

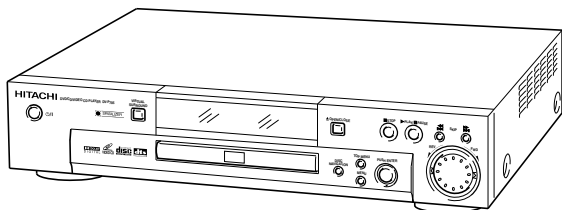
HITACHI

SERVICE MANUAL

TK

No.9010E

DV-P705E
DV-P705E(UK)
DV-P705U



SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT


DVD PLAYER

September

2000

Digital Media Products Division, Tokai

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for a higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual. Electrical components having such features are identified by marking with a  on the schematics and the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards. Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies for, HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.

LASER RADIATION

CLASS 1
LASER PRODUCT

 **CAUTION**

Do not stare at
the laser beam

SAFETY PRECAUTIONS

NOTICE:

Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

1. When replacing a chassis in the instrument, all the protective devices must be put back in place, such as barriers, non-metallic knobs, adjustment and compartment covers/shields, isolation resistors/capacitors, etc.
2. When service is required, observe the original leadress. Extra precautions should be taken to assure correct lead dress in the high voltage circuit.
3. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacturer's. Furthermore, where a short-circuit has occurred, replace those components that indicate evidence of overheating.
4. Before returning an instrument to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the instrument by the manufacturer has become defective or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and service technician.

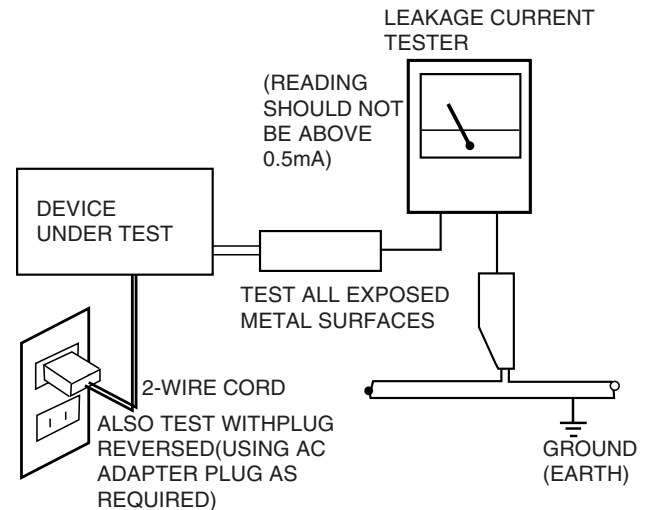
Leakage Current Cold Check

With the AC plug removed from the AC120V, 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to exposed metal parts (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3 Mohm and a maximum resistor reading of 5 Mohm. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a AC120V, 60Hz outlet (do not use an isolation transformer for this check).


Turn the AC power switch on. Using a "Leakage Current Tester", measure for current from all exposed metal parts of the cabinet (antennas, screwheads, metal overlays, control shaft, etc.), particularly an exposed metal part having a return path to the chassis, to a known ground (earth) (water pipe, conduit, etc.). Any current measured must not exceed 0.5 mA.

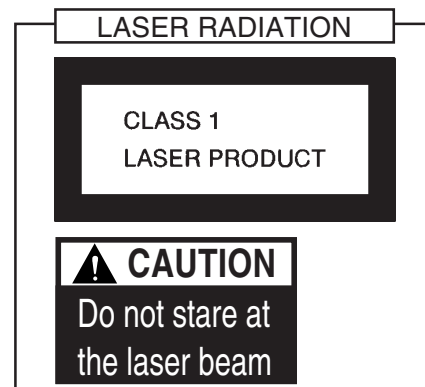


AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE UNIT TO THE CUSTOMER.

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Notes When Using Service Manual

The following shows the contents to be noted when using service manual:

1. Value units used in parts list

Certain symbols are indicated below for value units of resistors, capacitors and coils in parts list. When you read them note the following regular indications:

Parts	Indication in list	Regular indication
Resistor	KOHM	kΩ
Capacitor	UF	μF
	PF	pF
Coil	UH	μH
	MH	mH

2. Values in schematic diagrams

The values, dielectric strength (power capacitance) and tolerances of the resistors (excluding variable resistors) and capacitors are indicated in the schematic diagrams using abbreviations.

[Resistors]

Item	Indication
Value	No indication Ω
	K kΩ
	M MΩ
Tolerance	No indication ±5%
	(All tolerances other than ±5% are indicated in schematic diagrams)
Power capacitance	No indication 1/8W (1/16W for leadless resistors without indication) All capacitances other than the above are indicated in schematic diagrams.

[Capacitors]

Item	Indication
Value	No indication μF
	P pF
Dielectric strength	No indication 50V (All dielectric strengths other than 50V are indicated in schematic diagrams)

[Coils]

Item	Indication
Value	μ μH
	m mH

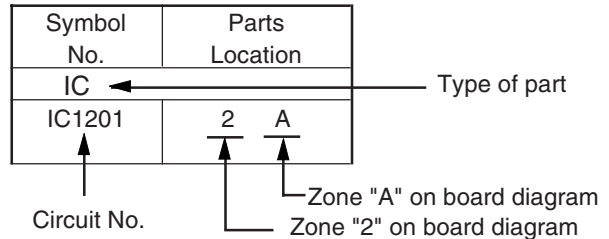
3. Identifications of sides A/B in circuit board diagrams

- Board having a pattern on one side and parts on both sides.
 - Side A: Shows discrete parts, viewed from the pattern side.
 - Side B: Shows leadless parts, viewed from the pattern side.
- Board having patterns on both sides and parts on both sides.
 - Side A: Shows parts and patterns which can be seen when the case is opened.
 - Side B: Shows parts and the pattern on the back of side A.

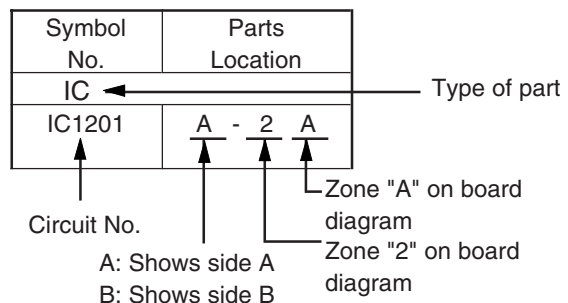
4. Table for indexing locations of parts

This table shows locations of each part on circuit board diagrams. The locations are indicated using the guide scales on the external lines of diagrams.

- One diagram indicated for each board



- Two diagrams indicated for each board



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1. Specifications

General	Operating Laser Semi-conductor laser: Wave length 650nm (DVD) 780nm (CD,VCD) Power supply DV-P705E/E(UK): AC230V, 50Hz DV-P705U: AC120V, 60Hz Power consumption 24W Weight 3.4kg Overall size 434(W)×284(D)×91(H)mm Allowable operating temperature +5°C~+35°C Allowable operating humidity 15~75%(no condensation)											
SCART terminal [For DV-P705E/E(UK)]	AV connector output 20 pin connector This connector provides the video and signals for connection to a colour video TV monitor (or TV set) which has a "AV CONNECTOR" terminal.											
Component video output [For DV-P705U]	Y output level 1 Vp-p (75 ohm) P _B output level NTSC 0.7 Vp-p (75 ohm) PAL 0.698 Vp-p (75 ohm) P _R output level NTSC 0.7 Vp-p (75 ohm) PAL 0.698 Vp-p (75 ohm) Output terminal Pin Jack											
S Video output terminal	Y output level 1 Vp-p (75 ohm) C output level NTSC 0.286 Vp-p(75 ohm) PAL 0.3 Vp-p (75 ohm) Output terminal S terminal											
Video output	Output level 1 Vp-p (synchronous when loaded at 75 ohm) Output terminal pin jack											
Audio output	Output level 200m Vrms (1kHz, -20dB) Mixed 2ch Output 1 system (pin jack × 2) 5.1 ch Output 1 system (pin jack × 6) Sound characteristics <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Frequency characteristics</td> <td>CD: 4Hz~20kHz (EIAJ) DVD: 4Hz~22kHz (48k sampling) 4Hz~44kHz (96k sampling)</td> </tr> <tr> <td>SN ratio</td> <td>110dB</td> </tr> <tr> <td>Dynamic range</td> <td>100dB</td> </tr> <tr> <td>Total harmonic distortion rate</td> <td>0.003%</td> </tr> <tr> <td>Wow fluttertics</td> <td>Measurement limit less than (±0.001% W.PEAK) (EIAJ)</td> </tr> </table>		Frequency characteristics	CD: 4Hz~20kHz (EIAJ) DVD: 4Hz~22kHz (48k sampling) 4Hz~44kHz (96k sampling)	SN ratio	110dB	Dynamic range	100dB	Total harmonic distortion rate	0.003%	Wow fluttertics	Measurement limit less than (±0.001% W.PEAK) (EIAJ)
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Total harmonic distortion rate	0.003%											
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Other terminals	Digital Audio output Optical/Coaxial (DTS/AC-3/MPEG2, LPCM, OFF commutable)	Coaxial terminal 1 Optical connector 1										
Accessories	Remote control unit 1 signal "AA" batteries 2 AV cord 1 Power cord 1											

Specification and exterior aspect of the model may be changed for improvements without advance notice.

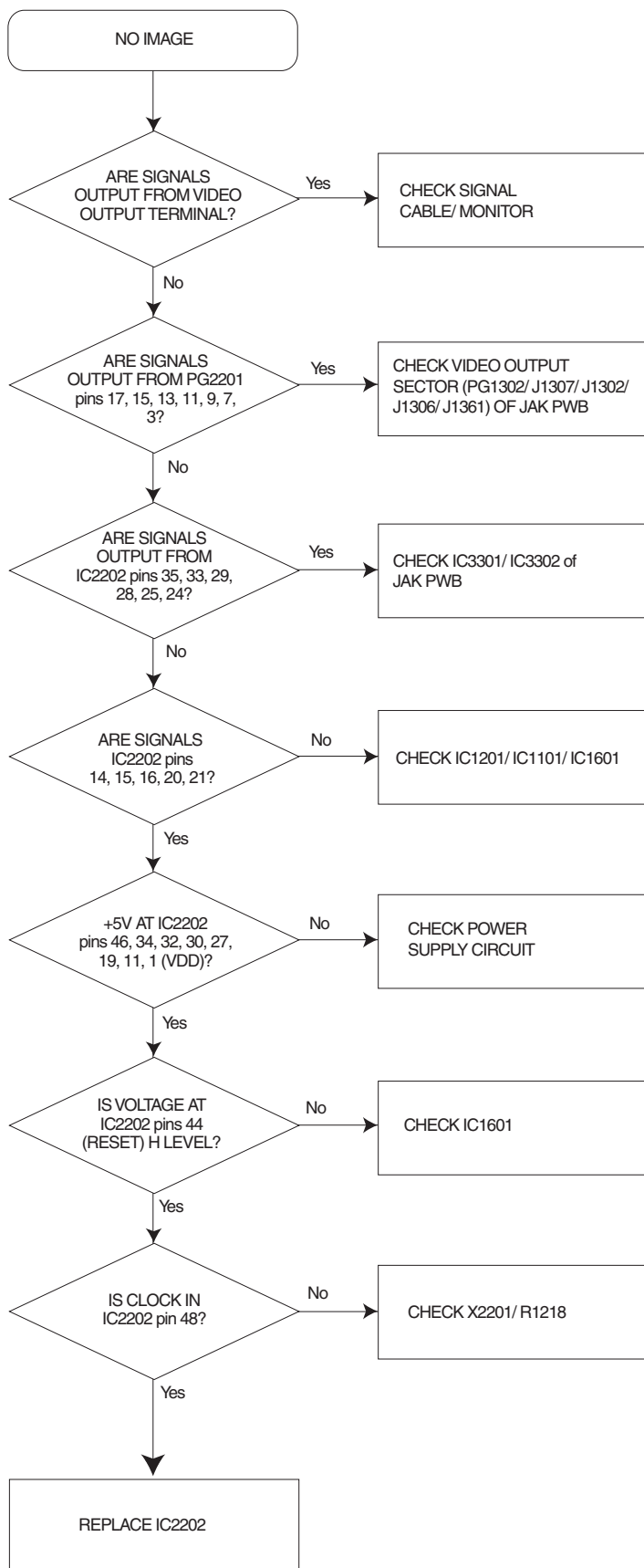
2. Comparison with Previous Model

	DV-P705E/E(UK)/U	DV-P505E/E(UK)/U
General		
Dimension	434(W)x284(D)x91(H)mm	434(W)x284(D)x91(H)mm
Weight	3.4kg	3.7kg
Region Code	2[For E/E(UK)], 1[For U]	2[For E/E(UK)], 1[For U]
Power Requirement	230V 50Hz[For E/E(UK)], 120V 60Hz[For U]	230V 50Hz[For E/E(UK)], 120V 60Hz[For U]
Power Consumption	24W	24W
Regulation	CE(CB)[For E/E(UK)], C-UL/DOC[For U]	CE(CE)[For E/E(UK)], C-UL/DOC[For U]
DVD-ROM Drive	HAD-2505 (2X Speed /2-Laser 1-lens)	GD-2501 or HAD-2505 (2X Speed /2-Laser 1-lens)
Playable Disc Type		
DVD/VCD/CD-DA	O/O/O	O/O/O
CVD/SVCD	---/---	---/---
CD-R/CD-RW	O/O	O/O
Disc Size	8cm/12cm	8cm/12cm
PAL/NTSC Disc	O/O	O/O
Video		
Digital Analog Converter	10 bit	10 bit
Composite Video Output Connector	x1(US pin)	x1(US pin)
S-Video Output Connector	x1(S Terminal)	x1(S Terminal)
Component Video Output Connector(525i)	x1(US 3pin)[For U]]	x1(US 3pin)[For U]
SCART Connector	x1[For E/E(UK)]	x1[For E/E(UK)]
D Terminal	---	---
Universal Video Output	Auto, NTSC, PAL, PAL60	Auto, NTSC, PAL, PAL60
Universal Video Output Default	PAL [For E/E(UK)], NTSC[For U]	PAL[For E/E(UK)], NTSC[For U]
Black Level	0, 7.5IRE	0IRE[For E/E(UK)], 7.5IRE[For U]
Closed Caption for NTSC DVD	O	O
Sharpness	Sharp,Natural,Soft	---
Still Picture	Auto,Hi-Resolution, Flickerless	---
Y-Level Control	O	---
HUE Level Control	O	---
NR(Digital Noise Reduction) ON/OFF	---	---
Gamma Correction Control	---	---
Progressive Output	---	---
24 Frame Source Progressive Output	---	---
24 Frame Source Indicator	---	---
Audio		
Digital Analog Converter	96KHz/24bit	96KHz/24bit
Audio output Connector	2ch L/R+5.1ch(US 8pin)	2ch L/R+5.1ch(US 8pin)
Digital Audio Output-Optical	x1	x1
Digital Audio Output-Coaxial	x1(US pin)	x1(US pin)
Headphone Jack with Volume Control	---	---
Karaoke	---	---
Mic Jack	---	---
MPEG2 Audio Down -Mix 2ch	Analog/LPCM	Analog/LPCM
MPEG2 Multi channel	Digital	Digital
Dolby Digital Down-mix 2ch	Analog/LPCM	Analog/LPCM
Dolby Digital Multi Channel	Analog/Digital	Analog/Digital
OSD Speaker Configuration(Level, Delay)	O	O
DTS Output	Digital	Digital
Dolby Pro Logic Decode	---	O
Virtual Surround (Spatializer N-2-2)	Analog	---
Wide	Analog	---

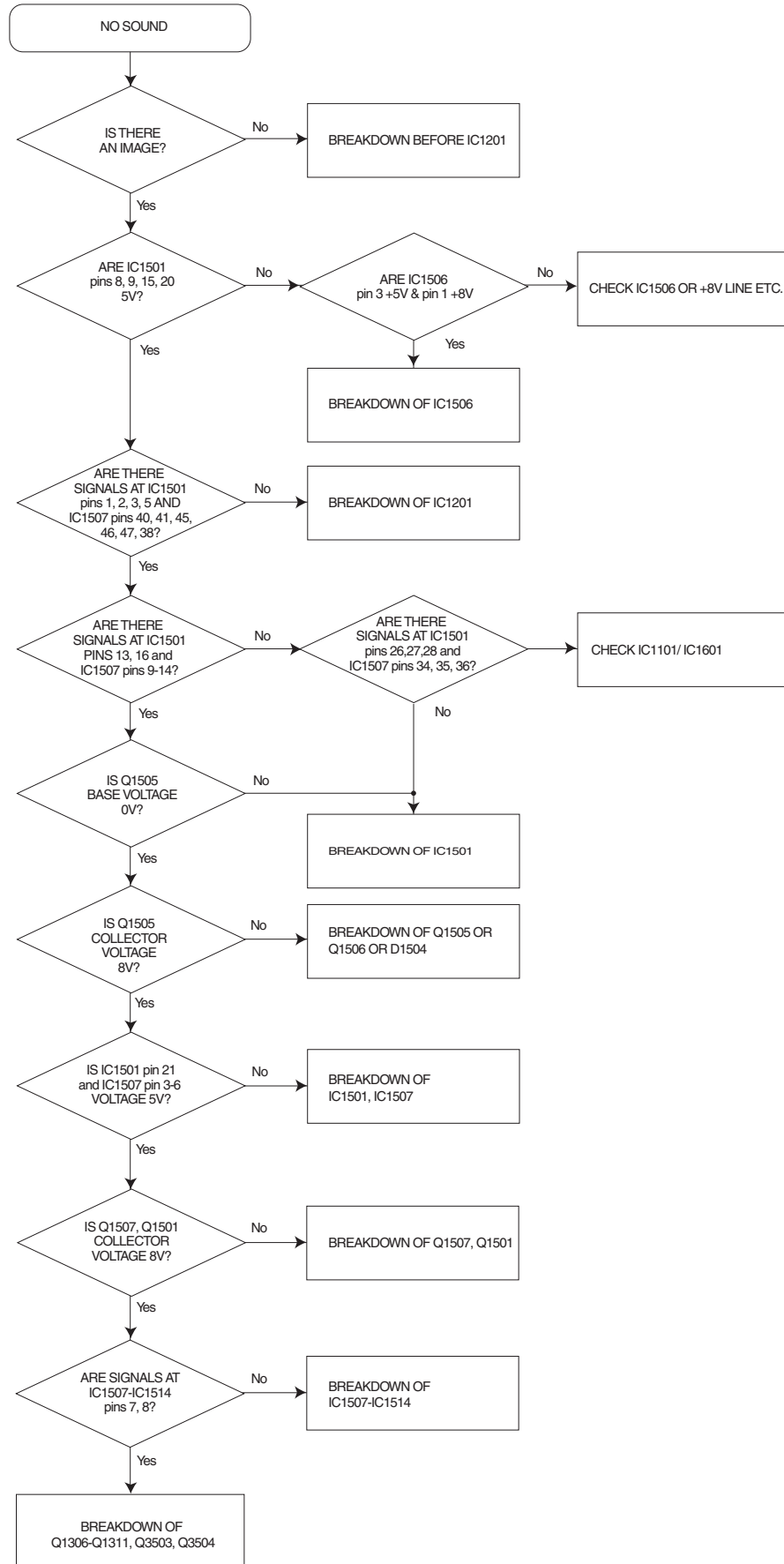
Dynamic Range Compression (only Dolby Digital)	O	O
MP3 Read	---	---
Playback Features		
Jog/Shuttle on Front Panel	O	---
Disc Navigation	New Mark2 : Moving Picture(I search) & Quick Title Change	---
FF	2x(IP search),10x,30x,120x(I search)	2x(IP search),5,~,10x,100x(I search)
Reverse Play, FR	1x,2x,10x,30x,120x(I search)	1x,2x,5x,10x,100x(I search)
Slow Forward	1/8,1/2(full frame)	1/8,1/4,1/2(full frame)
Slow Reverse	---	1/8,1/4,1/2(full frame)
Step	Forward(full frame), Reverse(I picture)	Forward, Reverse,(full Frame)
Parental Lock	O	O
Zoom x2/x4(DVD)	O	O
Program and Random Play	O	VCD,CD only
Repeat	A-B, Disc, Title(DVD), Chapter(DVD), Track(VCD, CD)	A-B(DVD),A-B, Track(VCD, CD)
Last Play	New	O
Display/Operating Convenience		
Easy Play	O	O
OSD languages	5 (English, French, German, Italian, Spanish)[For E/E(UK)] 8 (English, French,German,Italian, Spanish, Chinese, Simple Chinese, Japanese)[For U]	5 (English, French, German, Italian, Spanish)[For E/E(UK)] 8 (English, French,German,Italian, Spanish, Chinese, Simple Chinese, Japanese)[For U]
OSD Display On/Off	O	O
Screen Saver	O	O
Auto Power Off	O	O
Vacuum Fluorescent Display Dimming	Bright, Dim, Dark, Auto Dimming	Light, Dim, Normal
Opening Logo Screen with Sound	O	---
Accessories		
Remote Control Unit	with Jog/Shuttle & Picture	O
Batteries 1pair for Remote Controller	O	O
AV cable	O	O
AC Power Cord	Round 2P/3P (UK)[For E/E(UK)] Flat 2p(U)[For U]	Round 2P/3P (UK)[For E/E(UK)] Flat 2p(U)[For U]

3. Troubleshooting

3-1. VIDEO CIRCUIT



3-2. AUDIO CIRCUIT



4. Self-Diagnosis Function

1. Overview

This DVD player has two types of self-diagnosis function for differing operation methods:

- (1) Self-diagnosis started automatically when power is turned on
- (2) Self-diagnosis activated when test mode is selected by pressing buttons on player

2. Conditions for engaging self-diagnosis

The following conditions must be satisfied to start and complete self-diagnosis:

- (1) No disc loaded.
- (2) Power cord unplugged after self-diagnosis is complete.

3. Operation methods and diagnosis items

3.1 Self-diagnosis started automatically when power is turned on

- (1) ATAPI bus not yet connected
If DVD-ROM drive is not connected, "Err 0009" will appear in the display of player.
Unplug the power cord and check the connection of ATAPI cable.
- (2) When program is not yet stored in flash memory on DEC board:
Tray will open, close and then open.
Unplug the power cord and check the DEC board.

3.2 Self-diagnosis engaged by pressing the buttons on player

- 3.2.1 Simultaneously hold down the SKIP >> and POWER buttons on player for 5 seconds, and then press the PLAY button.
The player will enter the automatic DEC board self-diagnosis mode.
If the DEC board is normal, "0001" will appear in the display for 2 seconds, and then "0002" for 2 seconds: This indication will be repeated.
If error is detected, "Err 01" or "Err 02" will appear.
Err 01: R/W error, 4 Mbit connected to SH
Err 02: R/W error, 32 Mbit connected to ZIVA

Self-diagnosis will stop when it first detects error.
That is, if "Err 01" is displayed, item for "Err 002" will not be diagnosed.

- 3.2.2 Simultaneously hold down the << SKIP and POWER buttons on player for 5 seconds.
The player will enter the selective DEC board self-diagnosis mode.
When this mode is entered, the appropriate menu should appear on the TV screen.
If this screen does not appear, there is a problem in the display system: Carefully check the circuits related to video encoder.

TEST MENU	
VIDEO DAC	
BUTTON CODE	
COLOR BAR	
AUDIO DAC	FL FR C SL SR SUB
STRING TEST	

To change diagnosis items, while holding down the SKIP << button on player, press the POWER button.
The following describes each diagnosis item:

- (1) VIDEO DAC
If the TEST MENU screen appears, this item is judged normal.
Indication in display: 10 00010
- (2) BUTTON CODE
The codes of buttons on remote control and player will appear in the display.
Indication in display: 20 ***** (*****: 5-digit button code)
(However, the codes of POWER button and a simultaneously pressed button are excluded.)

The codes of buttons with the same functions are identical:

PLAY/PAUSE : 10104
SKIP >> : 00002
SKIP << : 00003
STOP : 00111
OPEN : 00009
DISPLAY : 00011

The codes of jog and shuttle are as follows:

Jog dial	Indication in player display
Forward	10500
Backward	10501

Shuttle position	-7	-6	-5	-4	-3	-2	-1	0	0	+1	+2	+3	+4	+5	+6	+7
Indication in player display	00414			00404				00400				00403				00413

(3) COLOR BAR

The color bar will appear.

Each time SKIP >> is pressed, the following display conditions will be established in sequence:

1) NTSC standard playback (Y, Pb, Pr)

Indication in display: 30 0000

2) NTSC Letterbox display

Indication in display: 30 0001

3) NTSC Squeeze display

Indication in display: 30 0002

4) PAL50 (RGB on) Squeeze display

Indication in display: 30 0003

5) PAL (RGB on) standard playback

Indication in display: 30 0004

Pressing SKIP >> at this time will return to 1).

(4) AUDIO DAC

White noise is output from each audio channel.

Indication in display: 40

Each time SKIP >> is pressed, the audio output channel will switch as follows:

FL -> FR -> C -> SL -> SR -> SUB -> FL -> ...

Each time SKIP << is pressed, the audio output channel will switch as follows:

SUB -> SR -> SL -> C -> FR -> FL -> SUB -> ...

(5) STRING TEST

The on-screen information (OSD) used by DVD player is displayed.

Indication in display: 50

Each time SKIP >> is pressed, the contents of string will switch as follows:

OPEN -> CLOSE -> PLAY -> STOP -> PAUSE -> TITLE -> CHAPTER -> ...

Each time SKIP << is pressed, the contents of string will switch as follows:

CHAPTER -> TITLE -> PAUSE -> STOP -> PLAY -> CLOSE -> OPEN -> ...

4. Miscellaneous

4.1 Flash ROM software version display, error display, etc.

Press the VIRTUAL SURROUND button on player and, while holding it down, simultaneously press and hold down the POWER button for 5 seconds.

The software version of flash ROM will appear (P00xx, xxx).

Pressing the cursor up/down buttons on remote control or player will display the player internal data.

The cursor left/right buttons on remote control or player are used for P00 (-P5) <-> P10 (-19) and P10 (-19) <-> P20 (-P99).

The following table lists the player internal data (however, not all items are supported):

#	Function	Display	Content
1	Software version	P00 XX.XXX	Flash ROM version area is read and displayed
2	Player region	P01 XX	Setup and NTSC/PAL are initialized for each destination.
3	Model No.	P02 abcde	-----
4	Microcode version	P03 XXXYY	XXX: Version; YY: Revision (a-z = 1-26)
5	SH microprocessor ROM version	P04 XX.XXX	SH7020 mask ROM version
6	-	P 5 ----	-----
7	-	P11~P19	-----
8	Cause of unplayability	OP20 XXXXX	Possible reasons that "no PLAY" appears are displayed.
9	-	P21	-----
10	Drive information	P22 XXXXX	Information on drive is displayed
11	-	P23 ----	-----
12	-	P26~P99	-----

4.2 If "no PLAY" appears in the display

The following lists the possible causes of "no PLAY" display (and "Disc Error" in OSD):

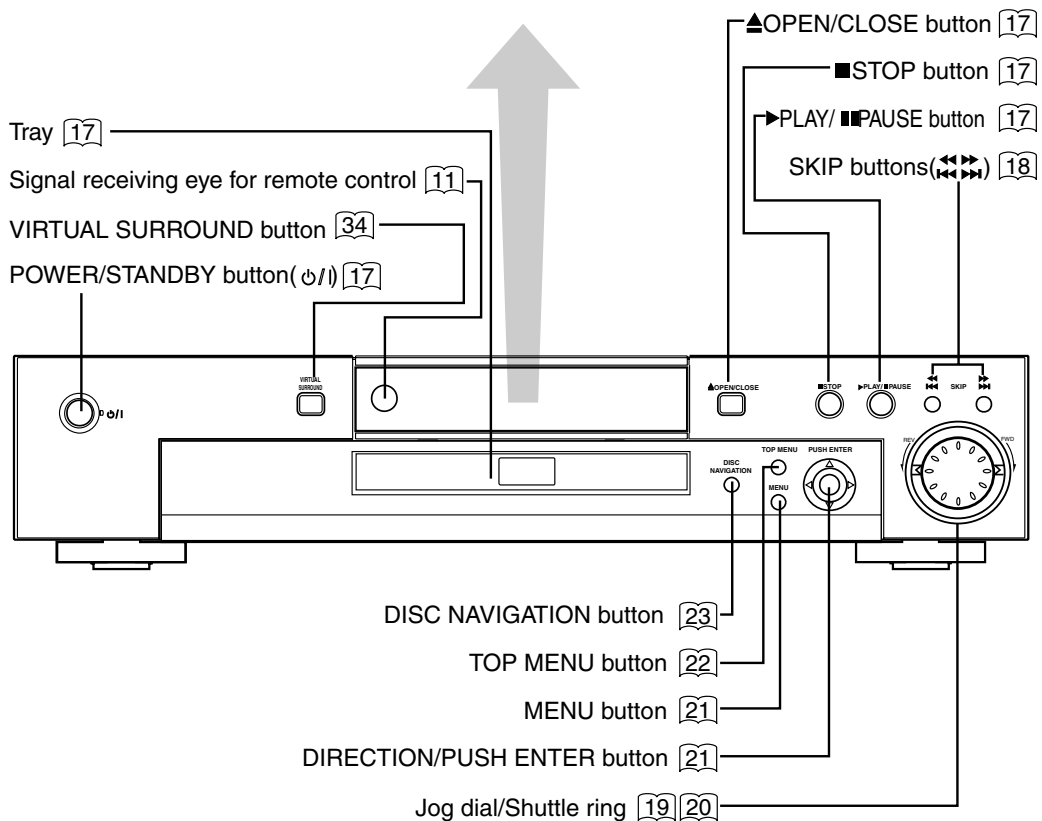
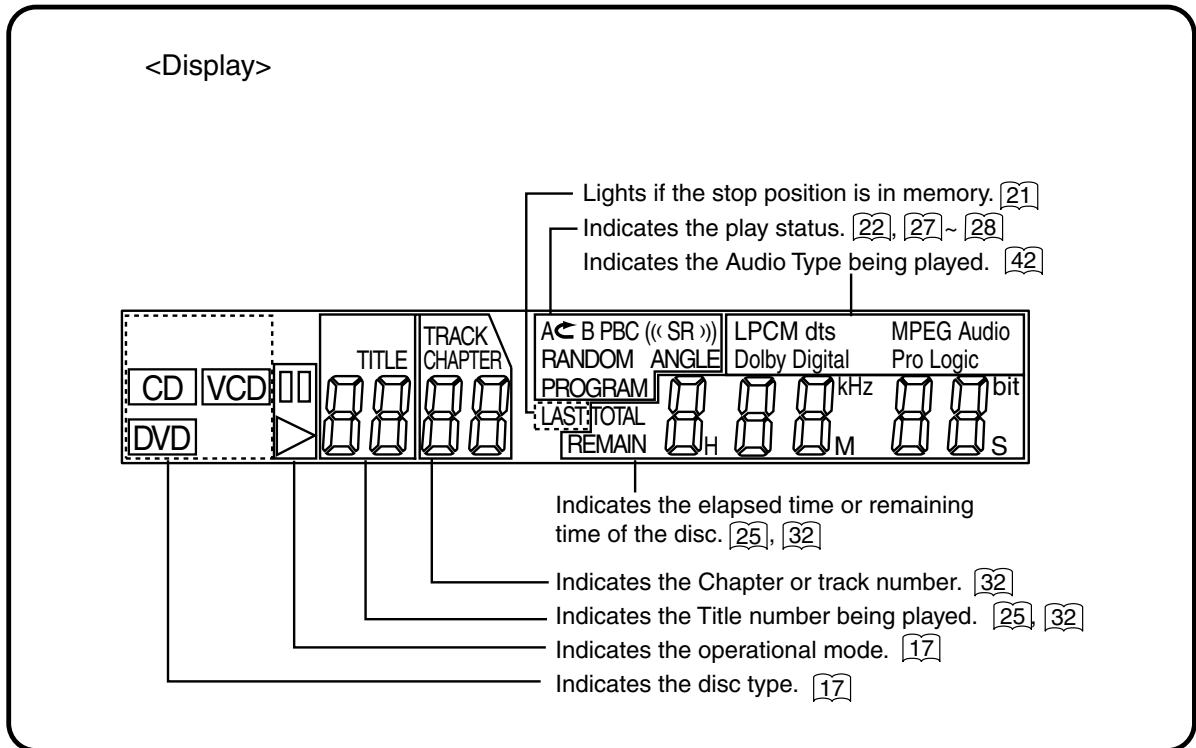
a-f of "aP20 bcdef" that appears in the display are defined in bits (displayed in octal notation).

#	Display	Content
1	aP20 XXXXX	bit0: UDF error bit1: Drive time-out error
2	XP20 bXXXX	bit0: VCD auto-stop 1 (reserved) bit1: VCD auto-stop 2 (reserved) bit2: No disc
3	XP20 XcXXX	bit0: PAL disc cannot be played since NTSC video output has been set. bit1: NM auto-stop 1 (disc can be played again) bit2: NM auto-stop 2
4	XP20 XXdXX	bit0: VMG1 acquisition error bit1: Drive error bit2: Version manager error (CD-I, PC software CD-ROM, upgraded CD-R)
5	XP20 XXXeX	bit0: Disc format bit1: Region code acquisition error bit2: Region code of player does not match that of disc.
6	XP20 XXXf	bit0: Reserved bit1: Authentication error (disc or title key) bit2: Disc acquisition error

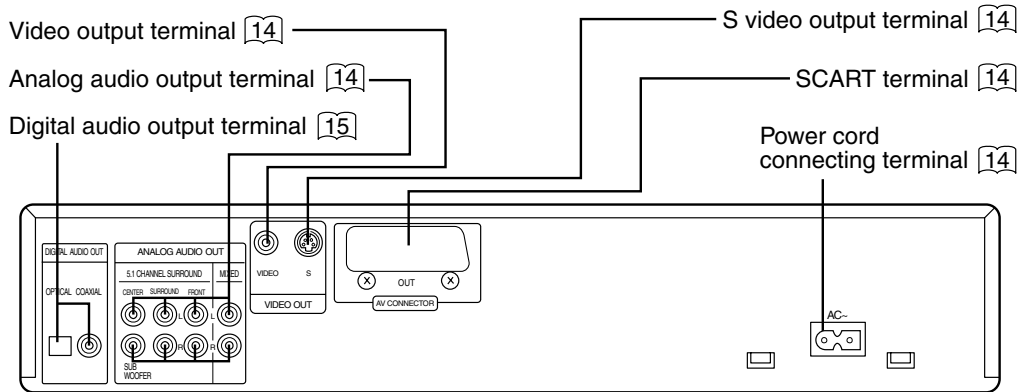
5. Instructions on Use

- DV-P705E/E(UK) -

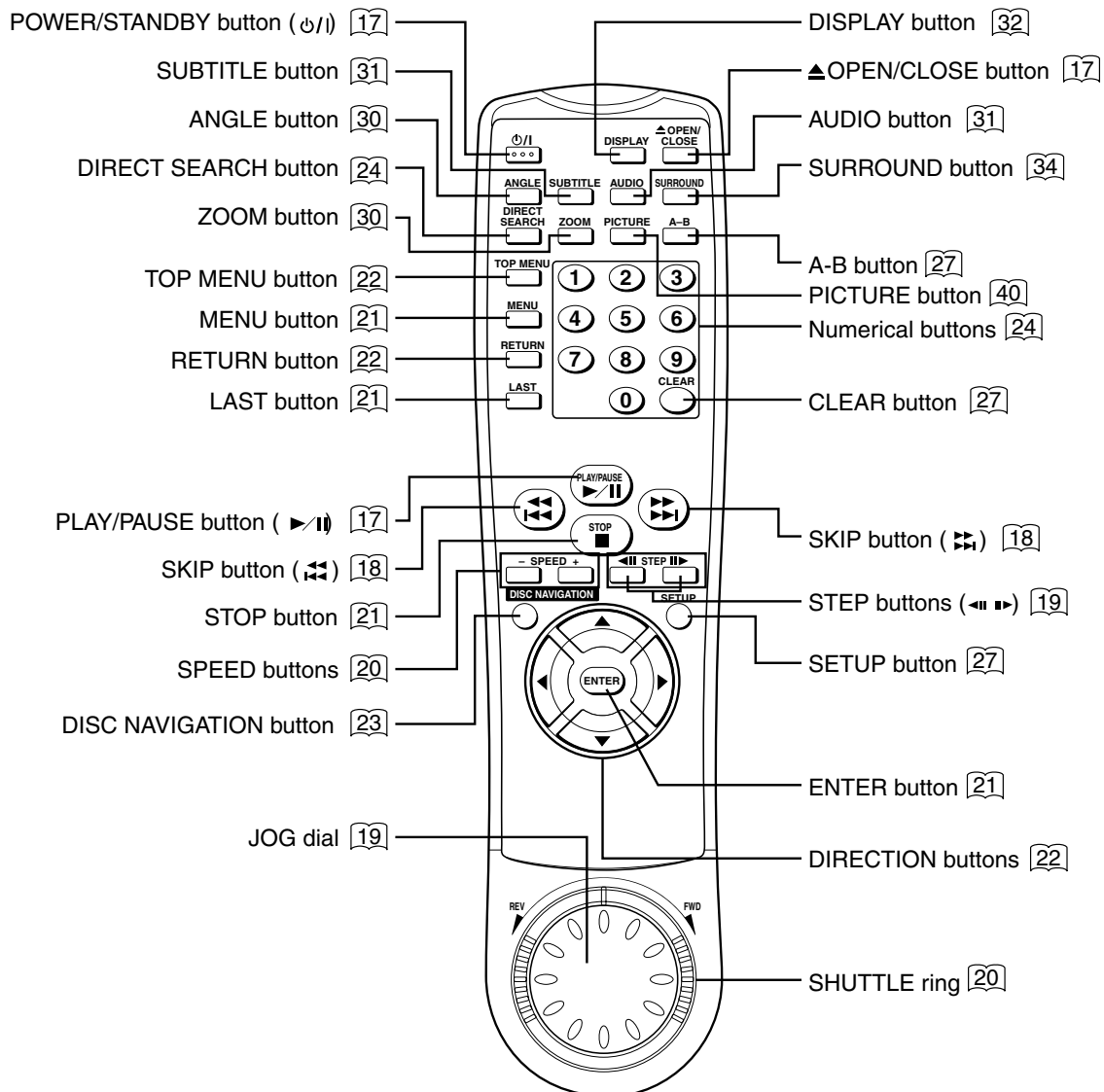
FRONT



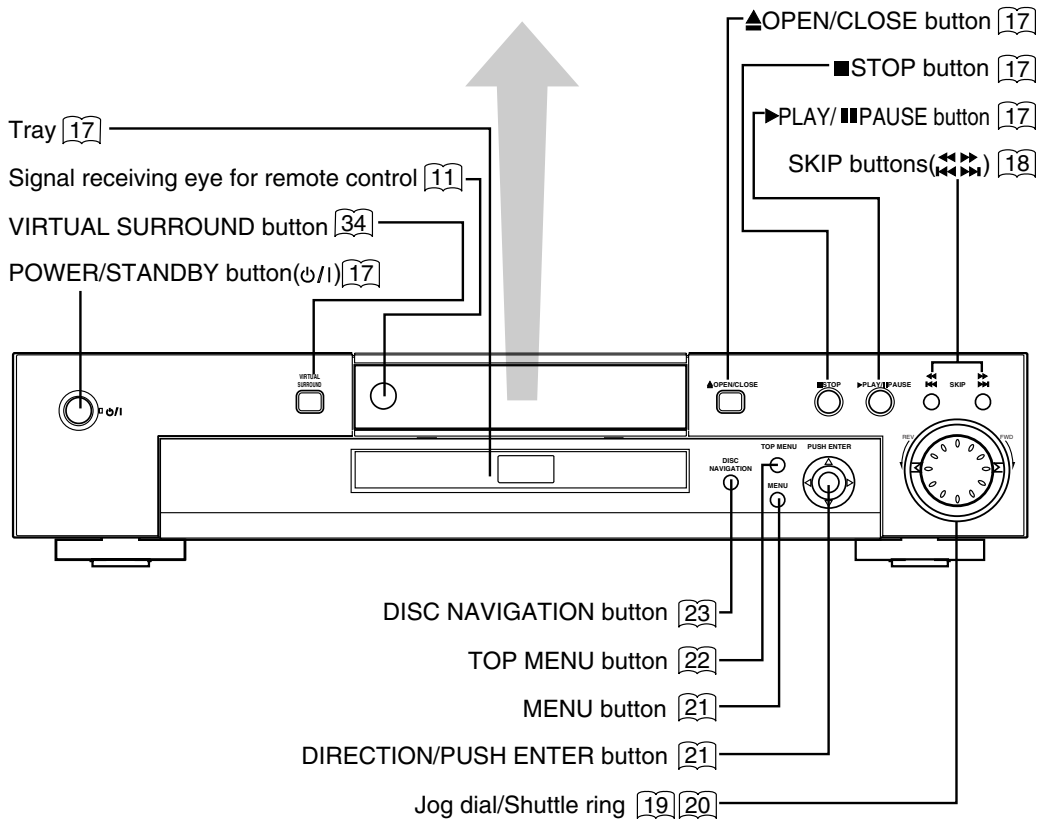
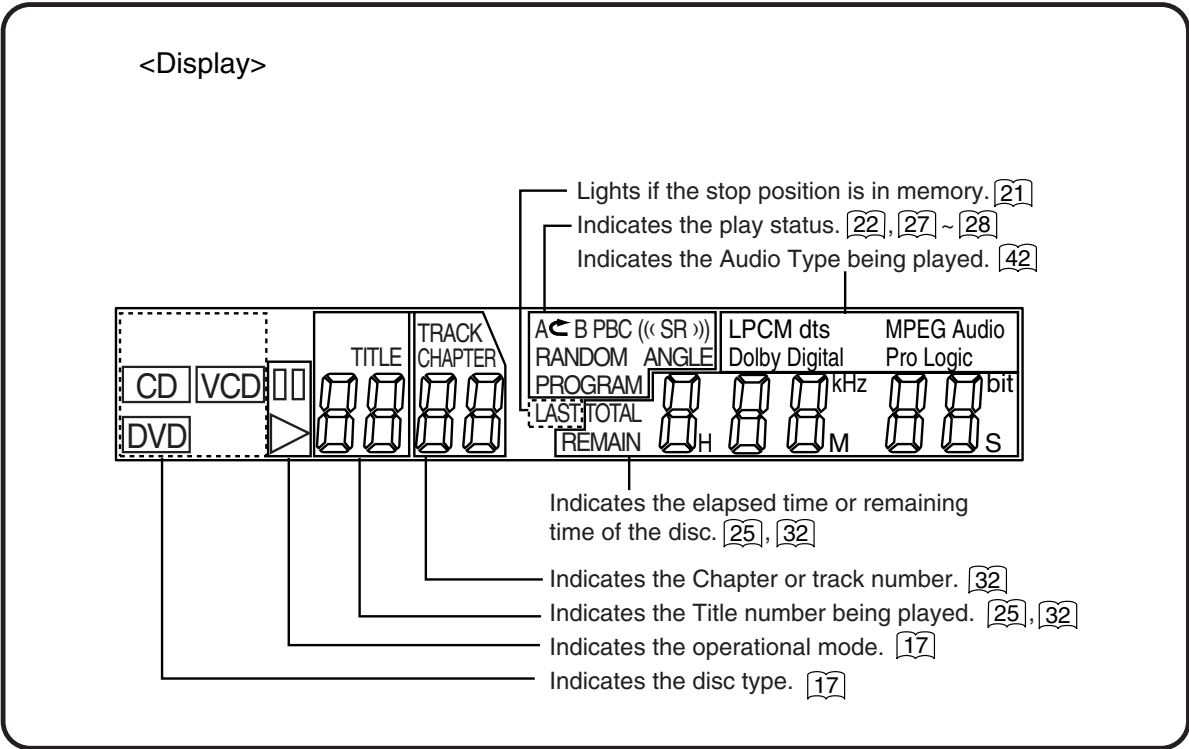
REAR VIEW



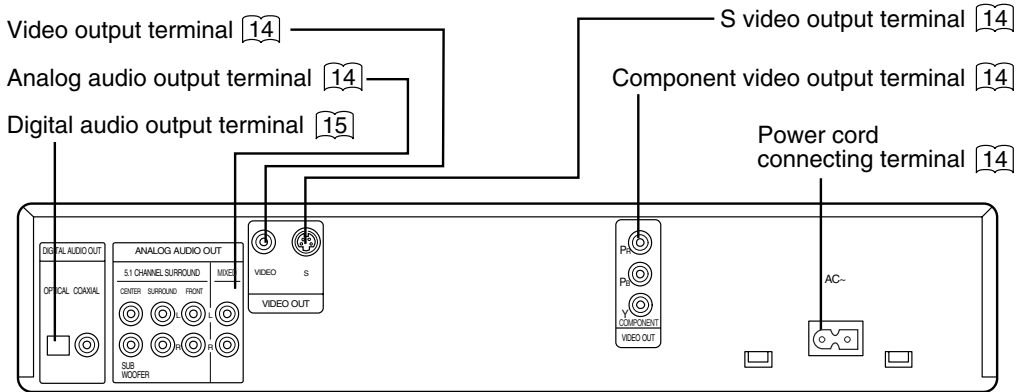
REMOTE CONTROL UNIT



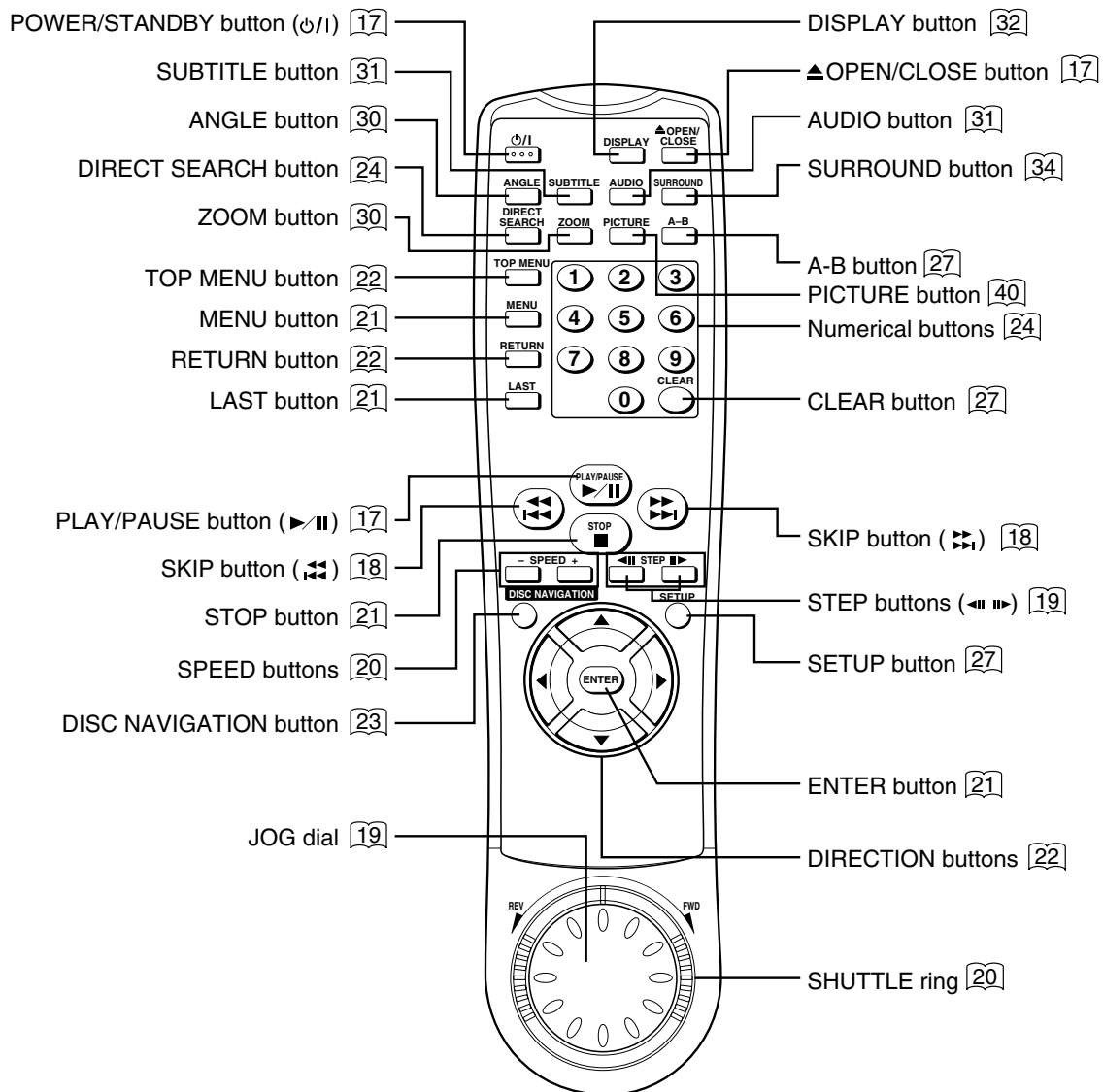
FRONT



REAR VIEW



REMOTE CONTROL UNIT



1. Before Starting Disassembly

- 1) Unplug the power cord from the AC outlet.
- 2) [Removal procedure]
If a special procedure is required when dismantling any component, it is indicated using numbers. Follow the numbers (1),(2),(3) ... shown in the illustrations.
[Reinstallation procedure]
Reinstall each component in the reverse order to removal when otherwise not specified.
- 3) Insert card connectors securely all the way as they are of the direct insertion type.

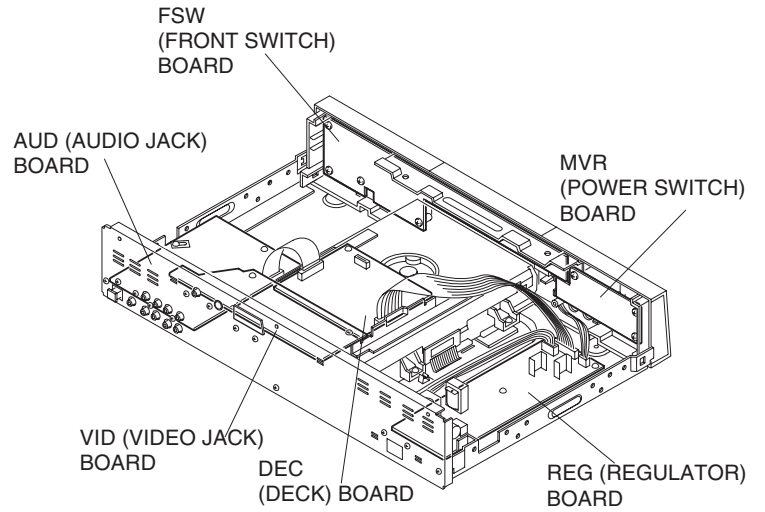


Fig. 1-1

2. Disassembly Method

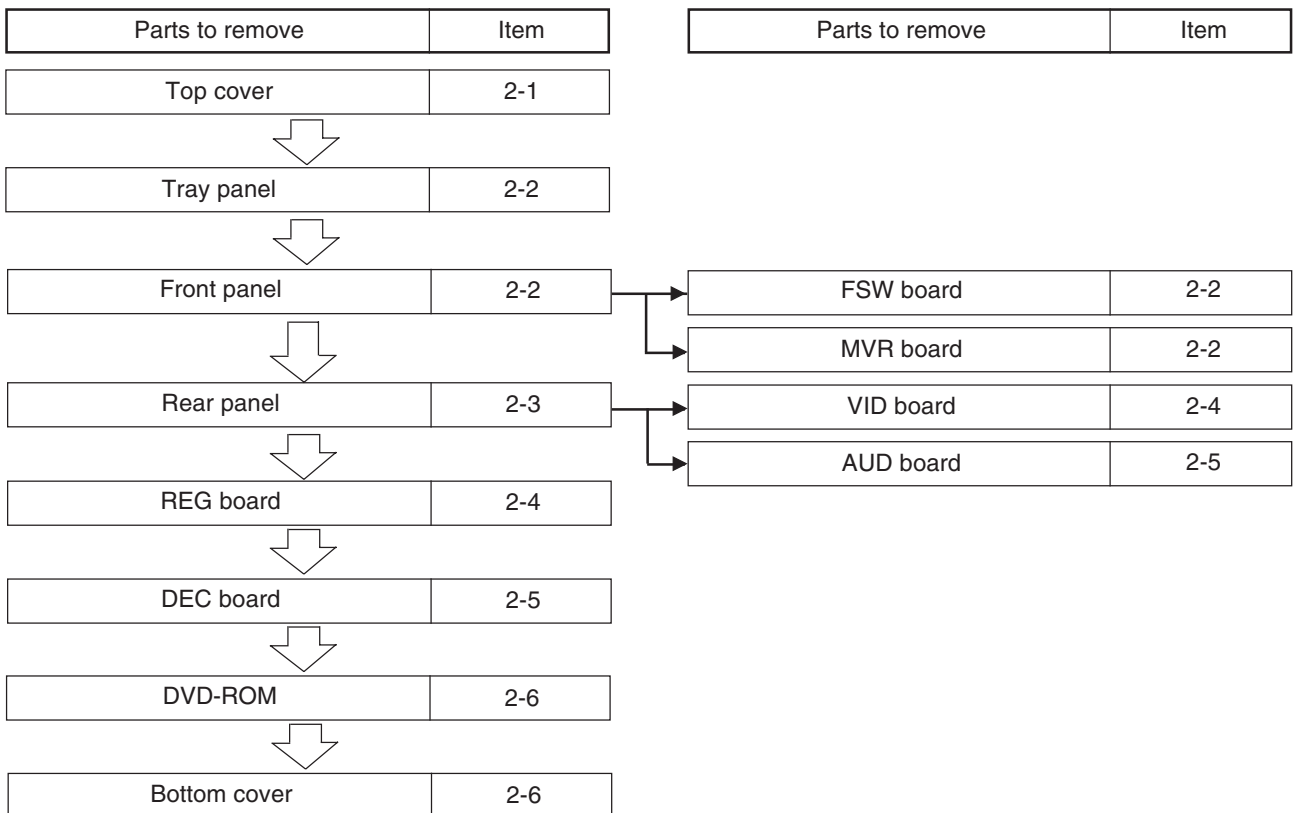
When replacing defective parts, first refer to the "Parts hierarchy chart" shown below. This chart shows the procedure for parts removal when replacing defective parts.

[How to use the parts hierarchy chart]

- (1) Locate the part to be replaced.
- (2) Check the parts in the ranks above the part to be replaced and start dismantling.
- (3) Replace the defective part and reinstall the parts in the reverse order to that shown in the parts hierarchy chart.

Parts Hierarchy Chart

Note: Dismantle parts in the eject state.



Disassembly Procedure Diagrams

Item	Parts to remove
2-1	Top cover

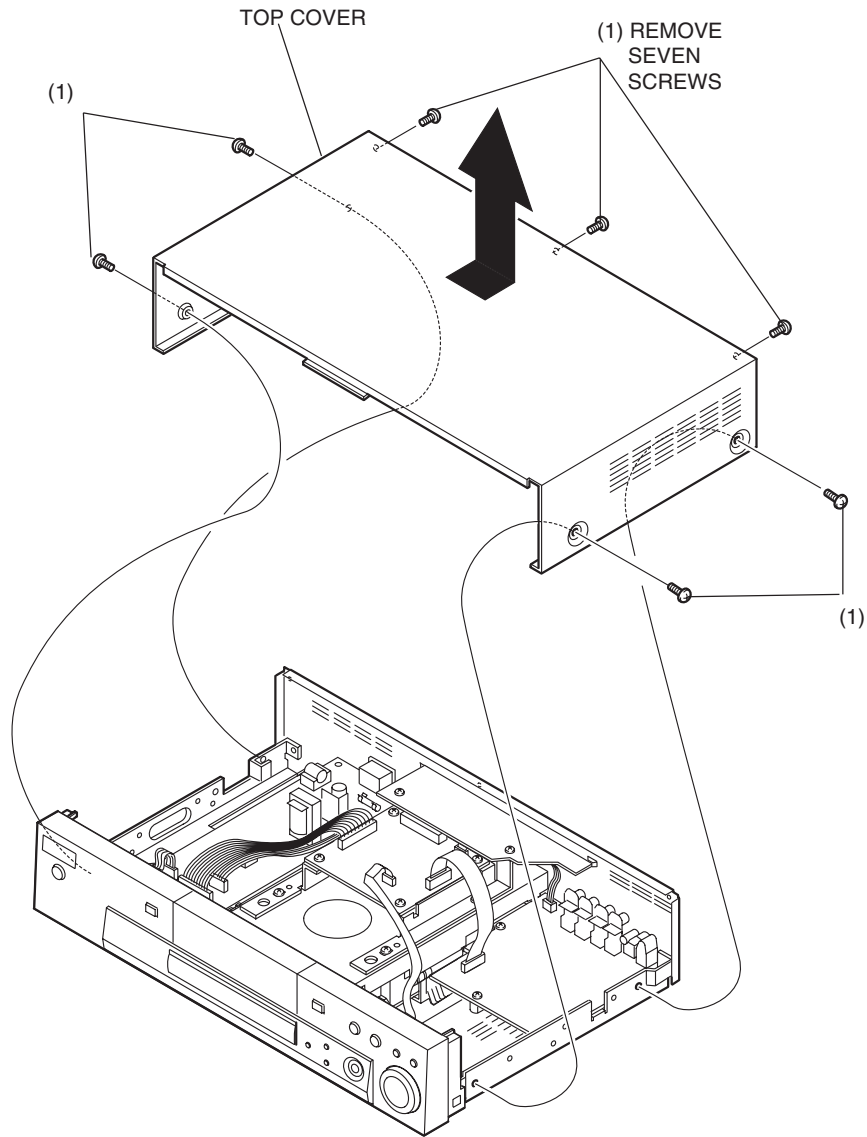


Fig. 2-1

Item	Parts to remove
2-2	Tray panel, Front panel, FSW board and MVR board

Caution:
 Remove the tray panel before removing the front panel. Insert a Philips screwdriver into hole (A) and turn it counterclockwise: The tray plate can be pulled out, and the tray panel can be removed. After removing the tray panel, return the tray plate to its original position.

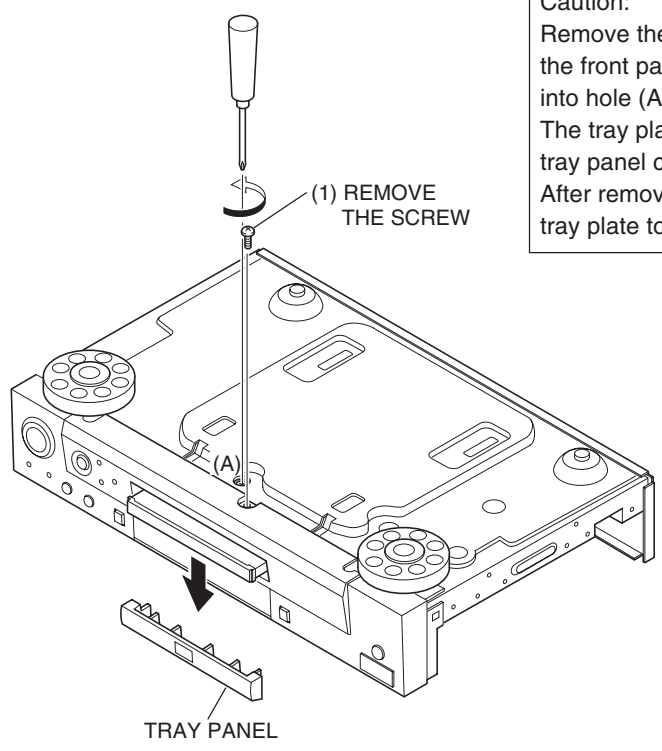


Fig. 2-2

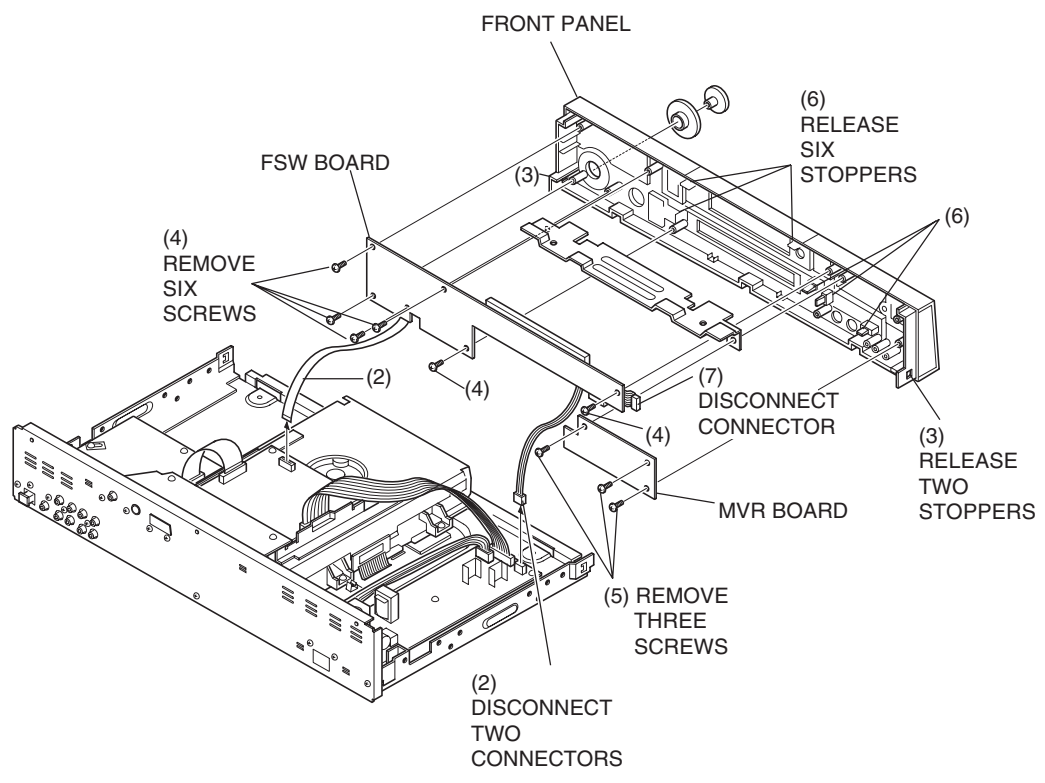
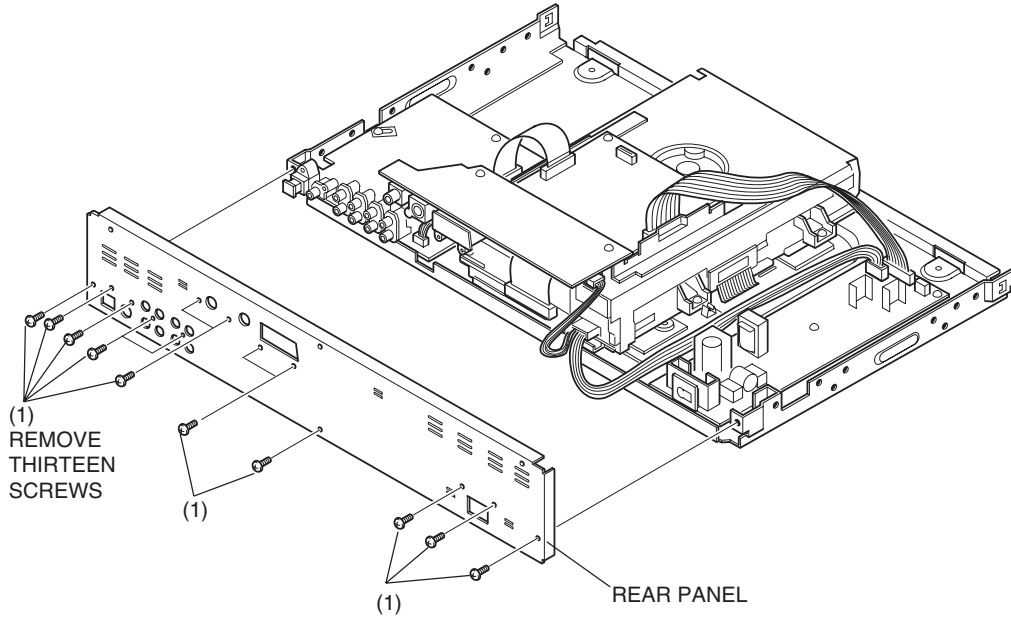


Fig. 2-3

Item	Parts to remove
2-3	Rear panel

[FOR DV-P705E/E(UK)]



[FOR DV-P705U]

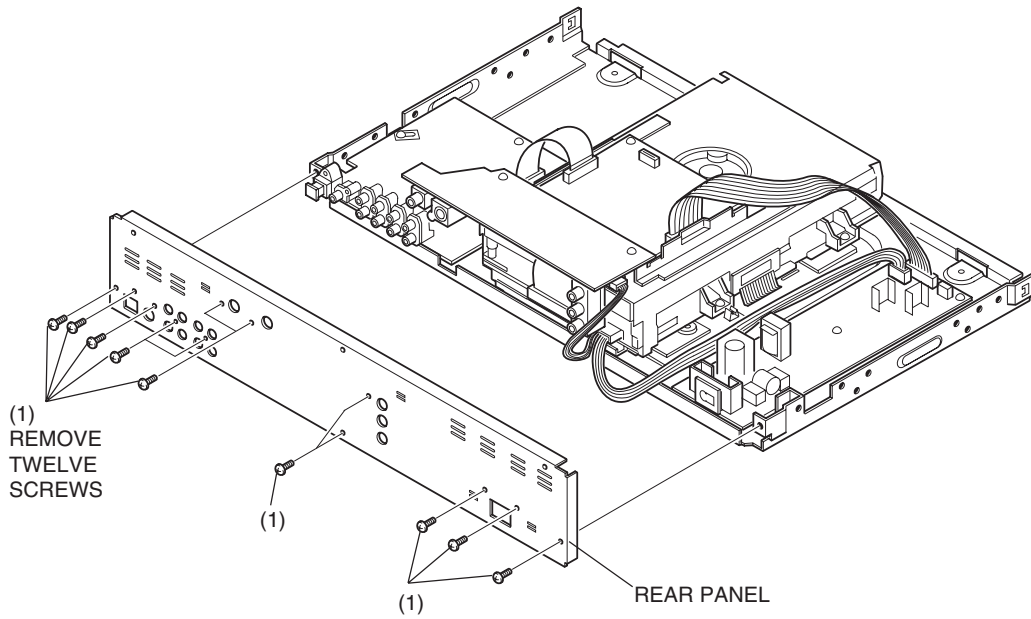


Fig. 2-4

Item	Parts to remove
2-4	VID board and REG board

(1) REMOVE TWO SCREWS

VID BOARD

[FOR E/E(UK)]

(2)

(2) [FOR E/E(UK)] DISCONNECT THREE CONNECTORS [FOR U] DISCONNECT TWO CONNECTORS

(3) REMOVE THREE SCREWS

(4) DISCONNECT TWO CONNECTORS

REG BOARD

Fig. 2-5

2-5	AUD board and DEC board
-----	-------------------------

(1) DISCONNECT CONNECTOR

(2) REMOVE THREE SCREWS

AUD BOARD

(3)

(4) DISCONNECT TWO CONNECTORS

(3) REMOVE FOUR SCREWS

DEC BOARD

(4)

Fig. 2-6

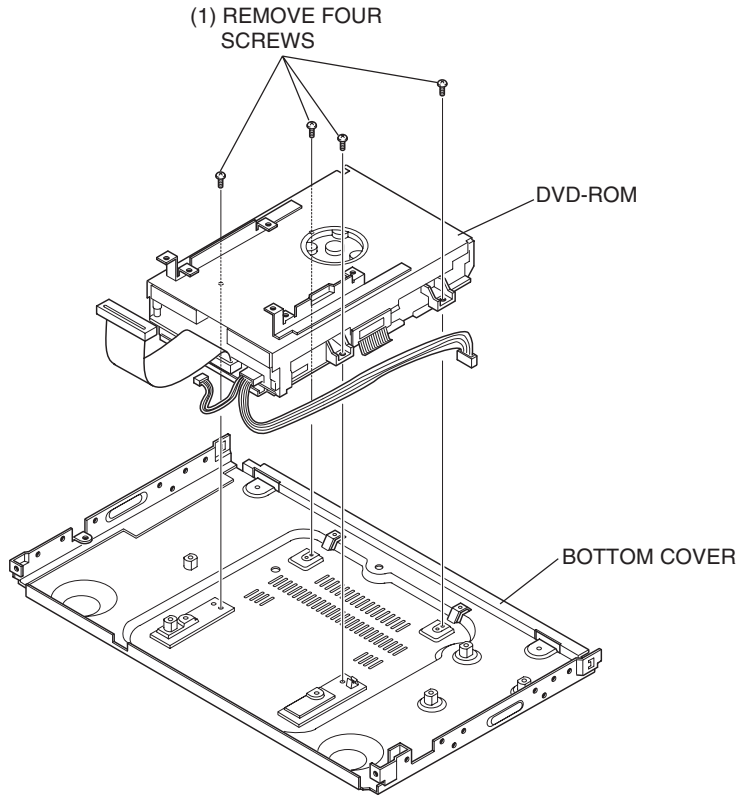
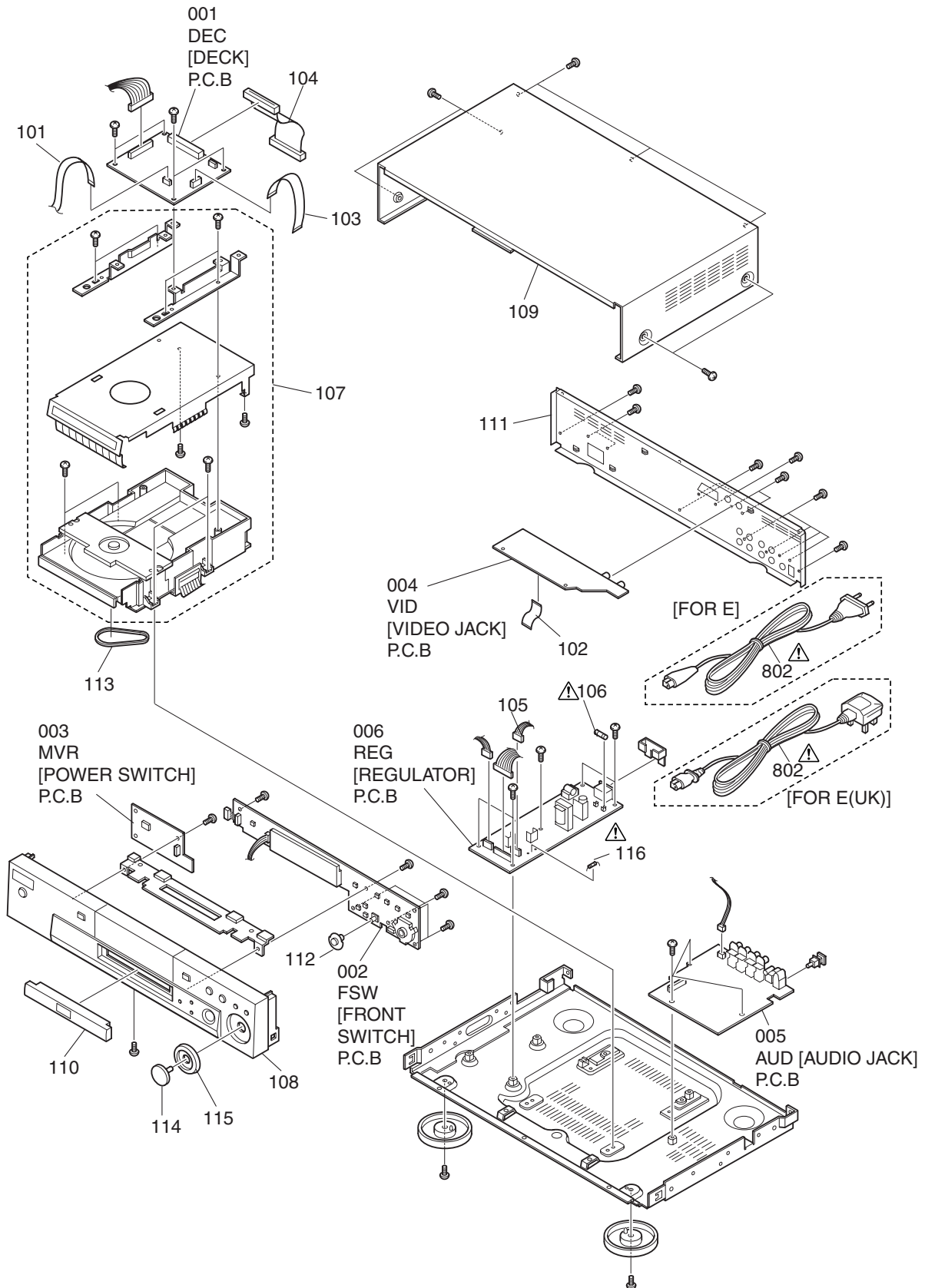


Fig. 2-7

1. CABINET SECTION

[FOR DV-P705E/E(UK)]



E

D

C

B

A

1

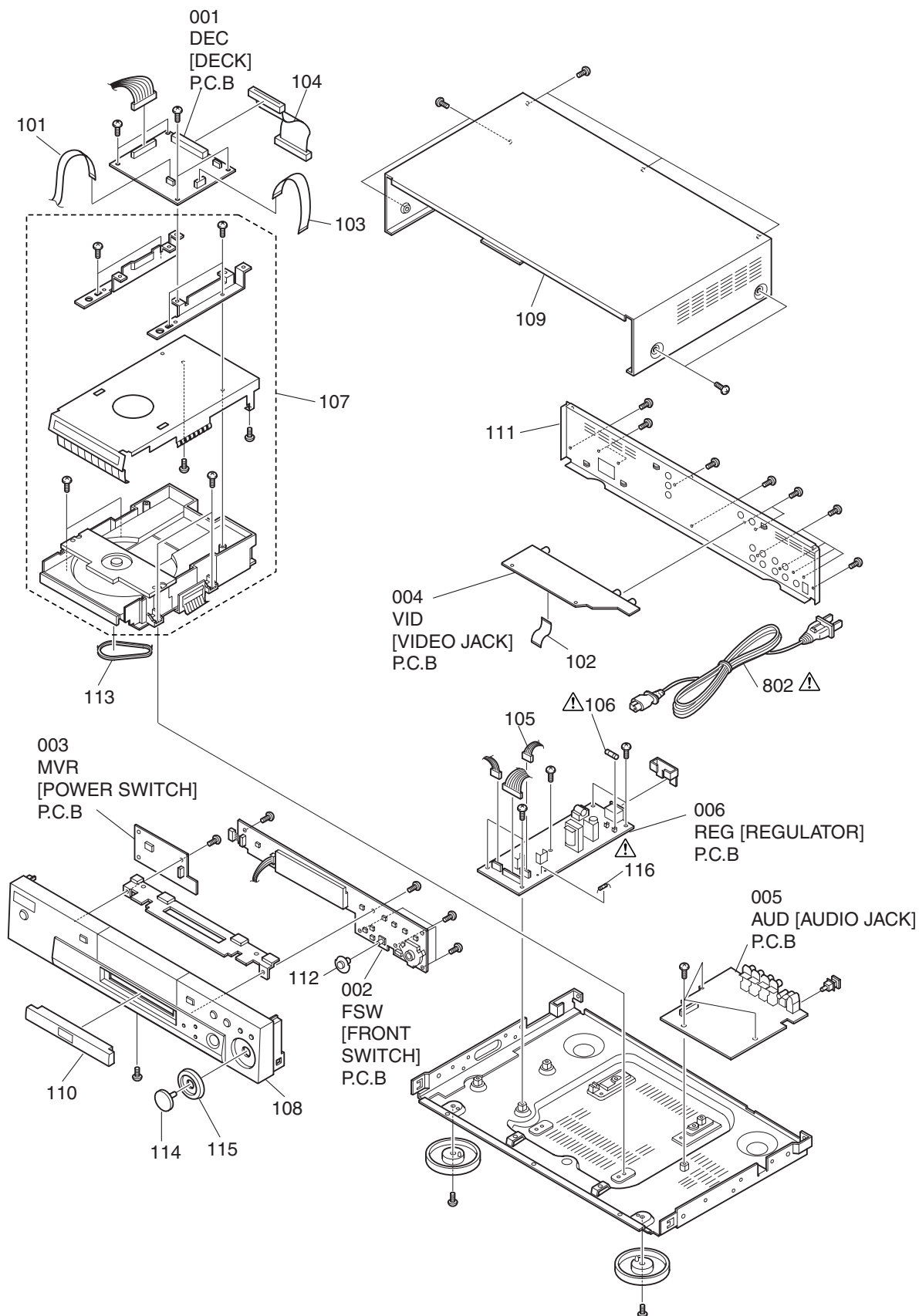
2

3

4

[FOR DV-P705U]

E
D
C
B
A



1 | 2 | 3 | 4

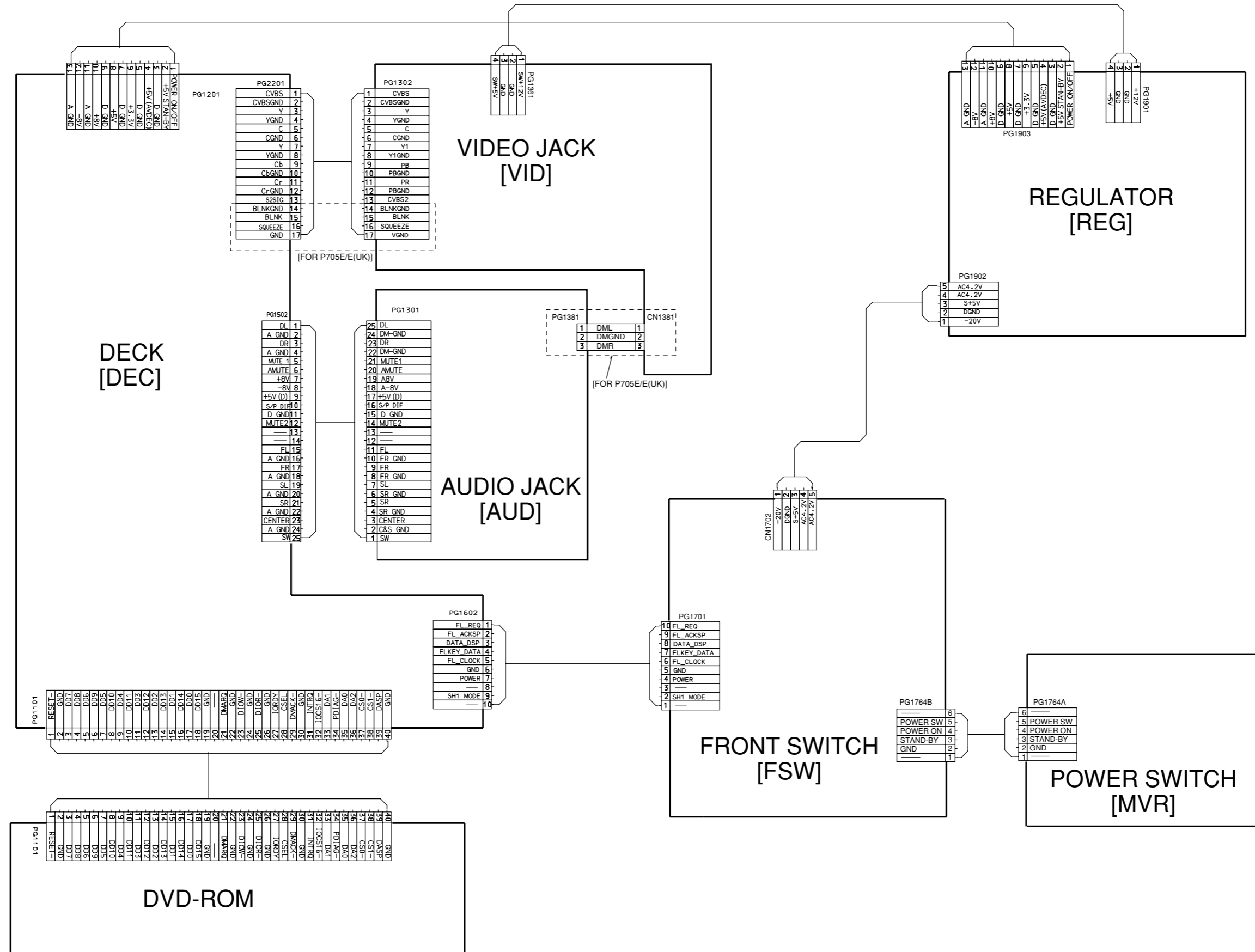
1. MECHANICAL PARTS LIST

SYMBOL NO	P-NO	DESCRIPTION		SYMBOL NO	P-NO	DESCRIPTION	
MECHINISM SECTION							
101	TE13691	CONNECTOR(10PIN)(HTT)					
102	TE13501	CONNECTOR(17PIN)(HTT)	[FOR E/E(UK)]				
102	TE13421	CONNECTOR(17PIN)(HTT)	[FOR U]				
103	TE13701	CONNECTOR(21PIN)(HTT)					
104	TE13441	CONNECTOR(40PIN)(HTT)					
105	TE13561	CONNECTOR(4PIN)(HTT)					
△ 106	TE13461	FUSE(F1)(HTT)					
107	TS15921	MECHA AS(DVD)(HTT)					
108	TJ14116	PANEL, FRONT(HTT)	[FOR E/E(UK)]				
108	TJ14115	PANEL,FRONT(HTT)	[FOR U]				
109	TJ14134	COVER, TOP(HTT)	[FOR E/E(UK)]				
109	TJ14131	COVER, TOP(HTT)	[FOR U]				
110	TJ14154	PANEL, TRAY(HTT)	[FOR E/E(UK)]				
110	TJ14151	PANEL, TRAY(HTT)	[FOR U]				
111	TJ14832	PANEL, REAR(HTT)	[FOR E/E(UK)]				
111	TJ14831	PANEL, REAR(HTT)	[FOR U]				
112	TJ14274	BUTTON(HTT)	[FOR E/E(UK)]				
112	TJ14271	BUTTON(HTT)	[FOR U]				
113	TJ14821	BELT(HTT)					
114	TJ14802	KNOB, JOG(HTT)	[FOR E/E(UK)]				
114	TJ14801	KNOB, JOG(HTT)	[FOR U]				
115	TJ14812	KNOB, SHUTTLE(HTT)	[FOR E/E(UK)]				
115	TJ14811	KNOB, SHUTTLE(HTT)	[FOR U]				
△ 116	TE13681	FUSE(F2)(HTT)					
001	TS16001	PWB ASSY DEC(HTT)	[FOR E/E(UK)]				
001	TS15941	PWB ASSY DEC(HTT)	[FOR U]				
002	TS16011	PWB ASSY FSW(HTT)	[FOR E/E(UK)]				
002	TS15951	PWB ASSY FSW(HTT)	[FOR U]				
003	TS16021	PWB ASSY MVR(HTT)	[FOR E/E(UK)]				
003	TS15961	PWB ASSY MVR(HTT)	[FOR U]				
004	TS16031	PWB ASSY VID(HTT)	[FOR E/E(UK)]				
004	TS15971	PWB ASSY VID(HTT)	[FOR U]				
005	TS16041	PWB ASSY AUD(HTT)	[FOR E/E(UK)]				
005	TS15981	PWB ASSY AUD(HTT)	[FOR U]				
006	TS15991	PWB ASSY REG(HTT)					
ACCESSORIES							
△ 802	TE13541	CORD, POWER(HTT)	[FOR E]				
△ 802	TE13551	CORD, POWER(HTT)	[FOR E(UK)]				
△ 802	TE13531	CORD, POWER(HTT)	[FOR U]				
803	TS15931	REMOTE HAND SET(HTT)					
804	TE13081	CORD, AV(HTT)					

MEMO

CHAPTER 5 SCHEMATIC, CIRCUIT BOARD AND BLOCK DIAGRAM

CONNECTION DIAGRAM



FRONT SWITCH [FSW] SCHEMATIC DIAGRAM

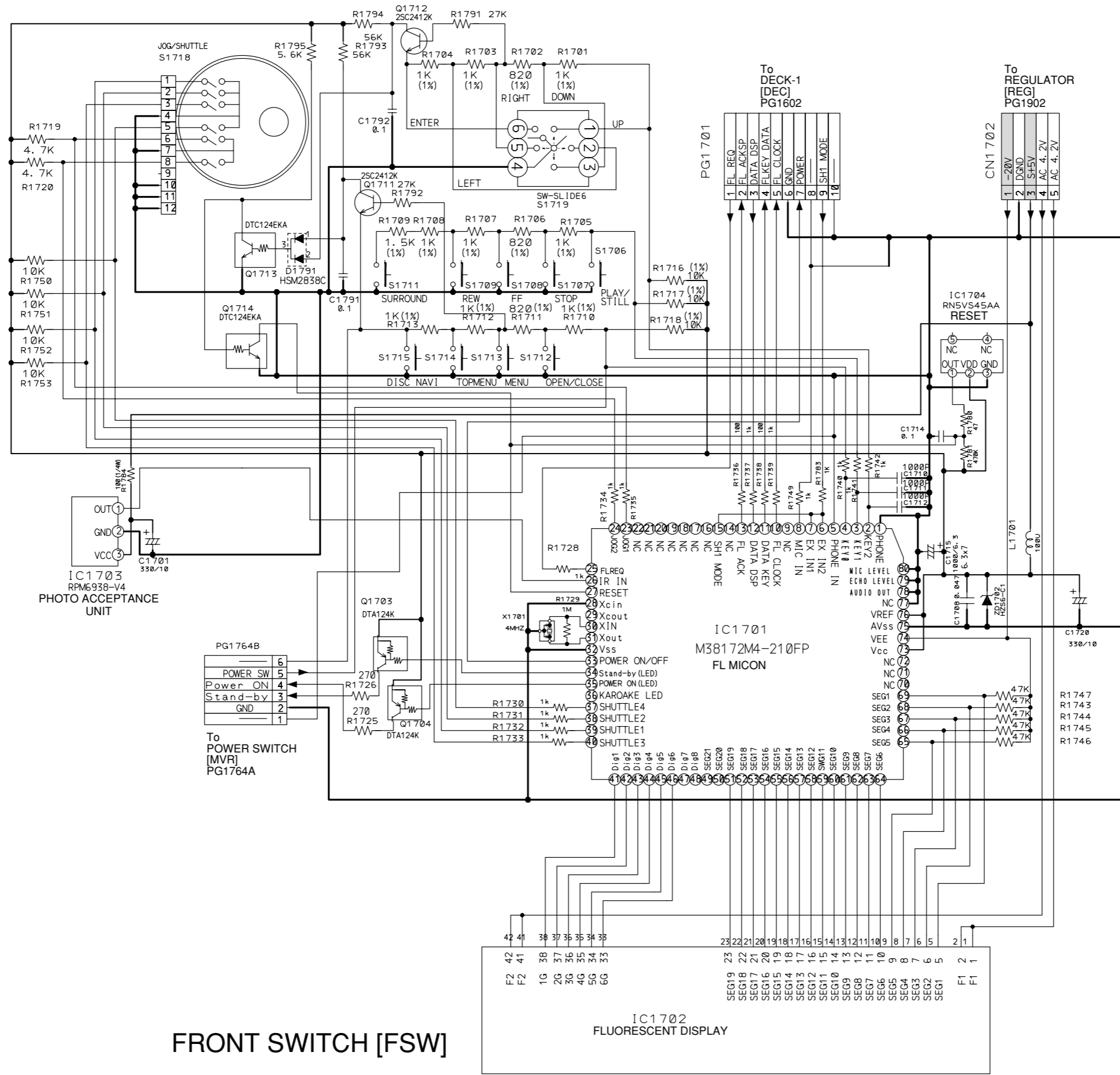
E

D

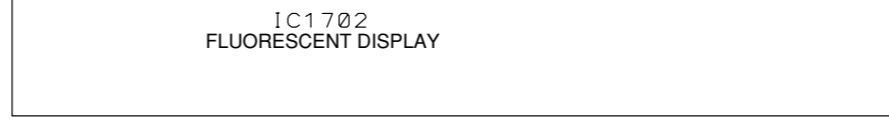
C

B

A



FRONT SWITCH [FSW]



FRONT SWITCH

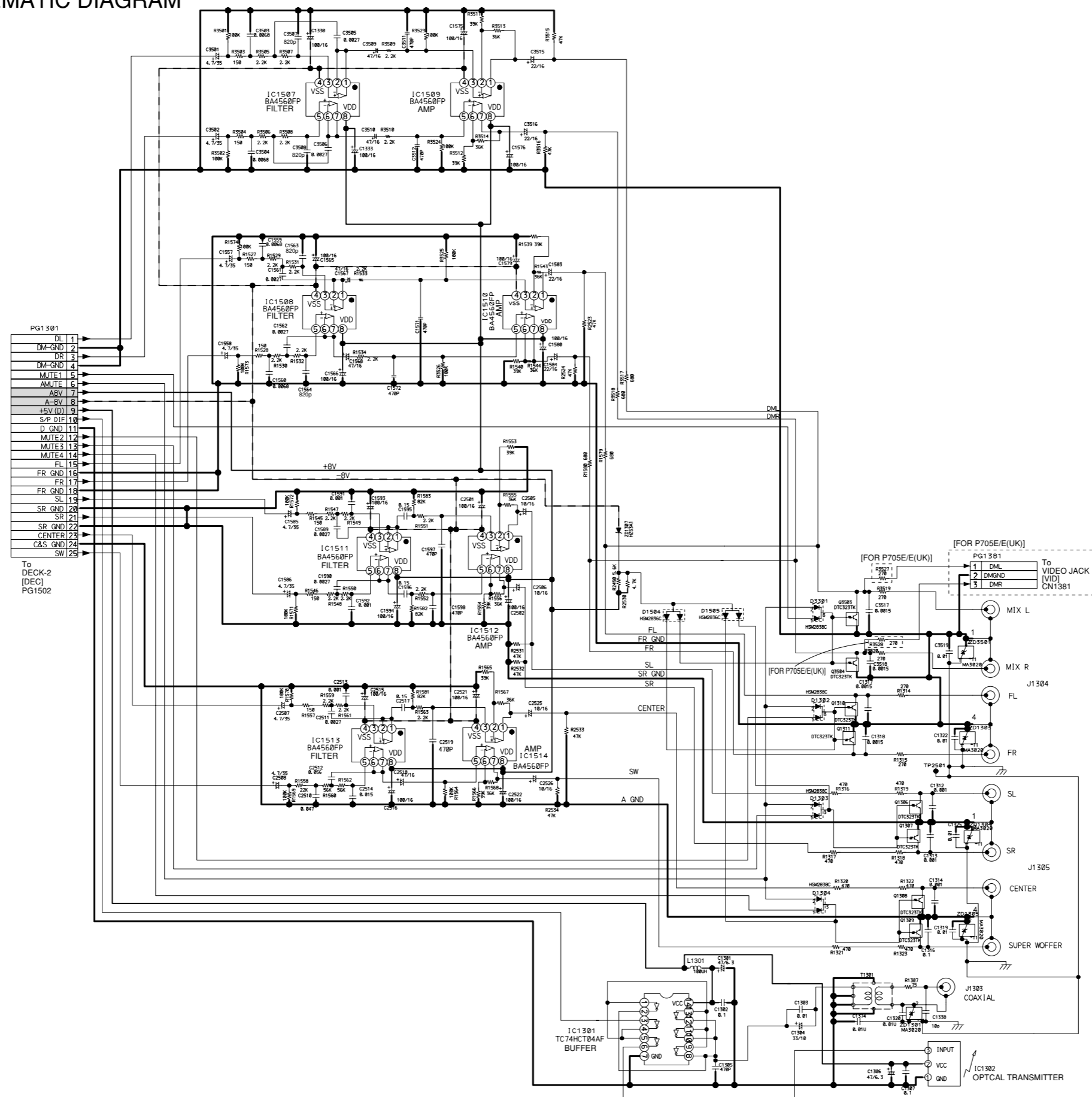
5 - 3

5 - 4

FRONT SWITCH

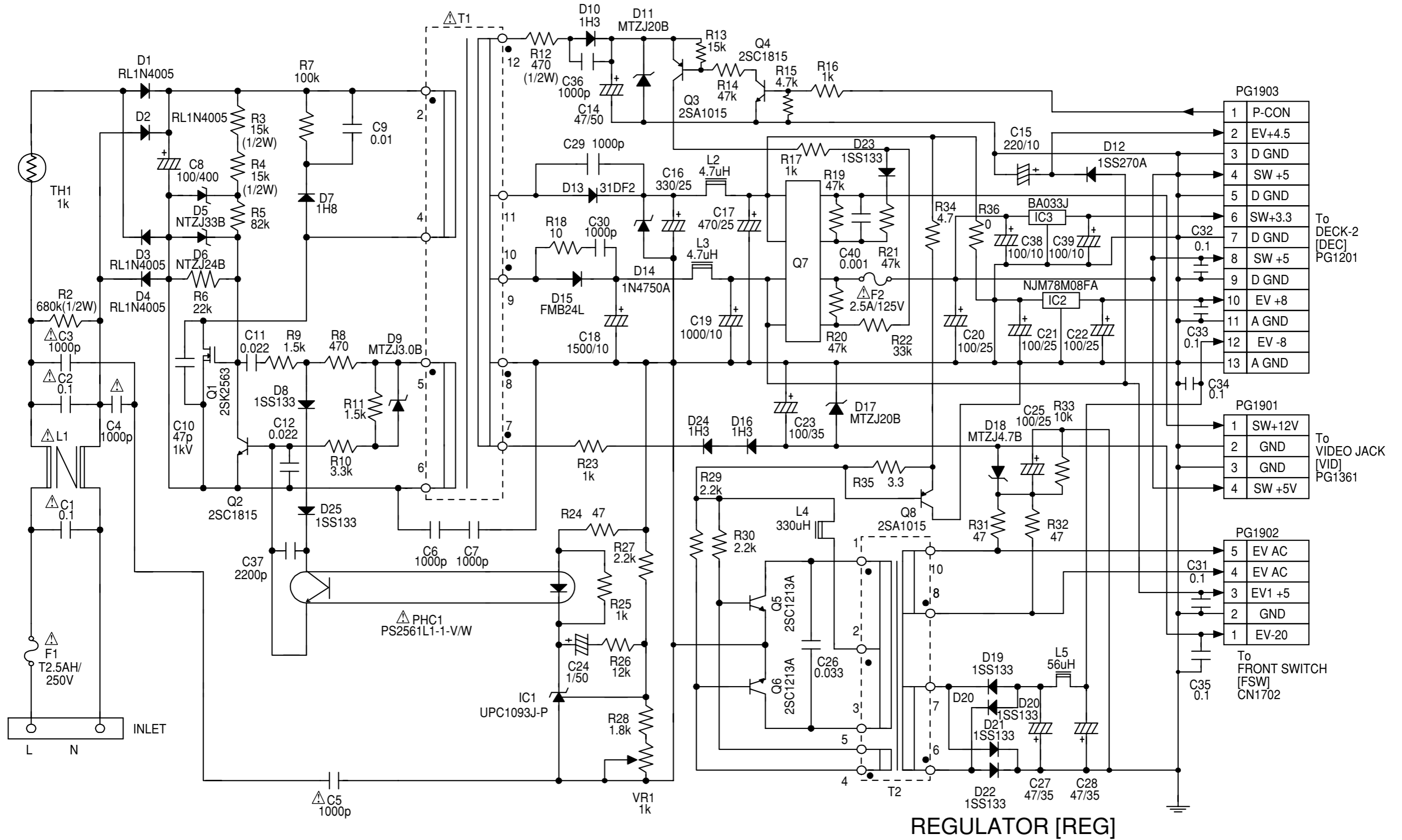
AUDIO JACK [AUD] SCHEMATIC DIAGRAM

E
D
C
B
A



AUDIO JACK [AUD]

REGULATOR [REG] SCHEMATIC DIAGRAM



PG1903	
1	P-CON
2	EV+4.5
3	D GND
4	SW +5
5	D GND
6	SW+3.3
7	D GND
8	SW +5
9	D GND
10	EV +8
11	A GND
12	EV -8
13	A GND

PG1901	
1	SW+12V
2	GND
3	GND
4	SW +5V

PG1902	
5	EV AC
4	EV AC
3	EV1 +5
2	GND
1	EV-20

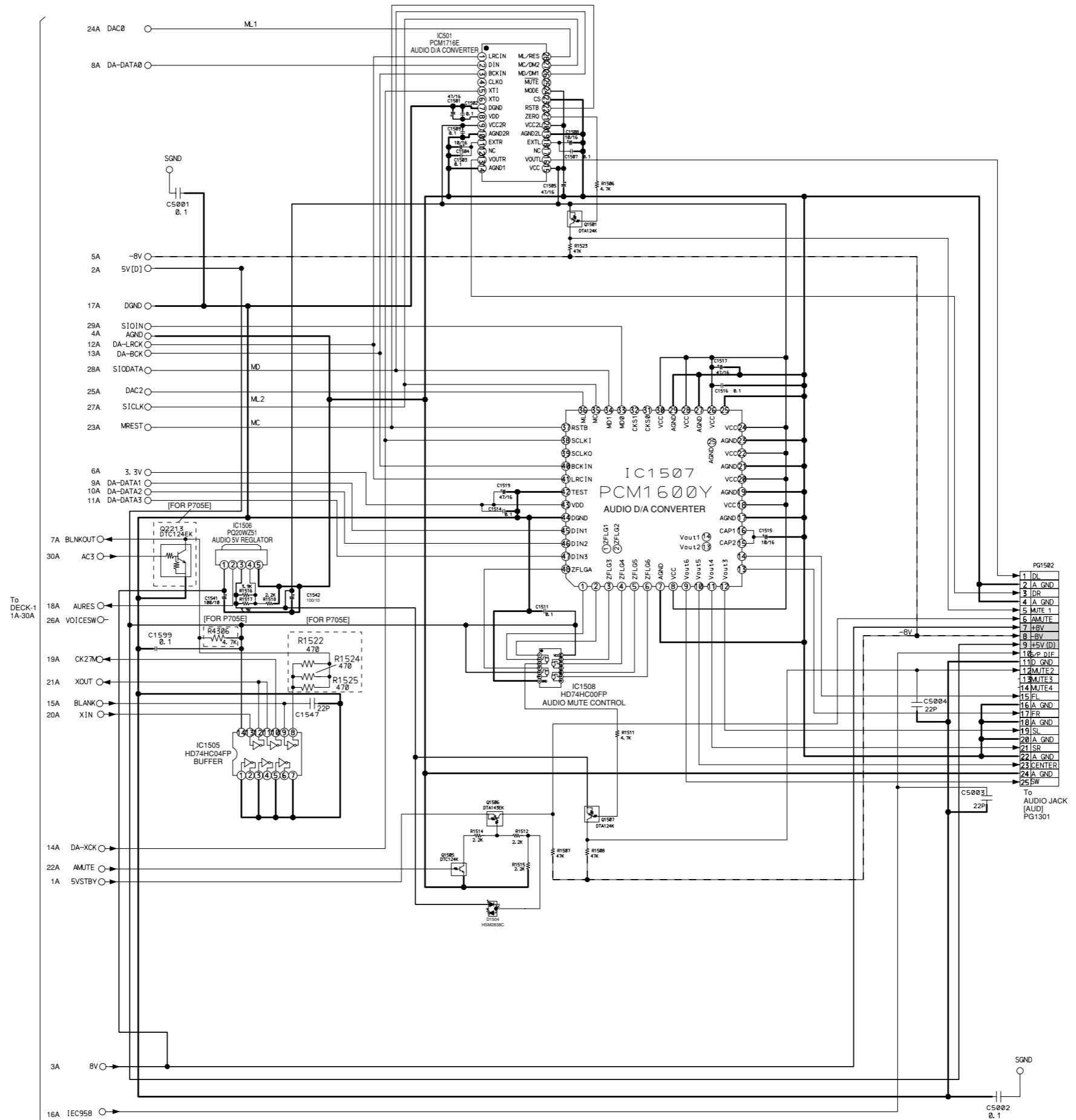
To DECK-2 [DEC] PG1201

To VIDEO JACK [VID] PG1361

To FRONT SWITCH [FSW] CN1702

DECK-1 [DEC] SCHEMATIC DIAGRAM

E
D
C
B
A

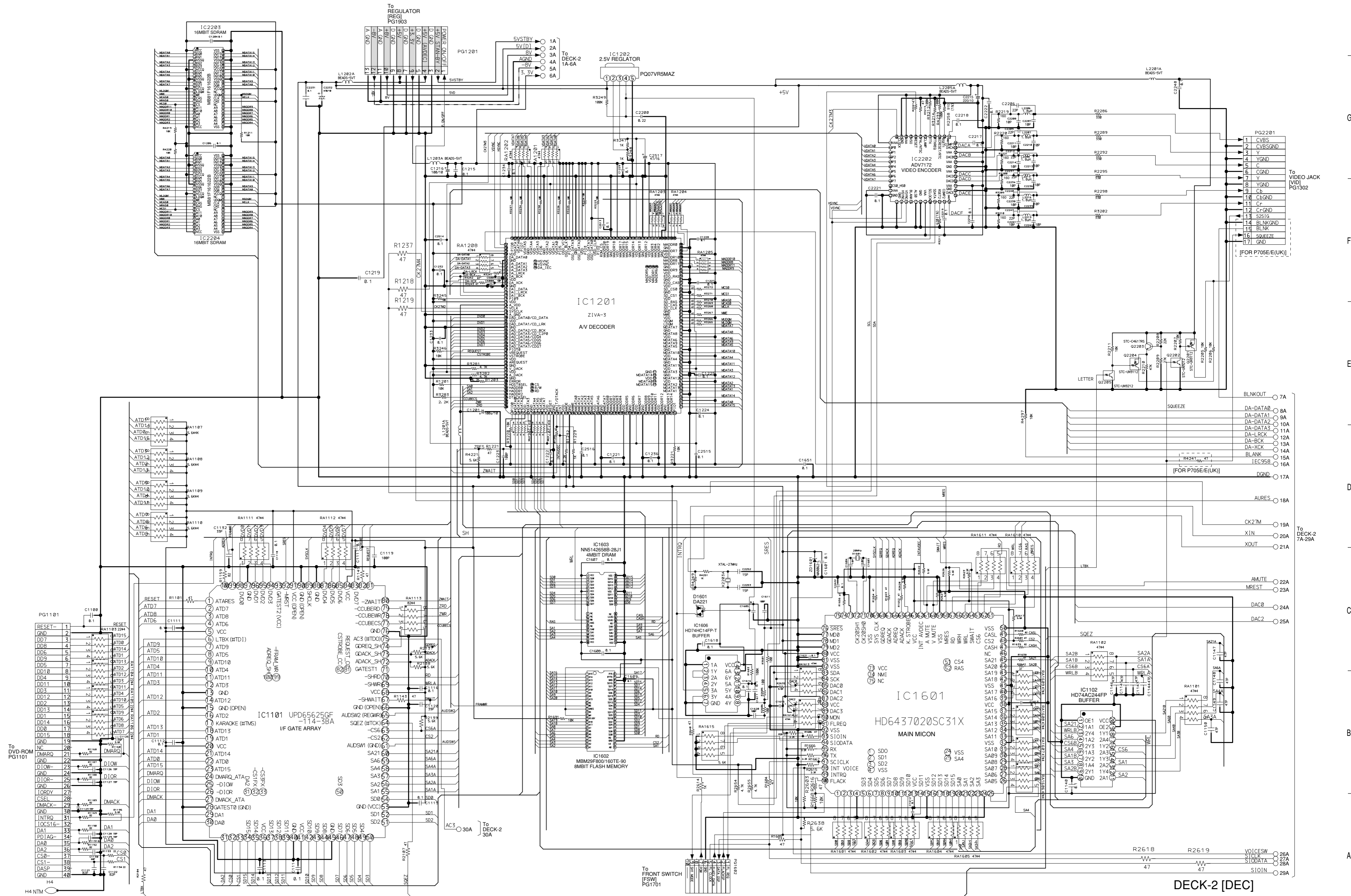


DEC-1 [DEC]

1 2 3 4 5 6 7 8

DECK-1 5-11 5-12 DECK-1

DECK-2 [DEC] SCHEMATIC DIAGRAM



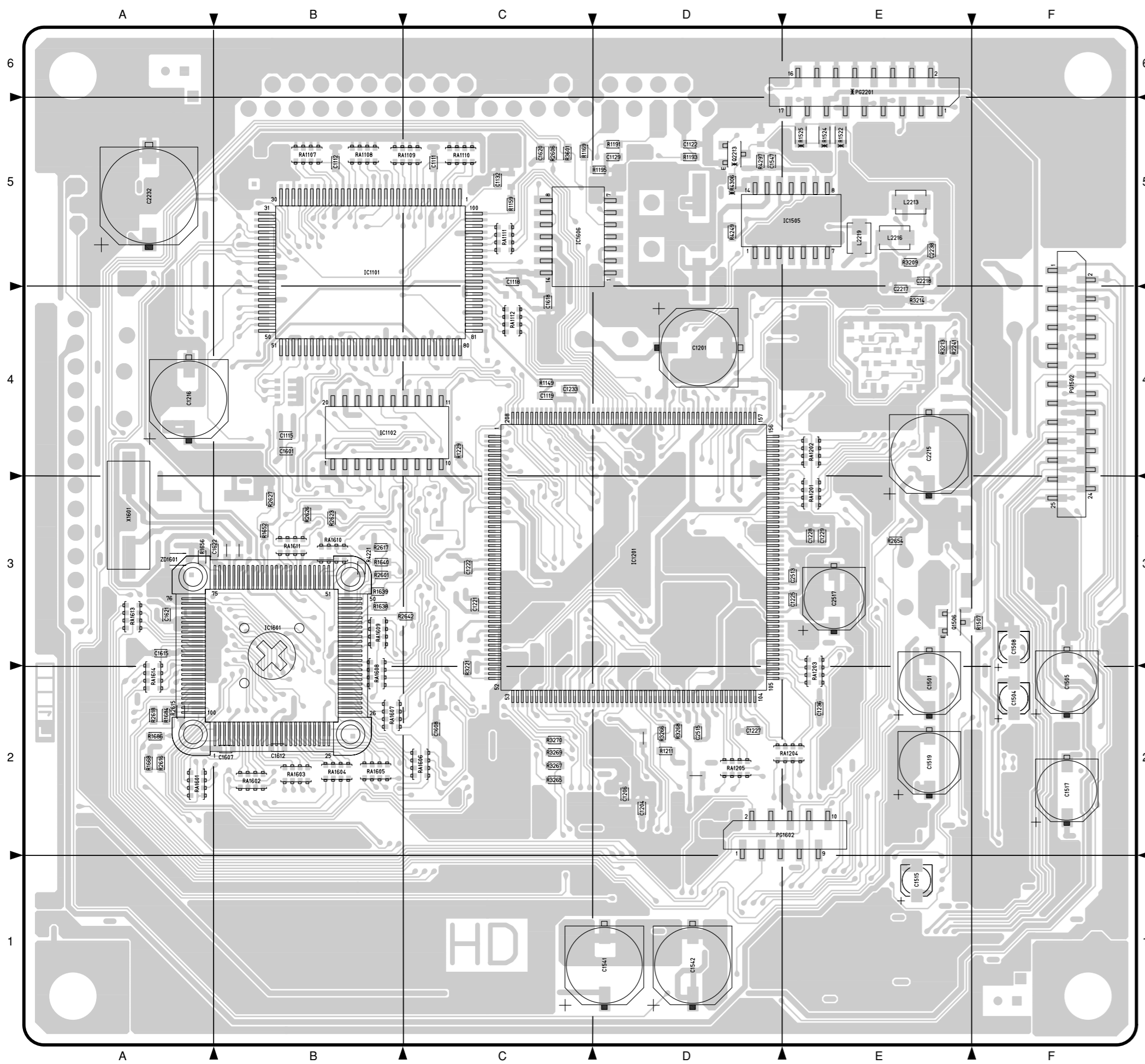
DEC CIRCUIT BOARD DIAGRAM

DIFFERENCE TABLE

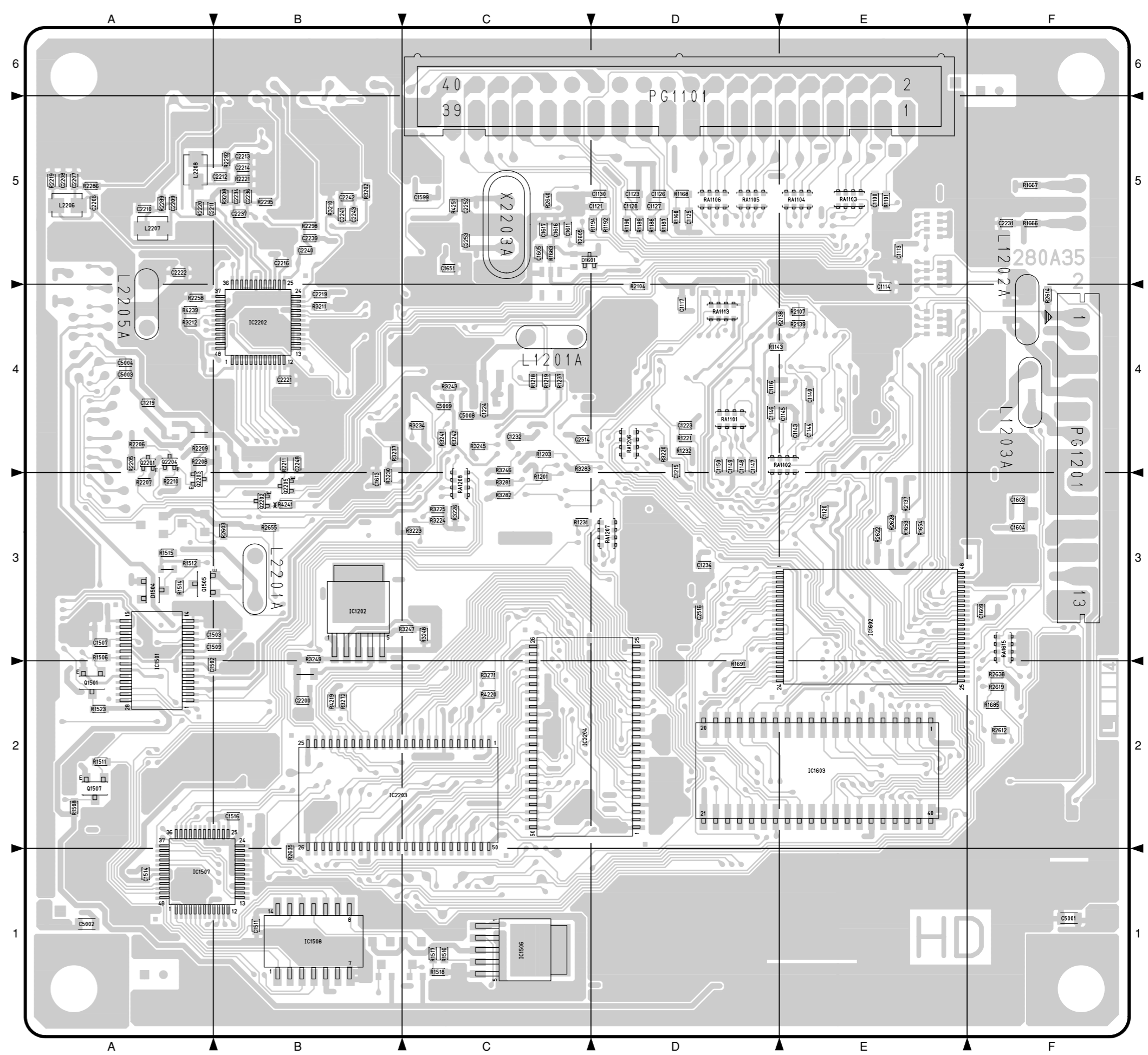
DEC

NOTE: This table lists the different components marked with asterisks (*) in the circuit board diagrams.

SYMBOL No.	P705E/(UK)	P705U	Parts Location
PG2201	17P	13P	A-6E
Q2213	○	×	A-5D
R1522	○	×	A-5E
R1524	○	×	A-5E
R1525	○	×	A-5E
R4241	○	×	B-3B
R4306	○	×	A-5D

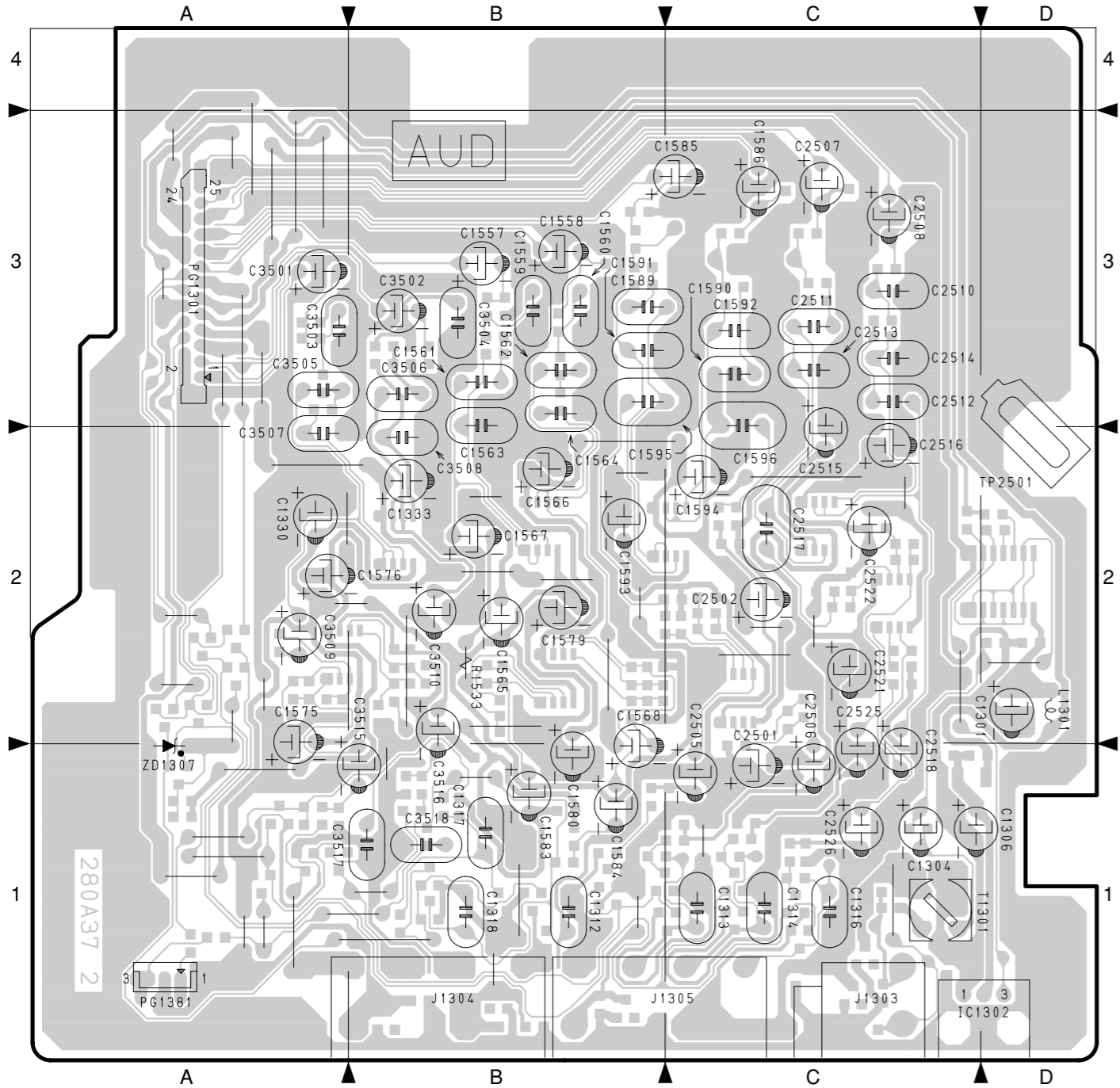


DEC [DECK] -SIDE A-

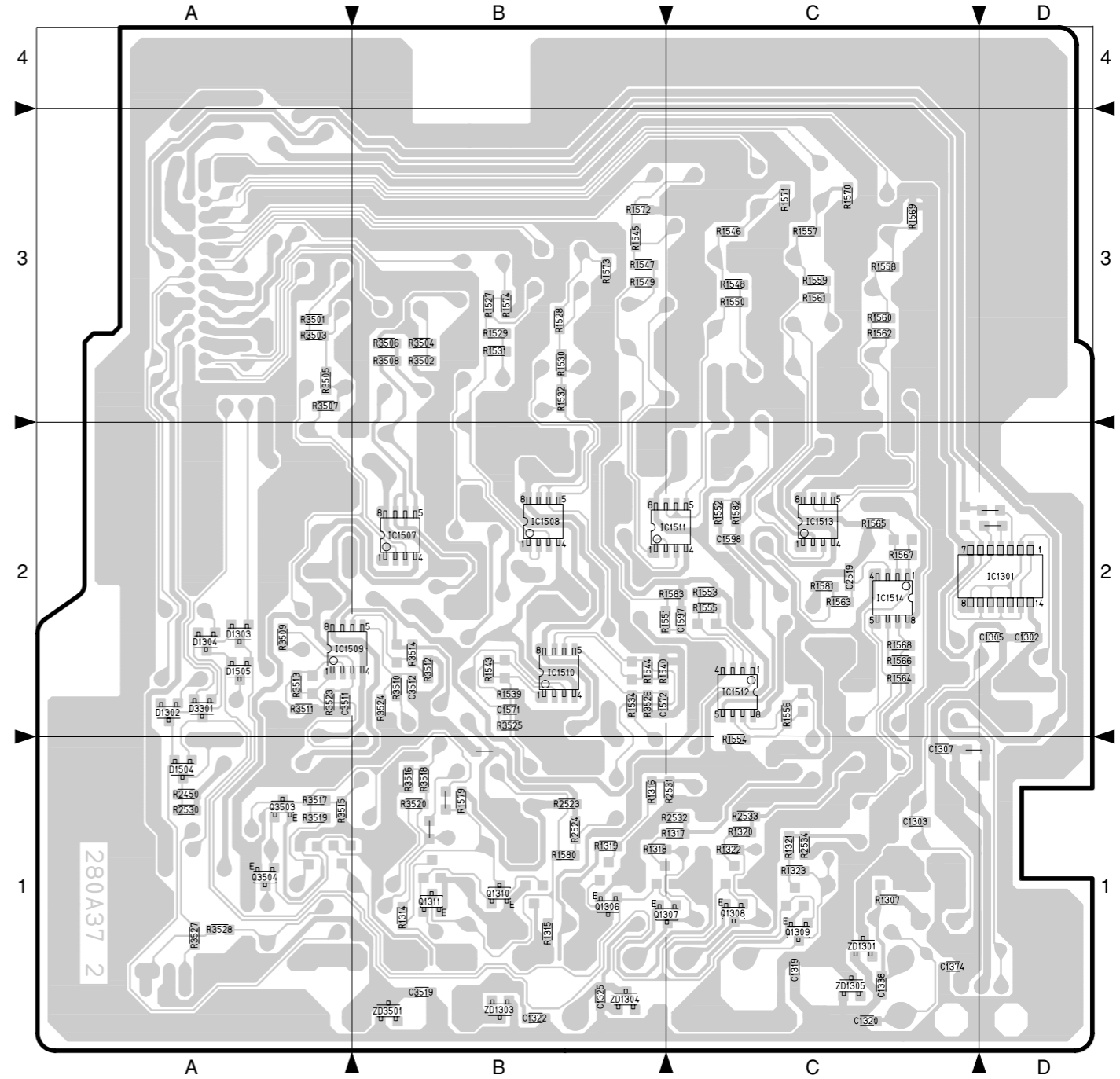


DEC [DECK] -SIDE B-
[PATTERN No. 280A35-2]

AUD CIRCUIT BOARD DIAGRAM



AUD [AUDIO JACK] -SIDE A-



AUD [AUDIO JACK] -SIDE B-
[PATTERN No. 280A37-2]

DIFFERENCE TABLE

AUD

NOTE: This table lists the different components marked with asterisks (*) in the circuit board diagrams.

SYMBOL No.	P705E/E(UK)	P705U	Parts Location
PG1381	○	×	A-1A
R3527	○	×	B-1A
R3528	○	×	B-1A

IDENTIFICATION OF PARTS LOCATION

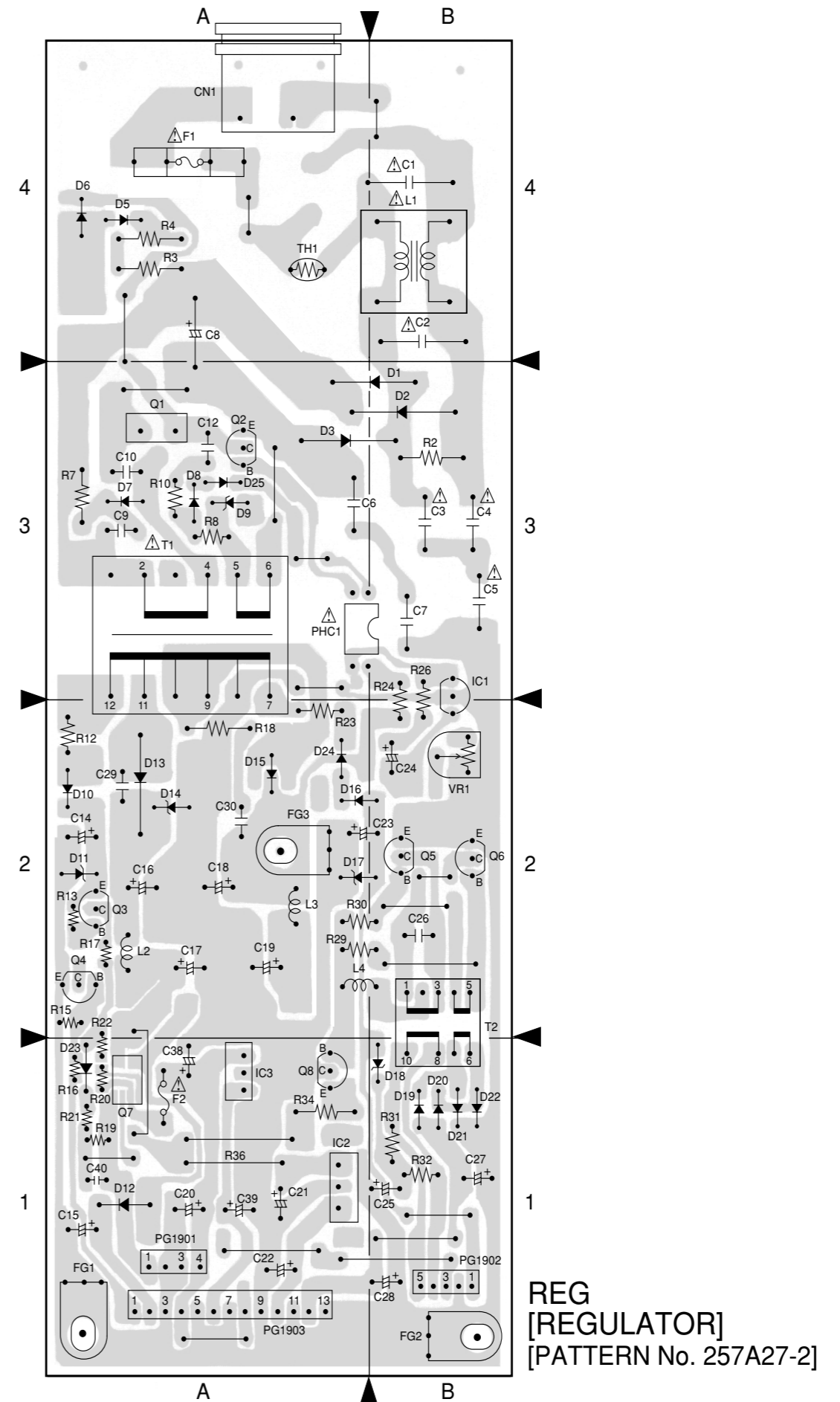
AUD

Symbol No.	Parts Location	Symbol No.	Parts Location	Symbol No.	Parts Location	Symbol No.	Parts Location
C		C2507	A-3C	PG1301	A-3A	R1568	B-2C
C1301	A-2D	C2508	A-3C	PG1381	A-1A	R1569	B-3C
C1302	B-2D	C2510	A-3C	Q		R1570	B-3C
C1303	B-1C	C2511	A-3C	Q1306	B-1B	R1571	B-3C
C1304	A-1C	C2512	A-3C	Q1307	B-1C	R1572	B-3B
C1305	B-2D	C2513	A-3C	Q1308	B-1C	R1573	B-3B
C1306	A-1C	C2514	A-3C	Q1309	B-1C	R1574	B-3B
C1307	B-1C	C2515	A-2C	Q1310	B-1B	R1579	B-1B
C1312	A-1B	C2516	A-2C	Q1311	B-1B	R1580	B-1B
C1313	A-1C	C2517	A-2C	Q3503	B-1A	R1581	B-2C
C1314	A-1C	C2518	A-1C	Q3504	B-1A	R1582	B-2C
C1316	A-1C	C2519	B-2C	R		R1583	B-2C
C1317	A-1B	C2521	A-2C	R1307	B-1C	R2450	B-1A
C1318	A-1B	C2522	A-2C	R1314	B-1B	R2523	B-1B
C1319	B-1C	C2525	A-1C	R1315	B-1B	R2524	B-1B
C1320	B-1C	C2526	A-1C	R1316	B-1B	R2530	B-1A
C1322	B-1B	C3501	A-3A	R1317	B-1C	R2531	B-1C
C1325	B-1B	C3502	A-3B	R1318	B-1B	R2532	B-1C
C1330	A-2A	C3503	A-3A	R1319	B-1B	R2533	B-1C
C1333	A-2B	C3504	A-3B	R1320	B-1C	R2534	B-1C
C1338	B-1C	C3505	A-3A	R1321	B-1C	R3501	B-3A
C1374	B-1C	C3506	A-3B	R1322	B-1C	R3502	B-3B
C1557	A-3B	C3507	A-2A	R1323	B-1C	R3503	B-3A
C1558	A-3B	C3508	A-2B	R1527	B-3B	R3504	B-3B
C1559	A-3B	C3509	A-2A	R1528	B-3B	R3505	B-3A
C1560	A-3B	C3510	A-2B	R1529	B-3B	R3506	B-3B
C1561	A-3B	C3511	B-2A	R1530	B-3B	R3507	B-3A
C1562	A-3B	C3512	B-2B	R1531	B-3B	R3508	B-3B
C1563	A-2B	C3515	A-1B	R1532	B-3B	R3509	B-2A
C1564	A-3B	C3516	A-2B	R1533	A-2B	R3510	B-2B
C1565	A-2B	C3517	A-1B	R1534	B-2B	R3511	B-2A
C1566	A-2B	C3518	A-1B	R1539	B-2B	R3512	B-2B
C1567	A-2B	C3519	B-1B	R1540	B-2B	R3513	B-2A
C1568	A-2B	D		R1543	B-2B	R3514	B-2B
C1571	B-2B	D1302	B-2A	R1544	B-2B	R3515	B-1A
C1572	B-2B	D1303	B-2A	R1545	B-3B	R3516	B-1B
C1575	A-2A	D1304	B-2A	R1546	B-3C	R3517	B-1A
C1576	A-2A	D1504	B-1A	R1547	B-3B	R3518	B-1B
C1579	A-2B	D1505	B-2A	R1548	B-3C	R3519	B-1A
C1580	A-1B	D3301	B-2A	R1549	B-3B	R3520	B-1B
C1583	A-1B	IC		R1550	B-3C	R3523	B-2A
C1584	A-1B	IC1301	B-2D	R1551	B-2B	R3524	B-2B
C1585	A-3C	IC1302	A-1D	R1552	B-2C	R3525	B-2B
C1586	A-3C	IC1507	B-2B	R1553	B-2C	R3526	B-2B
C1589	A-3B	IC1508	B-2B	R1554	B-1C	R3527	B-1A
C1590	A-3C	IC1509	B-2A	R1555	B-2C	R3528	B-1A
C1591	A-3B	IC1510	B-2B	R1556	B-2C	T	
C1592	A-3C	IC1511	B-2C	R1557	B-3C	T1301	A-1C
C1593	A-2B	IC1512	B-2C	R1558	B-3C	TP	
C1594	A-2C	IC1513	B-2C	R1559	B-3C	TP2501	A-2D
C1595	A-3B	IC1514	B-2C	R1560	B-3C	ZD	
C1596	A-2C	J		R1561	B-3C	ZD1301	B-1C
C1597	B-2C	J1303	A-1C	R1562	B-3C	ZD1303	B-1B
C1598	B-2C	J1304	A-1B	R1563	B-2C	ZD1304	B-1B
C2501	A-1C	J1305	A-1B	R1564	B-2C	ZD1305	B-1C
C2502	A-2C	L		R1565	B-2C	ZD1307	A-1A
C2505	A-1C	L1301	A-2D	R1566	B-2C	ZD3501	B-1B
C2506	A-1C	PG		R1567	B-2C		

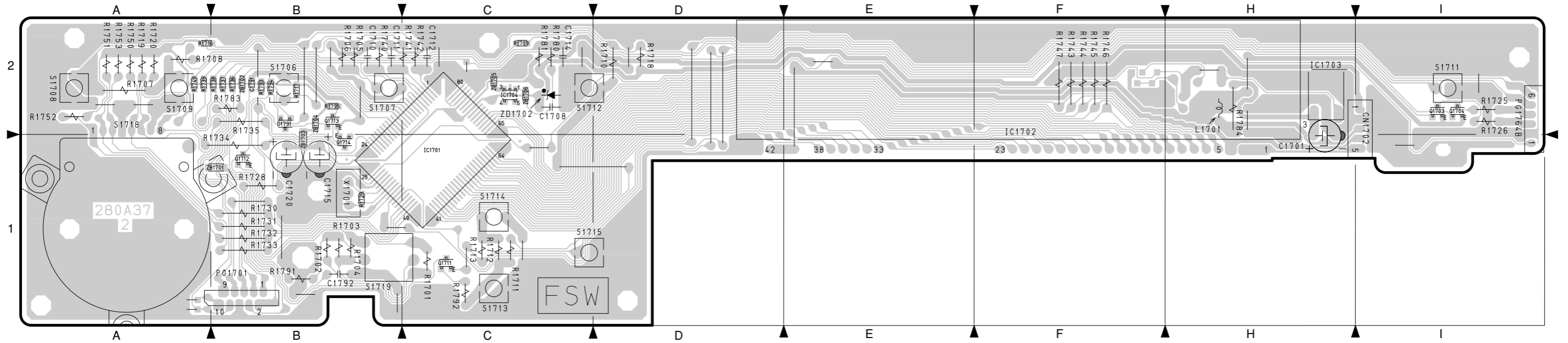
REG

Symbol No.	Parts Location	Symbol No.	Parts Location	Symbol No.	Parts Location
C		D0025	3A	F	
C0001	4B	F		F0001	4A
C0002	4B	F0001	4A	F0002	1A
C0003	3B	FG		TH	
C0004	3B	FG0001	1A	TH0001	4A
C0005	3B	FG0002	1B	VR	
C0006	3A	FG0003	2A	VR0001	2B
C0007	3B	IC			
C0008	4A	IC0001	3B		
C0009	3A	IC0002	1A		
C0010	3A	IC0003	1A		
C0012	3A	L			
C0014	2A	L0001	4B		
C0015	1A	L0002	2A		
C0016	2A	L0003	2A		
C0017	2A	L0004	2A		
C0018	2A	PG			
C0019	2A	PG1901	1A		
C0020	1A	PG1902	1B		
C0021	1A	PG1903	1A		
C0022	1A	PHC			
C0023	2A	PHC0001	3A		
C0024	2B	Q			
C0025	1B	Q0001	3A		
C0026	2B	Q0002	3A		
C0027	1B	Q0003	2A		
C0028	1B	Q0004	2A		
C0029	2A	Q0005	2B		
C0030	2A	Q0006	2B		
C0038	1A	Q0008	1A		
C0039	1A	R			
C0040	1A	R0002	3B		
CN		R0003	4A		
CN0001	4A	R0004	4A		
D		R0007	3A		
D0001	3B	R0008	3A		
D0002	3B	R0010	3A		
D0003	3A	R0012	2A		
D0005	4A	R0013	2A		
D0006	4A	R0015	2A		
D0007	3A	R0016	1A		
D0008	3A	R0017	2A		
D0009	3A	R0018	2A		
D0010	2A	R0019	1A		
D0011	2A	R0020	1A		
D0012	1A	R0021	1A		
D0013	2A	R0022	1A		
D0014	2A	R0023	2A		
D0015	2A	R0024	2B		
D0016	2A	R0026	3B		
D0017	2A	R0029	2A		
D0018	1B	R0030	2A		
D0019	1B	R0031	1B		
D0020	1B	R0032	1B		
D0021	1B	R0034	1A		
D0022	1B	R0036	1A		
D0023	1A	T			
D0024	2A				

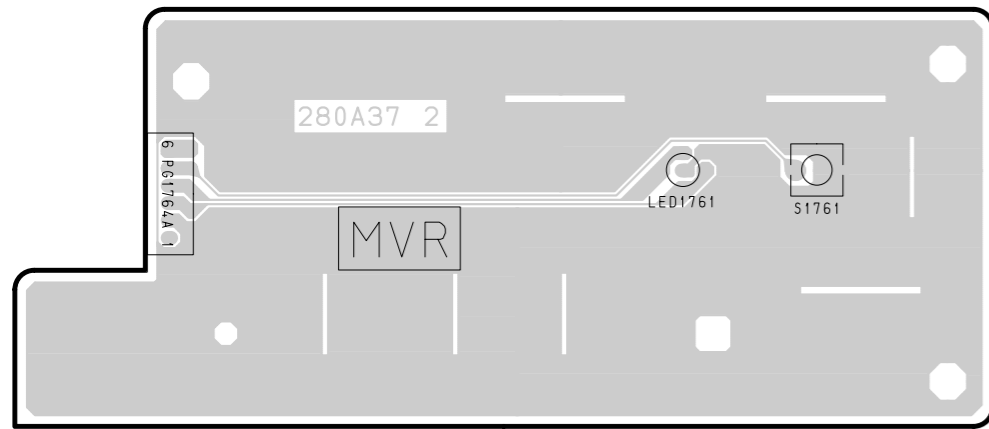
REG CIRCUIT BOARD DIAGRAM



FSW, MVR CIRCUIT BOARD DIAGRAMS



FSW [FRONT SWITCH]
[PATTERN No. 280A37-2]



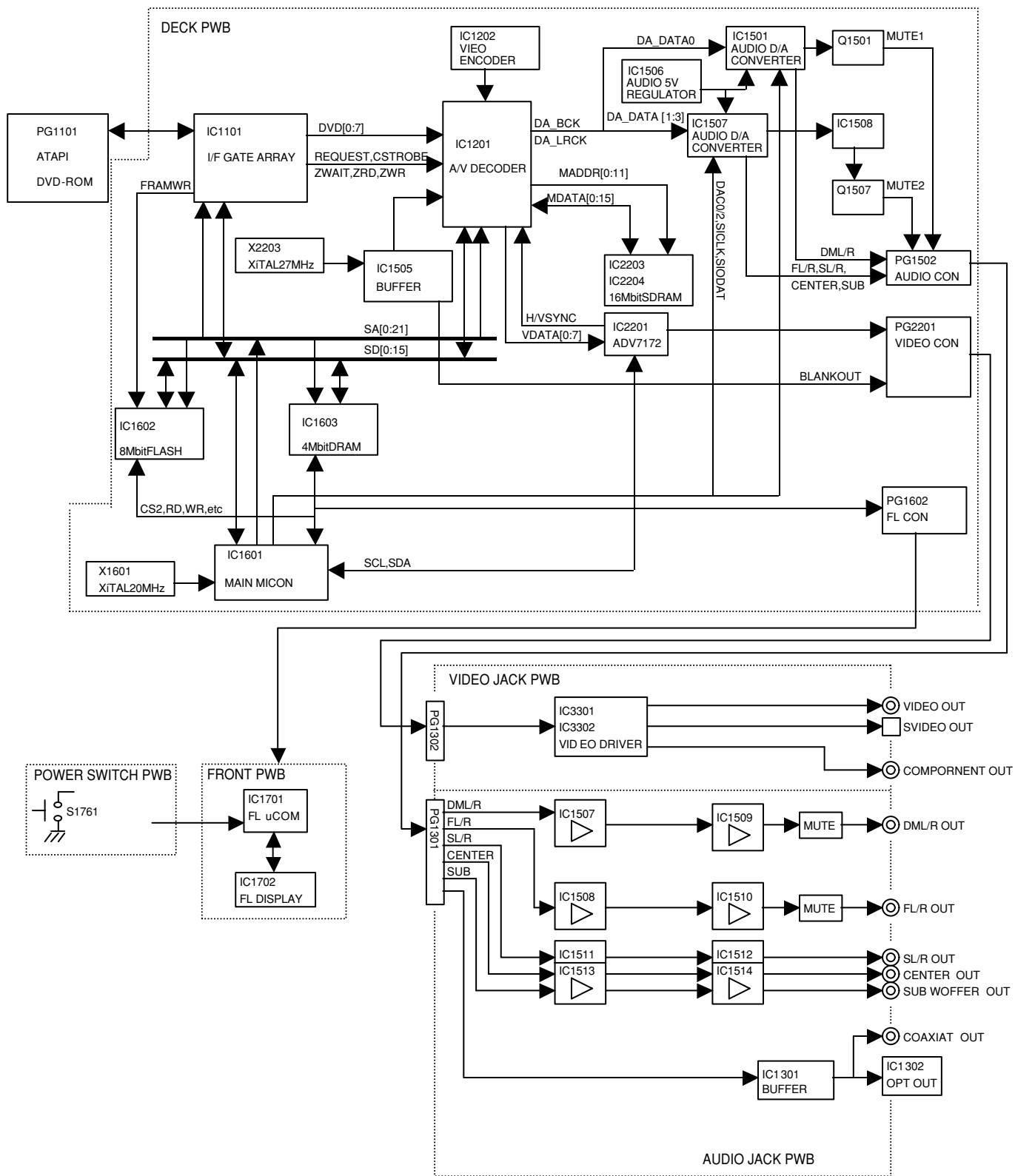
MVR [POWER SWITCH]
[PATTERN No. 280A37-2]

IDENTIFICATION OF PARTS LOCATION

FSW

Symbol No.	Parts Location	Symbol No.	Parts Location	Symbol No.	Parts Location	Symbol No.	Parts Location	Symbol No.	Parts Location
C		PG1764	2I	R1718	2D	R1747	2F	S1715	1C
C1701	2H	Q		R1719	2A	R1749	2A	S1718	1A
C1708	2C	Q1703	2I	R1720	2A	R1750	2A	S1719	1B
C1710	2B	Q1704	2I	R1725	2I	R1751	2A	X	
C1711	2B	Q1711	1C	R1726	2I	R1752	2A	X1701	1B
C1712	2C	Q1712	1B	R1728	1B	R1753	2A	ZD	
C1714	2C	Q1713	2B	R1729	1B	R1780	2C	ZD1702	2C
C1715	1B	Q1714	1B	R1730	1B	R1781	2C		
C1720	1B	R		R1731	1B	R1783	2B		
C1791	2B	R1701	1C	R1732	1B	R1784	2H		
C1792	1B	R1702	1B	R1733	1B	R1791	1B		
CN		R1703	1B	R1734	1B	R1792	1C		
CN1702	2I	R1704	1B	R1735	2B	R1793	2B		
D		R1705	2B	R1736	2B	R1794	2B		
D1791	2B	R1706	2B	R1737	2B	R1795	2B		
IC		R1707	2A	R1738	2B	S			
IC1701	1C	R1708	2A	R1739	2A	S1706	2B		
IC1702	2F	R1709	2C	R1740	2B	S1707	2B		
IC1703	2H	R1710	2D	R1741	2C	S1708	2A		
IC1704	2C	R1711	1C	R1742	2C	S1709	2A		
L		R1712	1C	R1743	2F	S1711	2I		
L1701	2H	R1713	1C	R1744	2F	S1712	2C		
PG		R1716	2A	R1745	2F	S1713	1C		
PG1701	1B	R1717	2B	R1746	2F	S1714	1C		

BLOCK DIAGRAM



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