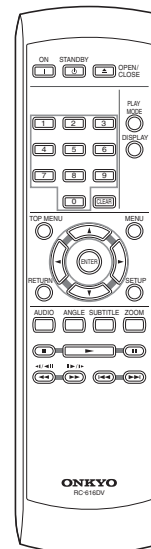
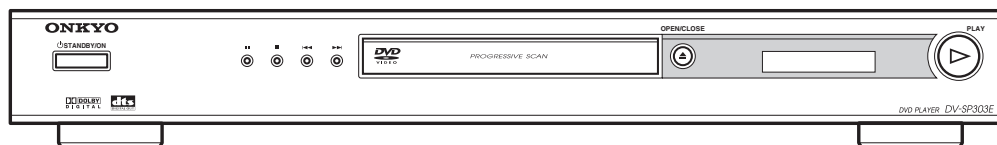


# ONKYO SERVICE MANUAL

## DVD PLAYER MODEL DV-SP303/303E



RC-616DV

### Black, Silver and Gold models


#### DV-SP303

BTDD, STDD	120V AC, 60Hz
BTPA, STPA	230-240V AC, 50Hz
GTUR, GTUT	110-127/220-240V AC, 50/60Hz

#### DV-SP303E

STPP	230-240V AC, 50/60Hz
------	----------------------

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

## SPECIFICATIONS

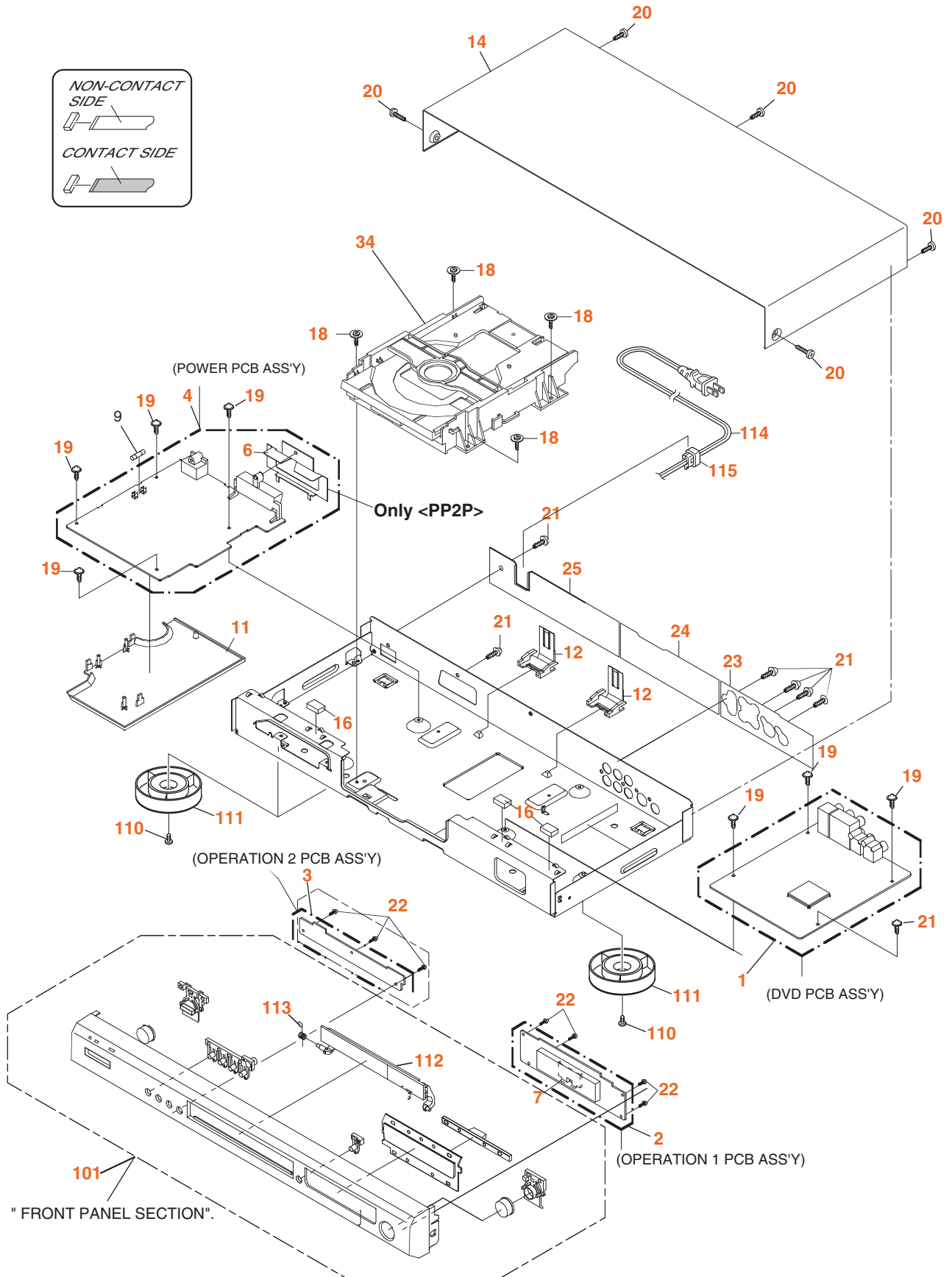
<b>Signal System</b>		NTSC/PAL/AUTO
<b>Composite Video Output/Impedance</b>		1.0 V(p-p)/75 ohm negative sync, RCA/phono
<b>S-Video Output/Impedance</b>		Y: 1.0 V (p-p)/75 ohm negative sync, 4-pin mini DIN C: 0.286 V (p-p)/75 ohm
<b>Component Video Output/Impedance</b>		Y: 1.0 V (p-p)/75 ohm PB/PR: 0.7 V (p-p)/75 ohm RCA/ phono
<b>AV Connector (European model only)</b>		1.0 V(p-p)/75 ohm, Scart
<b>Frequency response</b>	DVD Linear Sound	4 Hz - 44 kHz (96 kHz) 4 Hz - 22 kHz (48 kHz)
	Audio CD	4 Hz - 20 kHz (44.1 kHz)
<b>S/N Ratio</b>		106 dB
<b>Audio Dynamic Range</b>		96 dB
<b>THD (Total Harmonic Distortion)</b>		0.002 % (1 kHz)
<b>Wow and Flutter</b>		Below threshold of measurability
<b>Audio Output (Digital Optical)</b>		-22.5 dBm (Asian and Oceania models only)
<b>Audio Output/Impedance (Digital Coaxial)</b>		0.5 V (p-p)/75 ohm
<b>Audio Output/Impedance (Analog)</b>		2.0 V (rms)/440 ohm

### General

<b>Power Supply</b>	AC 120V, 60 Hz (North American model) AC 110 -127/220 -240V, 50 Hz/60 Hz (Asian model) AC 220 - 240V, 50 Hz/60 Hz (European and Oceania models)
<b>Power Consumption</b>	7 W
<b>Stand-by Power Consumption</b>	0.5 W (North American model) 0.75 W (Asian, European and Oceania models)
<b>Dimensions (W x H x D)</b>	435 W x 61 H x 215.5 D mm
<b>Weight</b>	1.8 kg
<b>Operation Condition Temperature</b>	+5° C to +40° C
<b>Disc Compatibility</b>	DVD-video, DVD-R/RW, Audio CD, CD-R/RW, Video CD, MP3, WMA, JPEG, *DivX Video (*not North American model) Disc that have not been property finalized may only be partially playable or not playable at all

Specifications and features subject to change without notice.

# EXPLODED VIEW CHASSIS



## DVD MECHANISM 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

**NSP: Not service parts**

A

B

C

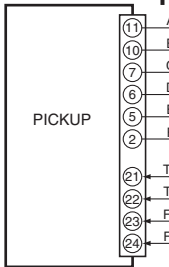
D

# BLOCK DIAGRAM-1

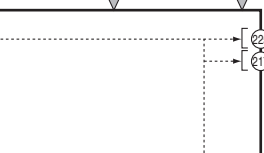
## DVD MT PCB ASSY

1

### DVD MECHA ASSY



CP2301

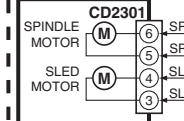


ASPDIFF  
ASDAT0

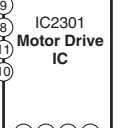
S\_Y  
S\_C  
R/CR  
G/Y  
B/CB  
CVBS

2

### SW PCB ASSY

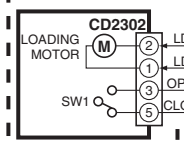


CP2303



3

### LOADING MOTOR PCB ASSY

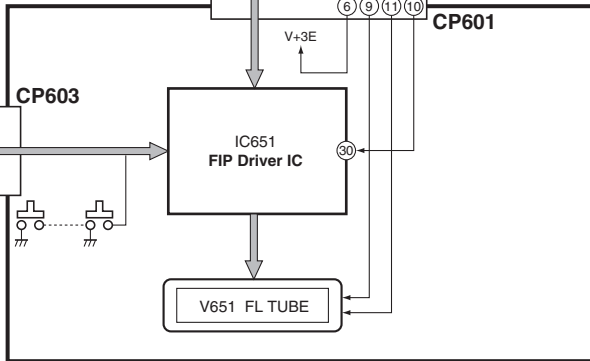
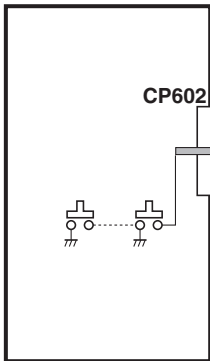


CP2302

4

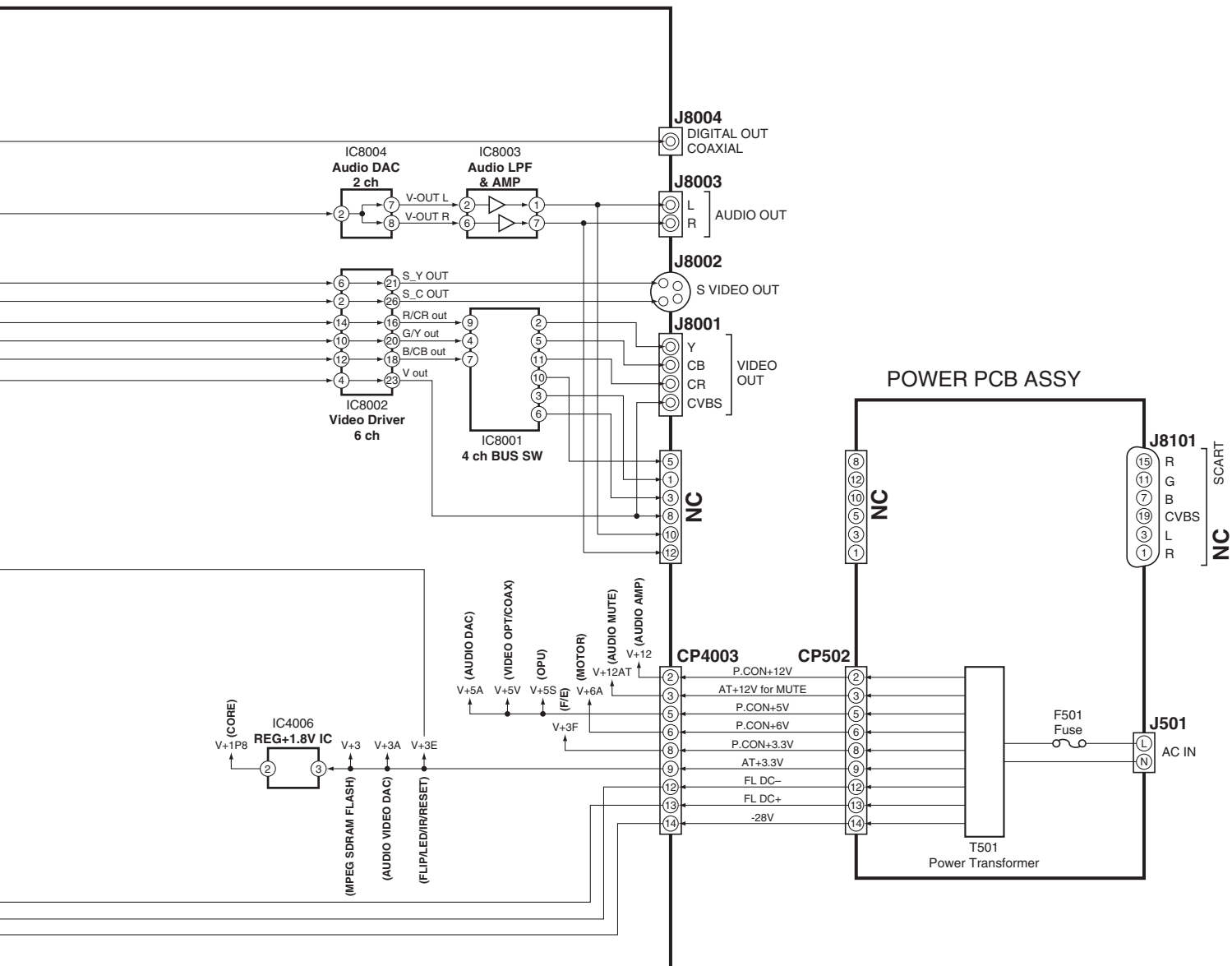
CP4002

5



OPERATION 2  
PCB ASSY

OPERATION 1  
PCB ASSY



A

B

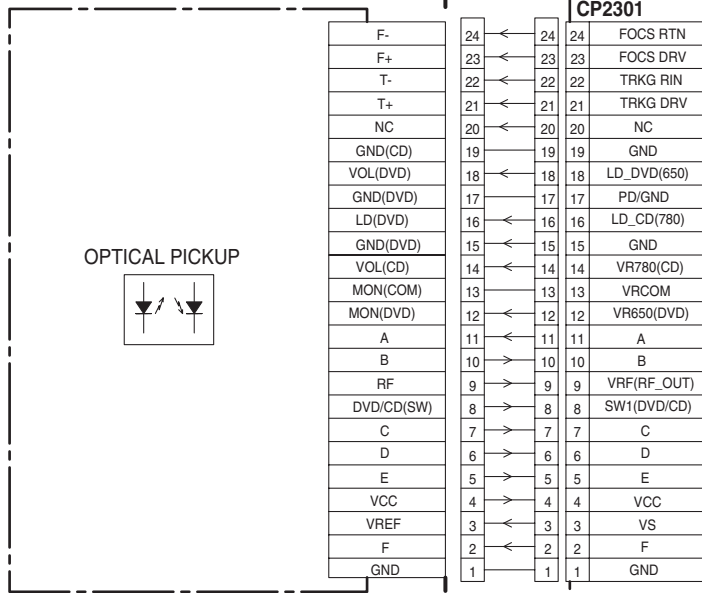
C

D

# BLOCK DIAGRAM-2

1

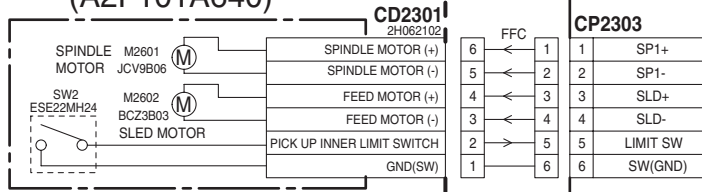
## DVD MECHA ASSY (A2F101A650)



2

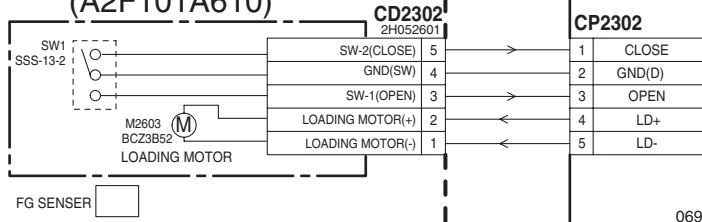
3

## SW PCB ASSY (A2F101A640)



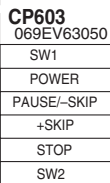
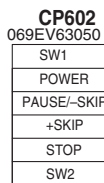
4

## LOADING MOTOR PCB ASSY (A2F101A610)



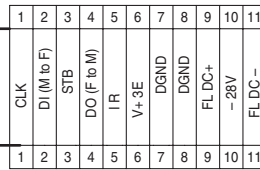
5

## OPERATION 2 PCB ASSY (A2G502A280)



## CP601 069EV63050

## OPERATION 1 PCB ASSY (A2G502A270)

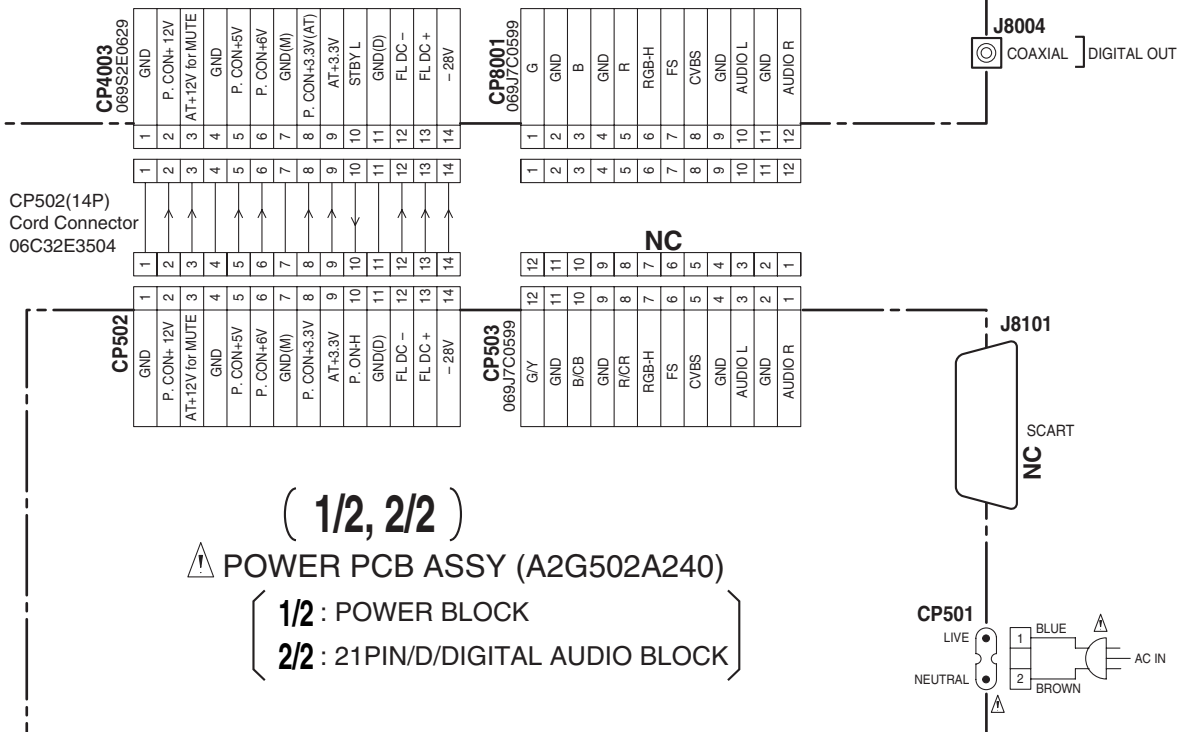


CD603(6P FFC) 122H062801

(1/5-5/5)

DVD MT PCB ASSY (A2G502A130)

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



(1/2, 2/2)

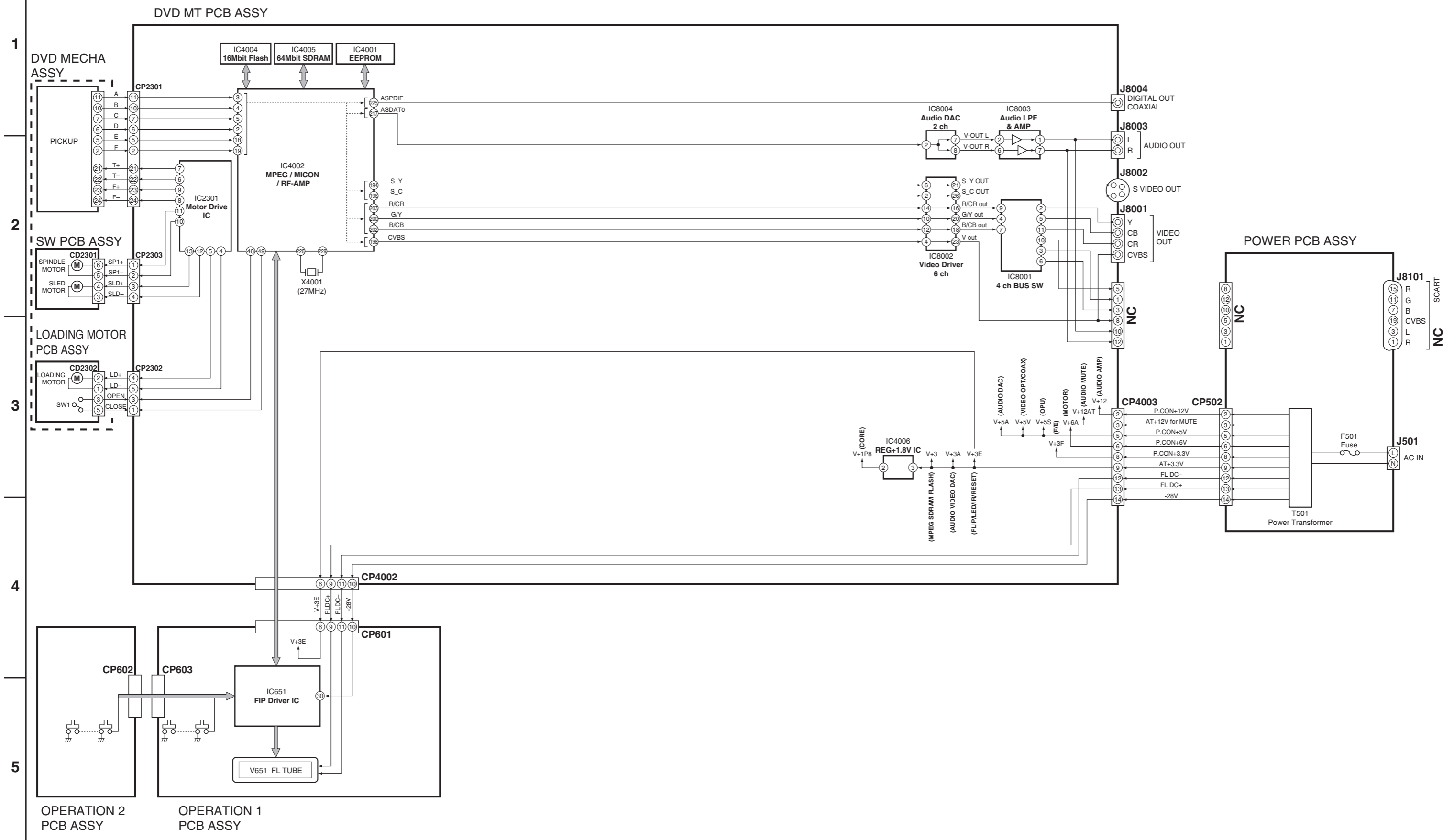
POWER PCB ASSY (A2G502A240)

- 1/2 : POWER BLOCK
- 2/2 : 21PIN/D/DIGITAL AUDIO BLOCK



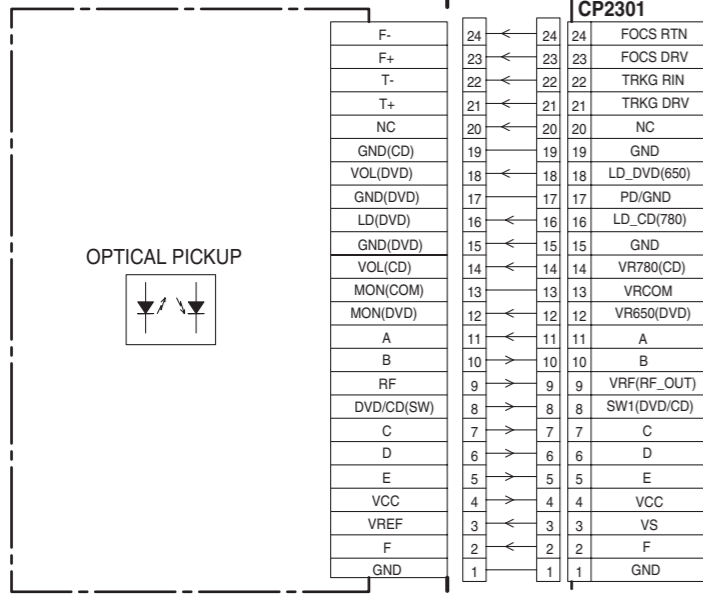
A B C D E F G H

BLOCK DIAGRAM-1

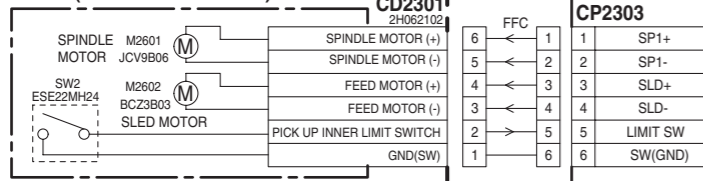


**BLOCK DIAGRAM-2**

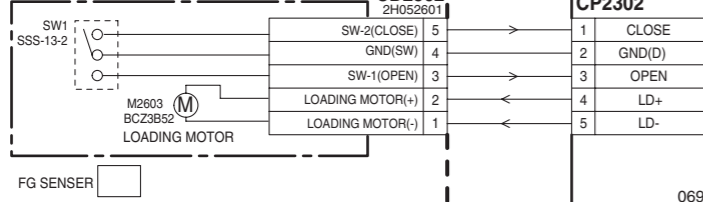
**1 DVD MECHA ASSY (A2F101A650)**



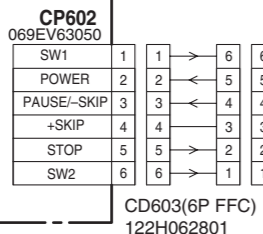
**3 SW PCB ASSY (A2F101A640)**



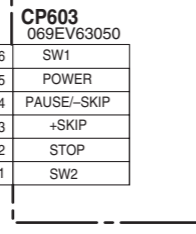
**4 LOADING MOTOR PCB ASSY (A2F101A610)**



**5 OPERATION 2 PCB ASSY (A2G502A280)**

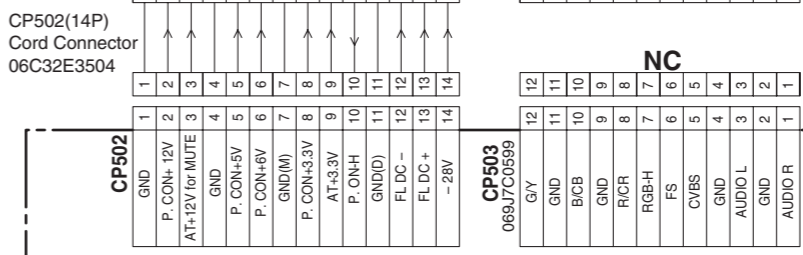
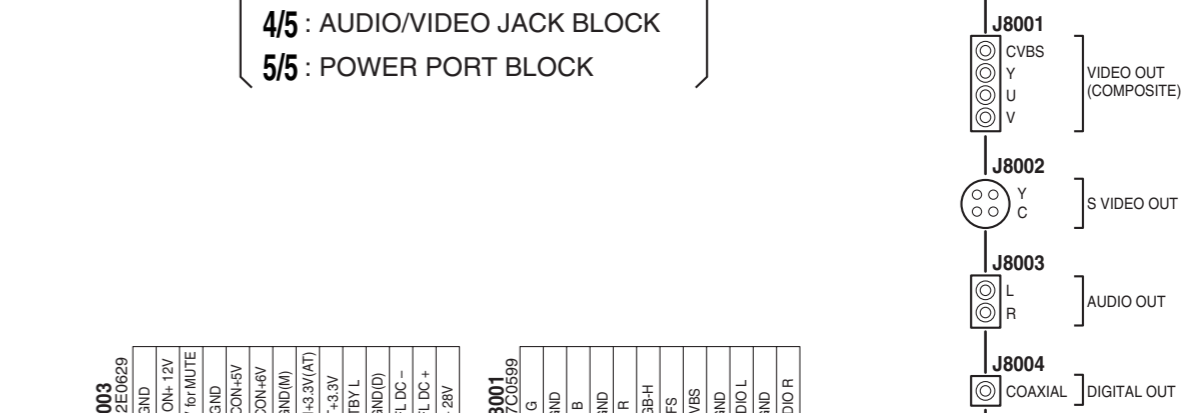


**OPERATION 1 PCB ASSY (A2G502A270)**



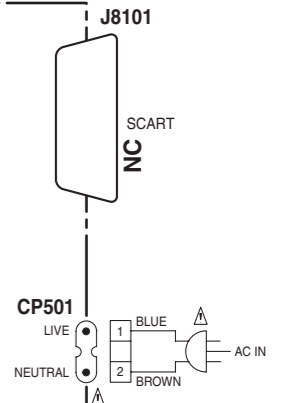
**(1/5-5/5)**  
**DVD MT PCB ASSY (A2G502A130)**

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



**(1/2, 2/2)**  
**POWER PCB ASSY (A2G502A240)**

- 1/2 : POWER BLOCK
- 2/2 : 21PIN/D/DIGITAL AUDIO BLOCK





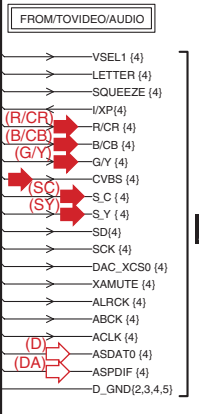
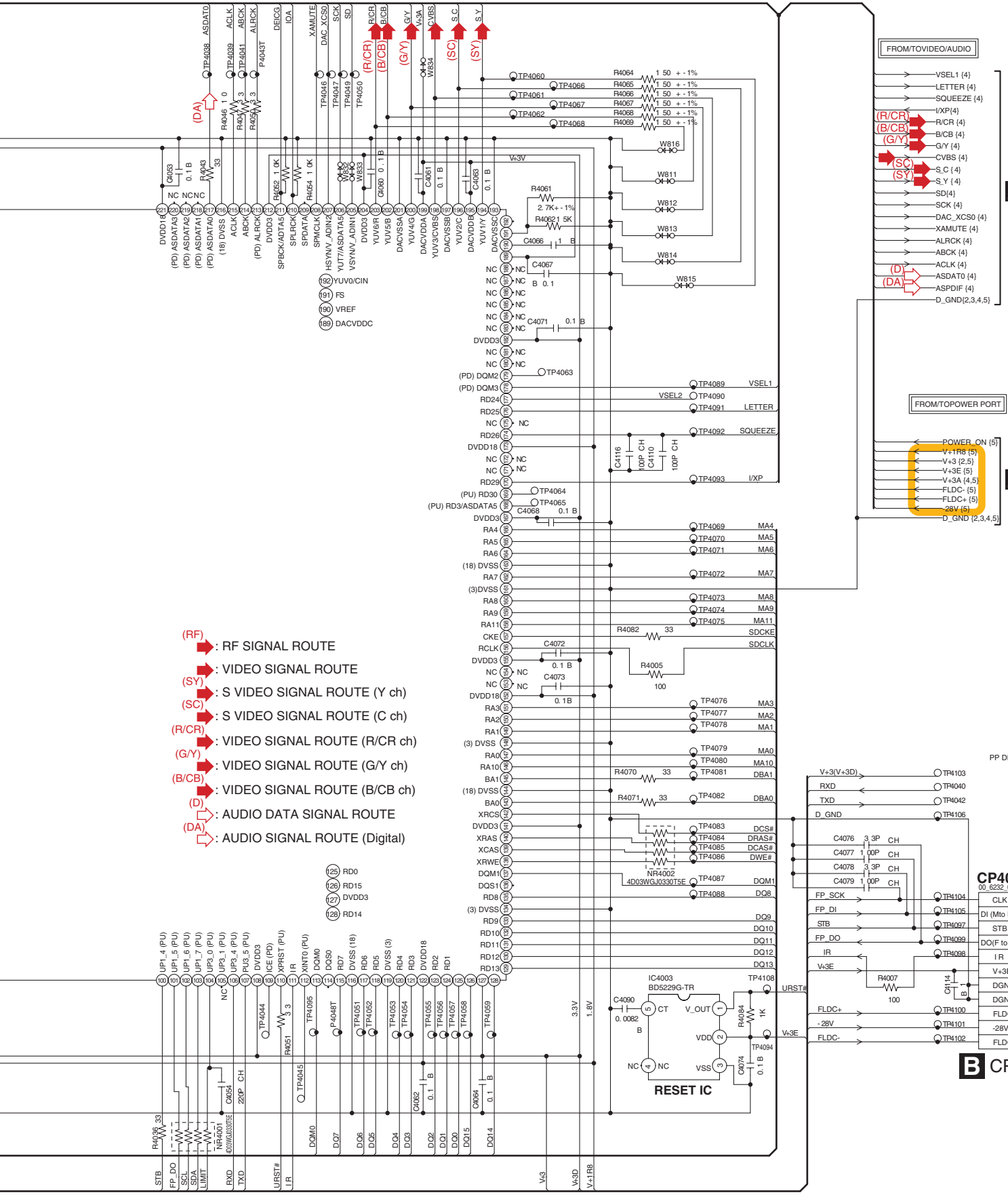
E

F

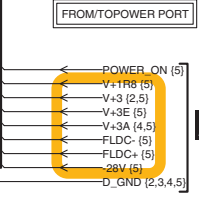
G

H

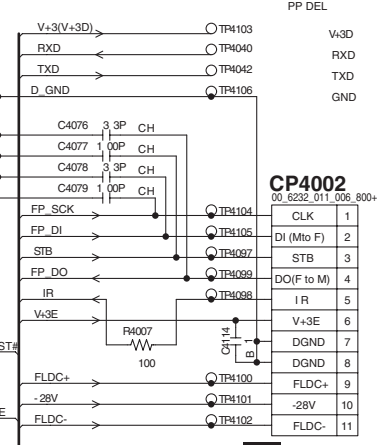
MPEG/MICON/RAMP BLOCK



A 4/5



A 5/5



B CP601

A 1/5

A

B

C

D

# SCHEMATIC DIAGRAM-2

## DVD MT PCB ASSY (A2G502A130) MEMORY BLOCK

1

2

3

4

5

FROM/TOMPEG/MICON/DSP

- DQ0 {1} →
- DQ1 {1} →
- DQ2 {1} →
- DQ3 {1} →
- DQ4 {1} →
- DQ5 {1} →
- DQ6 {1} →
- DQ7 {1} →
- DQ8 {1} →
- DQ9 {1} →
- DQ10 {1} →
- DQ11 {1} ↔
- DQ12 {1} ↔
- DQ13 {1} ↔
- DQ14 {1} ↔
- DQ15 {1} ↔
- MA0 {1} ↔
- MA1 {1} ↔
- MA2 {1} ↔
- MA3 {1} ↔
- MA4 {1} ↔
- MA5 {1} ↔
- MA6 {1} ↔
- MA7 {1} ↔
- MA8 {1} ↔
- MA9 {1} ↔
- MA10 {1} ↔
- MA11 {1} →
- DWE# {1} →
- SDCKE {1} ↔
- SDCLK {1} ↔
- DQM1 {1} →
- DQMO {1} →
- DCAS# {1} →
- DRAS# {1} →
- DBA1 {1} →
- DBA0 {1} →
- DCS# {1} →

**A** 1/5

- A0 {1} ↔
- A1 {1} ↔
- A2 {1} ↔
- A3 {1} ↔
- A4 {1} ↔
- A5 {1} ↔
- A6 {1} ↔
- A7 {1} ↔
- A8 {1} ↔
- A9 {1} ↔
- A10 {1} ↔
- A11 {1} ↔
- A12 {1} ↔
- A13 {1} ↔
- A14 {1} ↔
- A15 {1} ↔
- A16 {1} ↔
- A17 {1} ↔
- A18 {1} ↔
- A19 {1} ↔
- A20 {1} ↔
- AD0 {1} ↔
- AD1 {1} ↔
- AD2 {1} ↔
- AD3 {1} ↔
- AD4 {1} ↔
- AD5 {1} ↔
- AD6 {1} ↔
- AD7 {1} ↔
- PRD# {1} ↔
- PCE# {1} ↔
- PWR# {1} ↔

**A** 1/5

V+3 {1,5} → (V+3D)

D\_GND {1,3,4,5} →

A17

A0

AD7

AD6

AD5

AD4

C4081

0.001 B

AD3

AD2

AD1

AD0

PRD#

PCE#

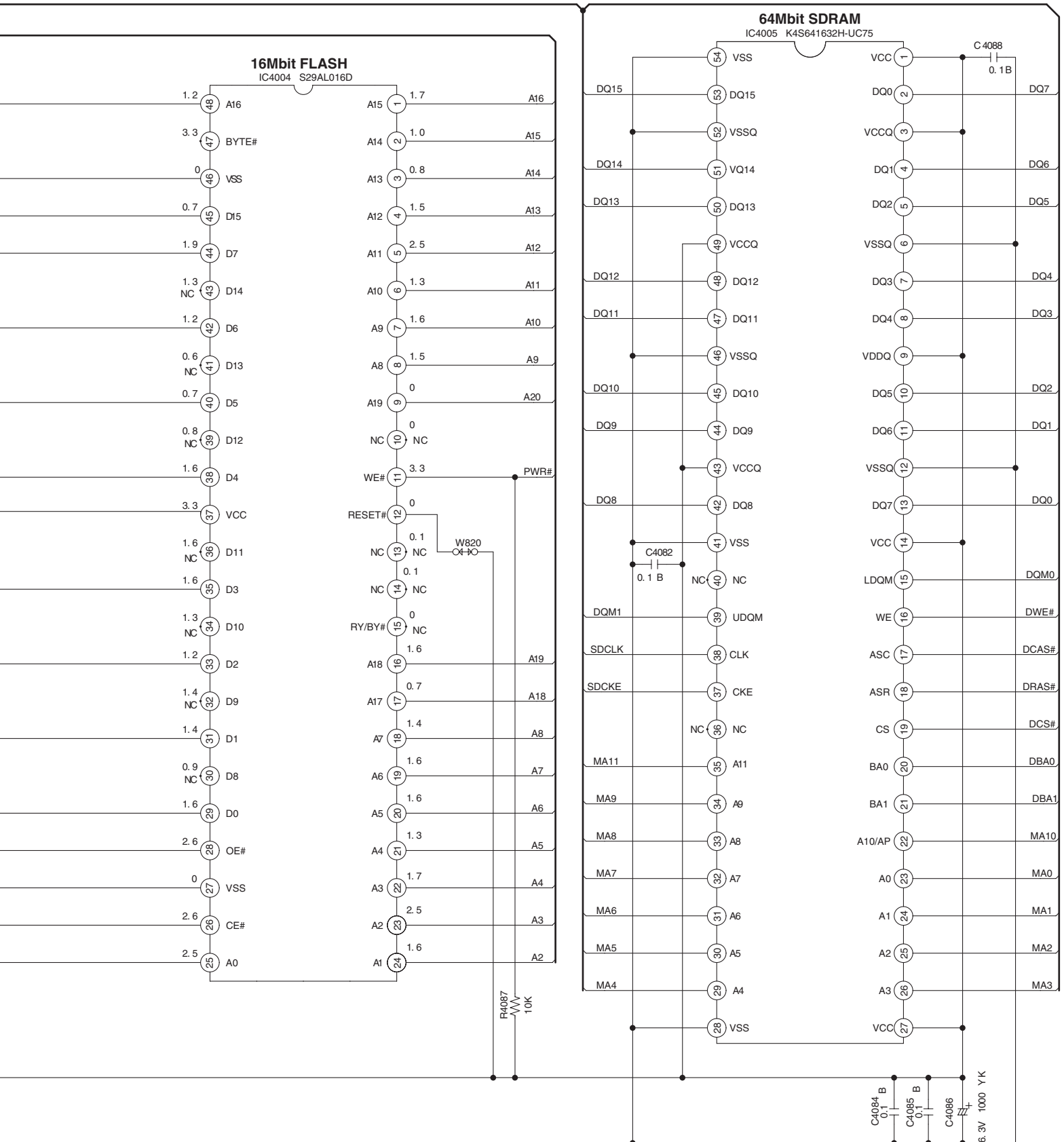
A1

E

F

G

H

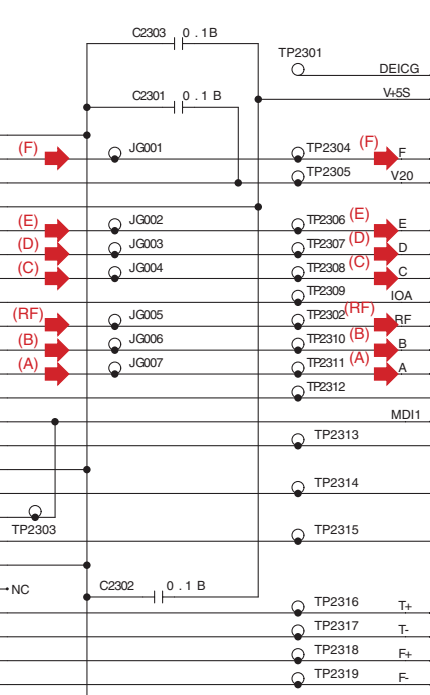


**SCHEMATIC DIAGRAM-3** **DVD MT PCB ASSY (A2G502A130)**  
**LOADER/MOTOR DRV BLOCK**

1

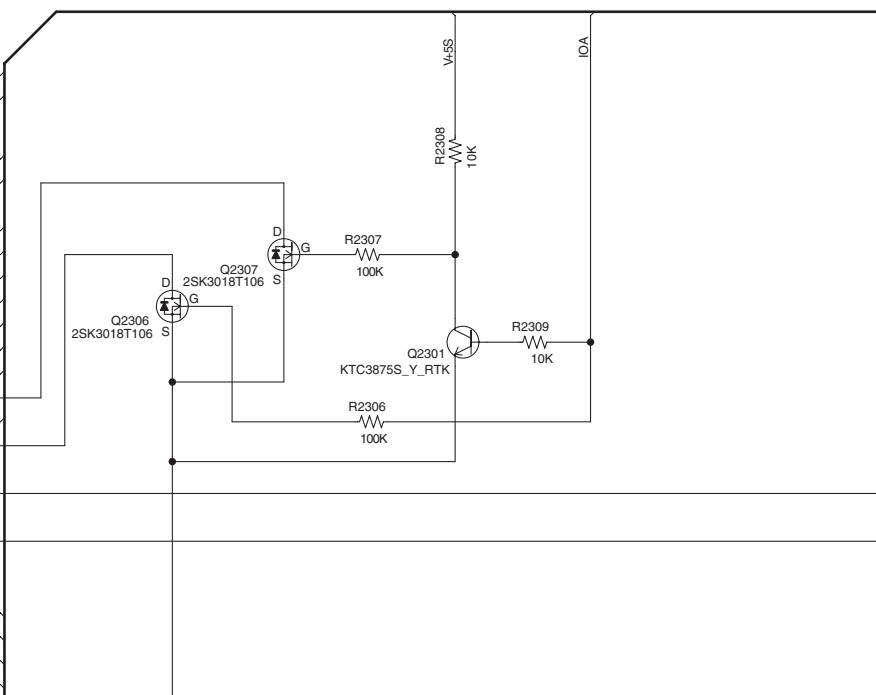
**CP2301**  
09-5000-024-001-001

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



2

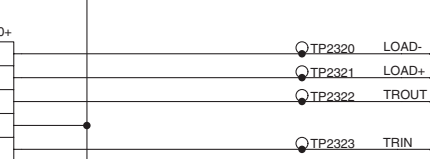
To PICKUP



3

**CP2302**  
00\_6232\_005\_006\_800+

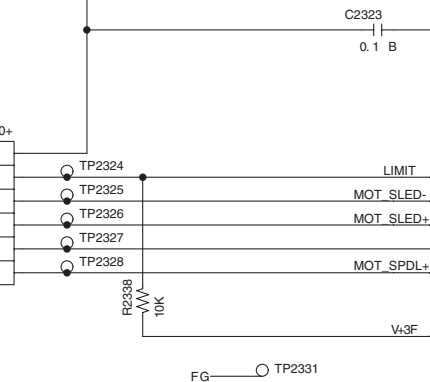
5	LOAD-
4	LOAD+
3	OPEN
2	GND
1	CLOSE



4

**CP2303**  
00\_6232\_006\_006\_800+

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



5

E F G H

(RF) RF SIGNAL ROUTE

FROM/TO MPEG/MICON/RF-AMP

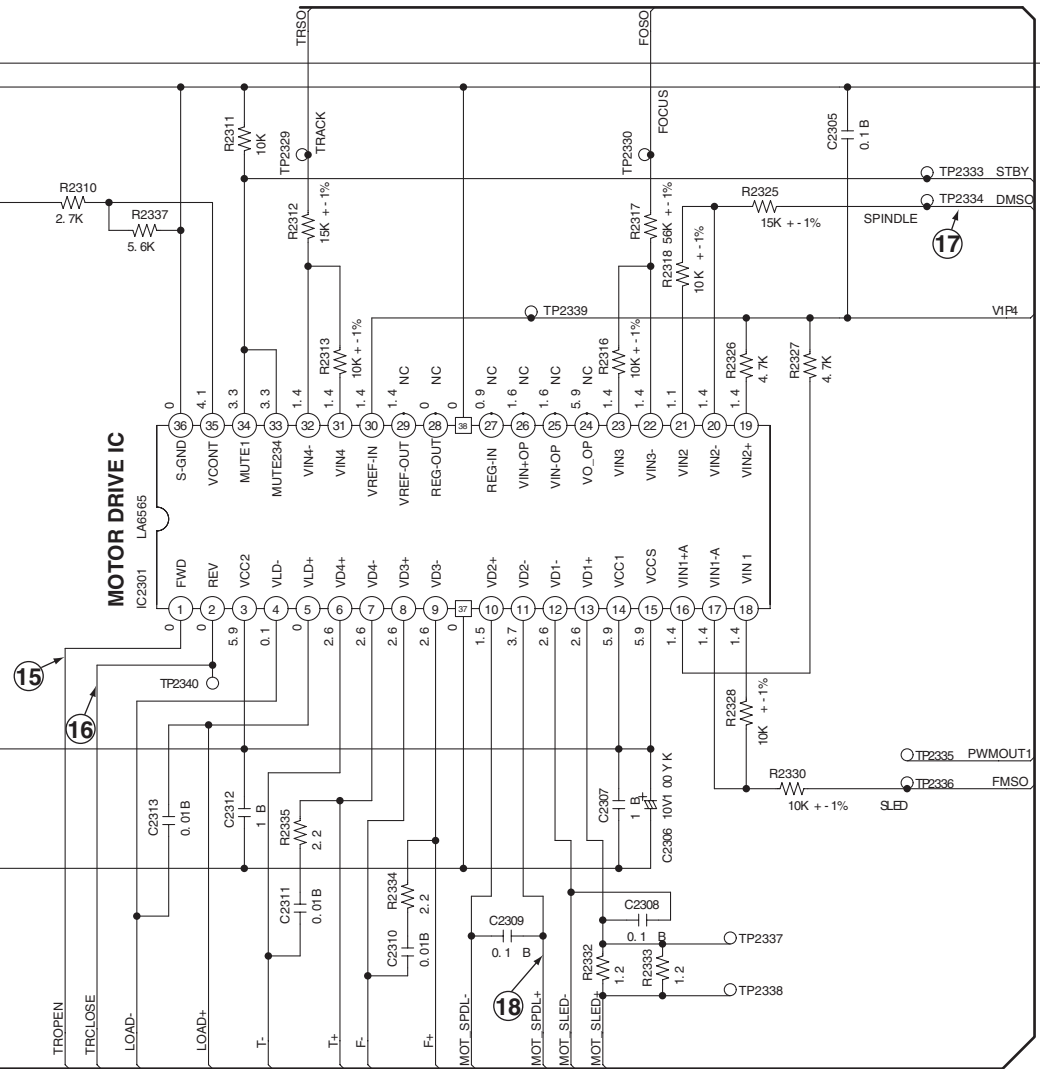
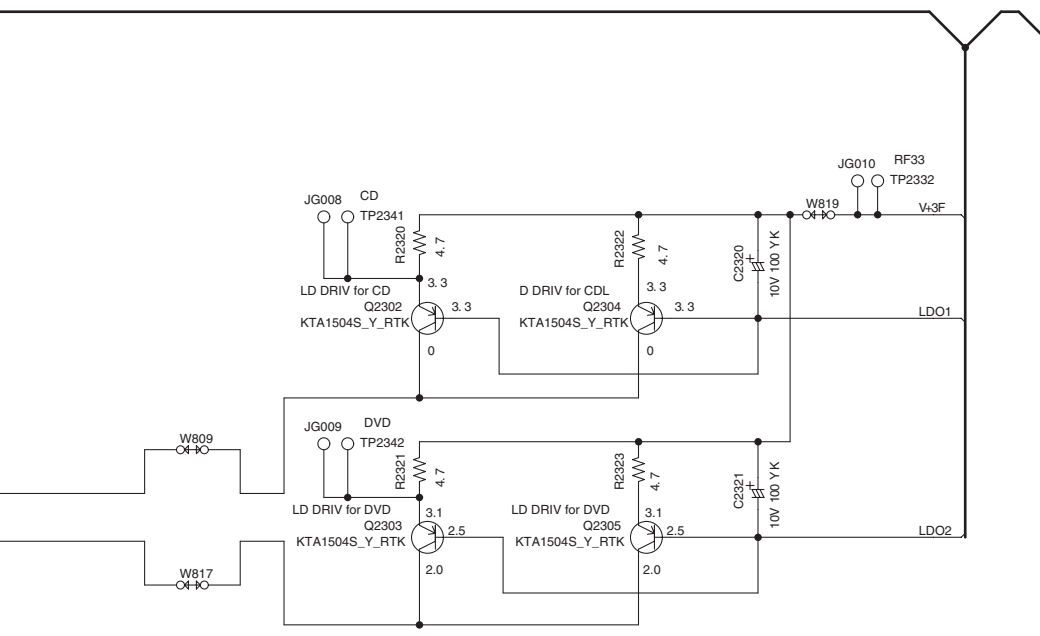
- (RF) RF (1)
- DEICG (1)
- V20 (1)
- (A) A (1)
- (B) B (1)
- (C) C (1)
- (D) D (1)
- (E) E (1)
- (F) F (1)
- MDI1 (1)
- LDO2 (1)
- LDO1 (1)
- IOA (1)
- V1P4 (1)
- LIMIT (1)
- TROUT (1)
- TRIN (1)
- STBY (1)
- DMSO (1)
- Fv
- TRCLOSE (1)
- TROPEN (1)
- PWMOUT1 (1)
- TRSO (1)
- FOSO (1)
- OPO (1)
- Ov
- OP- (1)

1/5

FROM/TO POWER PORT

- V3F (5)
- V4S (5)
- V4A
- D\_GND (1,2,4,5)
- M\_GND (5)

5/5

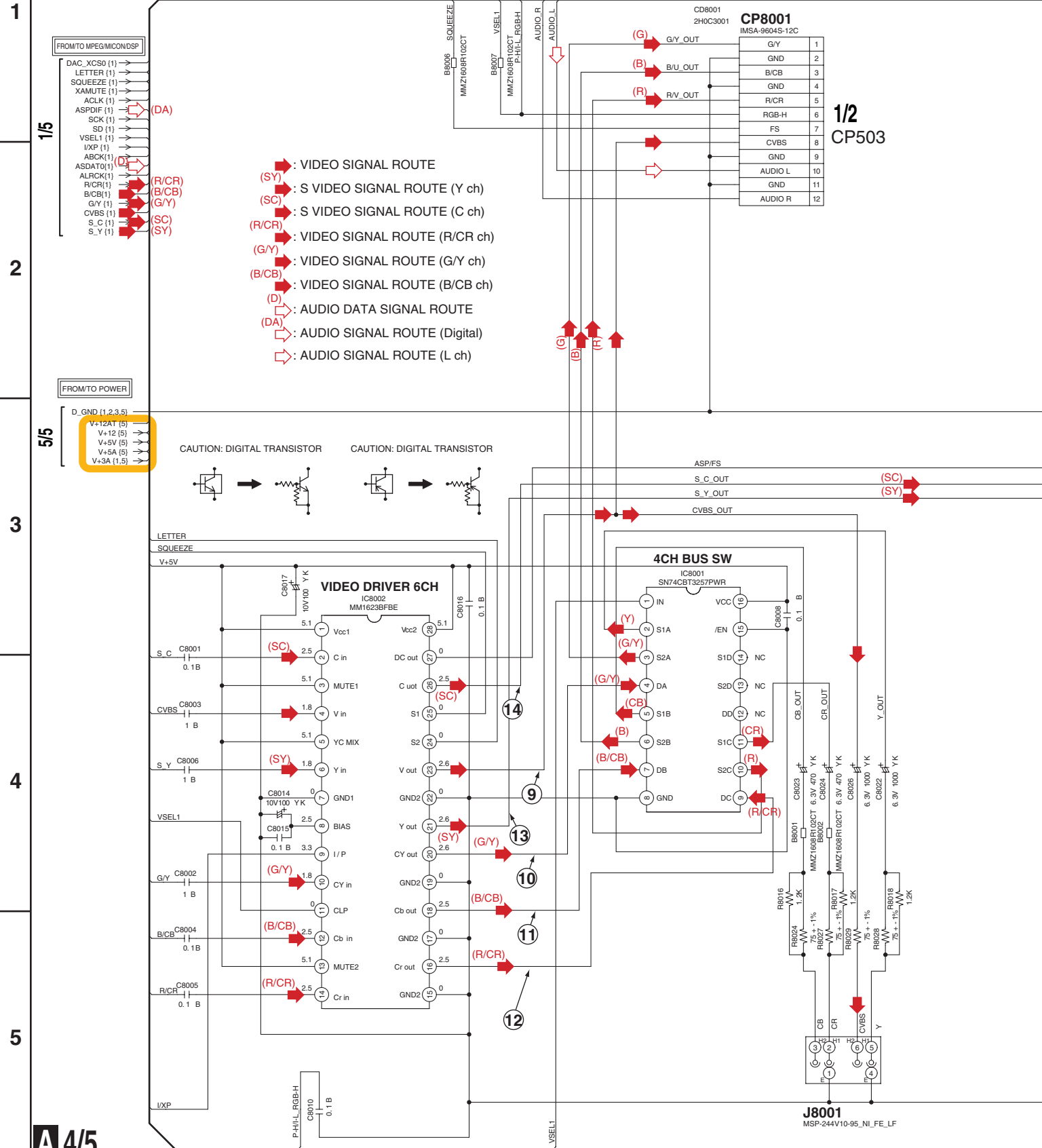


3/5



# SCHEMATIC DIAGRAM-4

## DVD MT PCB ASSY (A2G502A130) AUDIO/VIDEO JACK BLOCK

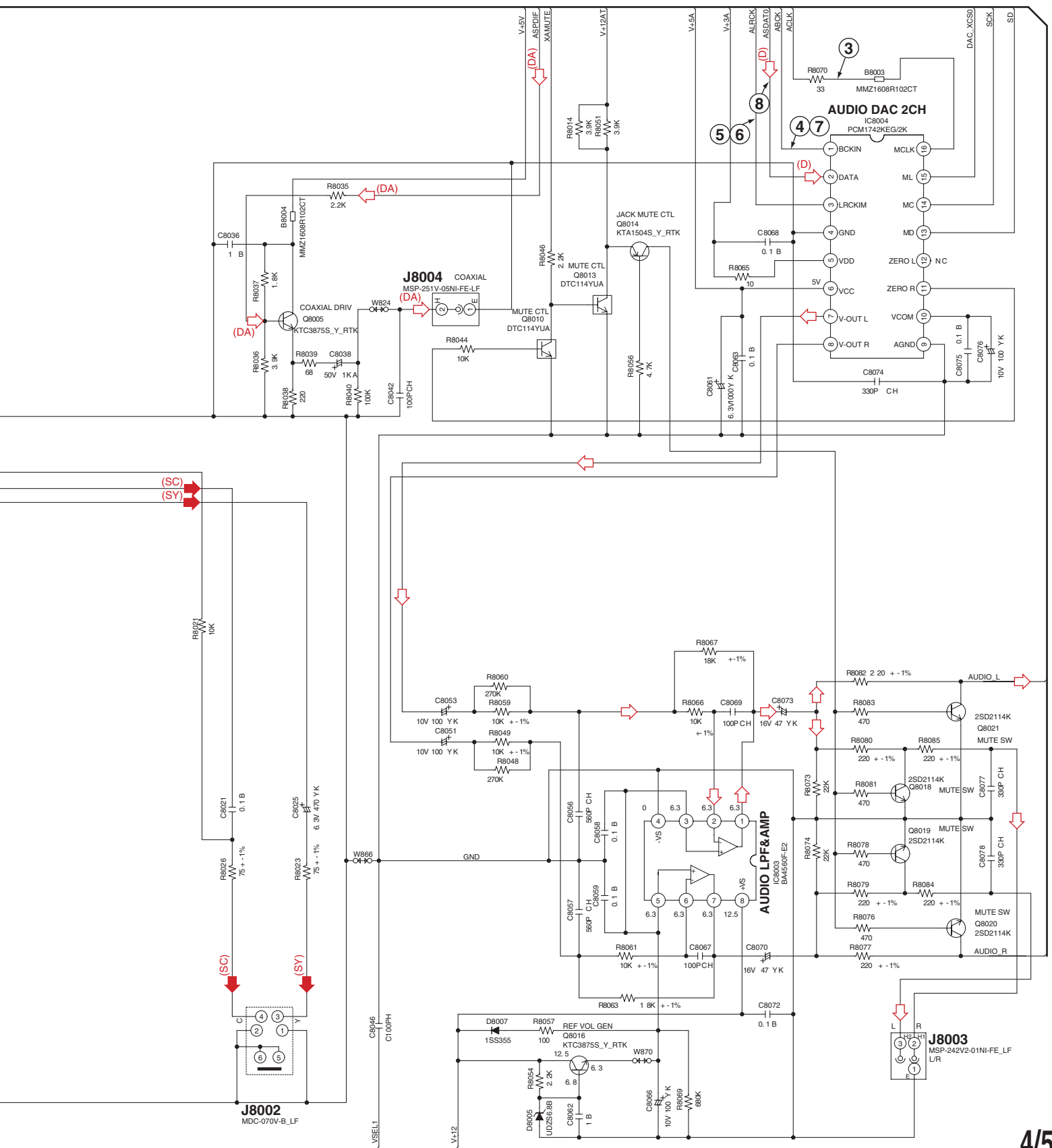


E

F

G

H



A

B

C

D

# SCHEMATIC DIAGRAM-5

## DVD MT PCB ASSY (A2G502A130) POWER PORT BLOCK

1

2

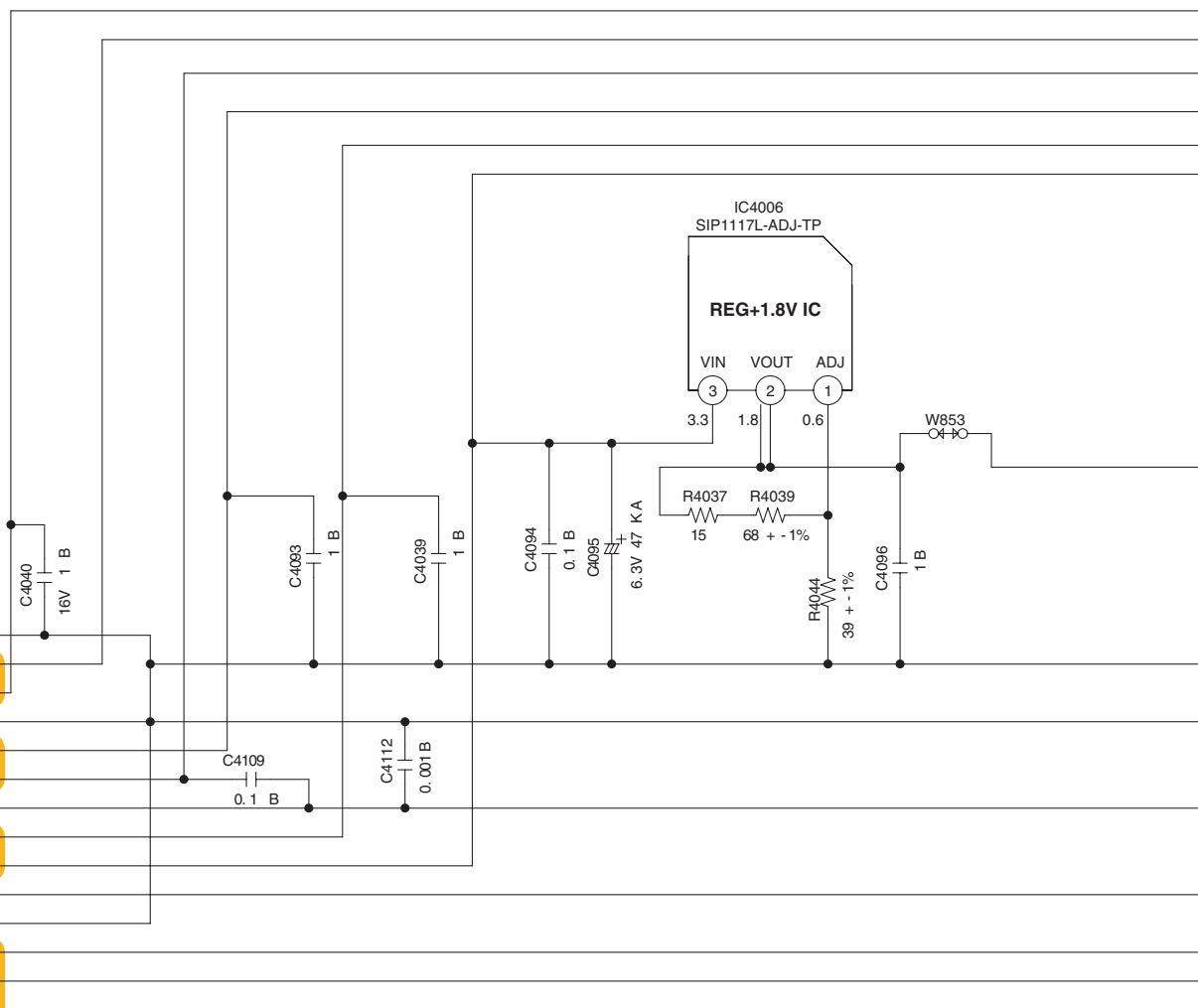
3

4

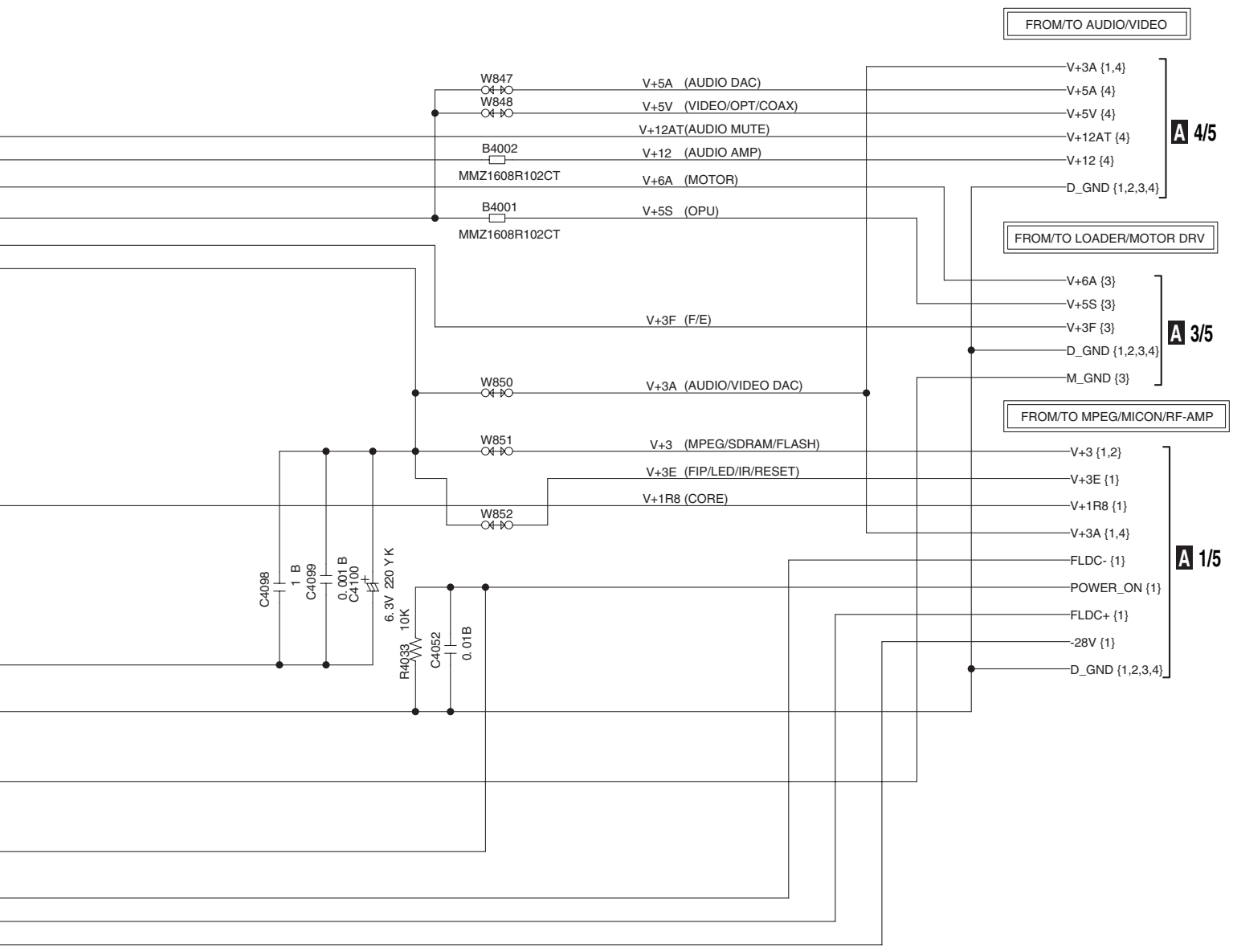
5

**CP4003**  
A2001WV2-14P

1	GND
2	P.CON+12V
3	AT+12V for MUTE
4	GND
5	P.CON+5V
6	P.CON+6V
7	GND(M)
8	P.CON+3.3V(AT)
9	AT+3.3V
10	STBY L
11	GND(D)
12	FL DC-
13	FL DC+
14	-28V



E F G H



A 4/5

A 3/5

A 1/5

A

B

C

D

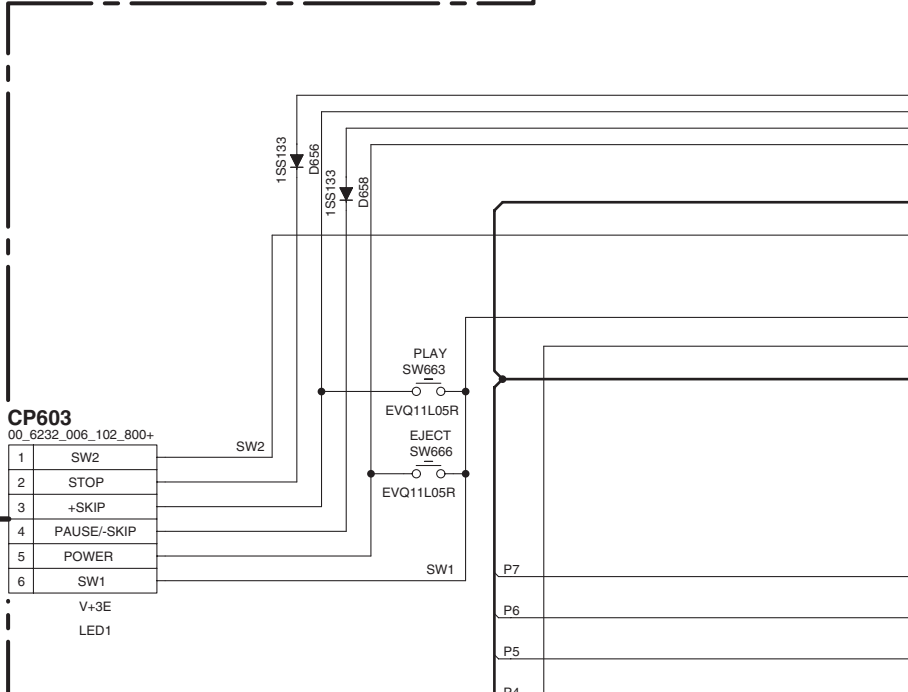
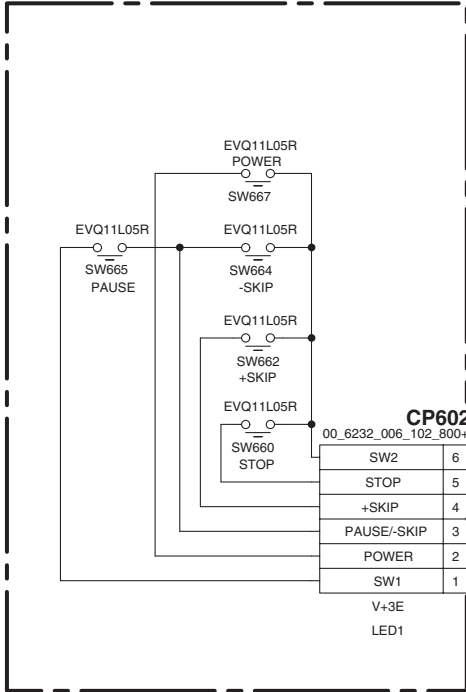
# SCHEMATIC DIAGRAM-6

1

OPERATION 2 PCB ASSY  
(A2G502A280)

OPERATION 1 PCB ASSY  
(A2G502A270)

2



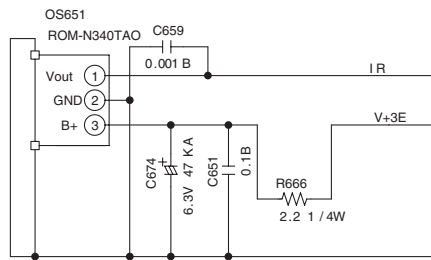
3

**OPERATION 2 PCB ASSY**  
 SW660 : STOP  
 SW662 : +SKIP  
 SW664 : - SKIP  
 SW665 : PAUSE  
 SW667 : POWER

**OPERATION 1 PCB ASSY**  
 SW663 : PLAY  
 SW666 : EJECT

4

5



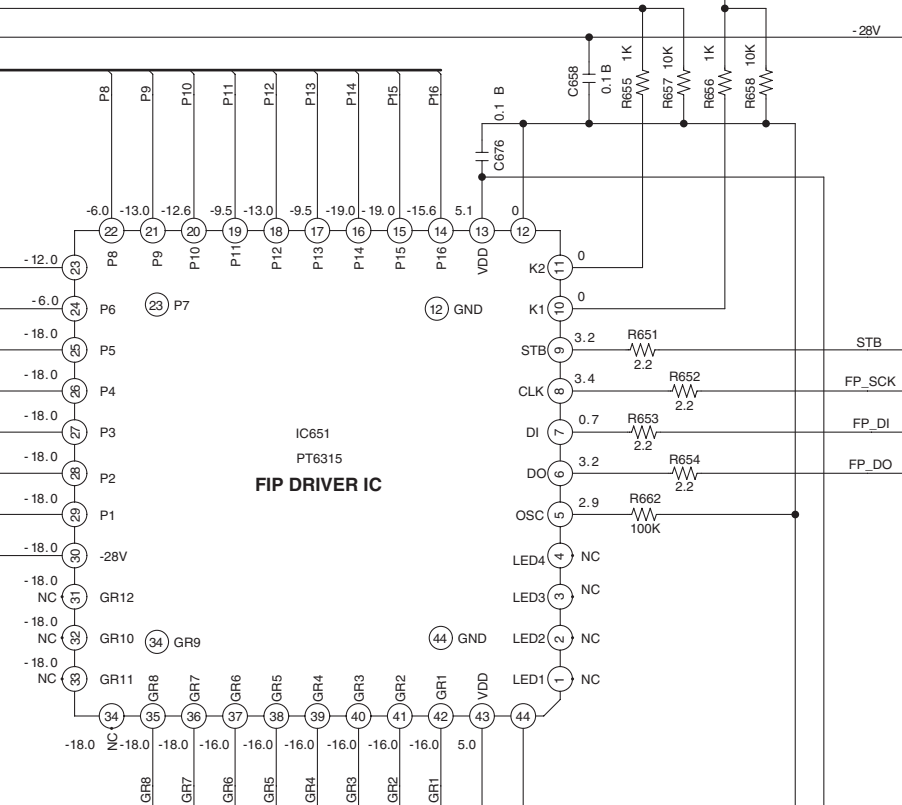
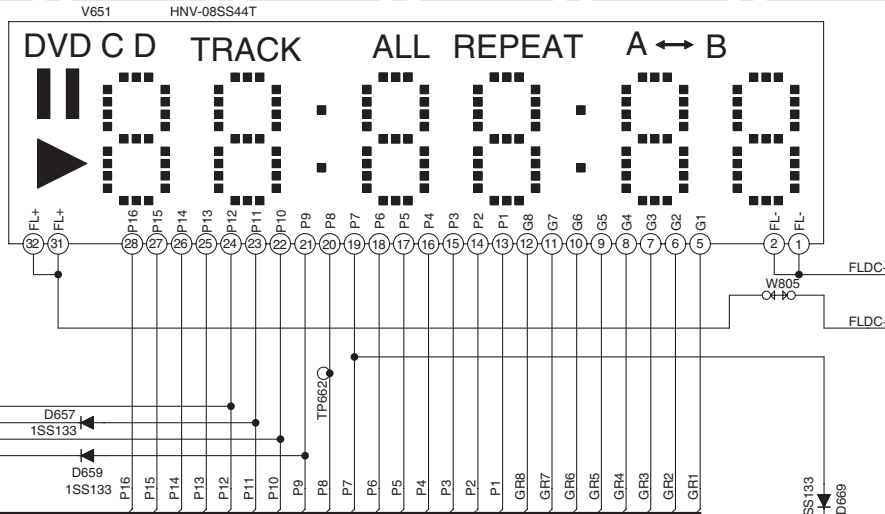
P7  
P6  
P5  
P4  
P3  
P2  
P1

E

F

G

H



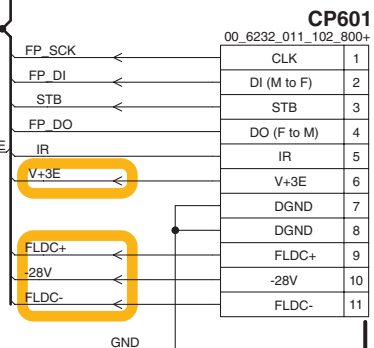
CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



FROM/TO MPEG/MICON



A B C D

# SCHEMATIC DIAGRAM-7

## POWER PCB ASSY (A2G502A240) POWER BLOCK

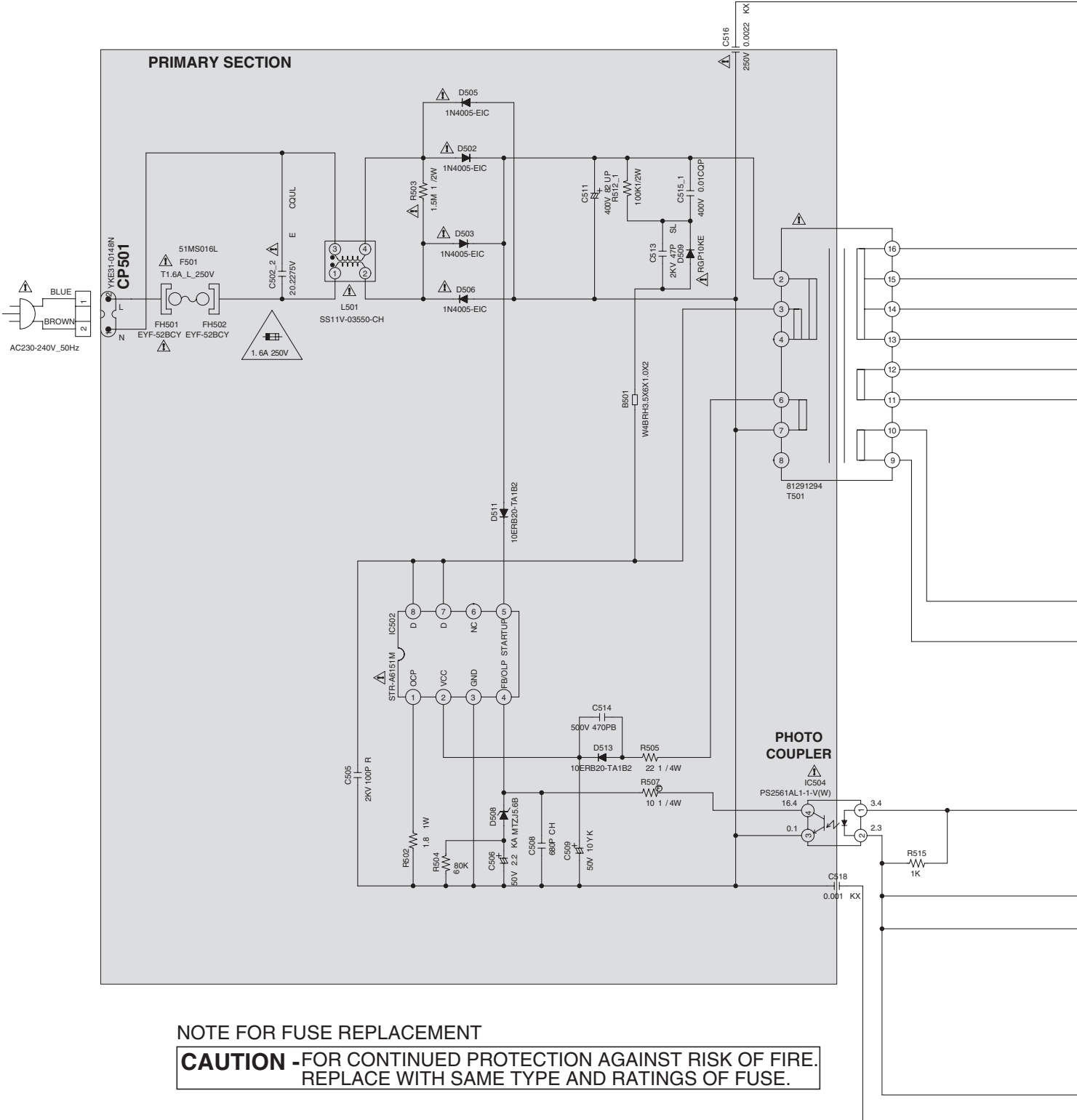
1

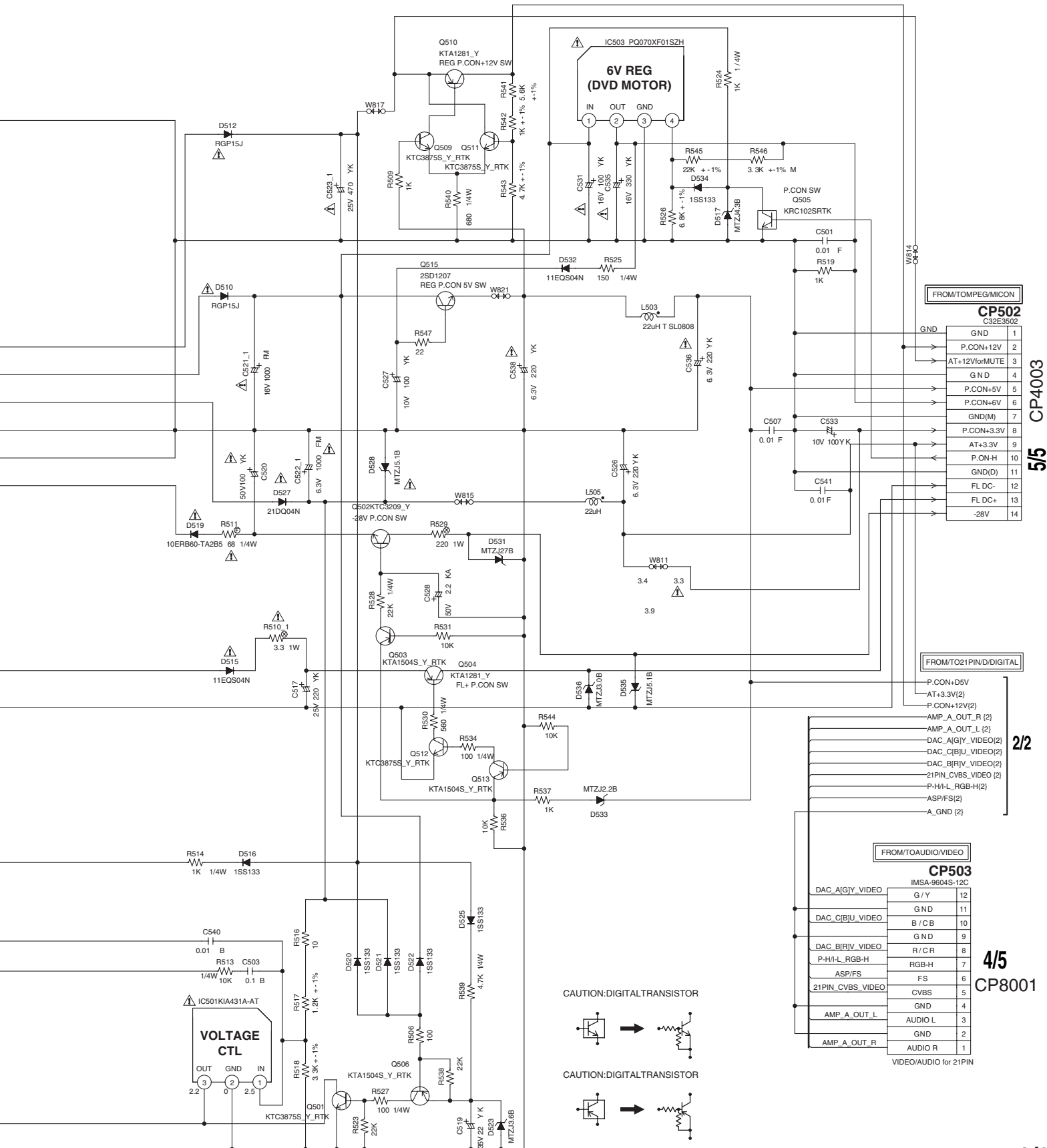
2

3

4

5





FROM/TOMPEG/MICON

**CP502**  
C32E3502

GND	1
P.CON+12V	2
AT+12VforMUTE	3
GND	4
P.CON+5V	5
P.CON+6V	6
GND(M)	7
P.CON+3.3V	8
AT+3.3V	9
P.ON-H	10
GND(D)	11
FL DC-	12
FL DC+	13
-28V	14

FROM/T021PIN/D/DIGITAL

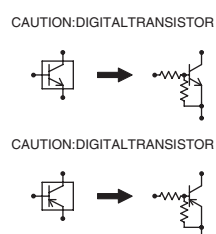
P.CON+5V	
AT+3.3V(2)	
P.CON+12V(2)	
AMP_A_OUT_R (2)	
AMP_A_OUT_L (2)	
DAC_A(G)Y_VIDEO(2)	
DAC_C(B)U_VIDEO(2)	
DAC_B(R)I_V_VIDEO(2)	
21PIN_CVBS_VIDEO (2)	
P-H/L_RGB-H(2)	
ASP/FS(2)	
A_GND (2)	

FROM/TOAUDIO/VIDEO

**CP503**  
IMSA-9604S-12C

DAC_A(G)Y_VIDEO	G/Y	12
DAC_C(B)U_VIDEO	GND	11
DAC_B(R)I_V_VIDEO	B/CB	10
P-H/L_RGB-H	GND	9
ASP/FS	R/C/R	8
21PIN_CVBS_VIDEO	RGB-H	7
AMP_A_OUT_L	FS	6
AMP_A_OUT_R	CVBS	5
	GND	4
	AUDIO L	3
	GND	2
	AUDIO R	1

VIDEO/AUDIO for 21PIN



5/5 CP4003

2/2

4/5 CP8001



A

B

C

D

# SCHEMATIC DIAGRAM-8

## POWER PCB ASSY (A2G502A240) 21PIN/D/DIGITAL AUDIO BLOCK

1

Europe Nodel only

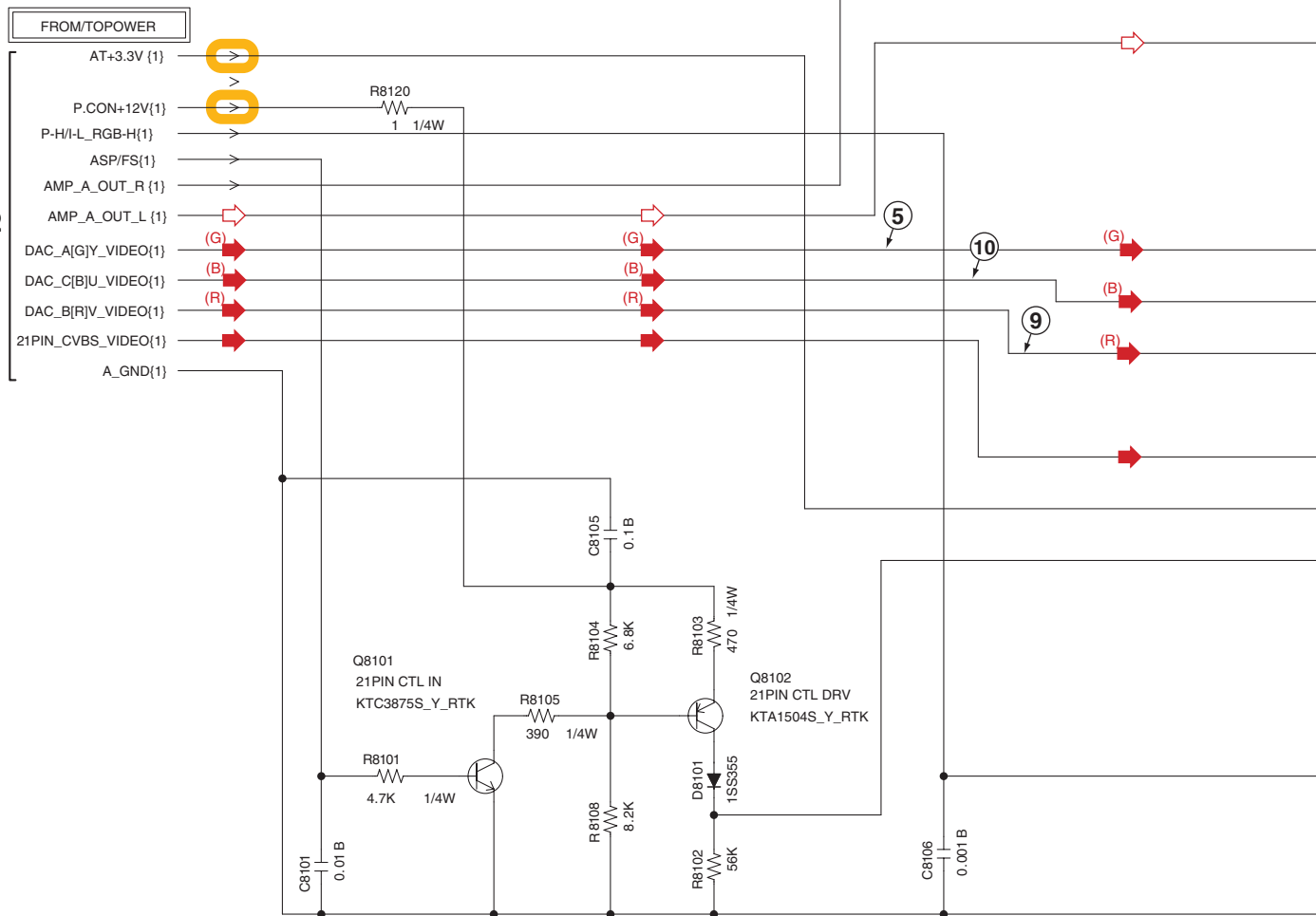
2

3

4

5

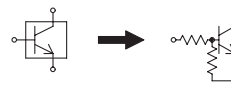
1/2



CAUTION : DIGITALTRANSISTOR



CAUTION : DIGITALTRANSISTOR



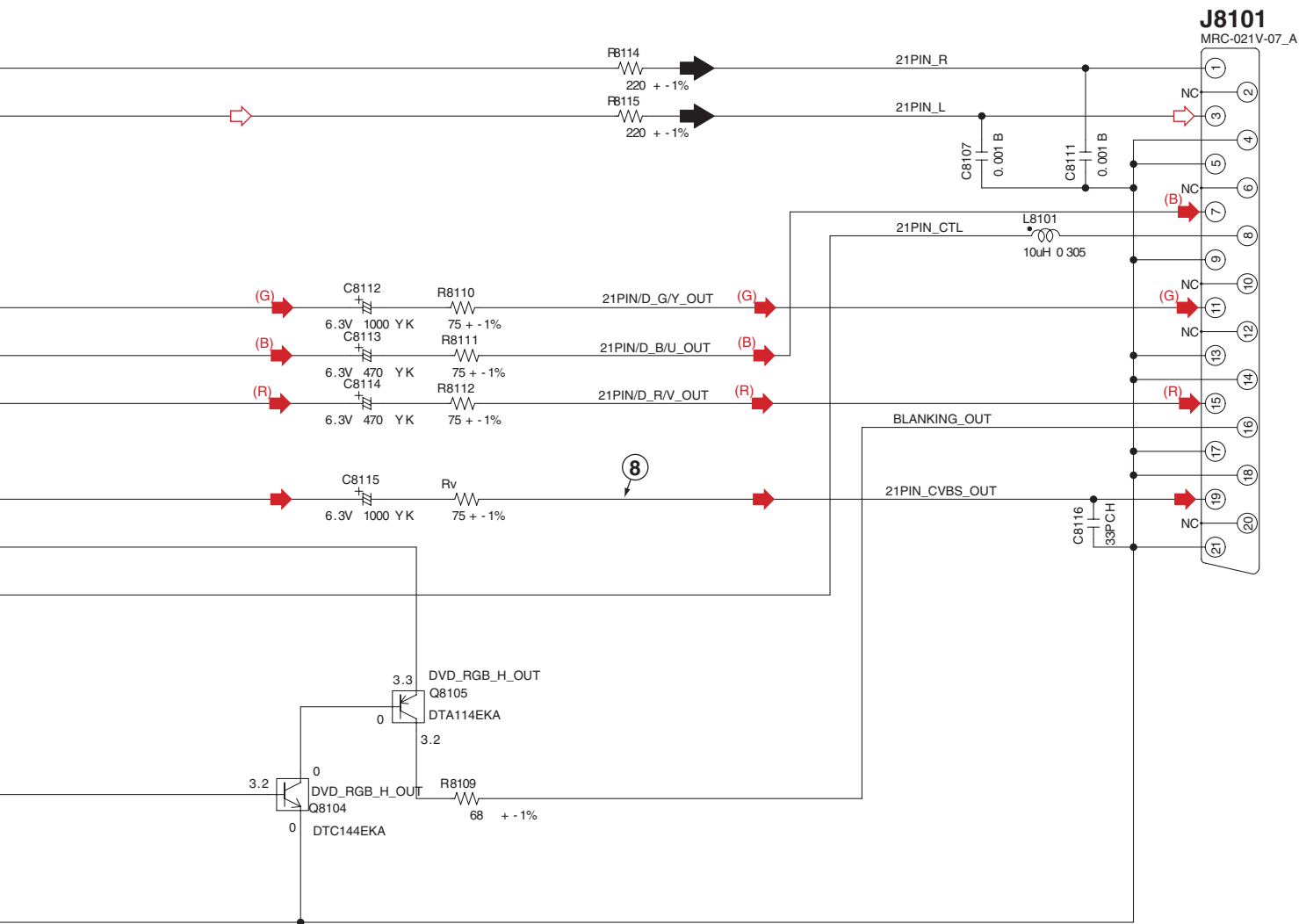
E

F

G

H

- ➡: 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)

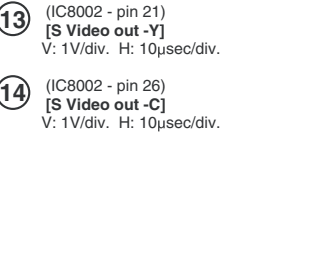
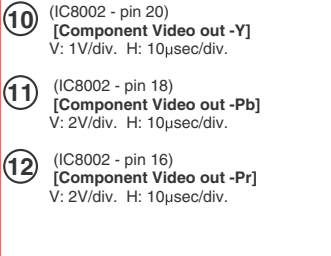
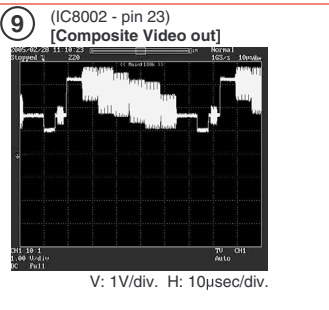
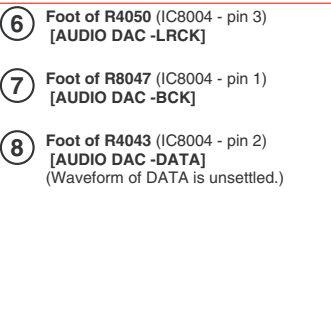
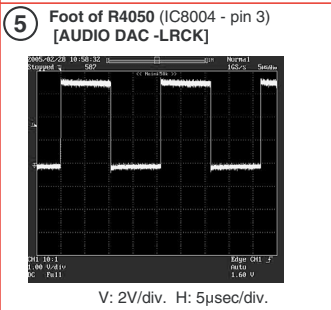
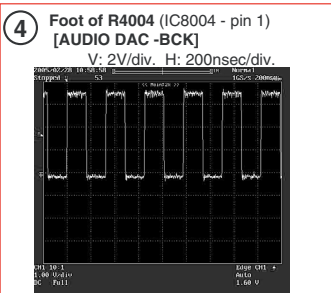
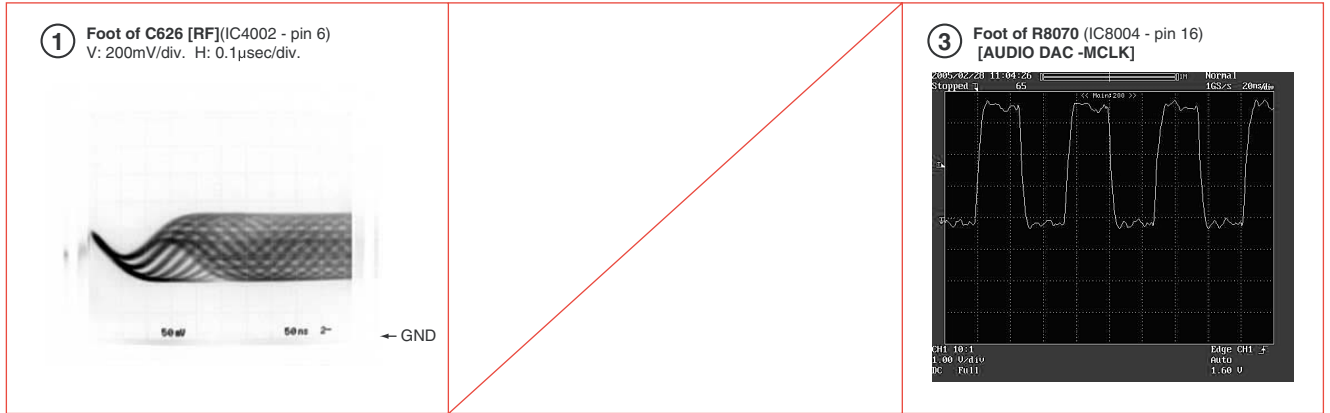


# WAVE FORMS-1

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

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

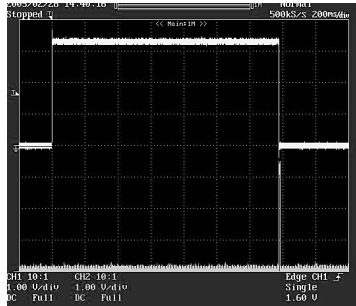
## DVD MT PCB ASSY



# WAVE FORMS-2

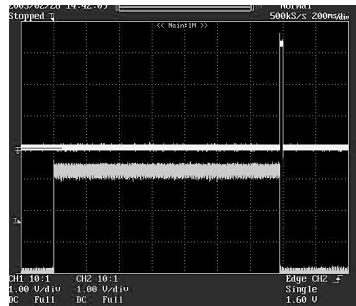
## DVD MT PCB ASSY

15 Foot of R4026(IC2301 - pin 1) [TROPEN]  
[Tray is Open]



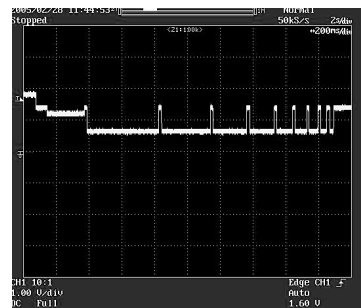
V: 1V/div. H: 5µsec/div.

16 Foot of R4002(IC2301 - pin 2) [TRCLOSE]  
[Tray is closing]



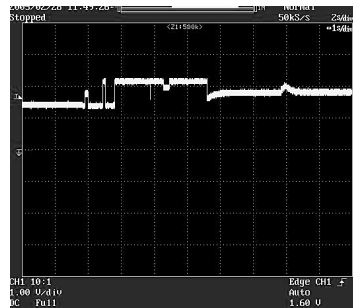
V: 1V/div. H: 5µsec/div.

17 Foot of R618 (IC4002 - pin 37) [DMSO]  
[DMSO\_OPEN]



V: 1V/div. H: 10µsec/div.

[DMSO\_PLAY]



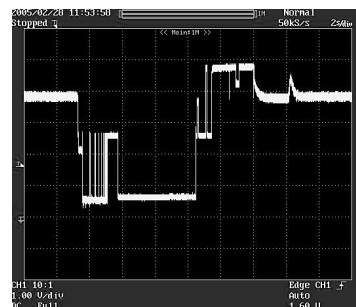
V: 1V/div. H: 10µsec/div.

[DMS-3]



V: 1V/div. H: 2sec/div.

18 CN2303 - pin 1  
(IC2301 - pin 11)  
[MOT\_SPDL+]

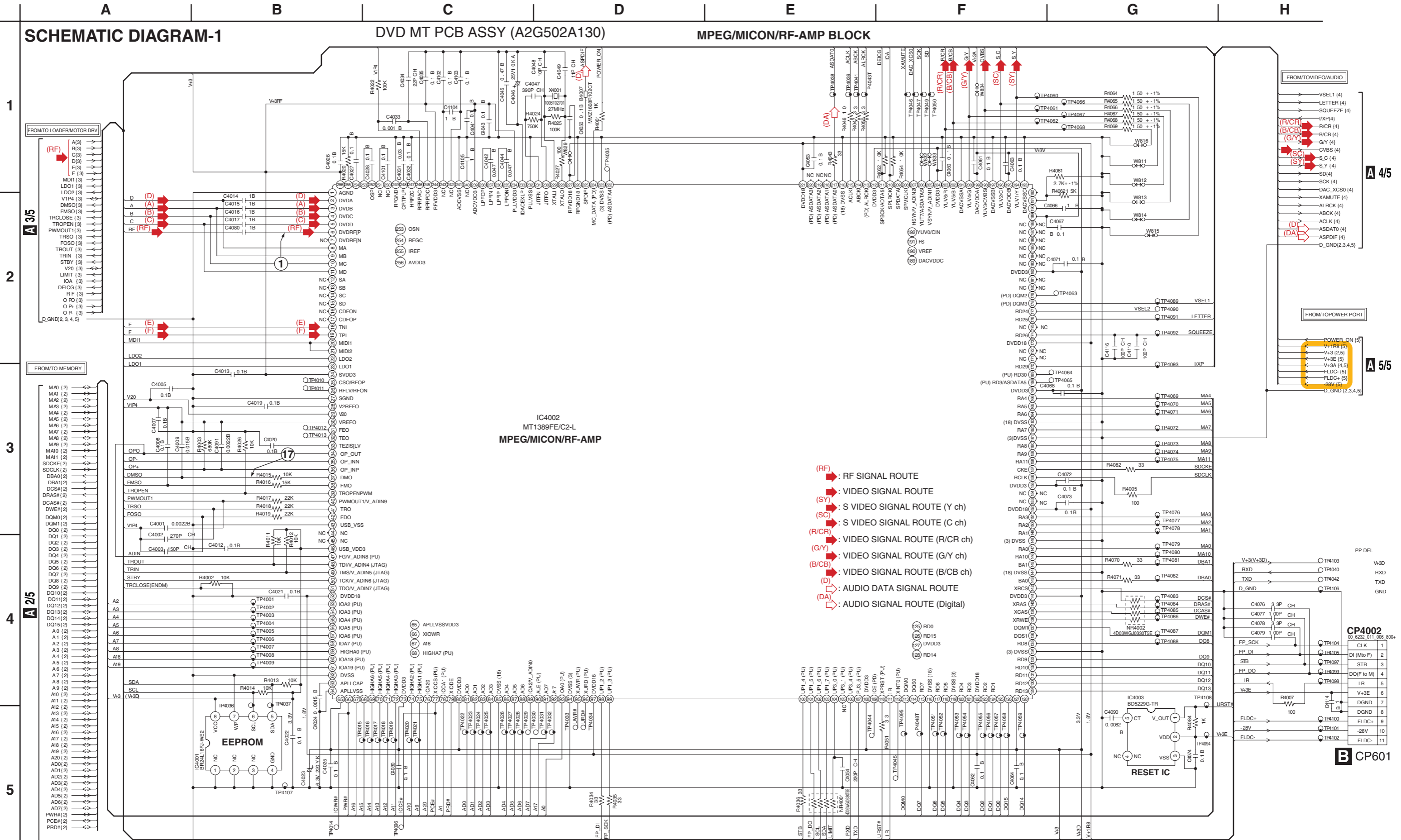


V: 2V/div. H: 2msec/div.

SCHEMATIC DIAGRAM-1

DVD MT PCB ASSY (A2G502A130)

MPEG/MICON/RF-AMP BLOCK



1

2

3

4

5

A 3/5

A 2/5

A 1/5

A 4/5

A 5/5

B CP601

A 1/5

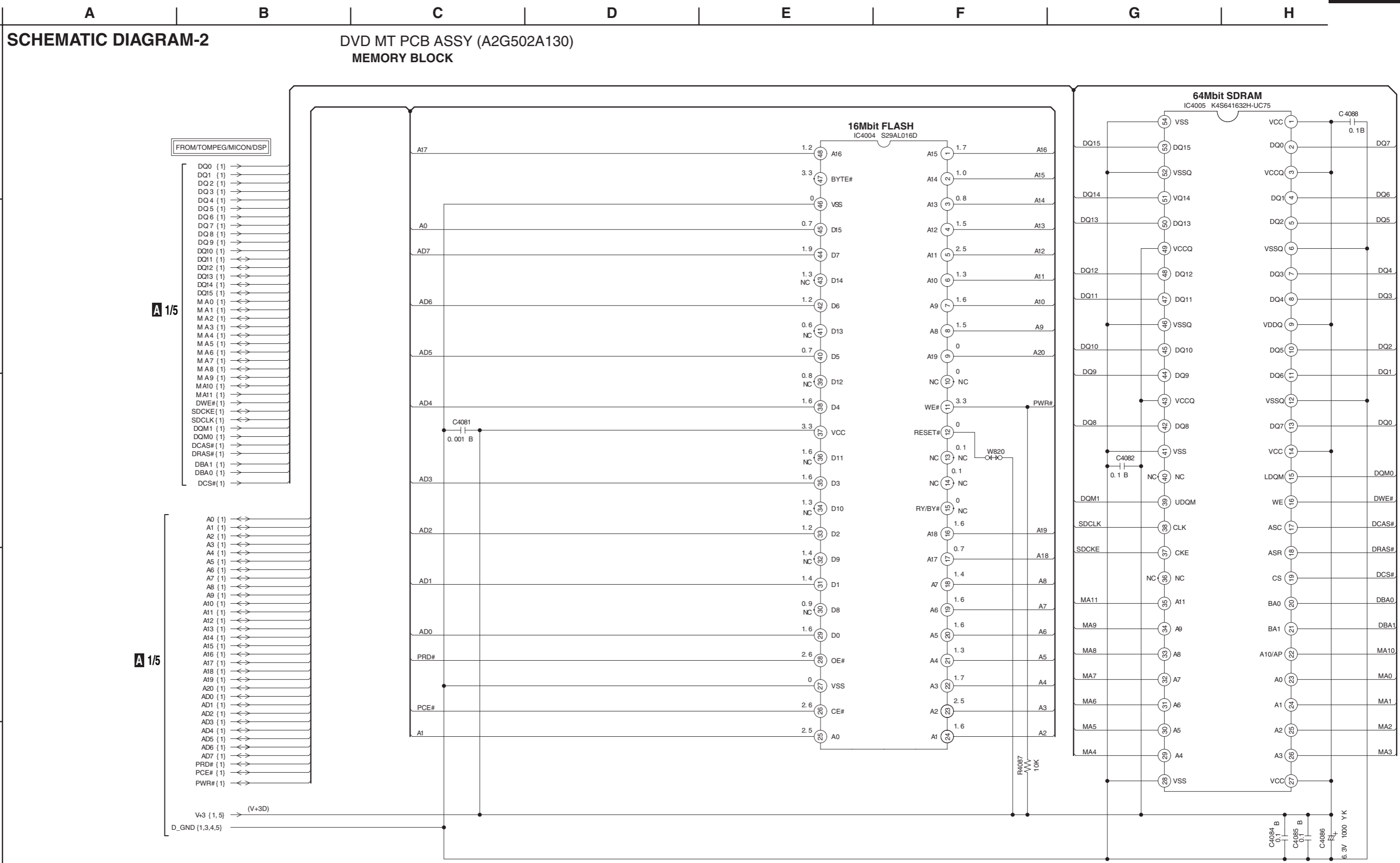
- (RF) : RF SIGNAL ROUTE
- (SY) : VIDEO SIGNAL ROUTE
- (SC) : S VIDEO SIGNAL ROUTE (Y ch)
- (R/CR) : VIDEO SIGNAL ROUTE (R/CR ch)
- (G/Y) : VIDEO SIGNAL ROUTE (G/Y ch)
- (B/CB) : VIDEO SIGNAL ROUTE (B/CB ch)
- (D) : AUDIO DATA SIGNAL ROUTE
- (DA) : AUDIO SIGNAL ROUTE (Digital)

- FROM TO VIDEO/AUDIO
- VSEL1 (4)
- LETTER (4)
- SQUEEZE (4)
- I/XP (4)
- R/CR (4)
- B/CB (4)
- G/Y (4)
- CVBS (4)
- S.C (4)
- S.Y (4)
- SD (4)
- SCK (4)
- DAC\_XCS0 (4)
- XAMUTE (4)
- ALRCK (4)
- ABCK (4)
- ASDAT0 (4)
- ASPDIF (4)
- D\_GND1 (2,3,4,5)

- FROM TO POWER PORT
- POWER\_ON (5)
- V+1R8 (5)
- V+3 (2,5)
- V+3E (5)
- V+3A (4,5)
- FLDC (5)
- FLDC+ (5)
- FLDC- (5)
- D\_GND (2,3,4,5)

CP4002  
00\_822E\_011\_006\_800+

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



1

2

3

4

5

A 1/5

A 1/5

A 2/5

A 2/5

# SCHEMATIC DIAGRAM-3

## DVD MT PCB ASSY (A2G502A130) LOADER/MOTOR DRV BLOCK

(RF) : RF SIGNAL ROUTE

1

2

3

4

5

To PICKUP

CD2302

CD2301

CP2301		09-5000-024-001-001	
1	GND	(F)	JG001
2	F	(F)	TP2304
3	VS		TP2305
4	VCC		
5	E	(E)	JG002
6	D	(D)	JG003
7	C	(C)	JG004
8	SW1(DVD/CD)		JG005
9	VRF(RF_OUT)	(RF)	JG006
10	B	(B)	JG007
11	A	(A)	
12	VR650(DVD)		
13	VRCOM		
14	VR780(CD)		
15	GND		
16	LD_CD(780)		
17	PD/GND		
18	LD_DVD(650)		
19	GND		
20	NC		
21	TRKG DRV		
22	TRKGRTN		
23	FOCS DRV		
24	FOCS RTN		

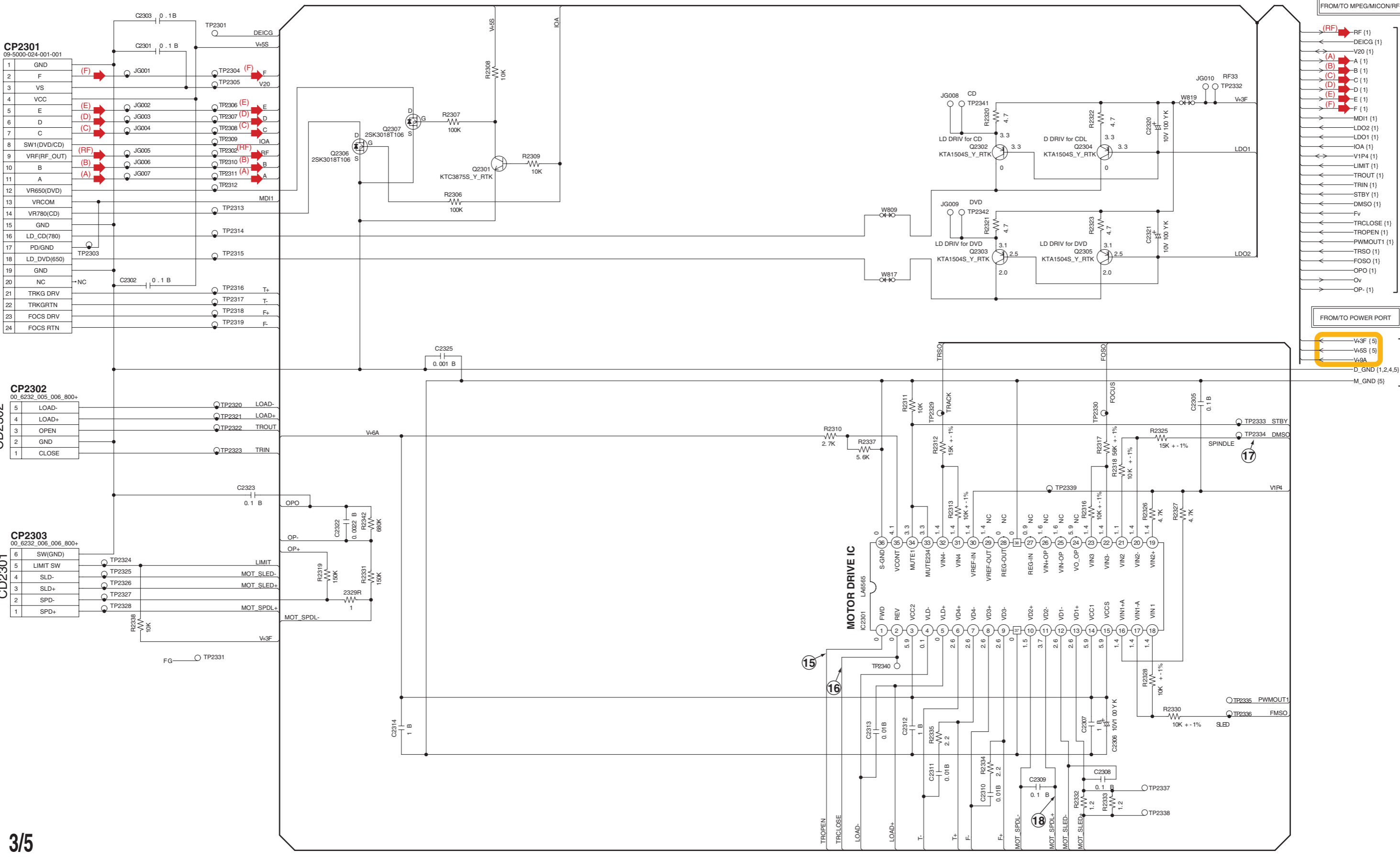
CP2302		00_6232_005_006_800+	
5	LOAD-		TP2320
4	LOAD+		TP2321
3	OPEN		TP2322
2	GND		
1	CLOSE		TP2323

CP2303		00_6232_006_006_800+	
6	SW(GND)		TP2324
5	LIMIT SW		TP2325
4	SLD-		TP2326
3	SLD+		TP2327
2	SPD-		TP2328
1	SPD+		TP2329

- FROM/TO MPEG/MICON/RF-AMP
- (RF) RF (1)
  - DEICG (1)
  - V20 (1)
  - (A) A (1)
  - (B) B (1)
  - (C) C (1)
  - (D) D (1)
  - (E) E (1)
  - F (1)
  - MDI1 (1)
  - LDO2 (1)
  - LDO1 (1)
  - IOA (1)
  - V1P4 (1)
  - LIMIT (1)
  - TRIN (1)
  - TROUT (1)
  - STBY (1)
  - DMSO (1)
  - Fv
  - TRCLOSE (1)
  - TROPEN (1)
  - PWMOUT1 (1)
  - TRSO (1)
  - FOSO (1)
  - OPO (1)
  - Ov
  - OP- (1)
- FROM/TO POWER PORT
- V3F (5)
  - V5S (5)
  - V9A
  - D\_GND (1,2,4,5)
  - M\_GND (5)

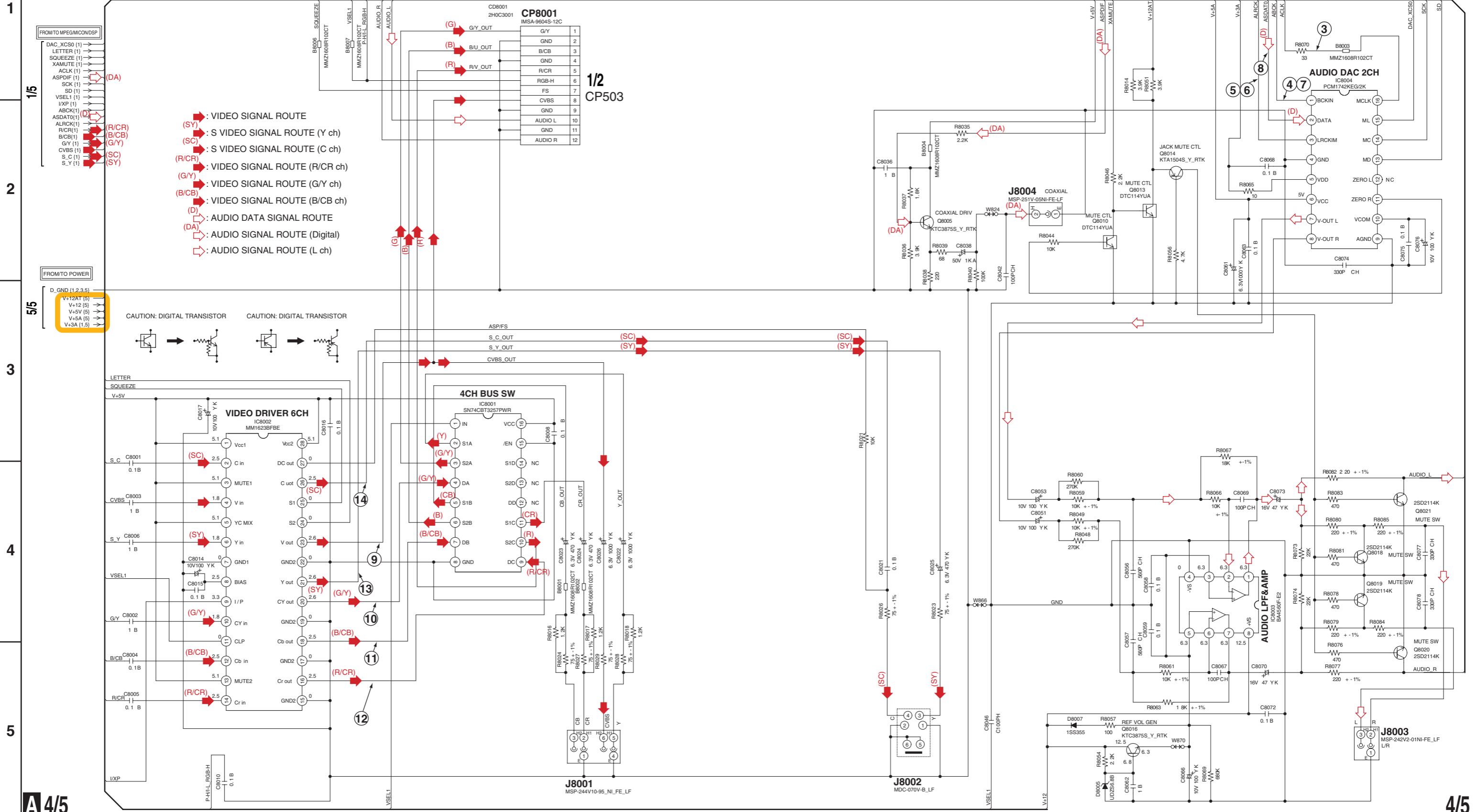
1/5

5/5



# SCHEMATIC DIAGRAM-4

## DVD MT PCB ASSY (A2G502A130) AUDIO/VIDEO JACK BLOCK



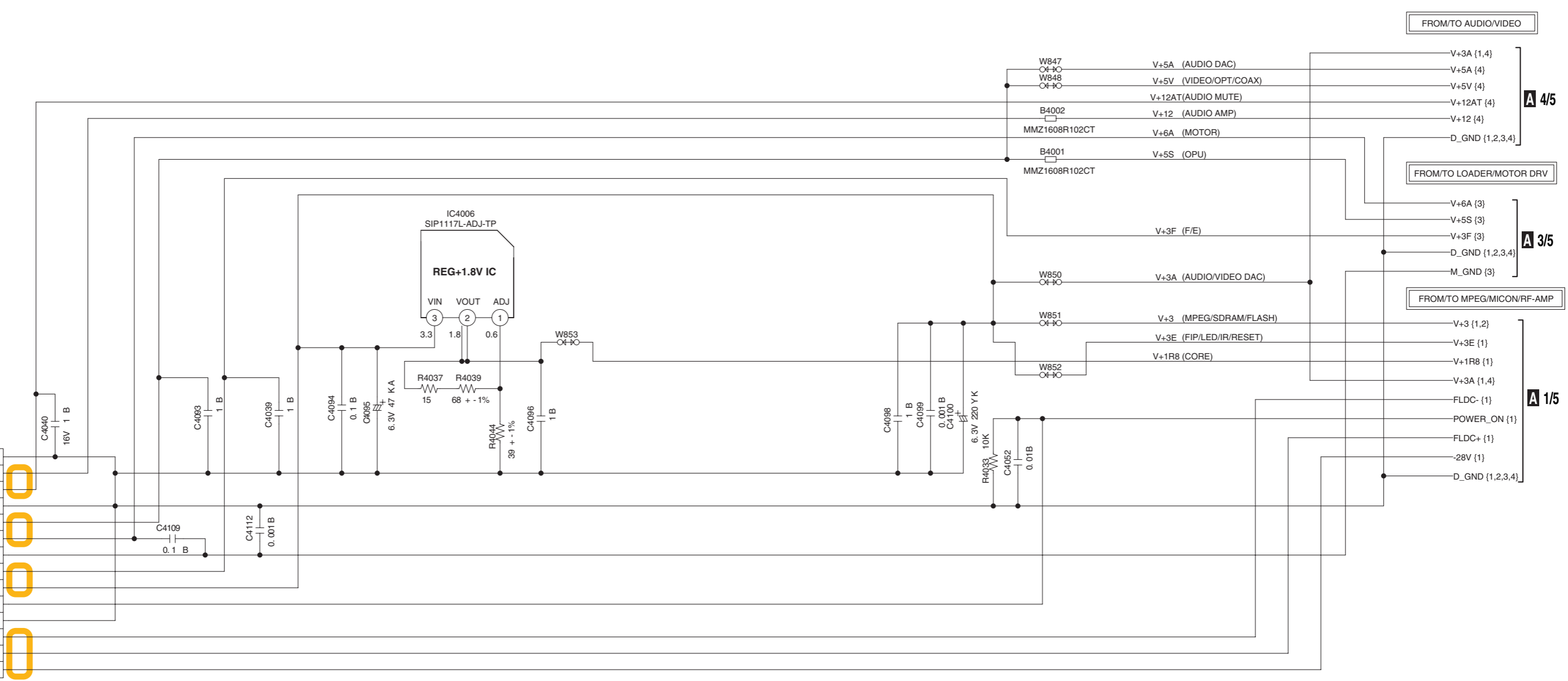


A B C D E F G H  
**SCHEMATIC DIAGRAM-5**  
DVD MT PCB ASSY (A2G502A130)  
POWER PORT BLOCK

1  
2  
3  
4  
5

**CP4003**  
A2001WV2-14P

1	GND
2	P.CON+12V
3	AT+12V for MUTE
4	GND
5	P.CON+5V
6	P.CON+6V
7	GND(M)
8	P.CON+3.3V(AT)
9	AT+3.3V
10	STBY L
11	GND(D)
12	FL DC-
13	FL DC+
14	-28V

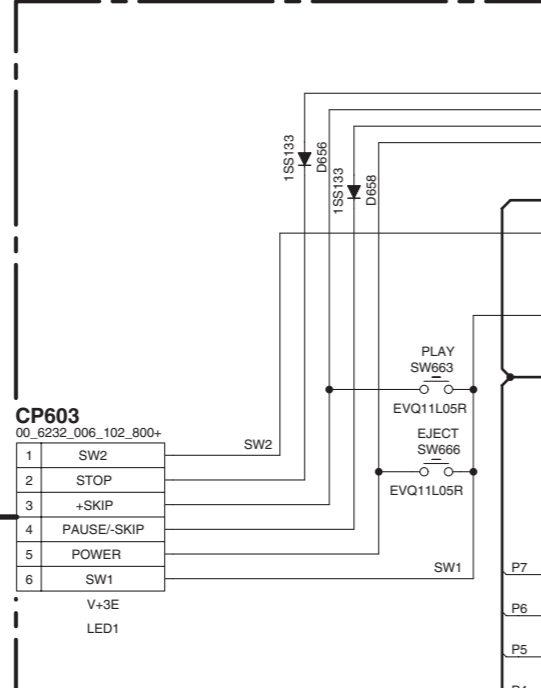
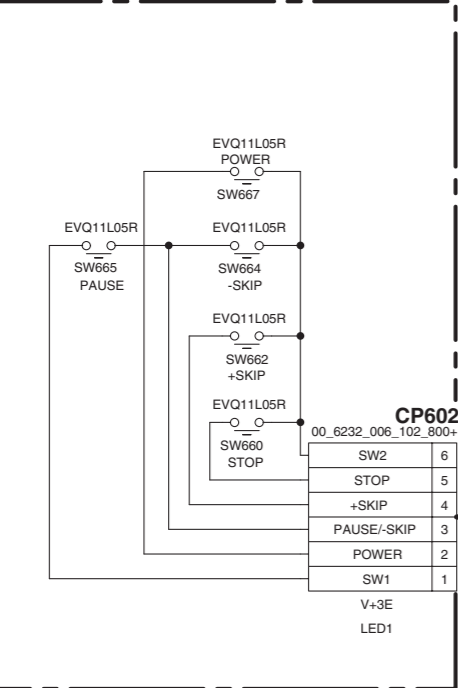


SCHEMATIC DIAGRAM-6

1  
2  
3  
4  
5

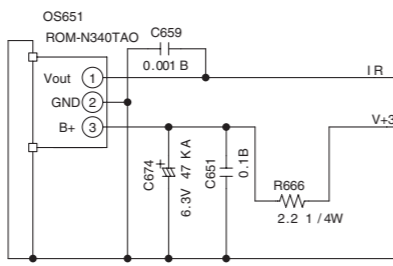
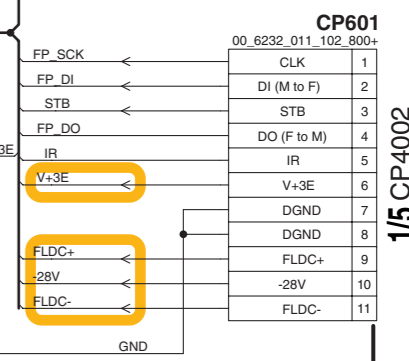
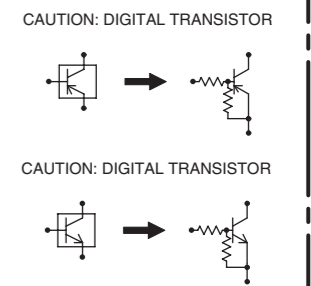
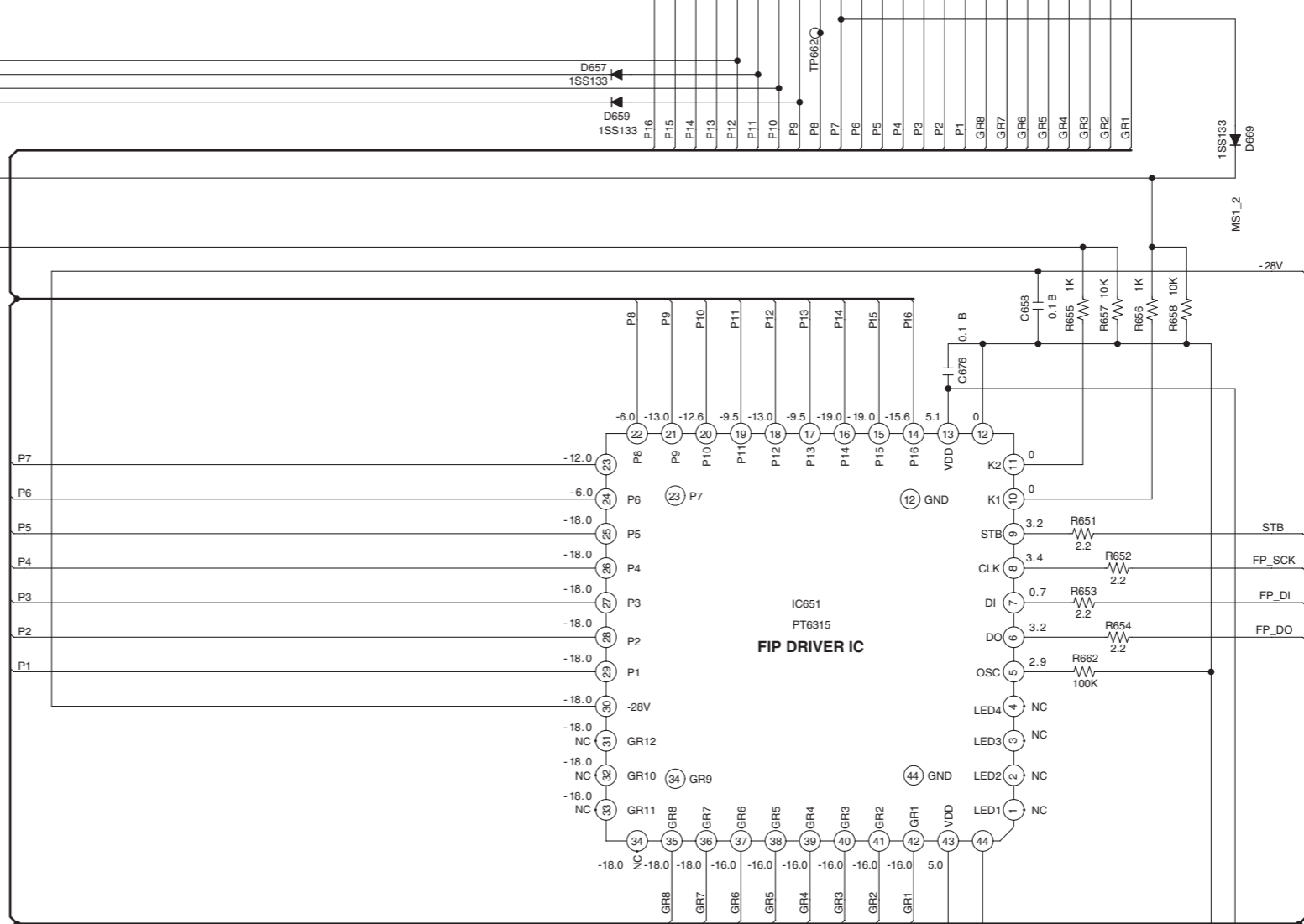
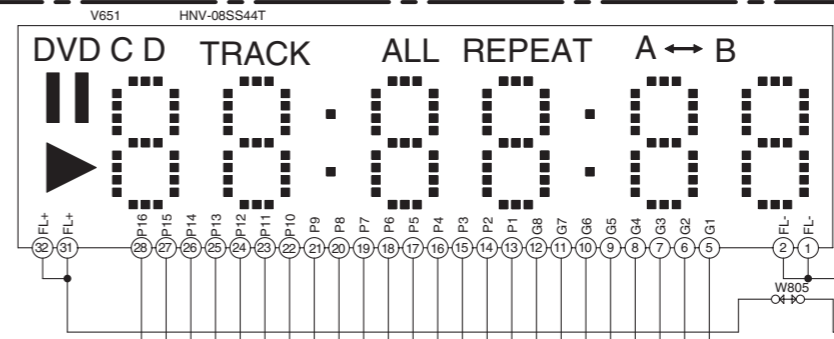
OPERATION 2 PCB ASSY  
(A2G502A280)

OPERATION 1 PCB ASSY  
(A2G502A270)



**OPERATION 2 PCB ASSY**  
 SW660 : STOP  
 SW662 : +SKIP  
 SW664 : - SKIP  
 SW665 : PAUSE  
 SW667 : POWER

**OPERATION 1 PCB ASSY**  
 SW663 : PLAY  
 SW666 : EJECT



SCHEMATIC DIAGRAM-7

POWER PCB ASSY (A2G502A240)  
POWER BLOCK

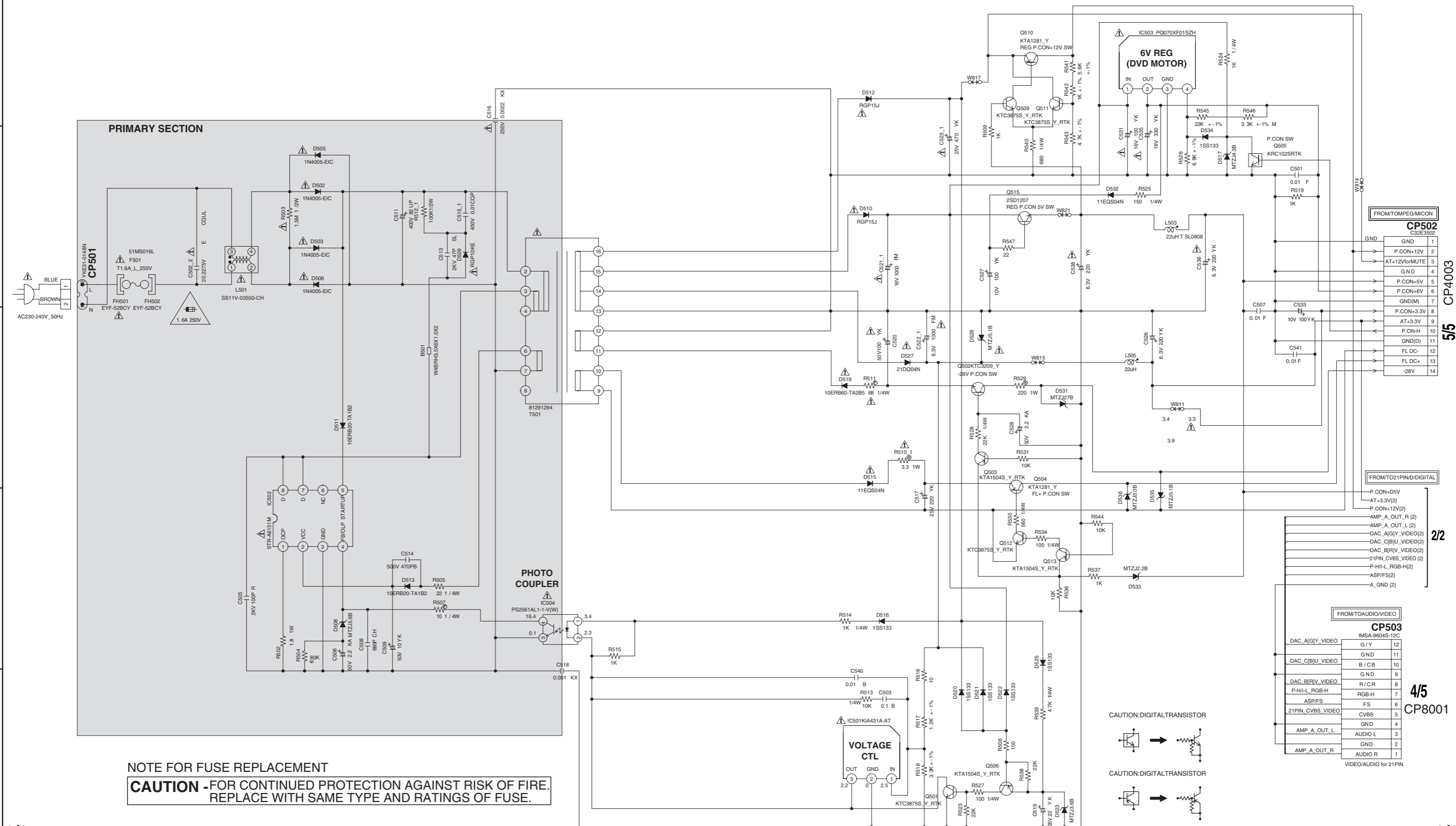
1

2

3

4

5



NOTE FOR FUSE REPLACEMENT

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

FROM/TOMPEG/MICON

GND	1
P.CON+12V	2
AT+12VtoMUTE	3
GND	4
P.CON+5V	5
P.CON+6V	6
GND(M)	7
P.CON+3.3V	8
AT+3.3V	9
P.ON+H	10
GND(D)	11
FL DC-	12
FL DC+	13
-28V	14

5/5 CP4003

FROM/TO21PIN/DIGITAL

P.CON+5V	
AT+3.3V(2)	
P.CON+12V(2)	
AMP_A_OUT_R (2)	
AMP_A_OUT_L (2)	
DAC_A(GIY_VIDEO)(2)	
DAC_C(BJU_VIDEO)(2)	
DAC_B(RIV_VIDEO)(2)	
21PIN_CVBS_VIDEO (2)	
P-HI-L_RGB-H(2)	
ASP/FS(2)	
A_GND (2)	

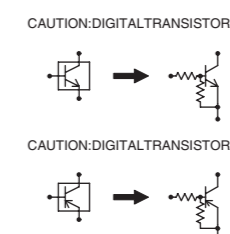
2/2

FROM/TOAUDIO/VIDEO

DAC_A(GIY_VIDEO)	G/Y	12
DAC_C(BJU_VIDEO)	B/CB	10
DAC_B(RIV_VIDEO)	R/C/R	8
P-HI-L_RGB-H	RGB-H	7
ASP/FS	FS	6
21PIN_CVBS_VIDEO	CVBS	5
AMP_A_OUT_L	GND	4
AMP_A_OUT_R	AUDIO L	3
	GND	2
	AUDIO R	1

4/5 CP8001

VIDEO/AUDIO for 21PIN



SCHEMATIC DIAGRAM-8  
POWER PCB ASSY (A2G502A240)  
21PIN/D/DIGITAL AUDIO BLOCK

- ➔ : 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)

Europe Nodel only

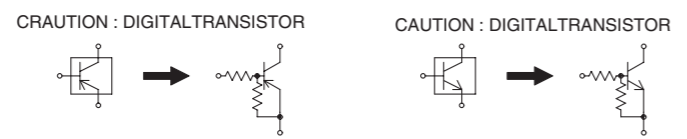
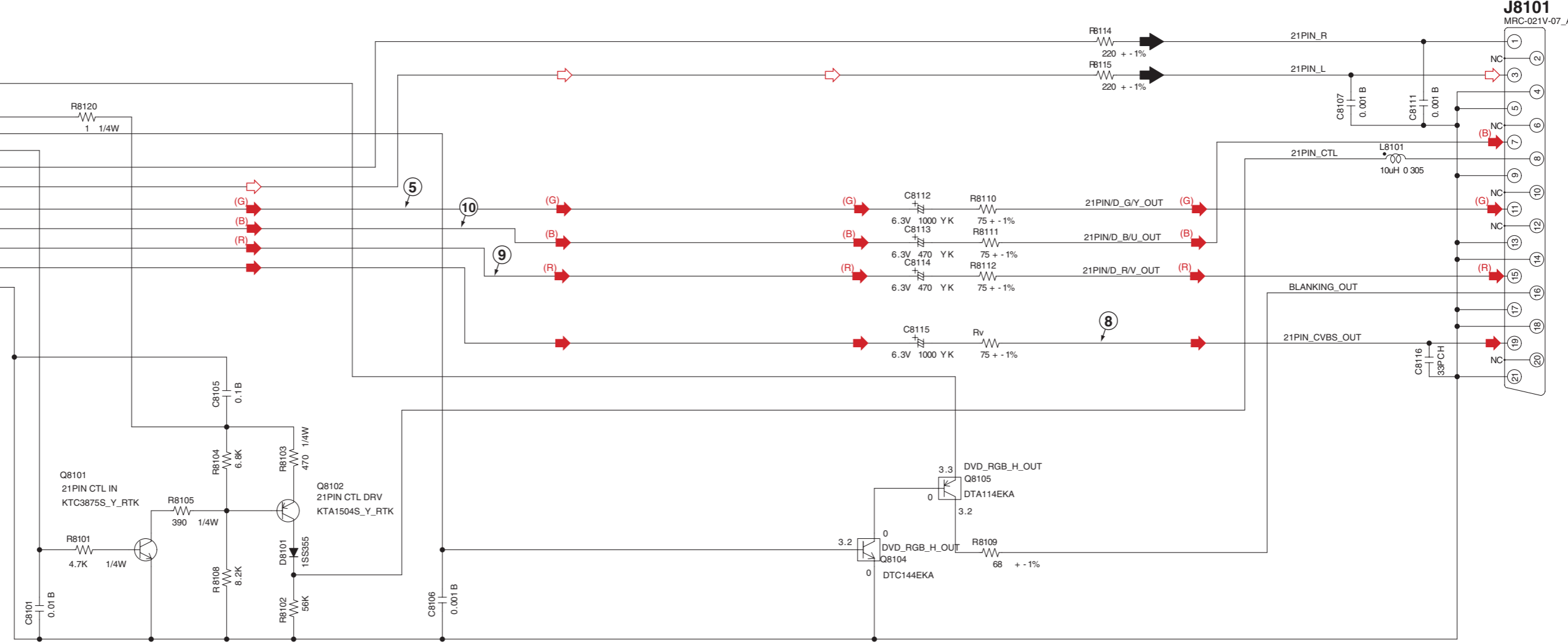
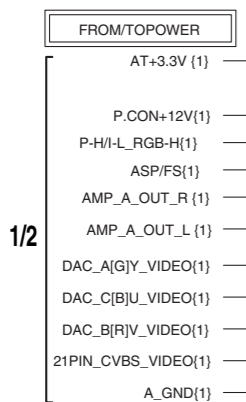
1

2

3

4

5

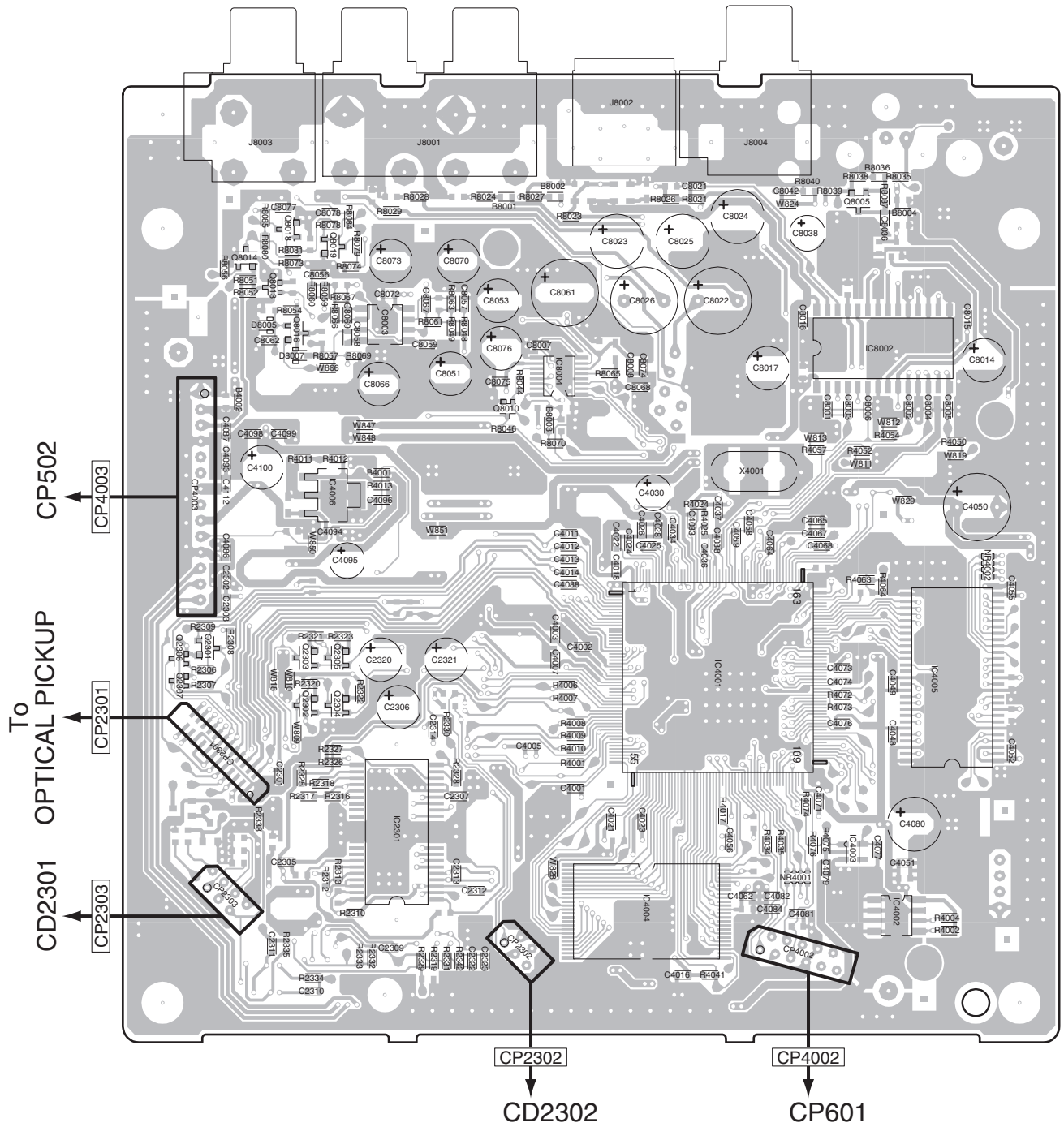


PRINTED CIRCUIT BOARD VIEW-1

SIDE A

SIDE A

DVD MT PCB ASSY



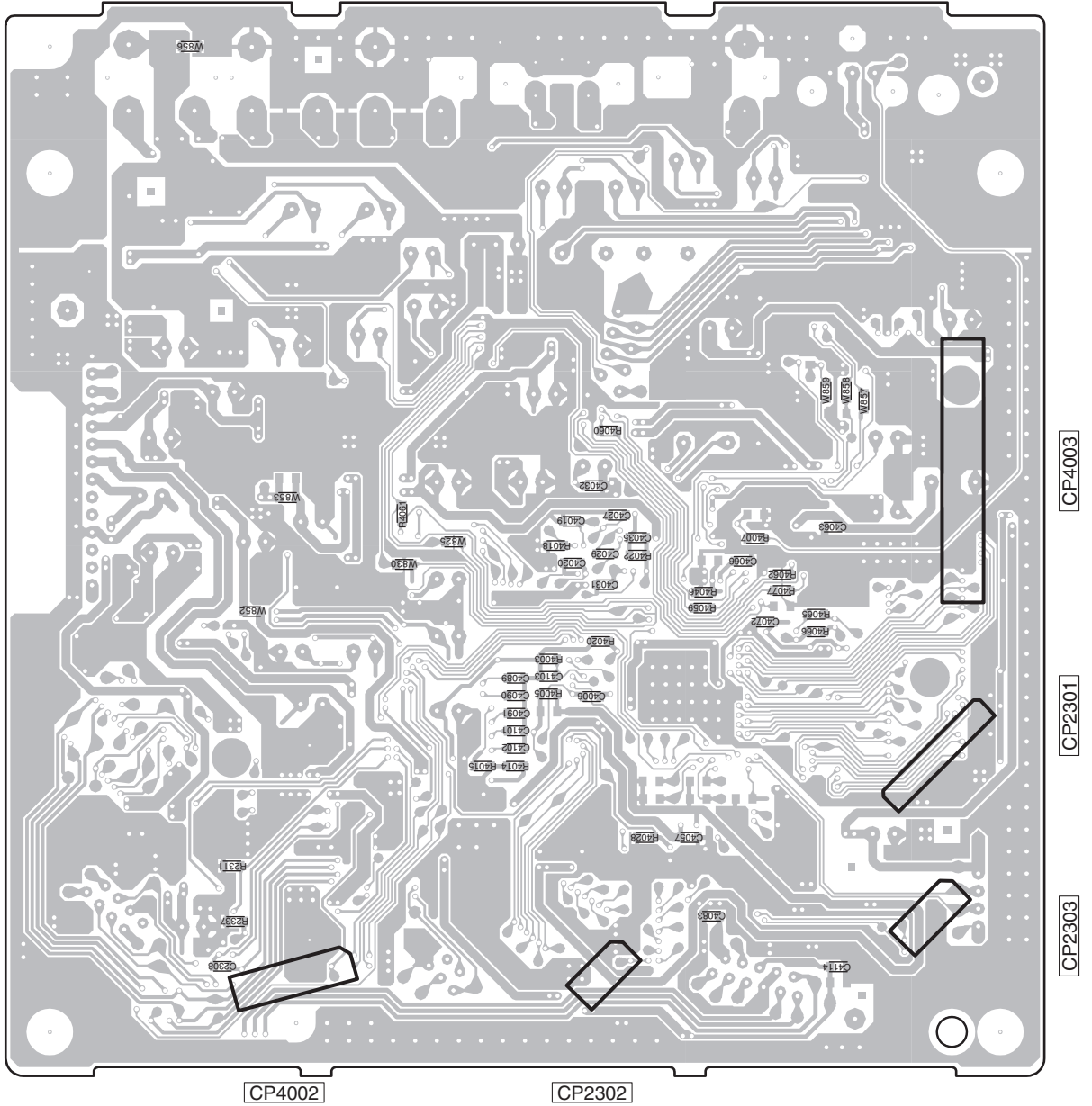
Q2306	Q2301	Q8018	IC8003	IC8004	IC4004	IC4001	Q8005	IC4005
Q2307		Q8010	IC2301				IC8002	
	Q8014	IC4006					IC4003	
	Q8013	Q8019					IC4005	
	Q8016							
	Q2303	Q2305						
	Q2302	Q2304						

PRINTED CIRCUIT BOARD VIEW-2

SIDE B

SIDE B

DVD MT PCB ASSY

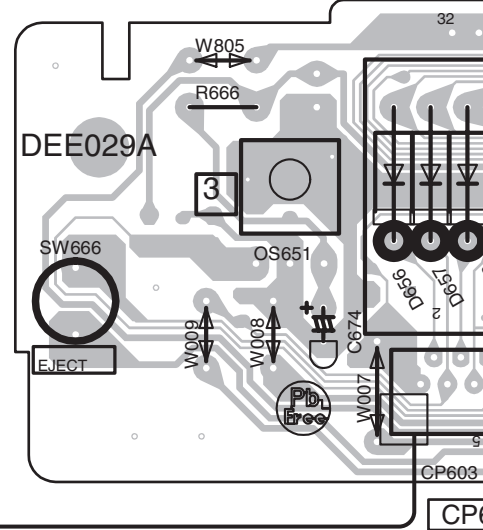


PRINTED CIRCUIT BOARD VIEW-3

SIDE A

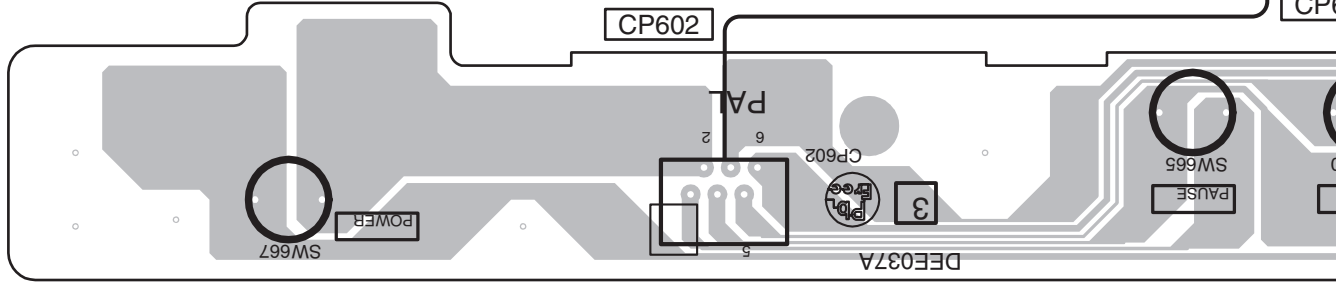
OPERATION 1 PCB ASSY

1



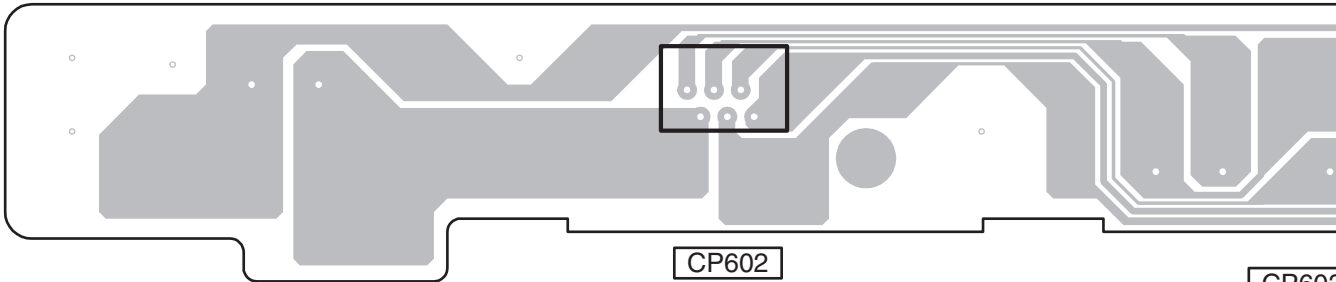
OPERATION 2 PCB ASSY

2



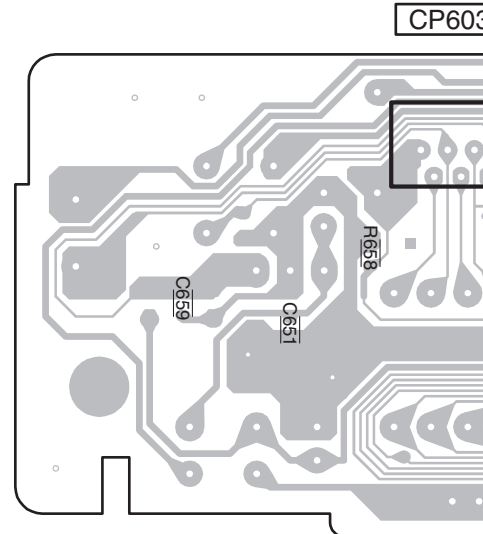
SIDE B

3



OPERATION 2 PCB ASSY

4



OPERATION 1 PCB ASSY

5

E

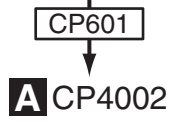
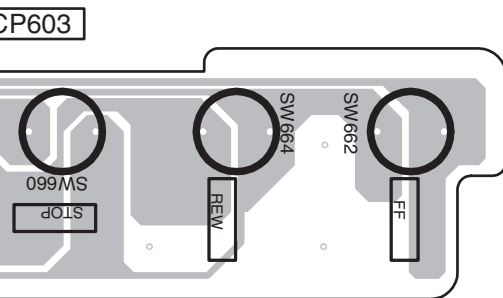
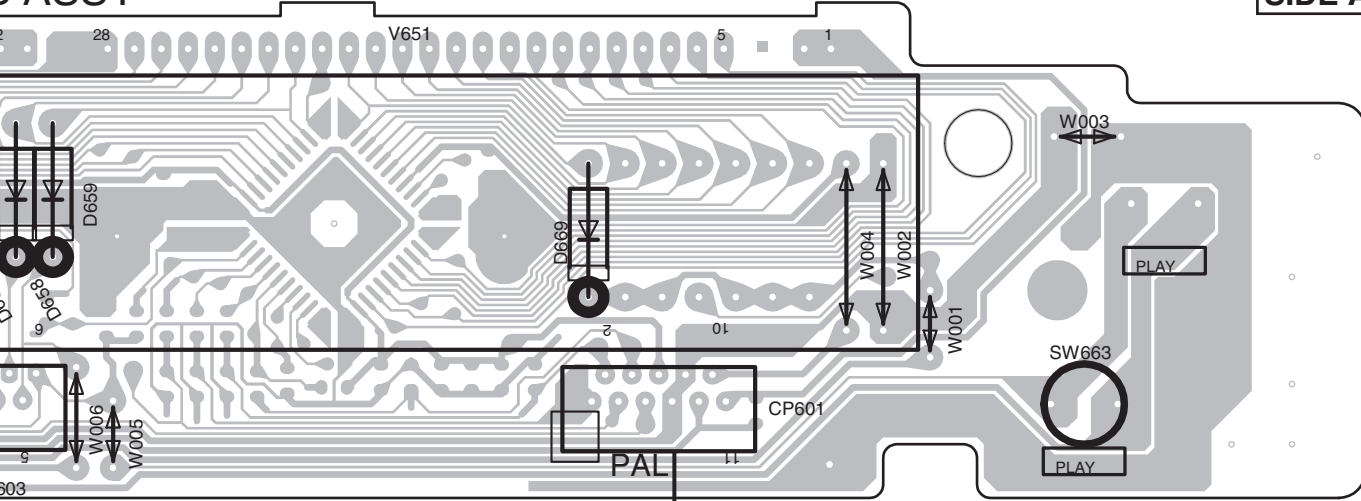
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G

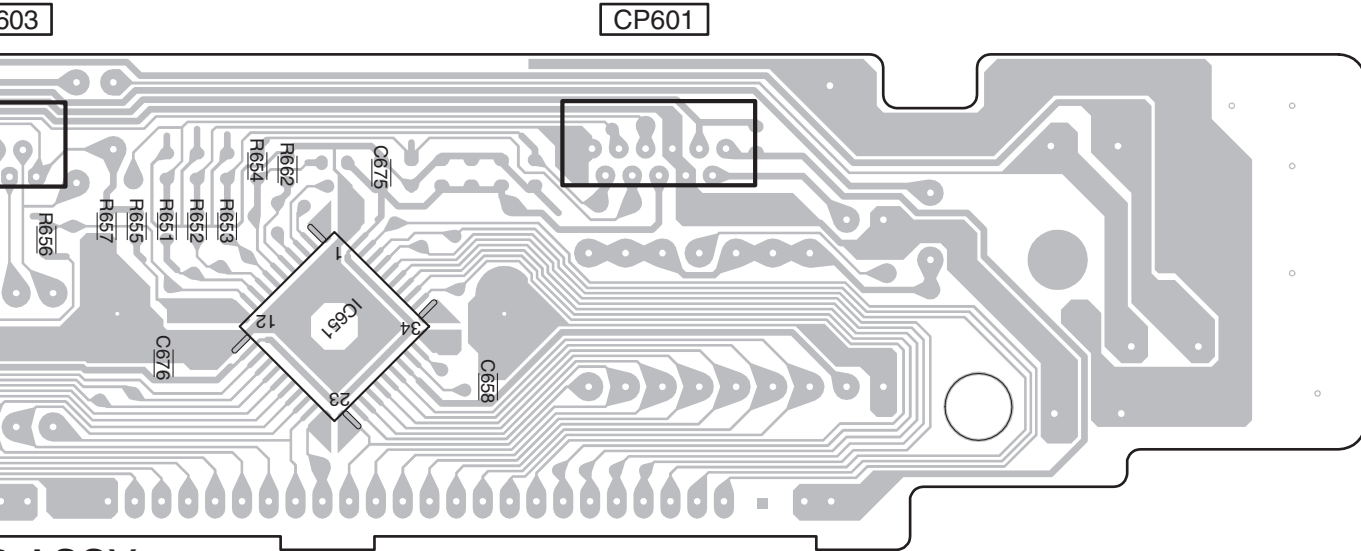
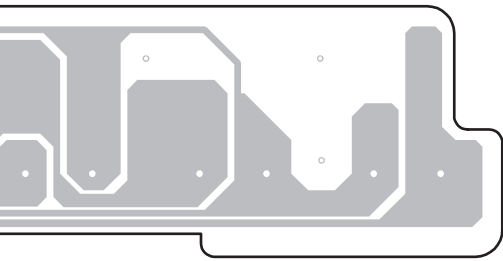
H

3 ASSY

SIDE A



SIDE B



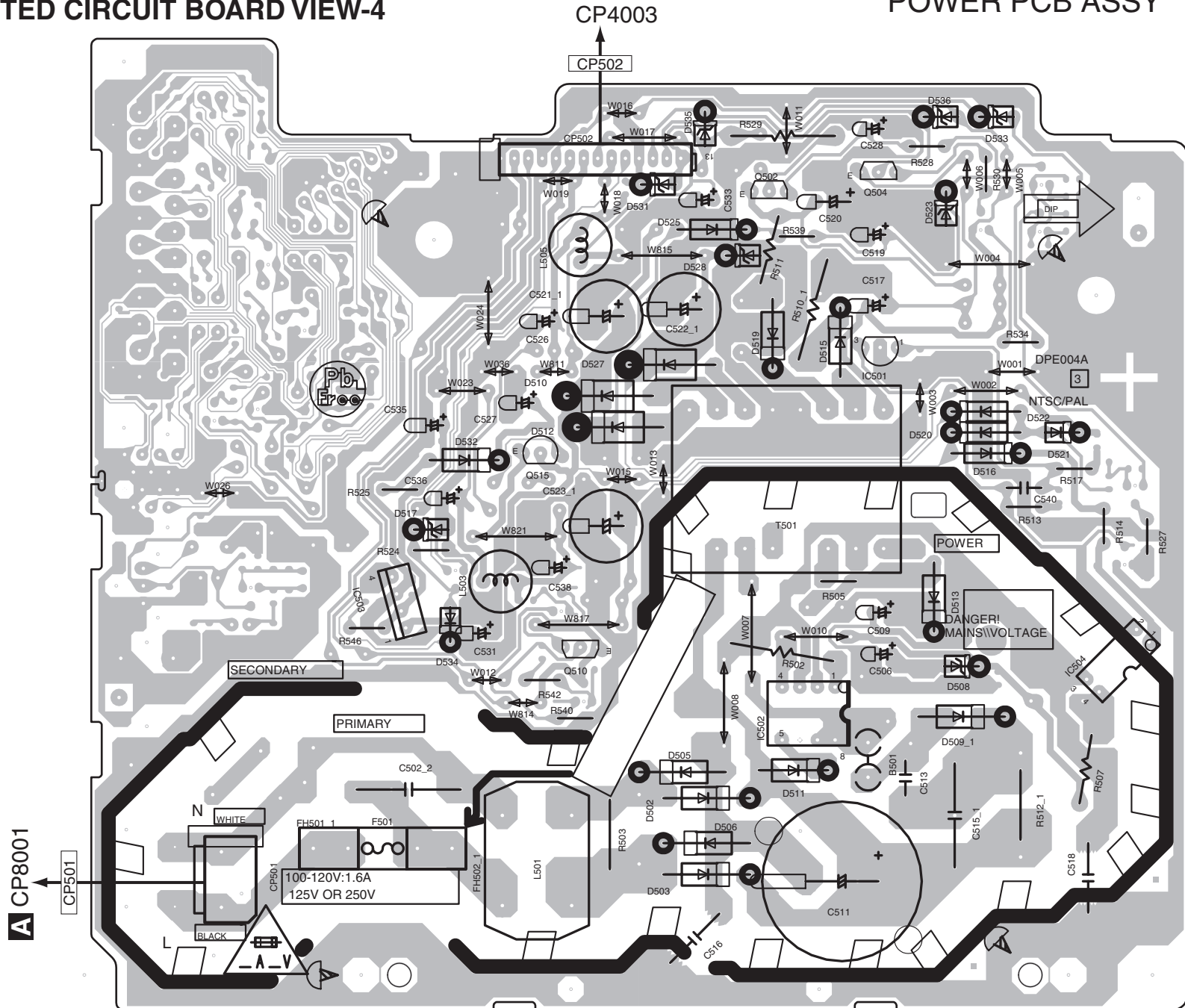
3 ASSY

IC651



PRINTED CIRCUIT BOARD VIEW-4

POWER PCB ASSY



Q502  
Q504

IC501

Q515

IC503

Q510 IC504

IC502

**A** CP8001

CP501

CP4003

CP502

SECONDARY

PRIMARY

100-120V:1.6A  
125V OR 250V

POWER

DANGER!  
MANS VOLTAGE

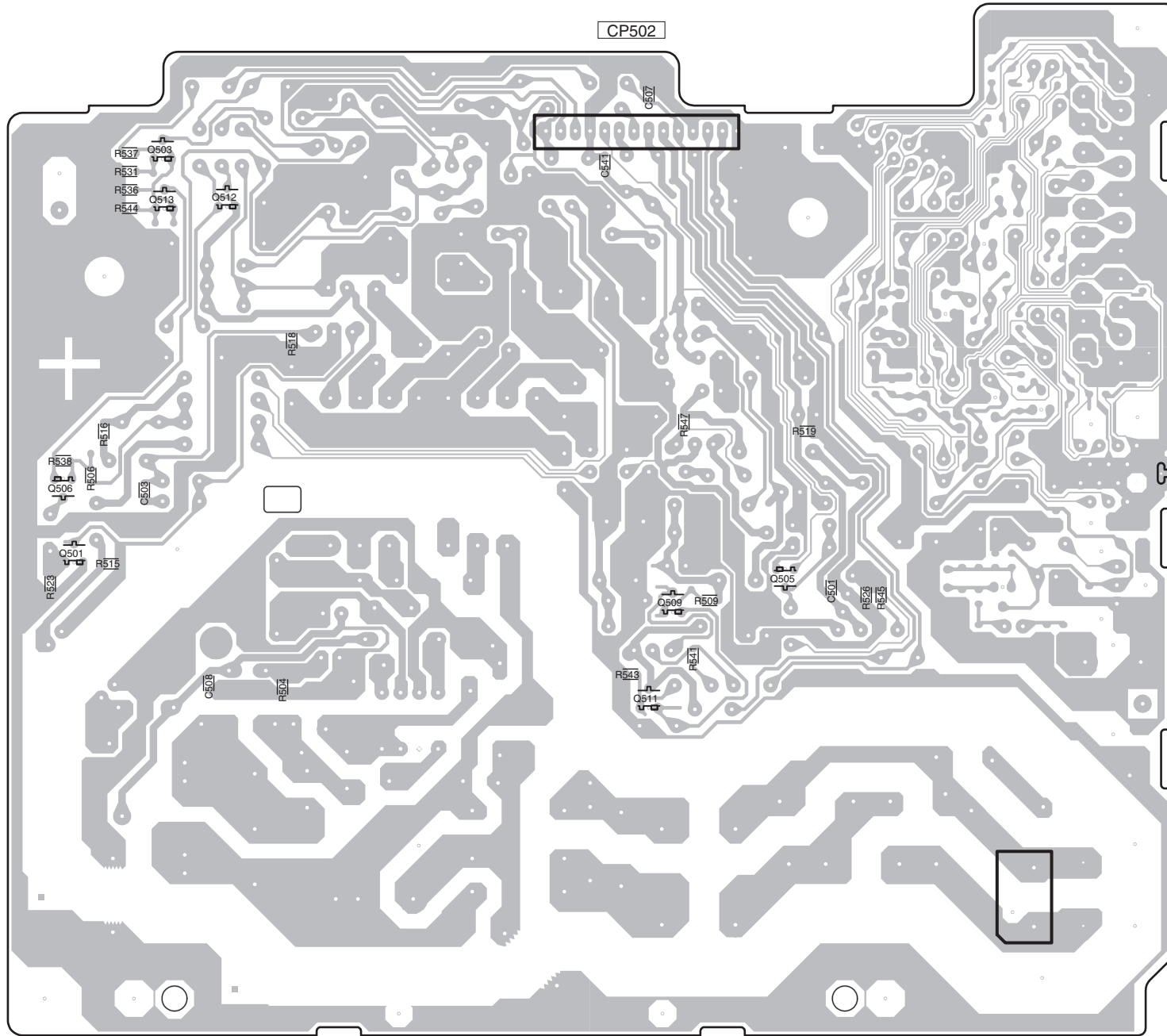
DPE004A  
NTSC/PAL

PRINTED CIRCUIT BOARD VIEW-5

POWER PCB ASSY

SIDE B

SIDE B



- Q503
- Q513 Q512
- Q506
- Q501
- Q505
- Q509
- Q511

A B C D E F G H  
PRINTED CIRCUIT BOARD VIEW-3  
SIDE A OPERATION 1 PCB ASSY SIDE A

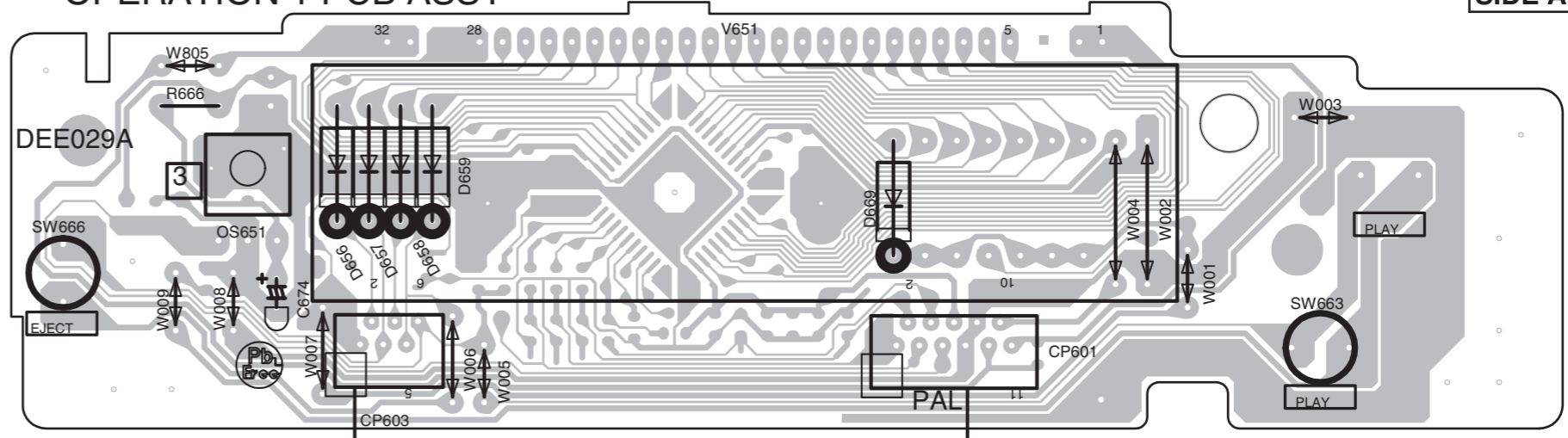
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2

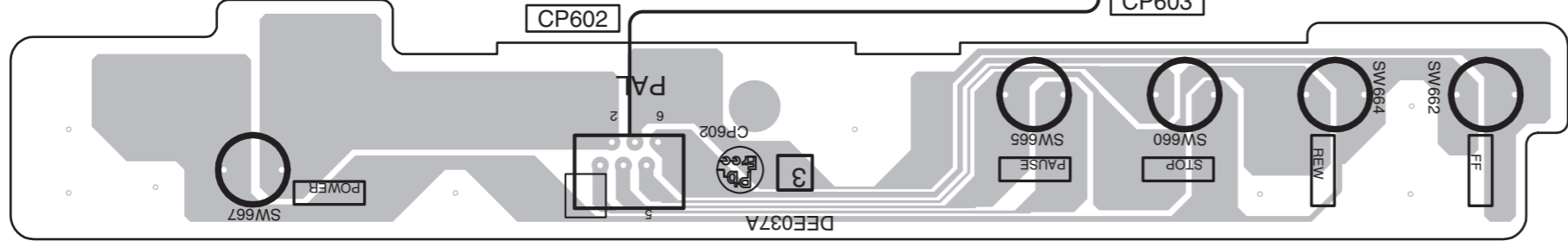
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4

5

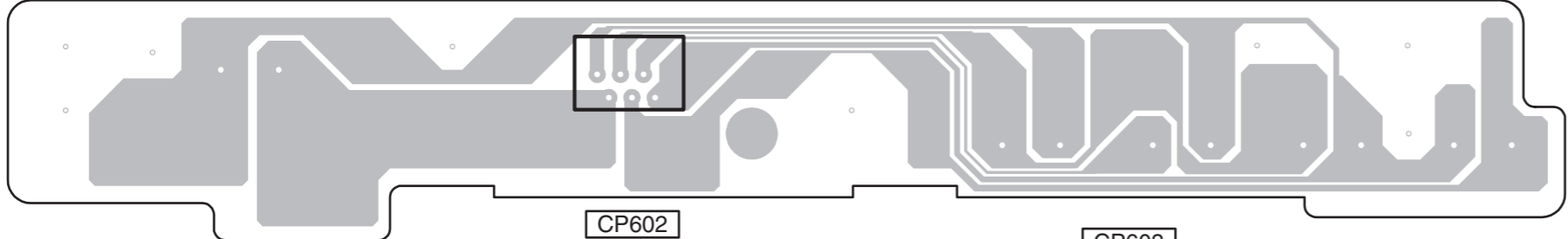


OPERATION 2 PCB ASSY

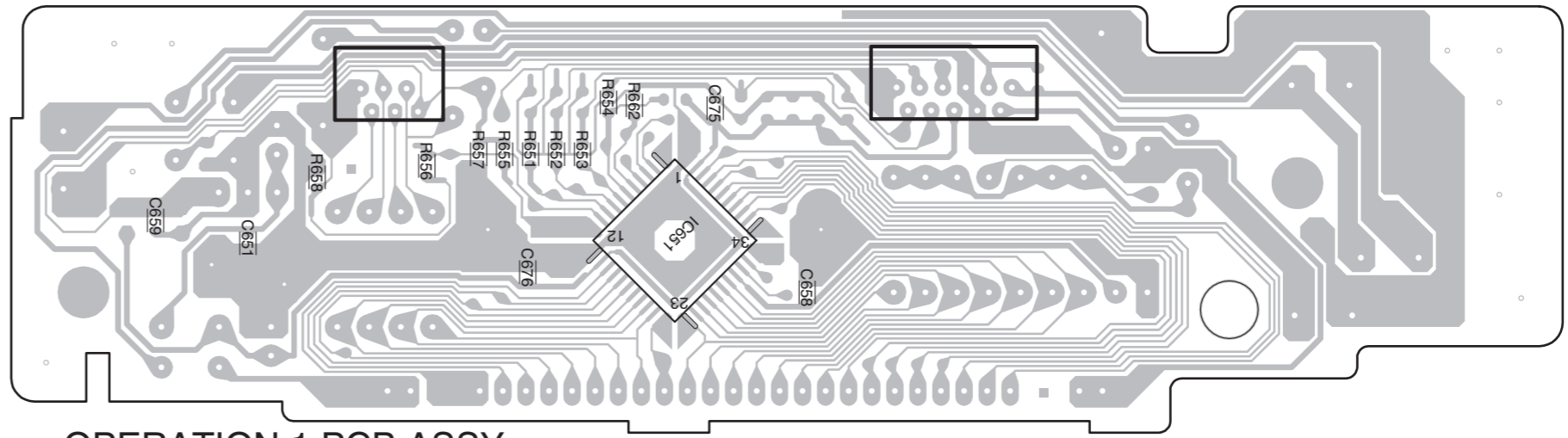


SIDE B

SIDE B



OPERATION 2 PCB ASSY



OPERATION 1 PCB ASSY

IC651

# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

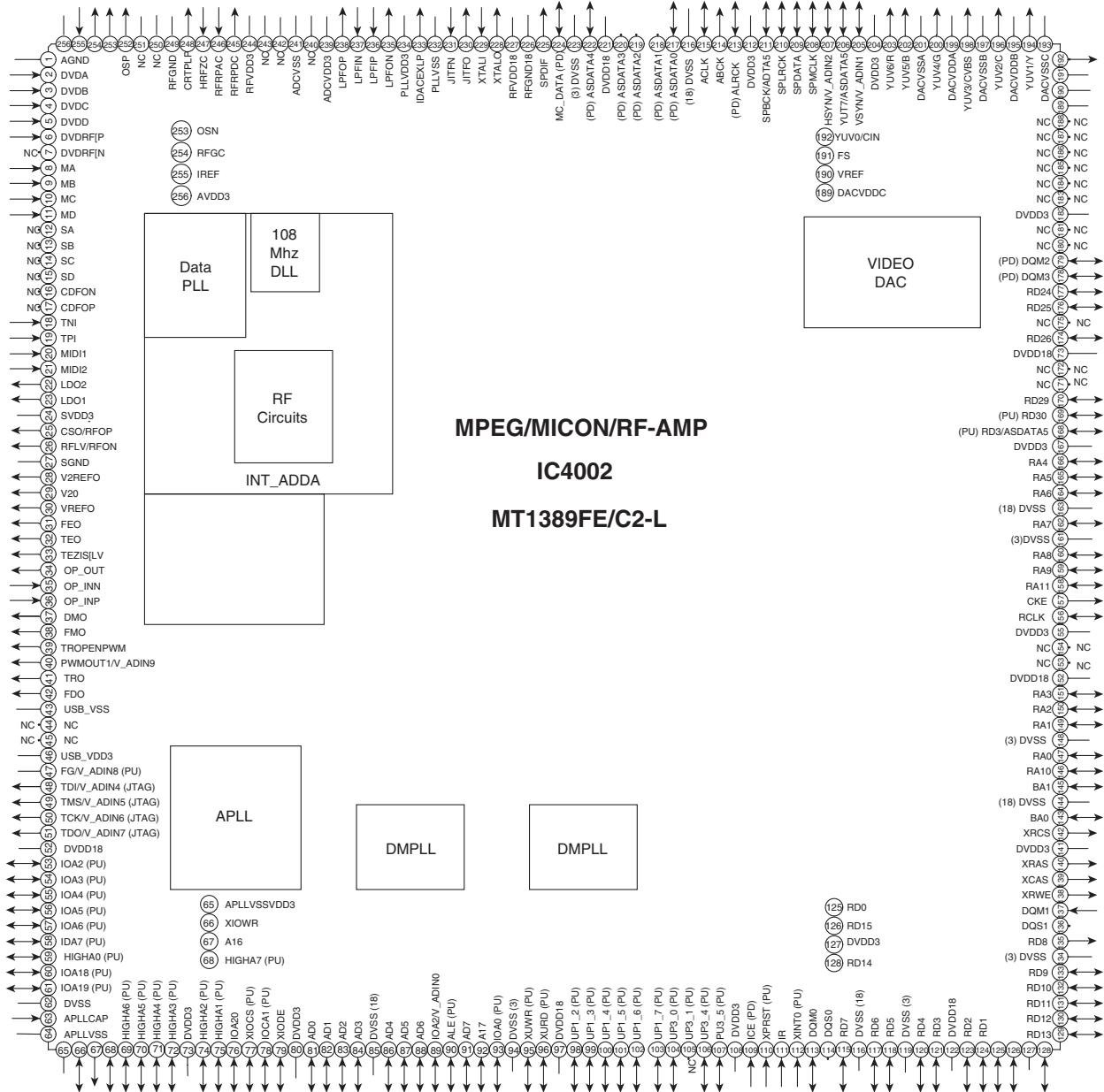
## List of IC

MT1389FE, LA6565, PT6315

## MT1389FE (DVD MT ASSY: IC4002)

MPEG / MICON / RF-AMP

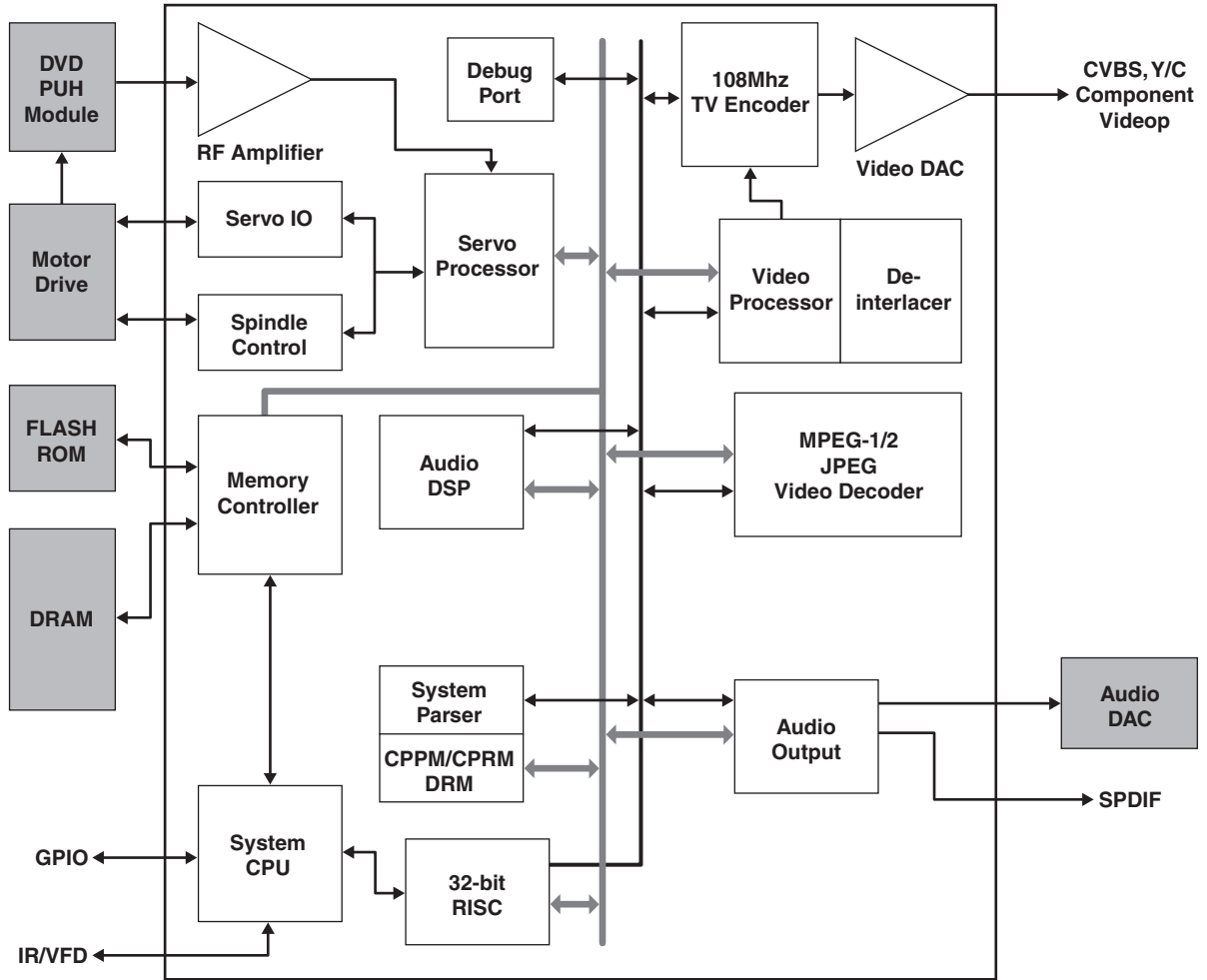
## Pin Arrangement (Top view)



# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

- MPEG / MICON / RF-AMP Microcomputer

## Block Diagram



# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

## 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				
4	DVDC	I	AC coupled input path C				
5	DVDD	I	AC coupled input path D	50	TCK	I	Serial interface port 3 clock pin Version AD input port 6 GPIO
6	DVDRFIP	I	AC coupled DVD RF signal input RFIP	51	TDO	I	Serial interface port 3 chip-select Version AD input port 7 GPO
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN				
8	MA	I	DC coupled main-beam RF signal input A				
9	MB	I	DC coupled main-beam RF signal input B	52	DVDD18	–	1.8V power pin for internal digital circuitry
10	MC	I	DC coupled main-beam RF signal input C	53	IOA2	I/O	Microcontroller address 2/I/O
11	MD	I	DC coupled main-beam RF signal input D	54	IOA3	I/O	Microcontroller address 3/I/O
12	SA	I	DC coupled sub-beam RF signal input A	55	IOA4	I/O	Microcontroller address 4/I/O
13	SB	I	DC coupled sub-beam RF signal input B	56	IOA5	I/O	Microcontroller address 5/I/O
14	SC	I	DC coupled sub-beam RF signal input C	57	IOA6	I/O	Microcontroller address 6/I/O
15	SD	I	DC coupled sub-beam RF signal input D	58	IOA7	I/O	Microcontroller address 7/I/O
16	CDFON	I	CD focusing error negative input	59	HIGHA0	I/O	Microcontroller address 8
17	CDFOP	I	CD focusing error positive input	60	IOA18	I/O	Flash address 18/I/O
18	TNI	I	3 beam satellite PD signal negative input	61	IOA19	I/O	Flash address 19/I/O
19	TPI	I	3 beam satellite PD signal positive input	62	DVSS	–	3.3V Ground pin for internal digital circuitry
20	MDI1	I	Laser power monitor input	63	APLLCAP	I	APLL External Capacitance connection
21	MDI2	I	Laser power monitor input	64	APLLVSS	–	Ground pin for sudio clock circuitry
22	LDO2	O	Laser driver output	65	APLLVDD3	–	3.3V Power pin for audio clock circuitry
23	LDO1	O	Laser driver output	66	IOWR#	I/O	Flash write enable, active low/I/O
24	SVDD3	–	Analog power 3.3V	67	A16	O	Flash adress 16
25	CSO	O	Central servo/Positive main beam summing output	68	HIGHA7	I/O	Microcontroller address 15
26	RFLVL	O	RFRP low pass, or Negative main beam summing output	69	HIGHA6	I/O	Microcontroller address 14
27	SGND	–	Analog ground	70	HIGHA5	I/O	Microcontroller address 13
28	V2REFO	–	Reference voltage 2.8V	71	HIGHA4	I/O	Microcontroller address 12
29	V20	I/O	Reference voltage 2.0V	72	HIGHA3	I/O	Microcontroller address 11
30	VREFO	I/O	Reference voltage 1.4V	73	DVDD3	–	3.3V power pin for internal digital circuitry
31	FEO	O	Focus error monitor output	74	HIGHA2	I/O	Microcontroller adress 10
32	TEO	O	Tracking error monitor output	75	HIGHA1	I/O	Microcontroller adress 9
33	TEZISLV	I/O	TE Slicing Level	76	IOA20	I/O	Flash adress 20/I/O
34	OP_OUT	O	Op amp output	77	IOCS#	I/O	Flash chip select, active low/I/O
35	OP_INN	I	Op amp negative input	78	IOA1	I/O	Microcontroller adress 1/I/O
36	OP_INP	I	Op amp positive input	79	IOOE#	I/O	Flash output enable, active low/I/O
37	DMO	O	Disk motor control output. PWM output	80	DVDD3	–	3.3V power pin for internal digital circuitry
38	FMO	O	Feed motor control. PWM output	81	AD0	I	Microcontroller address/data 0
39	TROPENP/WM	O	Tray PWM output/Tray open output	82	AD1	I	Microcontroller address/data 1
40	PWMOUT1	O	1 <sup>st</sup> General PWM output, or Version AD input9	83	AD2	I	Microcontroller address/data 2
41	TRO	O	Tracking servo output. PDM output of tracking servo compensator.	84	AD3	I	Microcontroller address/data 3
				85	DVSS	–	1.8V Ground pin for internal digital circuitry
42	FOO	O	Focus servo output. PDM output of focus servo compensator	86	AD4	I	Microcontroller address/data 4
				87	AD5	I	Microcontroller address/data 5
43	DVSS	–	1.8V Ground pin for internal digital	88	AD6	I	Microcontroller address/data 6
44	NC	–	–	89	IOA21	I/O	Flash address 21/I/O While External FLASH size <= 2MB: Version AD input port 0, or GPIO
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	90	ALE	I/O	Microcontroller address latch enable

## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

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/IO	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 <sup>2</sup> C clock pin	148	DVSS	-	3.3V Ground pin for internal digital circuitry
103	UP1_7	I/O	Microcontroller port 1-7 I <sup>2</sup> C data pin	149	RA1	I/O	DRAM address 1
				150	RA2	I/O	DRAM address 2
104	UP3_0	I/O	Microcontroller port 3-0 8032 RS232 RXD	151	RA3	I/O	DRAM address 3
				152	DVDD18	-	1.8V power pin for internal digital circuitry
105	UP3_1	I/O	Microcontroller port 3-1 8032 RS232 TXD	153	NC	-	-
				154	NC	-	-
106	UP3_4	I/O	Microcontroller port 3-4 Hardwired RD232 RXD I <sup>2</sup> C clock pin	155	DVDD3	-	3.3V power pin for internal digital circuitry
				156	RCLK	I/O	Dram clock
107	UP3_5	I/O	Microcontroller port 3-5 Hardwired RD232 TXD I <sup>2</sup> C data pin	157	CKE	O	DRAM clock enable
				158	RA11	I/O	DRAM address bit 11
108	DVDD3	-	3.3V power pin for internal digital circuitry	159	RA9	I/O	DRAM address 9
109	ICE	I	Microcontroller ICE mode enable	160	RA8	I/O	DRAM address 8
110	PRST#	I	Power on reset input, active low	161	DVSS	-	3.3V Ground pin for internal digital circuitry
111	IR	I	IR control signal input	162	RA7	I/O	DRAM address 7
112	INT0#	I/O	Microcontroller external interrupt 0, active low	163	DVSS	-	1.8V Ground pin for internal digital circuitry
113	DQM0	I/O	Data mask 0	164	RA6	I/O	DRAM address 6
114	DQS0	I/O	GPIO	165	RA5	I/O	DRAM address 5
115	RD7	I/O	DRAM data 7	166	RA4	I/O	DRAM address 4
116	DVSS	-	1.8V Ground pin for internal digital circuitry	167	DVDD3	-	3.3V power pin for internal digital circuitry
117	RD6	I/O	DRAM data 6	168	RD31	I/O	GPIO
118	RD5	I/O	DRAM data 5	169	RD30	I/O	GPIO
119	DVSS	-	3.3V Ground pin for internal digital circuitry	170	RD29	I/O	GPIO
120	RD4	I/O	DRAM data 4	171	NC	-	-
121	RD3	I/O	DRAM data 3	172	NC	-	-
122	DVDD18	-	1.8V power pin for internal digital circuitry	173	DVDD18	-	1.8V power pin for internal digital circuitry
123	RD2	I/O	DRAM data 2	174	RD26	I/O	GPIO
124	RD1	I/O	DRAM data 1	175	NC	-	-
125	RD0	I/O	DRAM data 0	176	RD25	I/O	GPIO
126	RD15	I/O	DRAM data 15	177	RD24	I/O	GPIO
127	DVDD3	-	3.3V power pin for internal digital circuitry	178	DQM3	I/O	GPIO
128	RD14	I/O	DRAM data 14	179	DQM2	I/O	GPIO
129	RD13	I/O	DRAM data 13	180	NC	-	-
130	RD12	I/O	DRAM data 12	181	NC	-	-
131	RD11	I/O	DRAM data 11	182	DVDD3	-	3.3V power pin for internal digital circuitry
132	RD10	I/O	DRAM data 10	183	NC	-	-
133	RD9	I/O	DRAM data 9	184	NC	-	-
134	DVSS	-	3.3V Ground pin for internal digital circuitry	185	NC	-	-
135	RD8	I/O	DRAM data 8	186	NC	-	-
136	DQS1	I/O	GPIO	187	NC	-	-
				188	NC	-	-

## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

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				
192	YUV0	O	Video data output bit 0 Compensation capacitor	214	ABCK	O	Audio bit clock Phase de-modulation
193	DACVSSC	–	Ground pin for VIDEO DAC circuitry	215	ACLK	I/O	Audio DAC master clock
194	YUV1	O	Video data output bit 1 Analog Y output	216	DVSS	–	1.8V Ground pin for internal digital circuitry
195	DACVDDB	–	3.3V power pin for VIDEO DAC circuitry	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
196	YUV2	O	Video data output bit 2 Analog chroma output				
197	DACVSSB	–	Ground pin for VIDEO DAC circuitry	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: GPO
198	YUV3	O	Video data output bit 3 Analog composite output				
199	DACVDDA	–	3.3V power pin for VIDEO DAC circuitry	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: GPO
200	YUV4	O	Video data output bit 4 Green or Y				
201	DACVSSA	–	Ground pin for VIDEO DAC circuitry	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
202	YUV5	O	Video data output bit 5 Blue or CB				
203	YUV6	O	Video data output bit 6 Red or CR				
204	DVDD3	–	3.3V power pin Video DAC digital circuitry only	221	DVDD18	–	1.8V power 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	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
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	223	DVSS	–	3.3V Ground pin for internal digital circuitry
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	224	MC_DATA	I/O	Microphone serial input While not support Microphone: Microcontroller external interrupt 2 GPIO
208	SPMCLK	I/O	Audio DAC master clock of SPDIF input While SPDIF input is not used: Serial interface port 0 clock pin GPIO	225	SPDIF	O	SPDIF output
209	SPDATA	I/O	Audio data of SPDIF input While SPDIF input is not used: Serial interface port 0 data-in GPIO	226	RFGND18	–	Analog ground
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	227	RFVDD18	–	Analog power 1.8V
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	228	XTALO	O	27M crystal out
				229	XTALI	I	27M crystal in
				230	JITFO	O	The output terminal of RF jitter meter
				231	JITFN	I	The input terminal of RF jitter meter
				232	PLLVSS	–	Ground pin for data PLL and related analog circuitry
				233	IDACEXLP	O	Data PLL DAC Low-pass filter
				234	PLLVDD3	–	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
212	DVDD3	–	3.3V power pin for internal digital circuitry	238	LPFOP	O	The positive output of loop filter amplifier



## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

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

# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

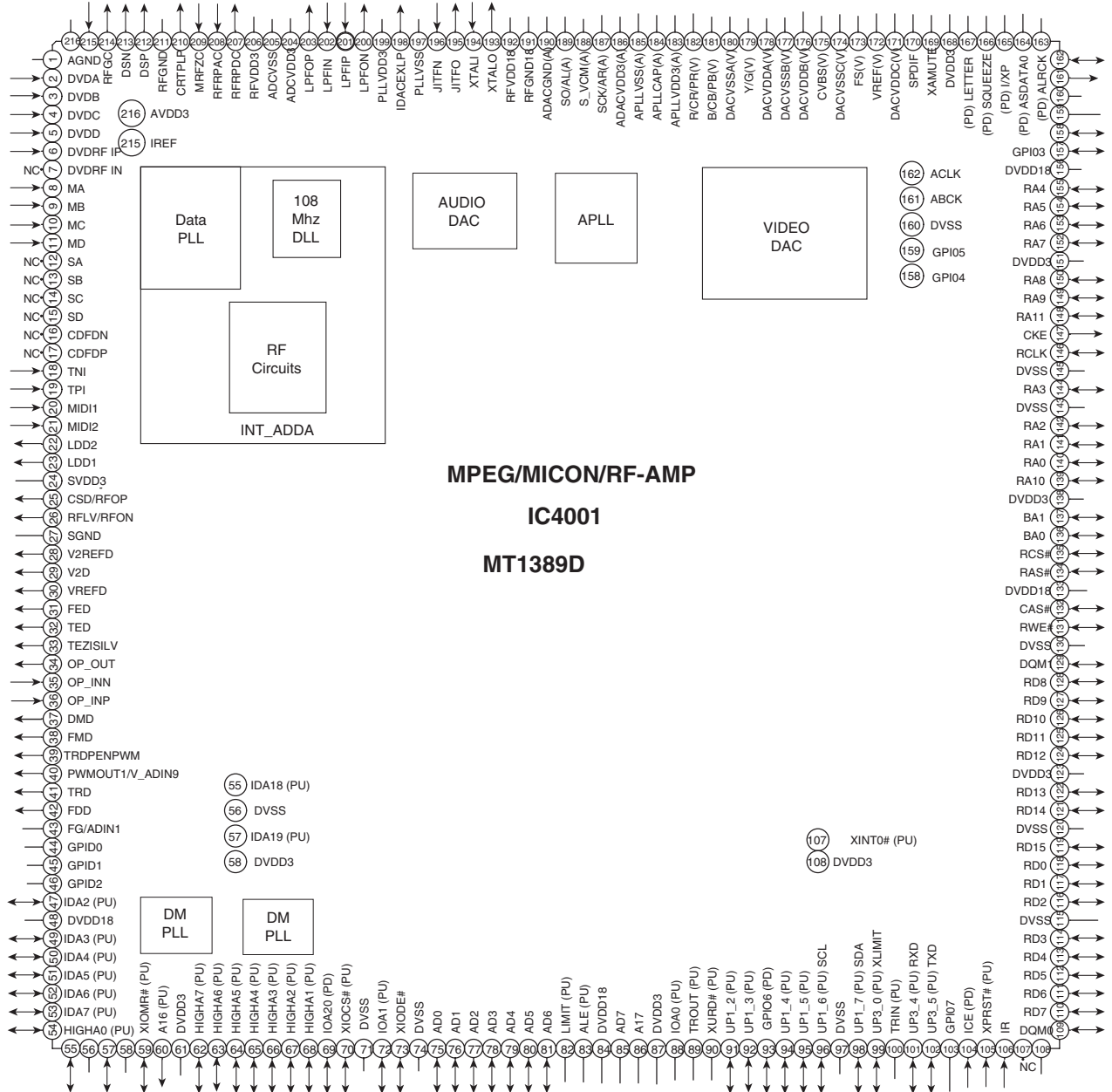
## List of IC

MT1389D(IC8K089D), LA6565(I03F065650), PT6315

## IC8K089D(MT1389D) : (DVD MT ASSY: IC4001)

MPEG / MICON / RF-AMP

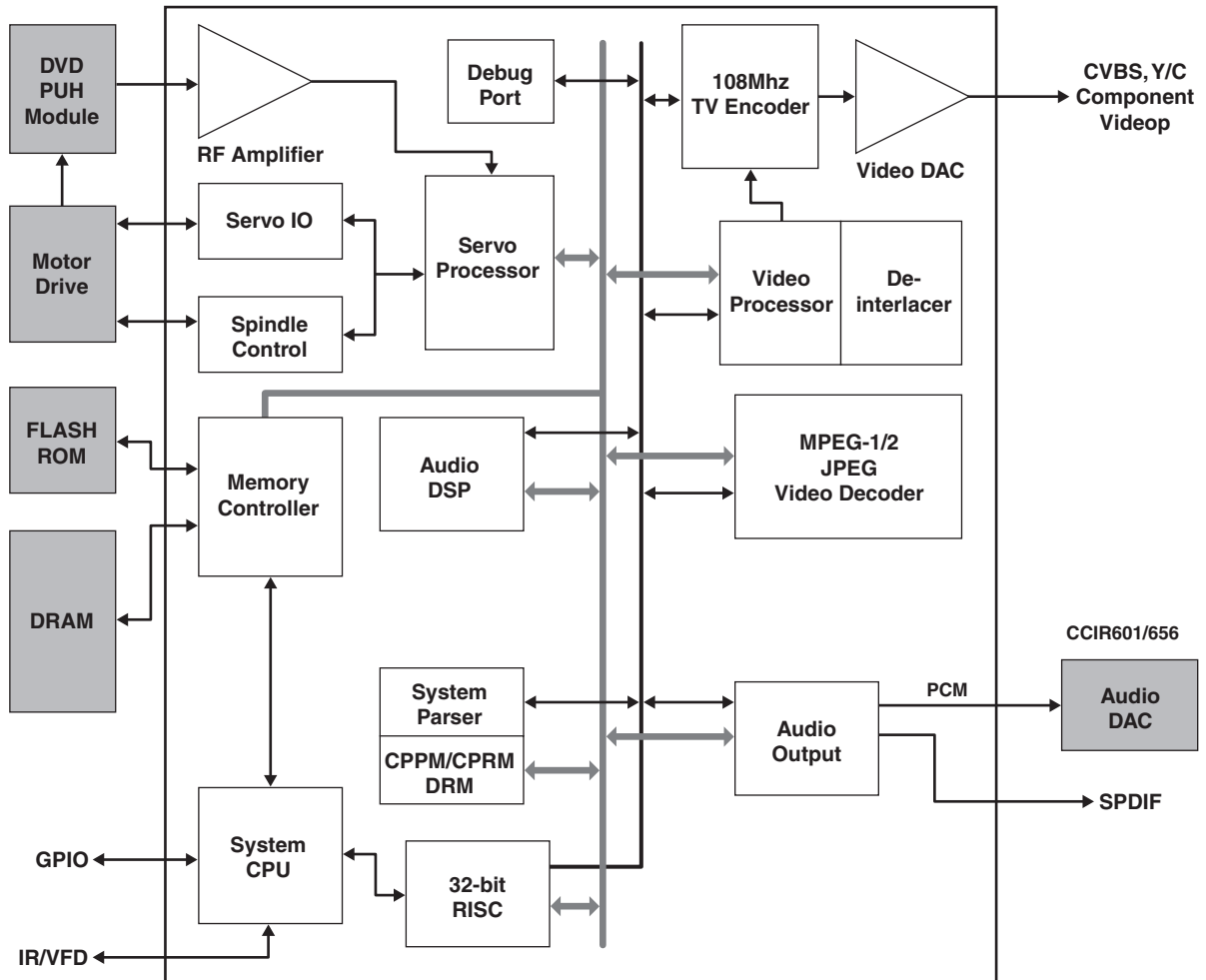
## Pin Arrangement (Top view)



# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

MPEG / MICON / RF-AMP Microcomputer

## Block Diagram



## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

**IC8K089D(MT1389D) : (DVD MT ASSY : IC4001)**

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	DVDD18	-	1.8V Power pin for internal digital circuitry
2	DVDA	I	AC coupled input path A	49	IOA3	I/O	Microcontroller address 3/IO
3	DVDB	I	AC coupled input path B				
4	DVDC	I	AC coupled input path C	50	IOA4	I/O	Microcontroller address 4/IO
5	DVDD	I	AC coupled input path D				
6	DVDRFIP	I	AC coupled DVD RF signal input RFIP	51	IOA5	I/O	Microcontroller address 5 / IO
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN				
8	MA	I	DC coupled main-beam RF signal input A	52	IOA6	I/O	Microcontroller address 6/IO
9	MB	I	DC coupled main-beam RF signal input B				
10	MC	I	DC coupled main-beam RF signal input C	53	IOA7	I/O	Microcontroller address 7/IO
11	MD	I	DC coupled main-beam RF signal input D	54	HIGHA0	I/O	Microcontroller address 8
12	SA	I	DC coupled sub-beam RF signal input A	55	IOA18	I/O	Flash address 18/IO
13	SB	I	DC coupled sub-beam RF signal input B	56	DVSS	-	3.3V Ground pin for internal digital circuitry
14	SC	I	DC coupled sub-beam RF signal input C	57	IOA19	I/O	Microcontroller address 4/IO
15	SD	I	DC coupled sub-beam RF signal input D	58	DVDD3	-	3.3V Power pin for internal digital circuitry
16	CDFON	I	CD focusing error negative input	59	IOWR#	I/O	Flash write enable, active low/IO
17	CDFOP	I	CD focusing error positive input	60	A16	O	Flash address 16
18	TNI	I	3 beam satellite PD signal negative input	61	DVDD3	-	3.3V Power pin for internal digital circuitry
19	TPI	I	3 beam satellite PD signal positive input	62	HIGHA7	I/O	Microcontroller address 15
20	MDI1	I	Laser power monitor input	63	HIGHA6	I/O	Microcontroller address 14
21	MDI2	I	Laser power monitor input	64	HIGHA5	I/O	Microcontroller address 13
22	LDO2	O	Laser driver output	65	HIGHA4	I/O	Microcontroller address 12
23	LDO1	O	Laser driver output	66	HIGHA3	I/O	Microcontroller address 11
24	SVDD3	-	Analog power 3.3V	67	HIGHA2	I/O	Microcontroller address 10
25	CSO	O	Central servo/Positive main beam summing output	68	HIGHA1	I/O	Microcontroller address 9
26	RFLVL	O	RFRP low pass, or Negative main beam summing output	69	IOA20	I/O	Flash address 20/IO
27	SGND	-	Analog ground	70	IOCS#	I/O	Flash chip select, active low/IO
28	V2REFO	-	Reference voltage 2.8V	71	DVSS	-	1.8V Ground pin for internal digital circuitry
29	V20	I/O	Reference voltage 2.0V	72	IOA1	I/O	Microcontroller address 1/IO
30	VREFO	I/O	Reference voltage 1.4V	73	IOOE#	I/O	Flash output enable, active low/IO
31	FEO	O	Focus error monitor output	74	DVSS	-	3.3V Ground pin for internal digital circuitry
32	TEO	O	Tracking error monitor output	75	AD0	I	Microcontroller address/data 0
33	TEZISLV	I/O	TE Slicing Level	76	AD1	I	Microcontroller address/data 1
34	OP_OUT	O	Op amp output	77	AD2	I	Microcontroller address/data 2
35	OP_INN	I	Op amp negative input	78	AD3	I	Microcontroller address/data 3
36	OP_INP	I	Op amp positive input	79	AD4	I	Microcontroller address/data 4
37	DMO	O	Disk motor control output. PWM output	80	AD5	I	Microcontroller address/data 5
38	FMO	O	Feed motor control. PWM output	81	AD6	I	Microcontroller address/data 6
39	TROPENP/WM	O	Tray PWM output/Tray open output	82	IOA21	I/O	Flash address 21/IO While External FLASH size <= 2MB: Version AD input port 0, or GPIO
40	PWMOUT1	O	1 <sup>st</sup> General PWM output, or Version AD input9				
41	TRO	O	Tracking servo output. PDM output of tracking servo compensator.	83	ALE	I/O	Microcontroller address latch enable
42	FOO	O	Focus servo output. PDM output of focus servo compensator	84	DVDD18	-	1.8V power pin for internal digital circuitry
				85	AD7	I	Microcontroller address/data 7
43	FG(Diigital pin)	-	Motor Hall sensor input, or Version AD input 8 circuitry	86	A17	O	Flash address 17
44	GPIO0	I/O	Vertical sysnc input / output	87	DVDD3	-	3.3V Power pin for internal digital circuitry
45	GPIO1	I/O	Horizontal sysnc input / output	88	IOA0	I/O	Flash address 0 / IO
46	GPIO2	I/O	Audio DAC master clock of SPDIF input	89	UWR#	I/O	Microcontroller writer strobe, active low
47	IOA2	I/O	Microcontroller address 2/IO	90	URD#	I/O	Microcontroller read strobe, active low

## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
91	UP1_2	I/O	Microcontroller port 1-2	137	BA1	I/O	DRAM bank address 1
92	UP1_3	I/O	Microcontroller port 1-3	138	DVDD3	–	3.3V power pin for internal digital circuitry
93	GPIO5	I/O	Video data output bit 7	139	RA10	I/O	DRAM address 10
94	UP1_4	I/O	Microcontroller port 1-4	140	RA0	I/O	DRAM address 0
95	UP1_5	I/O	Microcontroller port 1-5	141	RA1	I/O	DRAM address 1
96	UP1_6	I/O	Microcontroller port 1-6 I <sup>2</sup> C clock pin	142	RA2	I/O	DRAM address 2
				143	DVSS	–	1.8V Ground pin for internal digital circuitry
97	DVSS	–	3.3V Ground pin for internal digital circuitry	144	RA3	I/O	DRAM address 3
98	UP1_7	I/O	Microcontroller port 1-7 I <sup>2</sup> C data pin	145	DVSS	–	3.3V Ground pin for internal digital circuitry
				146	RCLK	I/O	Dram clock
99	UP3_0	I/O	Microcontroller port 3-0 8032 RS232 RXD	147	CKE	O	DRAM clock enable
				148	RA11	I/O	DRAM address bit 11
100	UP3_1	I/O	Microcontroller port 3-1 8032 RS232 TXD	149	RA9	I/O	DRAM address 9
				150	RA8	I/O	DRAM address 8
101	UP3_4	I/O	Microcontroller port 3-4 Hardwired RD232 RXD I <sup>2</sup> C clock pin	151	DVDD3	–	3.3V power pin for internal digital circuitry
				152	RA7	I/O	DRAM address 7
102	UP3_5	I/O	Microcontroller port 3-5 Hardwired RD232 TXD I <sup>2</sup> C data pin	153	RA6	I/O	DRAM address 6
				154	RA5	I/O	DRAM address 5
103	GPIO7	I/O	Video data output bit 7	155	RA4	I/O	DRAM address 4
104	ICE	I	Microcontroller ICE mode enable	156	DVDD18	–	1.8V power pin for internal digital circuitry
105	PRST#	I	Power on reset input, active low	157	GPIO3	I/O	Audio data of SPDIF input
106	IR	I	IR control signal input	158	GPIO4	I/O	Audio left/right channel clock of SPDIF input
107	INT0#	I/O	Microcontroller external interrupt 0, active low	159	GPIO5	I/O	Audio bit clock of SPDIF input
108	DVDD3	–	3.3V power pin for internal digital circuitry	160	DVSS	–	3.3V Ground pin for internal digital circuitry
109	DQM0	I/O	Data mask 0	161	ABCK	O	Audio bit clock Phase de-modulation
110	RD7	I/O	DRAM data 7				
111	RD6	I/O	DRAM data 6	162	ACLK	I	Audio DAC master clock While Internal AUDIO DAC used: GPIO
112	RD5	I/O	DRAM data 5				
113	RD4	I/O	DRAM data 4	163	ALRCK	I/O	Audio left/right channel clock Trap value in power-on reset: 1:use external 373 0:use internal 373
114	DQS0	I/O	GPIO				
115	DVSS	–	3.3V Ground pin for internal digital circuitry	164	ASDATA0	I/O	Audio serial data 0 (Front-Left/Front-Right) Trap value in power-on reset: 1: manufactory test mode 0: normal operation While Internal AUDIO DAC used : GPO
116	RD2	I/O	DRAM data 2				
117	RD1	I/O	DRAM data 1	165	ASDATA1	I/O	Audio serial data 1 (Left-Surround/Right-Surround) Trap value in power-on reset: 1: manufactory test mode 0: normal operation While only 2 channels output : GPO
118	RD0	I/O	DRAM data 0				
119	RD15	I/O	DRAM data 15	166	ASDATA2	I/O	Audio serial data 2 (Center/LFE) Trap value in power-on reset: 1: manufactory test mode 0: normal operation While only 2 channels output : GPO
120	DVSS	–	1.8V Ground pin for internal digital circuitry				
121	RD14	I/O	DRAM data 14	167	ASDATA3	I/O	Audio serial data 3 (Center-back/Center- -left-back/Center-right-back, in6.1or 7.1mode) While only 2 channels output : GPIO
122	RD13	I/O	DRAM data 13				
123	DVDD3	–	3.3V power pin for internal digital circuitry	168	DVDD3	–	3.3V power pin for internal digital circuitry
124	RD12	I/O	DRAM data 12				
125	RD11	I/O	DRAM data 11	169	MC_DATA	I/O	Microphone serial input While not support Microphone: 1 : Microcontroller external interrupt 2 2 : GPIO
126	RD10	I/O	DRAM data 10				
127	RD9	I/O	DRAM data 9	170	SPDIF	O	SPDIF output
128	RD8	I/O	DRAM data 8				
129	DQM1	I/O	Data mask 1	171	DACVDDC	–	3.3V power pin for VIDEO DAC circuitry
130	DVSS	–	3.3V Ground pin for internal digital circuitry				
131	RWE#	O	DRAM Write enable, active low				
132	CAS#	O	DRAM column address strobe, active low				
133	DVDD18	–	1.8V power pin for internal digital circuitry				
134	RAS#	O	DRAM row address strobe, active low				
135	RCS#	O	DRAM chip select, active low				
136	BA0	I/O	DRAM bank address 0				

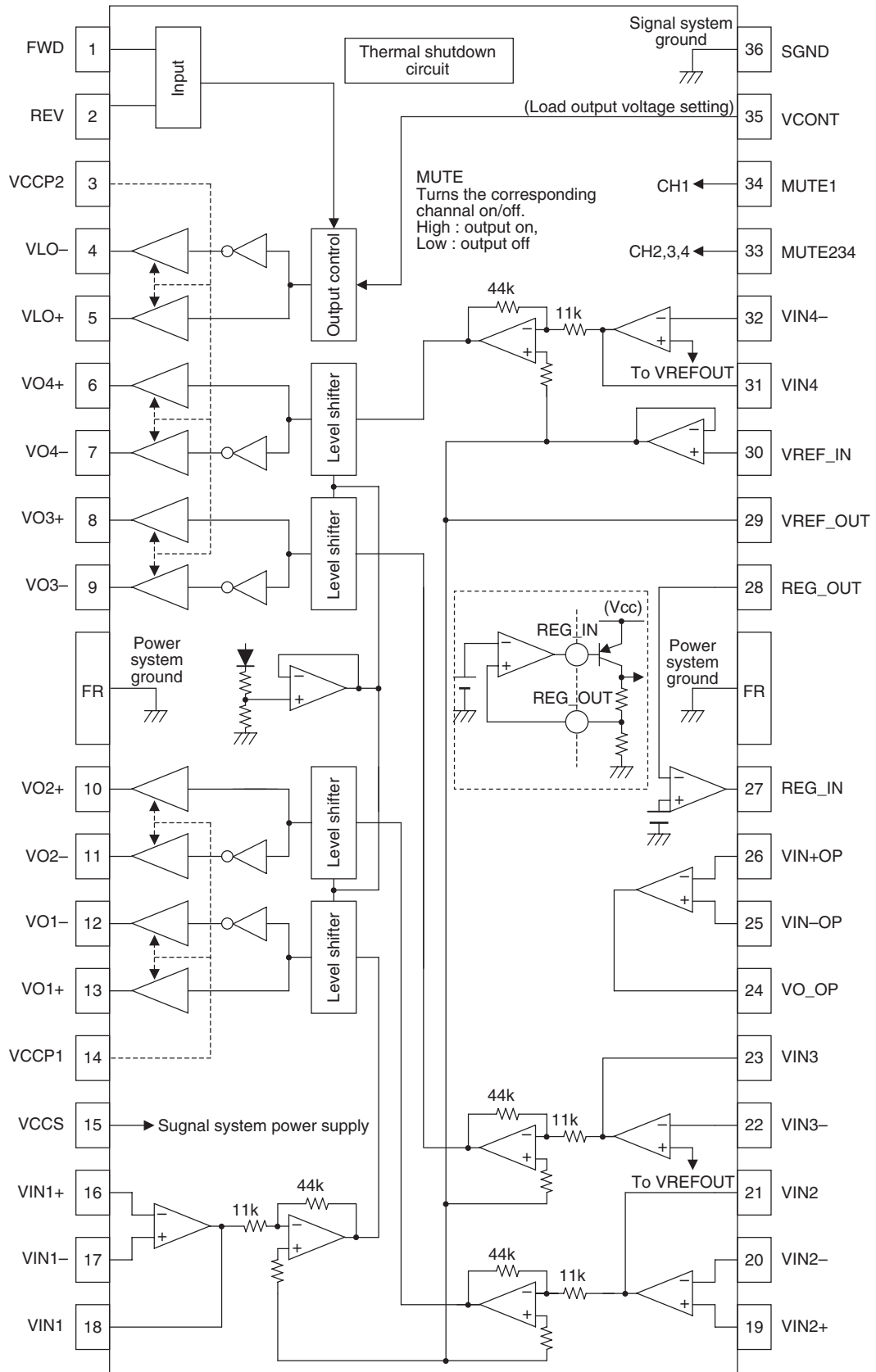


# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

## LA6565 (DVD MT : IC2301)

MOTOR DRIIVE

### Internal Block Diagram



## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

### 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 <sub>CC</sub> 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

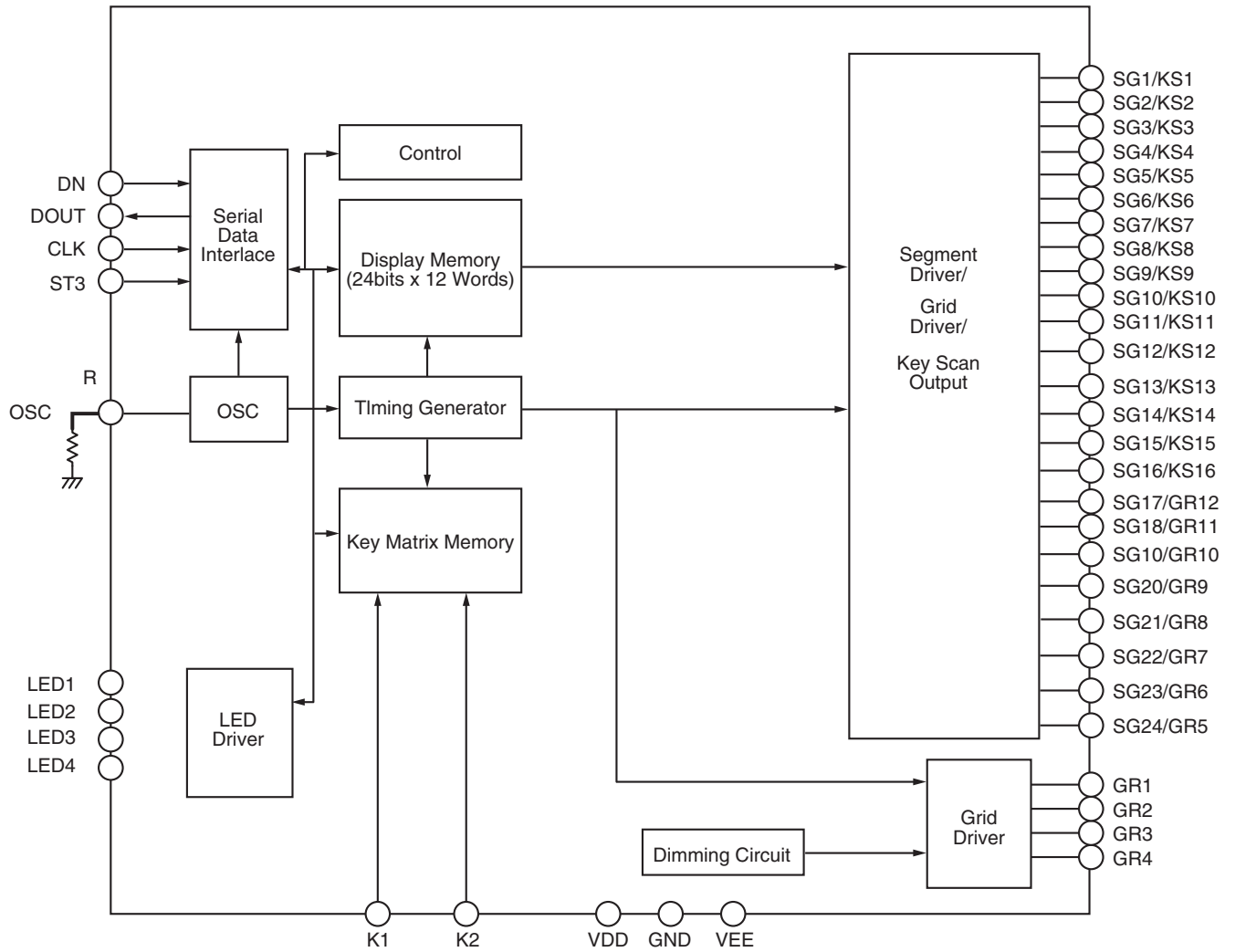


# IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

## PT6315 (OPERATION 1 ASSY : IC651)

FIP DRIIVE IC

### Block Diagram

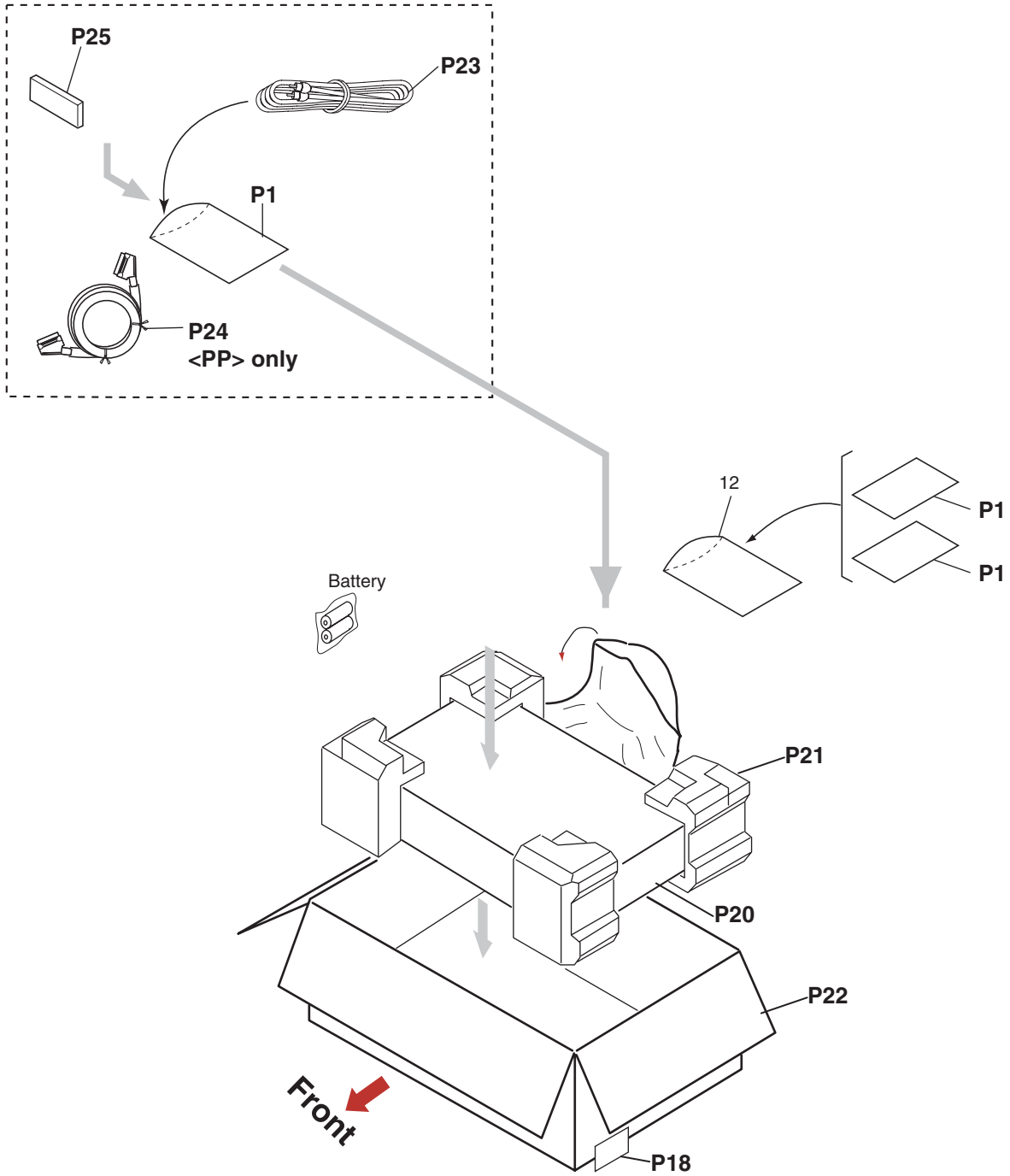


## IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

### 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

# PACKING VIEW





29	Mecha	0515S32003	SW1 Mecha. Switch	DV-SP303	S	TDD1N	0515S32003	0515S32003	0515S32003	0515S32003	0515S32003
30	Mecha	0500101036	SW2 Mecha.	DV-SP303	S	TDD1N	0500101036	0500101036	0500101036	0500101036	0500101036
31	Mecha	811022680L	Screw, TAP TITE P)	DV-SP303	S	TDD1N	811022680L	811022680L	811022680L	811022680L	811022680L
32	Mecha	816112080L	SEMS.TAP TITE P PAN	DV-SP303	S	TDD1N	816112080L	816112080L	816112080L	816112080L	816112080L
33	Mecha	811022080L	Screw, TAP TITE P) BI	DV-SP303	S	TDD1N	811022080L	811022080L	811022080L	811022080L	811022080L
34	Mecha	A2G512A65C	DVD MECHANISM ASSY	DV-SP303	S	TDD1N	A2G512A65C	A2G512A65C	A2G512A65C	A2G512A65C	A2G512A65C
NSP	Mecha	92P000023A	Plate Clamper	DV-SP303	S	TDD1N	92P000023A	-	-	-	-
NSP	Mecha	92P100188A	RACK, FEED1	DV-SP303	S	TDD1N	92P100088A	-	-	-	-
NSP	Mecha	92P100090A	RACK, FEED2	DV-SP303	S	TDD1N	92P100090A	-	-	-	-
NSP	Mecha	92P300020A	Spring rack FEED	DV-SP303	S	TDD1N	92P300020A	-	-	-	-
SW660-667	PCB	0504R01T38	Tact Switch	DV-SP303	S	TDD1N	0504R01T38	0504R01T38	0504R01T38	0504R01T38	0504R01T38
J8004	PCB	060J401102	RCA Jack	DV-SP303	S	TDD1N	060J401102	060J401102	060J401102	060J401102	060J401102
J8003	PCB	060J411034	RCA Jack	DV-SP303	S	TDD1N	060J411034	060J411034	060J411034	060J411034	060J411034
J8001	PCB	060J451008	RCA Jack	DV-SP303	S	TDD1N	060J451008	060J451008	060J451008	060J451008	060J451008
J8101	PCB	063D10005C	Socket	DV-SP403E	S	TPP2P	-	-	-	-	-
J8002	PCB	063D700008	Jack	DV-SP303	S	TDD1N	063D700008	063D700008	063D700008	063D700008	063D700008
CP2302	PCB	069EV5303C	Connector	DV-SP303	S	TDD1N	069EV5303C	069EV5303C	069EV5303C	069EV5303C	069EV5303C
CP2303	PCB	069EV6303C	Connector	DV-SP303	S	TDD1N	069EV6303C	069EV6303C	069EV6303C	069EV6303C	069EV6303C
CP4002	PCB	069EVB303C	Connector	DV-SP303	S	TDD1N	069EV6303C	069EV6303C	069EV6303C	069EV6303C	069EV6303C
CP2301	PCB	069GY0T115	Connector	DV-SP303	S	TDD1N	069GY0T115	069GY0T115	069GY0T115	069GY0T115	069GY0T115
CP8001	PCB	069J7C0595	Connector	DV-SP403E	S	TPP2P	-	-	-	-	-
CP4003	PCB	069S2E0625	Connector	DV-SP303	S	TDD1N	069S2E0625	069S2E0625	069S2E0625	069S2E0625	069S2E0625
CP502	PCB	06C32E3504	Connector Cord wire	DV-SP303	S	TDD1N	06C32E3504	06C32E3504	06C32E3504	06C32E3504	06C32E3504
OS651	PCB	077A040001	Remote Receiver unit	DV-SP303	S	TDD1N	077A040001	077A040001	077A040001	077A040001	077A040001
	PCB	07AQ000009	Optical Device	DV-SP303	B	TPA4P	-	-	-	-	-
X4001	PCB	100BT02701	Q TAL Oscillator	DV-SP303	S	TDD1N	100BT02701	100BT02701	100BT02701	100BT02701	100BT02701
NR4002	PCB	110P4330M4	R Network	DV-SP303	S	TDD1N	110P4330M4	110P4330M4	110P4330M4	110P4330M4	110P4330M4
CD603	PCB	122H062801	Jumper wire	DV-SP303	S	TDD1N	122H062801	122H062801	122H062801	122H062801	122H062801
CD601	PCB	122H0B1002	Jumper wire	DV-SP403E	S	TPP2P	-	-	-	-	-
	PCB	122H0B1201	Jumper wire	DV-SP303	S	TDD1N	122H0B1201	122H0B1201	122H0B1201	122H0B1201	122H0B1201
CD8001	PCB	122H0C3001	Jumper wire	DV-SP403E	S	TPP2P	-	-	-	-	-
D656-D659	PCB	D1VT00133C	Diode 1SS13T-77	DV-SP303	S	TDD1N	D1VT00133C	D1VT00133C	D1VT00133C	D1VT00133C	D1VT00133C
D8101	PCB	DD7R0S355C	Diode 1SS355 TE-17	DV-SP303	S	TDD1N	DD7R0S355C	DD7R0S355C	DD7R0S355C	DD7R0S355C	DD7R0S355C
D8005	PCB	DE7RB6R82E	Diode UDZS6.8B TE-17	DV-SP303	S	TDD1N	DE7RB6R82E	DE7RB6R82E	DE7RB6R82E	DE7RB6R82E	DE7RB6R82E
IC2301	PCB	I03F06565C	IC LA6565-TE-E	DV-SP303	S	TDD1N	I03F06565C	I03F06565C	I03F06565C	I03F06565C	I03F06565C
IC8003	PCB	I07F04560C	IC BA4560F-E2	DV-SP303	S	TDD1N	I07F04560C	I07F04560C	I07F04560C	I07F04560C	I07F04560C
IC4006	PCB	11HF9117LC	IC SIP117L-ADJ-TP	DV-SP303	S	TDD1N	11HF9117LC	11HF9117LC	11HF9117LC	11HF9117LC	11HF9117LC
IC8001	PCB	15CJ03257C	IC SN74CBT3257PWR	DV-SP403E	S	TPP2P	-	-	-	-	-
IC4003	PCB	I97F05229C	IC BD5229G-TR	DV-SP303	S	TDD1N	I97F05229C	I97F05229C	I97F05229C	I97F05229C	I97F05229C
IC4002	PCB	IC8K0389DC	IC MT1389FE/C2-1	DV-SP303	S	TDD1N	IC8K0389DC	IC8K0389DC	IC8K0389DC	IC8K0389DC	IC8K0389DC
IC4005	PCB	IFLJ0632H7	IC K4S641632H-UC7?	DV-SP303	S	TDD1N	IFLJ0632H7	IFLJ0632H7	IFLJ0632H7	IFLJ0632H7	IFLJ0632H7
IC4001	PCB	MT1389FE/C2-1	DVD IC	DV-SP403E	S	TPP2P	MT1389FE/C2-1	MT1389FE/C2-1	MT1389FE/C2-1	MT1389FE/C2-1	MT1389FE/C2-1
IC651	PCB	PT6315	FL Driver IC	DV-SP303	S	TDD1N	PT6315	PT6315	PT6315	PT6315	PT6315
R512	PCB	R65584680J	Resistor Fuse 68 ohm, 1/4W	DV-SP303	S	TDD1N	R65584680J	R65584680J	R65584680J	R65584680J	R65584680J
	PCB	S2G406AF01	IC	DV-SP303	S	TDD1N	S2G406AF01	S2G406AF01	S2G406AF01	S2G406AF01	S2G406AF01
	PCB	S2G530AF01	IC	DV-SP403E	S	TPP2P	-	-	-	-	-
Q2306,Q2307	PCB	T27T03018C	FET	DV-SP303	S	TDD1N	T27T03018C	T27T03018C	T27T03018C	T27T03018C	T27T03018C
Q8018,Q8019	PCB	T97A02114C	Transistor	DV-SP303	S	TDD1N	T97A02114C	T97A02114C	T97A02114C	T97A02114C	T97A02114C
Q8014	PCB	TAAA1504SY	Transistor	DV-SP303	S	TDD1N	TAAA1504SY	TAAA1504SY	TAAA1504SY	TAAA1504SY	TAAA1504SY
Q8016	PCB	TCAA3875SY	Transistor	DV-SP303	S	TDD1N	TCAA3875SY	TCAA3875SY	TCAA3875SY	TCAA3875SY	TCAA3875SY
Q8013	PCB	TN7J407001	COMPOUND Transistor DTC114YUAT10	DV-SP303	S	TDD1N	TN7J407001	TN7J407001	TN7J407001	TN7J407001	TN7J407001
V651	PCB	VAW1077	FL tube	DV-SP303	S	TDD1N	VAW1077	VAW1077	VAW1077	VAW1077	VAW1077

**PACKING VIEW**

P1	Packing	J2G40601A	INSTRUCTION BOOK	DV-SP303	S	TDD1N	J2G40601A	J2G40601A	J2G40601A	J2G40601A	J2G40601A
P1	Packing	J2G52801A	INSTRUCTION BOOK	DV-SP403E	S	TPP2P	-	-	-	-	-
P1	Packing	J2G52832A	INSTRUCTION BOOK	DV-SP403E	S	TPP2P	-	-	-	-	-
P1	Packing	J2G52833A	INSTRUCTION BOOK	DV-SP403E	S	TPP2P	-	-	-	-	-
P2	Packing	JB5KD10C	Polybag For Instruction manual	DV-SP303	B	TPA4P	-	-	-	-	-
P2	Packing	JB5KD20C	Polybag For Instruction manual	DV-SP303	S	TDD1N	JB5KD20C	JB5KD20C	JB5KD20C	JB5KD20C	JB5KD20C
P2	Packing	JB5KD30C	POLYBAG, INSTRUCTION	DV-SP403E	S	TPP2P	-	-	-	-	-
P18	Packing	723000C992	Label Carton	DV-SP303	B	TPA4P	-	-	723000C992	-	-
P18	Packing	723000D002	Label Carton	DV-SP403E	S	TPP2P	-	-	-	-	-
P18	Packing	723000D005	Label Carton	DV-SP303	S	TPA4P	-	-	723000D005	-	-
P18	Packing	723000D013	Label Carton	DV-SP303	B	TDD1N	-	-	-	-	-
P18	Packing	723000D014	Label Carton	DV-SP303	S	TDD1N	723000D014	723000D014	-	-	-
P18	Packing	723000D015	Label Carton	DV-SP403E	B	TPP2P	-	-	-	-	-
P18	Packing	723000D015	Label Carton	DV-SP303	G	TUT3P	-	-	-	-	723000D015
P20	Packing	791WHA010C	Gift Sheet	DV-SP303	S	TDD1N	791WHA010C	791WHA010C	-	-	-
P20	Packing	791WHA011C	Gift Sheet	DV-SP303	B	TPA4P	-	-	791WHA011C	791WHA011C	791WHA011C
P21	Packing	792WHAA166	Package (PAD)	DV-SP303	S	TDD1N	792WHAA166	792WHAA166	792WHAA166	792WHAA166	792WHAA166
P21	Packing	792WHAA17C	Package (PAD)	DV-SP403E	S	TPP2P	-	-	-	-	-
P22	Packing	793WCDC77C	Gift Box	DV-SP303	B	TDD1N	-	-	793WCDC77C	-	-
P22	Packing	793WCDC777	Gift Box	DV-SP403E	B	TPP2P	-	-	-	-	-
P22	Packing	793WCDC785	Gift Box	DV-SP303	B	TPA4P	-	-	793WCDC785	-	-
P22	Packing	793WCDC805	Gift Box	DV-SP303	S	TDD1N	793WCDC805	-	-	-	-
P22	Packing	793WCDC81C	Gift Box	DV-SP403E	S	TPP2P	-	-	-	-	-
P22	Packing	793WCDC81C	Gift Box	DV-SP303	S	TPA4P	-	-	793WCDC81C	-	-
P22	Packing	793WCDC83C	Gift Box	DV-SP303	G	TUT3P	-	-	-	-	793WCDC83C
P23	Packing	06CPBA200C	RCA Pin cable	DV-SP303	S	TDD1N	06CPBA200C	06CPBA200C	06CPBA200C	06CPBA200C	06CPBA200C
P24	Packing	06CUVA500C	Cable, 21PIN	DV-SP403E	S	TPP2P	-	-	-	-	-

P25

Packing

07760LP01C

Remote controller

DV-SP303

S TDD1N

07760LP01C

07760LP01C

07760LP01C

07760LP01C

07760LP01C

DV-SP303E(S) TPP2P	DV-SP403E(S) TPP2P	DV-SP403E(B) TPP2P
-	-	-
-	A2G528A13C	A2G528A13C
A2G406A27C	-	-
-	A2G528A27C	A2G528A27C
-	A2G528A28C	A2G528A28C
A2G406A28C	-	-
A2G402A24C	-	-
-	A2G502A24C	A2G502A24C
-	761WSA0237	761WSA0237
752WSA046C	752WSA046C	752WSA046C
755WPA004C	755WPA004C	755WPA004C
761WPA039C	761WPA039C	761WPA039C
702WSB012C	-	-
-	702WSB0115	702WSB0115
8965TS1015	8965TS1015	8965TS1015
8107D3055L	8107D3055L	8107D3055L
810913060L	810913060L	810913060L
-	8109K3060S	8109K3060S
-	8109K3060L	8109K3060L
811022680S	811022680S	811022680S
722656A001	722656A001	722656A001
-	722656A002	722656A002
-	-	-
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<a href="#">722656A003</a>	722656A003	722656A003
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-	712WPJC175	712WPJC175
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92P100117A	92P100117A	92P100117A
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92P200016A	92P200016A	92P200016A
92P100119A	92P100119A	92P100119A
92P100127A	92P100127A	92P100127A
92P100125A	92P100125A	92P100125A
92P100123A	92P100123A	92P100123A
92P100124A	92P100124A	92P100124A
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813381750L	813381750L	813381750L
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069EV5303C	069EV5303C	069EV5303C
069EV6303C	069EV6303C	069EV6303C
069EVB303C	069EVB303C	069EVB303C
069GY0T115	069GY0T115	069GY0T115
-	069J7C0595	069J7C0595
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-	122H0B100C	122H0B100C
122H0B1201	122H0B1201	122H0B1201
-	122H0C3001	122H0C3001
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DD7R0S355C	DD7R0S355C	DD7R0S355C
DE7RB6R82F	DE7RB6R82F	DE7RB6R82F
I03F065650	-	-
I07F045600	-	-
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I97F052290	-	-
IC8K0389D0	-	-
IFLJ0632H7	-	-
MT1389FE/C2-1	MT1389FE/C2-1	MT1389FE/C2-1
PT6315	PT6315	PT6315
R65584680J	R65584680J	R65584680J
S2G406AF01	S2G406AF01	S2G406AF01
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TAAA1504SY	TAAA1504SY	TAAA1504SY
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VAW1077	VAW1077	VAW1077

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-	J2G52833A	J2G52833A
-	-	-
-	JB5KD30C	JB5KD30C

723000D002

723000D015

792WHAA165	792WHAA17C	792WHAA17C
-	-	793WCDC777

793WCDC81C

06CPBA200C	06CPBA200C	06CPBA200C
-	06CUVA5004	06CUVA5004



07760LP01C

07760LP01C

07760LP01C

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