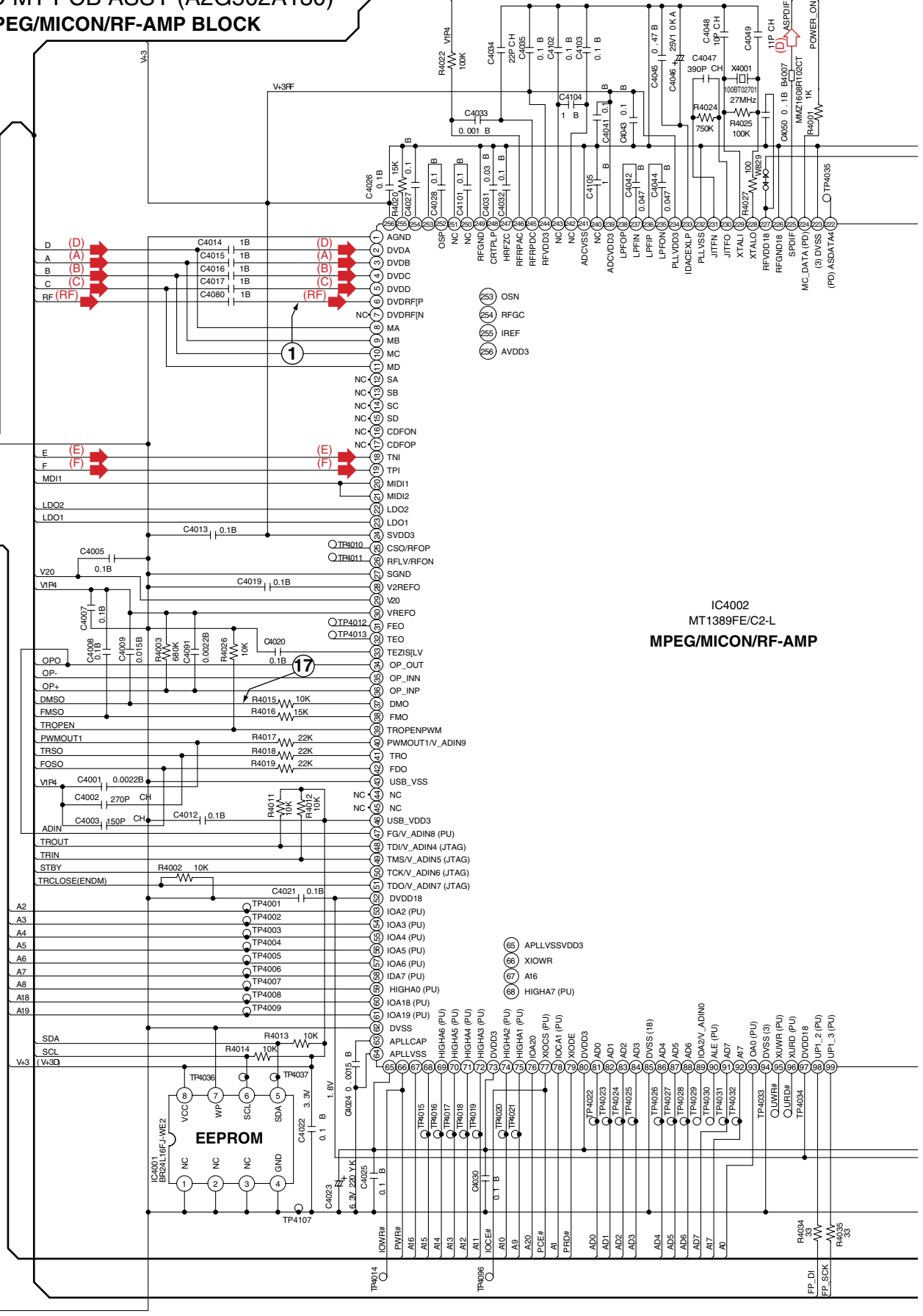
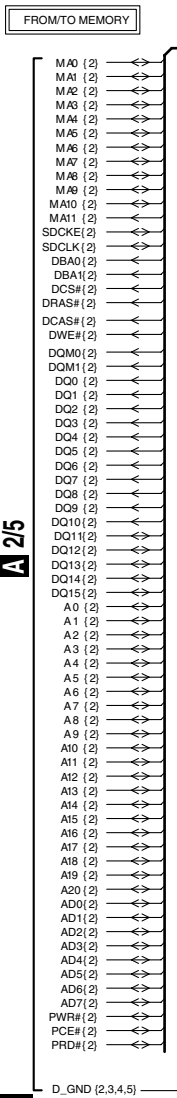
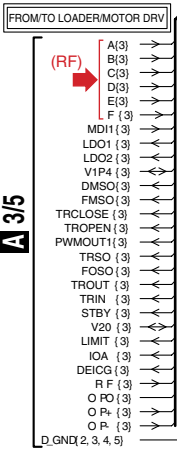
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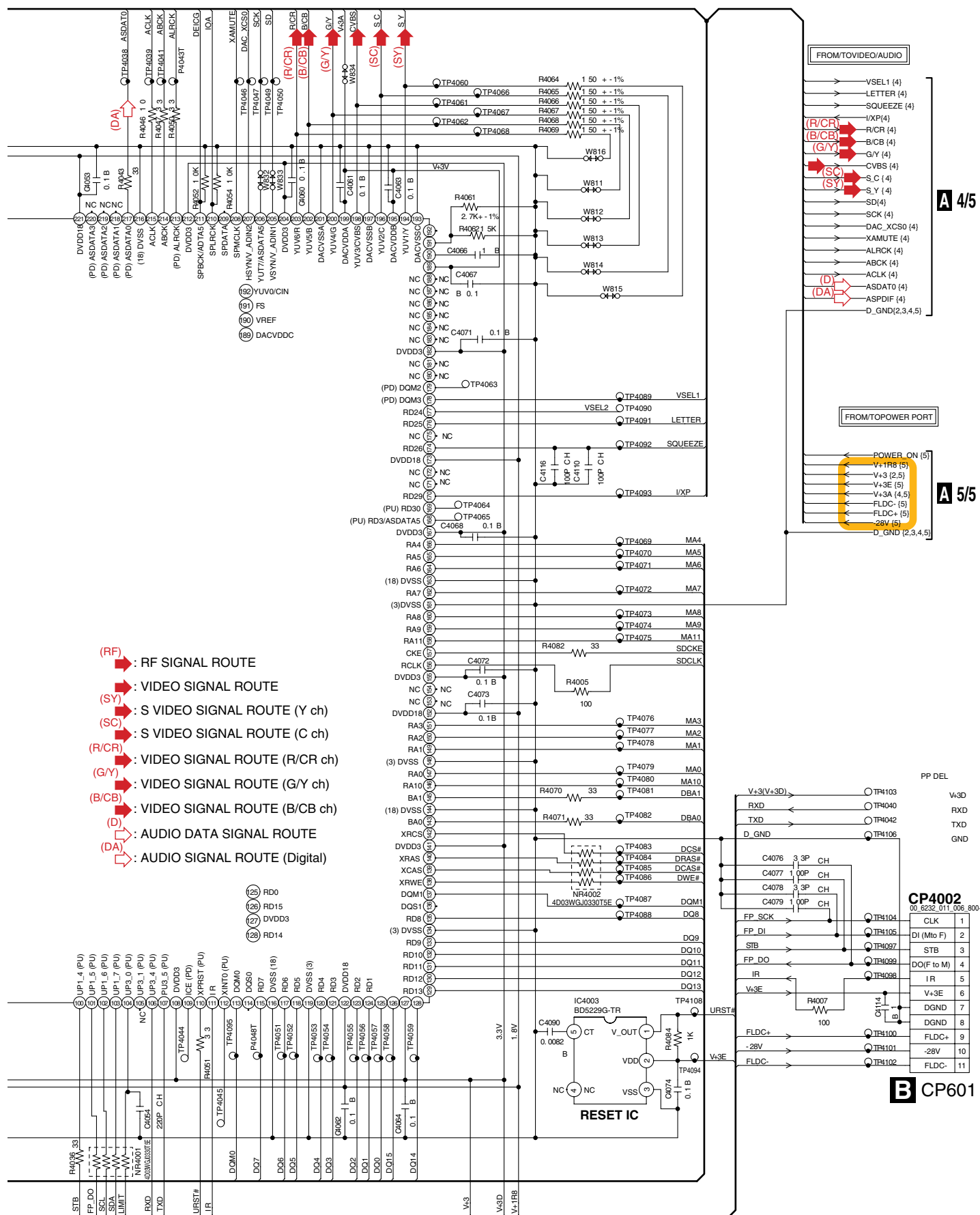
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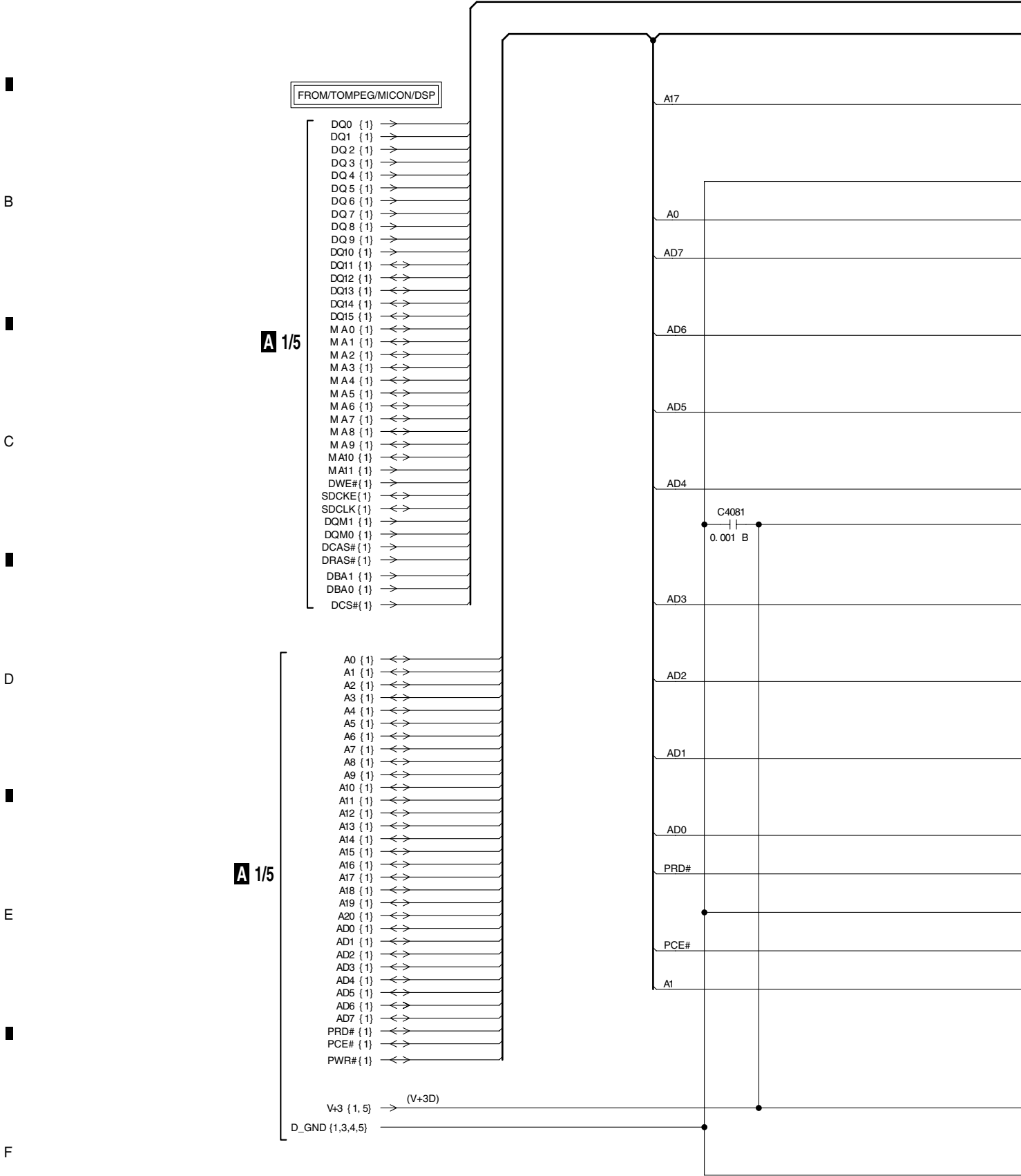
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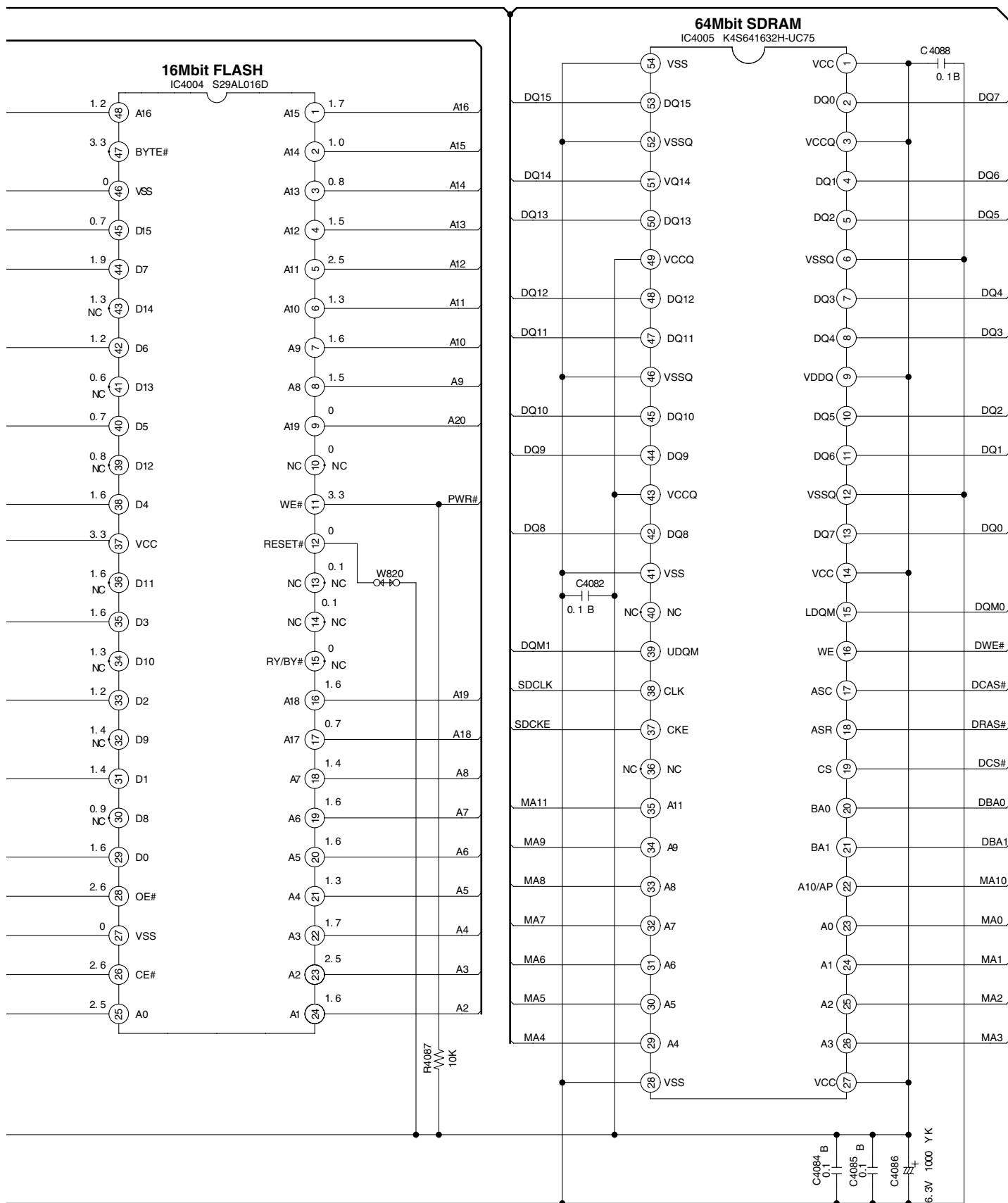
A

A2/5

DVD MT PCB ASSY (A2G502A130)

● MEMORY BLOCK

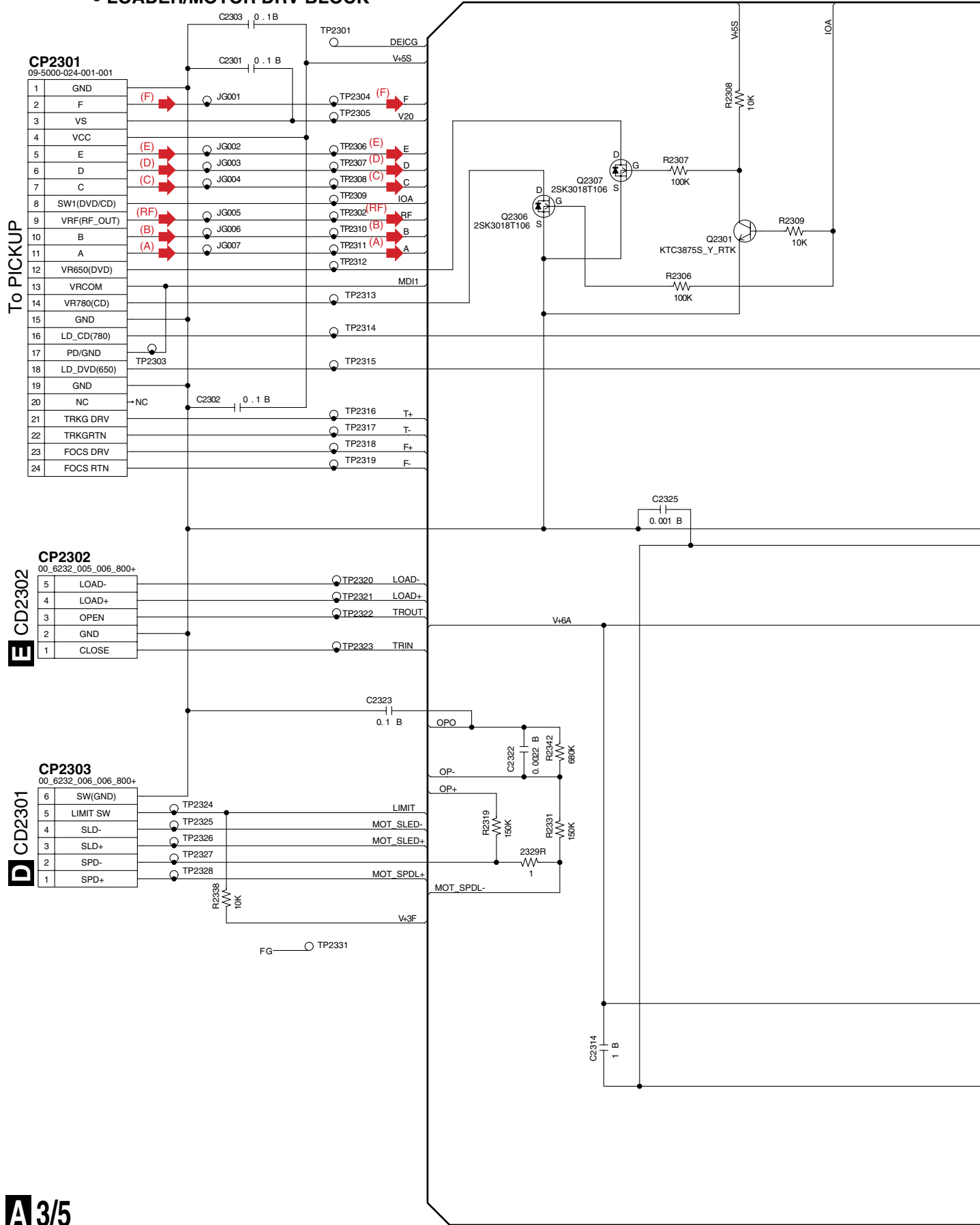




3.5 DVD MT PCB ASSY(3/5)

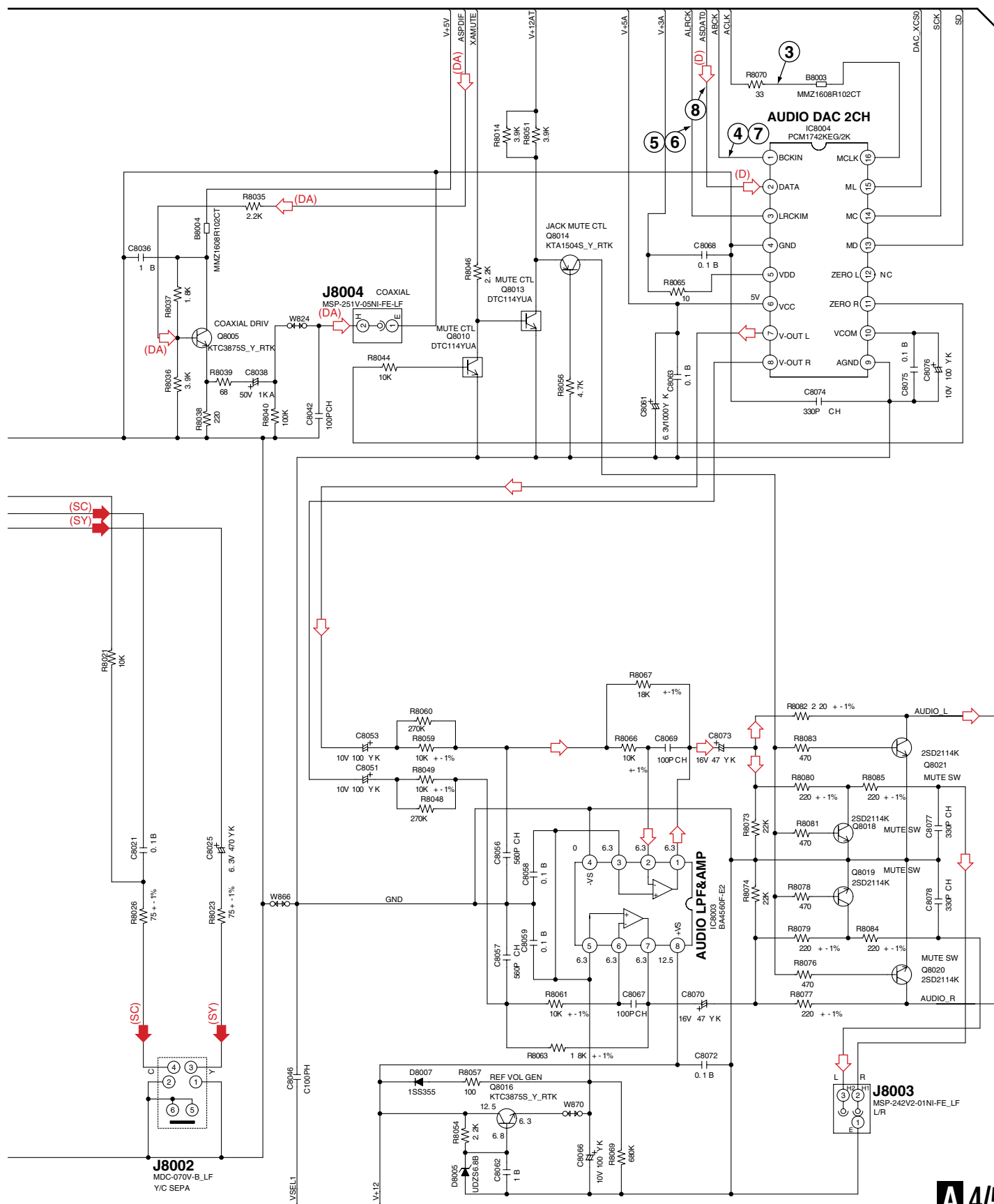
3/5 DVD MT PCB ASSY (A2G502A130)
● LOADER/MOTOR DRV BLOCK

A
B
C
D
E
F



● **AUDIO/VIDEO JACK BLOCK**





3.7 DVD MT PCB ASSY(5/5)

A 5/5 DVD MT PCB ASSY (A2G502A130)
● POWER PORT BLOCK

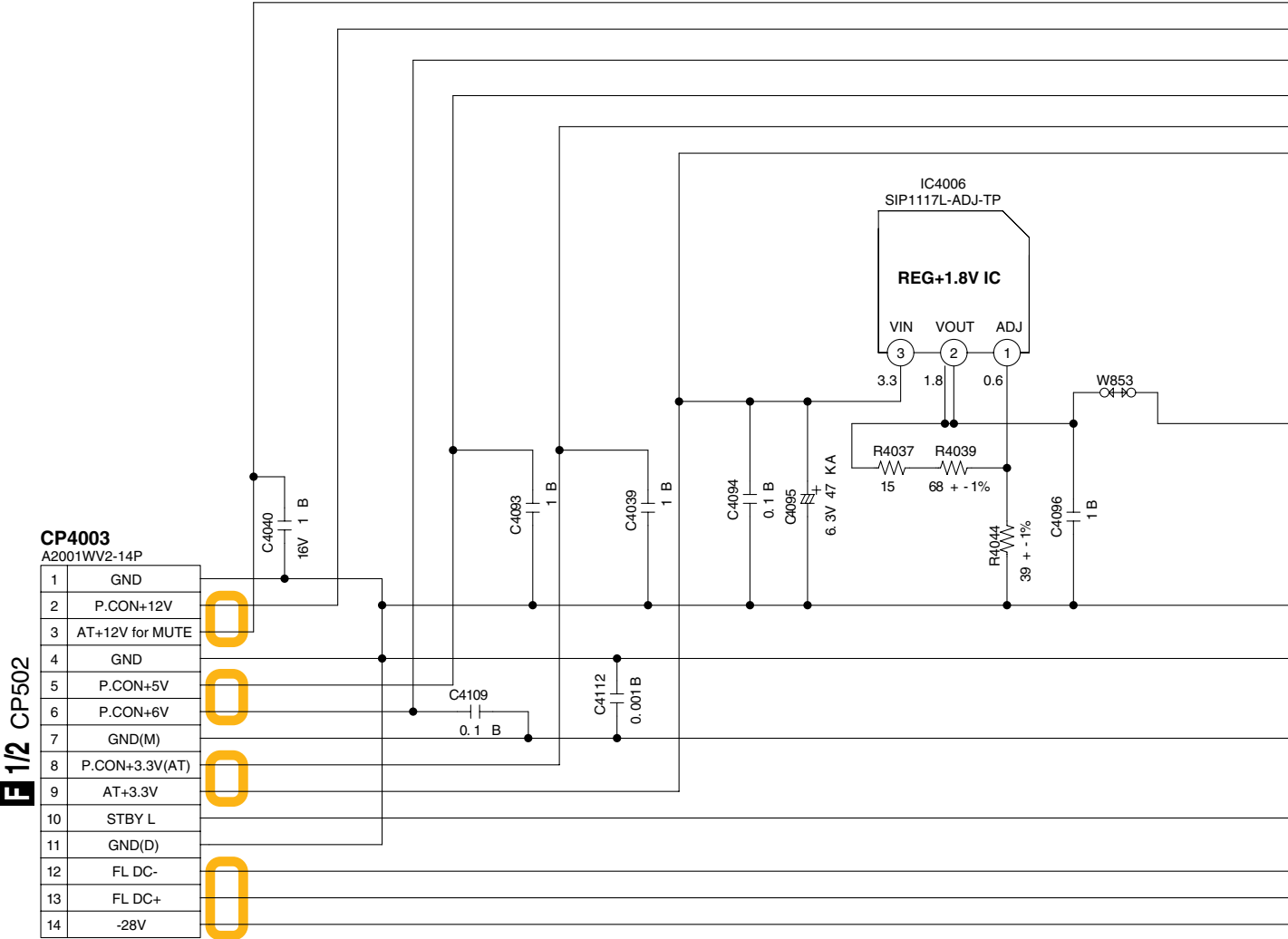
B

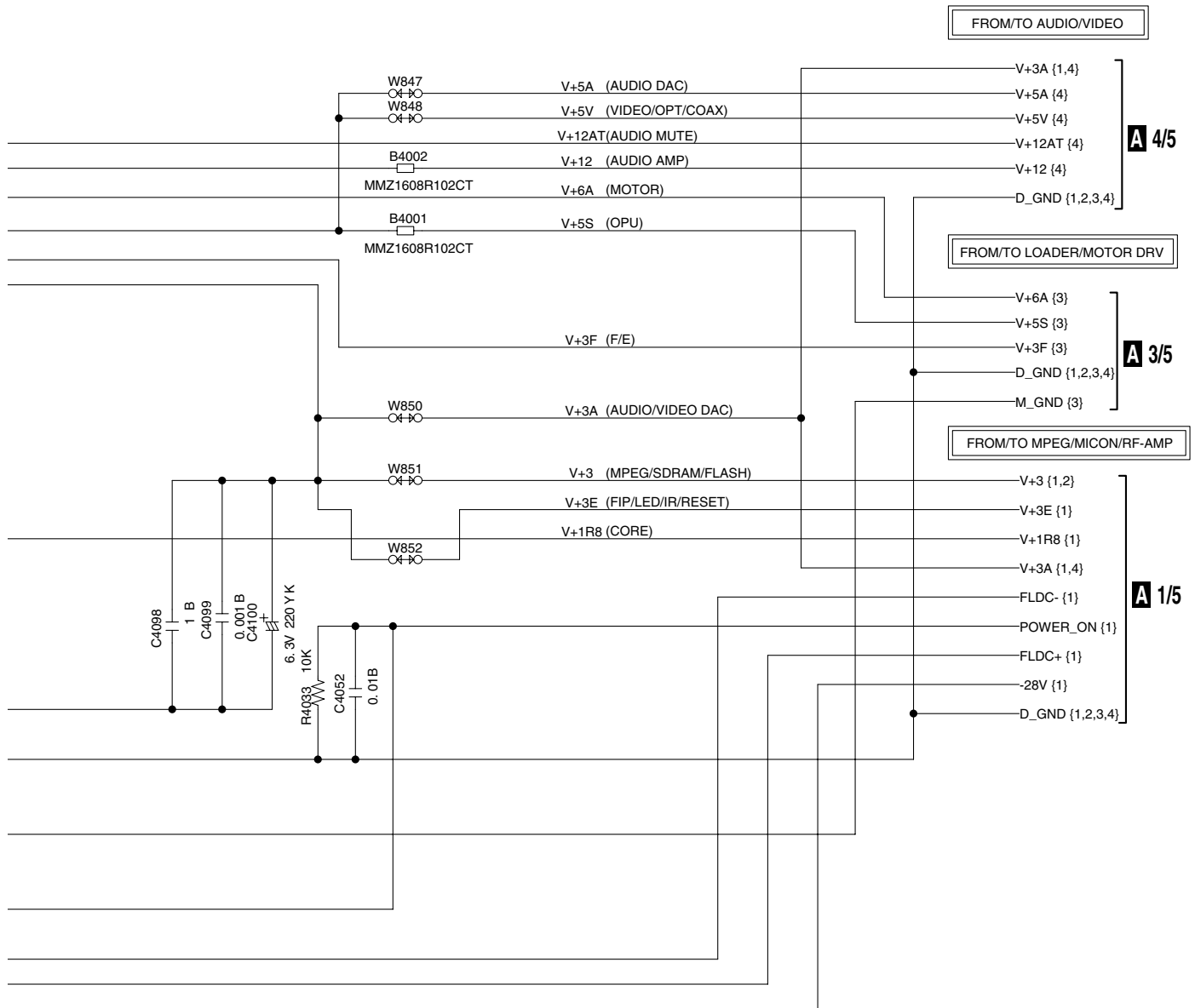
C

D

E

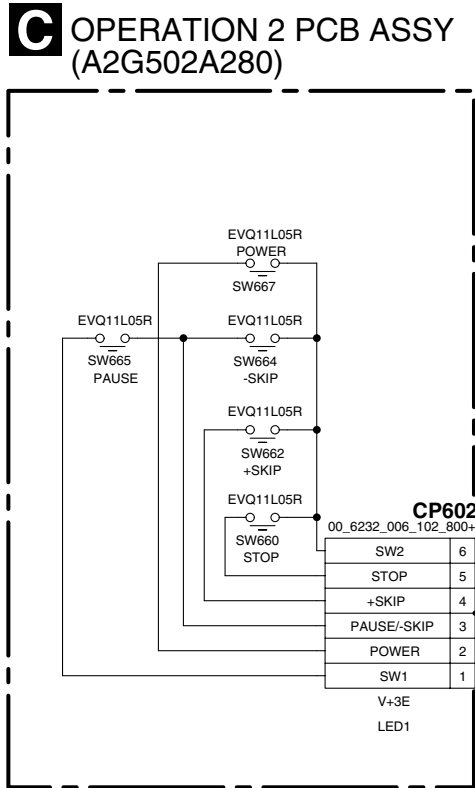
F





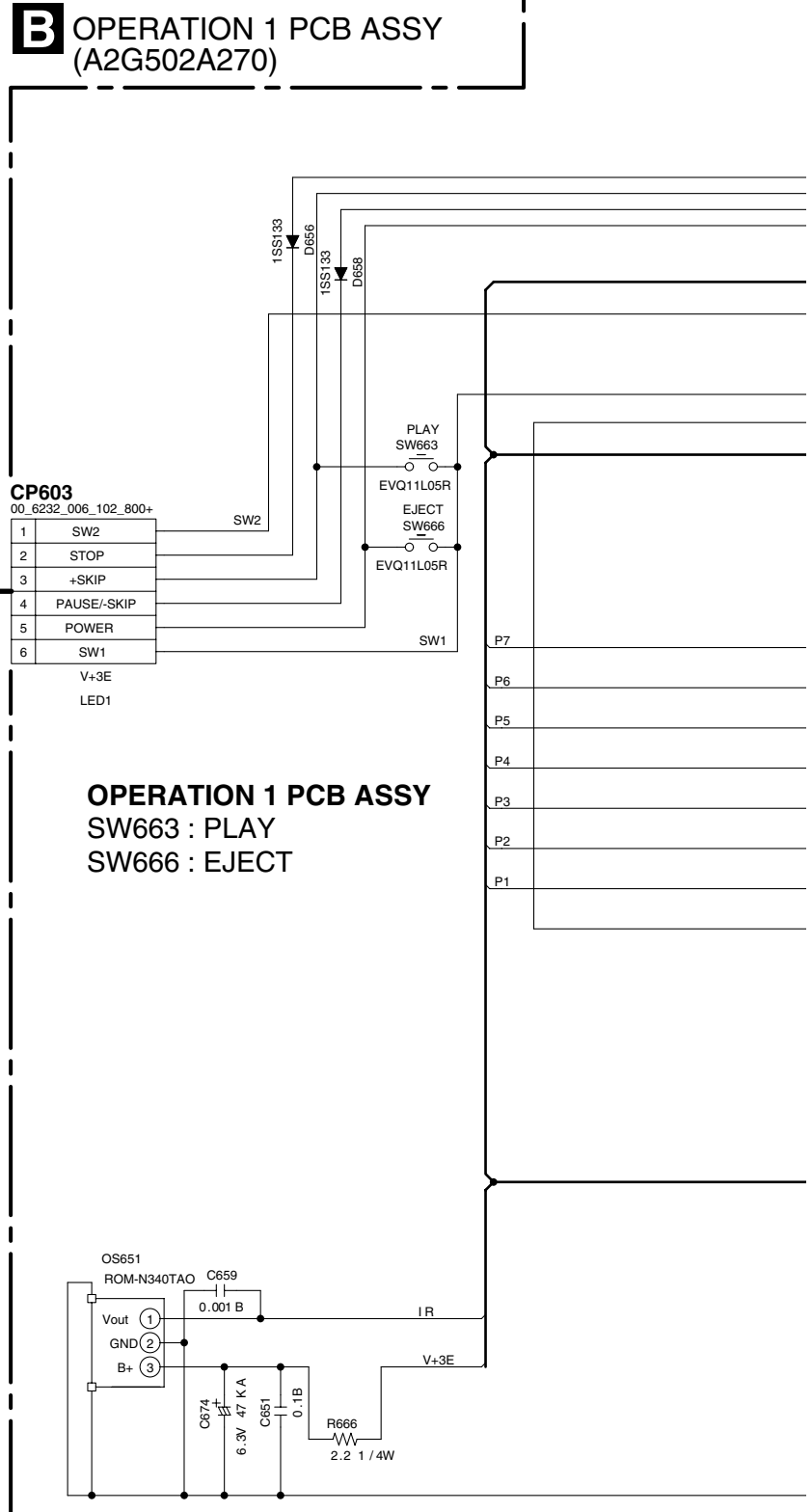
4

C



OPERATION 2 PCB ASSY

SW660 : STOP
SW662 : +SKIP
SW664 : - SKIP
SW665 : PAUSE
SW667 : POWER



E

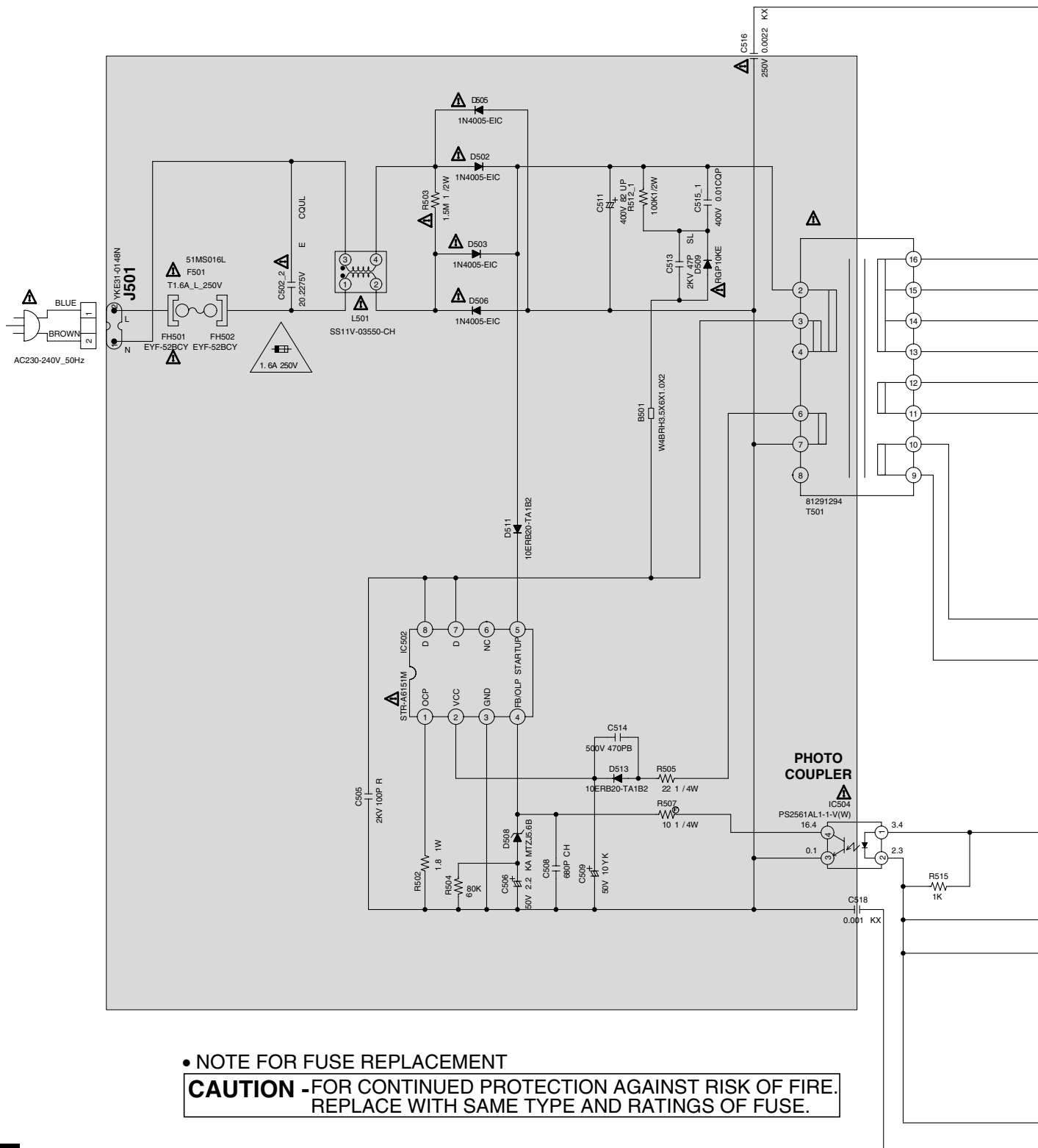
F



3.9 POWER PCB ASSY (1/2)

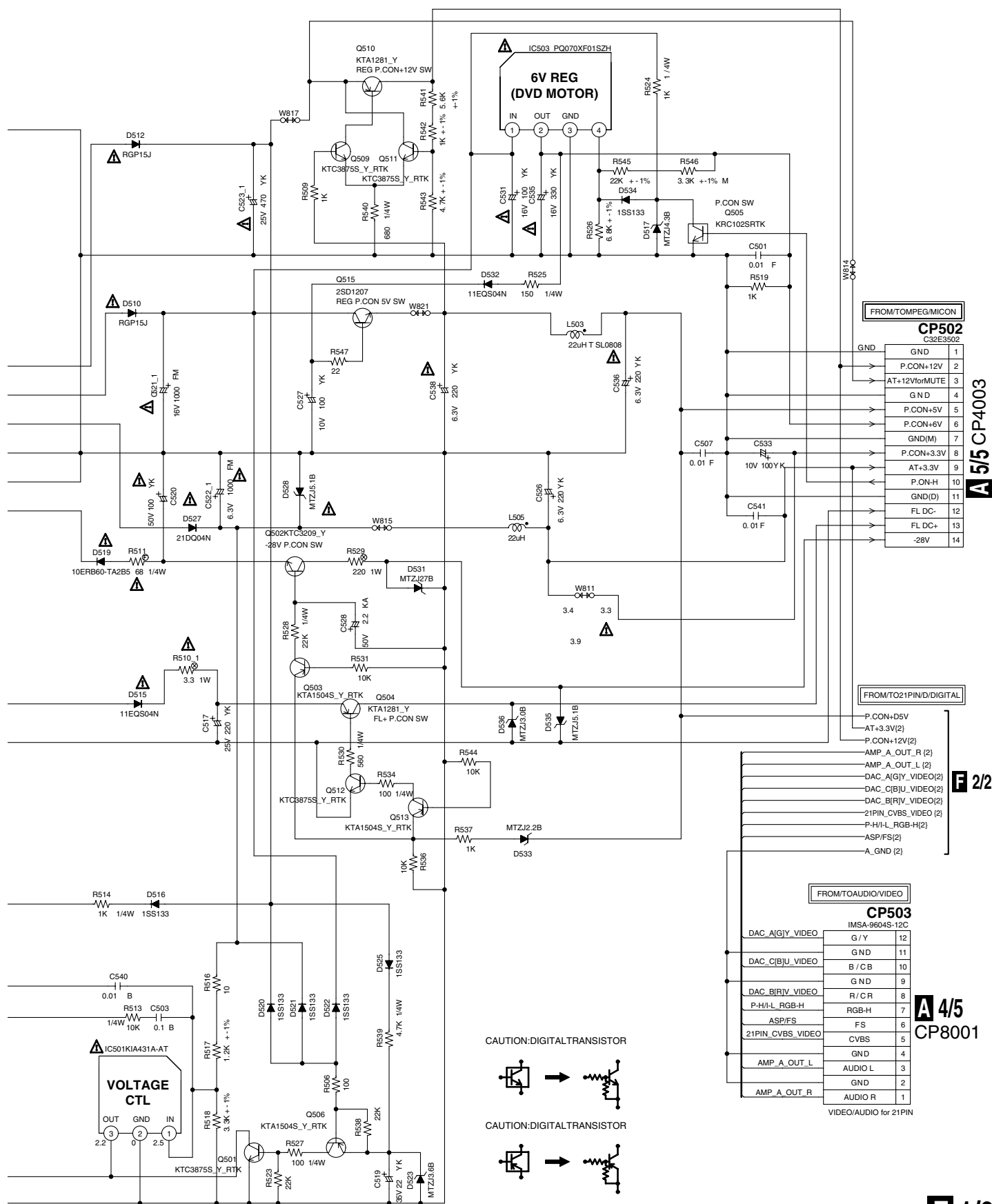
F1/2 POWER PCB ASSY (A2G502A240)

• POWER BLOCK



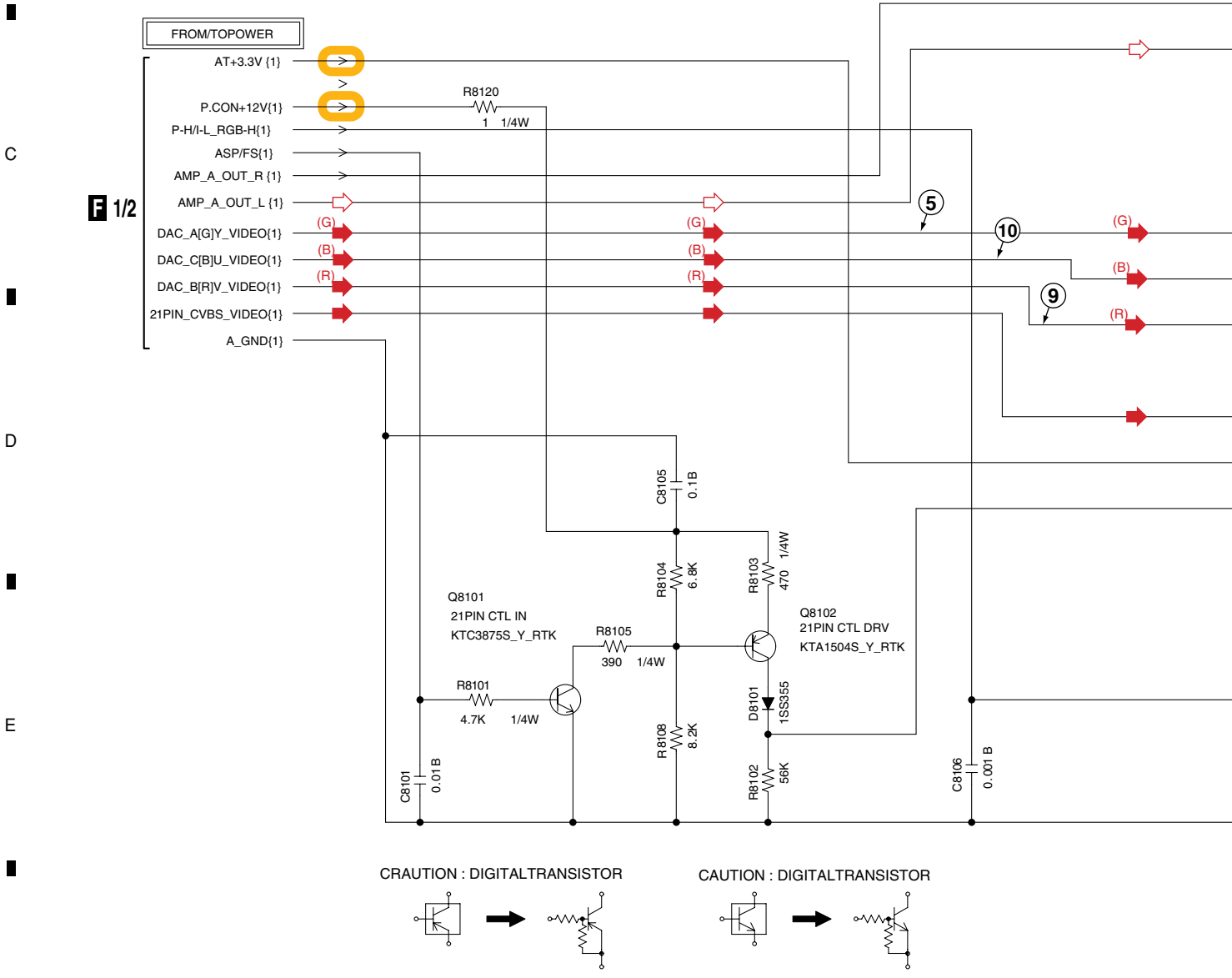
• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS OF FUSE.



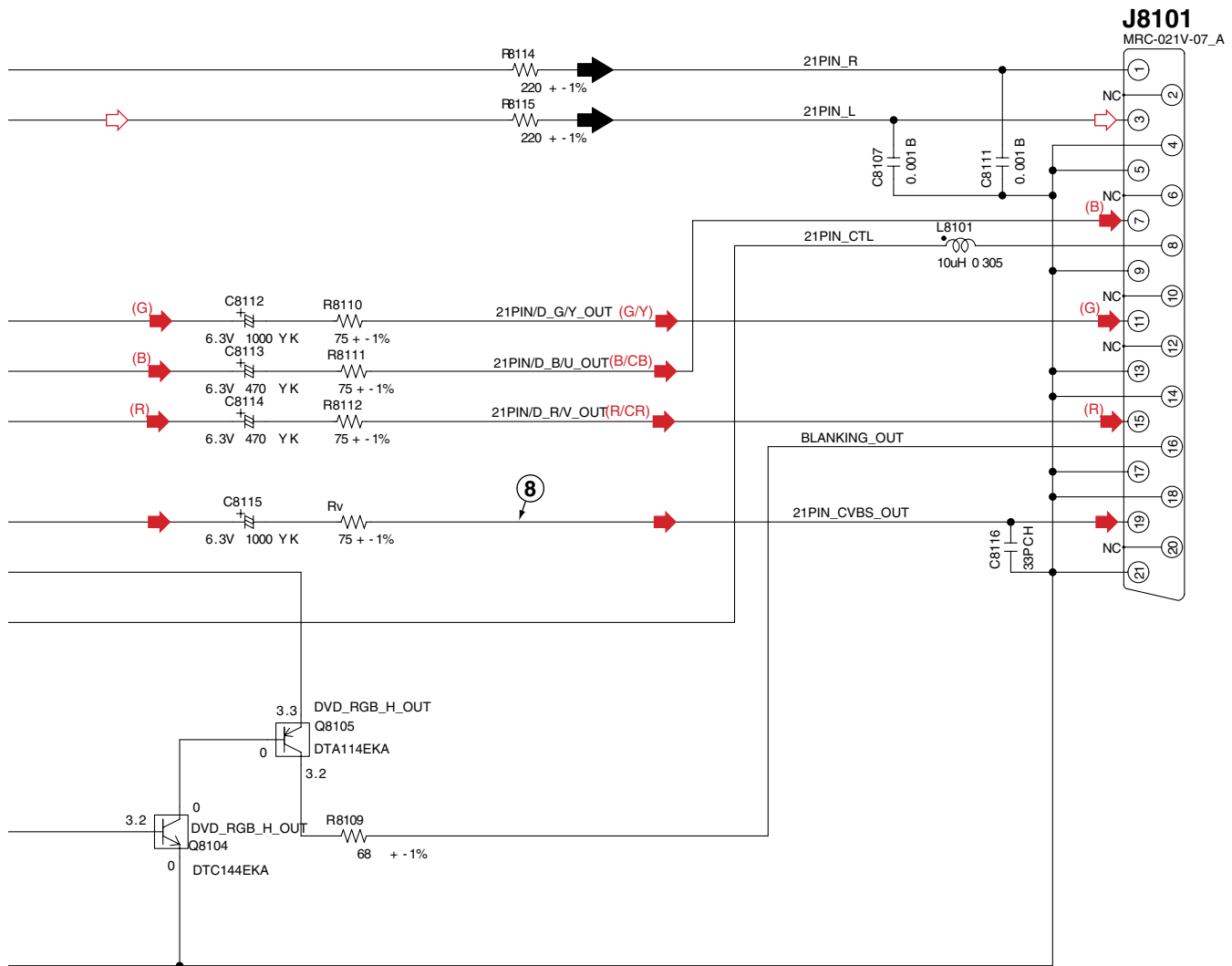
3.10 POWER PCB ASSY (2/2)

F 2/2  POWER PCB ASSY (A2G502A240)
● 21PIN/D/DIGITAL AUDIO BLOCK



F 2/2

- ➡ : VIDEO SIGNAL ROUTE
 (R) ➡ : VIDEO SIGNAL ROUTE (R ch)
 (G) ➡ : VIDEO SIGNAL ROUTE (G ch)
 (B) ➡ : VIDEO SIGNAL ROUTE (B ch)
 ➡ : AUDIO SIGNAL ROUTE (L ch)

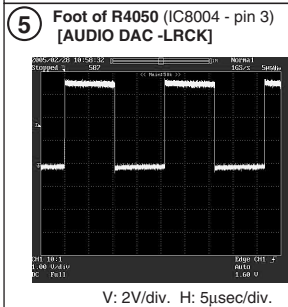
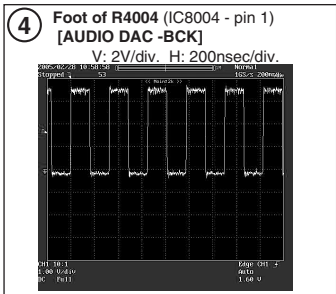
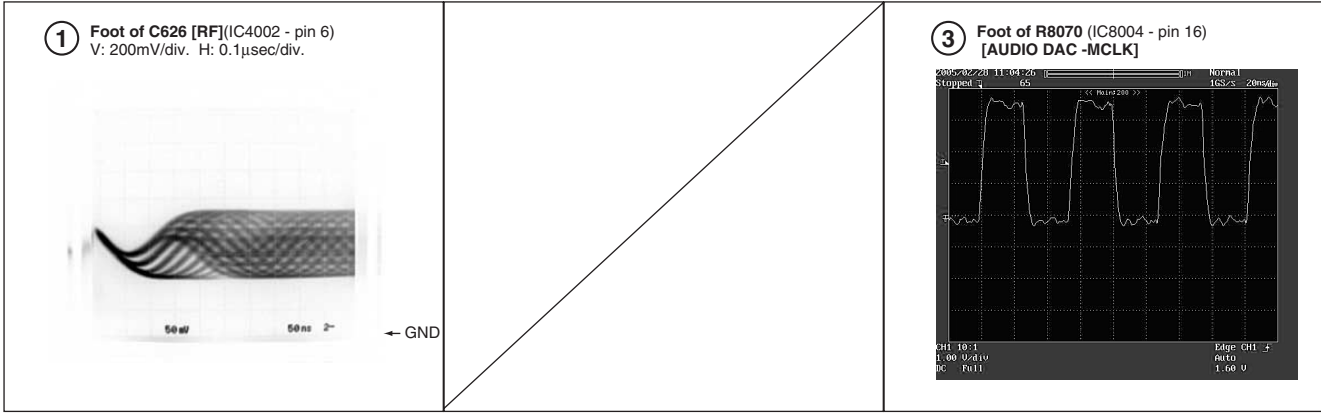


3.11 WAVE FORMS

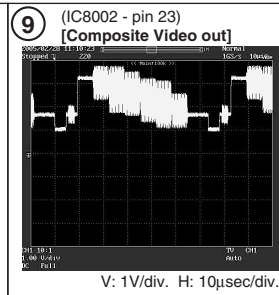
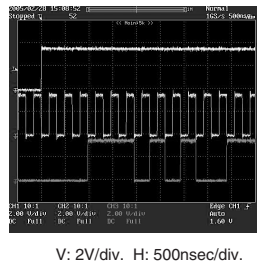
Note : The encircled numbers denote measuring point in the schematic diagram.

- A Measurement condition : No. 1 to 2 and 9 to 14 : reference A1 (DVD), T2-chp 19, Color-bar
No. 3 to 8 : reference A1 (DVD), T2-chp 1

A DVD MT PCB ASSY



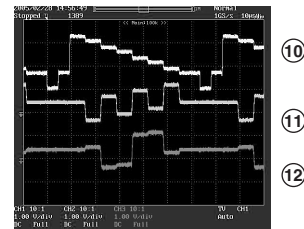
- ⑥ Foot of R4050 (IC8004 - pin 3)**
[AUDIO DAC -LRCK]
- ⑦ Foot of R8047 (IC8004 - pin 1)**
[AUDIO DAC -BCK]
- ⑧ Foot of R4043 (IC8004 - pin 2)**
[AUDIO DAC -DATA]
(Waveform of DATA is unsettled.)



- ⑩ (IC8002 - pin 20)**
[Component Video out -Y]
V: 1V/div. H: 10μsec/div.

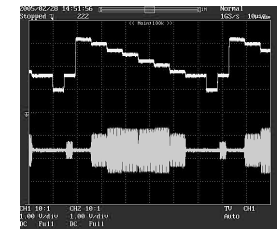
- ⑪ (IC8002 - pin 18)**
[Component Video out -Pb]
V: 2V/div. H: 10μsec/div.

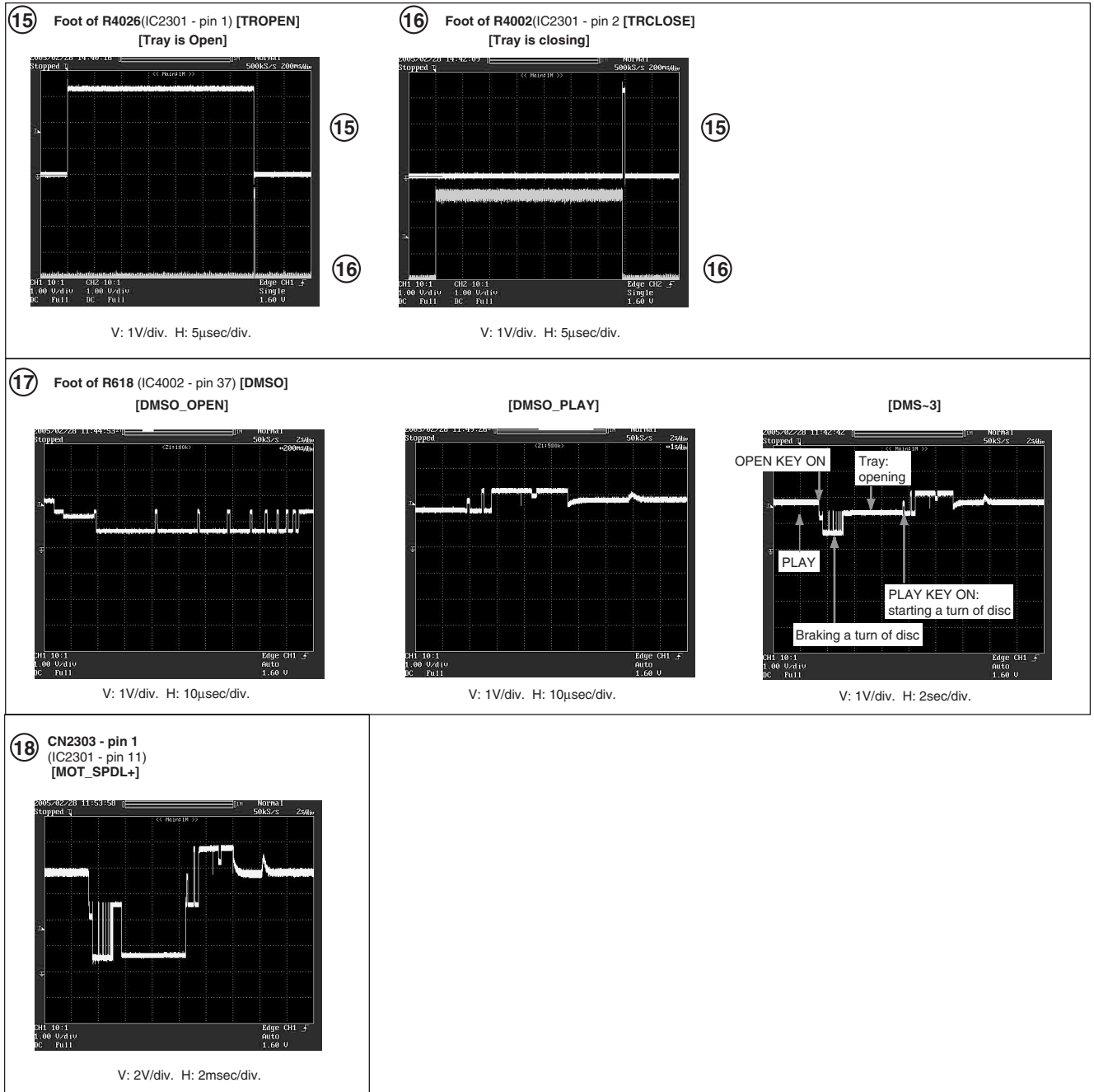
- ⑫ (IC8002 - pin 16)**
[Component Video out -Pr]
V: 2V/div. H: 10μsec/div.



- ⑬ (IC8002 - pin 21)**
[S Video out -Y]
V: 1V/div. H: 10μsec/div.

- ⑭ (IC8002 - pin 26)**
[S Video out -C]
V: 1V/div. H: 10μsec/div.





■ 1 ■ 2 ■ 3 ■ 4 ■

A

■

B

■

C

■

D

■

E

■

F

4. PCB CONNECTION DIAGRAM

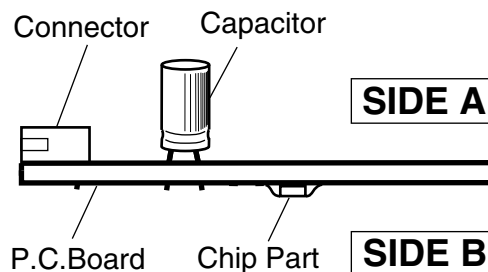
4.1 LOADING and SW PCB ASSYS

NOTE FOR PCB DIAGRAMS :

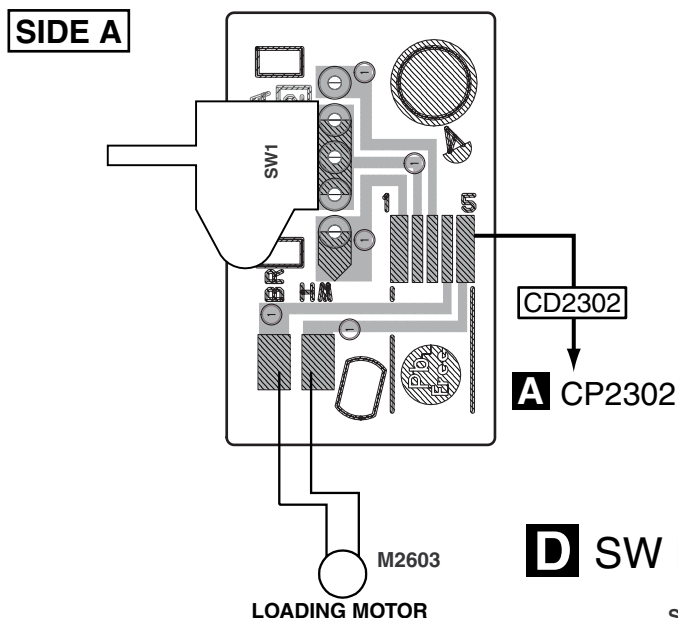
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

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

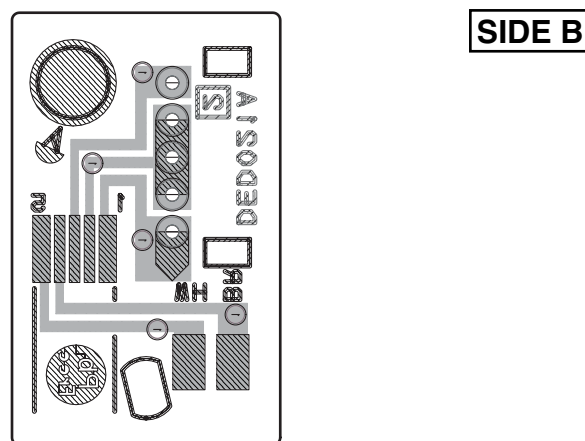
3. The parts mounted on this PCB include all necessary parts for several destinations.
- For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



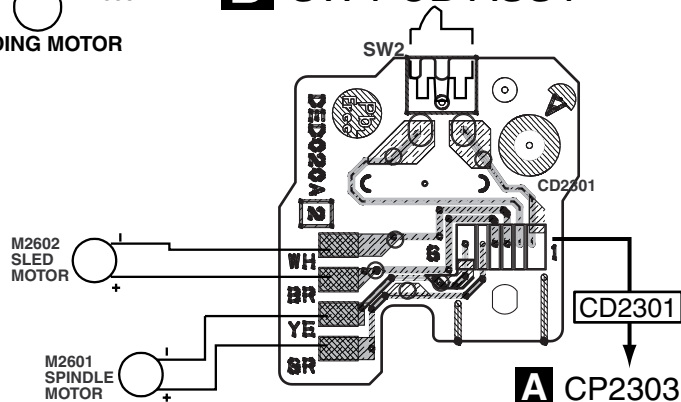
E LOADING MOTOR PCB ASSY (INSERTED PARTS)



E LOADING MOTOR PCB ASSY (CHIP MOUNTED PARTS)



D SW PCB ASSY



D E

D E

4.2 DVD MT PCB ASSY

SIDE A

A DVD MT PCB ASSY

D CD2301

PICKUP

E CD2302

B CP601

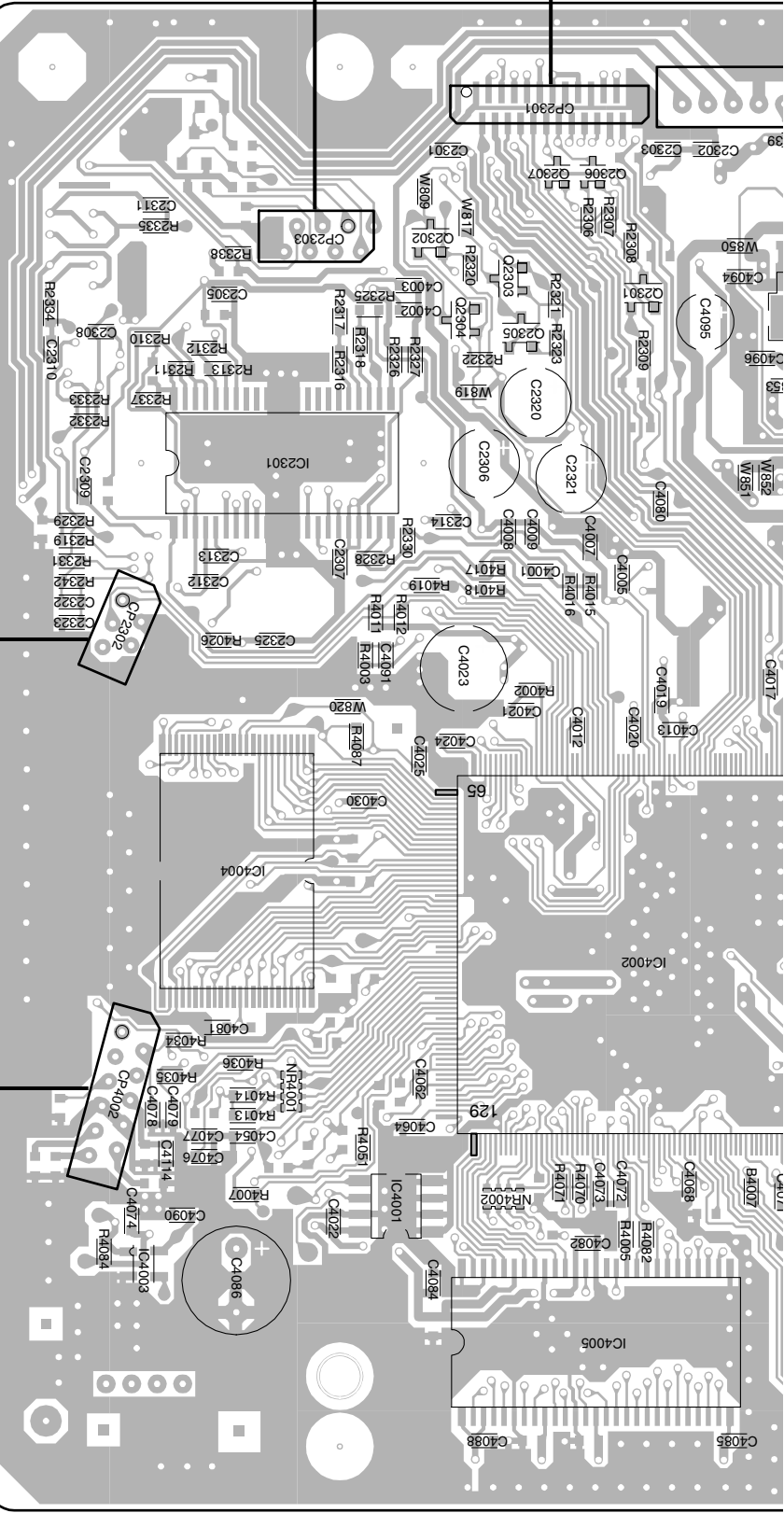
CP2303

CP2301

CP2302

CP4002

IC2301 IC4004 Q2302 Q2303 Q2307 Q2306 Q2303 Q2304 Q2305 IC4005 IC4002



1

2

3

4

SIDE B

A

CP8001

CP4003

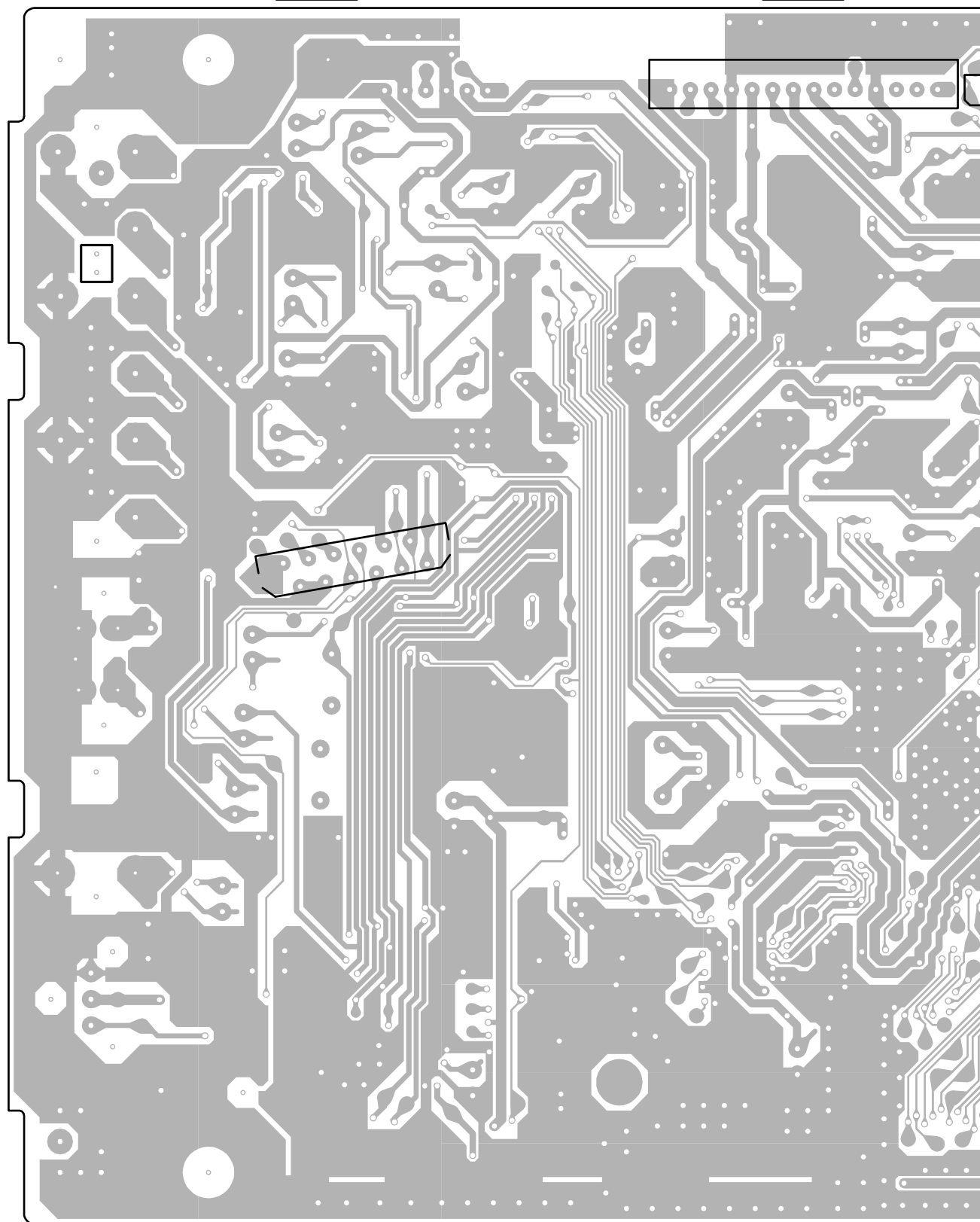
B

C

D

E

F



A

38

DV-380-S

1

2

3

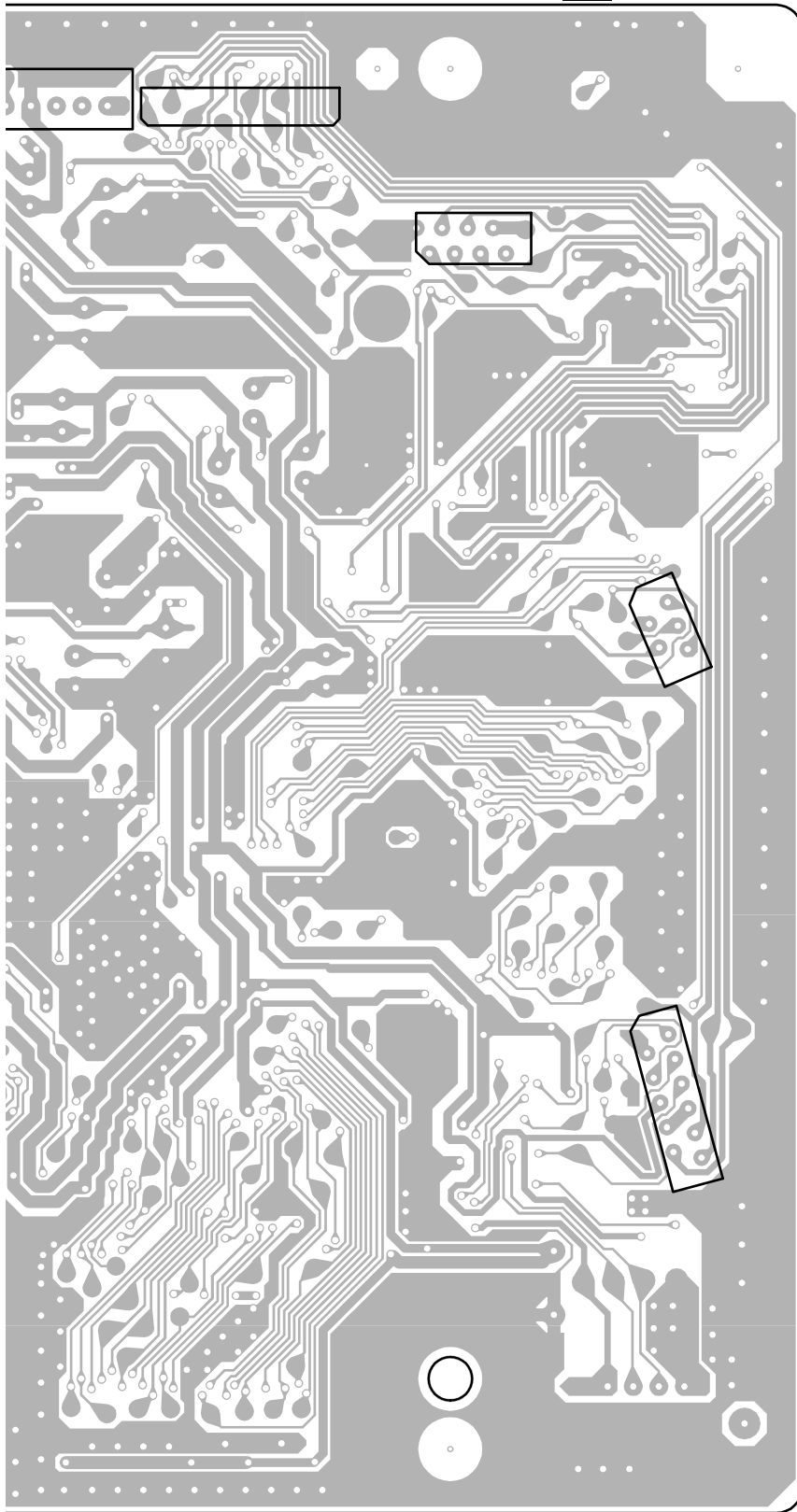
4

SIDE B

A

CP2301

CP2303

A DVD MT PCB ASSY

CP2302

CP4002

B

C

D

E

F

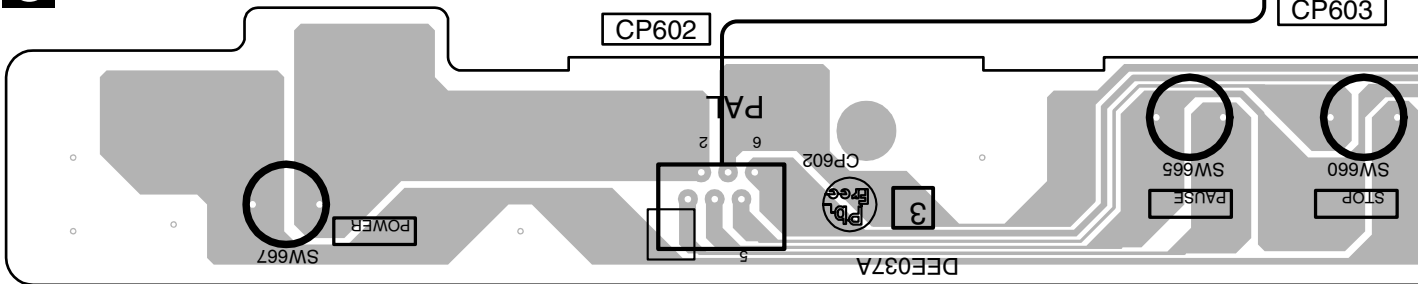
A

39

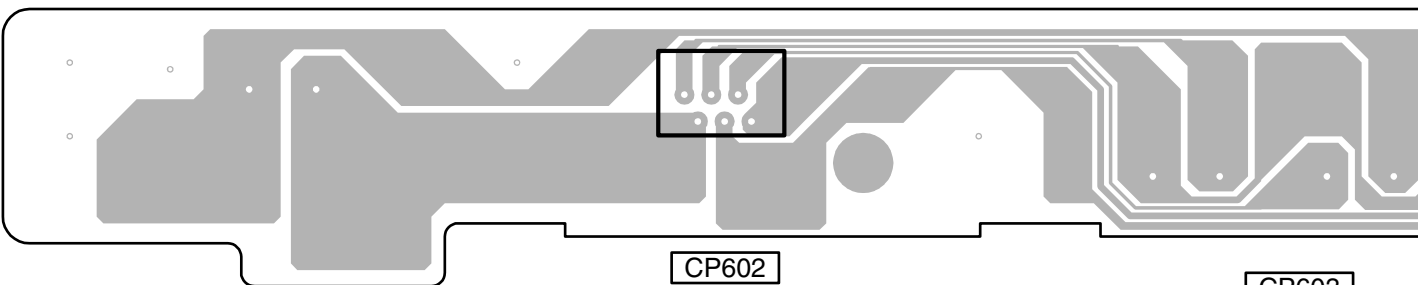
4

B

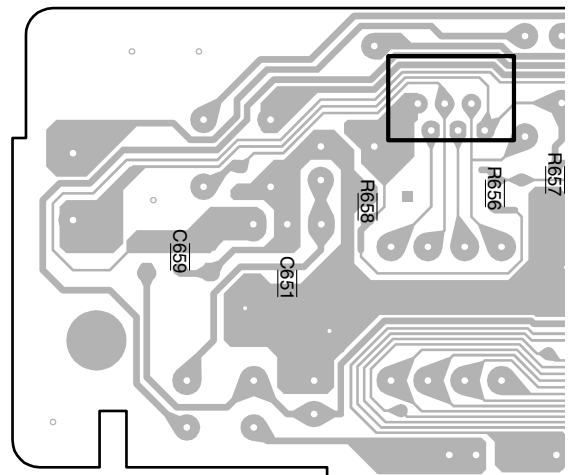
C



D



E

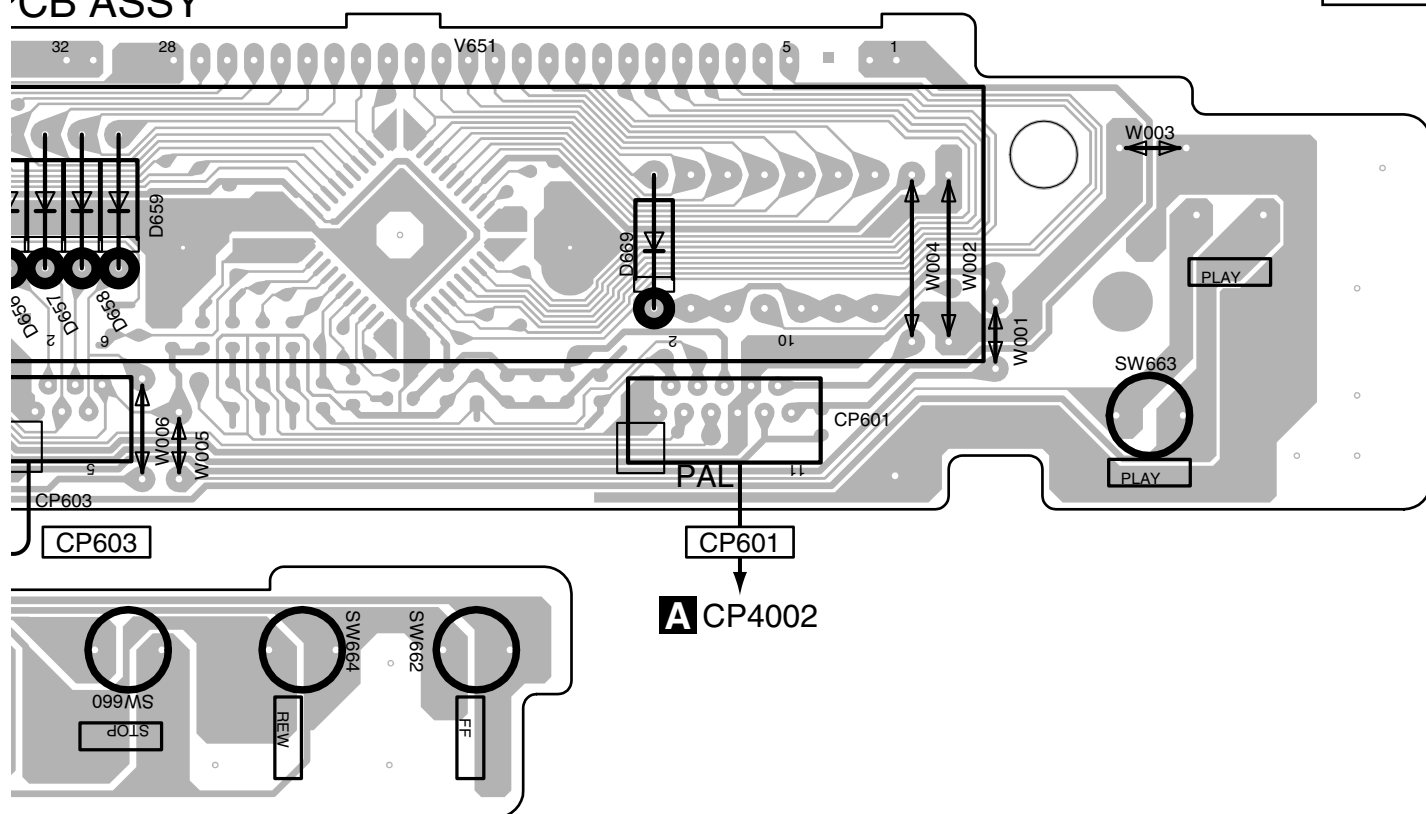
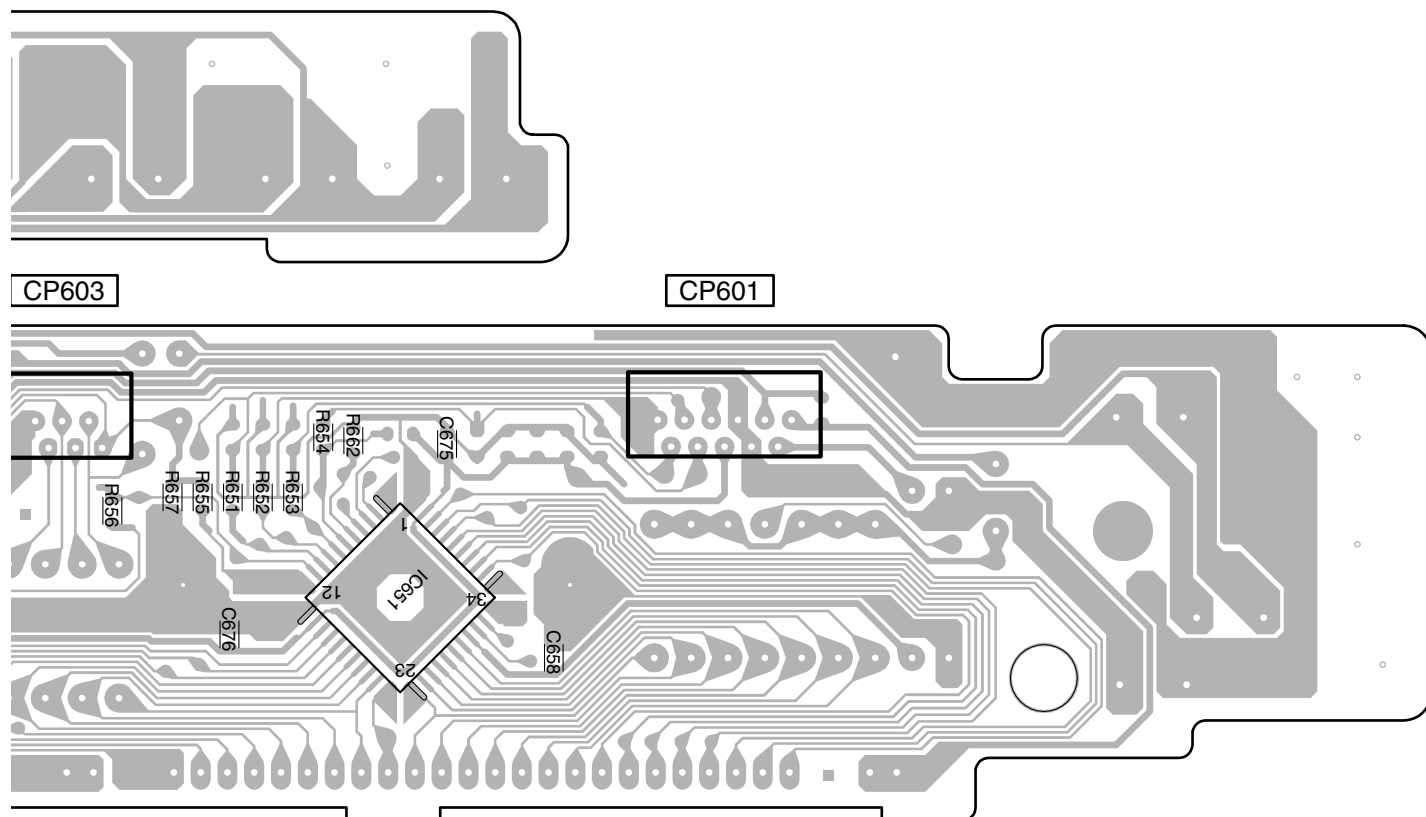


F

40

'CB ASSY

SIDE A

**SIDE B**

PCB ASSY

4

E



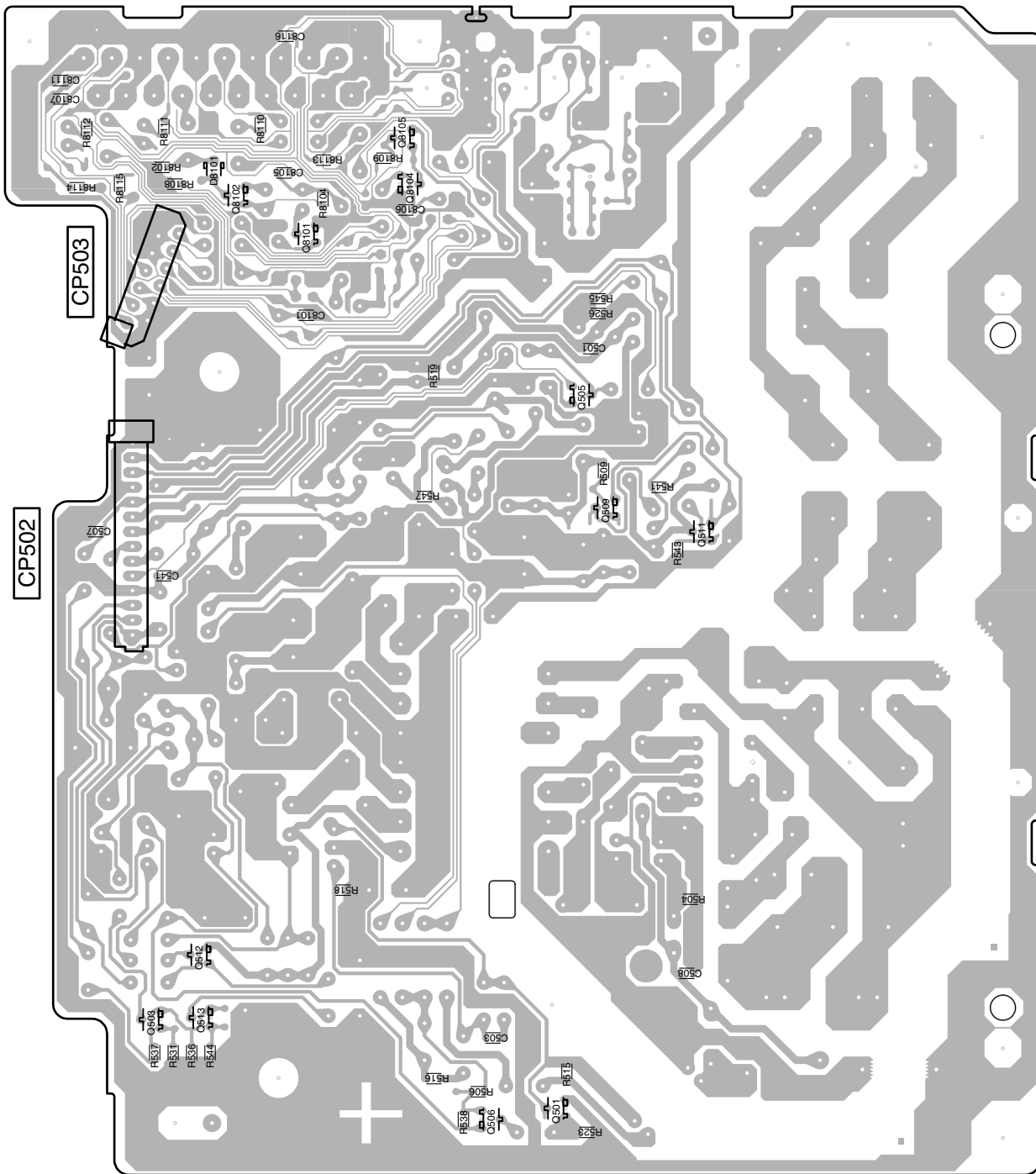
A CP4003

F

SIDE B

A

F POWER PCB ASSY



B

C

D

E

F



5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω $\rightarrow$ 56 x 10¹ $\rightarrow$ 561 RD1/4PU561J
47k Ω $\rightarrow$ 47 x 10³ $\rightarrow$ 473 RD1/4PU473J
0.5 Ω $\rightarrow$ R50 RN2H R50K
1 Ω $\rightarrow$ 1R0 RS1P 1R0K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω $\rightarrow$ 562 x 10¹ $\rightarrow$ 5621 RN1/4PC5621F

Mark No.	Description	Part No.
LIST OF ASSEMBLIES		
1..DVD MT PCB ASSY		A2G502A130
1..OPERATION PCB ASSY		A2G502A270
1..OPERATION 2 PCB ASSY		A2G502A280
1..POWER PCB ASSY		A2G502A240
NSP 1..DVD MECHA ASSY		A2F101A650
2..LOADING PCB ASSY		A2F101A610
2..SW PCB ASSY		A2F101A640

Mark No.	Description	Part No.
----------	-------------	----------

A DVD MT PCB ASSY SEMICONDUCTORS

IC2301	IC LA6565-TE-L-E	I03F065650
IC4001	IC BR24L16FJ-WE2	I57F04L160
IC4002	IC MT1389FE/C2-L	IC8K0389C0
IC4003	IC BD5229G-TR	I97F052290
IC4004	IC S29AL016D70TFI020	S2G502AF10

IC4005	IC K4S641632H-UC75	IFLJ0632H7
IC4006	IC SIP1117L-ADJ-TP	I1HF9117L0
IC8001	IC SN74CBT3257PWR	I5CJ032570
IC8002	IC MM1623BFBE	I0UFG623B0
IC8003	IC BA4560F-E2	I07F045600

IC8004	IC PCM1742KEG/2K	I17F02KEG0
Q2301	KTC3875S_Y_RTK	TCAA3875SY
Q2302	KTA1504S_Y_RTK	TAAA1504SY
Q2303	KTA1504S_Y_RTK	TAAA1504SY
Q2304	KTA1504S_Y_RTK	TAAA1504SY

Q2305	KTA1504S_Y_RTK	TAAA1504SY
Q2306	FET 2SK3018T106	T27T030180
Q2307	FET 2SK3018T106	T27T030180
Q8005	KTC3875S_Y_RTK	TCAA3875SY
Q8010	DTC114YUAT106	TN7J407001

Q8013	DTC114YUAT106	TN7J407001
Q8014	KTA1504S_Y_RTK	TAAA1504SY
Q8016	KTC3875S_Y_RTK	TCAA3875SY
Q8018	2SD2114KT146	T97A021140
Q8019	2SD2114KT146	T97A021140

Q8020	2SD2114KT146	T97A021140
Q8021	2SD2114KT146	T97A021140
D8005	UDZS6.8B TE-17	DE7RB6R82B
D8007	1SS355 TE-17	DD7R0S3550

Mark No.	Description	Part No.
CAPACITORS		
C2301	CC 0.1 UF 25V B	CS0PB0315K
C2302	CC 0.1 UF 25V B	CS0PB0315K
C2303	CC 0.1 UF 25V B	CS0PB0315K
C2305	CC 0.1 UF 25V B	CS0PB0315K
C2306	CE 100 UF 10V	E02LU1101M
C2307	CC 1 UF 10V B	CS0PB0N16K
C2308	CC 0.1 UF 25V B	CS0PB0315K
C2309	CC 0.1 UF 25V B	CS0PB0315K
C2310	CC 0.01 UF 50V B	CS0PB0414K
C2311	CC 0.01 UF 50V B	CS0PB0414K
C2312	CC 1 UF 10V B	CS0PB0N16K
C2313	CC 0.01 UF 50V B	CS0PB0414K
C2314	CC 1 UF 10V B	CS0PB0N16K
C2320	CE 100 UF 10V	E02LU1101M
C2321	CE 100 UF 10V	E02LU1101M
C2322	CC 0.0022UF 50V B	CS0PB04H3K
C2323	CC 0.1 UF 25V B	CS0PB0315K
C2325	CC 0.001 UF 50V B	CS0PB0413K
C4001	CC 0.0022UF 50V B	CS0PB04H3K
C4002	CC 270 PF 50V CH	CS0PCH4K2J
C4003	CC 150 PF 50V CH	CS0PCH4E2J
C4005	CC 0.1 UF 25V B	CS0PB0315K
C4007	CC 0.1 UF 25V B	CS0PB0315K
C4008	CC 0.1 UF 25V B	CS0PB0315K
C4009	CC 0.015 UF 50V B	CS0PB04E4K
C4012	CC 0.1 UF 25V B	CS0PB0315K
C4013	CC 0.1 UF 25V B	CS0PB0315K
C4014	CC 1 UF 10V B	CS0PB0N16K
C4015	CC 1 UF 10V B	CS0PB0N16K
C4016	CC 1 UF 10V B	CS0PB0N16K
C4017	CC 1 UF 10V B	CS0PB0N16K
C4019	CC 0.1 UF 25V B	CS0PB0315K
C4020	CC 0.1 UF 25V B	CS0PB0315K
C4021	CC 0.1 UF 25V B	CS0PB0315K
C4022	CC 0.1 UF 25V B	CS0PB0315K
C4023	CE 220 UF 6.3V	E02LU0221M
C4024	CC 0.0015UF 50V B	CS0PB04E3K
C4025	CC 0.1 UF 25V B	CS0PB0315K
C4026	CC 0.1 UF 25V B	CS0PB0315K
C4027	CC 0.1 UF 25V B	CS0PB0315K
C4028	CC 0.1 UF 25V B	CS0PB0315K
C4030	CC 0.1 UF 25V B	CS0PB0315K
C4031	CC 0.033 UF 25V B	CS0PB03L4K
C4032	CC 0.1 UF 25V B	CS0PB0315K
C4033	CC 0.001 UF 50V B	CS0PB0413K

5			6			7			8		
Mark No.	Description		Part No.			Mark No.	Description		Part No.		
C4034	CC	22 PF 50V CH	CS0PCH4H1J			C8001	CC	0.1 UF 25V B	CS0PB0315K		
C4035	CC	0.1 UF 25V B	CS0PB0315K			C8002	CC	1 UF 10V B	CS0PB0N16K		
C4039	CC	1 UF 10V B	CS0PB0N16K			C8003	CC	1 UF 10V B	CS0PB0N16K		
C4040	CC	1 UF 16V B	CS0PB0216K			C8004	CC	0.1 UF 25V B	CS0PB0315K		A
C4041	CC	0.1 UF 25V B	CS0PB0315K			C8005	CC	0.1 UF 25V B	CS0PB0315K		
C4042	CC	0.047 UF 25V B	CS0PB03Q4K			C8006	CC	1 UF 10V B	CS0PB0N16K		
C4043	CC	0.1 UF 25V B	CS0PB0315K			C8008	CC	0.1 UF 25V B	CS0PB0315K		
C4044	CC	0.047 UF 25V B	CS0PB03Q4K			C8010	CC	0.1 UF 25V B	CS0PB0315K		
C4045	CC	0.47 UF 10V B	CS0PB0NQ5K			C8014	CE	100 UF 10V	E02LU1101M		
C4046	CE	10 UF 25 V	E50HU3100M			C8015	CC	0.1 UF 25V B	CS0PB0315K		
C4047	CC	390 PF 50V CH	CS0PCH4N2J			C8016	CC	0.1 UF 25V B	CS0PB0315K		
C4048	CC	10 PF 50V CH	CS0PCH411D			C8017	CE	100 UF 10V	E02LU1101M		
C4049	CC	11 PF 50V CH	CS0PCH4A1J			C8021	CC	0.1 UF 25V B	CS0PB0315K		
C4050	CC	0.1 UF 25V B	CS0PB0315K			C8022	CE	1000 UF 6.3V	E02LT0102M		
C4052	CC	0.01 UF 50V B	CS0PB0414K			C8023	CE	470 UF 6.3V	E02LU0471M		B
C4053	CC	0.1 UF 25V B	CS0PB0315K			C8024	CE	470 UF 6.3V	E02LU0471M		
C4054	CC	220 PF 50V CH	CS0PCH4H2J			C8025	CE	470 UF 6.3V	E02LU0471M		
C4060	CC	0.1 UF 25V B	CS0PB0315K			C8026	CE	1000 UF 6.3V	E02LT0102M		
C4061	CC	0.1 UF 25V B	CS0PB0315K			C8036	CC	1 UF 10V B	CS0PB0N16K		
C4062	CC	0.1 UF 25V B	CS0PB0315K			C8038	CE	1 UF 50V	E50HU5010M		
C4063	CC	0.1 UF 25V B	CS0PB0315K			C8042	CC	100 PF 50V CH	CS0PCH412J		
C4064	CC	0.1 UF 25V B	CS0PB0315K			C8046	CC	100 PF 50V CH	CS0PCH412J		
C4066	CC	1 UF 10V B	CS0PB0N16K			C8051	CE	100 UF 10V	E02LU1101M		
C4067	CC	0.1 UF 25V B	CS0PB0315K			C8053	CE	100 UF 10V	E02LU1101M		
C4068	CC	0.1 UF 25V B	CS0PB0315K			C8056	CC	560 PF 50V CH	CS0PCH4S2J		C
C4071	CC	0.1 UF 25V B	CS0PB0315K			C8057	CC	560 PF 50V CH	CS0PCH4S2J		
C4072	CC	0.1 UF 25V B	CS0PB0315K			C8058	CC	0.1 UF 25V B	CS0PB0315K		
C4073	CC	0.1 UF 25V B	CS0PB0315K			C8059	CC	0.1 UF 25V B	CS0PB0315K		
C4074	CC	0.1 UF 25V B	CS0PB0315K			C8061	CE	1000 UF 6.3V	E02LT0102M		
C4076	CC	33 PF 50V CH	CS0PCH4L1J			C8062	CC	1 UF 10V B	CS0PB0N16K		
C4077	CC	100 PF 50V CH	CS0PCH412J			C8063	CC	0.1 UF 25V B	CS0PB0315K		
C4078	CC	33 PF 50V CH	CS0PCH4L1J			C8066	CE	100 UF 10V	E02LU1101M		
C4079	CC	100 PF 50V CH	CS0PCH412J			C8067	CC	100 PF 50V CH	CS0PCH412J		
C4080	CC	1 UF 10V B	CS0PB0N16K			C8068	CC	0.1 UF 25V B	CS0PB0315K		
C4081	CC	0.001 UF 50V B	CS0PB0413K			C8069	CC	100 PF 50V CH	CS0PCH412J		
C4082	CC	0.1 UF 25V B	CS0PB0315K			C8070	CE	47 UF 16V	E02LU2470M		D
C4084	CC	0.1 UF 25V B	CS0PB0315K			C8072	CC	0.1 UF 25V B	CS0PB0315K		
C4085	CC	0.1 UF 25V B	CS0PB0315K			C8073	CE	47 UF 16V	E02LU2470M		
C4086	CE	1000 UF 6.3V	E02LT0102M			C8074	CC	330 PF 50V CH	CS0PCH4L2J		
C4088	CC	0.1 UF 25V B	CS0PB0315K			C8075	CC	0.1 UF 25V B	CS0PB0315K		
C4090	CC	0.0082UF 50V B	CS0PB04W3K			C8076	CE	100 UF 10V	E02LU1101M		
C4091	CC	0.0022UF 50V B	CS0PB04H3K			C8077	CC	330 PF 50V CH	CS0PCH4L2J		
C4093	CC	1 UF 10V B	CS0PB0N16K			C8078	CC	330 PF 50V CH	CS0PCH4L2J		
C4094	CC	0.1 UF 25V B	CS0PB0315K			RESISTORS					
C4095	CE	47 UF 6.3V	E50HU0470M			R2306	RC	100K OHM 1/16W	R803R9104J		
C4096	CC	1 UF 10V B	CS0PB0N16K			R2307	RC	100K OHM 1/16W	R803R9104J		
C4098	CC	1 UF 10V B	CS0PB0N16K			R2308	RC	10K OHM 1/16W	R803R9103J		E
C4099	CC	0.001 UF 50V B	CS0PB0413K			R2309	RC	10K OHM 1/16W	R803R9103J		
C4100	CE	220 UF 6.3V	E02LU0221M			R2310	RC	2.7K OHM 1/16W	R803R9272J		
C4101	CC	0.1 UF 25V B	CS0PB0315K								
C4102	CC	0.1 UF 25V B	CS0PB0315K			R2311	RC	10K OHM 1/16W	R803R9103J		
C4103	CC	0.1 UF 25V B	CS0PB0315K			R2312	RC	15K OHM 1/16W	R803R9153F		
C4104	CC	1 UF 10V B	CS0PB0N16K			R2313	RC	10K OHM 1/16W	R803R9103F		
C4105	CC	1 UF 10V B	CS0PB0N16K			R2316	RC	10K OHM 1/16W	R803R9103F		
						R2317	RC	56K OHM 1/16W	R803R9563F		
C4109	CC	0.1 UF 25V B	CS0PB0315K			R2318	RC	10K OHM 1/16W	R803R9103F		
C4110	CC	100 PF 50V CH	CS0PCH412J			R2319	RC	150K OHM 1/16W	R803R9154J		
C4112	CC	0.001 UF 50V B	CS0PB0413K			R2320	RC	4.7 OHM 1/16W	R803R94R7J		F
C4114	CC	1 UF 10V B	CS0PB0N16K			R2321	RC	4.7 OHM 1/16W	R803R94R7J		
C4116	CC	100 PF 50V CH	CS0PCH412J			R2322	RC	4.7 OHM 1/16W	R803R94R7J		

	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
A	R2323	RC 4.7 OHM 1/16W	R803R94R7J	R4084	RC 1K OHM 1/16W	R803R9102J
	R2325	RC 15K OHM 1/16W	R803R9153F	R4087	RC 10K OHM 1/16W	R803R9103J
	R2326	RC 4.7K OHM 1/16W	R803R9472J	R8014	RC 3.9K OHM 1/16W	R803R9392J
	R2327	RC 4.7K OHM 1/16W	R803R9472J	R8016	RC 1.2K OHM 1/16W	R803R9122J
	R2328	RC 10K OHM 1/16W	R803R9103F	R8017	RC 1.2K OHM 1/16W	R803R9122J
B	R2329	RC 1 OHM 1/16W	R803R9010J	R8018	RC 1.2K OHM 1/16W	R803R9122J
	R2330	RC 10K OHM 1/16W	R803R9103F	R8021	RC 10K OHM 1/16W	R803R9103J
	R2331	RC 150K OHM 1/16W	R803R9154J	R8023	RC 75 OHM 1/16W	R803R9750F
	R2332	RC 1.2 OHM 1/16W	R803R91R2J	R8024	RC 75 OHM 1/16W	R803R9750F
	R2333	RC 1.2 OHM 1/16W	R803R91R2J	R8026	RC 75 OHM 1/16W	R803R9750F
C	R2334	RC 2.2 OHM 1/16W	R803R92R2J	R8027	RC 75 OHM 1/16W	R803R9750F
	R2335	RC 2.2 OHM 1/16W	R803R92R2J	R8028	RC 75 OHM 1/16W	R803R9750F
	R2337	RC 5.6K OHM 1/16W	R803R9562J	R8029	RC 75 OHM 1/16W	R803R9750F
	R2338	RC 10K OHM 1/16W	R803R9103J	R8035	RC 2.2K OHM 1/16W	R803R9222J
	R2342	RC 680K OHM 1/16W	R803R9684J	R8036	RC 3.9K OHM 1/16W	R803R9392J
D	R4001	RC 1K OHM 1/16W	R803R9102J	R8037	RC 1.8K OHM 1/16W	R803R9182J
	R4002	RC 10K OHM 1/16W	R803R9103J	R8038	RC 220 OHM 1/16W	R803R9221J
	R4003	RC 680K OHM 1/16W	R803R9684J	R8039	RC 68 OHM 1/16W	R803R9680J
	R4005	RC 100 OHM 1/16W	R803R9101J	R8040	RC 100K OHM 1/16W	R803R9104J
	R4007	RC 100 OHM 1/16W	R803R9101J	R8044	RC 10K OHM 1/16W	R803R9103J
E	R4011	RC 10K OHM 1/16W	R803R9103J	R8046	RC 2.2K OHM 1/16W	R803R9222J
	R4012	RC 10K OHM 1/16W	R803R9103J	R8048	RC 270K OHM 1/16W	R803R9274J
	R4013	RC 10K OHM 1/16W	R803R9103J	R8049	RC 10K OHM 1/16W	R803R9103F
	R4014	RC 10K OHM 1/16W	R803R9103J	R8051	RC 3.9K OHM 1/16W	R803R9392J
	R4015	RC 10K OHM 1/16W	R803R9103J	R8054	RC 2.2K OHM 1/16W	R803R9222J
F	R4016	RC 15K OHM 1/16W	R803R9153J	R8056	RC 4.7K OHM 1/16W	R803R9472J
	R4017	RC 22K OHM 1/16W	R803R9223J	R8057	RC 100 OHM 1/16W	R803R9101J
	R4018	RC 22K OHM 1/16W	R803R9223J	R8059	RC 10K OHM 1/16W	R803R9103F
	R4019	RC 22K OHM 1/16W	R803R9223J	R8060	RC 270K OHM 1/16W	R803R9274J
	R4020	RC 15K OHM 1/16W	R803R9153J	R8061	RC 10K OHM 1/16W	R803R9103F
G	R4022	RC 100K OHM 1/16W	R803R9104J	R8063	RC 18K OHM 1/16W	R803R9183F
	R4024	RC 750K OHM 1/16W	R803R9754J	R8065	RC 10 OHM 1/16W	R803R9100J
	R4025	RC 100K OHM 1/16W	R803R9104J	R8066	RC 10K OHM 1/16W	R803R9103F
	R4026	RC 10K OHM 1/16W	R803R9103J	R8067	RC 18K OHM 1/16W	R803R9183F
	R4027	RC 100 OHM 1/16W	R803R9101J	R8069	RC 680K OHM 1/16W	R803R9684J
H	R4033	RC 10K OHM 1/16W	R803R9103J	R8070	RC 33 OHM 1/16W	R803R9330J
	R4034	RC 33 OHM 1/16W	R803R9330J	R8073	RC 22K OHM 1/16W	R803R9223J
	R4035	RC 33 OHM 1/16W	R803R9330J	R8074	RC 22K OHM 1/16W	R803R9223J
	R4036	RC 33 OHM 1/16W	R803R9330J	R8076	RC 470 OHM 1/16W	R803R9471J
	R4037	RC 15 OHM 1/16W	R803R9150J	R8077	RC 220 OHM 1/16W	R803R9221F
I	R4039	RC 68 OHM 1/16W	R803R9680F	R8078	RC 470 OHM 1/16W	R803R9471J
	R4043	RC 33 OHM 1/16W	R803R9330J	R8079	RC 220 OHM 1/16W	R803R9221F
	R4044	RC 39 OHM 1/16W	R803R9390F	R8080	RC 220 OHM 1/16W	R803R9221F
	R4046	RC 10 OHM 1/16W	R803R9100J	R8081	RC 470 OHM 1/16W	R803R9471J
	R4047	RC 33 OHM 1/16W	R803R9330J	R8082	RC 220 OHM 1/16W	R803R9221F
J	R4050	RC 33 OHM 1/16W	R803R9330J	R8083	RC 470 OHM 1/16W	R803R9471J
	R4051	RC 33 OHM 1/16W	R803R9330J	R8084	RC 220 OHM 1/16W	R803R9221F
	R4052	RC 10K OHM 1/16W	R803R9103J	R8085	RC 220 OHM 1/16W	R803R9221F
	R4054	RC 10K OHM 1/16W	R803R9103J	W13809	RC 0 OHM 1/16W	R803R9000J
	R4061	RC 2.7K OHM 1/16W	R803R9272F	W13811	RC 0 OHM 1/16W	R803R9000J
K	R4062	RC 15K OHM 1/16W	R803R9153J	W13812	RC 0 OHM 1/16W	R803R9000J
	R4064	RC 150 OHM 1/16W	R803R9151F	W13813	RC 0 OHM 1/16W	R803R9000J
	R4065	RC 150 OHM 1/16W	R803R9151F	W13814	RC 0 OHM 1/16W	R803R9000J
	R4066	RC 150 OHM 1/16W	R803R9151F	W13815	RC 0 OHM 1/16W	R803R9000J
	R4067	RC 150 OHM 1/16W	R803R9151F	W13816	RC 0 OHM 1/16W	R803R9000J
L	R4068	RC 150 OHM 1/16W	R803R9151F	W13817	RC 0 OHM 1/16W	R803R9000J
	R4069	RC 150 OHM 1/16W	R803R9151F	W13819	RC 0 OHM 1/16W	R803R9000J
	R4070	RC 33 OHM 1/16W	R803R9330J	W13820	RC 0 OHM 1/16W	R803R9000J
	R4071	RC 33 OHM 1/16W	R803R9330J	W13824	RC 0 OHM 1/16W	R803R9000J
	R4082	RC 33 OHM 1/16W	R803R9330J	W13829	RC 0 OHM 1/16W	R803R9000J

Mark No.	Description	Part No.
W13832	RC 0 OHM 1/16W	R803R9000J
W13833	RC 0 OHM 1/16W	R803R9000J
W13834	RC 0 OHM 1/16W	R803R9000J
W13847	RC 0 OHM 1/16W	R803R9000J
W13848	RC 0 OHM 1/16W	R803R9000J
W13850	RC 0 OHM 1/16W	R803R9000J
W13851	RC 0 OHM 1/16W	R803R9000J
W13852	RC 0 OHM 1/16W	R803R9000J
W13853	RC 0 OHM 1/16W	R803R9000J
W13866	RC 0 OHM 1/16W	R803R9000J
W13870	RC 0 OHM 1/16W	R803R9000J

OTHERS

B4001	CORE,BEADS	0246C51024
B4002	CORE,BEADS	0246C51024
B4007	CORE,BEADS	0246C51024
B8001	CORE,BEADS	0246C51024
B8002	CORE,BEADS	0246C51024
B8003	CORE,BEADS	0246C51024
B8004	CORE,BEADS	0246C51024
B8006	CORE,BEADS	0246C51024
B8007	CORE,BEADS	0246C51024
CP2301	CONNECTOR PCB SIDE	069GYOT119
CP2302	CONNECTOR PCB SIDE	069EV53030
CP2303	CONNECTOR PCB SIDE	069EV63030
CP4002	CONNECTOR PCB SIDE	069EV63030
CP4003	CONNECTOR PCB SIDE	069S2E0629
CP8001	CONNECTOR PCB SIDE	069J7C0599
J8001	RCA JACK	060J451008
J8002	JACK	063D700008
J8003	RCA JACK	060J411034
J8004	RCA JACK	060J401102
NR4001	R,NETWORK	110P4330M4
NR4002	R,NETWORK	110P4330M4
X4001	CRYSTAL	100BT02701
PCB130	PCB DME025A	13DME025AC

B OPERATION 1 PCB ASSY

SEMICONDUCTORS

IC651	IC PT6315	IF4K063150
D656	1SS133T-77	D1VT001330
D657	1SS133T-77	D1VT001330
D658	1SS133T-77	D1VT001330
D659	1SS133T-77	D1VT001330
D669	1SS133T-77	D1VT001330

SWITCHES AND RELAYS

SW663	SWITCH TACT	0504R01T38
SW666	SWITCH TACT	0504R01T38

CAPACITORS

C651	CC 0.1 UF 25V B	CS0PB0315K
C658	CC 0.1 UF 50V B	CS0PB0415K
C659	CC 0.001 UF 50V B	CS0PB0413K
C674	CE 47 UF 6.3V	E50HU0470M
C675	CC 0.1 UF 25V B	CS0PB0315K
C676	CC 0.1 UF 25V B	CS0PB0315K

Mark No.	Description	Part No.
RESISTORS		
R651	RC 2.2 OHM 1/16W	R803R92R2J
R652	RC 2.2 OHM 1/16W	R803R92R2J
R653	RC 2.2 OHM 1/16W	R803R92R2J
R654	RC 2.2 OHM 1/16W	R803R92R2J
R655	RC 1K OHM 1/16W	R803R9102J
R656	RC 1K OHM 1/16W	R803R9102J
R657	RC 10K OHM 1/16W	R803R9103J
R658	RC 10K OHM 1/16W	R803R9103J
R662	RC 100K OHM 1/16W	R803R9104J
R666	RC 2.2 OHM 1/4W	R002T42R2J

OTHERS

OS651	REMOTE RECEIVER	077A040001
V651	TUBE FLUORESCENT	096F82R601
CD601	CORD JUMPER	122H0B1002
CD603	CORD JUMPER	122H062801
CP601	CONNECTOR PCB SIDE	069EV63050
CP603	CONNECTOR PCB SIDE	069EV63050
W27001	JUMPER IN PCB	1230T05001
W27002	JUMPER IN PCB	1230T12501
W27003	JUMPER IN PCB	1230T05001
W27004	JUMPER IN PCB	1230T12501
W27005	JUMPER IN PCB	1230T05001
W27006	JUMPER IN PCB	1230T07501
W27007	JUMPER IN PCB	1230T07501
W27008	JUMPER IN PCB	1230T05001
W27009	JUMPER IN PCB	1230T05001
W27805	JUMPER IN PCB	1230T05001
PCB270	PCB DEE029A	13DEE029AW

C OPERATION 2 PCB ASSY

SWITCHES AND RELAYS

SW660	SWITCH TACT	0504R01T38
SW662	SWITCH TACT	0504R01T38
SW664	SWITCH TACT	0504R01T38
SW665	SWITCH TACT	0504R01T38
SW667	SWITCH TACT	0504R01T38

OTHERS

CP602	CONNECTOR PCB SIDE	069EV63050
PCB280	PCB DEE037A	13DEE037AW

F POWER PCB ASSY

SEMICONDUCTORS

IC501	IC KIA431A-AT	I1KJ9A431A
IC502	IC STR-A6151M	I0BD061510
IC503	IC PQ070XF01SZH	I0GA9XF010
IC504	PS2561AL1-1-V(W)	000220002W
Q501	KTC3875S_Y_RTK	TCAA3875SY
Q502	KTC3209_Y_AT	TCAT03209Y
Q503	KTA1504S_Y_RTK	TAAA1504SY
Q504	KTA1281_Y	TAAT01281Y
Q505	KTA102SRTK	TNAAB05003
Q506	KTA1504S_Y_RTK	TAAA1504SY

Mark No. Description**Part No.****Mark No. Description****Part No.**

Q509 KTC3875S_Y_RTK TCAA3875SY
 Q510 KTA1281_Y TAAT01281Y
 Q511 KTC3875S_Y_RTK TCAA3875SY
 Q512 KTC3875S_Y_RTK TCAA3875SY
 Q513 KTA1504S_Y_RTK TAAA1504SY

C514 CC 470 PF 500V B C0JTB05Q2K
 C515 CP 0.01 UF 400V ECQP P11104103J
 C516 CC 0.0022UF 250V CD39E0MH3M
 C517 CE 220 UF 25V E02LU3221M
 C518 CC 0.001 UF 250V CD39E0M13M

Q515 2SD1207(S,T)-AE TD3T012070
 Q8101 KTC3875S_Y_RTK TCAA3875SY
 Q8102 KTA1504S_Y_RTK TAAA1504SY
 Q8104 DTC144EKAT146 TNYJD05001
 Q8105 DTA114EKAT146 TPYJB05001

C519 CE 22 UF 35V E02LU4220M
 C520 CE 100 UF 50V E02LT5101M
 C521 CE 1000 UF 16V E61FF2102D
 C522 1000 UF 6.3V E61FT0102D
 C523 CE 25YK470MKC 470 UF 25V E0ELF3471M

D502 1N4005-EIC D2WXN40050
 D503 1N4005-EIC D2WXN40050
 D505 1N4005-EIC D2WXN40050
 D506 1N4005-EIC D2WXN40050
 D508 MTZJ5.6B T-77 D97U05R61B

C526 CE 220 UF 6.3V E02LU0221M
 C527 CE 100 UF 10V E02LU1101M
 C528 CE 2.2 UF 50V E50HU52R2M
 C531 CE 100 UF 16V E02LU2101M
 C533 CE 100 UF 10V E02LU1101M

D509 RGP10KE-G3 D2LTP10KE0
 D510 RGP15J-G23 D23TGP15J0
 D511 10ERB20-TA1B2 D28T0ERB20
 D512 RGP15J-G23 D23TGP15J0
 D513 10ERB20-TA1B2 D28T0ERB20

C535 CE 330 UF 16V E02LU2331M
 C536 CE 220 UF 6.3V E02LU0221M
 C538 CE 220 UF 6.3V E02LU0221M
 C540 CC 0.01 UF 50V B CQGBT0414K
 C541 CC 0.01 UF 50V F CS0PF0414Z

D515 11EQS04N-TA1B2 D28TQS04N0
 D516 1SS133T-77 D1VT001330
 D517 MTZJ4.3B T-77 D97U04R31B
 D519 10ERB60-TA2B5 D28X0ERB60
 D520 1SS133T-77 D1VT001330

C8101 CC 0.01 UF 50V B CS0PB0414K
 C8105 CC 0.1 UF 25V B CS0PB0315K
 C8106 CC 0.001 UF 50V B CS0PB0413K
 C8107 CC 0.001 UF 50V B CS0PB0413K
 C8111 CC 0.001 UF 50V B CS0PB0413K

D521 1SS133T-77 D1VT001330
 D522 D1SS133T-77 D1VT001330
 D523 MTZJ3.6B T-77 D97U03R61B
 D525 1SS133T-77 D1VT001330
 D527 21DQ04N-TA2B1 D28T21DQN4

C8112 CE 1000 UF 6.3V E02LT0102M
 C8113 CE 470 UF 6.3V E02LU0471M
 C8114 CE 470 UF 6.3V E02LU0471M
 C8115 CE 1000 UF 6.3V E02LT0102M
 C8116 CC 33 PF 50V CH CS0PCH4L1J

D528 MTZJ5.1B T-77 D97U05R11B
 D531 MTZJ27B T-77 D97U02701B
 D532 11EQS04N-TA2B5 D28XQS04N0
 D533 MTZJ2.2B T-77 D97U02R21B
 D534 1SS133T-77 D1VT001330

RESISTORS

R502 R,METAL OXIDE 1.8 OHM 1W R3X1811R8J
 R503 RC 1.5M OHM 1/2W R002T2155J
 R504 RC 680K OHM 1/16W R803R9684J
 R505 RC 22 OHM 1/4W R002T4220J
 R506 RC 100 OHM 1/16W R803R9101J

D535 MTZJ5.1B T-77 D97U05R11B
 D536 MTZJ3.0B T-77 D97U03R01B
 D8101 1SS355 TE-17 DD7R0S3550

R507 R,FUSE 10 OHM 1/4W R63884100J
 R509 RC 1K OHM 1/16W R803R9102J
 R510 R,METAL OXIDE 3.3 OHM 1W R3X1813R3J
 R511 R,FUSE 68 OHM 1/4W R65584680J
 R512 RC 100K OHM 1/2W R002T2104J

R513 RC 10K OHM 1/4W R002T4103J
 R514 RC 1K OHM 1/4W R002T4102J
 R515 RC 1K OHM 1/16W R803R9102J
 R516 RC 10 OHM 1/16W R803R9100J
 R517 R,METAL 1.2K OHM 1/6W R4X5T6122F

R518 RC 3.3K OHM 1/16W R803R9332F
 R519 RC 1K OHM 1/16W R803R9102J
 R523 RC 22K OHM 1/16W R803R9223J
 R524 RC 1K OHM 1/4W R002T4102J
 R525 RC 150 OHM 1/4W R002T4151J

R526 RC 6.8K OHM 1/16W R803R9682F
 R527 RC 100 OHM 1/4W R002T4101J
 R528 RC 22K OHM 1/4W R002T4223J
 R529 R,METAL OXIDE 220 OHM 1W R3X181221J
 R530 RC 560 OHM 1/4W R002T4561J

COILS AND FILTERS

B501 CORE,BEADS 024HT03563
 L501 COIL,LINE FILTER 029X000123
 L503 COIL 22 UH 02167E220K
 L505 COIL 22 UH 02167E220K
 L8101 COIL 10 UH 02167F100J

TRANSFORMERS

T501 TRANSFORMER,SWITCHING 0481291294

CAPACITORS

C501 CC 0.01 UF 50V F CS0PF0414Z
 C502 CMP 0.22 UF 275V ECQUL P2122B224M
 C503 CC 0.1 UF 25V B CS0PB0315K
 C505 CC 100 PF 2KV R C0PLRR712K
 C506 CE 2.2 UF 50V E50HU52R2M

C507 CC 0.01 UF 50V F CS0PF0414Z
 C508 CC 680 PF 50V CH CS0PCH4U2J
 C509 CE 10 UF 50V E02LU5100M
 C511 CE 82 UF 400V E51CHH820M
 C513 CC 47 PF 2KV SL CP3YSL7Q1J

5			6			7			8		
Mark No.	Description		Part No.			Mark No.	Description		Part No.		
R531	RC	10K OHM 1/16W	R803R9103J								
R534	RC	100 OHM 1/4W	R002T4101J			W24029	JUMPER IN PCB		1230T05001		
R536	RC	10K OHM 1/16W	R803R9103J			W24030	JUMPER IN PCB		1230T05001		
R537	RC	1K OHM 1/16W	R803R9102J			W24031	JUMPER IN PCB		1230T05001		A
R538	RC	22K OHM 1/16W	R803R9223J			W24032	JUMPER IN PCB		1230T05001		
						W24035	JUMPER IN PCB		1230T05001		
R539	RC	4.7K OHM 1/4W	R002T4472J								
R540	RC	680 OHM 1/4W	R002T4681J			W24036	JUMPER IN PCB		1230T05001		
R541	RC	5.6K OHM 1/16W	R803R9562F			W24811	JUMPER IN PCB		1230T05001		
R542	R,METAL	1K OHM 1/6W	R4X5T6102F			W24814	JUMPER IN PCB		1230T05001		
R543	RC	4.7K OHM 1/16W	R803R9472F			W24815	JUMPER IN PCB		1230T12501		
						W24817	JUMPER IN PCB		1230T12501		
R544	RC	10K OHM 1/16W	R803R9103J								
R545	RC	22K OHM 1/16W	R803R9223F			W24821	JUMPER IN PCB		1230T12501		
R546	R,METAL	3.3K OHM 1/6W	R4X5T6332F			PCB240	PCB DPE004A		13DPE004AW		
R547	RC	22 OHM 1/16W	R803R9220J								
R8101	RC	4.7K OHM 1/4W	R002T4472J								B
R8102	RC	56K OHM 1/16W	R803R9563J								
R8103	RC	470 OHM 1/4W	R002T4471J								
R8104	RC	6.8K OHM 1/16W	R803R9682J								
R8105	RC	390 OHM 1/4W	R002T4391J								
R8108	RC	8.2K OHM 1/16W	R803R9822J								
R8109	RC	68 OHM 1/16W	R803R9680F								
R8110	RC	75 OHM 1/16W	R803R9750F								
R8111	RC	75 OHM 1/16W	R803R9750F								
R8112	RC	75 OHM 1/16W	R803R9750F								
R8113	RC	75 OHM 1/16W	R803R9750F								
											C
R8114	RC	220 OHM 1/16W	R803R9221F								
R8115	RC	220 OHM 1/16W	R803R9221F								
R8120	RC	1 OHM 1/4W	R002T4010J								
OTHERS											
F501	FUSE	50T016H	080NT1R604								
CD8001	CORD	JUMPER	122H0C3001								
CP502	CORD	CONNECTOR	06C32E3504								
CP503	CONNECTOR	PCB SIDE	069J7C0599								
FH501	HOLDER,FUSE		06710T0009								
FH502	HOLDER,FUSE		06710T0009								
J501	SOCKET,AC		064A6A0001								D
J8101	SOCKET,21PIN		063D100050								
W24001	JUMPER IN PCB		1230T07501								
W24002	JUMPER IN PCB		1230T10001								
W24003	JUMPER IN PCB		1230T05001								
W24004	JUMPER IN PCB		1230T12501								
W24005	JUMPER IN PCB		1230T05001								
W24006	JUMPER IN PCB		1230T05001								
W24007	JUMPER IN PCB		1230T15001								
W24008	JUMPER IN PCB		1230T12501								
W24010	JUMPER IN PCB		1230T10001								
W24011	JUMPER IN PCB		1230T07501								E
W24012	JUMPER IN PCB		1230T05001								
W24013	JUMPER IN PCB		1230T05001								
W24015	JUMPER IN PCB		1230T05001								
W24016	JUMPER IN PCB		1230T05001								
W24017	JUMPER IN PCB		1230T10001								
W24018	JUMPER IN PCB		1230T05001								
W24019	JUMPER IN PCB		1230T05001								
W24021	JUMPER IN PCB		1230T15001								
W24023	JUMPER IN PCB		1230T07501								
W24024	JUMPER IN PCB		1230T10001								
W24025	JUMPER IN PCB		1230T07501								F
W24026	JUMPER IN PCB		1230T05001								
W24027	JUMPER IN PCB		1230T05001								

6. ADJUSTMENT

6.1 WHEN REPLACING DVD DECK

[Removing the DVD Deck]

Before removing Pick Up PCB and DVD PCB connector, short circuit the position shown in **Fig. 1** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.

[Installing the DVD Deck]

Remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

NOTE

- Before your operation, please read “PREPARATION OF SERVICING” .
- Use the Lead Free solder.
- Manual soldering conditions
 - Soldering temperature: $320 \pm 20^{\circ}\text{C}$
 - 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.

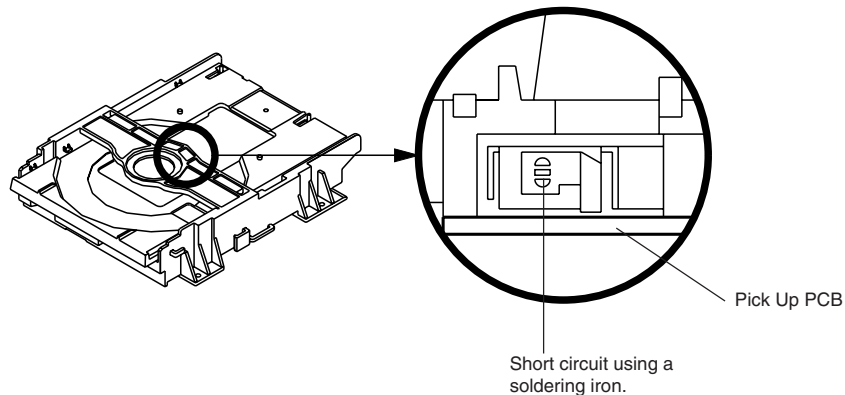
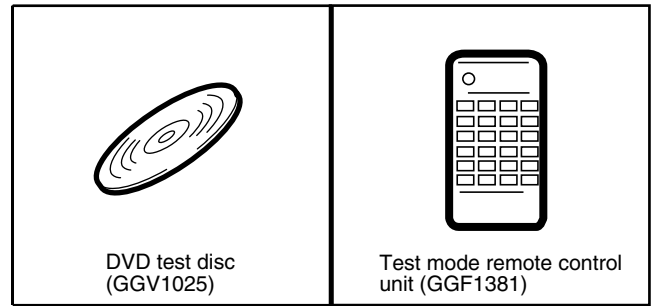
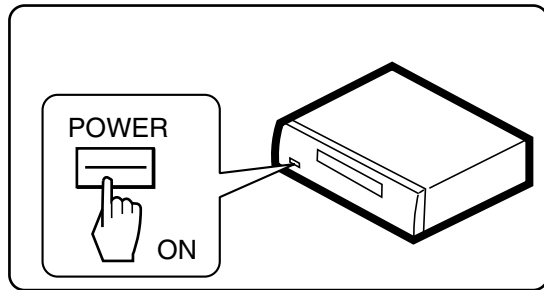


Fig. 1

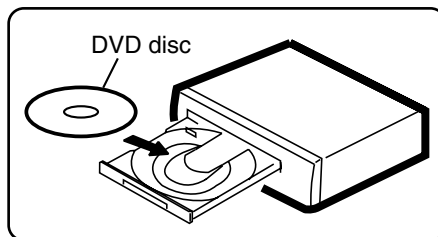
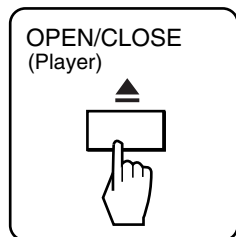
6.2 TEST MODE

POWER ON

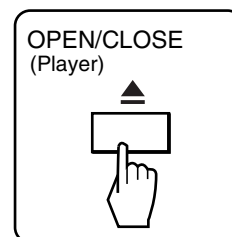


DISC SET

<TRAY OPEN>

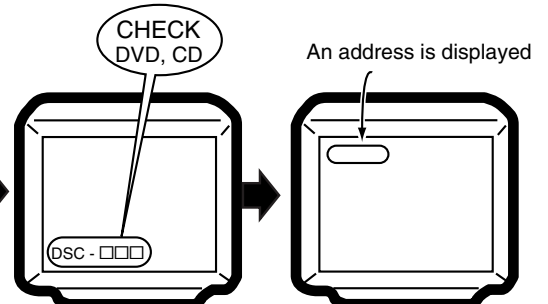
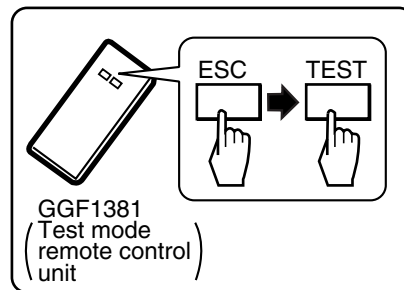
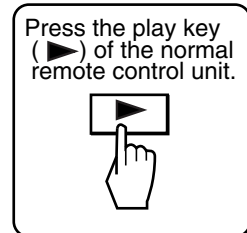


<TRAY CLOSE>



TEST MODE: PLAY

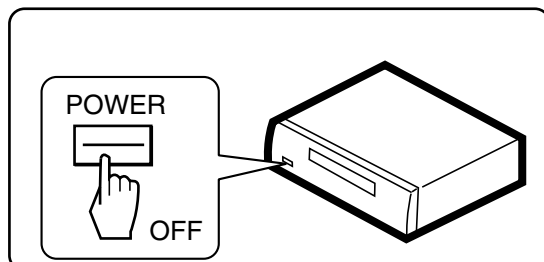
<PLAY>



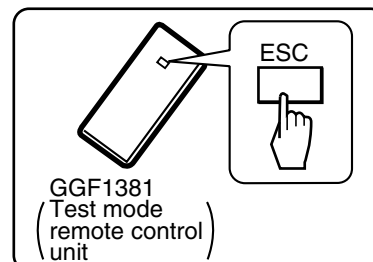
Notes:

- After going into test mode, if you play back the disc, "DISC-NON" is displayed.
- The video signal and the audio signal are outputted during the test mode.
- The SKIP key and the SCAN key are effective during the test mode.

TEST MODE: OFF



OR



6.3 TEST MODE IN

Test Mode Functional Specification

- A

①

Test mode entry

In the power ON state, press the [ESC] (A8-5F) key and [TEST / RANDOM] (A8-5E) key in order of the Test mode remote control unit.
¥ Light the all FL and LEDs.
¥ OSD displays test mode.

Note:
* When pressing the keys of something, the FL displays "NO DISC" and the LED lighting disappears.

- ②

Release the Test mode

¥ Turn off the power.
¥ Press the [ESC] (A8-5F) key of the remote control unit.

- ③

LD ON

DVD : Press the [TEST] (A8-5E) and [1] (A8-01) keys in order, and turn on the laser diode (650n).
CD : Press the [TEST] (A8-5E) and [4] (A8-04) keys in order, and turn on the laser diode (780n).

C

D

E

F

6.4 DISC REMOVAL METHOD

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Top Cabinet and Front Cabinet. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Rotate the Main Gear in the direction of the arrow by hand. **(Refer to Fig. 1)**
3. Draw the Tray.

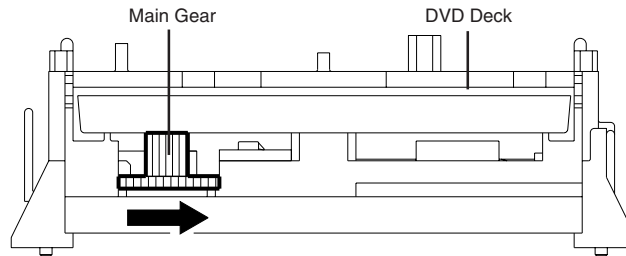


Fig. 1

PARENTAL CONTROL - RATING LEVEL 4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Set the DVD to the Stand-by Mode.
2. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the POWER key on the front panel.
4. The 4 digit password has now been cleared.

NOTE: The above procedure will reset ALL of the player's settings to the default factory state.

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.

1234

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISPLAY SPECIFICATION OF THE TEST MODE

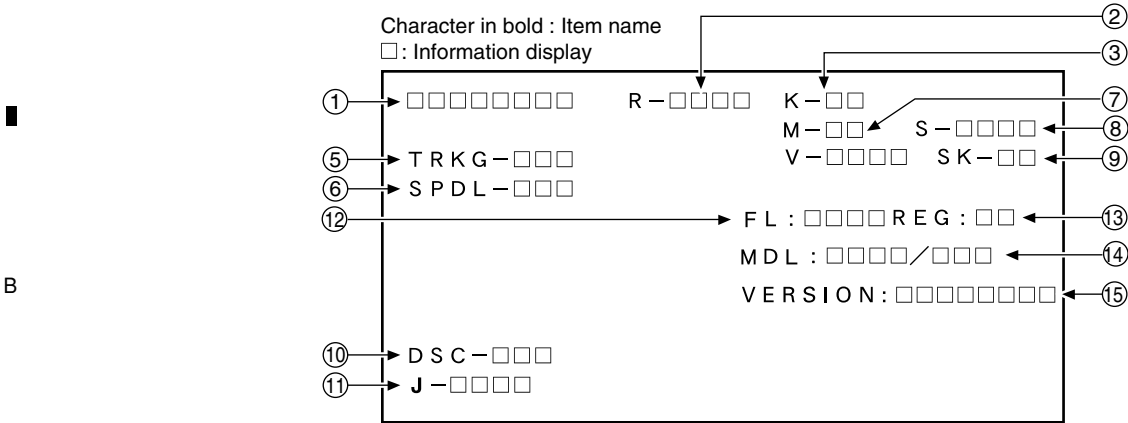
A

B

D

E

F



① **Address indication**

The address being traced is displayed in number.
(as for the DVD, indication of decimal number is possible.)
DVD : ID indication (hexadecimal number, 8 digits)

CD : ID indication [*****]

② **Code indication of remote control unit [R-****]**

In case of double code, display a 2nd code.

③ **Main unit keycode indication [K-**]**

⑤ **Tracking status [TRKG-****]**

Tracking on : [ON]
Tracking off : [OFF]

⑥ **Spindle status [SPDL-****]**

[OFF], [CLV]

⑦ **Mechanism (loading) position value [M-**]**

Unknown : [01] or [41]
Open state : [04]
Close state : [08]
During opening : [12]
During closing : [22]

⑧ **Slider position [S-****]**

In Side Switch ON : [01]
In Side Switch OFF : [00]

⑨ **Output video system [V-****]**

NTSC system : [NTSC]
PAL system : [PAL]
Automatic setting : [AUTO]

Scart terminal output [SK-**]**

(Display only the WY model which can do the output setting
of scart terminal.)

VIDEO : [00]
S-VIDEO : [01]
RGB : [02]

⑩ **Disc sensing [DSC-****]**

The type of discs loaded is displayed.
[DVD], [CD], [VCD], []

⑪ **Jitter value [J-****]**

Note:Don't use it.

⑫ **Version of the FL controller [FL: ****]**

⑬ **Region setting of the player [REG: *]**

Setting value : [1] to [6]

⑭ **Destination setting of the FL controller [MDL: **** / ****]**

Four characters in the front represent code 01.
Three characters in the back represent the destination code.
J: /J, K: /KU, /KC, /KU/KC, R: /RL/RD, RAM : /RAM,
LB: /LB, WY: /WY

⑮ **Version of the flash ROM [VERSION: *****]**

7.1.2 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY

Only during normal playback, the following shortcut keys can be assigned by pressing a required key after pressing the ESC key of the remote control unit. To quit, press the ESC key

Command Contents	Conditions	Remote Control Key Name	Remote Control Code
Memory clear and region / revision indication		CLEAR (*1)	A8-45
Average value measurement of DVD error rate		5 (*1)	A8-05
CD error rate measurement		5 (*1)	A8-05
Scart terminal output : VIDEO	WY, models equipped with Scart terminal	AUDIO	AF-BE
Scart terminal output : S-VIDEO		SUBTITLE	AF-36
Scart terminal output : RGB		ANGLE	AF-B5
Progressive OFF	Only for progressive models	R_SKIP	A3-9D
Progressive ON		F_SKIP	A3-9C
ZOOM ON (X2 -> X4 -> x1)		ZOOM	AF-37
Service mode indication (error rate indication, etc.)		CHP/TIM (*1)	A8-13
Model information indication		CHAP (*1)	A8-40
Title search Input mode IN Title No. input Search execution		SIDE A (*1) Numbers (*1) PLAY (*1)	A8-4D A8-00 to A8-09 A8-17
Region confirmation mode		A.MON (*1) Numbers (*1)	A8-1E A8-01 to A8-08

*1 : Test mode remote control unit

• Service mode indication (ESC + CHP/TIM keys)

ID Address

The error rate is always displayed in exponential notation, e.g., *. * * e - *, for both DVDs and CDs.

EDC/ID/AV 1 error history (ID Address, EDC/ID Error, last eight errors)

• Calculation of the average error rate (ESC + "5" [Test mode remote control unit] keys)

The average of the last eight error rates is calculated and indicated in exponential notation. After the calculation is completed, "OK" or "NG" is displayed. If "NG" is displayed, the disc tray will open (for both DVDs and CDs)

For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

• Indication of model information (ESC + CHAP keys)

The items from 12 to 15 of the TEST MODE Indications are displayed. However, in the indications, S in the standard test mode is changed to CHIP VERSION, and M is changed to RF VERSION. For details, see 7.1.4.

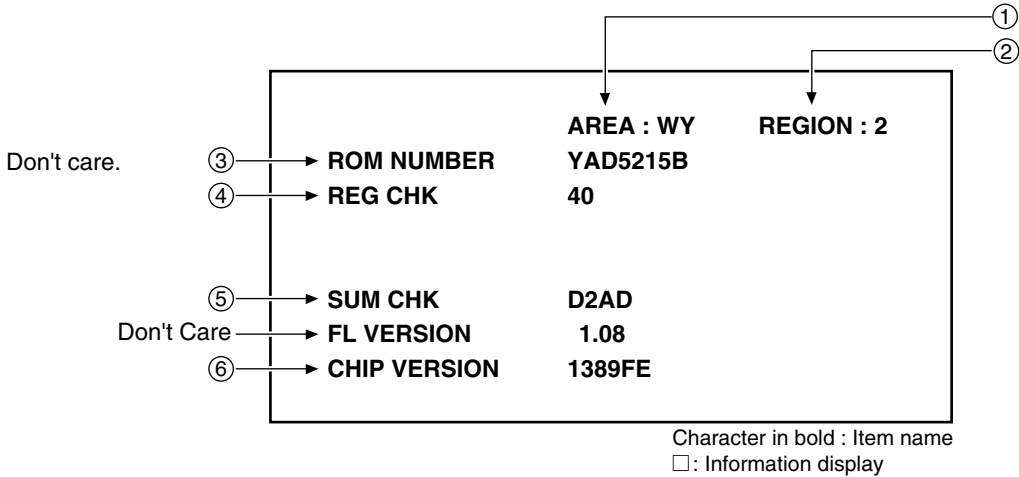
• Region confirmation mode (ESC + A.MON [Test mode remote control unit] + "1"- "8" [Test mode remote control unit] keys)

After you press the AUDIO key while holding the ESC key pressed and then input the region number, if the number is different from that set in the unit, an error message is displayed, and the tray opens.

7.1.3 SPECIFICATION OF MODEL INFORMATION DISPLAY

To display model information : Press the ESC key then the CHAP key.
To close the model information display : Press the ESC key.

• Display contents



① Destination indication

Display it according to model information set from the FL Driver IC.

② Region No.

③ ROM number

Rom display Version.

4kinds of ROM Image

Chip	Audio Out	DivX	US	EU	TH	JP	CH	TW	Other
MT1389D2	2Ch	No	LE-A			LE-B		LE-C	
MT1389C	2Ch	Yes	LE&LU						
MT1389B	5.1Ch	Yes							

Rom Version

Ex. Yxx4A04A

Y	xx	4	A	04	A
system	spec.	year	month	date	version

4 : Mediatek system
xx : AA=LE-A (Please refer to the above-mentioned table.)
AB=LE-B (Please refer to the above-mentioned table.)
AC=LE-C (Please refer to the above-mentioned table.)
AD=LE&LU (Please refer to the above-mentioned table.)
Y : Year (2004)
A : Month (10)
A : 1-9=Jan-Sep/A=Oct/B=Nov/C=Dec
10: Date (04)
01-31
A : No.
A-Z
The Version done UP in the day

④ REG CHK

(Fast) 1byte K1/KS10-16 bit

High-order bit of two places of display ← | → Low-order bit of two places of display
 Dimmer/ms1_2/ms1_1/ms1_0 / Checker/ms0_2/ms0_1/ms0_0
 23pin 24pin 25pin | 26pin 27pin 28pin 29pin ←

Pin No. of FL Driver IC651 (PT6315)

When assumed existence of diodes on each pin as follows,
 Exist: 1
 Nothing: 0

Display four places of high-order and low-order with hexadecimal.

The following about ms1_0 to 2, ms0_0 to 2

MS1_2	MS1_1	MS1_0
-------	-------	-------

000 : rgn2 Japan
 001 : rgn1 North America
 010 : Other
 011 : Taiwan
 100 : Europe
 101 : Thai
 110 : China
 111 : reserved

MS0_2	MS0_1	MS0_0
-------	-------	-------

000 : LE model
 001 : LU model (w DivX)
 010 : LU model (w/o DivX)
 011 : reserved
 100 : karaoke model
 101 : reserved
 110 : reserved
 111 : reserved

⑤ SUM CHK

SUM value of E2P ROM displays with four places.

Calculation range : TV_COMP_POS (65d) – LAST_TV_SYSTEM_POS (151d)

⑥ CHIP VERSION

DV-380-S

7.1.6 TROUBLE SHOOTING

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	The power is not turned on.	Check the voltage of AT+3.3V, -28V and FLDC on the POWER SUPPLY Unit.	POWER PCB ASSY
		Are wires of output connector (POWER PCB ASSY) and CP4003 (DVD M Assy) disconnected or damaged ?	Connector / cable
		Check that the voltage at IC101-pin 22 (KEY0) on the FLKY Assy becomes about 2.7V when the POWER key is pressed and 0 V when it is released.	OPERATION 2 Assy Tact SW (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 OPERATION1 Assy is in the range between 0 and 3.3 V while receiving signals from the remote control unit when any key on it is pressed.	FLKY Assy Remote receiver section (when operation of only the POWER key on the remote control unit is not accepted)
2	An opening screen is not displayed on the monitor (The FL display 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 SUPPLY Unit
		Check that the following voltage are output : IC4006-pin 5 : 1.8V, on the DVD MT PCB Assy.	DVD MT PCB Assy 1.8V Regulator IC (IC4006)
		Is a resonator (X4001 : 27MHz) on the DVD M Assy oscillating ?	DVD MT PCB Assy Crystal resonator (X4001)
		• Is a signal input into IC603-pin26 (PCE#) on the DVD M Assy ? (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 M Assy ? (Is a signal fluctuating ?) → Communication with SDRAM	DVD MT PCB Assy DVD IC (IC4002) Flash ROM (IC4004) SDRAM (IC4005)
		Is a signal output from IC4004-pin 28 (PRD#) on the DVD MT Assy? (Is a signal fluctuating for several hundred mS after the power is turned on ?)	DVD MT PCB Assy Flash ROM (IC4004)
		Are the signals of IC4001-pin 5(SDA) and pin 6(SCL) on the DVD M Assy fluctuating for one or two seconds after the power is turned ?	DVD MT PCB Assy EEPROM (IC4001)
3	An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.)	Check the video signal path between DVD IC (DVD MT Assy IC4002) and video-out terminal (see the block diagram)	DVD MT PCB Assy Video circuit after DVD IC (IC4002)

No.	Symptoms	Diagnosis Contents	Possible Defective Points
4	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 MT Assy change normally ? Pin 5 (SW2(TRIN)): Tray is fully closed: "L" Pin 3 (SW1(TROUT)): Tray is fully opened: "L"	Tray SW
		Is a LOAD-DRV signal reaching ?	DVD MT PCB Assy DVD IC (IC4002)
		Are the signals output from IC101-pin 36 and pin 37 (CN103-pin 1 and pin 2) on the DVDM Assy ? 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 MT PCB Assy FTS Driver IC (IC2301)
		Are wires of CP2302 and CP2303 on the DVDM Assy disconnected or damaged ?	Connector / cable
		Does the voltage of CD2301-pin 5 change by pressing the Inside switch.	Inside switch
5	Playback impossible (no focusing)	Are the signals output from IC2301-pin 9 (F+) and pin 8 (F-) on the DVDM Assy ?	DVD MT PCB Assy FTS Driver IC (IC2301)
		Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?	Pickup
		Are plastic parts damaged ? Or is a shaft detached ? Is the turntable detached or tilted ?	Mechanism section (motor)
		Is flexible cable of CP2301 on the DVD MT Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC4002-pin 42 (FOSO) on the DVDM Assy ? (Device control of about 1.4 V is output usually. It is fluctuated by about ± 250 mV with focus up / down.)	DVD MT PCB Assy DVD IC (IC4002)
6	Playback impossible (Spindle does not turn)	Are the signals output from IC2301-pin 10 (MOT SPDL-), and pin 11 (MOT SPDL+) on the DVD MT Assy ? Is pin 33,34 (STBY) fixed LOW?	DVD MT PCB Assy FTS Driver IC (IC2301)
		Is there any part detached from the spindle motor ? Or Is there any foreign object lodged in it ?	Mechanism section (Spindle motor)
		Are wires of CP2303 on the DVD MT Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC4002-pin 37 (DMSO) on the DVDM Assy ?	DVD MT PCB Assy DVD IC (IC4002)
7	Playback impossible (Playback stops)	Does 650-nm LD deteriorate ? If the voltage at each both ends of R2303 and R2305 on the DVD MT Assy 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 MT Assy is 0.4 V or more, the 780-nm LD is definitely deteriorated.	780-nm LD deteriorated. (When playback of a CD is impossible)
		Are there scratches or dirt on the disc ?	Disc
8	Picture disturbance during playback (block noise, freeze, other)	Are there scratches or dirt on the disc ? Is there a problem with the format of the disc ?	Disc
9	No sound (Picture is normal)	Check the waveform (ABCK, ALRCK, ACLK, ASDATA).	DVD MT PCB Assy DVD IC (IC4002)
		Is signal output from IC8004-pin 7 and pin 8 on the DVD MT Assy ?	DVD MT PCB Assy Audio Dac IC (IC8004)

● Symptoms That May Occur When Any Of The Following ICs Is In Failure

IC	Symptoms
EEP ROM (DVD MT Assy : IC4001)	User's data cannot be stored in memory. The ID number is lost.
16M Flash ROM (DVD MT Assy : IC4004)	The power cannot be turned on. Downloading of the firmware cannot be performed.
DVD IC (DVD MT Assy : IC4002)	Any kind of symptoms (no power, a failure in any of the servo, video and audio systems, etc.) may be generated, because the DVD processing is performed by a single chip.
64M SDRAM (DVD MT Assy : IC4005)	No power. Block noise is generated during playback.

B

C

D

E

F

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: TOP CABINET/FRONT CABINET/OPERATION 1/2PCB (Refer to Fig. 1-1)

1. Remove the 5 screws ①.
2. Remove the Top Cabinet in the direction of arrow (A).
3. Disconnect the following connector: (CP4002).
4. Unlock the 4 supports ②.
5. Remove the Front Cabinet in the direction of arrow (B).
6. Remove the 7 screws ③.
7. Remove the Operation 1/2 PCB in the direction of arrow (C).

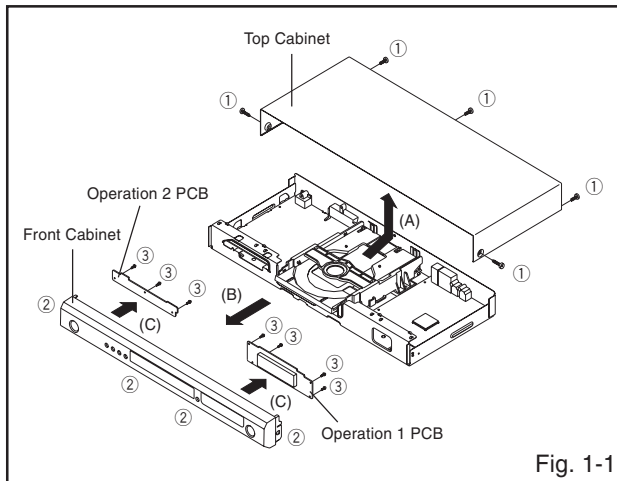


Fig. 1-1

1-2: POWER PCB (Refer to Fig. 1-2)

1. Disconnect the following connectors: (CP4003, CP8001).
2. Remove the screw ①.
3. Remove the 4 screws ②.
4. Remove the Power PCB in the direction of arrow.

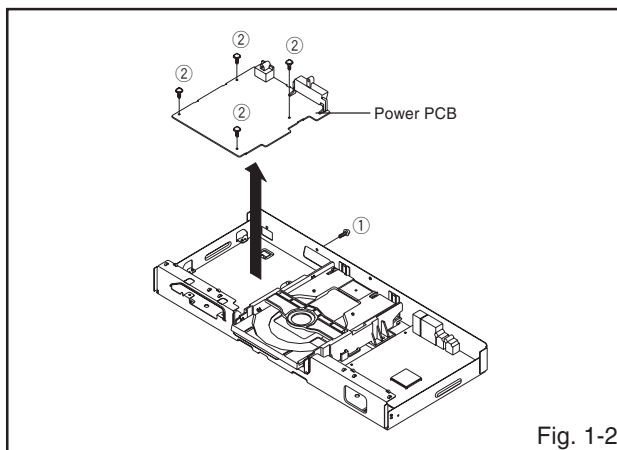


Fig. 1-2

1-3: DVD DECK (Refer to Fig. 1-3)

1. Short circuit the position shown in Fig. 1-3 using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Disconnect the following connectors: (CP2301, CP2302, CP2303).
3. Remove the 4 screws ①.
4. Remove the DVD Deck in the direction of arrow.

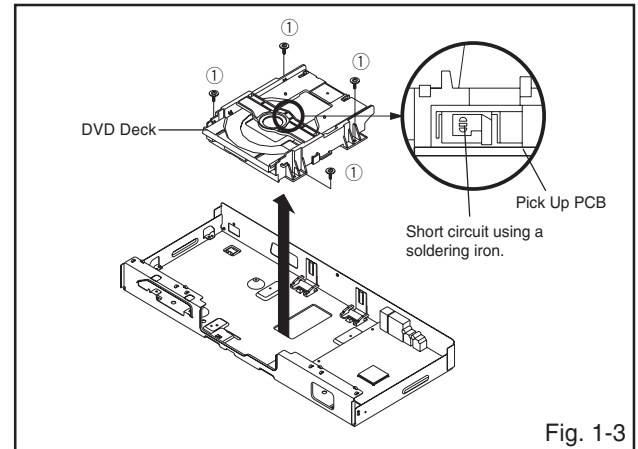


Fig. 1-3

NOTE

1. Before your operation, please read "PREPARATION OF SERVICING".
2. Use the Lead Free solder.
3. Manual soldering conditions
 - Soldering temperature: $320 \pm 20^{\circ}\text{C}$
 - Soldering time: Within 3 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
4. When Soldering/Removing of solder, use the drawing equipment over the Pick Up Unit to prevent the Flux smoke from it.
5. When installing the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

1-4: DVD PCB (Refer to Fig. 1-4)

1. Remove the 4 screws ①.
2. Remove the 4 screws ②.
3. Remove the DVD PCB in the direction of arrow.

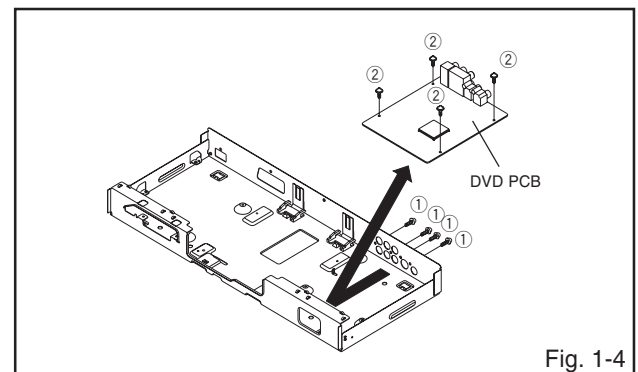


Fig. 1-4

7.3 DVD DECK SECTION

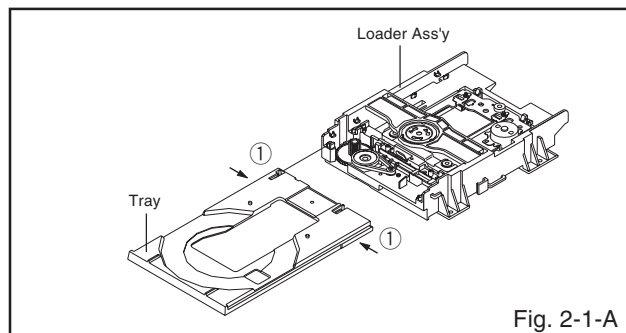
2. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

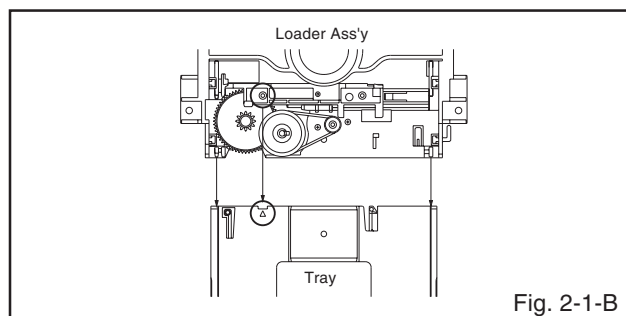
2-1: TRAY (Refer to Fig. 2-1-A)

1. Set the Tray opened. (Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)
2. Unlock the 2 supports ① and draw it while sagging the Tray.



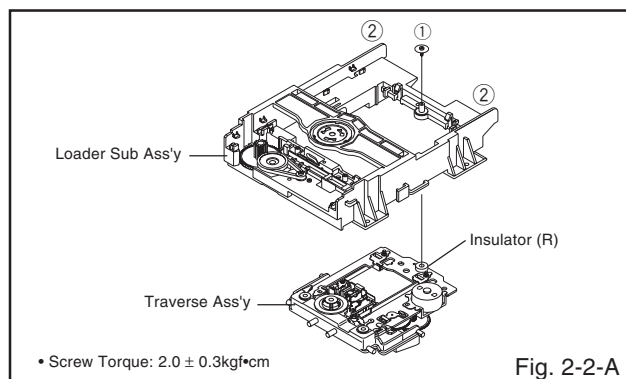
NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 2-1-B so that the each markers are met.



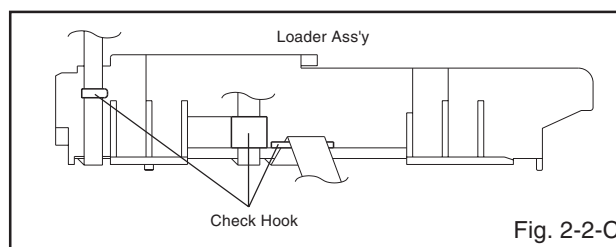
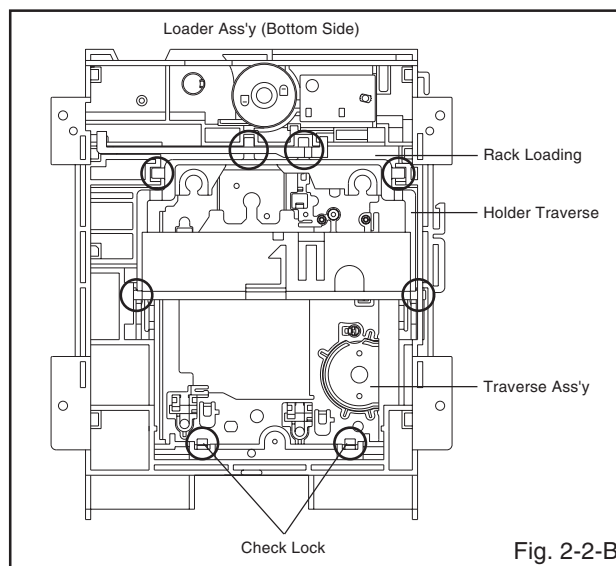
2-2: TRAVERSE ASS'Y (Refer to Fig. 2-2-A)

1. Remove the screw ①.
2. Unlock the 2 supports ②.
3. Remove the Insulator (R) from the Loader Sub Ass'y.
4. Remove the Traverse Ass'y.



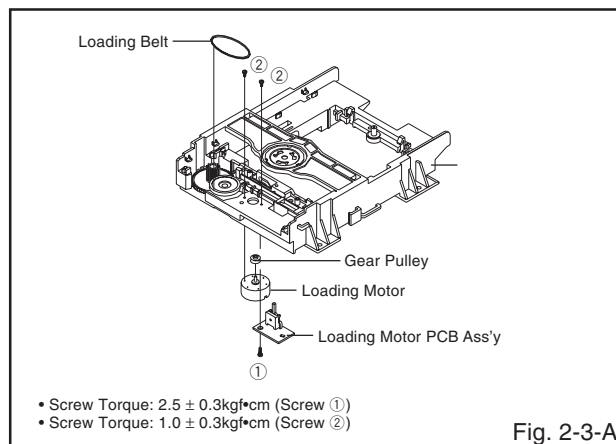
NOTE

1. In case of the Traverse Ass'y, install it from (1) to (4) in order. (Refer to Fig. 2-2-B)
2. In case of the Traverse Ass'y installation, hook the wire on the Loader Ass'y as shown Fig. 2-2-C.



2-3: LOADING MOTOR PCB ASS'Y/ LOADING BELT (Refer to Fig. 2-3-A)

1. Remove the Loading Belt.
2. Remove the screw ①.
3. Remove the Loading Motor PCB Ass'y.
4. Remove the 2 screws ②.
5. Remove the Loading Motor.
6. Remove the Gear Pulley.



NOTE

1. In case of the Pulley Motor installation, check if the value of the Fig. 2-3-B is correct.
2. When installing the wire of the Loading Motor PCB Ass'y, install it correctly as Fig. 2-3-C.
Manual soldering conditions
 - Soldering temperature: $350 \pm 5^{\circ}\text{C}$
 - Soldering time: Within 4 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
3. When installing the Loading Motor PCB Ass'y, install it correctly as Fig. 2-3-D.
4. In case of the Loading Motor PCB Ass'y installation, hook the wire on the Loader Sub Ass'y as shown Fig. 2-3-E.

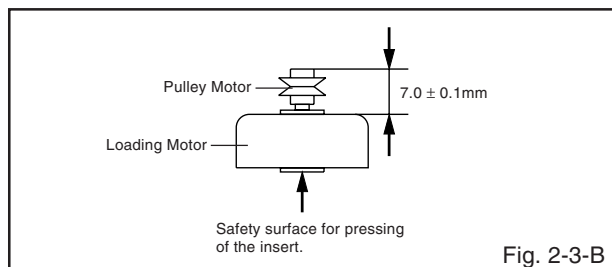


Fig. 2-3-B

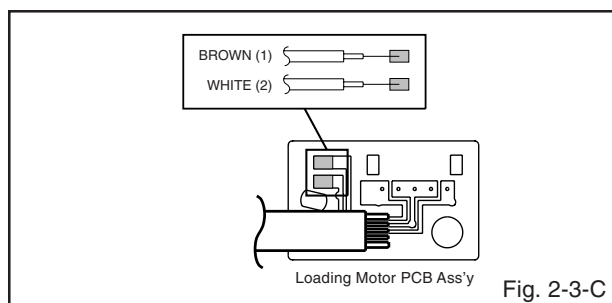


Fig. 2-3-C

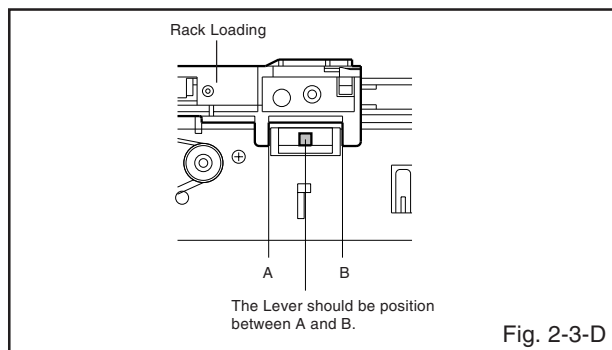


Fig. 2-3-D

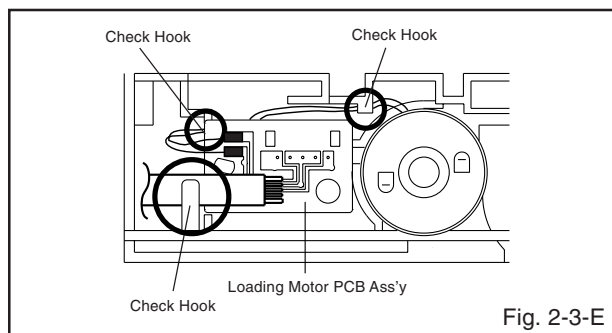


Fig. 2-3-E

2-4: RACK LOADING/MAIN GEAR/PULLEY GEAR (Refer to Fig. 2-4-A)

1. Unlock the support ① and remove the Gear Pulley.
2. Remove the Gear Main.
3. Press down the catcher ② and slide the Rack Loading.

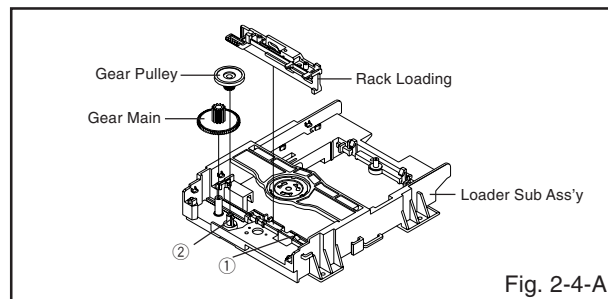


Fig. 2-4-A

NOTE

1. In case of the Rack Loading installation, hook the Rack Loading on the Loader Sub Ass'y as shown Fig. 2-4-B.
2. When installing the Gear Main, take care the direction of up or down as shown Fig. 2-4-C.

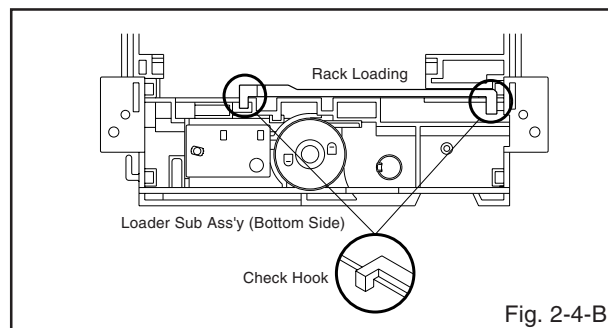


Fig. 2-4-B

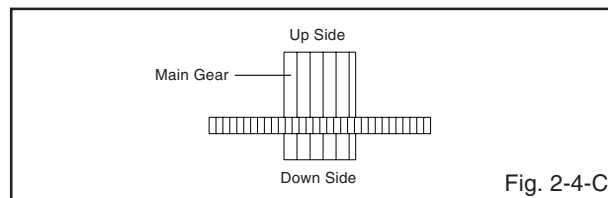


Fig. 2-4-C

2-5: CLAMPER ASS'Y (Refer to Fig. 2-5-A)

1. Press the Clamper and rotate the Plate Clamper clockwise, then unlock the 3 supports ①.
2. Remove the Plate Clamper, Magnet Clamper and Clamper.

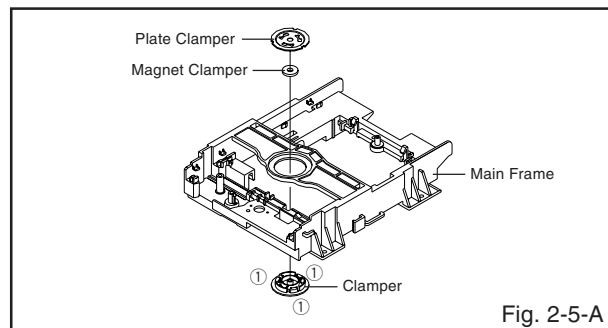
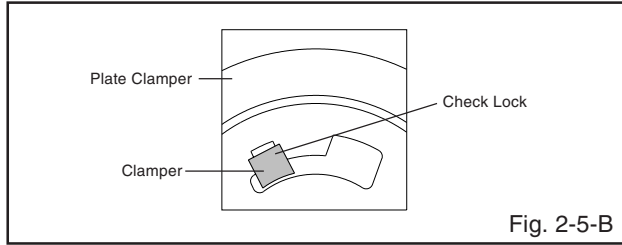


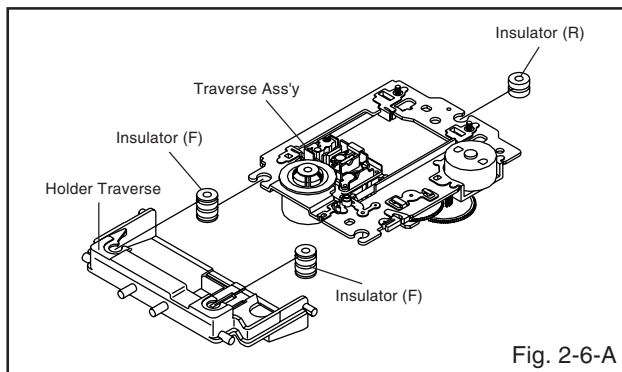
Fig. 2-5-A

NOTE

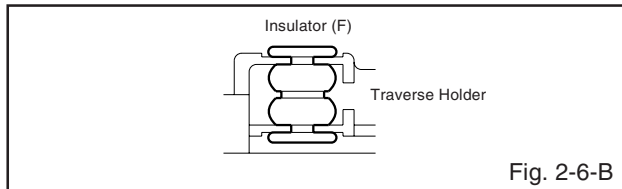
1. In case of the Clamper Ass'y installation, install correctly as Fig. 2-5-B.

**2-6: HOLDER TRAVERSE/INSULATOR (F)/INSULATOR (R) (Refer to Fig. 2-6-A)**

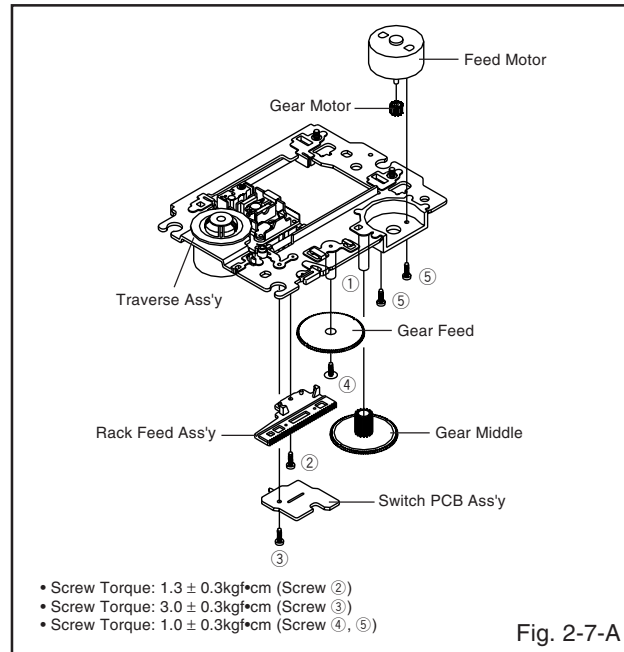
1. Remove the Holder Traverse.
2. Remove the 2 Insulator (F).
3. Remove the Insulator (R).

**NOTE**

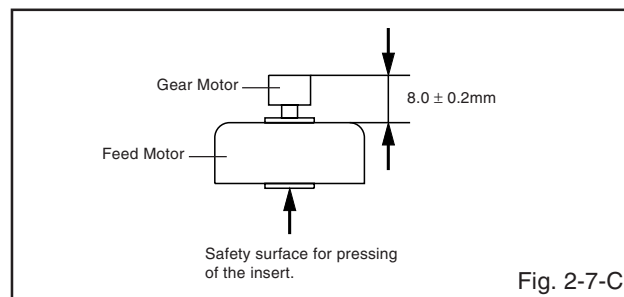
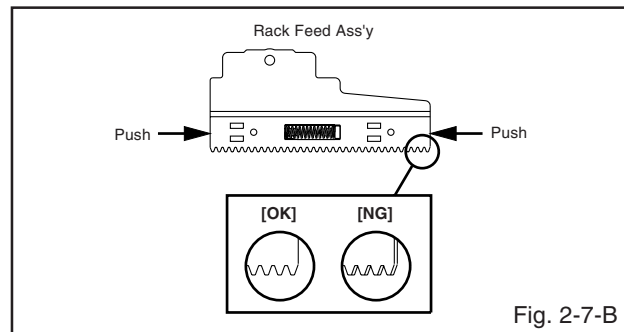
1. In case of the Insulator (F) installation, install correctly as Fig. 2-6-B.

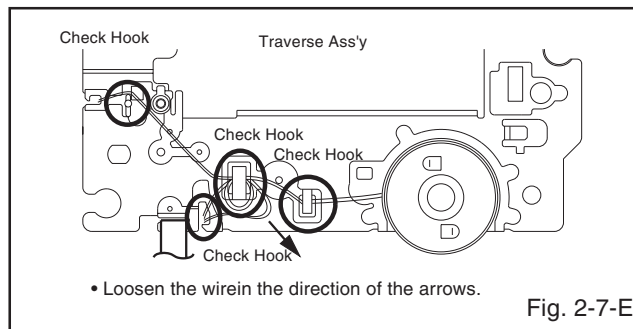
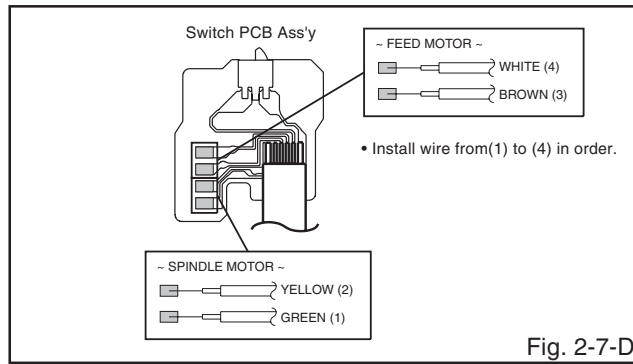
**2-7: SWITCH PCB ASS'Y/GEAR MIDDLE/GEAR FEED/RACK FEED ASS'Y/FEED MOTOR (Refer to Fig. 2-7-A)**

1. Unlock the support ①.
2. Remove the Gear Middle.
3. Remove the screw ②.
4. Remove the Rack Feed Ass'y.
5. Remove the screw ③.
6. Remove the Switch PCB Ass'y.
7. Remove the screw ④.
8. Remove the Gear Feed.
9. Remove the 2 screws ⑤.
10. Remove the Feed Motor.
11. Remove the Gear Motor.

**NOTE**

1. When installing the Rack Feed Ass'y, push both ends to align the teeth as shown Fig. 2-7-B. Then install it.
 2. In case of the Gear Motor installation, check if the value of the Fig. 2-7-C is correct.
 3. When installing the wire of the Switch PCB Ass'y, install it correctly as Fig. 2-7-D.
- Manual soldering conditions
- Soldering temperature: $350 \pm 5^\circ \text{C}$
 - Soldering time: Within 4 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
4. After the assembly of the Traverse Ass'y, hook the wire on the Traverse Ass'y as shown Fig. 2-7-E.



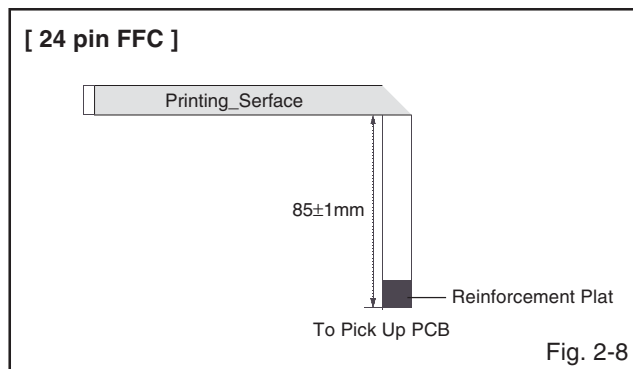


2-8: FFC WIRE HANDLING

1. When installing the FFC, fold it correctly and install it as shown from Fig. 2-8.

NOTE

1. Do not make the folding lines except the specified positions for the FFC.



7.4 IC INFORMATION

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

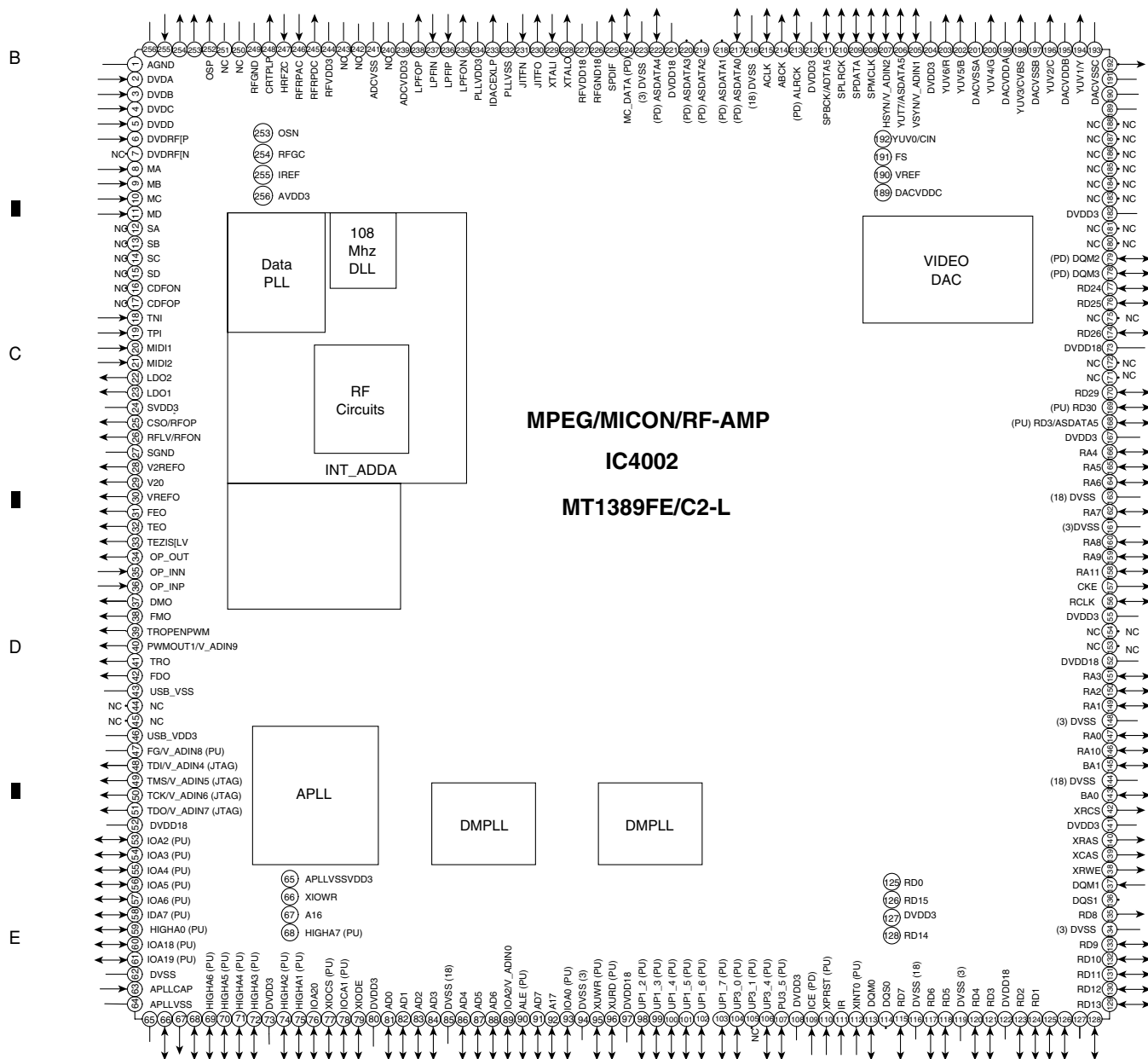
List of IC

MT1389FE, LA6565, PT6315

MT1389FE (DVD MT ASSY: IC4002)

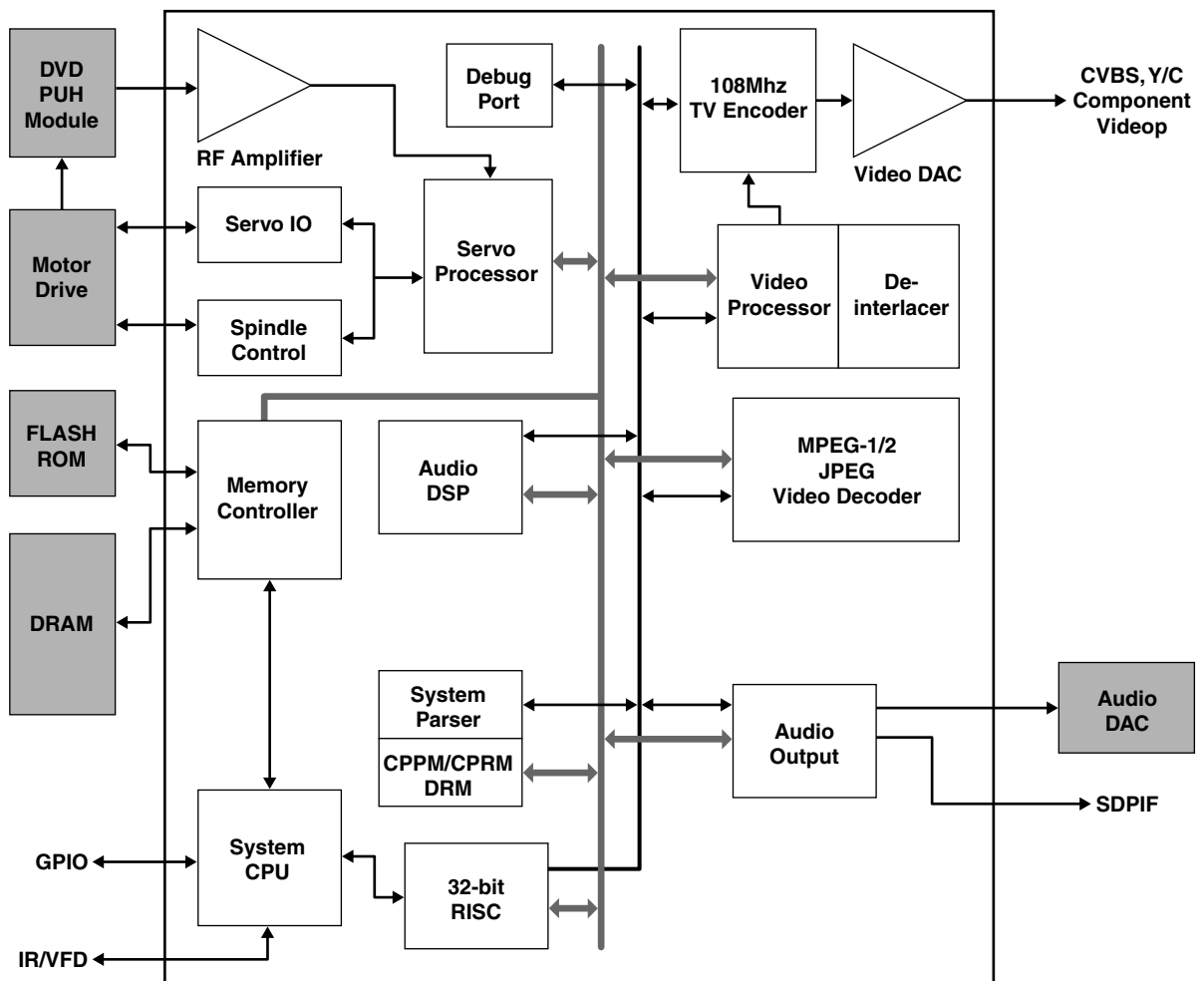
- MPEG / MICON / RF-AMP

Pin Arrangement (Top view)



• MPEG / MICON / RF-AMP Microcomputer

● Block Diagram



MT1389FE/C2-L (DVD MT ASSY : IC4002)

• MPEG/MICON/RF-AMP CPU

● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	AGND	—	Analog ground	48	TDI	I	Serial interface port 3 data-out Version AD input port 4 GPIO
2	DVDA	I	AC coupled input path A	49	TMS	I	Serial interface port 3 data-in Version AD input port 5 GPIO
3	DVDB	I	AC coupled input path B	50	TCK	I	Serial interface port 3 clock pin Version AD input port 6 GPIO
4	DVDC	I	AC coupled input path C	51	TDO	I	Serial interface port 3 chip-select Version AD input port 7 GPO
5	DVDD	I	AC coupled input path D	52	DVDD18	—	1.8V power pin for internal digital circuitry
6	DVDRFIP	I	AC coupled DVD RF signal input RFIP	53	IOA2	I/O	Microcontroller address 2/I/O
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN	54	IOA3	I/O	Microcontroller address 3/I/O
8	MA	I	DC coupled main-beam RF signal input A	55	IOA4	I/O	Microcontroller address 4/I/O
9	MB	I	DC coupled main-beam RF signal input B	56	IOA5	I/O	Microcontroller address 5/I/O
10	MC	I	DC coupled main-beam RF signal input C	57	IOA6	I/O	Microcontroller address 6/I/O
11	MD	I	DC coupled main-beam RF signal input D	58	IOA7	I/O	Microcontroller address 7/I/O
12	SA	I	DC coupled sub-beam RF signal input A	59	HIGHA0	I/O	Microcontroller address 8
13	SB	I	DC coupled sub-beam RF signal input B	60	IOA18	I/O	Flash address 18/I/O
14	SC	I	DC coupled sub-beam RF signal input C	61	IOA19	I/O	Flash address 19/I/O
15	SD	I	DC coupled sub-beam RF signal input D	62	DVSS	—	3.3V Ground pin for internal digital circuitry
16	CDFON	I	CD focusing error negative input	63	APLLCAP	I	APLL External Capacitance connection
17	CDFOP	I	CD focusing error positive input	64	APLLVSS	—	Ground pin for sudio clock circuitry
18	TNI	I	3 beam satellite PD signal negative input	65	APLLVDD3	—	3.3V Power pin for audio clock circuitry
19	TPI	I	3 beam satellite PD signal positive input	66	IOWR#	I/O	Flash write enable, active low/I/O
20	MDI1	I	Laser power monitor input	67	A16	O	Flash adress 16
21	MDI2	I	Laser power monitor input	68	HIGHA7	I/O	Microcontroller address 15
22	LDO2	O	Laser driver output	69	HIGHA6	I/O	Microcontroller address 14
23	LDO1	O	Laser driver output	70	HIGHA5	I/O	Microcontroller address 13
24	SVDD3	—	Analog power 3.3V	71	HIGHA4	I/O	Microcontroller address 12
25	CSO	O	Central servo/Positive main beam summing output	72	HIGHA3	I/O	Microcontroller address 11
26	RFLVL	O	RFRP low pass, or Negative main beam summing output	73	DVDD3	—	3.3V power pin for internal digital circuitry
27	SGND	—	Analog ground	74	HIGHA2	I/O	Microcontroller adress 10
28	V2REFO	—	Reference voltage 2.8V	75	HIGHA1	I/O	Microcontroller adress 9
29	V20	I/O	Reference voltage 2.0V	76	IOA20	I/O	Flash adress 20/I/O
30	VREFO	I/O	Reference voltage 1.4V	77	IOCS#	I/O	Flash chip select, active low/I/O
31	FEO	O	Focus error monitor output	78	IOA1	I/O	Microcontroller adress 1/I/O
32	TEO	O	Tracking error monitor output	79	IOOE#	I/O	Flash output enable, active low/I/O
33	TEZISLV	I/O	TE Slicing Level	80	DVDD3	—	3.3V power pin for internal digital circuitry
34	OP_OUT	O	Op amp output	81	AD0	I	Microcontroller address/data 0
35	OP_INN	I	Op amp negative input	82	AD1	I	Microcontroller address/data 1
36	OP_INP	I	Op amp positive input	83	AD2	I	Microcontroller address/data 2
37	DMO	O	Disk motor control output. PWM output	84	AD3	I	Microcontroller address/data 3
38	FMO	O	Feed motor control. PWM output	85	DVSS	—	1.8V Ground pin for internal digital circuitry
39	TROPENP/WM	O	Tray PWM output/Tray open output	86	AD4	I	Microcontroller address/data 4
40	PWMOUT1	O	1 st General PWM output, or Version AD input9	87	AD5	I	Microcontroller address/data 5
41	TRO	O	Tracking servo output. PDM output of tracking servo compensator.	88	AD6	I	Microcontroller address/data 6
42	FOO	O	Focus servo output. PDM output of focus servo compensator	89	IOA21	I/O	Flash address 21/I/O While External FLASH size <= 2MB: Version AD input port 0, or GPIO
43	DVSS	—	1.8V Ground pin for internal digital	90	ALE	I/O	Microcontroller address latch enable
44	NC	—	—				
45	NC	—	—				
46	DVDD3	—	3.3V power pin for internal digital circuitry				
47	FG(Diigital pin)	—	Motor Hall sensor input, or Version AD input 8				

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
91	AD7	I	Microcontroller address/data 7	137	DQM1	I/O	Data mask 1
92	A17	O	Flash address 17	138	RWE#	O	DRAM Write enable, active low
93	IOA0	I/O	Microcontroller address 0/I/O	139	CAS#	O	DRAM column address strobe, active low
94	DVSS	–	3.3V Ground pin for internal digital circuitry	140	RAS#	O	DRAM row address strobe, active low
95	UWR#	I	Microcontroller write strobe, active low	141	DVDD3	–	3.3V power pin for internal digital circuitry
96	URD#	I	Microcontroller read strobe, active low	142	RCS#	O	DRAM chip select, active low
97	DVDD18	–	1.8V power pin for internal digital circuitry	143	BA0	I/O	DRAM bank address 0
98	UP1_2	I/O	Microcontroller port 1-2	144	DVSS	–	1.8V Ground pin for internal digital circuitry
99	UP1_3	I/O	Microcontroller port 1-3	145	BA1	I/O	DRAM bank address 1
100	UP1_4	I/O	Microcontroller port 1-4	146	RA10	I/O	DRAM address 10
101	UP1_5	I/O	Microcontroller port 1-5	147	RA0	I/O	DRAM address 0
102	UP1_6	I/O	Microcontroller port 1-6 I ² C clock pin	148	DVSS	–	3.3V Ground pin for internal digital circuitry
103	UP1_7	I/O	Microcontroller port 1-7 I ² C data pin	149	RA1	I/O	DRAM address 1
104	UP3_0	I/O	Microcontroller port 3-0 8032 RS232 RXD	150	RA2	I/O	DRAM address 2
105	UP3_1	I/O	Microcontroller port 3-1 8032 RS232 TXD	151	RA3	I/O	DRAM address 3
106	UP3_4	I/O	Microcontroller port 3-4 Hardwired RD232 RXD I ² C clock pin	152	DVDD18	–	1.8V power pin for internal digital circuitry
107	UP3_5	I/O	Microcontroller port 3-5 Hardwired RD232 TXD I ² C data pin	153	NC	–	–
108	DVDD3	–	3.3V power pin for internal digital circuitry	154	NC	–	–
109	ICE	I	Microcontroller ICE mode enable	155	DVDD3	–	3.3V power pin for internal digital circuitry
110	PRST#	I	Power on reset input, active low	156	RCLK	I/O	DRAM clock
111	IR	I	IR control signal input	157	CKE	O	DRAM clock enable
112	INT0#	I/O	Microcontroller external interrupt 0, active low	158	RA11	I/O	DRAM address bit 11
113	DQM0	I/O	Data mask 0	159	RA9	I/O	DRAM address 9
114	DQS0	I/O	GPIO	160	RA8	I/O	DRAM address 8
115	RD7	I/O	DRAM data 7	161	DVSS	–	3.3V Ground pin for internal digital circuitry
116	DVSS	–	1.8V Ground pin for internal digital circuitry	162	RA7	I/O	DRAM address 7
117	RD6	I/O	DRAM data 6	163	DVSS	–	1.8V Ground pin for internal digital circuitry
118	RD5	I/O	DRAM data 5	164	RA6	I/O	DRAM address 6
119	DVSS	–	3.3V Ground pin for internal digital circuitry	165	RA5	I/O	DRAM address 5
120	RD4	I/O	DRAM data 4	166	RA4	I/O	DRAM address 4
121	RD3	I/O	DRAM data 3	167	DVDD3	–	3.3V power pin for internal digital circuitry
122	DVDD18	–	1.8V power pin for internal digital circuitry	168	RD31	I/O	GPIO
123	RD2	I/O	DRAM data 2	169	RD30	I/O	GPIO
124	RD1	I/O	DRAM data 1	170	RD29	I/O	GPIO
125	RD0	I/O	DRAM data 0	171	NC	–	–
126	RD15	I/O	DRAM data 15	172	NC	–	–
127	DVDD3	–	3.3V power pin for internal digital circuitry	173	DVDD18	–	1.8V power pin for internal digital circuitry
128	RD14	I/O	DRAM data 14	174	RD26	I/O	GPIO
129	RD13	I/O	DRAM data 13	175	NC	–	–
130	RD12	I/O	DRAM data 12	176	RD25	I/O	GPIO
131	RD11	I/O	DRAM data 11	177	RD24	I/O	GPIO
132	RD10	I/O	DRAM data 10	178	DQM3	I/O	GPIO
133	RD9	I/O	DRAM data 9	179	DQM2	I/O	GPIO
134	DVSS	–	3.3V Ground pin for internal digital circuitry	180	NC	–	–
135	RD8	I/O	DRAM data 8	181	NC	–	–
136	DQS1	I/O	GPIO	182	DVDD3	–	3.3V power pin for internal digital circuitry
				183	NC	–	–
				184	NC	–	–
				185	NC	–	–
				186	NC	–	–
				187	NC	–	–
				188	NC	–	–

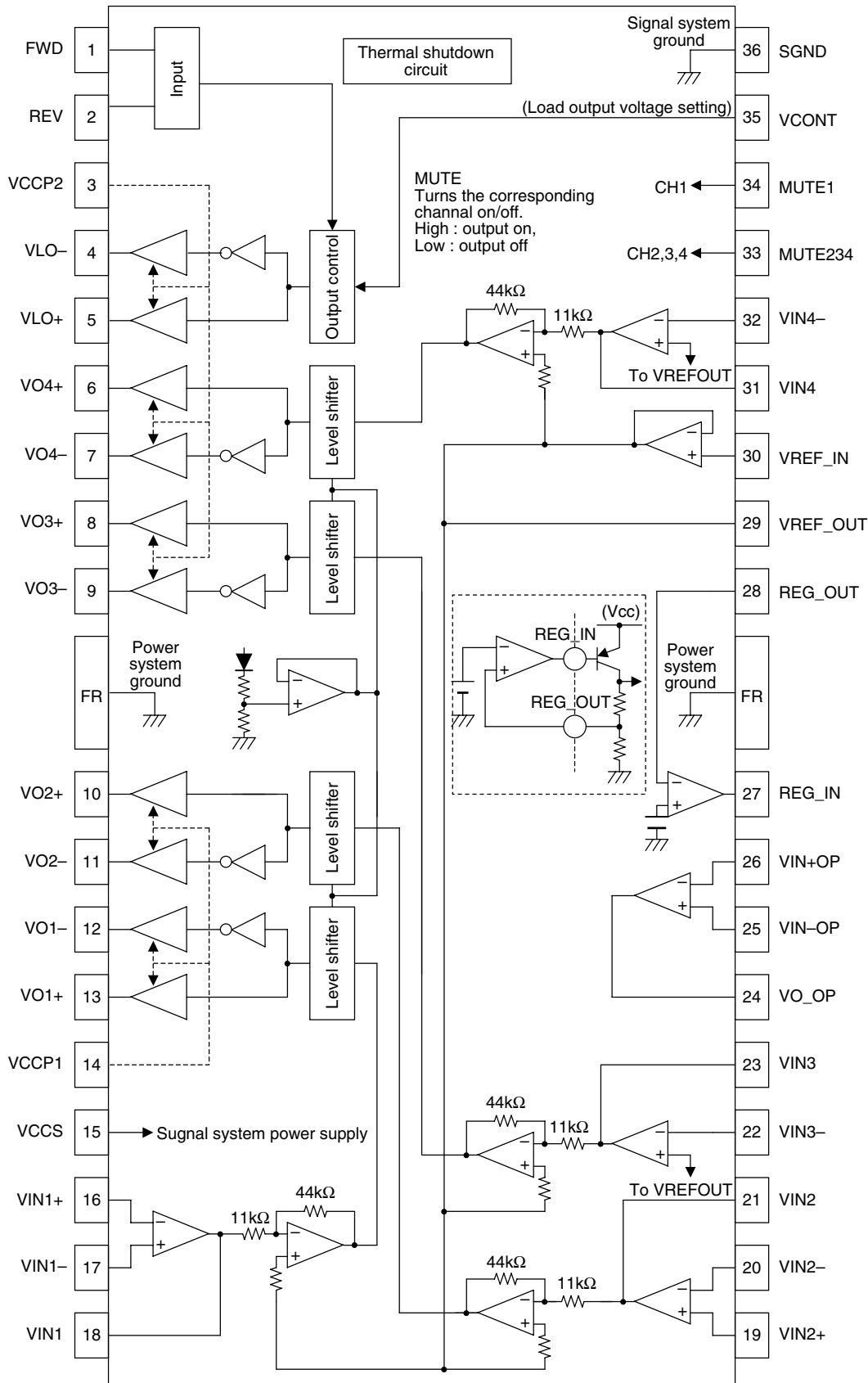
No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
189	DACVDDC	–	3.3V power pin for VIDEO DAC circuitry	213	ALRCK	I/O	Audio left/right channel clock Trap value in power-on reset: 1:use external 373 0:use internal 373
190	VREF	–	Bandgap reference voltage				
191	FS	–	Full scale adjustment	214	ABCK	O	Audio bit clock Phase de-modulation
192	YUV0	O	Video data output bit 0 Compensation capacitor	215	ACLK	I/O	Audio DAC master clock
193	DACVSSC	–	Ground pin for VIDEO DAC circuitry	216	DVSS	–	1.8V Ground pin for internal digital circuitry
194	YUV1	O	Video data output bit 1 Analog Y output	217	ASDATA0	I/O	Audio serial data 0 (Front-Left/Front-Right) DSD data left channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation
195	DACVDDB	–	3.3V power pin for VIDEO DAC circuitry				
196	YUV2	O	Video data output bit 2 Analog chroma output	218	ASDATA1	I/O	Audio serial data 1 (Left-Surround/Right-Surround) DSD data right channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: GPIO
197	DACVSSB	–	Ground pin for VIDEO DAC circuitry				
198	YUV3	O	Video data output bit 3 Analog composite output	219	ASDATA2	I/O	Audio serial data 2 (Center/LFE) DSD data left surround channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: GPIO
199	DACVDDA	–	3.3V power pin for VIDEO DAC circuitry				
200	YUV4	O	Video data output bit 4 Green or Y	220	ASDATA3	I/O	Audio serial data 3 (Center-back/Center-left-back/Center-right-back, in 6.1 or 7.1 mode) DSD data right surround channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: GPIO
201	DACVSSA	–	Ground pin for VIDEO DAC circuitry				
202	YUV5	O	Video data output bit 5 Blue or CB	221	DVDD18	–	1.8V power pin for internal digital circuitry
203	YUV6	O	Video data output bit 6 Red or CR	222	ASDATA4	I/O	Audio serial data 4 (Down-mixed Left/Right) DSD data center channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: Microcontroller external interrupt 1 GPIO
204	DVDD3	–	3.3V power pin Video DAC digital circuitry only	223	DVSS	–	3.3V Ground pin for internal digital circuitry
205	VSYN	I/O	Vertical sync input/output While no External TV-encoder: Vertical sync for video-input Version AD input port 1 GPIO	224	MC_DATA	I/O	Microphone serial input While not support Microphone: Microcontroller external interrupt 2 GPIO
206	YUV7	I/O	Video data output bit 7 While no External TV-encoder: Microcontroller external interrupt 3 Audio serial data 5 part II:DSD data sub-woofer channel or Microphone output GPIO	225	SPDIF	O	SPDIF output
207	HSYN	I/O	Horizontal sync input/output While no External TV-encoder: Horizontal sync for video-input Microcontroller external interrupt 4 Version AD input port 2 GPIO	226	RFGND18	–	Analog ground
208	SPMCLK	I/O	Audio DAC master clock of SPDIF input While SPDIF input is not used: Serial interface port 0 clock pin GPIO	227	RFVDD18	–	Analog power 1.8V
209	SPDATA	I/O	Audio data of SPDIF input While SPDIF input is not used: Serial interface port 0 data-in GPIO	228	XTALO	O	27M crystal out
210	SPLRCK	I/O	Audio left/right channel clock of SPDIF input While SPDIF input is not used: Serial interface port 0 data-out GPIO	229	XTALI	I	27M crystal in
211	SPBCK	I/O	Audio bit clock of SPDIF input While SPDIF input is not used: Serial interface port 0 chip select Audio serial data 5 part I:DSD data sub-woofer channel or Microphone output GPIO	230	JITFO	O	The output terminal of RF jitter meter
212	DVDD3	–	3.3V power pin for internal digital circuitry	231	JITFN	I	The input terminal of RF jitter meter
				232	PLLSS	–	Ground pin for data PLL and related analog circuitry
				233	IDACEXLP	O	Data PLL DAC Low-pass filter
				234	PLLVD3	–	Power pin for data PLL and related analog circuitry
				235	LPFON	O	The negative output of loop filter amplifier
				236	LPFIP	I	The positive input terminal of loop filter amplifier
				237	LPFIN	I	The negative input terminal of loop filter amplifier
				238	LPFOP	O	The positive output of loop filter amplifier

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
239	ADCVDD3	–	Analog 3.3V Power for ADC	249	RFGND	–	Analog Power
240	NC	–	–	250	NC	–	–
241	ADCVSS	–	Analog ground for ADC	251	NC	–	–
242	NC	–	–	252	OSP	O	RF Offset cancellation capacitor connecting
243	NC	–	–	253	OSN	O	RF Offset cancellation capacitor connecting
244	RFVDD3	–	Analog Power	254	RFGC	O	RF AGC loop capacitor connecting for DVD-ROM
245	RFRPDC	O	RF ripple detect output	255	IREF	I	Current reference input. It generates reference current for RF path. Connect an external 15K resistor to this pin and AVSS
246	RFRPAC	I	RF ripple detect input (through AC-coupling)				
247	HRFZC	I	High frequency RF ripple zero crossing				
248	CRTPLP	O	Defect level filter capacitor connecting	256	AVDD3	–	Analog power 3.3V

LA6565 (DVD MT : IC2301)

• MOTOR DRIVE

● Internal Block Diagram



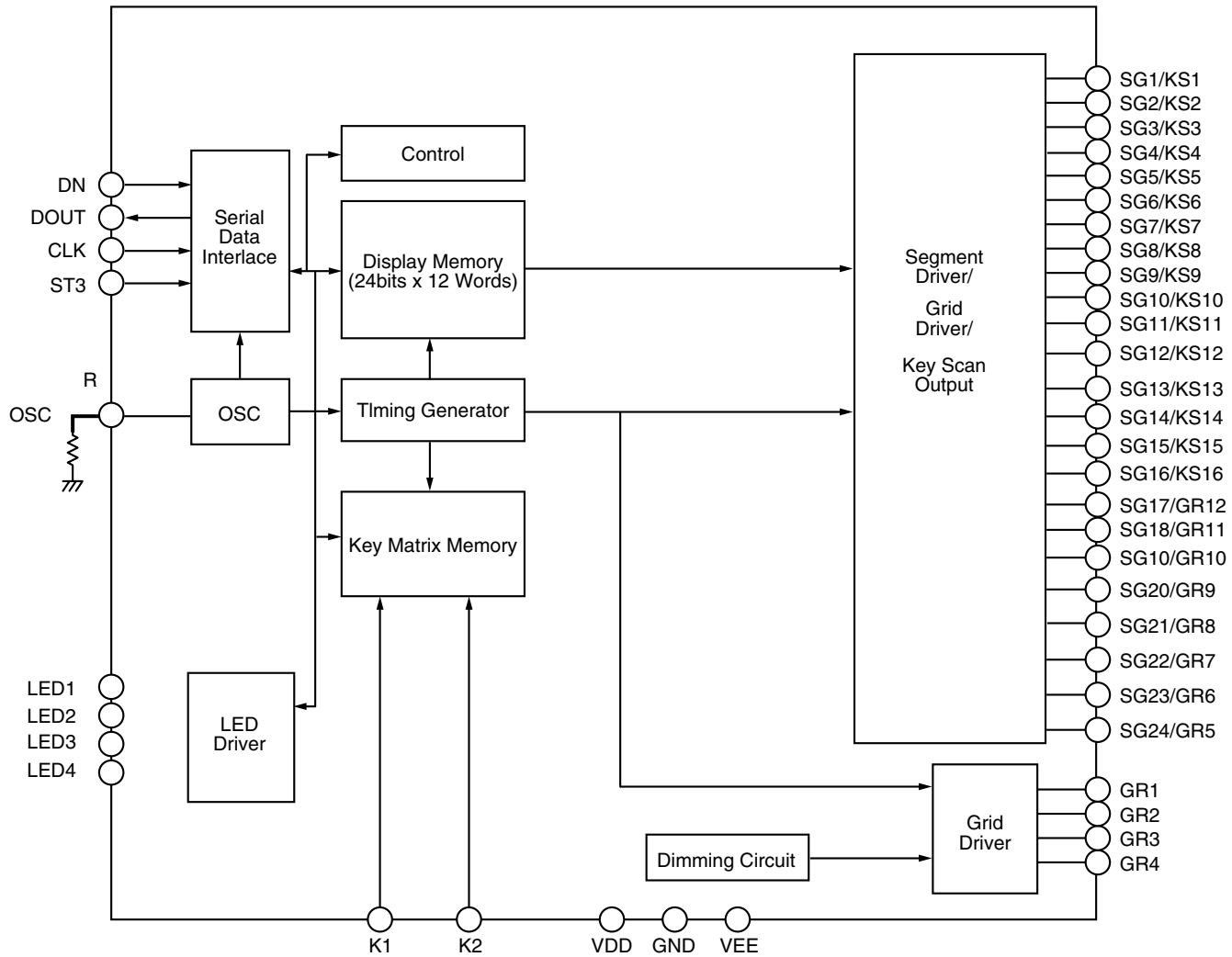
● Pin Functions

Pin No.	Pin Name	Pin Descriptions
1	FWD	Loading output direction switching (FWD). Loading system logic input.
2	REV	Loading output direction switching (REV). Loading system logic input.
3	V CC 2	Channels 3, 4, and loading power stage power supply
4	VLO –	Loading output (–)
5	VLO +	Loading output (+)
6	VO4 +	Channel 4 output (+)
7	VO4 –	Channel 4 output (–)
8	VO3 +	Channel 3 output (+)
9	VO3 –	Channel 3 output (–)
10	VO2 +	Channel 2 output (+)
11	VO1 –	Channel 2 output (–)
12	VO1 –	Channel 1 output (–)
13	VO1 +	Channel 1 output (+)
14	VCCP1	Channel 1 and 2 power stage power supply
15	VCCS	Signal system power supply
16	VIN1 +	Channel 1 input. Input operational amplifier + input.
17	VIN1 –	Channel 1 input. Input operational amplifier – input.
18	VIN1	Channel 1 input. Input operational amplifier output.
19	VIN2 +	Channel 2 input. Input operational amplifier + input.
20	VIN2 –	Channel 2 input. Input operational amplifier – input.
21	VIN2	Channel 2 input. Input operational amplifier output.
22	VIN3 –	Channel 3 input. Input operational amplifier – input.
23	VIN3	Channel 3 input. Input operational amplifier output.
24	VO_OP	Operational amplifier output
25	VIN–OP	Operational amplifier – input
26	VIN+OP	Operational amplifier + input
27	REG_IN	Regulator error amplifier output. Connect this pin to the base of the external pnp transistor.
28	REG_OUT	Regulator error amplifier input (+).
29	VREF_OUT	VREF amplifier (voltage follower) output.
30	VREF_IN	VREF input. Apply the external reference voltage to this pin.
31	VIN4	Channel 4 input. Input operational amplifier output.
32	VIN4 –	Channel 4 input operational amplifier – input.
33	MUTE234	Controls the on/off state of channels 2, 3, and 4.
34	MUTE1	Channel 1 output on/off control
35	VCONT	Loading block output high–level voltage setting
36	S_GND	Signal system ground

PT6315 (OPERATION 1 ASSY : IC651)

• FIP DRIIVE IC

Block Diagram



● Pin Description

Pin Name	I/O	Description	Pin No.
LED1 to LED4	O	LED Output Pin	1 to 4
OSC	I	Oscillator Input Pin A resistor is connected to this pin to determine the oscillation frequency	5
DOUT	O	Data Output Pin (N-Channel, Open-Drain) This pin outputs serial data at the falling edge of the shift clock (starting from the lower bit).	6
DIN (Schmitt Trigger)	I	Data Input Pin This pin inputs serial data at the rising edge of the shift clock (starting from the lower bit)	7
CLK (Schmitt Trigger)	I	Clock Input Pin This pin reads serial data at the rising edge and outputs data at the falling edge.	8
STB (Schmitt Trigger)	I	Serial Interface Strobe Pin The data input after the STB has fallen is processed as a command. When this pin is "HIGH", CLK is ignored.	9
K1 to K2	I	Key Data Input Pins The data inputted to these pins are latched at the end of the display cycle.	10 ,11
VSS	—	Logic Ground Pin	12,44
VDD	—	Logic Power Supply	13,43
SG1/KS1 to SG16/KS16	O	High-Voltage Segment Output Pins Also acts as the Key Source	14 to 29
VEE	—	Pull-Down Level	30
SG17/GR12 to SG24/GR5	O	High Voltage Segment/Grid Output Pins	31 to 38
GR4 to GR1	O	High-Voltage Grid Output Pins	39 to 42

7.5 DISC / CONTENT FORMAT PLAYBACK COMPATIBILITY

Disc/content format playback compatibility

This player is compatible with a wide range of disc types (media) and formats. Playable discs will generally feature one of the following logos on the disc and/or disc packaging. Note however that some disc types, such as recordable CD and DVD, may be in an unplayable format—see below for further compatibility information.

Please also note that recordable discs cannot be recorded using this player.



DVD-Video DVD-R DVD-RW



Audio CD Video CD CD-R CD-RW



Fujicolor CD

-  is a trademark of Fuji Photo Film Co. Ltd.
- Also compatible with KODAK Picture CD

This player supports the IEC's Super VCD standard. Compared to the Video CD standard, Super VCD offers superior picture quality, and allows two stereo soundtracks to be recorded. Super VCD also supports the widescreen size.



Super VCD

CD-R/RW compatibility

- Compatible formats: CD-Audio, Video CD/ Super VCD, ISO 9660 CD-ROM* containing MP3, WMA, JPEG or DivX video files
* ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible with this player.
- Multi-session playback: No
- Unfinalized disc playback: No
- File structure: Up to 299 folders; up to 648 folders and files combined

DVD-R/RW compatibility

- Compatible formats: DVD-Video, Video Recording (VR)*
* *Edit points may not play exactly as edited; screen may go momentarily blank at edited points.*
- Unfinalized playback: No
- WMA/MP3/JPEG file playback on DVD-R/RW: No

Compressed audio compatibility

- Compatible formats: MPEG-1 Audio Layer 3 (MP3), Windows Media Audio (WMA)
- Sampling rates: 32, 44.1 or 48kHz
- Bit-rates: Any (128Kbps or higher recommended)
- VBR (variable bit rate) MP3 playback: No
- VBR WMA playback: No
- WMA lossless encoding compatible: No
- DRM (Digital Rights Management) compatible: Yes (DRM-protected audio files will *not* play in this player)
- File extensions: .mp3, .wma (these must be used for the player to recognize MP3 and WMA files – do not use for other file types)

About WMA



The Windows Media[®] logo printed on the box indicates that this player can playback Windows Media Audio content.

WMA is an acronym for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation. WMA content can be encoded by using Windows Media® Player version 7, 7.1, Windows Media® Player for Windows® XP, or Windows Media® Player 9 Series.

Microsoft, Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

About DivX

DivX is a compressed digital video format created by the DivX® video codec from DivXNetworks, Inc. This player can play DivX video files burned on CD-R/RW/ROM discs. Keeping the same terminology as DVD-Video, individual DivX video files are called "Titles." When naming files/titles on a CD-R/RW disc prior to burning, keep in mind that by default they will be played in alphabetical order.

DivX video compatibility

- Official DivX® Certified product.
- Plays DivX® 5, DivX® 4, DivX® 3 and DivX® VOD video content (in compliance with DivX® Certified technical requirements).
- File extensions: .avi and .divx (these must be used for the player to recognize DivX video files). *Note that all files with the .avi extension are recognized as MPEG4, but not all of these are necessarily DivX video files and therefore may not be playable on this player.*

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

JPEG file compatibility

- Compatible formats: Baseline JPEG and EXIF 2.2* still image files up to a resolution of 3072 x 2048.
**File format used by digital still cameras*
- Progressive JPEG compatible: No
- File extensions: .jpg (must be used for the player to recognize JPEG files – do not use for other file types)
- File structure: Up to 299 folders; up to 648 folders and files combined

PC-created disc compatibility

Discs recorded using a personal computer may not be playable in this unit due to the setting of the application software used to create the disc. In these particular instances, check with the software publisher for more detailed information.

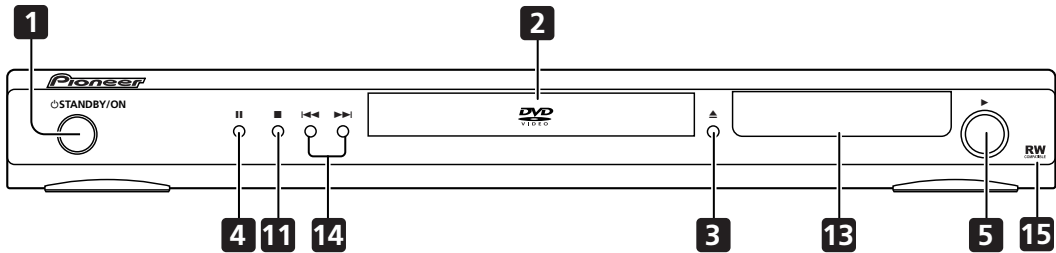
Discs recorded in packet write mode (UDF format) are not compatible with this player.

Check the DVD-R/RW or CD-R/RW software disc boxes for additional compatibility information.

8. PANEL FACILITIES

8.1 FRONT PANEL SECTION

Front panel



1 **STANDBY/ON**
Press to switch the player on or into standby.

2 **Disc tray**

3 **OPEN/CLOSE**
Press to open or close the disc tray.

4 **II**
Press to pause playback. Press again to restart.

5 **►**
Press to start or resume playback.

11 **■**
Press to stop the disc (you can resume playback by pressing ► (play)).

13 Remote control sensor
The remote control has a range of up to about 7m.

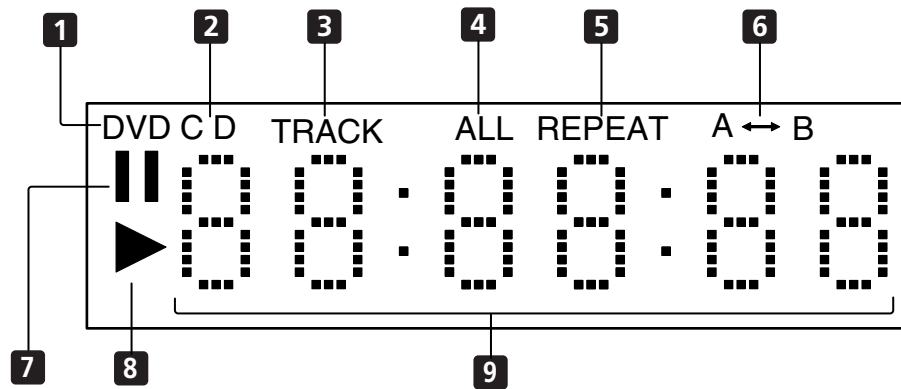
13 Display
Description of the display.

14 **and** **►►**

- Press and hold for fast reverse/forward scanning.
- Press to jump to the previous/next chapter or track.

15 **COMPATIBLE** **Compatible**
This mark indicates compatibility with DVD-RW discs recorded on a DVD recorder in Video Recording mode.

Display window



1 DVD Indicator

Lights when playing a video part of a DVD disc.

2 CD Indicator

Lights when the playing a CD disc.

3 TRACK Indicator

Track number display for CD.

4 ALL Indicator

Indicates the all repeat playback mode.

5 REPEAT Indicator

6 A ↔ B Indicator

Repeats playback between A and B.

7 PAUSE Indicator

DVD or CD is temporarily stopped.

8 PLAY Indicator

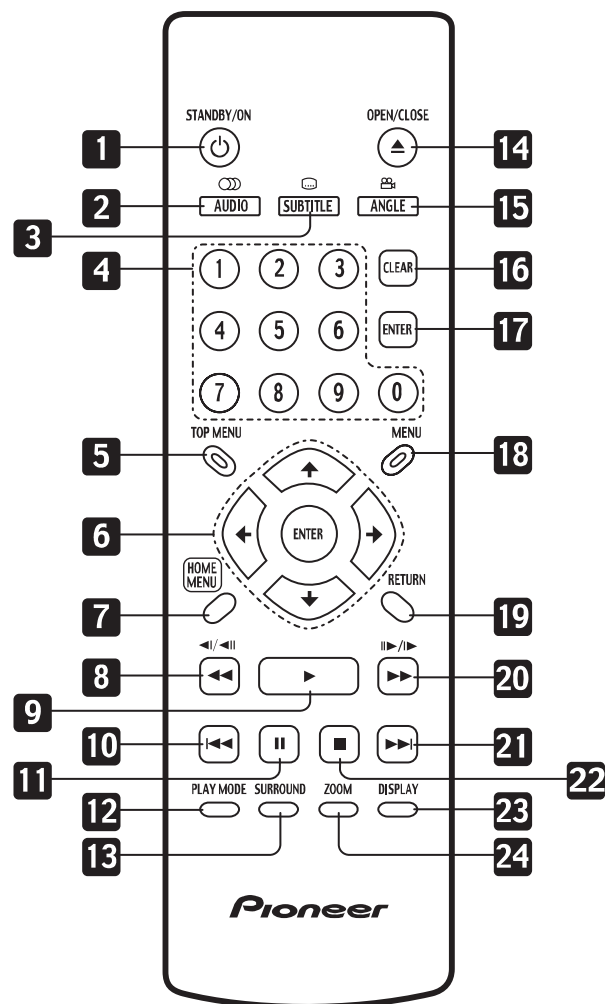
Lights during playback of DVD and CD.

9 NUMBER Indicator

Title, Chapter, Track playing time or other information.

8.3 REMOTE CONTROL

Remote control



1 **STANDBY/ON**

Press to switch the player on or into standby.

2 **AUDIO**

Press to select the audio channel or language.

3 **SUBTITLE**

Press to select a subtitle display.

4 **Number buttons**

5 **TOP MENU**

Press to display the top menu of a DVD disc.

6 **ENTER & cursor buttons**

Use to navigate on-screen displays and menus. Press **ENTER** to select an option or execute a command.

7 **HOME MENU**

Press to display (or exit) the on-screen display.

8 **◀◀ and ◀I/◀II**

Use for reverse slow motion playback, frame reverse and reverse scanning.

9 **▶**

Press to start or resume playback.

10 **I◀◀**

chapter or track, then to previous chapters/ tracks.

11 **II**

Press to pause playback; press again to restart.

12 **PLAY MODE**

Press to display the Play Mode menu. (You can also get to the Play Mode menu by pressing **HOME MENU** and selecting Play Mode).

Press to jump to the beginning of the current

Remote control 2

13 SURROUND

Press to activate/switch off  V/SRS TruSurround.

14 OPEN/CLOSE

Press to open or close the disc tray.

15 ANGLE

Press to change the camera angle during DVD multi-angle scene playback.

16 CLEAR

Press to clear a numeric entry.

17 ENTER

Use to select menu options, etc.

18 MENU

Press to display a DVD disc menu, or the Disc Navigator if a VR format DVD-RW, CD, Video CD, MP3, WMA or JPEG disc is loaded.

19 RETURN

Press to return to a previous menu screen.

20 and /II

Use for forward slow motion playback, frame advance and forward scanning.

21

Press to jump to the next chapter or track.

22

Press to stop the disc (you can resume playback by pressing  (play)).

23 DISPLAY

Press to display information about the disc playing.

24 ZOOM

Press to change the zoom level.

■ Jigs list

A

Name	Jig No.	Remarks
Service Remote Control Unit	GGF1381	diagnosis
DVD Test Disc (DVD-Video)	GGV1025	Check of DVD-Video
CD Test Disc	STD-905	Check of CD

B

■ Lubricants and Glues list



■

Name	Lubricants and Glues No.	Remark
Dyefree	GEM1036 (ZLX-ME413A)	Refer to "2.3 05 DVD MECHA SECTION"
Grease	GYA1001 (ZLB-PN397B)	Refer to "2.3 05 DVD MECHA SECTION"

C

■ Cleaning



- Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

■

Position to be cleaned	Cleaning tools	Remark
Pickup lenses	Cleaning liquid : GEM1004	Refer to "2.3 05 DVD MECHA SECTION" , "7.2 DVD DECK SECTION".
	Cleaning paper : GED-008	

D

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E

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F