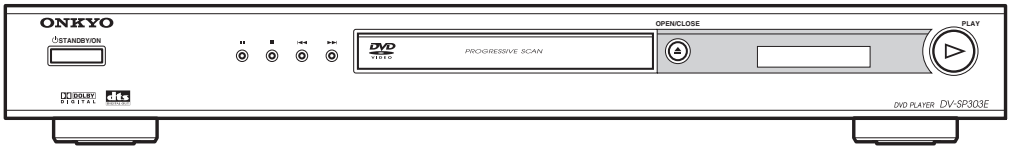
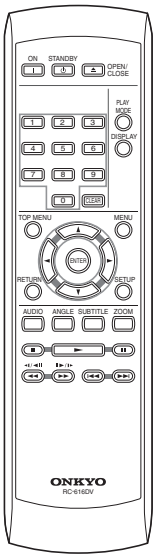
Ref. No. 3873
052005

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.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SPECIFICATIONS

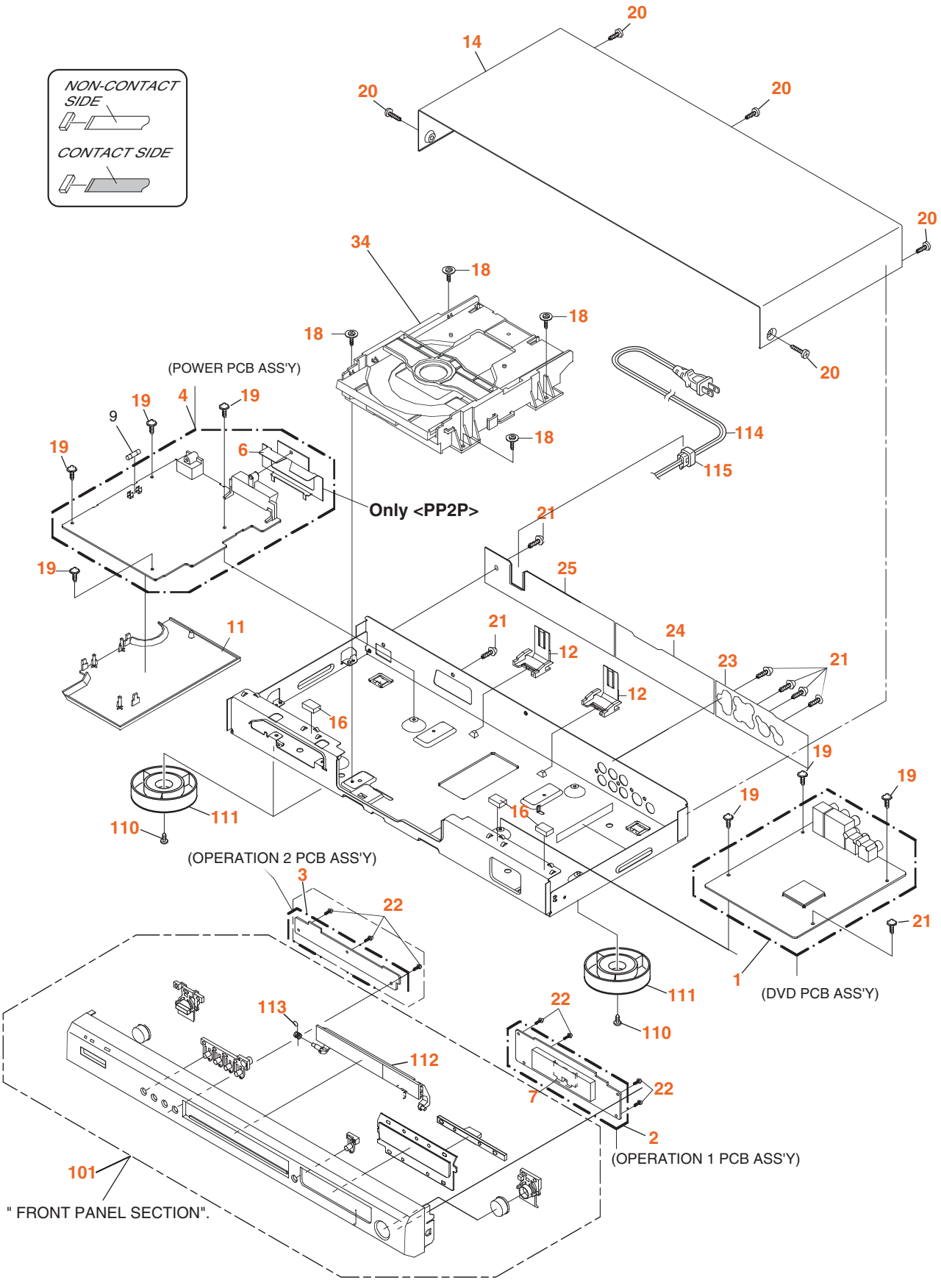
Signal System		NTSC/PAL/AUTO
Composite Video Output/Impedance		1.0 V(p-p)/75 ohm negative sync, RCA/phono
S-Video Output/Impedance		Y: 1.0 V (p-p)/75 ohm negative sync, 4-pin mini DIN C: 0.286 V (p-p)/75 ohm
Component Video Output/Impedance		Y: 1.0 V (p-p)/75 ohm PB/PR: 0.7 V (p-p)/75 ohm RCA/ phono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

General

Power Supply	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)
Power Consumption	7 W
Stand-by Power Consumption	0.5 W (North American model) 0.75 W (Asian, European and Oceania models)
Dimensions (W x H x D)	435 W x 61 H x 215.5 D mm
Weight	1.8 kg
Operation Condition Temperature	+5˚C to +40˚C
Disc Compatibility	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

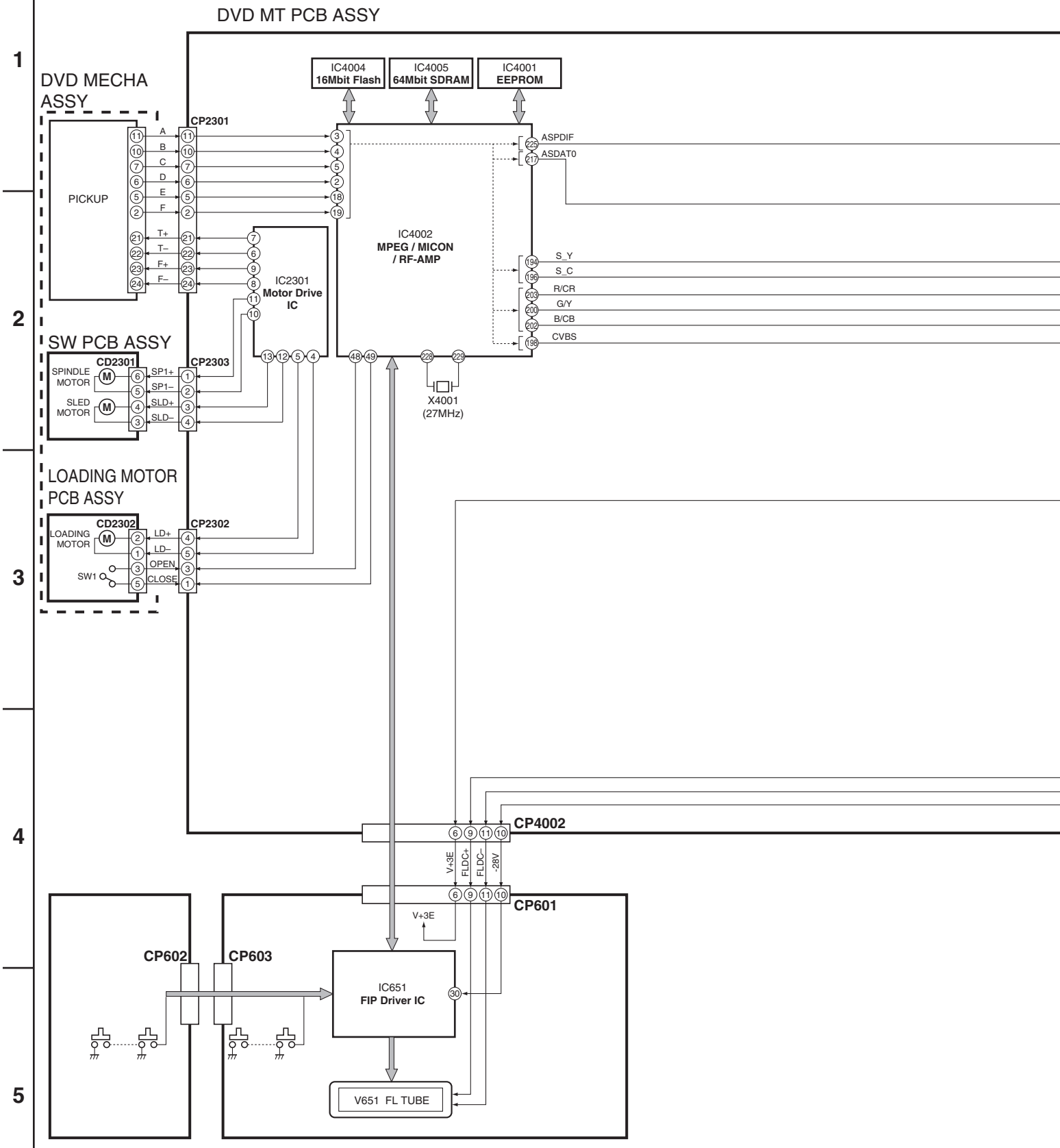


DVD MECHANISM PARTS LIST

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

BLOCK DIAGRAM-1



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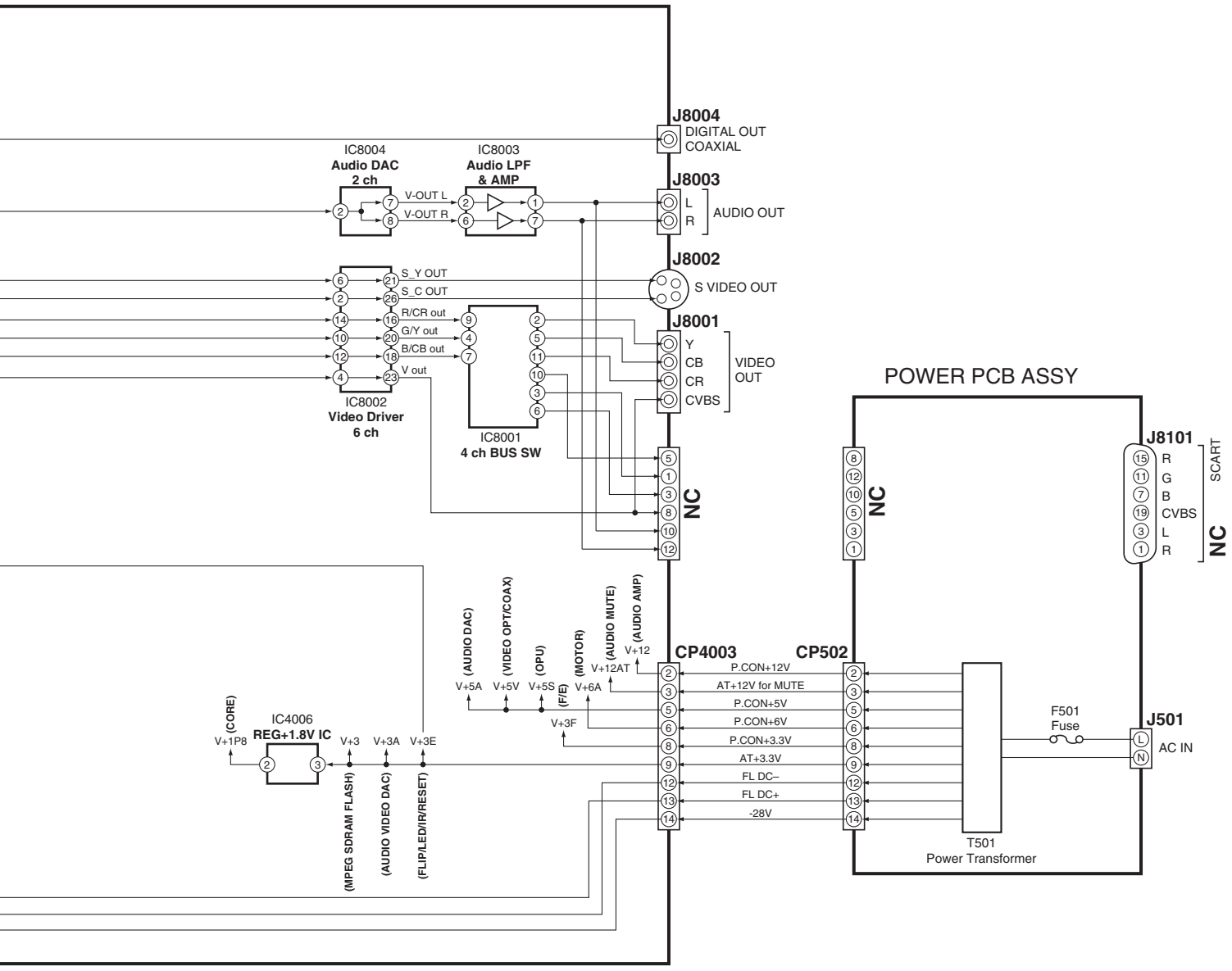
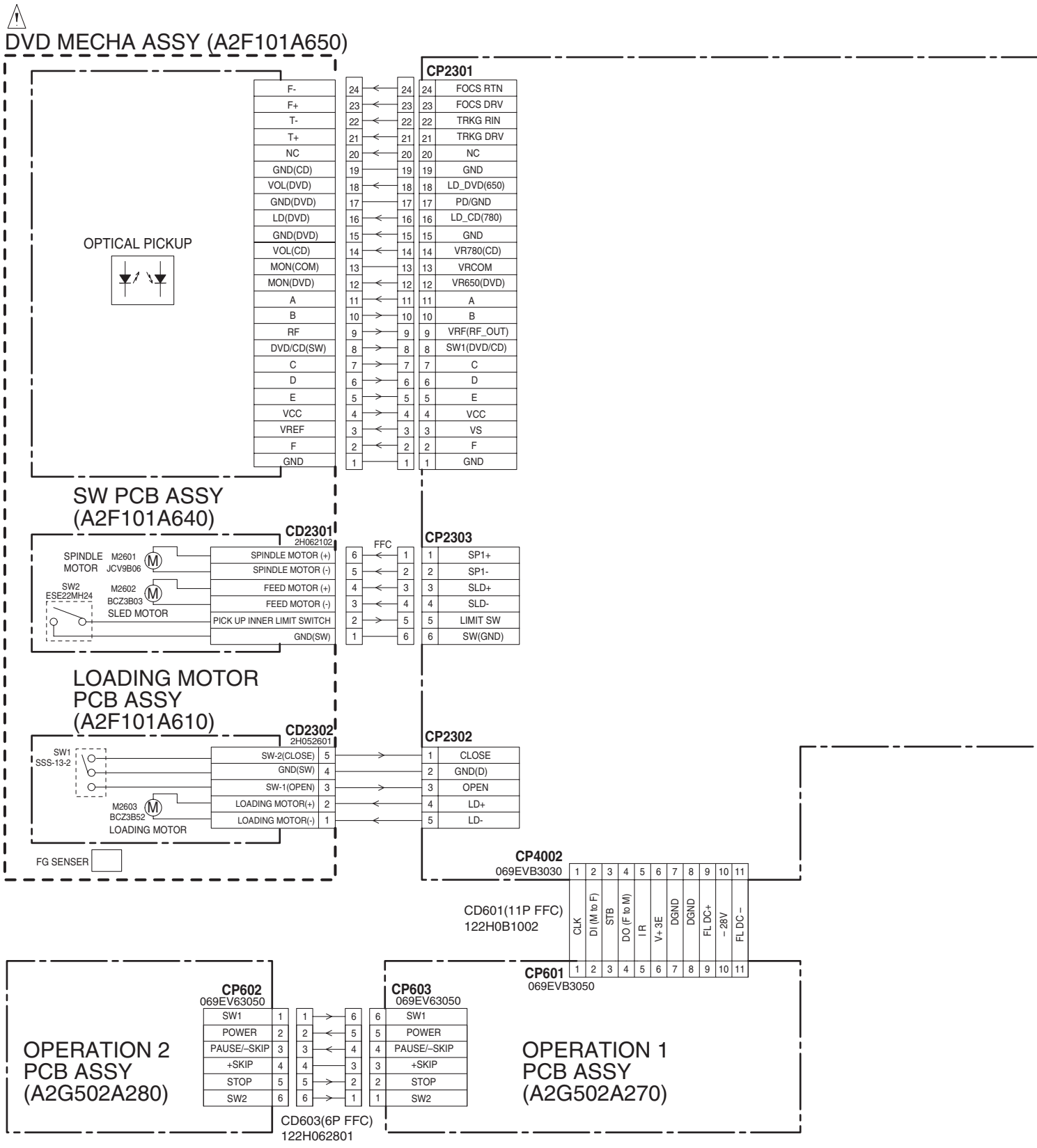

J8004
DIGITAL OUT
COAXIAL
IC8004
Audio DAC
2 ch
IC8003
Audio LPF
& AMP
V-OUT L
V-OUT R
J8003
L
R
AUDIO OUT
J8002
S VIDEO OUT
S_Y OUT
S_C OUT
R/CR out
G/Y out
B/CB out
V out
J8001
Y
CB
CR
CVBS
VIDEO
OUT
IC8002
Video Driver
6 ch
IC8001
4 ch BUS SW
NC
POWER PCB ASSY
J8101
SCART
R
G
B
CVBS
L
R
NC
(AUDIO DAC)
(VIDEO OPT/COAX)
(OPU)
(F/E)
(MOTOR)
(AUDIO MUTE)
(AUDIO AMP)
V+12
V+12AT
V+5A
V+5V
V+5S
V+6A
V+3F
CP4003
CP502
P.CON+12V
AT+12V for MUTE
P.CON+5V
P.CON+6V
P.CON+3.3V
AT+3.3V
FL DC–
FL DC+
-28V
F501
Fuse
J501
AC IN
T501
Power Transformer
(CORE)
V+1P8
IC4006
REG+1.8V IC
V+3
V+3A
V+3E
(MPEG SDRAM FLASH)
(AUDIO VIDEO DAC)
(FLIP/LED/IR/RESET)

BLOCK DIAGRAM-2



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(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

J8001
CVBS
Y
U
V
VIDEO OUT (COMPOSITE)

J8002
Y
C
S VIDEO OUT

J8003
L
R
AUDIO OUT

J8004
COAXIAL
DIGITAL OUT

CP4003 069S2E0629

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

CP8001 069J7C0599

1	2	3	4	5	6	7	8	9	10	11	12
G	GND	B	GND	R	RGB-H	FS	CVBS	GND	AUDIO L	GND	AUDIO R

CP502(14P)
Cord Connector
06C32E3504

NC

CP502

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

CP503 069J7C0599

12	11	10	9	8	7	6	5	4	3	2	1
G/Y	GND	B/CB	GND	R/CR	RGB-H	FS	CVBS	GND	AUDIO L	GND	AUDIO R

J8101
SCART
NC

(1/2, 2/2)

⚠ POWER PCB ASSY (A2G502A240)

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

CP501
LIVE
NEUTRAL
1 BLUE
2 BROWN
AC IN

BLOCK DIAGRAM-1

DVD MT PCB ASSY

DVD MECHA ASSY

PICKUP

CP2301

IC4004 16Mbit Flash

IC4005 64Mbit SDRAM

IC4001 EEPROM

IC4002 MPEG / MICON / RF-AMP

IC2301 Motor Drive IC

ASPDIF

ASDAT0

S_Y

S_C

R/CR

G/Y

B/CB

CVBS

X4001 (27MHz)

SW PCB ASSY

CD2301

SPINDLE MOTOR

SLED MOTOR

SP1+

SP1–

SLD+

SLD–

CP2303

LOADING MOTOR PCB ASSY

CD2302

LOADING MOTOR

SW1

LD+

LD–

OPEN

CLOSE

CP2302

IC8004 Audio DAC 2 ch

V-OUT L

V-OUT R

IC8003 Audio LPF & AMP

J8004 DIGITAL OUT COAXIAL

J8003 L R AUDIO OUT

J8002 S VIDEO OUT

J8001 Y CB CR CVBS VIDEO OUT

S_Y OUT

S_C OUT

R/CR out

G/Y out

B/CB out

V out

IC8002 Video Driver 6 ch

IC8001 4 ch BUS SW

NC

POWER PCB ASSY

J8101 SCART

R G B CVBS L R

NC

(AUDIO DAC) V+5A

(VIDEO OPT/COAX) V+5V

(OPU) V+5S

(F/E) V+3F

(MOTOR) V+6A

(AUDIO MUTE) V+12AT

(AUDIO AMP) V+12

CP4003

CP502

P.CON+12V

AT+12V for MUTE

P.CON+5V

P.CON+6V

P.CON+3.3V

AT+3.3V

FL DC–

FL DC+

-28V

F501 Fuse

J501 AC IN

T501 Power Transformer

(CORE) V+1P8

IC4006 REG+1.8V IC

V+3

V+3A

V+3E

(MPEG SDRAM FLASH)

(AUDIO VIDEO DAC)

(FLIP/LED/IR/RESET)

CP4002

V+3E

FLDC+

FLDC–

-28V

CP601

CP602

CP603

IC651 FIP Driver IC

V651 FL TUBE

OPERATION 2 PCB ASSY

OPERATION 1 PCB ASSY

BLOCK DIAGRAM-2

DVD MECHA ASSY (A2F101A650)

OPTICAL PICKUP

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

CP2301

SW PCB ASSY
(A2F101A640)

CD2301
2H062102

			FFC		CP2303	
SPINDLE MOTOR M2601 JCV9B06	SPINDLE MOTOR (+)	6	6 → 1	1	1	SP1+
	SPINDLE MOTOR (-)	5	5 → 2	2	2	SP1-
SW2 ESE22MH24 M2602 BCZ3B03 SLED MOTOR	FEED MOTOR (+)	4	4 → 3	3	3	SLD+
	FEED MOTOR (-)	3	3 → 4	4	4	SLD-
	PICK UP INNER LIMIT SWITCH	2	2 → 5	5	5	LIMIT SW
	GND(SW)	1	1 → 6	6	6	SW(GND)

LOADING MOTOR
PCB ASSY
(A2F101A610)

CD2302
2H052601

SW1 SSS-13-2	SW-2(CLOSE)	5	1	CLOSE
	GND(SW)	4	2	GND(D)
	SW-1(OPEN)	3	3	OPEN
M2603 BCZ3B52 LOADING MOTOR	LOADING MOTOR(+)	2	4	LD+
	LOADING MOTOR(-)	1	5	LD-

CP2302

FG SENSER

CP4002
069EVB3030

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

CD601(11P FFC)
122H0B1002

CP601
069EVB3050

CP602
069EV63050

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

CP603
069EV63050

CD603(6P FFC)
122H062801

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

CP4003
069S2E0629

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

CP8001
069J7C0599

G	1	1	1	G/Y
GND	2	2	2	GND
B	3	3	3	B/CB
GND	4	4	4	GND
R	5	5	5	R/CR
RGB-H	6	6	6	RGB-H
FS	7	7	7	FS
CVBS	8	8	8	CVBS
GND	9	9	9	GND
AUDIO L	10	10	10	AUDIO L
GND	11	11	11	GND
AUDIO R	12	12	12	AUDIO R

CP502(14P)
Cord Connector
06C32E3504

CP502
069S2E0629

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

NC

CP503
069J7C0599

G/Y	12	12	12	G/Y
GND	11	11	11	GND
B/CB	10	10	10	B/CB
GND	9	9	9	GND
R/CR	8	8	8	R/CR
RGB-H	7	7	7	RGB-H
FS	6	6	6	FS
CVBS	5	5	5	CVBS
GND	4	4	4	GND
AUDIO L	3	3	3	AUDIO L
GND	2	2	2	GND
AUDIO R	1	1	1	AUDIO R

(1/2, 2/2)

POWER PCB ASSY (A2G502A240)

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

J8001
CVBS
Y
U
V
VIDEO OUT (COMPOSITE)

J8002
Y
C
S VIDEO OUT

J8003
L
R
AUDIO OUT

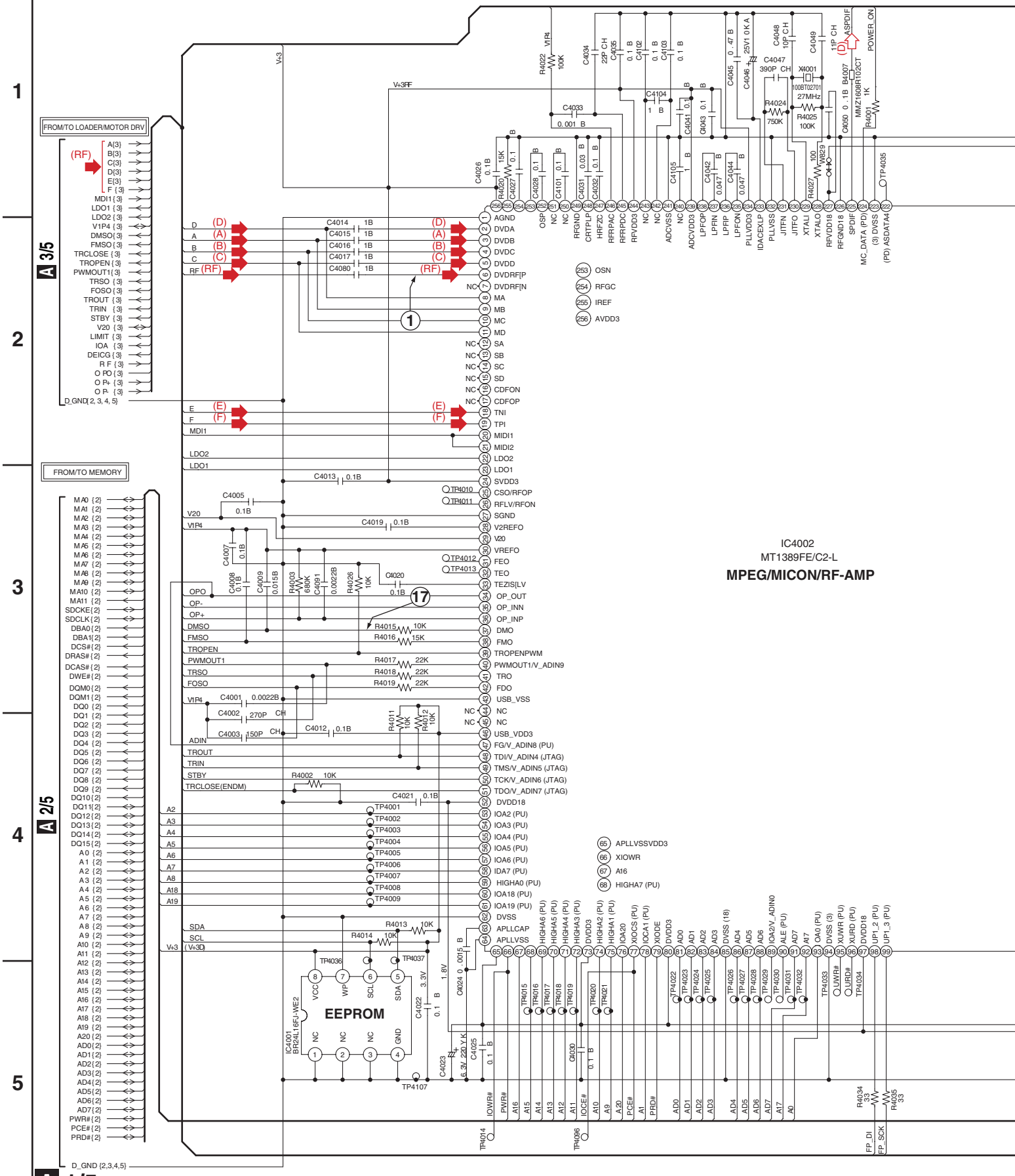
J8004
COAXIAL
DIGITAL OUT

J8101
SCART
NC

CP501
LIVE
NEUTRAL
BLUE
BROWN
AC IN

SCHEMATIC DIAGRAM-1

DVD MT PCB ASSY (A2G502A130)



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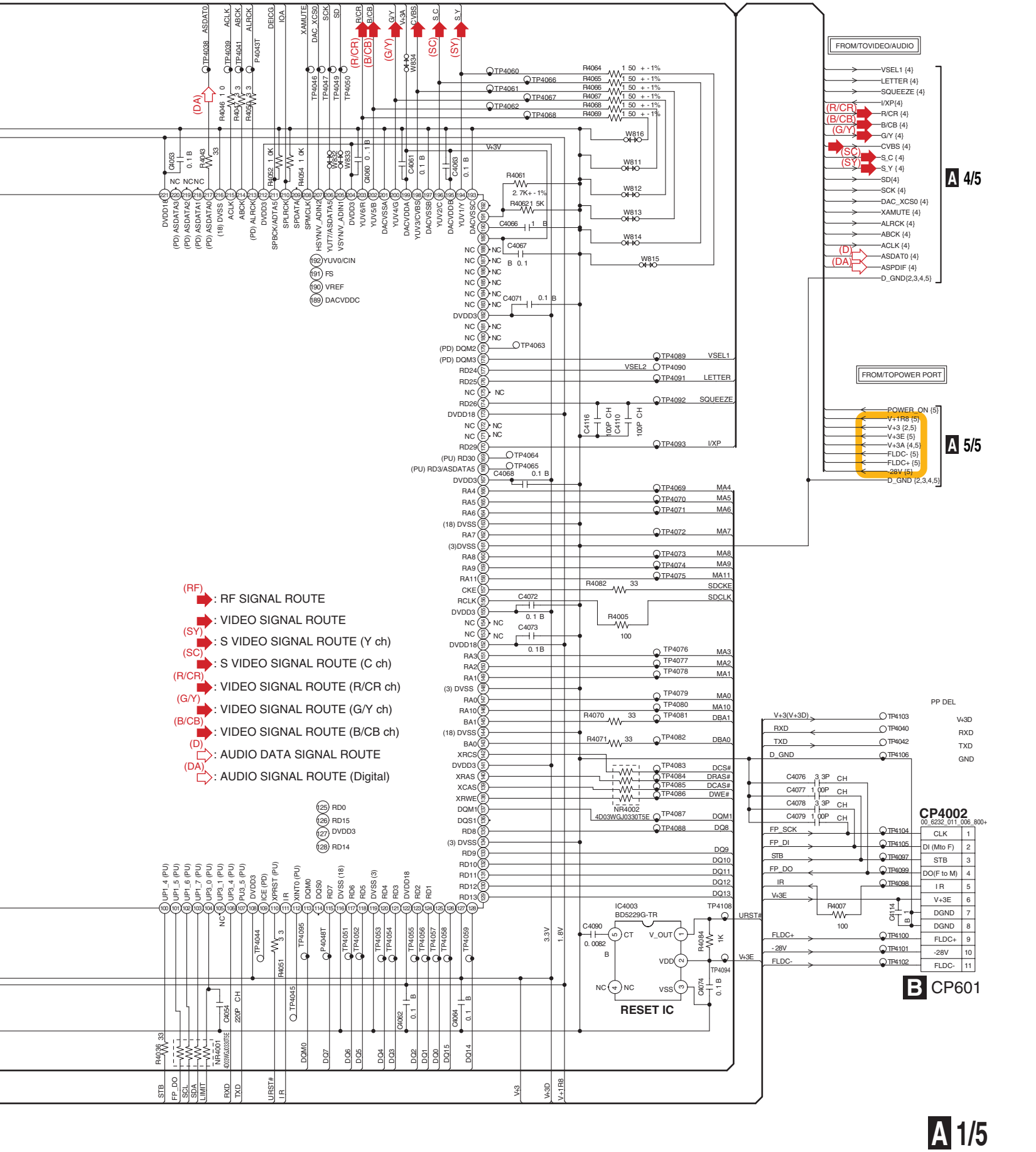
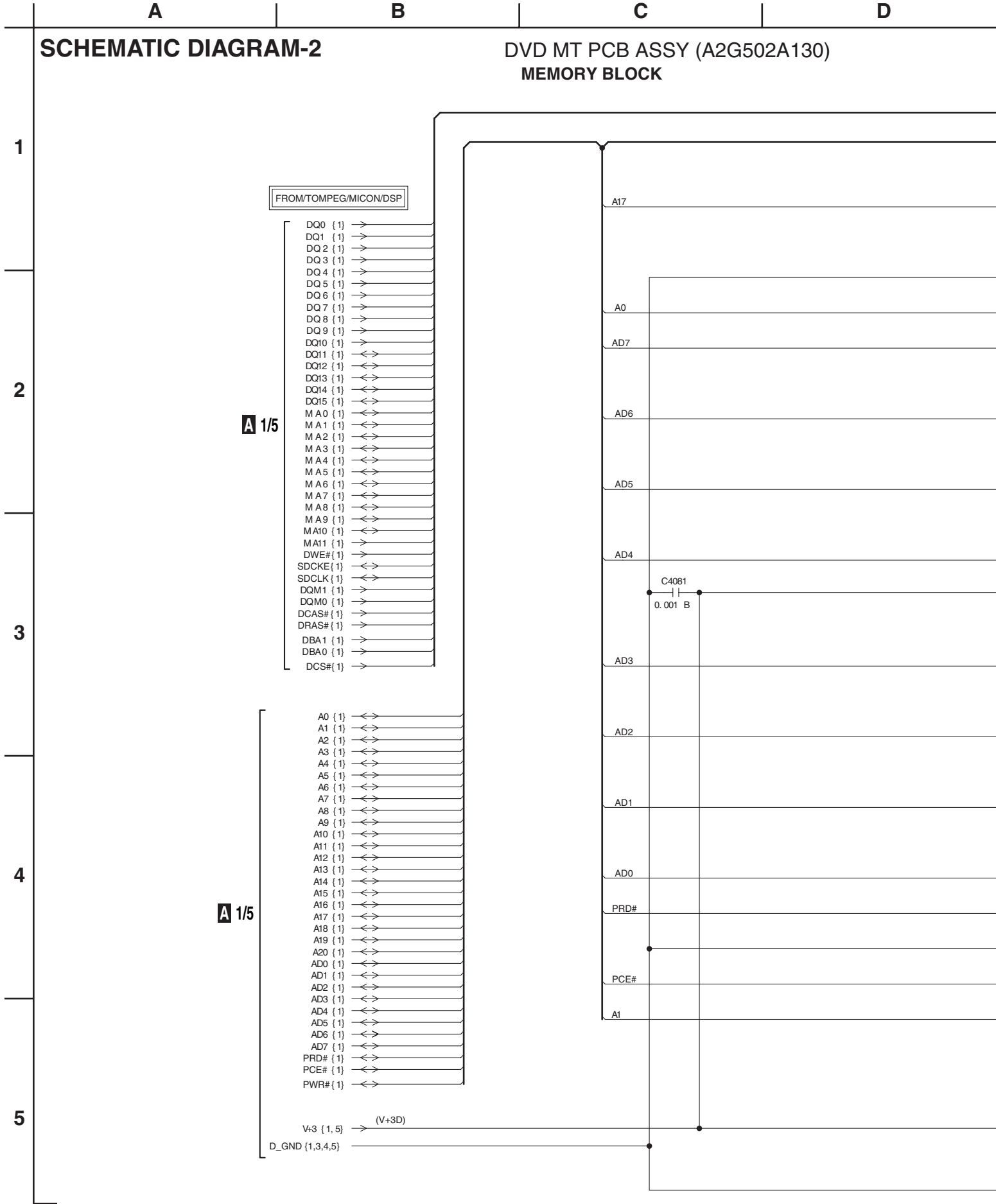
MPEG/MICON/RF-AMP BLOCK



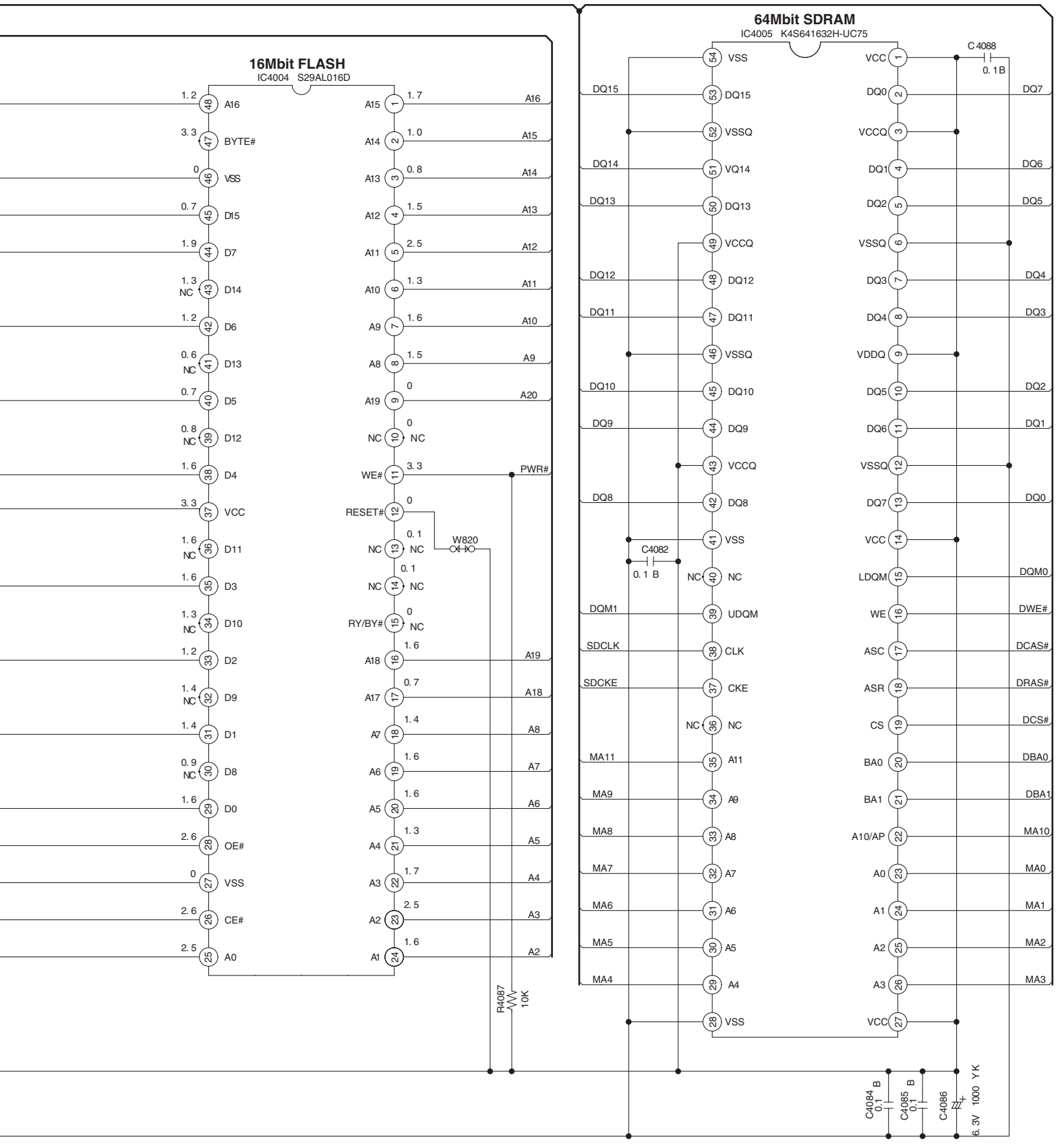
SCHEMATIC DIAGRAM-2

DVD MT PCB ASSY (A2G502A130)

MEMORY BLOCK



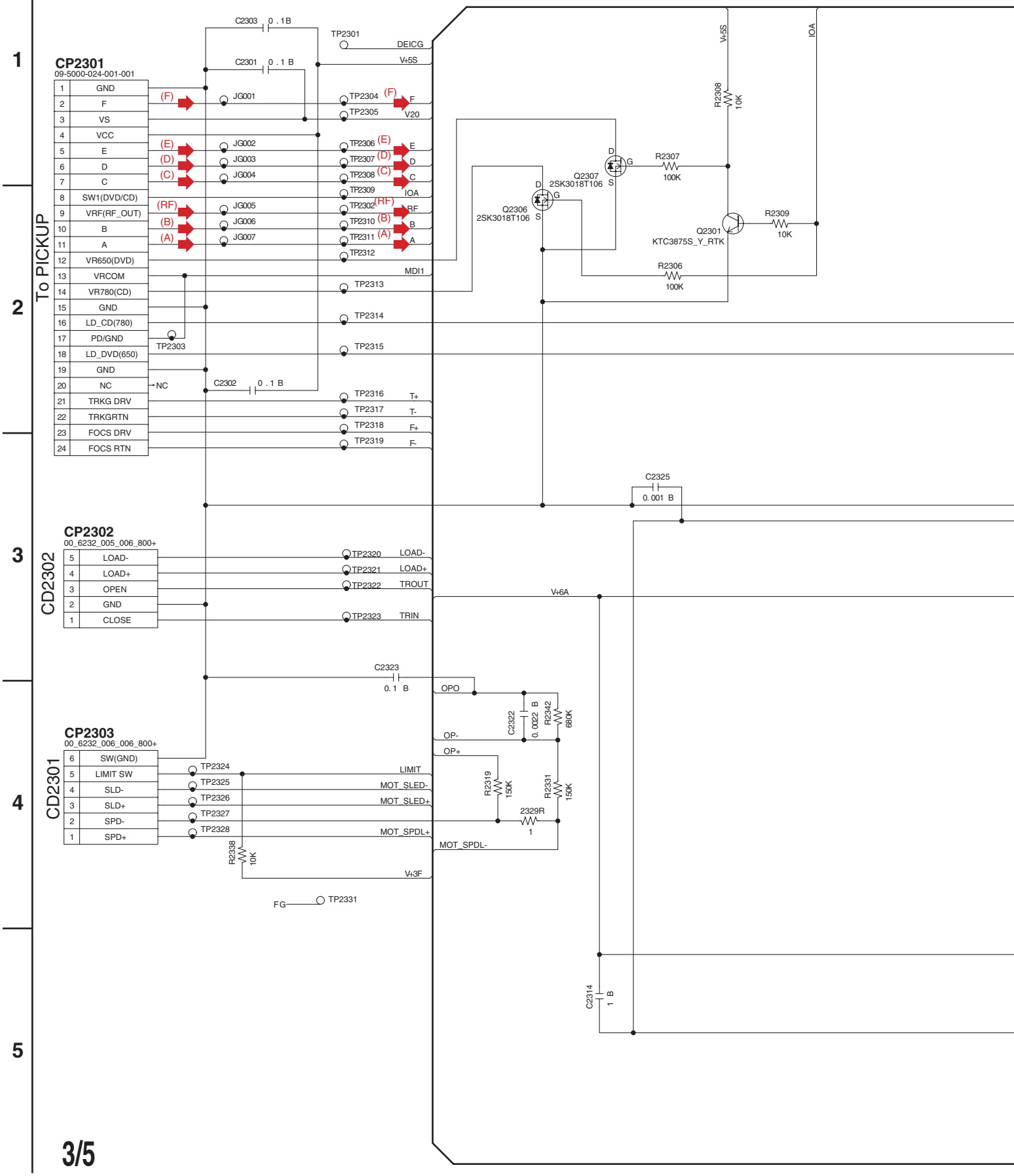
E F G H


16Mbit FLASH
IC4004 S29AL016D
A16
BYTE#
VSS
D15
D7
D14
D6
D13
D5
D12
D4
VCC
D11
D3
D10
D2
D9
D1
D8
D0
OE#
VSS
CE#
A0
A15
A14
A13
A12
A11
A10
A9
A8
A19
NC
WE#
RESET#
NC
NC
RY/BY#
A18
A17
A7
A6
A5
A4
A3
A2
A1
PWR#
W820
R4087
10K
64Mbit SDRAM
IC4005 K4S641632H-UC75
VSS
DQ15
VSSQ
VQ14
DQ13
VCCQ
DQ12
DQ11
VSSQ
DQ10
DQ9
VCCQ
DQ8
VSS
NC
UDQM
CLK
CKE
NC
A11
A9
A8
A7
A6
A5
A4
VSS
VCC
DQ0
VCCQ
DQ1
DQ2
VSSQ
DQ3
DQ4
VDDQ
DQ5
DQ6
VSSQ
DQ7
VCC
LDQM
WE
ASC
ASR
CS
BA0
BA1
A10/AP
A0
A1
A2
A3
VCC
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
DQM0
DWE#
DCAS#
DRAS#
DCS#
DBA0
DBA1
MA10
MA0
MA1
MA2
MA3
C4088
0.1B
C4082
0.1 B
C4084
0.1 B
C4085
0.1 B
C4086
6.3V 1000 YK

SCHEMATIC DIAGRAM-3

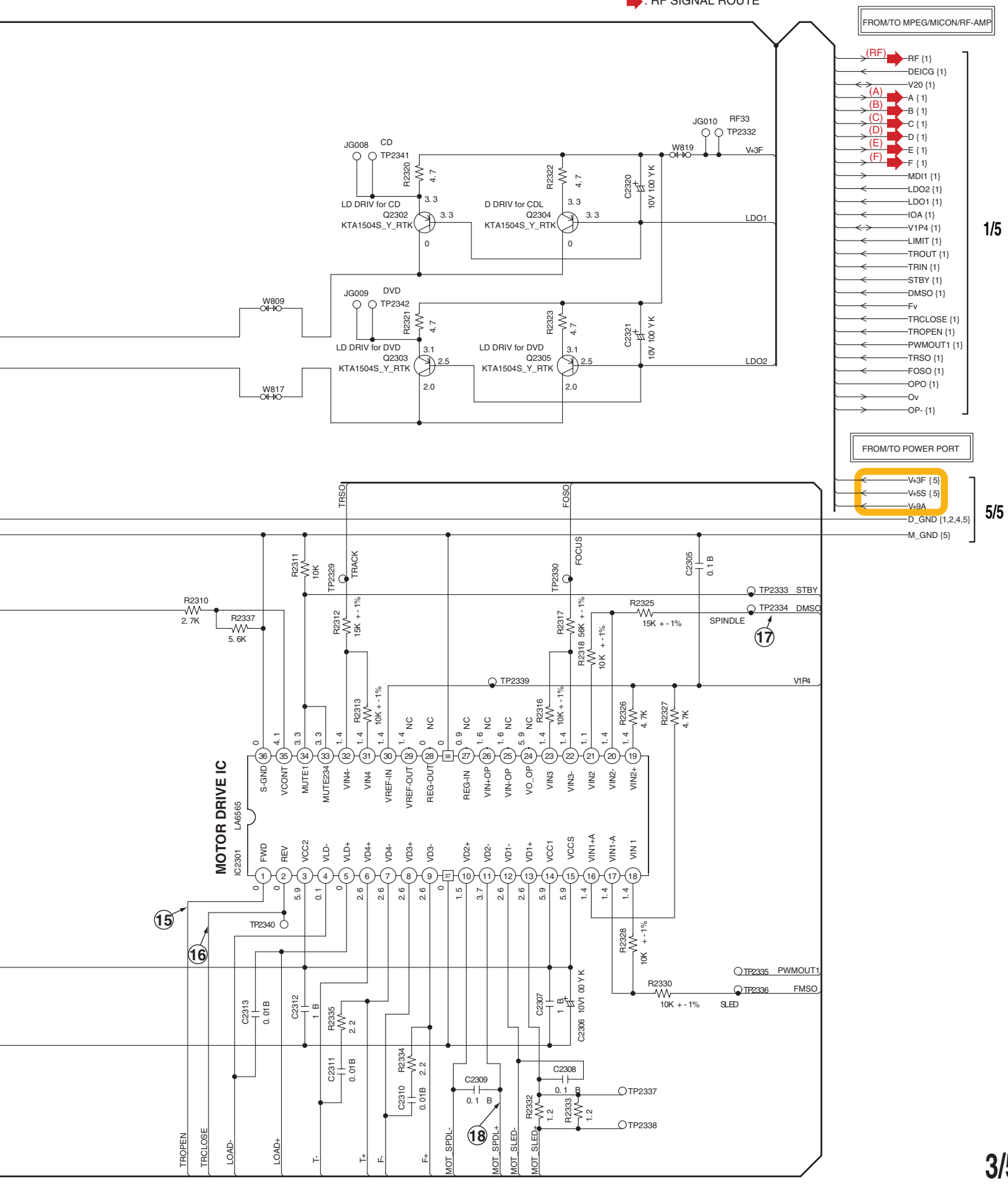
DVD MT PCB ASSY (A2G502A130)

LOADER/MOTOR DRV BLOCK



E F G H

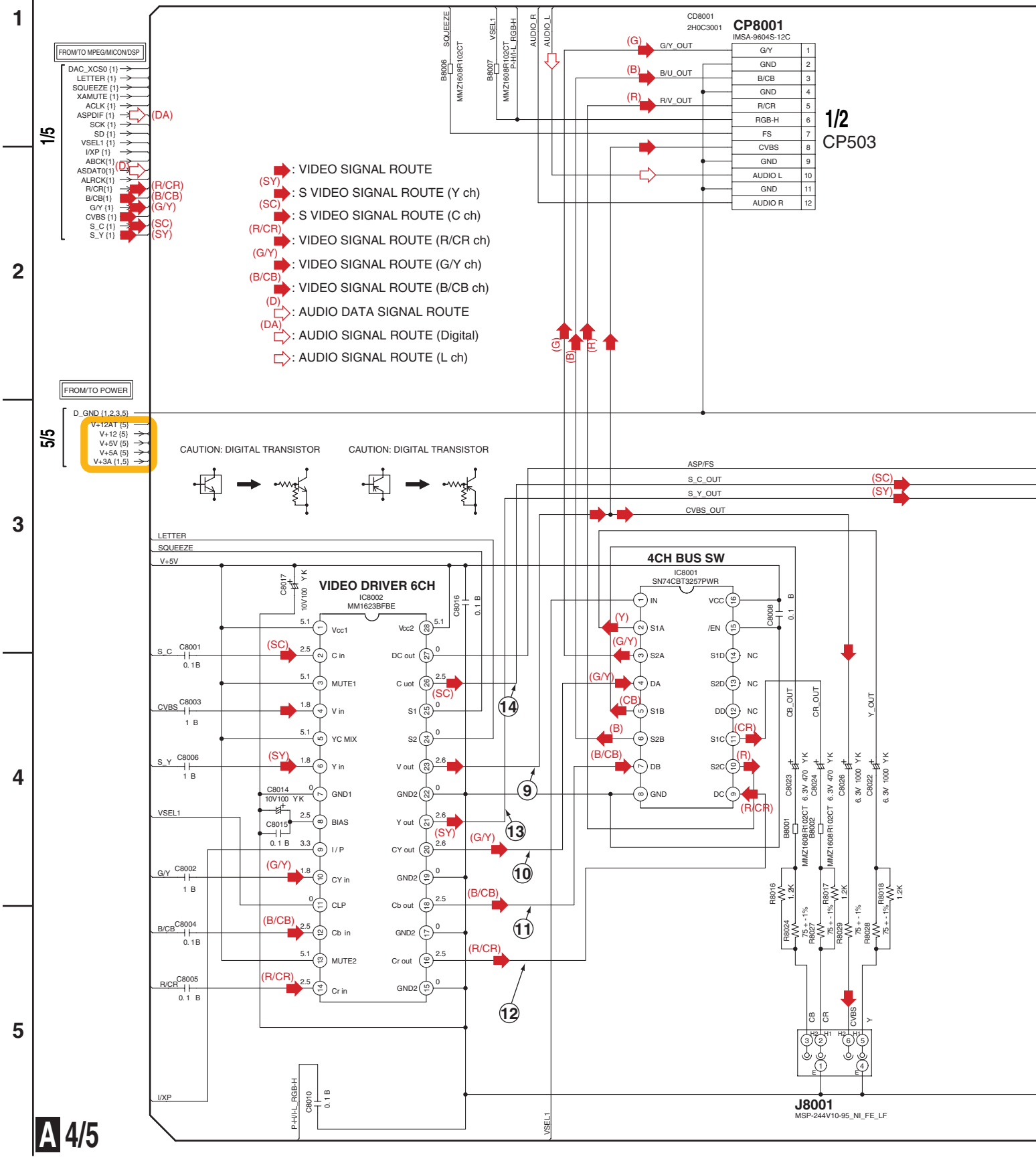
(RF) : RF SIGNAL ROUTE



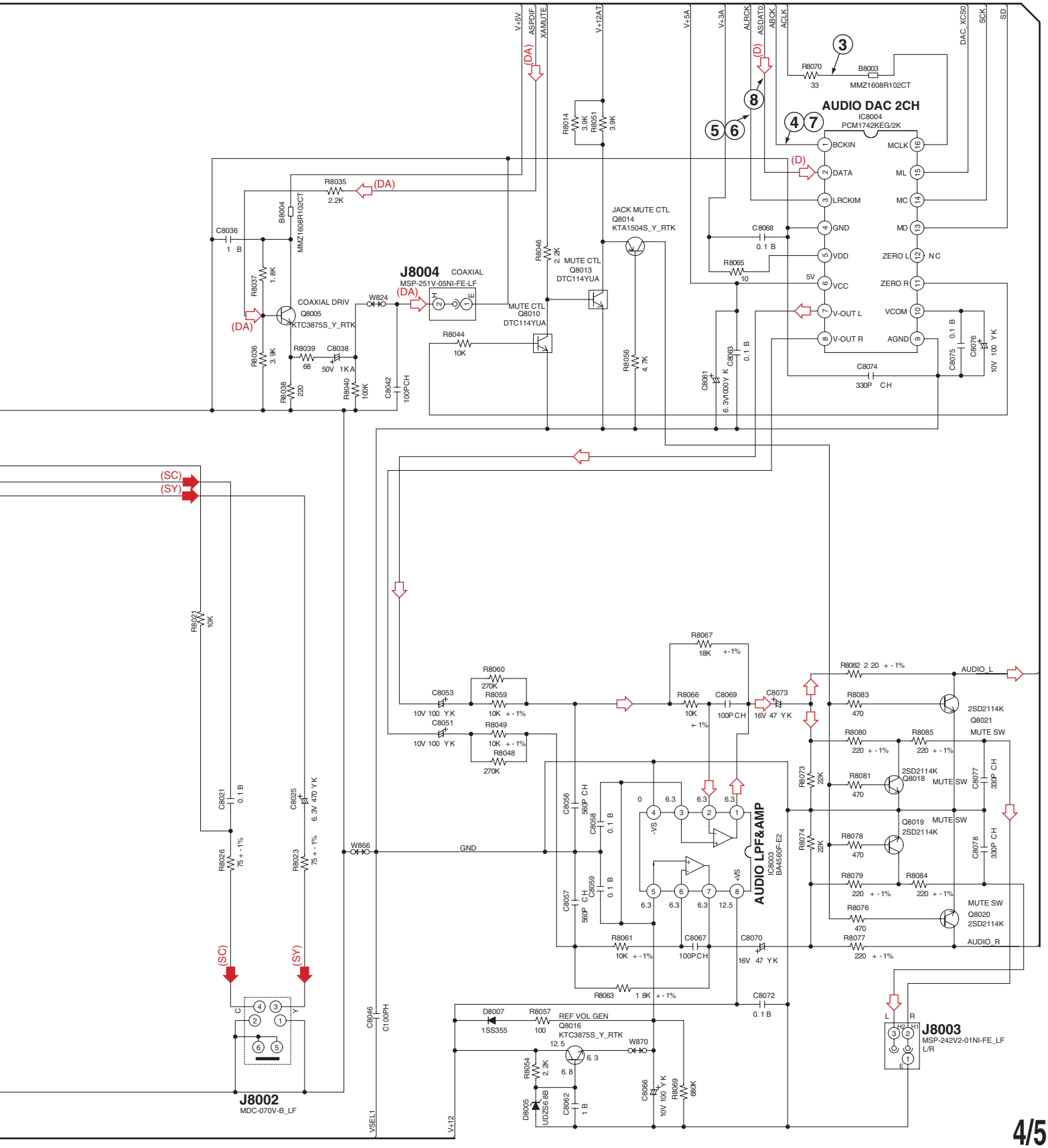
SCHEMATIC DIAGRAM-4

DVD MT PCB ASSY (A2G502A130)

AUDIO/VIDEO JACK BLOCK



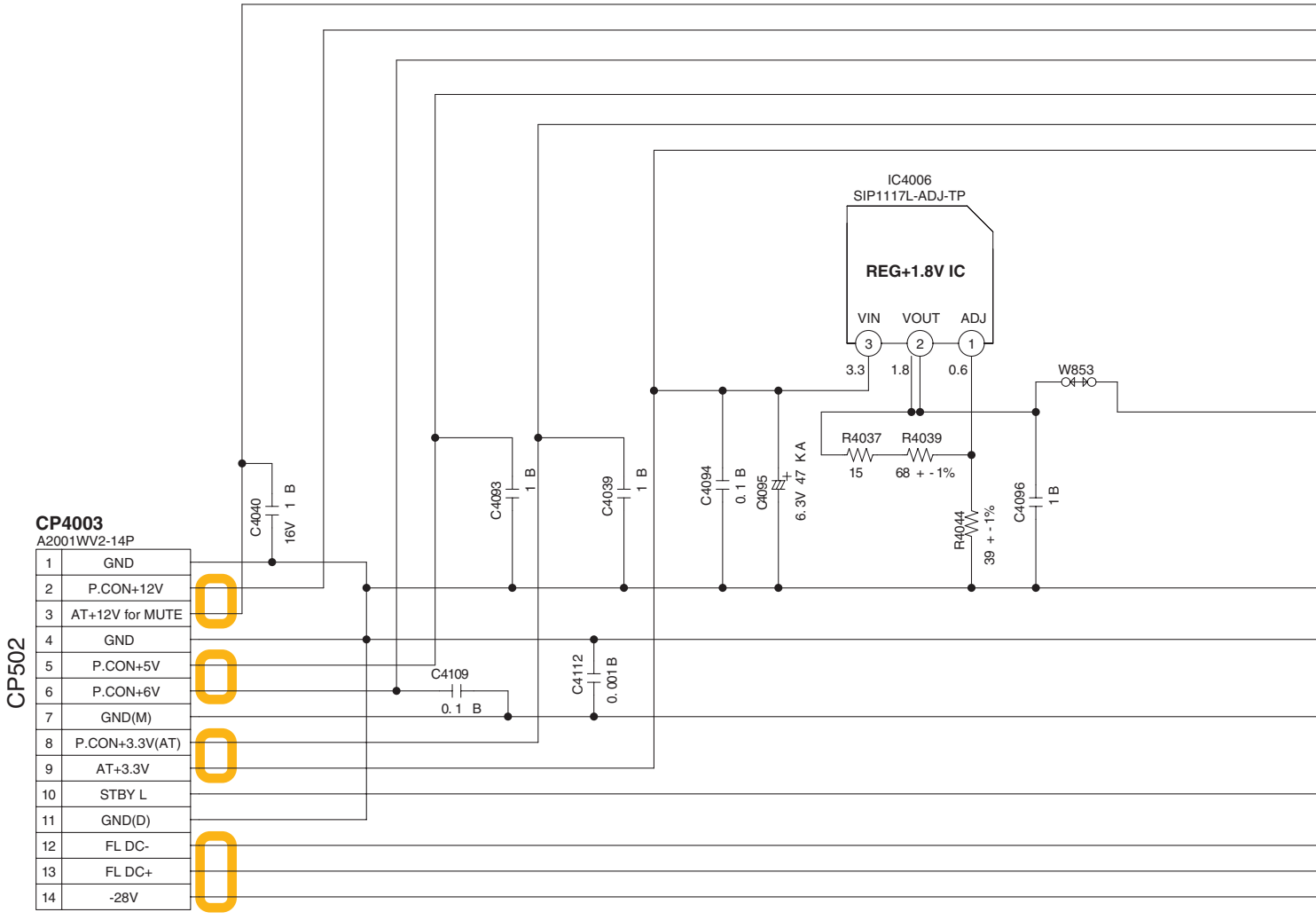
E F G H


AUDIO DAC 2CH
IC8004
PCM1742KEG/2K
BCKIN
DATA
LRCKIM
GND
VDD
VCC
V-OUT L
V-OUT R
MCLK
ML
MC
MD
ZERO L
NC
ZERO R
VCOM
AGND
DAC_XCSO
SCK
SD
J8004 COAXIAL
MSP-251V-05NI-FE-LF
COAXIAL DRIV
Q8005
KTC3875S_Y_RTK
MUTE CTL
Q8013
DTC114YUA
MUTE CTL
Q8010
DTC114YUA
JACK MUTE CTL
Q8014
KTA1504S_Y_RTK
AUDIO LPF&AMP
IC8003
BA4560F-E2
REF VOL GEN
Q8016
KTC3875S_Y_RTK
2SD2114K
Q8021
2SD2114K
Q8018
Q8019
2SD2114K
MUTE SW
Q8020
2SD2114K
AUDIO_L
AUDIO_R
J8002
MDC-070V-B_LF
J8003
MSP-242V2-01NI-FE_LF
L/R
GND
VSEL1
V+12
(SC)
(SY)
(DA)
(D)

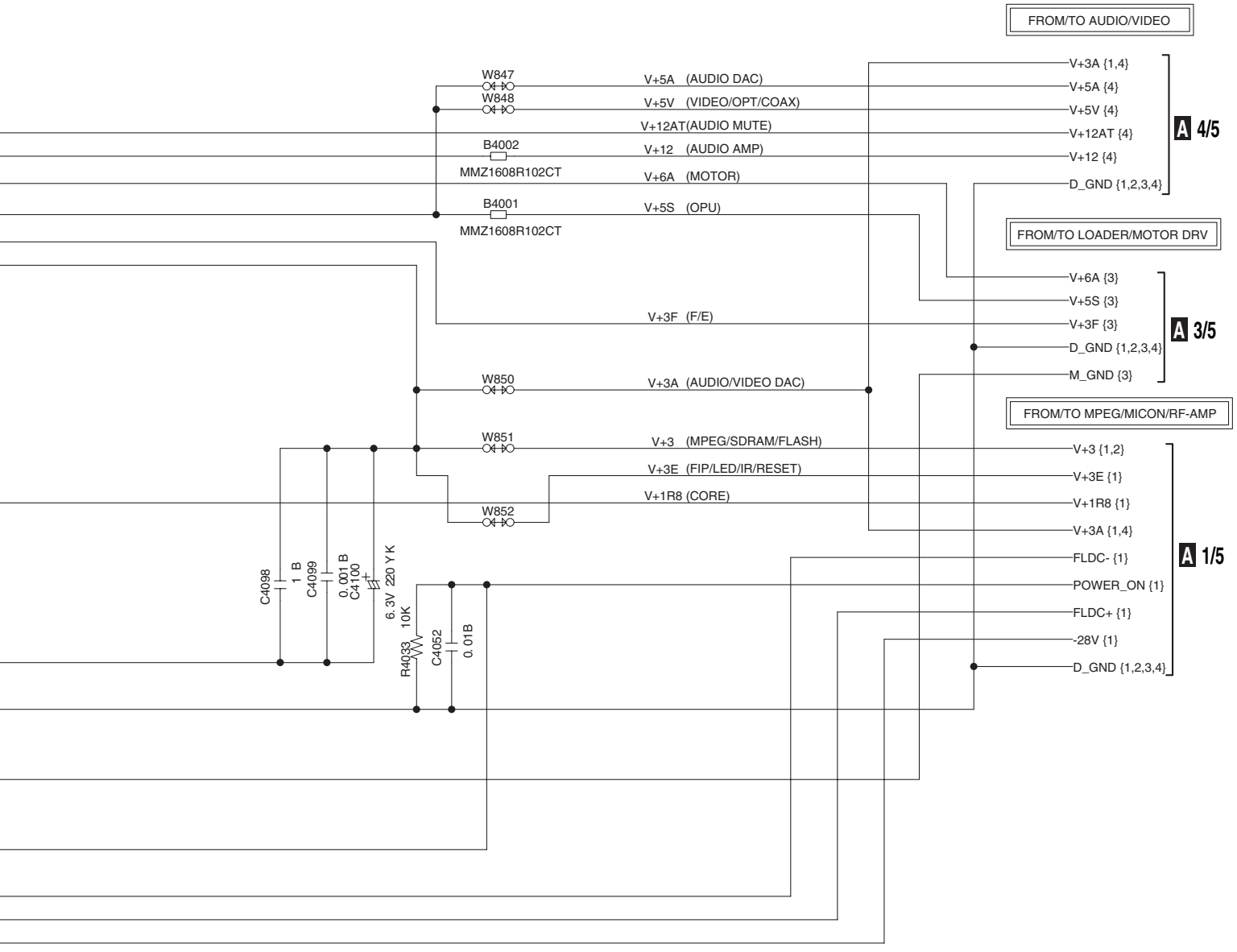
SCHEMATIC DIAGRAM-5

DVD MT PCB ASSY (A2G502A130)

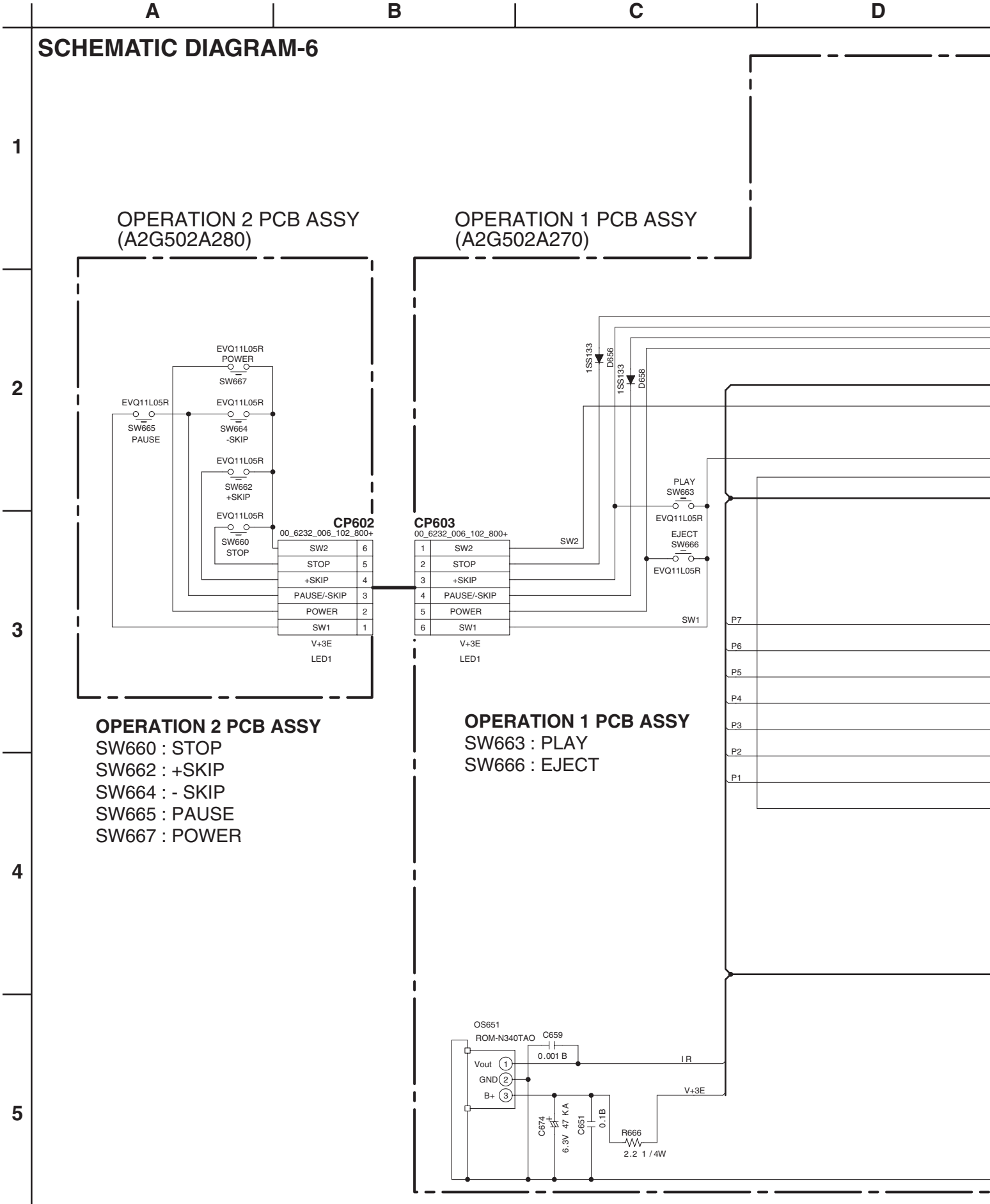
POWER PORT BLOCK



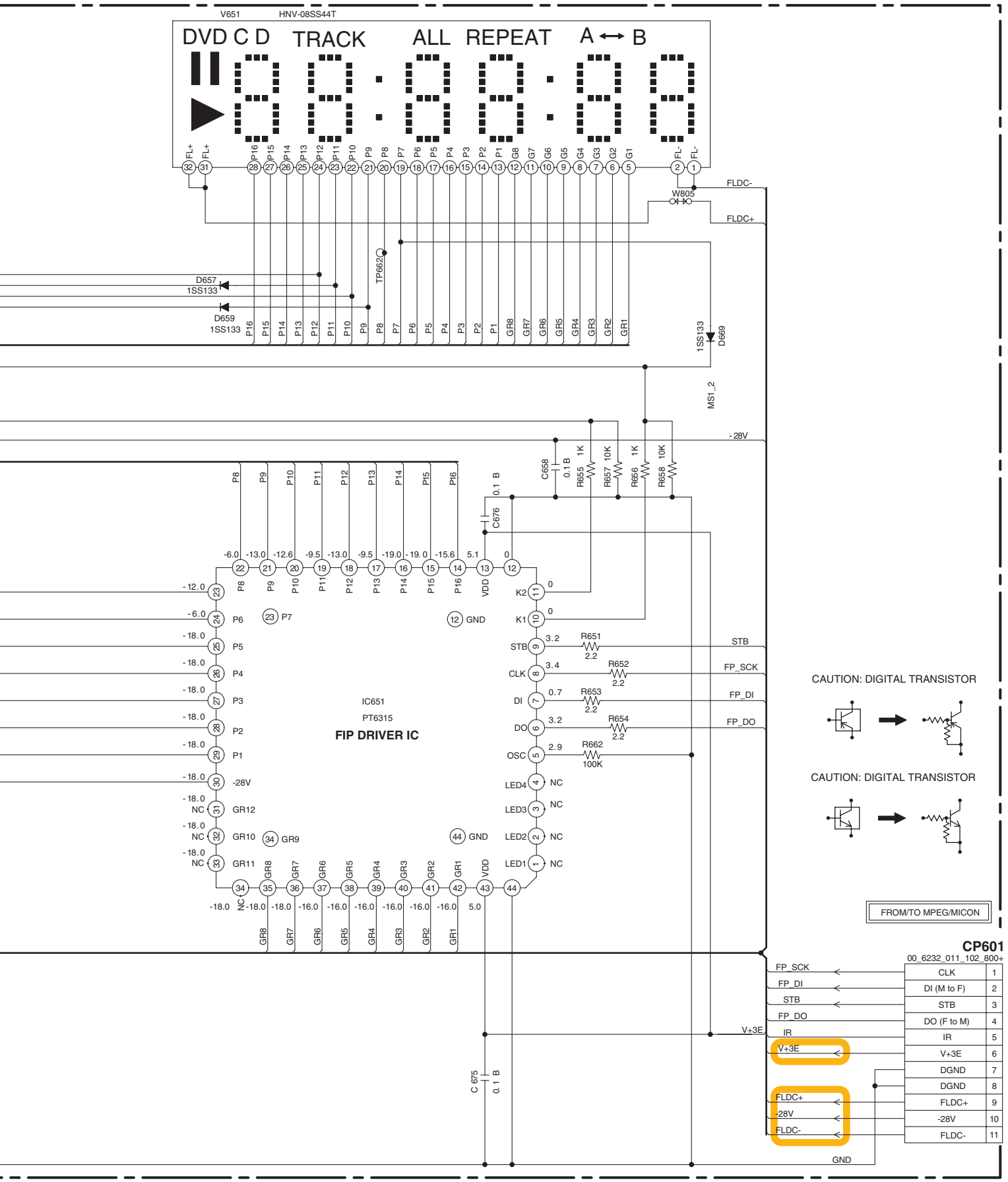
E F G H


FROM/TO AUDIO/VIDEO
W847
W848
V+5A (AUDIO DAC)
V+5V (VIDEO/OPT/COAX)
V+12AT(AUDIO MUTE)
B4002
V+12 (AUDIO AMP)
MMZ1608R102CT
V+6A (MOTOR)
B4001
V+5S (OPU)
MMZ1608R102CT
V+3F (F/E)
W850
V+3A (AUDIO/VIDEO DAC)
W851
V+3 (MPEG/SDRAM/FLASH)
V+3E (FIP/LED/IR/RESET)
V+1R8 (CORE)
W852
C4098 1 B
C4099 0.001 B
C4100 6.3V 220 Y K
R4033 10K
C4052 0.01B
V+3A {1,4}
V+5A {4}
V+5V {4}
V+12AT {4}
V+12 {4}
D_GND {1,2,3,4}
A 4/5
FROM/TO LOADER/MOTOR DRV
V+6A {3}
V+5S {3}
V+3F {3}
D_GND {1,2,3,4}
M_GND {3}
A 3/5
FROM/TO MPEG/MICON/RF-AMP
V+3 {1,2}
V+3E {1}
V+1R8 {1}
V+3A {1,4}
FLDC- {1}
POWER_ON {1}
FLDC+ {1}
-28V {1}
D_GND {1,2,3,4}
A 1/5

SCHEMATIC DIAGRAM-6



E F G H

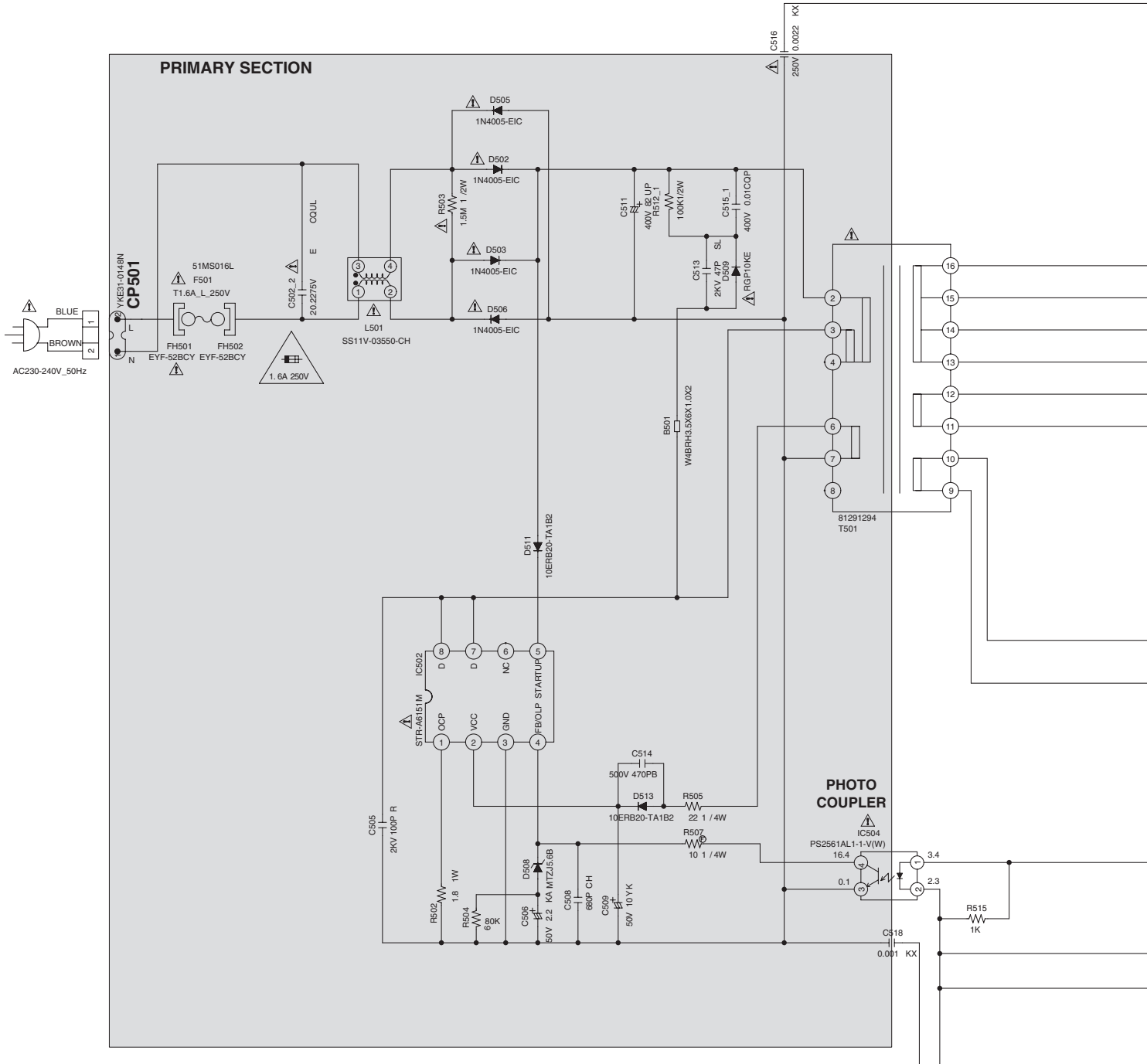


1/5 CP4002

SCHEMATIC DIAGRAM-7

POWER PCB ASSY (A2G502A240)

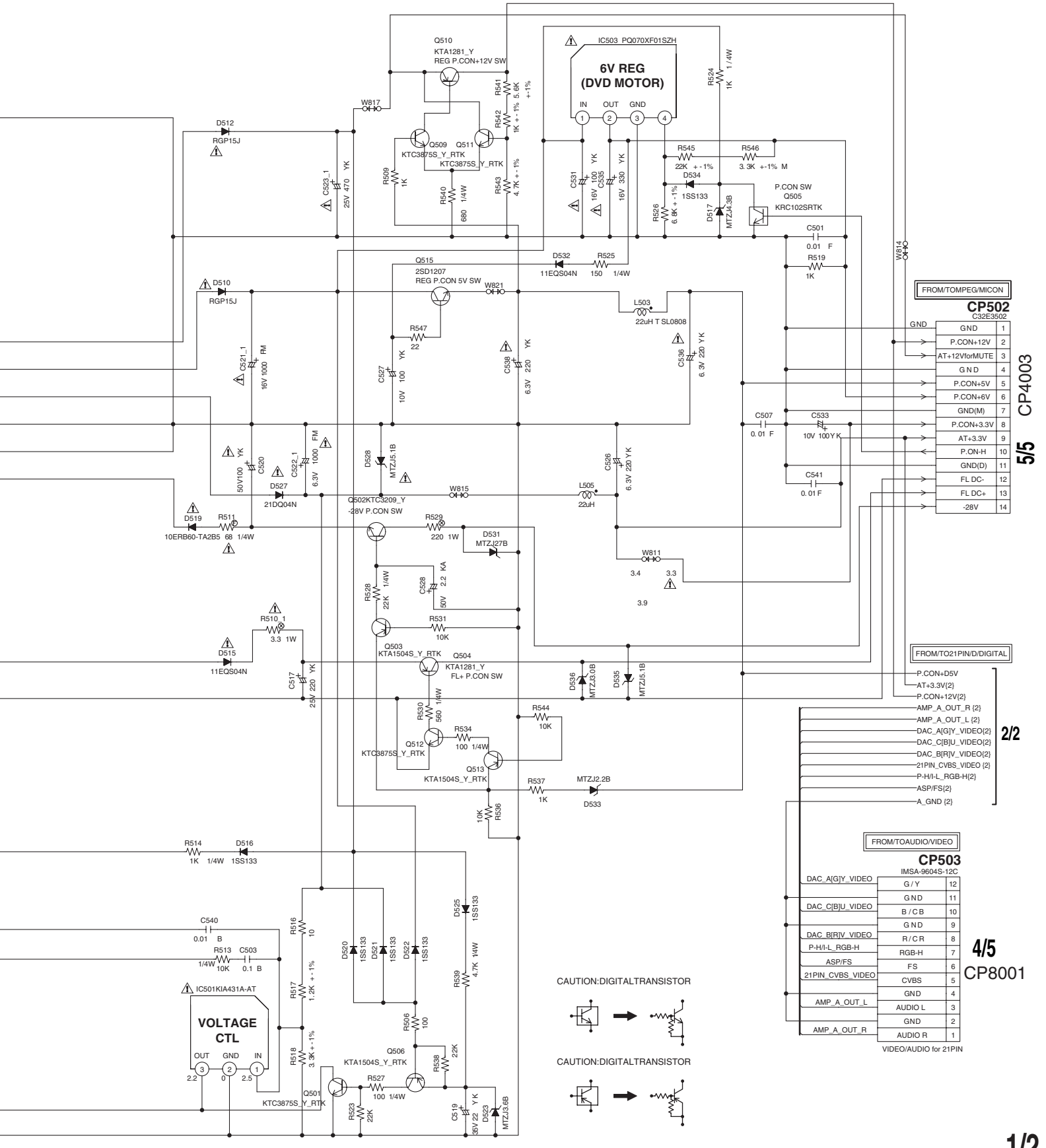
POWER BLOCK



NOTE FOR FUSE REPLACEMENT

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

E F G H

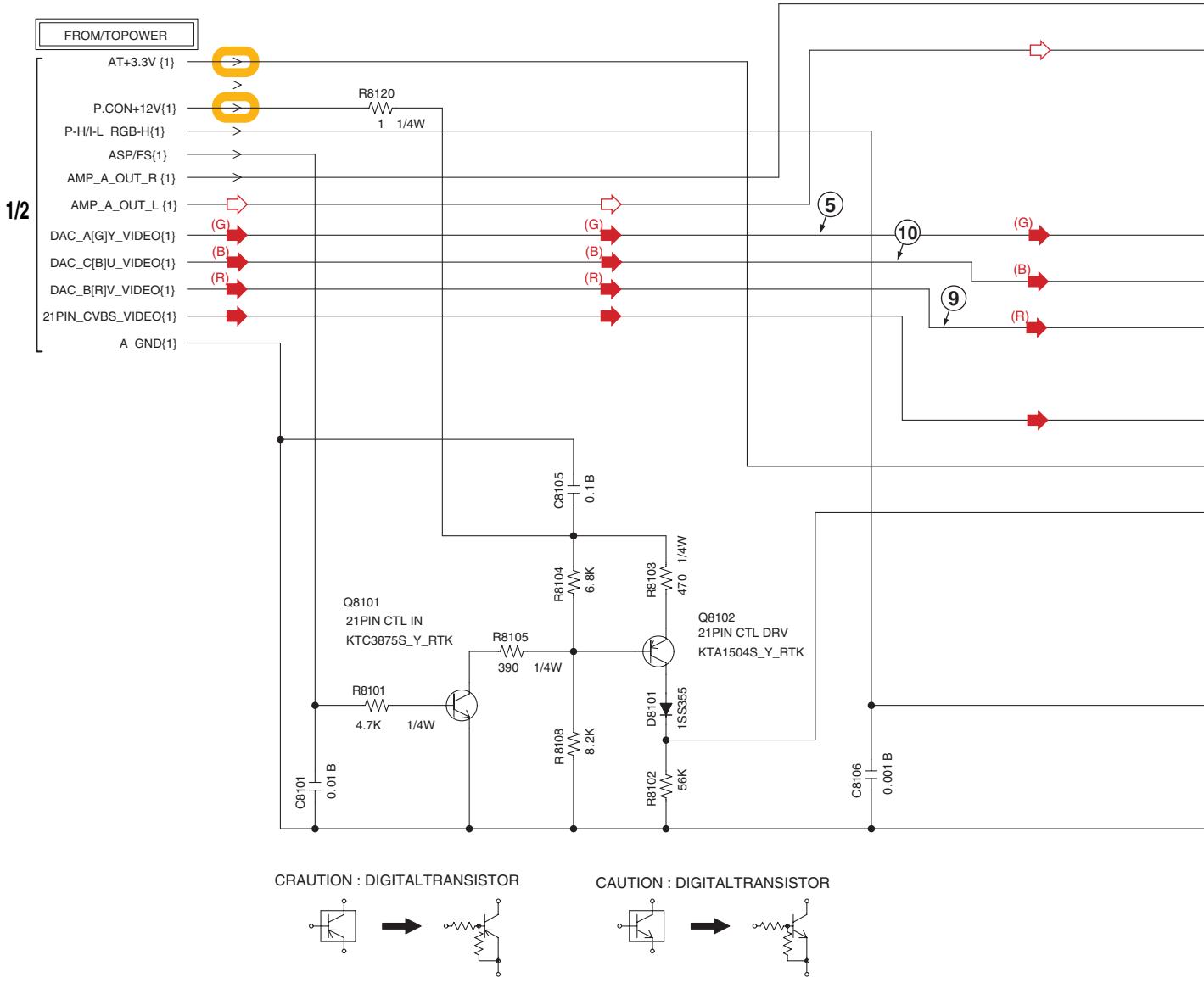

Q510
KTA1281_Y
REG P.CON+12V SW
IC503 PQ070XF01SZH
6V REG
(DVD MOTOR)
IN OUT GND
Q509 Q511
KTC3875S_Y_RTK
KTC3875S_Y_RTK
D512
RGP15J
W817
R524 1K 1/4W
R545 22K +-1%
R546 3.3K +-1% M
D534 1SS133
P.CON SW
Q505
KRC102SRTK
D517 MTZJ4.3B
C501 0.01 F
R519 1K
W814
Q515
2SD1207
REG P.CON 5V SW
D532 11EQS04N
R525 150 1/4W
W821
D510
RGP15J
L503 22uH T SL0808
R547 22
C521_1 16V 1000 RM
C527 10V 100 YK
C538 6.3V 220 YK
C536 6.3V 220 YK
C507 0.01 F
C533 10V 100 YK
C541 0.01 F
C520 50V100 YK
C522_1 6.3V 1000 FM
D528 MTZJ5.1B
D527 21DQ04N
Q502KTC3209_Y
-28V P.CON SW
W815
L505 22uH
C526 6.3V 220 YK
D519 10ERB60-TA2B5
R511 68 1/4W
R529 220 1W
D531 MTZJ27B
W811 3.4 3.3 3.9
R528 22K 1/4W
C528 2.2 KA 50V
R531 10K
R510_1 3.3 1W
Q503
KTA1504S_Y_RTK
Q504
KTA1281_Y
FL+ P.CON SW
D515 11EQS04N
C517 25V 220 YK
D536 MTZJ3.0B
D535 MTZJ5.1B
R530 560 1/4W
R544 10K
R534 100 1/4W
Q512
KTC3875S_Y_RTK
Q513
KTA1504S_Y_RTK
R537 1K
MTZJ2.2B
D533
10K R536
R514 1K 1/4W
D516 1SS133
C540 0.01 B
R513 10K 1/4W
C503 0.1 B
R516 10
R517 1.2K +-1%
R518 3.3K +-1%
IC501KIA431A-AT
VOLTAGE
CTL
OUT GND IN
2.2 0 2.5
D520 1SS133
D521 1SS133
D522 1SS133
D525 1SS133
R539 4.7K 1/4W
R506 100
R538 22K
Q506
KTA1504S_Y_RTK
R527 100 1/4W
Q501
KTC3875S_Y_RTK
R523 22K
C519 35V 22 YK
D523 MTZJ3.6B
CAUTION:DIGITALTRANSISTOR
CAUTION:DIGITALTRANSISTOR
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
5/5
CP4003
FROM/TO21PIN/D/DIGITAL
P.CON+D5V
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]V_VIDEO{2}
21PIN_CVBS_VIDEO {2}
P-H/I-L_RGB-H{2}
ASP/FS{2}
A_GND {2}
2/2
FROM/TOAUDIO/VIDEO
CP503
IMSA-9604S-12C
DAC_A[G]Y_VIDEO G/Y 12
GND 11
DAC_C[B]U_VIDEO B/CB 10
GND 9
DAC_B[R]V_VIDEO R/CR 8
P-H/I-L_RGB-H RGB-H 7
ASP/FS FS 6
21PIN_CVBS_VIDEO CVBS 5
GND 4
AMP_A_OUT_L AUDIO L 3
GND 2
AMP_A_OUT_R AUDIO R 1
VIDEO/AUDIO for 21PIN
4/5
CP8001
1/2

SCHEMATIC DIAGRAM-8

POWER PCB ASSY (A2G502A240)

21PIN/D/DIGTAL AUDIO BLOCK

Europe Nodel only

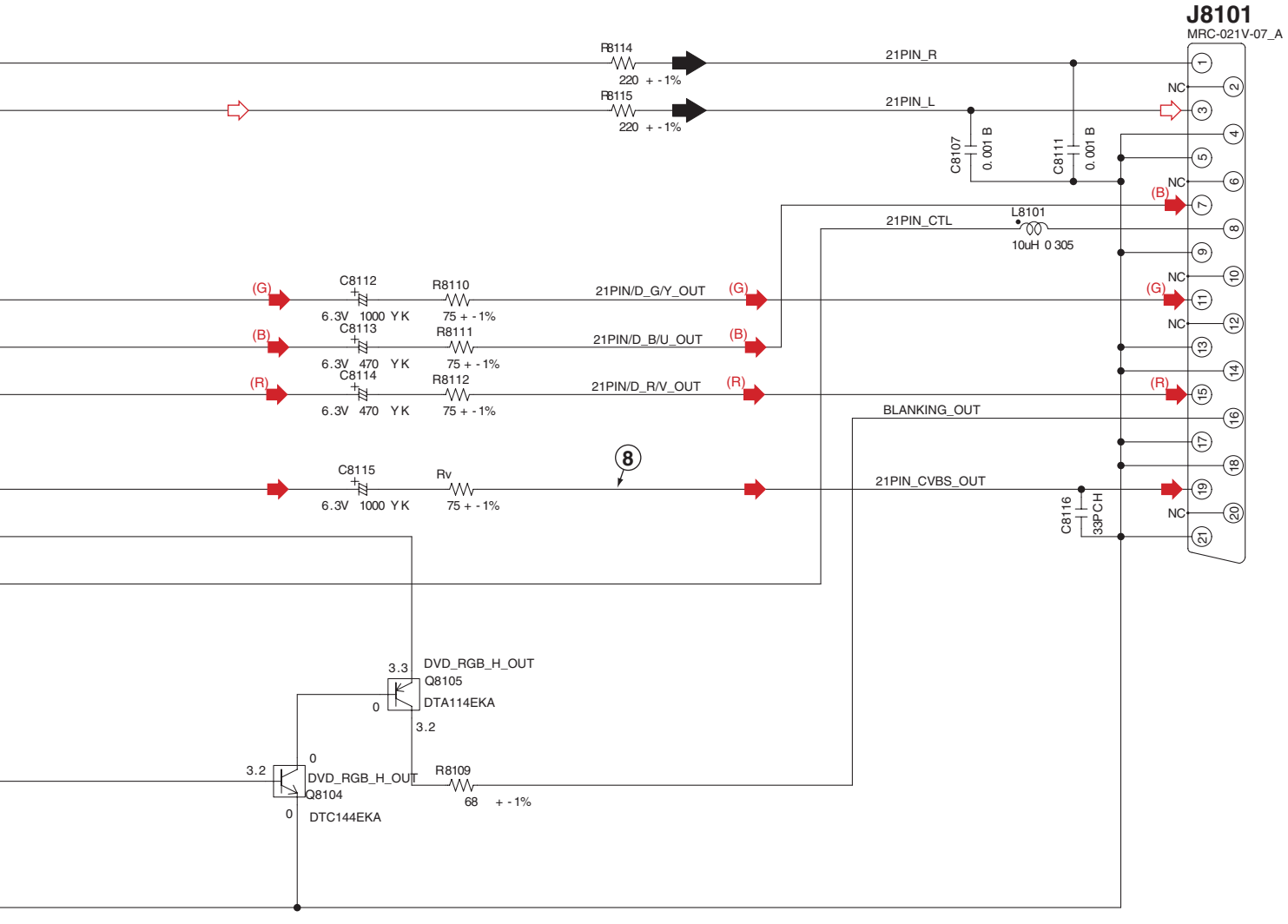


CRAUTION : DIGITALTRANSISTOR

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)



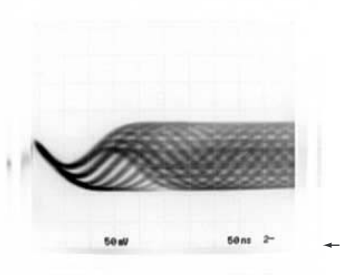
WAVE FORMS-1

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

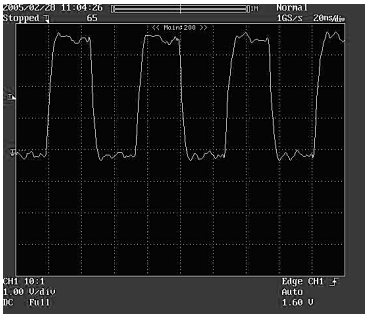
DVD MT PCB ASSY

① **Foot of C626 [RF]**(IC4002 - pin 6)
V: 200mV/div. H: 0.1µsec/div.

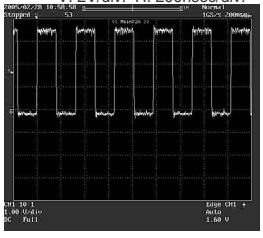


← GND

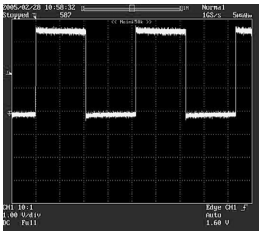
③ **Foot of R8070** (IC8004 - pin 16)
[AUDIO DAC -MCLK]



④ **Foot of R4004** (IC8004 - pin 1)
[AUDIO DAC -BCK]
V: 2V/div. H: 200nsec/div.



⑤ **Foot of R4050** (IC8004 - pin 3)
[AUDIO DAC -LRCK]

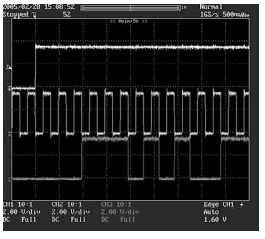


V: 2V/div. H: 5µsec/div.

⑥ **Foot of R4050** (IC8004 - pin 3)
[AUDIO DAC -LRCK]

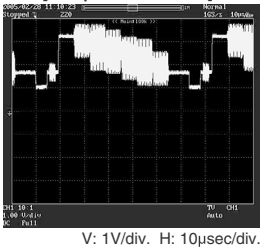
⑦ **Foot of R8047** (IC8004 - pin 1)
[AUDIO DAC -BCK]

⑧ **Foot of R4043** (IC8004 - pin 2)
[AUDIO DAC -DATA]
(Waveform of DATA is unsettled.)



V: 2V/div. H: 500nsec/div.

⑨ (IC8002 - pin 23)
[Composite Video out]

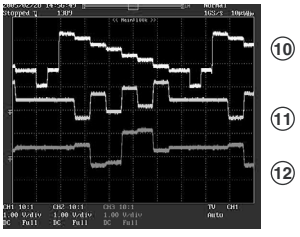


V: 1V/div. H: 10µsec/div.

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

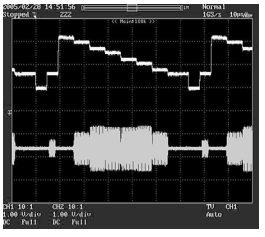
⑪ (IC8002 - pin 18)
[Component Video out -Pb]
V: 2V/div. H: 10µsec/div.

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.

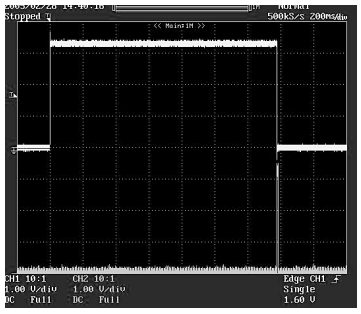
⑭ (IC8002 - pin 26)
[S Video out -C]
V: 1V/div. H: 10µsec/div.



WAVE FORMS-2

DVD MT PCB ASSY

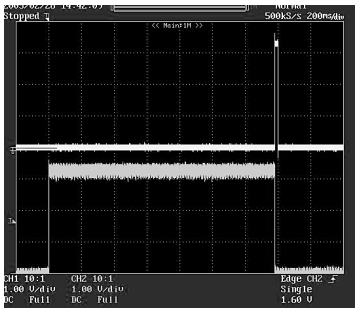
⑮ **Foot of R4026**(IC2301 - pin 1) **[TROPEN]**
[Tray is Open]



⑮
⑯

V: 1V/div. H: 5µsec/div.

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

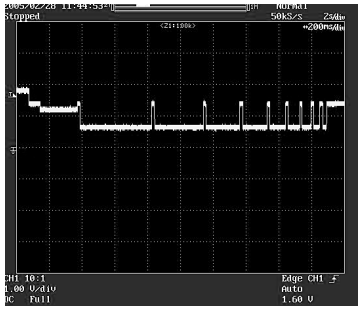


⑮
⑯

V: 1V/div. H: 5µsec/div.

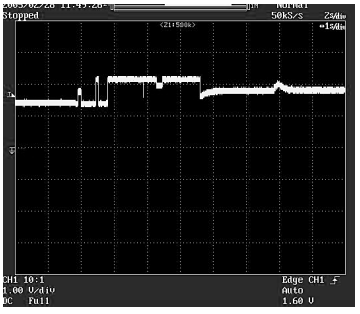
⑰ **Foot of R618** (IC4002 - pin 37) **[DMSO]**

[DMSO_OPEN]



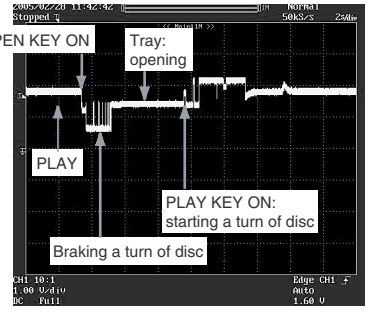
V: 1V/div. H: 10µsec/div.

[DMSO_PLAY]



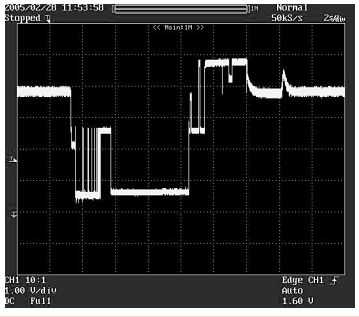
V: 1V/div. H: 10µsec/div.

[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

IC4002
MT1389FE/C2-L
MPEG/MICON/RF-AMP

(RF): RF SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
(SY): S VIDEO SIGNAL ROUTE (Y ch)
(SC): S VIDEO SIGNAL ROUTE (C 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 LOADER/MOTOR DRV
FROM/TO MEMORY
FROM/TO TOVIDEO/AUDIO
FROM/TOPOWER PORT

EEPROM
IC4001 BR24L16FJ-WE2

RESET IC
IC4003 BD5229G-TR

CP4002 00_6232_011_006_800+
CP601

A 3/5 A 2/5 A 4/5 A 5/5 A 1/5 B CP601

SCHEMATIC DIAGRAM-2

DVD MT PCB ASSY (A2G502A130)

MEMORY BLOCK

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}
DQM0 {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}

16Mbit FLASH

IC4004 S29AL016D

A17	1.2	48	A16	A15	1	1.7	A16
	3.3	47	BYTE#	A14	2	1.0	A15
	0	46	VSS	A13	3	0.8	A14
A0	0.7	45	DI5	A12	4	1.5	A13
AD7	1.9	44	D7	A11	5	2.5	A12
	1.3 NC	43	D14	A10	6	1.3	A11
AD6	1.2	42	D6	A9	7	1.6	A10
	0.6 NC	41	D13	A8	8	1.5	A9
AD5	0.7	40	D5	A19	9	0	A20
	0.8 NC	39	D12	NC	10	0 NC	
AD4	1.6	38	D4	WE#	11	3.3	PWR#
C4081 0.001 B	3.3	37	VCC	RESET#	12	0	
	1.6 NC	36	D11	NC	13	0.1 NC	W820
AD3	1.6	35	D3	NC	14	0.1 NC	
	1.3 NC	34	D10	RY/BY#	15	0 NC	
AD2	1.2	33	D2	A18	16	1.6	A19
	1.4 NC	32	D9	A17	17	0.7	A18
AD1	1.4	31	D1	A7	18	1.4	A8
	0.9 NC	30	D8	A6	19	1.6	A7
AD0	1.6	29	D0	A5	20	1.6	A6
PRD#	2.6	28	OE#	A4	21	1.3	A5
	0	27	VSS	A3	22	1.7	A4
PCE#	2.6	26	CE#	A2	23	2.5	A3
A1	2.5	25	A0	A1	24	1.6	A2

R4087 10K

64Mbit SDRAM

IC4005 K4S641632H-UC75

				VSS	54	1	VCC
DQ15	53	DQ15	DQ0	2	DQ7		
	52	VSSQ	VCCQ	3			
DQ14	51	VQ14	DQ1	4	DQ6		
DQ13	50	DQ13	DQ2	5	DQ5		
	49	VCCQ	VSSQ	6			
DQ12	48	DQ12	DQ3	7	DQ4		
DQ11	47	DQ11	DQ4	8	DQ3		
	46	VSSQ	VDDQ	9			
DQ10	45	DQ10	DQ5	10	DQ2		
DQ9	44	DQ9	DQ6	11	DQ1		
	43	VCCQ	VSSQ	12			
DQ8	42	DQ8	DQ7	13	DQ0		
C4082 0.1 B	41	VSS	VCC	14			
NC	40	NC	LDQM	15	DQM0		
DQM1	39	UDQM	WE	16	DWE#		
SDCLK	38	CLK	ASC	17	DCAS#		
SDCKE	37	CKE	ASR	18	DRAS#		
	36	NC	CS	19	DCS#		
MA11	35	A11	BA0	20	DBA0		
MA9	34	A9	BA1	21	DBA1		
MA8	33	A8	A10/AP	22	MA10		
MA7	32	A7	A0	23	MA0		
MA6	31	A6	A1	24	MA1		
MA5	30	A5	A2	25	MA2		
MA4	29	A4	A3	26	MA3		
	28	VSS	VCC	27			

C4084 0.1 B
C4085 0.1 B
C4086 22 6.3V 1000 YK

A 2/5

A 2/5

SCHEMATIC DIAGRAM-3

DVD MT PCB ASSY (A2G502A130)

LOADER/MOTOR DRV BLOCK

(RF): RF SIGNAL ROUTE

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	TRKGRTN
23	FOCS DRV
24	FOCS RTN

To PICKUP

CP2302
00_6232_005_006_800+

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

CD2302

CP2303
00_6232_006_006_800+

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

CD2301

MOTOR DRIVE IC
IC2301 LA6565

FROM/TO MPEG/MICON/RF-AMP

FROM/TO POWER PORT

1/5

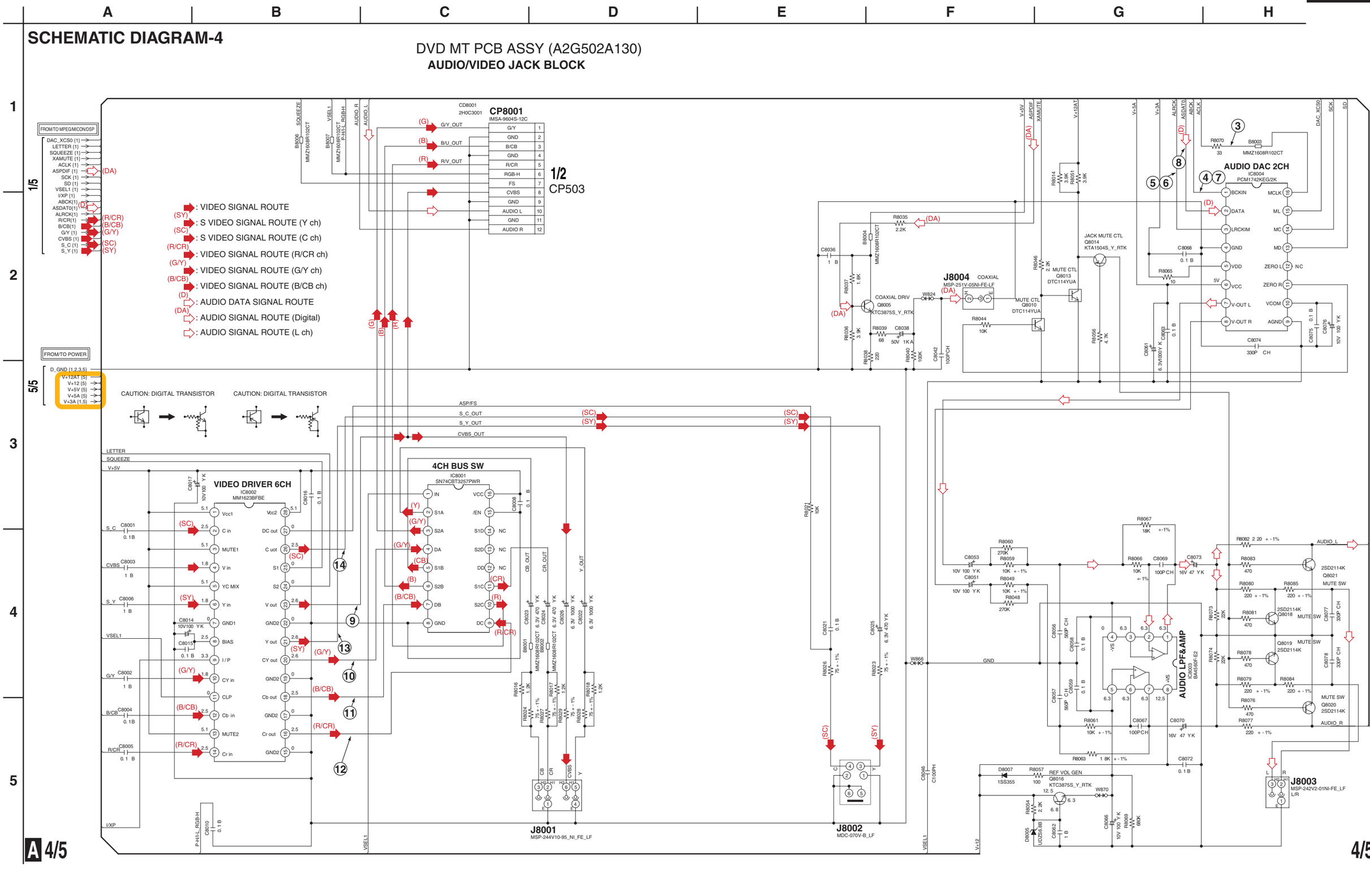
5/5

3/5

SCHEMATIC DIAGRAM-4

DVD MT PCB ASSY (A2G502A130)

AUDIO/VIDEO JACK BLOCK



SCHEMATIC DIAGRAM-5

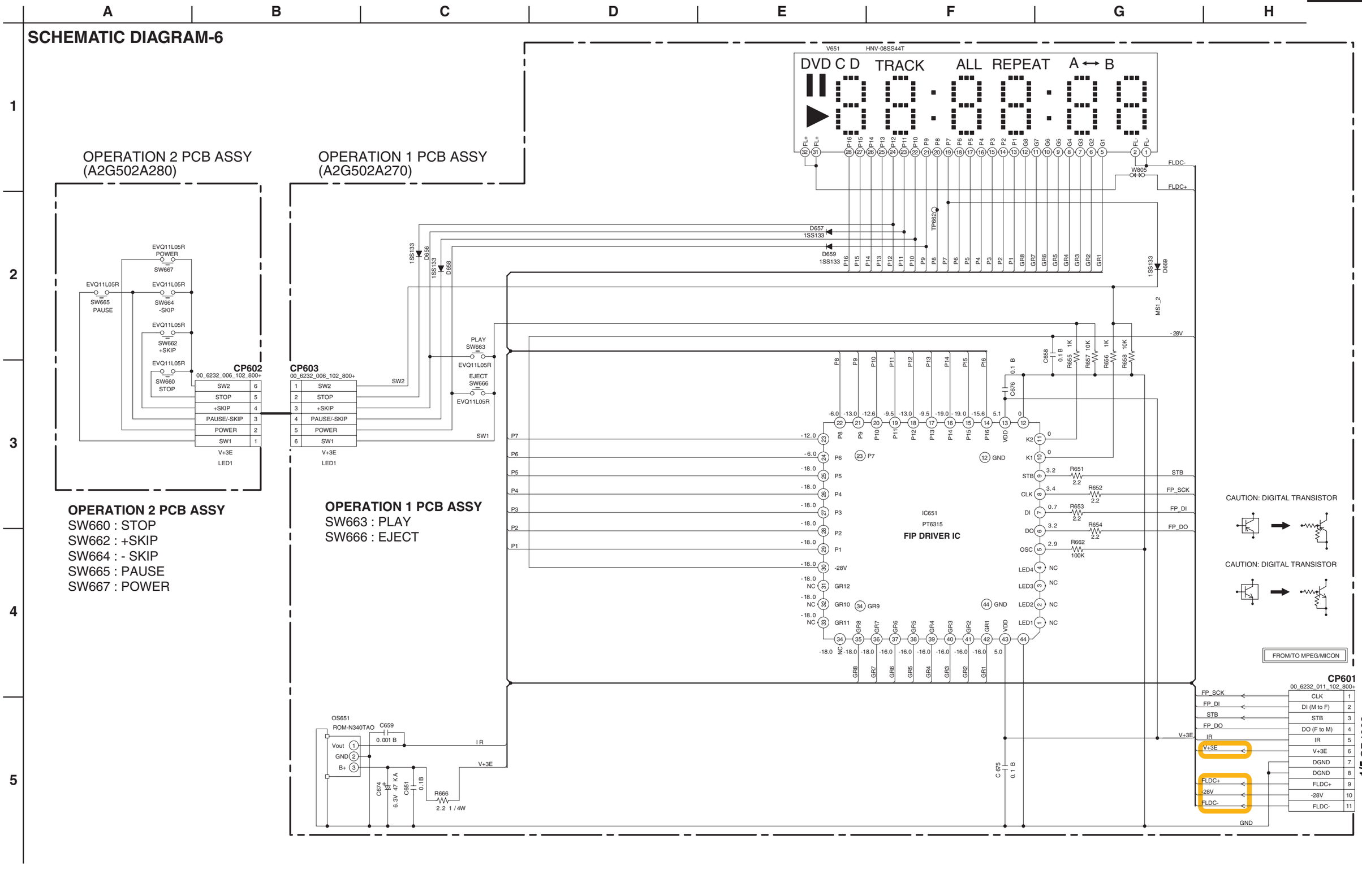
DVD MT PCB ASSY (A2G502A130)

POWER PORT BLOCK

5/5

5/5

SCHEMATIC DIAGRAM-6



1/5 CP4002

SCHEMATIC DIAGRAM-7

POWER PCB ASSY (A2G502A240)

POWER BLOCK

PRIMARY SECTION

AC230-240V_50Hz

CP501 WES1-1014N

51MS016L F501 T1.6A_L_250V

FH501 EYF-52BCY FH502 EYF-52BCY

1. 6A 250V

L501 SS11V-03550-CH

D505 1N4005-EIC

D502 1N4005-EIC

D503 1N4005-EIC

D506 1N4005-EIC

D511 10ERB20-TA1B2

B501 W4BRH3.5X6X1.0X2

81291294 T501

IC502 STR-A6151M STARTUP FB/OLP GND VCC OCP D NC D D

C516 0.0022 KX 250V

C511 400V 82 UP

C515_1 400V 0.01CQP

C513 2KV 47P

D509 RGP10KE

C514 500V 470PB

D513 10ERB20-TA1B2

R505 22 1 / 4W

R507 10 1 / 4W

C505 2KV 100P R

R502 1.8 1W

R504 80K

C506 50V 2.2

D508 MTZJ5.6B

C508 680P CH

C509 50V 10 YK

C518 0.001 KX

PHOTO COUPLER

IC504 PS2561AL1-1-V(W)

R515 1K

D512 RGP15J

D510 RGP15J

D519 10ERB60-TA2B5

R511 68 1/4W

W817

Q510 KTA1281_Y REG P.CON+12V SW

Q509 KTC3875S_Y_RTK

Q511 KTC3875S_Y_RTK

R541 5.6K +-1%

R542 1K +-1%

R543 4.7K +-1%

R540 680 1/4W

R559 1K

C523_1 25V 470 YK

IC503 PQ070XF01SZH

6V REG (DVD MOTOR)

IN OUT GND

R524 1K 1/4W

R545 22K +-1%

R546 3.3K +-1% M

D534 1SS133

D517 MTZA4.3B

P.CON SW Q505 KRC102SRTK

C501 0.01 F

R519 1K

W814

C531 16V 100

C535 16V 330

R526 6.8K +-1%

D532 11EQS04N

R525 150 1/4W

Q515 2SD1207 REG P.CON 5V SW

W821

L503 22uH T SL0808

C521_1 16V 1000 RM

R547 22

C527 10V 100

C538 6.3V 220

C536 6.3V 220 YK

C520 50V100 YK

C522_1 6.3V 1000 FM

D528 MTZJ5.1B

Q502KTC3209_Y -28V P.CON SW

W815

L505 22uH

C526 6.3V 220 Y K

C507 0. 01 F

C533 10V 100 Y K

C541 0. 01 F

D527 21DQ04N

R529 220 1W

D531 MTZJ27B

W811

3.4 3.3 3.9

R528 22K 1/4W

C528 50V 2.2 KA

R531 10K

R510_1 3.3 1W

D515 11EQS04N

Q503 KTA1504S_Y_RTK

Q504 KTA1281_Y FL+ P.CON SW

C517 25V 220 YK

D536 MTZJ3.0B

D535 MTZJ5.1B

R544 10K

R530 560 1/4W

Q512 KTC3875S_Y_RTK

R534 100 1/4W

Q513 KTA1504S_Y_RTK

R537 1K

MTZJ2.2B D533

10K R536

R514 1K 1/4W D516 1SS133

C540 0.01 B

R513 1/4W 10K

C503 0.1 B

IC501KIA431A-AT

VOLTAGE CTL

OUT GND IN

R516 10

R517 1W 1.2K +-1%

R518 1W 3.3K +-1%

D520 1SS133

D521 1SS133

D522 1SS133

D525 1SS133

R539 4.7K 1/4W

R506 100

Q506 KTA1504S_Y_RTK

R538 22K

Q501 KTC3875S_Y_RTK

R527 100 1/4W

R523 1W 22K

C519 35V 22 Y K

D523 MTZJ3.6B

CAUTION:DIGITALTRANSISTOR

CAUTION:DIGITALTRANSISTOR

FROM/TOMPEG/MICON

CP502 C32E3502

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

5/5 CP4003

FROM/TO21PIN/D/DIGITAL

- P.CON+D5V
- 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]V_VIDEO{2}
- 21PIN_CVBS_VIDEO {2}
- P-H/I-L_RGB-H{2}
- ASP/FS{2}
- A_GND {2}

2/2

FROM/TOAUDIO/VIDEO

CP503 IMSA-9604S-12C

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

VIDEO/AUDIO for 21PIN

4/5 CP8001

NOTE FOR FUSE REPLACEMENT

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

1/2

1/2

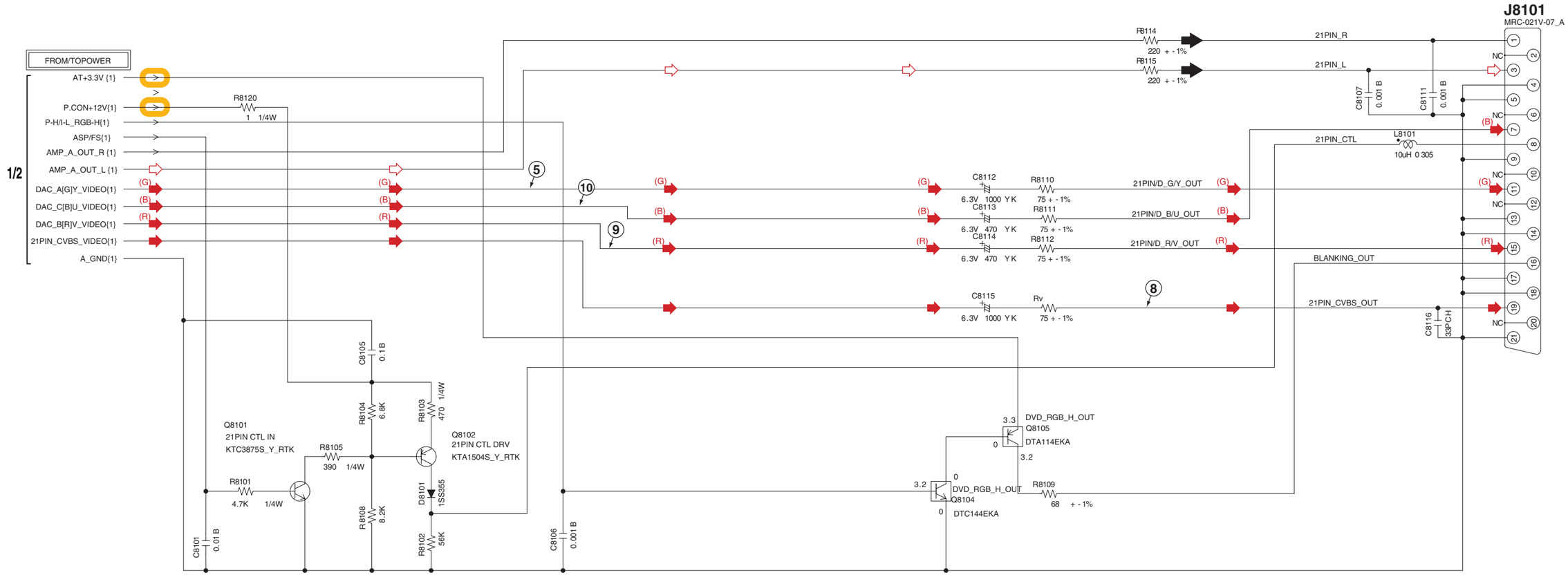
SCHEMATIC DIAGRAM-8

POWER PCB ASSY (A2G502A240)

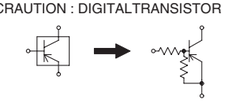
21PIN/D/DIGTAL AUDIO BLOCK

: 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



CRAUTION : DIGITALTRANSISTOR



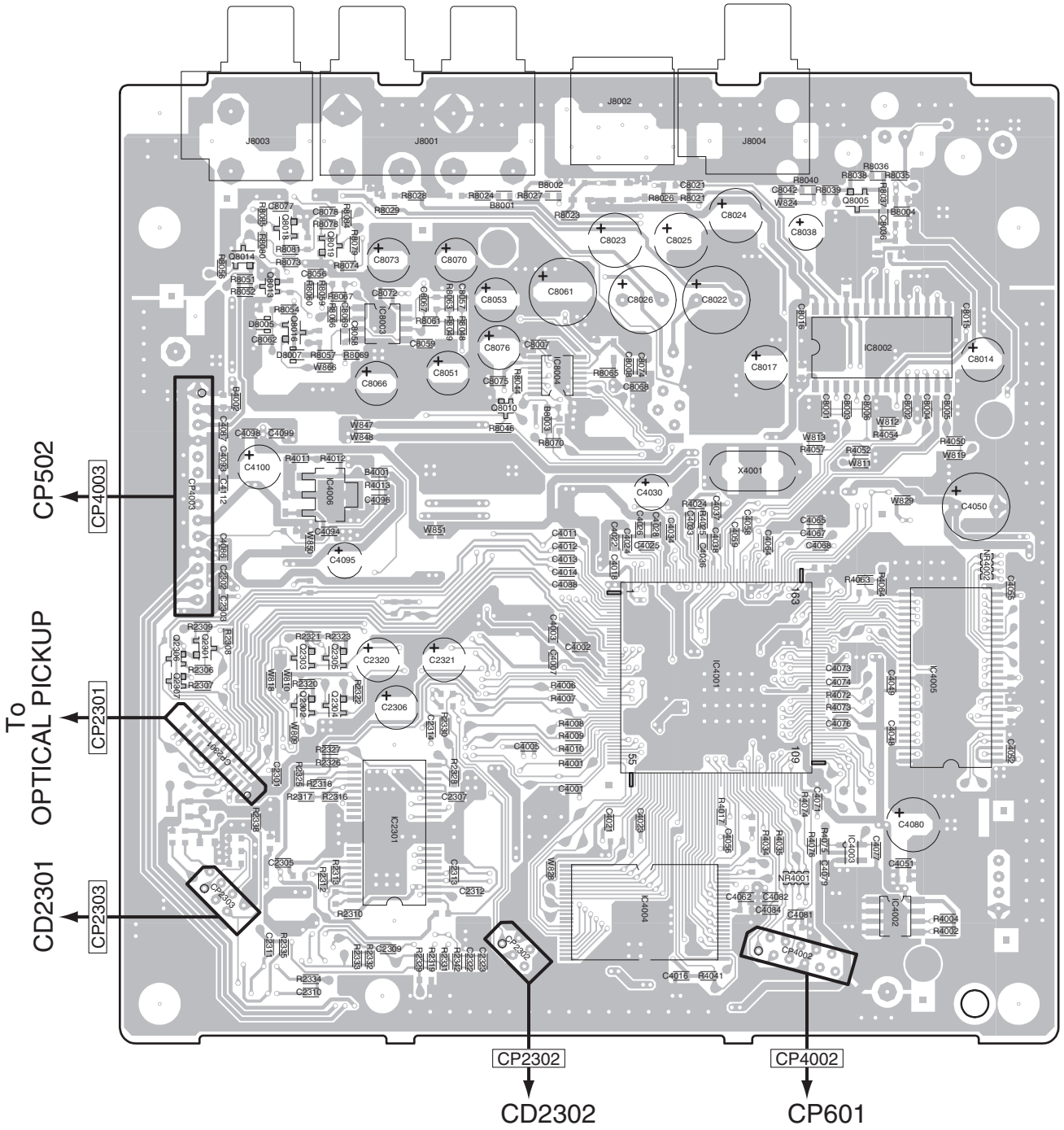
CAUTION : DIGITALTRANSISTOR

2/2

PRINTED CIRCUIT BOARD VIEW-1

SIDE A **SIDE A**

DVD MT PCB ASSY

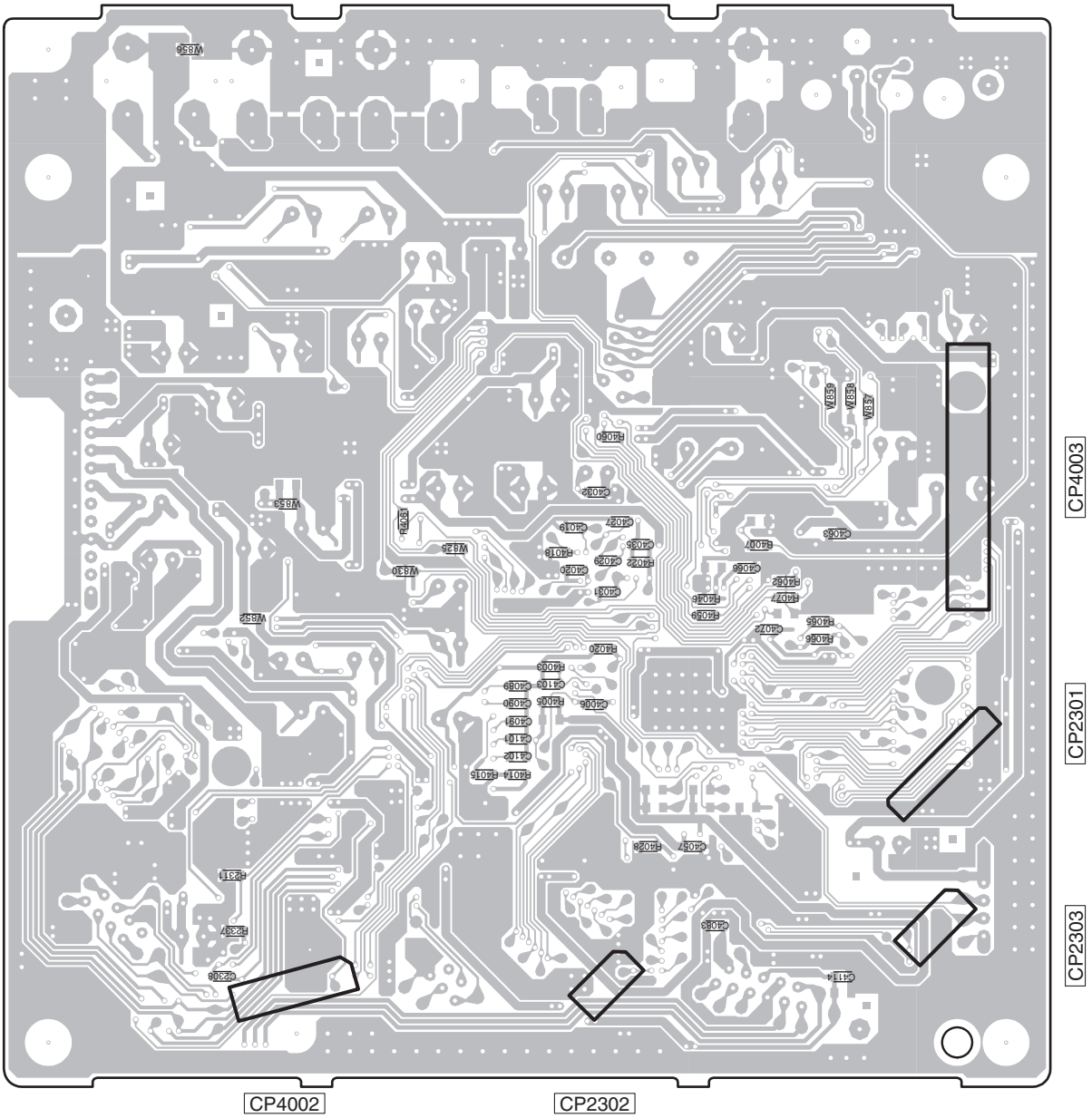


PRINTED CIRCUIT BOARD VIEW-2

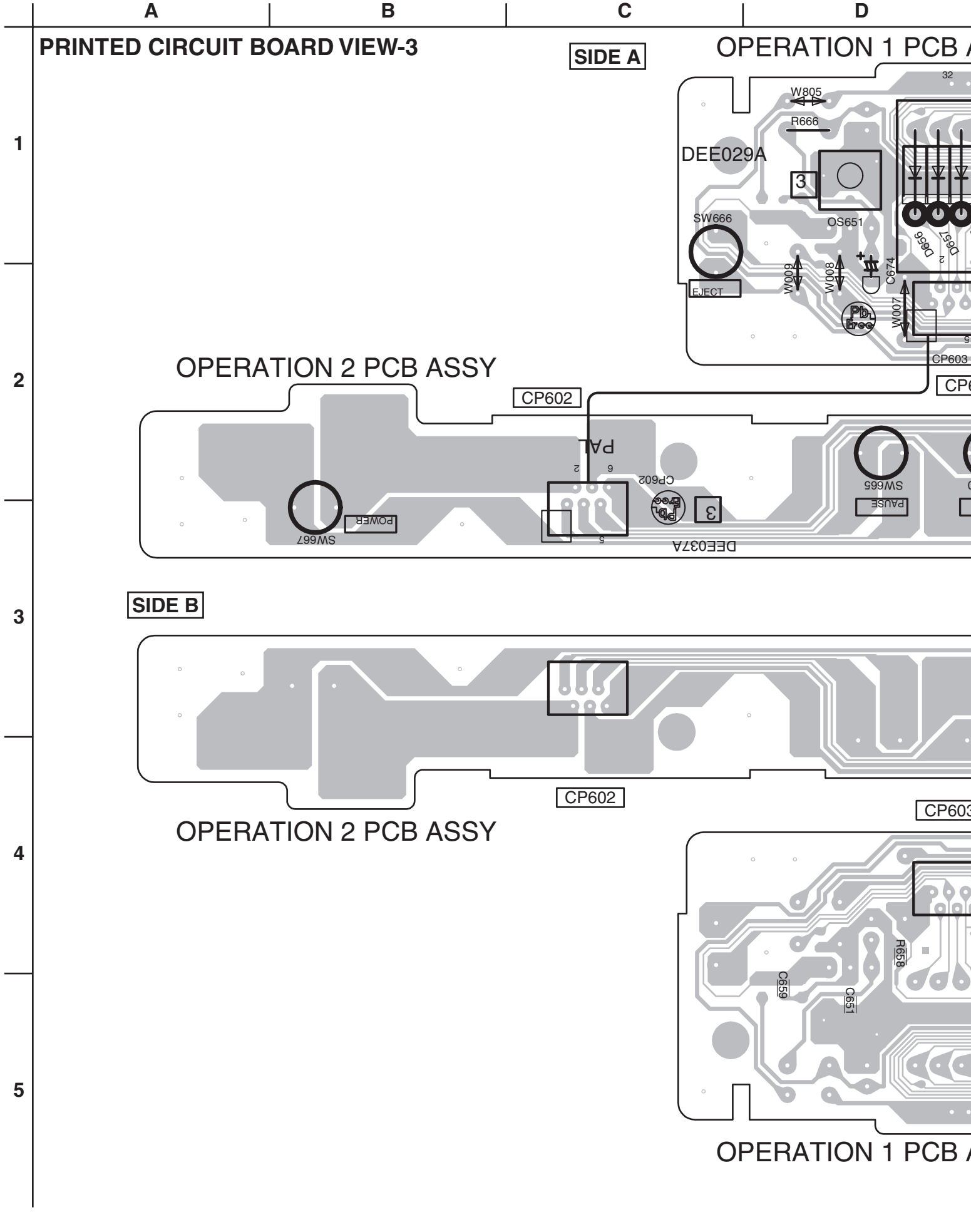
SIDE B

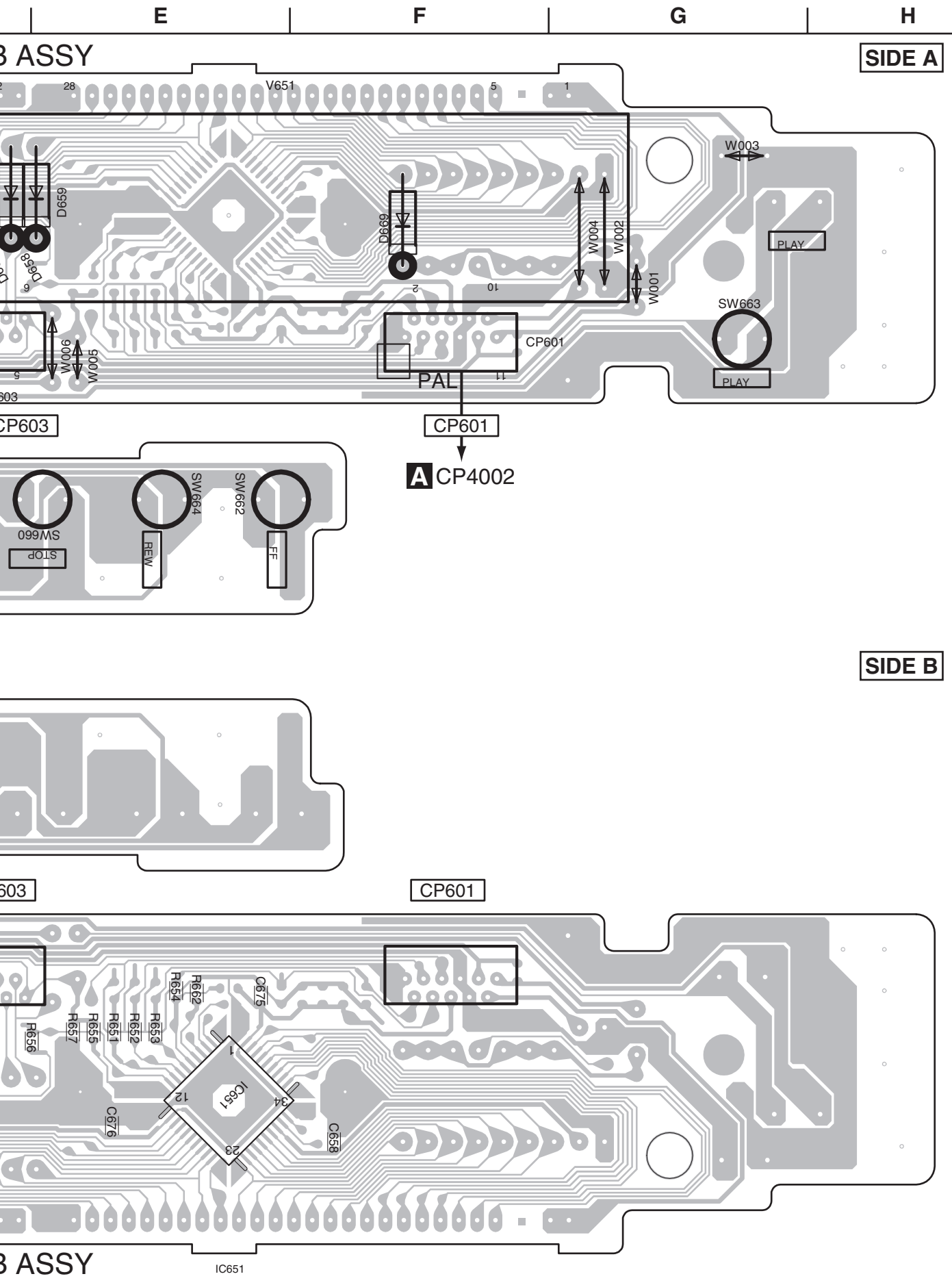
SIDE B

DVD MT PCB ASSY



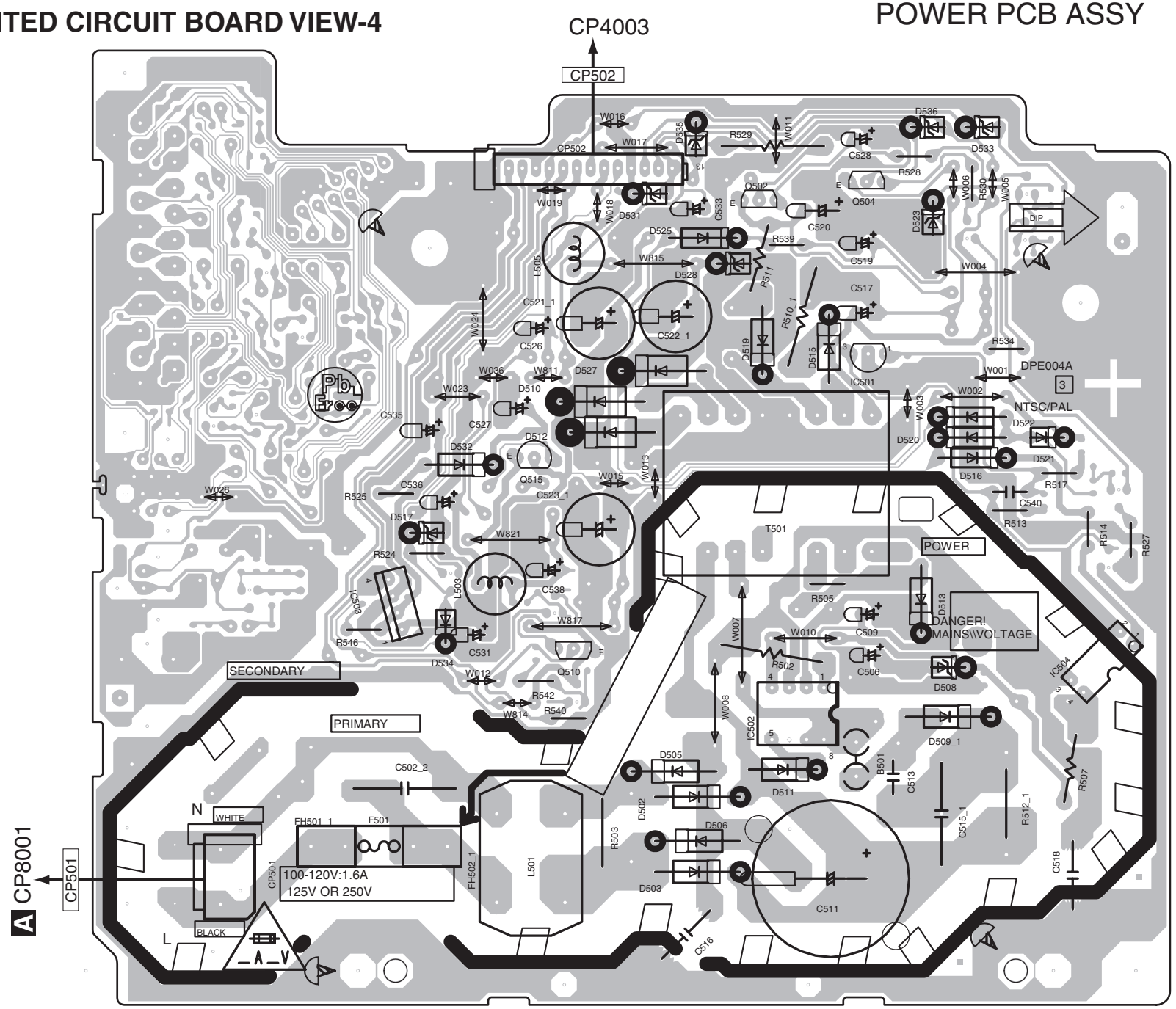
PRINTED CIRCUIT BOARD VIEW-3




E
F
G
H
B ASSY
SIDE A
V651
W003
D659
D660
W004
W002
W001
PLAY
SW663
CP601
PAL
W006
W005
CP603
CP601
A CP4002
SW664
SW662
SW660
STOP
REW
FF
SIDE B
603
CP601
R656
R657
R655
R651
R652
R653
R654
R662
C675
IC651
C676
C658
B ASSY
IC651

PRINTED CIRCUIT BOARD VIEW-4

POWER PCB ASSY

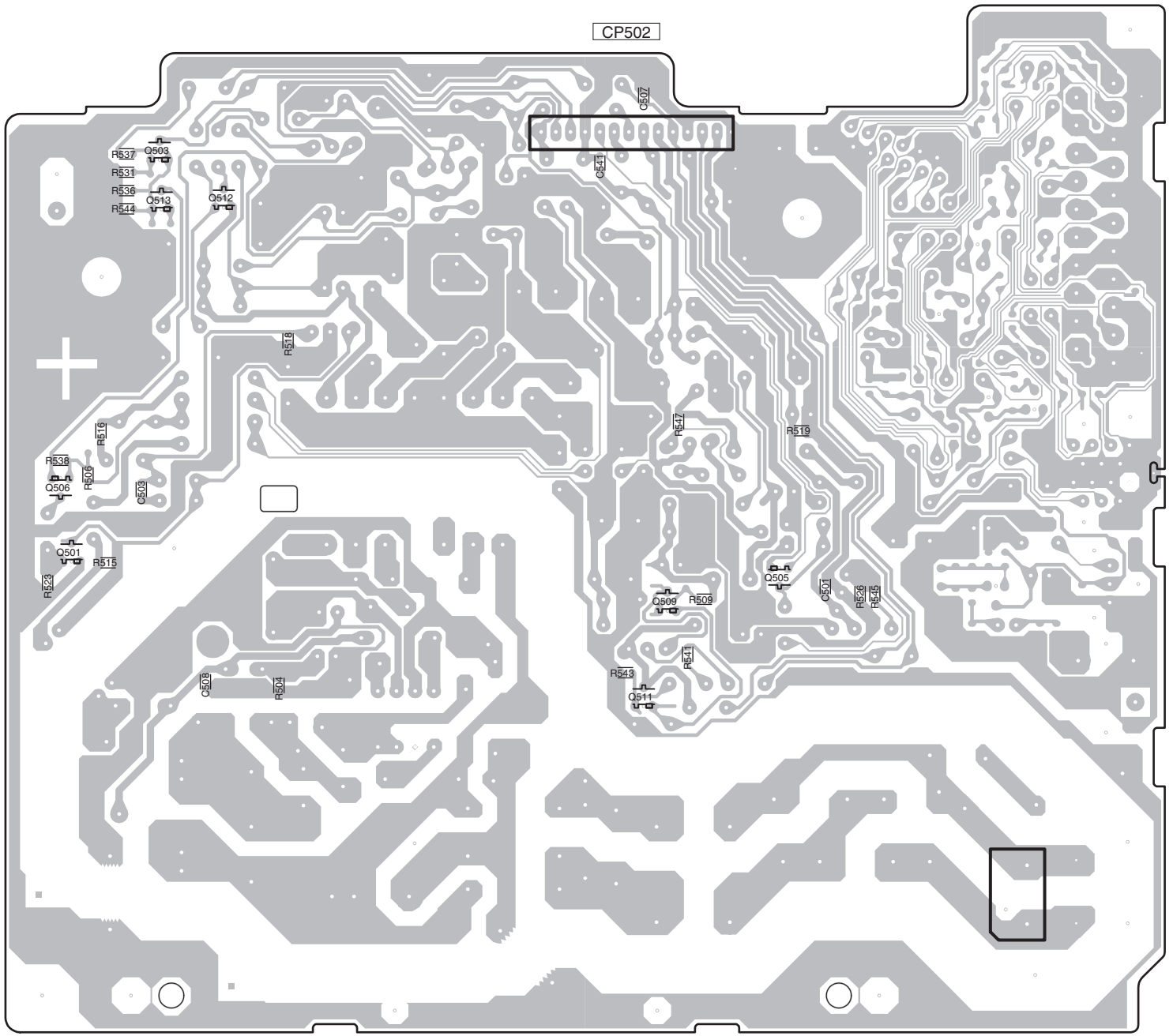


Q502
Q504
IC501
Q515
IC503
Q510 IC504
IC502

PRINTED CIRCUIT BOARD VIEW-5

POWER PCB ASSY

SIDE B

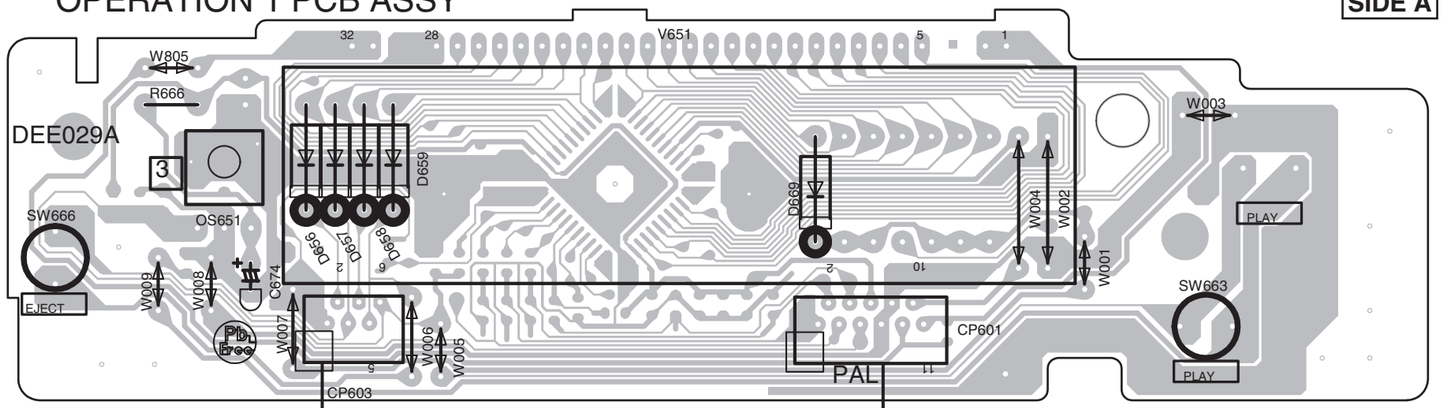


PRINTED CIRCUIT BOARD VIEW-3

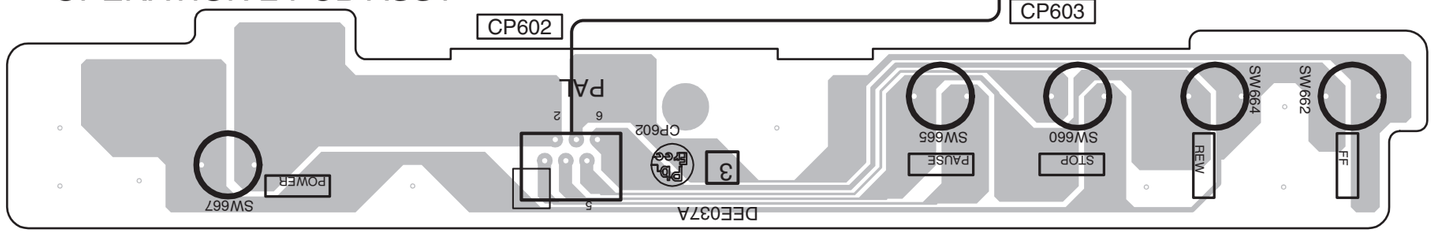
SIDE A

OPERATION 1 PCB ASSY

SIDE A

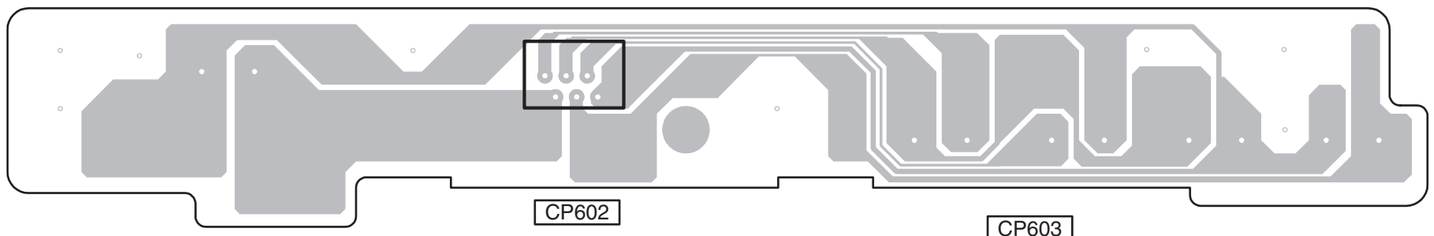


OPERATION 2 PCB ASSY



SIDE B

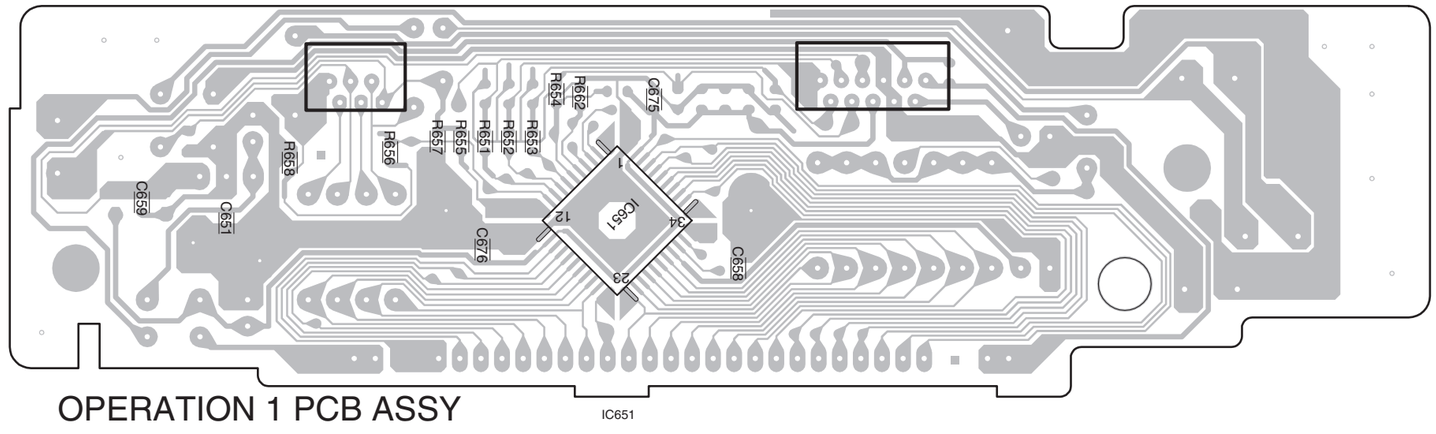
SIDE B



OPERATION 2 PCB ASSY

CP603

CP601



OPERATION 1 PCB ASSY

IC651

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

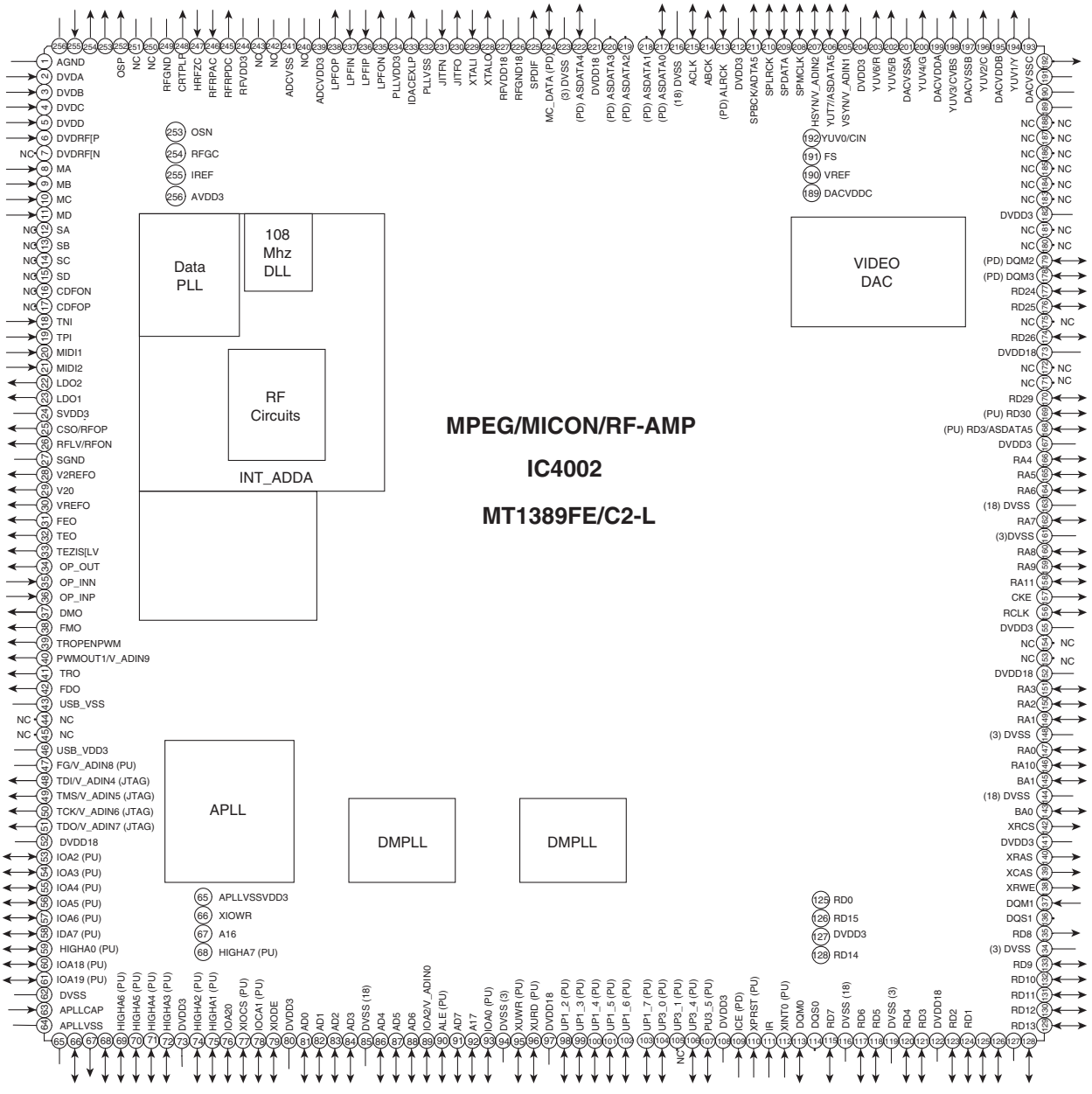
List of IC

MT1389FE, LA6565, PT6315

MT1389FE (DVD MT ASSY: IC4002)

MPEG / MICON / RF-AMP

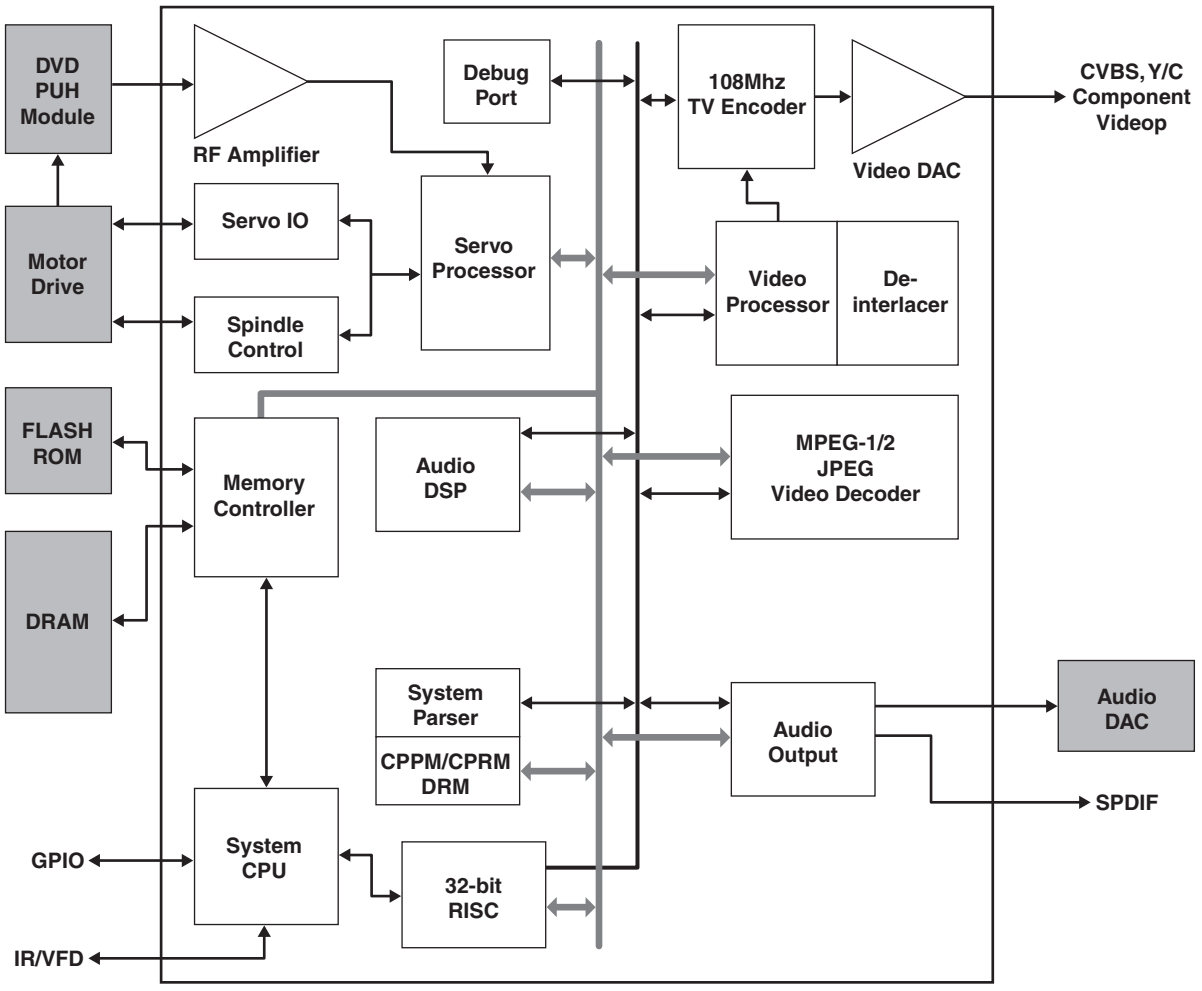
Pin Arrangement (Top view)



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				
3	DVDB	I	AC coupled input path B	49	TMS	I	Serial interface port 3 data-in Version AD input port 5 GPIO
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				
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN	51	TDO	I	Serial interface port 3 chip-select Version AD input port 7 GPO
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/IO
11	MD	I	DC coupled main-beam RF signal input D	54	IOA3	I/O	Microcontroller address 3/IO
12	SA	I	DC coupled sub-beam RF signal input A	55	IOA4	I/O	Microcontroller address 4/IO
13	SB	I	DC coupled sub-beam RF signal input B	56	IOA5	I/O	Microcontroller address 5/IO
14	SC	I	DC coupled sub-beam RF signal input C	57	IOA6	I/O	Microcontroller address 6/IO
15	SD	I	DC coupled sub-beam RF signal input D	58	IOA7	I/O	Microcontroller address 7/IO
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/IO
18	TNI	I	3 beam satellite PD signal negative input	61	IOA19	I/O	Flash address 19/IO
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 circuity
23	LDO1	O	Laser driver output	66	IOWR#	I/O	Flash write enable, active low/IO
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/IO
34	OP_OUT	O	Op amp output	77	IOCS#	I/O	Flash chip select, active low/IO
35	OP_INN	I	Op amp negative input	78	IOA1	I/O	Microcontroller adress 1/IO
36	OP_INP	I	Op amp positive input	79	IOOE#	I/O	Flash output enable, active low/IO
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	1st 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/IO 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(Diogital 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^2C clock pin	148	DVSS	–	3.3V Ground pin for internal digital circuitry
				149	RA1	I/O	DRAM address 1
103	UP1_7	I/O	Microcontroller port 1-7 I^2C data pin	150	RA2	I/O	DRAM address 2
				151	RA3	I/O	DRAM address 3
104	UP3_0	I/O	Microcontroller port 3-0 8032 RS232 RXD	152	DVDD18	–	1.8V power pin for internal digital circuitry
				153	NC	–	–
105	UP3_1	I/O	Microcontroller port 3-1 8032 RS232 TXD	154	NC	–	–
				155	DVDD3	–	3.3V power pin for internal digital circuitry
106	UP3_4	I/O	Microcontroller port 3-4 Hardwired RD232 RXD I^2C clock pin	156	RCLK	I/O	Dram clock
				157	CKE	O	DRAM clock enable
107	UP3_5	I/O	Microcontroller port 3-5 Hardwired RD232 TXD I^2C data pin	158	RA11	I/O	DRAM address bit 11
				159	RA9	I/O	DRAM address 9
108	DVDD3	–	3.3V power pin for internal digital circuitry	160	RA8	I/O	DRAM address 8
109	ICE	I	Microcontroller ICE mode enable	161	DVSS	–	3.3V Ground pin for internal digital circuitry
110	PRST#	I	Power on reset input, active low	162	RA7	I/O	DRAM address 7
111	IR	I	IR control signal input	163	DVSS	–	1.8V Ground pin for internal digital circuitry
112	INT0#	I/O	Microcontroller external interrupt 0, active low	164	RA6	I/O	DRAM address 6
113	DQM0	I/O	Data mask 0	165	RA5	I/O	DRAM address 5
114	DQS0	I/O	GPIO	166	RA4	I/O	DRAM address 4
115	RD7	I/O	DRAM data 7	167	DVDD3	–	3.3V power pin for internal digital circuitry
116	DVSS	–	1.8V Ground pin for internal digital circuitry	168	RD31	I/O	GPIO
117	RD6	I/O	DRAM data 6	169	RD30	I/O	GPIO
118	RD5	I/O	DRAM data 5	170	RD29	I/O	GPIO
119	DVSS	–	3.3V Ground pin for internal digital circuitry	171	NC	–	–
120	RD4	I/O	DRAM data 4	172	NC	–	–
121	RD3	I/O	DRAM data 3	173	DVDD18	–	1.8V power pin for internal digital circuitry
122	DVDD18	–	1.8V power pin for internal digital circuitry	174	RD26	I/O	GPIO
123	RD2	I/O	DRAM data 2	175	NC	–	–
124	RD1	I/O	DRAM data 1	176	RD25	I/O	GPIO
125	RD0	I/O	DRAM data 0	177	RD24	I/O	GPIO
126	RD15	I/O	DRAM data 15	178	DQM3	I/O	GPIO
127	DVDD3	–	3.3V power pin for internal digital circuitry	179	DQM2	I/O	GPIO
128	RD14	I/O	DRAM data 14	180	NC	–	–
129	RD13	I/O	DRAM data 13	181	NC	–	–
130	RD12	I/O	DRAM data 12	182	DVDD3	–	3.3V power pin for internal digital circuitry
131	RD11	I/O	DRAM data 11	183	NC	–	–
132	RD10	I/O	DRAM data 10	184	NC	–	–
133	RD9	I/O	DRAM data 9	185	NC	–	–
134	DVSS	–	3.3V Ground pin for internal digital circuitry	186	NC	–	–
135	RD8	I/O	DRAM data 8	187	NC	–	–
136	DQS1	I/O	GPIO	188	NC	–	–

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

No.	Pin Name	I/O	Pin Function
189	DACVDDC	–	3.3V power pin for VIDEO DAC circuitry
190	VREF	–	Bandgap reference voltage
191	FS	–	Full scale adjustment
192	YUV0	O	Video data output bit 0 Compensation capacitor
193	DACVSSC	–	Ground pin for VIDEO DAC circuitry
194	YUV1	O	Video data output bit 1 Analog Y output
195	DACVDDB	–	3.3V power pin for VIDEO DAC circuitry
196	YUV2	O	Video data output bit 2 Analog chroma output
197	DACVSSB	–	Ground pin for VIDEO DAC circuitry
198	YUV3	O	Video data output bit 3 Analog composite output
199	DACVDDA	–	3.3V power pin for VIDEO DAC circuitry
200	YUV4	O	Video data output bit 4 Green or Y
201	DACVSSA	–	Ground pin for VIDEO DAC circuitry
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
205	VSYN	I/O	Vertical sync input/output While no External TV-encoder: Vertical sync for video-input Version AD input port 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
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
208	SPMCLK	I/O	Audio DAC master clock of SPDIF input While SPDIF input is not used: Serial interface port 0 clock pin GPIO
209	SPDATA	I/O	Audio data of SPDIF input While SPDIF input is not used: Serial interface port 0 data-in GPIO
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
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
212	DVDD3	–	3.3V power pin for internal digital circuitry
213	ALRCK	I/O	Audio left/right channel clock Trap value in power-on reset: 1:use external 373 0:use internal 373
214	ABCK	O	Audio bit clock Phase de-modulation
215	ACLK	I/O	Audio DAC master clock
216	DVSS	–	1.8V Ground pin for internal digital 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
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
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
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
221	DVDD18	–	1.8V power pin for internal digital circuitry
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
223	DVSS	–	3.3V Ground pin for internal digital circuitry
224	MC_DATA	I/O	Microphone serial input While not support Microphone: Microcontroller external interrupt 2 GPIO
225	SPDIF	O	SPDIF output
226	RFGND18	–	Analog ground
227	RFVDD18	–	Analog power 1.8V
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
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

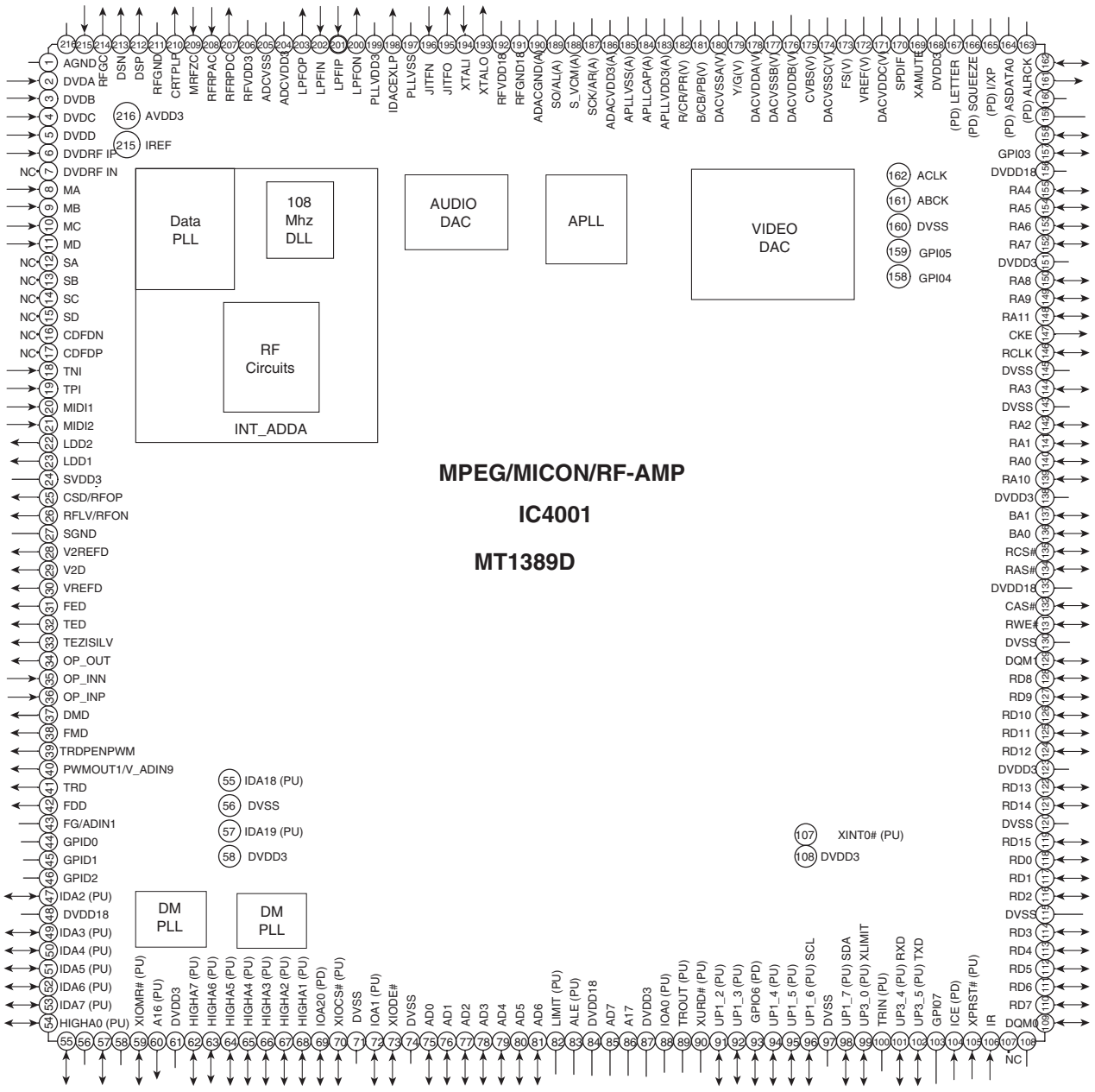
List of IC

MT1389D(IC8K089D), LA6565(I03F065650), PT6315

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

MPEG / MICON / RF-AMP

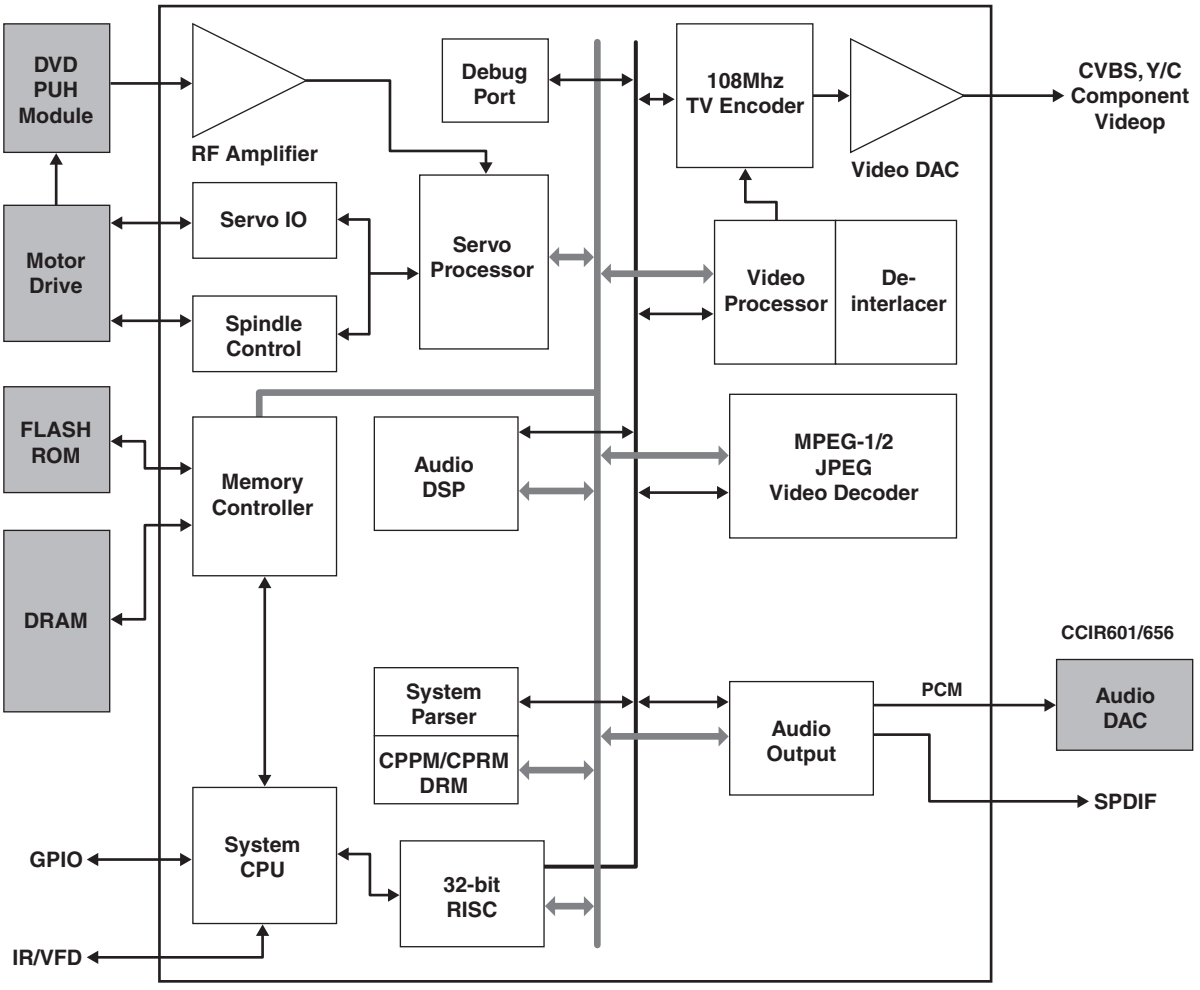
Pin Arrangement (Top view)



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				
3	DVDB	I	AC coupled input path B	49	IOA3	I/O	Microcontroller address 3/IO
4	DVDC	I	AC coupled input path C				
5	DVDD	I	AC coupled input path D	50	IOA4	I/O	Microcontroller address 4/IO
6	DVDRFIP	I	AC coupled DVD RF signal input RFIP				
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN	51	IOA5	I/O	Microcontroller address 5 / IO
8	MA	I	DC coupled main-beam RF signal input A				
9	MB	I	DC coupled main-beam RF signal input B	52	IOA6	I/O	Microcontroller address 6/IO
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	-	3.3VPower 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 adress 16
18	TNI	I	3 beam satellite PD signal negative input	61	DVDD3	-	3.3VPower 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 adress 10
25	CSO	O	Central servo/Positive main beam summing output	68	HIGHA1	I/O	Microcontroller adress 9
26	RFLVL	O	RFRP low pass, or Negative main beam summing output	69	IOA20	I/O	Flash adress 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	1st 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(Diogital pin)	–	Motor Hall sensor input, or Version AD input 8 circuitry	86	A17	O	Flash adress 17
44	GPIO0	I/O	Vertical sysnc input / output	87	DVDD3	–	3.3VPower pin for internal digital circuitry
45	GPIO1	I/O	Horizontal sysnc input / output	88	IOA0	I/O	Flash adress 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
91	UP1_2	I/O	Microcontroller port 1-2
92	UP1_3	I/O	Microcontroller port 1-3
93	GPIO5	I/O	Video data output bit 7
94	UP1_4	I/O	Microcontroller port 1-4
95	UP1_5	I/O	Microcontroller port 1-5
96	UP1_6	I/O	Microcontroller port 1-6 I^2C clock pin
97	DVSS	–	3.3V Ground pin for internal digital circuitry
98	UP1_7	I/O	Microcontroller port 1-7 I^2C data pin
99	UP3_0	I/O	Microcontroller port 3-0 8032 RS232 RXD
100	UP3_1	I/O	Microcontroller port 3-1 8032 RS232 TXD
101	UP3_4	I/O	Microcontroller port 3-4 Hardwired RD232 RXD I^2C clock pin
102	UP3_5	I/O	Microcontroller port 3-5 Hardwired RD232 TXD I^2C data pin
103	GPIO7	I/O	Video data output bit 7
104	ICE	I	Microcontroller ICE mode enable
105	PRST#	I	Power on reset input, active low
106	IR	I	IR control signal input
107	INT0#	I/O	Microcontroller external interrupt 0, active low
108	DVDD3	–	3.3V power pin for internal digital circuitry
109	DQM0	I/O	Data mask 0
110	RD7	I/O	DRAM data 7
111	RD6	I/O	DRAM data 6
112	RD5	I/O	DRAM data 5
113	RD4	I/O	DRAM data 4
114	DQS0	I/O	GPIO
115	DVSS	–	3.3V Ground pin for internal digital circuitry
116	RD2	I/O	DRAM data 2
117	RD1	I/O	DRAM data 1
118	RD0	I/O	DRAM data 0
119	RD15	I/O	DRAM data 15
120	DVSS	–	1.8V Ground pin for internal digital circuitry
121	RD14	I/O	DRAM data 14
122	RD13	I/O	DRAM data 13
123	DVDD3	–	3.3V power pin for internal digital circuitry
124	RD12	I/O	DRAM data 12
125	RD11	I/O	DRAM data 11
126	RD10	I/O	DRAM data 10
127	RD9	I/O	DRAM data 9
128	RD8	I/O	DRAM data 8
129	DQM1	I/O	Data mask 1
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
137	BA1	I/O	DRAM bank address 1
138	DVDD3	–	3.3V power pin for internal digital circuitry
139	RA10	I/O	DRAM address 10
140	RA0	I/O	DRAM address 0
141	RA1	I/O	DRAM address 1
142	RA2	I/O	DRAM address 2
143	DVSS	–	1.8V Ground pin for internal digital circuitry
144	RA3	I/O	DRAM address 3
145	DVSS	–	3.3V Ground pin for internal digital circuitry
146	RCLK	I/O	Dram clock
147	CKE	O	DRAM clock enable
148	RA11	I/O	DRAM address bit 11
149	RA9	I/O	DRAM address 9
150	RA8	I/O	DRAM address 8
151	DVDD3	–	3.3V power pin for internal digital circuitry
152	RA7	I/O	DRAM address 7
153	RA6	I/O	DRAM address 6
154	RA5	I/O	DRAM address 5
155	RA4	I/O	DRAM address 4
156	DVDD18	–	1.8V power pin for internal digital circuitry
157	GPIO3	I/O	Audio data of SPDIF input
158	GPIO4	I/O	Audio left/right channel clock of SPDIF input
159	GPIO5	I/O	Audio bit clock of SPDIF input
160	DVSS	–	3.3V Ground pin for internal digital circuitry
161	ABCK	O	Audio bit clock Phase de-modulation
162	ACLK	I	Audio DAC master clock While Internal AUDIO DAC used: GPIO
163	ALRCK	I/O	Audio left/right channel clock Trap value in power-on reset: 1:use external 373 0:use internal 373
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
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
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
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
168	DVDD3	–	3.3V power pin for internal digital circuitry
169	MC_DATA	I/O	Microphone serial input While not support Microphone: 1: Microcontroller external interrupt 2 2 : GPIO
170	SPDIF	O	SPDIF output
171	DACVDDC	–	3.3V power pin for VIDEO DAC circuitry

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

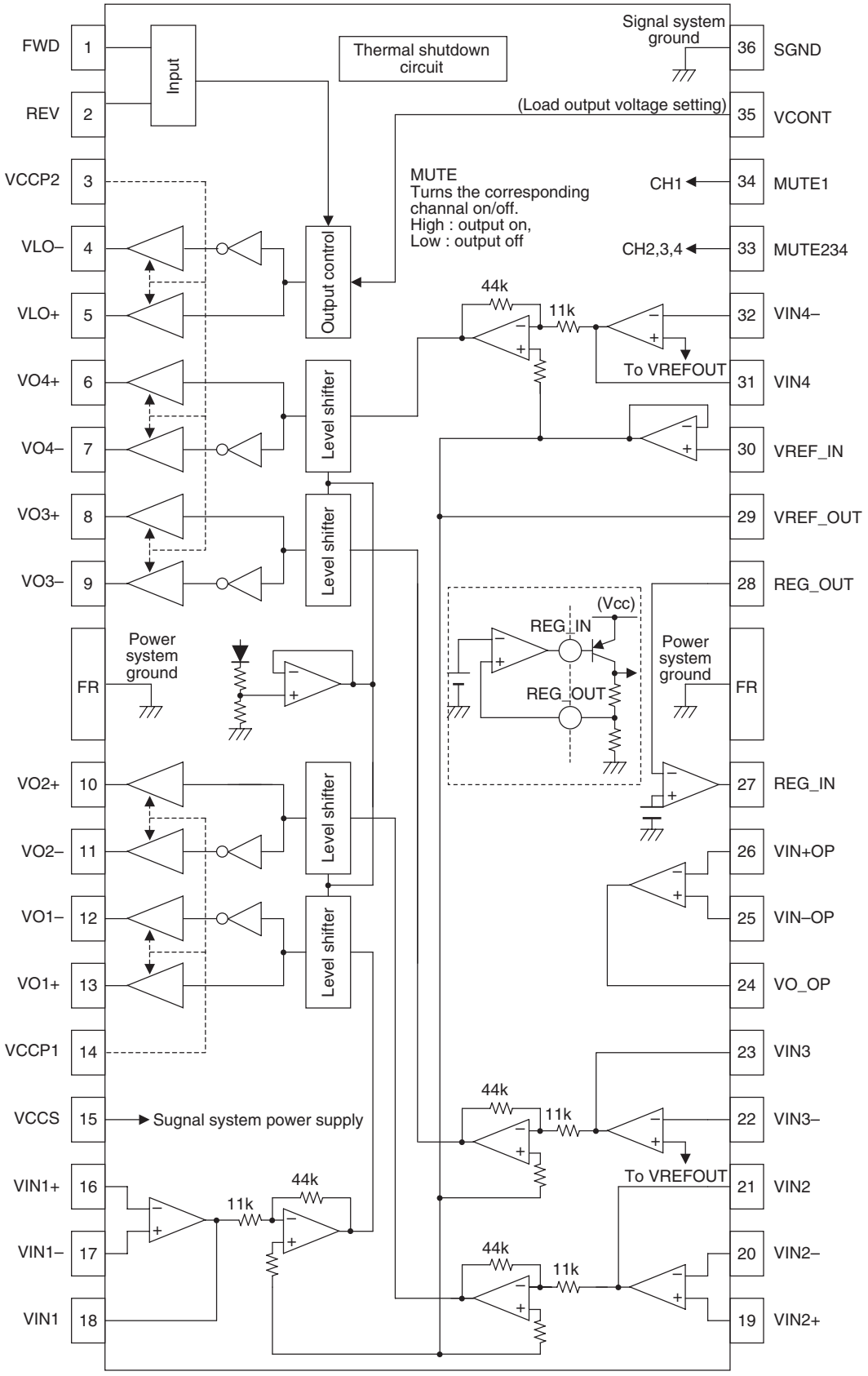
No.	Pin Name	I/O	Pin Function
172	VREF	–	Bandgap reference voltage
173	FS	–	Full scale adjustment
174	DACVSSC	–	Ground pin for VIDEO DAC circuitry
175	CVBS	O	Analog composite output
176	DACVDDB	–	3.3V power pin for VIDEO DAC circuitry
177	DACVSSB	–	Ground pin for VIDEO DAC circuitry
178	DACVDDA	–	3.3V power pin for VIDEO DAC circuitry
179	G	O	Video data output bit 4 Green or Y
180	DACVSSA	–	Ground pin for VIDEO DAC circuitry
181	B	O	Video data output bit 5 Blue or CB
182	R	O	Video data output bit 6 Red or CR
183	APLLVDD3	–	3.3V power pin for audio clock circuitry
184	APLLCPA	I	APLL External Capacitanace connection
185	APLLVSS	–	Ground pin for audio clock circuitry
186	ADACVDD3	–	3.3V power pin for AUDIO DAC circuitry
187	AR	O	AUDIO DAC right channel output While internal AUDIO DAC not used : GPO
188	VCM	–	AUDIO DAC reference voltage
189	AL	O	AUDIO DAC left channel output While internal AUDIO DAC not used : GPO
190	ADACGND	–	Ground pin for AUDIO DAC circuitry
191	RFGND18	–	Analog ground
192	RFVDD18	–	1.8V Analog power
193	XTALO	O	27M crystal out
194	XTALI	I	27M crystal in
195	JITFO	O	The output terminal of RF jitter meter
196	JITFN	I	The input terminal of RF jitter meter
197	PLLVSS	–	Ground pin for data PLL and related analog circuitry
198	IDACEXLP	O	Data PLL DAC Low-pass filter
199	PLLVDD3	–	Power pin for data PLL and related analog circuitry
200	LPFON	O	The negative output of loop filter amplifier
201	LPFIP	I	The positive input terminal of loop filter amplifier
202	LPFIN	I	The negative input terminal of loop filter amplifier
203	LPFOP	O	The positive output of loop filter amplifier
204	ADCVDD3	–	Analog 3.3V Power for ADC
205	ADCVSS	–	Analog ground for ADC
206	RFVDD3	–	Analog Power
207	RFRPDC	O	RF ripple detect output
208	RFRPAC	I	RF ripple detect input (through AC-coupling)
209	HRFZC	I	High frequency RF ripple zero crossing
210	CRTPLP	O	Defect level filter capacitor connecting
211	RFGND	–	Analog Power
212	OSP	O	RF Offset cancellation capacitor connecting
213	OSN	O	RF Offset cancellation capacitor connecting
214	RFGC	O	RF AGC loop capacitor connecting for DVD-ROM
215	IREF	I	Current reference input. It generates reference current for RF path.
216	AVDD3	–	Analog power 3.3V
215	ACLK	I/O	Audio DAC master clock
216	DVSS	–	1.8V Ground pin for internal digital circuitry

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

LA6565 (DVD MT : IC2301)

MOTOR DRIIVE

Internal Block Diagram



IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

Pin Functions

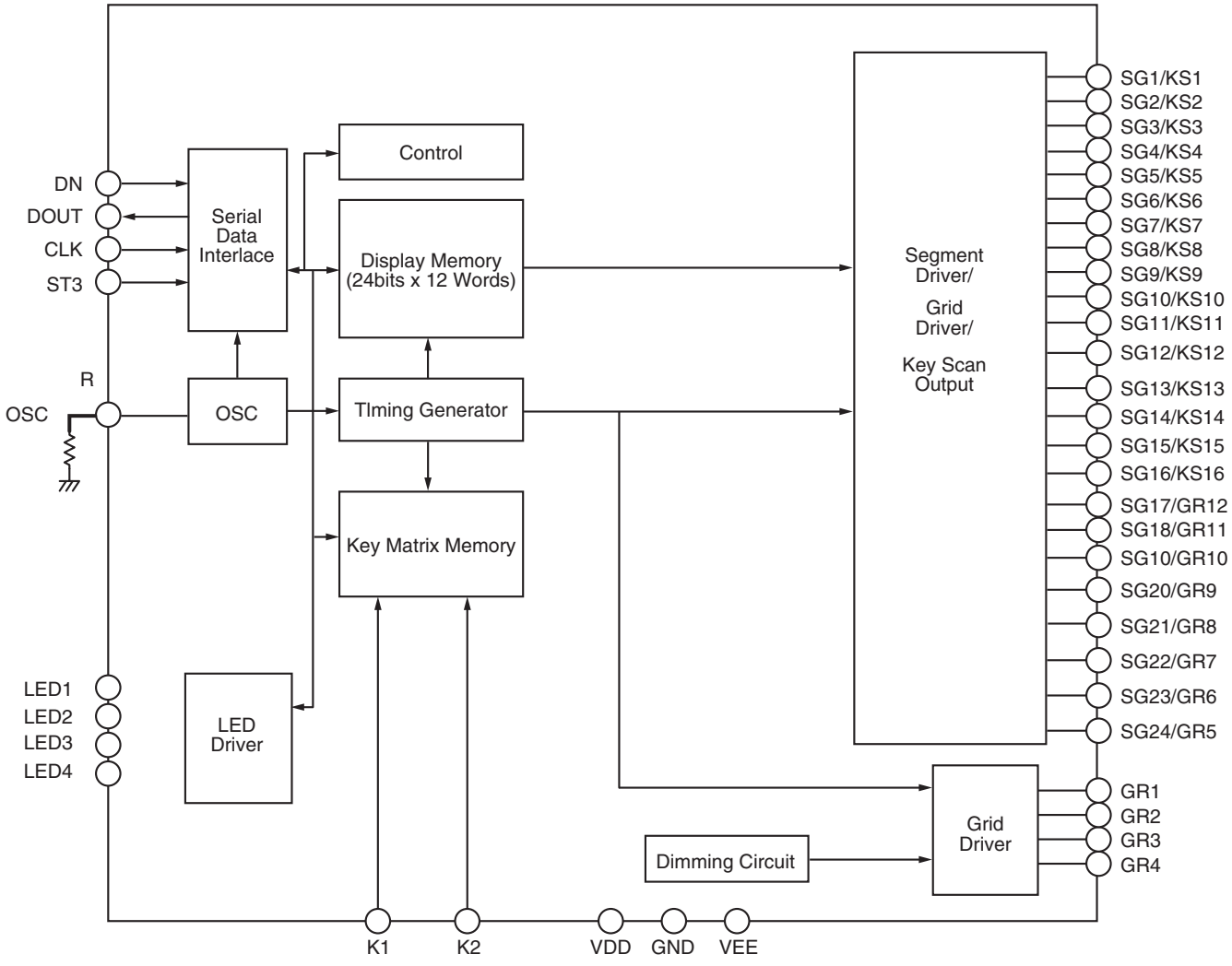
Pin No.	Pin Name	Pin Descriptions
1	FWD	Loading output direction switching (FWD). Loading system logic input.
2	REV	Loading output direction switching (REV). Loading system logic input.
3	V CC 2	Channels 3, 4, and loading power stage power supply
4	VLO –	Loading output (–)
5	VLO +	Loading output (+)
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 –	Channal 1 input. Input operational amplifier – input.
18	VIN1	Channel 1 input. Input operational amplifier output.
19	VIN2 +	Channal 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	Channal 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 amplifer 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	Channal 4 input. Input operational amplifier output.
32	VIN4 –	Channal 4 input operational amplifier – input.
33	MUTE234	Controls the on/off state of channals 2, 3, and 4.
34	MUTE1	Channal 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

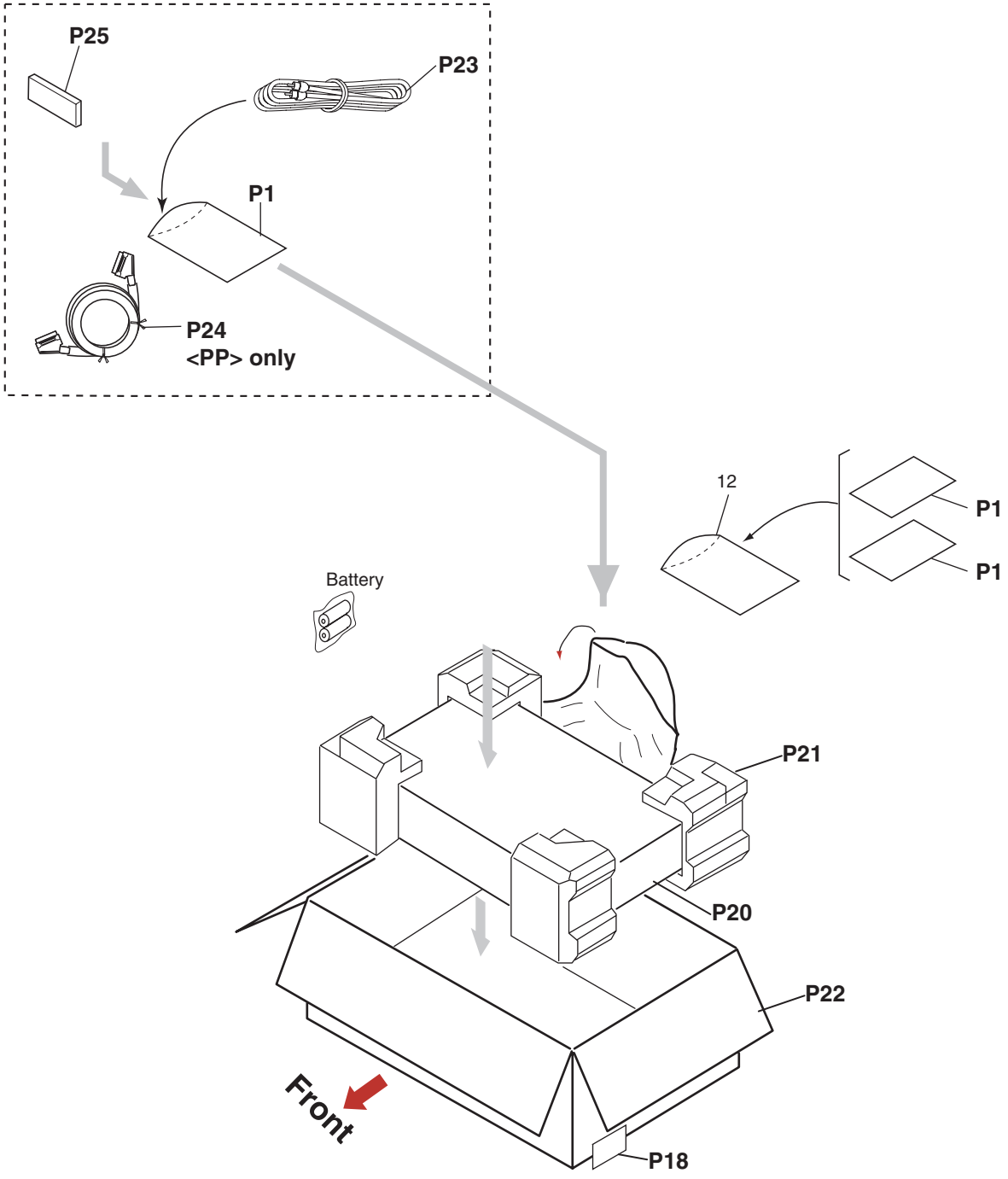


IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

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



PARTS LIST (DV-SP303/DVSP403E)

No.		PART NO.	PART NAME/ DESCRIPTION	Refer model	Color	Dest	DV-SP303(S) TDD1N	DV-SP303(B) TDD1N	DV-SP303(B) TPA4P	DV-SP303(S) TPA4P	DV-SP303(G) TUT3P
	<EXPLODED VIEW>										
1	Exploded	A2G406A13(	DVD MT PCB ASSY TDD1N	DV-SP303	S	TDD1N	A2G406A13(	A2G406A13(	-	-	-
1	Exploded	A2G528A13(	DVD MT PCB ASSY PP2P	DV-SP403E	S	TPP2P	-	-	-	-	-
1	Exploded	A2G530A13(	DVD MT PCB ASSY PA4P	DV-SP303	B	TPA4P	-	-	A2G530A13(	A2G530A13(	
2	Exploded	A2G406A27(	OPERATION-1 PCB ASSY DD1N	DV-SP303	S	TDD1N	A2G406A27(	A2G406A27(	A2G406A27(	A2G406A27(	A2G406A27(
2	Exploded	A2G530A27(	OPERATION-1 PCB ASSY PA4P	DV-SP303	B	TPA4P	-	-	A2G530A27(	A2G530A27(	A2G530A27(
2	Exploded	A2G528A27(	OPERATION-1 PCB ASSY 403E	DV-SP403E	S	TPP2P	-	-	-	-	-
3	Exploded	A2G528A28(	OPERATION-2 PCB ASSY 403E	DV-SP403E	S	TPP2P	-	-	-	-	-
3	Exploded	A2G406A28(	OPERATION-2 PCB ASSY DD1N	DV-SP303	S	TDD1N	A2G406A28(	A2G406A28(	A2G406A28(	A2G406A28(	A2G406A28(
4	Exploded	A2G402A24(	POWER PCB ASSY DD1N	DV-SP303	S	TDD1N	A2G402A24(	A2G402A24(			A2G402A24(
4	Exploded	A2G502A24(	POWER PCB ASSY PP2P	DV-SP403E	S	TPP2P	-	-	-	-	-
4	Exploded	A2G519A24(	POWER PCB ASSY PA4P	DV-SP303	B	TPA4P	-	-	A2G519A24(	A2G519A24(	
6	Exploded	761WSA0237	Shield, 21PIN	DV-SP403E	S	TPP2P	-				
7	Exploded	752WSA0466	Plate FL	DV-SP303	S	TDD1N	752WSA0466	752WSA0466	752WSA0466	752WSA0466	752WSA0466
11	Exploded	755WPA0046	Plate Cover POWER	DV-SP303	S	TDD1N	755WPA0046	755WPA0046	755WPA0046	755WPA0046	755WPA0046
12	Exploded	761WPA0396	Holder, FFC	DV-SP303	S	TDD1N	761WPA0396	761WPA0396	761WPA0396	761WPA0396	761WPA0396
14	Exploded	702WSB012(	TOP COVER Silver	DV-SP303	S	TDD1N	702WSB012(	702WSB012(	702WSB012(	702WSB012(	702WSB012(
14	Exploded	702WSB011S	TOP COVER Black	DV-SP403E	B	TPP2P	-	-	-	-	-
16	Exploded	8965TS1015	Cushion 65TS10-5(15*20*16)	DV-SP303	S	TDD1N	8965TS1015	8965TS1015	8965TS1015	8965TS1015	8965TS1015
18	Exploded	816423063L	Screw TAP TITE S -R	DV-SP303	S	TDD1N	816423063L				
19	Exploded	8107D3055L	Screw TAP TITE S R (3*5.5 PCB)	DV-SP303	S	TDD1N	8107D3055L	8107D3055L	8107D3055L	8107D3055L	8107D3055L
20	Exploded	810913060L	Screw TAP TITE B (3*6 Cover)	DV-SP303	S	TDD1N	810913060L	810913060L	810913060L	810913060L	810913060L
21	Exploded	8109K3060S	Screw TAP TITE B	DV-SP303	S	TDD1N	8109K3060S	8109K3060S	8109K3060S		
21	Exploded	8109K3060L	Screw, TAP TITE B)	DV-SP403E	S	TPP2P					
22	Exploded	811022680S	Screw, TAP TITE P) (2.6*8 Disp PCB)	DV-SP403E	S	TPP2P	811022680S	811022680S	811022680S	811022680S	811022680S
23	Exploded	722656A001	Sheet Jack 1(RCA Pin jack) DD1N	DV-SP303	S	TDD1N	722656A001	722656A001	-	-	722656A001
23	Exploded	722656A005	Sheet Jack 1(RCA Pin jack) PA4P	DV-SP303	B	TPA4P			722656A005	722656A005	
24	Exploded	722656A002	Sheet Jack 2 (Safety) PP2P	DV-SP403E	S	TPP2P	-	-	-	-	-
24	Exploded	722656A006	Sheet Jack 2 (Safety) PA4P	DV-SP303	B	TPA4P			722656A006	722656A006	
24	Exploded	722656A009	Sheet Jack 2 (Safety) DD1N	DV-SP303	S	TDD1N	722656A009	722656A008			
24	Exploded	722656A012	Sheet Jack 2 (Safety) UT3P	DV-SP303	G	TUT3P					722656A012
24	Exploded	722656A013	Sheet Jack 2 (Safety) PP2P	DV-SP303	S	TPP2P					
25	Exploded	722656A003	Sheet Jack 3 (SCART) PP2P	DV-SP403E	S	TPP2P	-	-	-	-	-
25	Exploded	722656A007	Sheet Jack 3 (SCART) PA4P	DV-SP303	B	TPA4P			722656A007	722656A007	
25	Exploded	722656A008	Sheet Jack 3 (SCART) DD1N	DV-SP303	S	TDD1N	722656A008	722656A008			
25	Exploded	722656A014	Sheet Jack 3 (SCART) UT3P	DV-SP303	G	TUT3P	-				722656A014
101	Exploded	7A701A461A	Front Cabinet ASSY (B)	DV-SP303	B	TDD1N	-	7A701A461A			
101	Exploded	7A701A469A	Front Cabinet ASSY (B)	DV-SP403E	B	TPP2P	-				
101	Exploded	7A701A488A	Front Cabinet ASSY (S)	DV-SP303	S	TDD1N	7A701A488A				
101	Exploded	7A701A490A	Front Cabinet ASSY (S)	DV-SP403E	S	TPP2P					
110	Exploded	810923070L	Screw TAP TITE B) (3*7 Leg)	DV-SP303	S	TDD1N	810923070L			810923070L	810923070L
111	Exploded	704WPA0054	LEG	DV-SP303	S	TDD1N	704WPA0054	704WPA0054	704WPA0054	704WPA0054	704WPA0054
112	Exploded	712WPJC164	Flap DVD B	DV-SP303	B	TDD1N	-	712WPJC164	712WPJC164	-	-
112	Exploded	712WPJC165	Flap DVD S	DV-SP303	S	TDD1N	712WPJC165			712WPJC165	-
112	Exploded	712WPJC175	Flap DVD 403E	DV-SP403E	B	TPP2P	-	-	-	-	-
113	Exploded	743WKAA012	Spring FLAP-DVD	DV-SP403E	S	TPP2P	743WKAA012	743WKAA012	743WKAA012	743WKAA012	743WKAA012
114	Exploded	1206158802	AC Cord assy	DV-SP403E	S	TPP2P	-	-	-	-	1206158802
114	Exploded	1206158901	AC Cord assy	DV-SP303	S	TDD1N	1206158901	1206158901	-	-	-
114	Exploded	1206158902	AC Cord assy	DV-SP303	G	TUT3P	-	-	-	-	1206158902
114	Exploded	120G168801	AC Cord assy	DV-SP303	B	TPA4P	-	-	120G168801	120G168801	-
115	Exploded	1209618901	AC code bushing	DV-SP303	S	TDD1N	1209618901	1209618901	-	-	-
	<MECHANISM>										
1	Mecha	A2F101A61(	LOADING MOTOR PCB ASSY	DV-SP303	S	TDD1N	A2F101A61(	A2F101A61(	A2F101A61(	A2F101A61(	A2F101A61(
2	Mecha	92P100117A	Gear, Middle	DV-SP303	S	TDD1N	92P000023A	92P100117A	92P100117A	92P100117A	92P100117A
3	Mecha	1515S98004	Loading Motor	DV-SP303	S	TDD1N	1515S98004	1515S98004	1515S98004	1515S98004	1515S98004
4	Mecha	92P100097A	Pulley, Motor	DV-SP303	S	TDD1N	92P100097A	92P100097A	92P100097A	92P100097A	92P100097A
5	Mecha	1515S98004	FEED Motor	DV-SP303	S	TDD1N	1515S98004	1515S98004	1515S98004	1515S98004	1515S98004
6	Mecha	122H00230S	Cord Jumper FFC CD2001	DV-SP303	S	TDD1N	122H00230S	122H00230S	122H00230S	122H00230S	122H00230S
7	Mecha	122H05160Z	Cord Jumper CD2302	DV-SP303	S	TDD1N	122H05160Z	122H05160Z	122H05160Z	122H05160Z	122H05160Z
8	Mecha	92P200013A	Insulator F	DV-SP303	S	TDD1N	92P200013A	92P200013A	92P200013A	92P200013A	92P200013A
9	Mecha	92P200015A	Loading Belt	DV-SP303	S	TDD1N	92P200015A	92P200015A	92P200015A	92P200015A	92P200015A
10	Mecha	92P200016A	Insulator R	DV-SP303	S	TDD1N	92P200016A	92P200016A	92P200016A	92P200016A	92P200016A
11	Mecha	92P100119A	Flame, Main	DV-SP303	S	TDD1N	92P100090A	92P100119A	92P100119A	92P100119A	92P100119A
12	Mecha	92P100127A	Tray B	DV-SP303	S	TDD1N	92P100127A	92P100127A	92P100127A	92P100127A	92P100127A
13	Mecha	92P100125A	Holder, TRAVERSE	DV-SP303	S	TDD1N	92P100125A	92P100125A	92P100125A	92P100125A	92P100125A
14	Mecha	92P100123A	Gear Pulley	DV-SP303	S	TDD1N	92P100123A	92P100123A	92P100123A	92P100123A	92P100123A
15	Mecha	92P100124A	Gear Main	DV-SP303	S	TDD1N	92P100124A	92P100124A	92P100124A	92P100124A	92P100124A
16	Mecha	92P100116A	Gear, FEED	DV-SP303	S	TDD1N	92P100116A	92P100116A	92P100116A	92P100116A	92P100116A
17	Mecha	A2F101A64(	SW PCB ASSY	DV-SP303	S	TDD1N	A2F101A64(	A2F101A64(	A2F101A64(	A2F101A64(	A2F101A64(
20	Mecha	92P100122A	Clamper	DV-SP303	S	TDD1N	92P100122A	92P100122A	92P100122A	92P100122A	92P100122A
21	Mecha	814011730L	Screw, PAN	DV-SP303	S	TDD1N	814011730L	814011730L	814011730L	814011730L	814011730L
22	Mecha	814011723L	Screw, PAN	DV-SP303	S	TDD1N	814011723L	814011723L	814011723L	814011723L	814011723L
23	Mecha	92P100121A	Rack Loading	DV-SP303	S	TDD1N	92P100121A	92P100121A	92P100121A	92P100121A	92P100121A
24	Mecha	92P100088A	Gear motor	DV-SP303	S	TDD1N	92P100088A	92P100088A	92P100088A	92P100088A	92P100088A
25	Mecha	92AAA0017A	FEED RACK ASSY	DV-SP303	S	TDD1N	92AAA0017A	92AAA0017A	92AAA0017A	92AAA0017A	92AAA0017A
26	Mecha	813381750L	Screw, T-TITE B)CAMPER	DV-SP303	S	TDD1N	813381750L	813381750L	813381750L	813381750L	813381750L
27	Mecha	92P700007A	Screw, Gear FEED	DV-SP303	S	TDD1N	92P700007A	92P700007A	92P700007A	92P700007A	92P700007A
28	Mecha	122H06160S	Cord Jumper FFC CD2301	DV-SP303	S	TDD1N	122H06160S	122H06160S	122H06160S	122H06160S	122H06160S

29	Mecha	0515S32003	SW1 Mecha. Switch	DV-SP303	S	TDD1N	0515S32003	0515S32003	0515S32003	0515S32003	0515S32003
30	Mecha	050010103(	SW2 Mecha.	DV-SP303	S	TDD1N	050010103(	050010103(	050010103(	050010103(	050010103(
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	A2G512A65(	DVD MECHANISM ASSY	DV-SP303	S	TDD1N	A2G512A65(	A2G512A65(	A2G512A65(	A2G512A65(	A2G512A65(
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	0504R01T3E	Tact Switch	DV-SP303	S	TDD1N	0504R01T3E	0504R01T3E	0504R01T3E	0504R01T3E	0504R01T3E
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	060J45100E	RCA Jack	DV-SP303	S	TDD1N	060J45100E	060J45100E	060J45100E	060J45100E	060J45100E
J8101	PCB	063D100050	Socket	DV-SP403E	S	TPP2P	-	-	-	-	-
J8002	PCB	063D70000E	Jack	DV-SP303	S	TDD1N	063D70000E	063D70000E	063D70000E	063D70000E	063D70000E
CP2302	PCB	069EV5303(	Connector	DV-SP303	S	TDD1N	069EV5303(	069EV5303(	069EV5303(	069EV5303(	069EV5303(
CP2303	PCB	069EV6303(	Connector	DV-SP303	S	TDD1N	069EV6303(	069EV6303(	069EV6303(	069EV6303(	069EV6303(
CP4002	PCB	069EVB303(	Connector	DV-SP303	S	TDD1N	069EVB303(	069EVB303(	069EVB303(	069EVB303(	069EVB303(
CP2301	PCB	069GY0T119	Connector	DV-SP303	S	TDD1N	069GY0T119	069GY0T119	069GY0T119	069GY0T119	069GY0T119
CP8001	PCB	069J7C0599	Connector	DV-SP403E	S	TPP2P	-	-	-	-	-
CP4003	PCB	069S2E0629	Connector	DV-SP303	S	TDD1N	069S2E0629	069S2E0629	069S2E0629	069S2E0629	069S2E0629
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	-	-	07AQ000009	07AQ000009	-
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	D1VT00133(	Diode 1SS133T-77	DV-SP303	S	TDD1N	D1VT00133(	D1VT00133(	D1VT00133(	D1VT00133(	D1VT00133(
D8101	PCB	DD7R0S355(	Diode 1SS355 TE-17	DV-SP303	S	TDD1N	DD7R0S355(	DD7R0S355(	DD7R0S355(	DD7R0S3550	DD7R0S355(
D8005	PCB	DE7RB6R82E	Diode UDZS6.8B TE-17	DV-SP303	S	TDD1N	DE7RB6R82E	DE7RB6R82E	DE7RB6R82E	DE7RB6R82E	DE7RB6R82E
IC2301	PCB	I03F065650	IC LA6565-TE-L-E	DV-SP303	S	TDD1N	I03F065650	I03F065650	I03F065650	I03F065650	I03F065650
IC8003	PCB	I07F045600	IC BA4560F-E2	DV-SP303	S	TDD1N	I07F045600	I07F045600	I07F045600	I07F045600	I07F045600
IC4006	PCB	I1HF9117L(	IC SIP1117L-ADJ-TP	DV-SP303	S	TDD1N	I1HF9117L(	I1HF9117L(	I1HF9117L(	I1HF9117L(	I1HF9117L(
IC8001	PCB	I5CJ032570	IC SN74CBT3257PWR	DV-SP403E	S	TPP2P	-	-	-	-	-
IC4003	PCB	I97F052290	IC BD5229G-TR	DV-SP303	S	TDD1N	I97F052290	I97F052290	I97F052290	I97F052290	I97F052290
IC4002	PCB	IC8K0389D0	IC MT1389FE/C2-I	DV-SP303	S	TDD1N	IC8K0389D0	IC8K0389D0	IC8K0389D0	IC8K0389D0	IC8K0389D0
IC4005	PCB	IFLJ0632H7	IC K4S641632H-UC75	DV-SP303	S	TDD1N	IFLJ0632H7	IFLJ0632H7	IFLJ0632H7	IFLJ0632H7	IFLJ0632H7
IC4001	PCB	MT1389FE/C2-I	DVD IC	DV-SP403E	S	TPP2P	MT1389FE/C2-I	MT1389FE/C2-I	MT1389FE/C2-I	MT1389FE/C2-I	MT1389FE/C2-I
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	T27T030180	FET	DV-SP303	S	TDD1N	T27T030180	T27T030180	T27T030180	T27T030180	T27T030180
Q8018,Q8019	PCB	T97A02114(	Transistor	DV-SP303	S	TDD1N	T97A02114(	T97A02114(	T97A02114(	T97A02114(	T97A02114(
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 DTC114YUAT106	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	JB5KD100	Polybag For Instruction manual	DV-SP303	B	TPA4P	-	-	JB5KD100	-	-
P2	Packing	JB5KD200	Polybag For Instruction manual	DV-SP303	S	TDD1N	JB5KD200	JB5KD200	JB5KD200	JB5KD200	JB5KD200
P2	Packing	JB5KD300	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	723000D009	Label Carton	DV-SP303	S	TPA4P				723000D009	
P18	Packing	723000D013	Label Carton	DV-SP303	B	TDD1N		723000D013			
P18	Packing	723000D014	Label Carton	DV-SP303	S	TDD1N	723000D014				
P18	Packing	723000D015	Label Carton	DV-SP403E	B	TPP2P					
P18	Packing	723000D015	Label Carton	DV-SP303	G	TUT3P					723000D015
P20	Packing	791WHA010(	Gift Sheet	DV-SP303	S	TDD1N	791WHA010(	791WHA010(			
P20	Packing	791WHA011(	Gift Sheet	DV-SP303	B	TPA4P			791WHA011(	791WHA011(	791WHA011(
P21	Packing	792WHAA169	Package (PAD)	DV-SP303	S	TDD1N	792WHAA169	792WHAA169	792WHAA169	792WHAA169	792WHAA169
P21	Packing	792WHAA17(	Package (PAD)	DV-SP403E	S	TPP2P					
P22	Packing	793WCDC77(	Gift Box	DV-SP303	B	TDD1N		793WCDC77(			
P22	Packing	793WCDC777	Gift Box	DV-SP403E	B	TPP2P					
P22	Packing	793WCDC785	Gift Box	DV-SP303	B	TPA4P			793WCDC785		
P22	Packing	793WCDC809	Gift Box	DV-SP303	S	TDD1N	793WCDC809				
P22	Packing	793WCDC81(	Gift Box	DV-SP403E	S	TPP2P					
P22	Packing	793WCDC816	Gift Box	DV-SP303	S	TPA4P				793WCDC816	
P22	Packing	793WCDC83(	Gift Box	DV-SP303	G	TUT3P					793WCDC83(
P23	Packing	06CPBA200E	RCA Pin cable	DV-SP303	S	TDD1N	06CPBA200E	06CPBA200E	06CPBA200E	06CPBA200E	06CPBA200E
P24	Packing	06CUVA5004	Cable, 21PIN	DV-SP403E	S	TPP2P	-	-	-	-	-

P25	Packing	07760LP01(	Remote controller	DV-SP303	S	TDD1N	07760LP01(	07760LP01(	07760LP01(	07760LP01(	07760LP01(

DV-SP303E(S) TPP2P	DV-SP403E(S) TPP2P	DV-SP403E(B) TPP2P
-		
-	A2G528A13(	A2G528A13(
A2G406A27(		
-	A2G528A27(	A2G528A27(
-	A2G528A28(	A2G528A28(
A2G406A28(		
A2G402A24(	-	-
-	A2G502A24(	A2G502A24(
	761WSA0237	761WSA0237
752WSA046(	752WSA046(	752WSA046(
755WPA004(	755WPA004(	755WPA004(
761WPA039(	761WPA039(	761WPA039(
702WSB012(	-	-
-	702WSB011(	702WSB011(
8965TS1015	8965TS1015	8965TS1015
8107D3055L	8107D3055L	8107D3055L
810913060L	810913060L	810913060L
		8109K3060S
	8109K3060L	8109K3060L
811022680S	811022680S	811022680S
722656A001	722656A001	722656A001
-	722656A002	722656A002
722656A013		
722656A003	722656A003	722656A003
		7A701A469A
	7A701A490A	
810923070L	810923070L	
704WPA0054	704WPA0054	704WPA0054
-	-	
712WPJC165	-	
-	712WPJC175	712WPJC175
743WKAA012	743WKAA012	743WKAA012
120615880(	120615880(	120615880(
-	-	-
-	-	-
-	-	-
-	-	-
A2F101A61(	A2F101A61(	A2F101A61(
92P100117A	92P100117A	92P100117A
1515S98004	1515S98004	1515S98004
92P100097A	92P100097A	92P100097A
1515S98004	1515S98004	1515S98004
122H00230(	122H00230(	122H00230(
122H05160(	122H05160(	122H05160(
92P200013A	92P200013A	92P200013A
92P200015A	92P200015A	92P200015A
92P200016A	92P200016A	92P200016A
92P100119A	92P100119A	92P100119A
92P100127A	92P100127A	92P100127A
92P100125A	92P100125A	92P100125A
92P100123A	92P100123A	92P100123A
92P100124A	92P100124A	92P100124A
92P100116A	92P100116A	92P100116A
A2F101A64(	A2F101A64(	A2F101A64(
92P100122A	92P100122A	92P100122A
814011730L	814011730L	814011730L
814011723L	814011723L	814011723L
92P100121A	92P100121A	92P100121A
92P100088A	92P100088A	92P100088A
92AAA0017A	92AAA0017A	92AAA0017A
813381750L	813381750L	813381750L
92P700007A	92P700007A	92P700007A
122H06160(	122H06160(	122H06160(

0515S3200	0515S3200	0515S3200
050010103	050010103	050010103
811022680L	811022680L	811022680L
816112080L	816112080L	816112080L
811022080L	811022080L	811022080L
A2G512A65	A2G512A65	A2G512A65
0504R01T3	0504R01T3	0504R01T3
060J401102	060J401102	060J401102
060J411034	060J411034	060J411034
060J451008	060J451008	060J451008
-	063D10005	063D10005
063D70000	063D70000	063D70000
069EV5303	069EV5303	069EV5303
069EV6303	069EV6303	069EV6303
069EVB303	069EVB303	069EVB303
069GY0T11	069GY0T11	069GY0T11
-	069J7C059	069J7C059
069S2E062	069S2E062	069S2E062
06C32E350	06C32E350	06C32E350
077A040001	077A040001	077A040001
-	-	-
100BT02701	100BT02701	100BT02701
110P4330M4	110P4330M4	110P4330M4
122H062801	122H062801	122H062801
-	122H0B100	
122H0B1201	122H0B120	122H0B1201
-	122H0C3001	
D1VT00133	D1VT00133	D1VT00133
DD7R0S355	DD7R0S355	DD7R0S355
DE7RB6R82E	DE7RB6R82E	DE7RB6R82E
I03F065650	-	-
I07F045600	-	-
I1HF9117L0	-	-
-	I5CJ032570	I5CJ032570
I97F052290	-	-
IC8K0389D0	-	-
IFLJ0632H7	-	-
MT1389FE/C2-I	MT1389FE/C2-I	MT1389FE/C2-I
PT6315	PT6315	PT6315
R65584680J	R65584680J	R65584680J
S2G406AF01	S2G406AF01	S2G406AF01
-	S2G530AF01	S2G530AF01
T27T030180	T27T030180	T27T030180
T97A02114	T97A02114	T97A02114
TAAA1504SY	TAAA1504SY	TAAA1504SY
TCAA3875SY	TCAA3875SY	TCAA3875SY
TN7J407001	TN7J407001	TN7J407001
VAW1077	VAW1077	VAW1077
J2G40601A	-	-
-	J2G52801A	J2G52801A
-	J2G52832A	J2G52832A
-	J2G52833A	J2G52833A
-	-	
-	-	
	JB5KD300	JB5KD300
	723000D002	
		723000D015
792WHAA169		
	792WHAA170	792WHAA170
		793WCDC777
	793WCDC810	
06CPBA2006	06CPBA2006	06CPBA2006
-	06CUVA5004	06CUVA5004

07760LP01C 07760LP01C 07760LP01C

ONKYO CORPORATION
Sales & Product Planning Div. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572-8540, JAPAN
Tel: 072-831-8023 Fax: 072-831-8124

ONKYO U.S.A. CORPORATION
18 Park Way, Upper Saddle River, N.J. 07458, U.S.A.
Tel: 201-785-2600 Fax: 201-785-2650 http://www.us.onkyo.com/

ONKYO EUROPE ELECTRONICS GmbH
Liegnitzerstrasse 6, 82194 Groebenzell, GERMANY
Tel: +49-8142-4401-0 Fax: +49-8142-4401-555 http://www.eu.onkyo.com/

ONKYO EUROPE UK Office
Suite 1, Gregories Court, Gregories Road, Beaconsfield, Buckinghamshire, HP9 1HQ
UNITED KINGDOM Tel: +44-(0)1494-681515 Fax: +44(0)-1494-680452

ONKYO CHINA LIMITED
Units 2102-2107, Metroplaza Tower I, 223 Hing Fong Road, Kwai Chung,
N.T., HONG KONG Tel: 852-2429-3118 Fax: 852-2428-9039
http://www.ch.onkyo.com/

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http://www.onkyo.com/

PN 0Mxxxx D05xx Printed in Japan