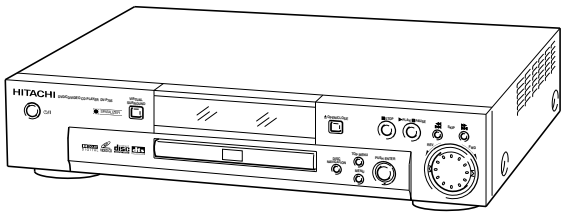
HITACHI

TK | No.9010E

SERVICE MANUAL

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



SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

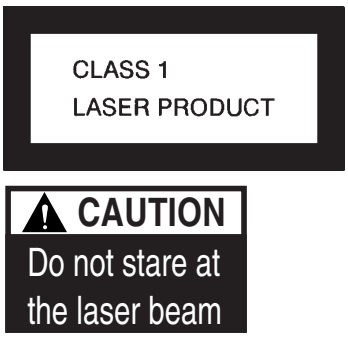
DVD PLAYER

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



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 lead-ress. 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.

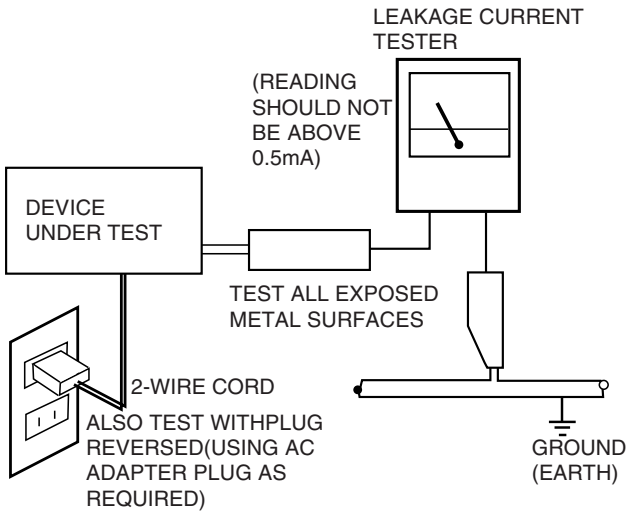
Leakage Current Cold Check

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 eturn 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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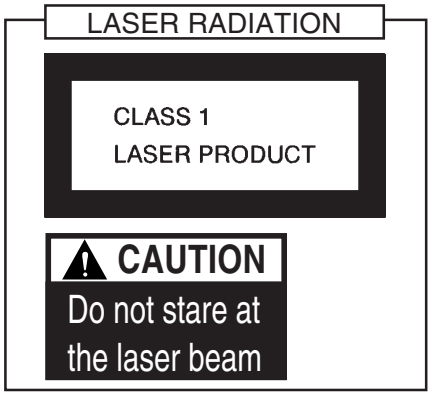


Notes When Using Service Manual

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

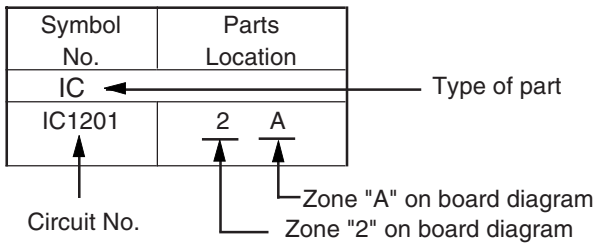
3. Identifications of sides A/B in circuit board diagrams

1) 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.
2) 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.

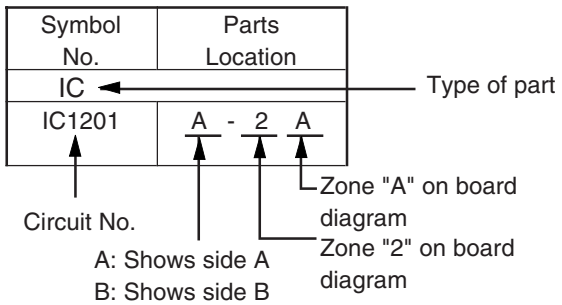
4. Table for indexing locations of parts

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.

1) One diagram indicated for each board



2) Two diagrams indicated for each board



CONTENTS

CHAPTER 1 GENERAL INFORMATION

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

Frequency characteristics	CD: 4Hz~20kHz (EIAJ) DVD: 4Hz~22kHz (48k sampling) 4Hz~44kHz (96k sampling)
SN ratio	110dB
Dynamic range	100dB
Total harmonic distorion rate	0.003%
Wow fluttertics	Measurement limit less than (±0.001% W.PEAK) (EIAJ)

Other terminals	Digital Audio output Optical/Coaxial	Coaxial terminal ····· 1
	(DTS/AC-3/MPEG2, LPCM, OFF commutable)	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.

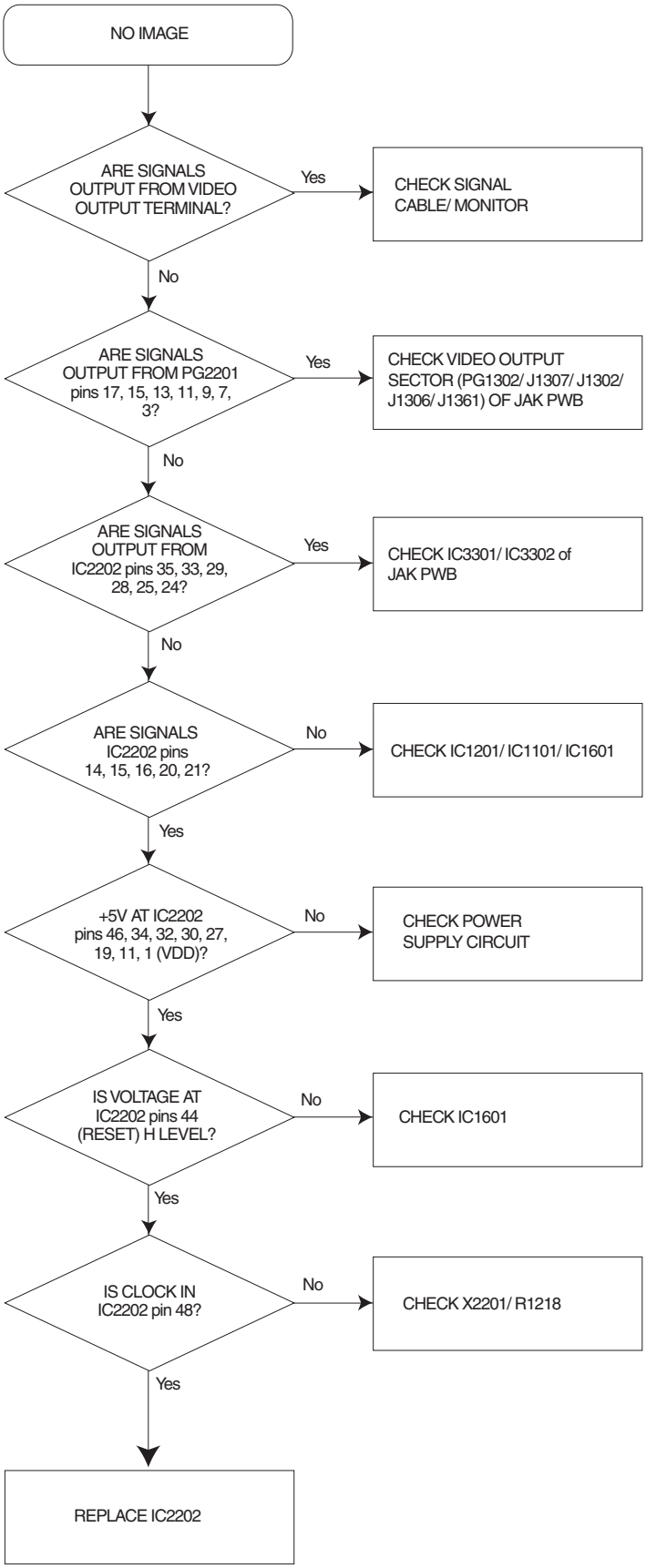
2. Comparison with Previous Model

	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(UKI], 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	---

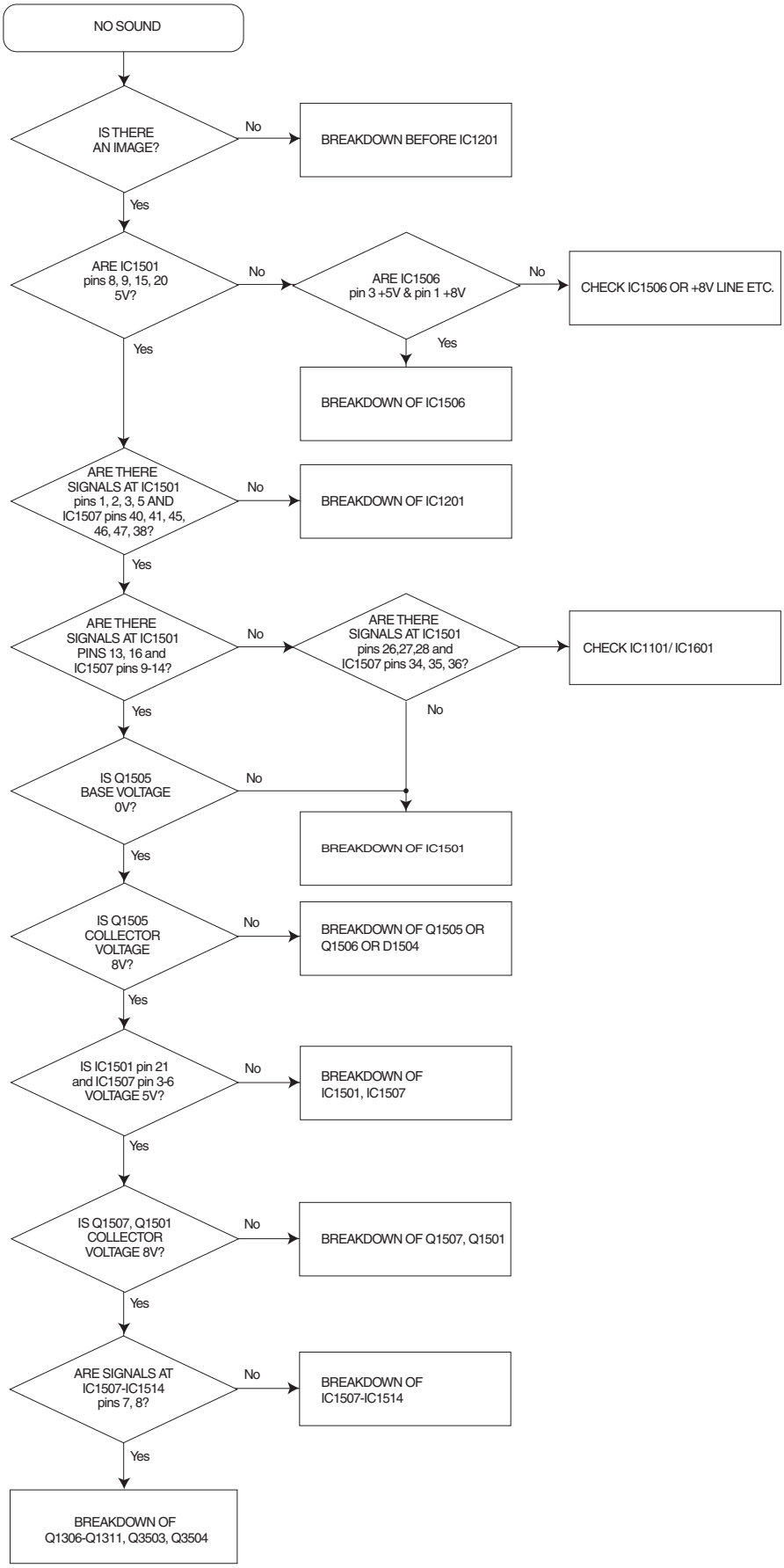
Dynamic Range Compression (only Dolby Digital)	O	O
MP3 Read	---	---
Playback Features		
Jog/Shuttle on Front Panel	O	---
Disc Navigation	New Mark2 : Moving Picture(I search) & Quick Title Change	---
FF	2x(IP search),10x,30x,120x(I search)	2x(IP search),5,˜,10x,100x(I search)
Reverse Play, FR	1x,2x,10x,30x,120x(I 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(,†ull Frame)
Parental Look	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.

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

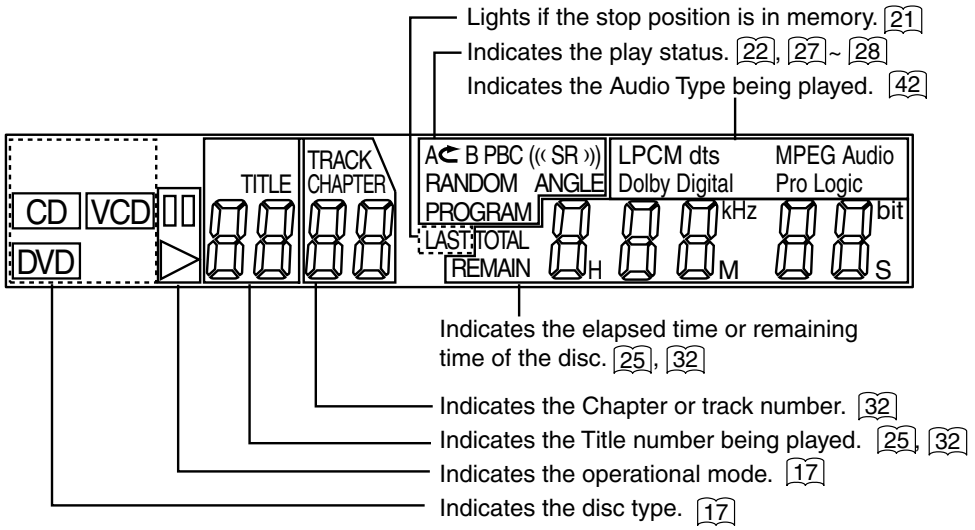
The following lists the possible causes of “no PLAY” display (and “Disc Error” in OSD):
a-f of “aP20 bcdef” that appears in the display are defined in bits (displayed in octal notation).

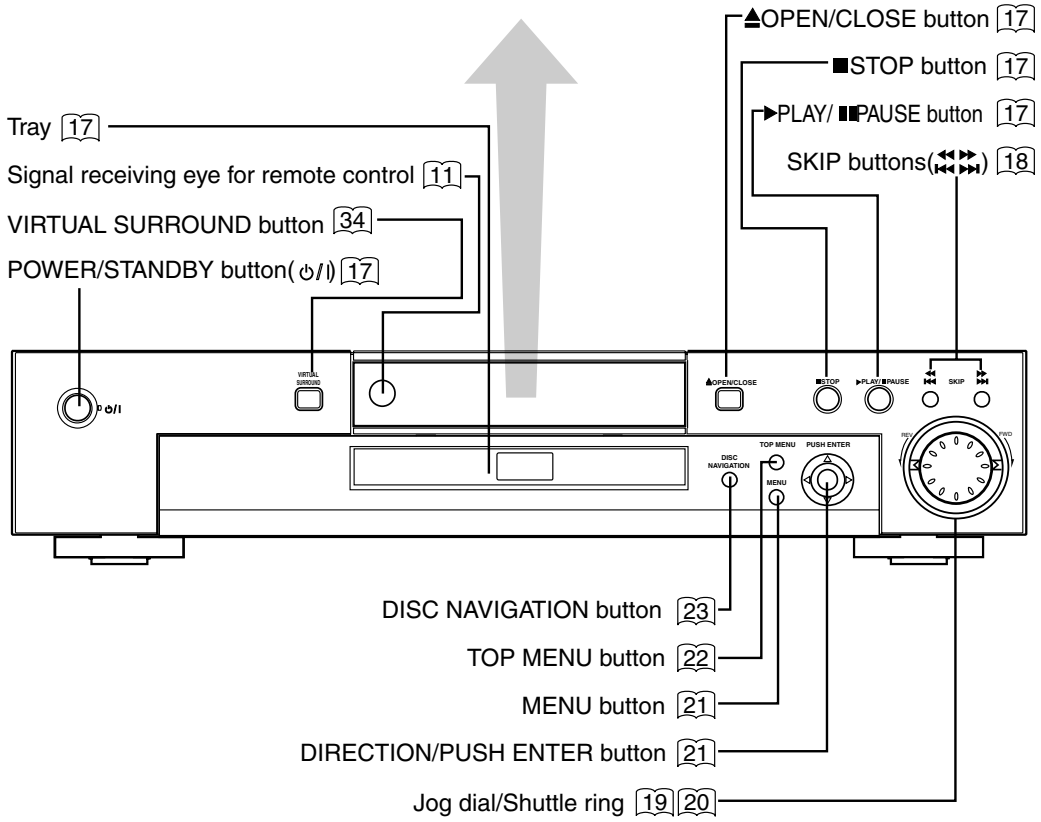
#	Display	Content
1	aP20 XXXXX	bit0: UDF error bit1: Drive time-out error
2	XP20 bXXXX	bit0: VCD auto-stop 1 (reserved) bit1: VCD auto-stop 2 (reserved) bit2: No disc
3	XP20 XcXXX	bit0: PAL disc cannot be played since NTSC video output has been set. bit1: NM auto-stop 1 (disc can be played again) bit2: 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

- DV-P705E/E(UK) -

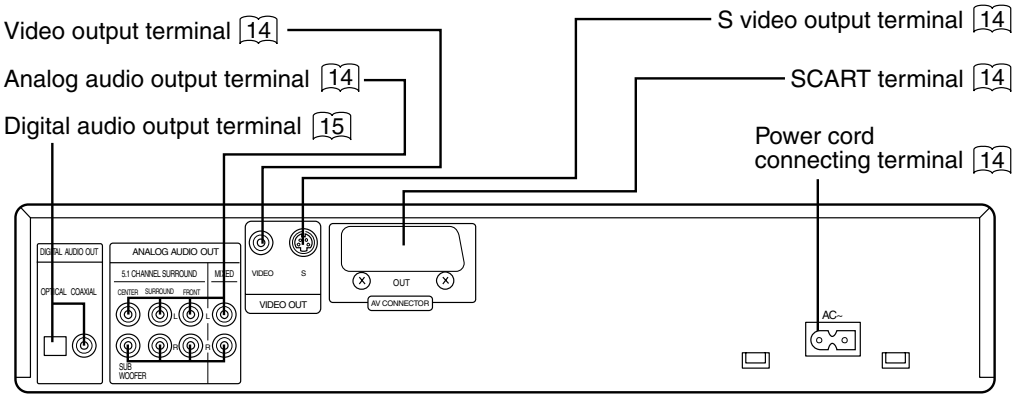
FRONT

<Display>

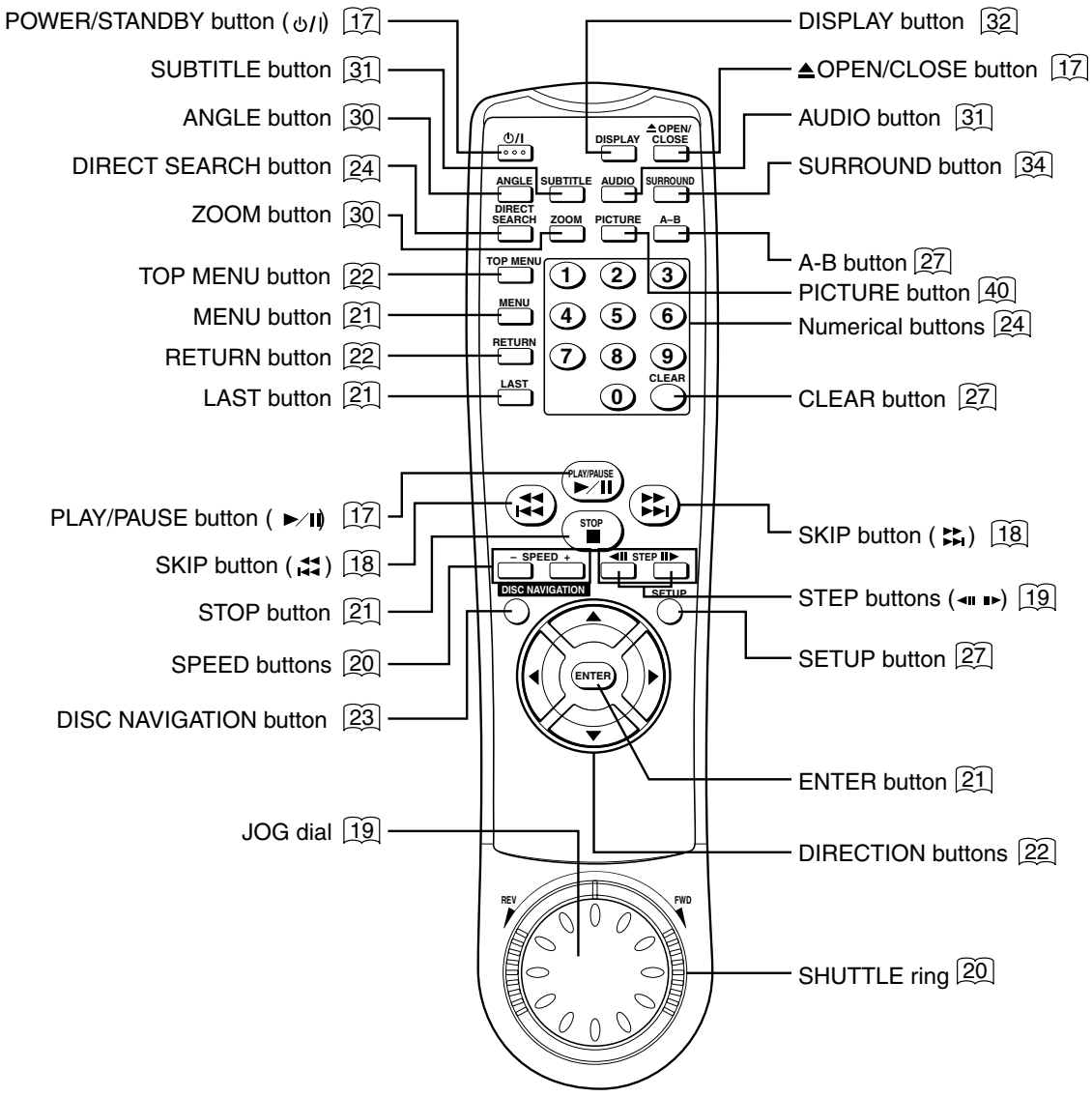




REAR VIEW

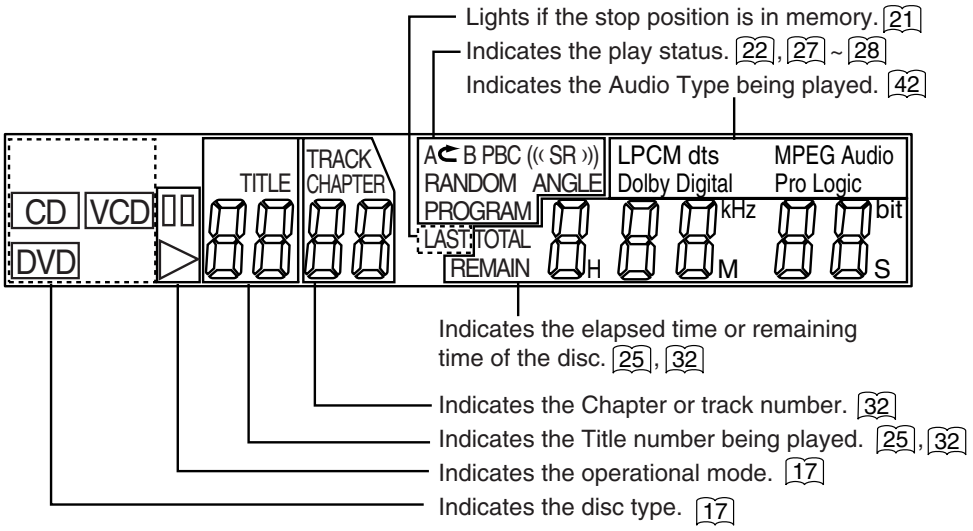


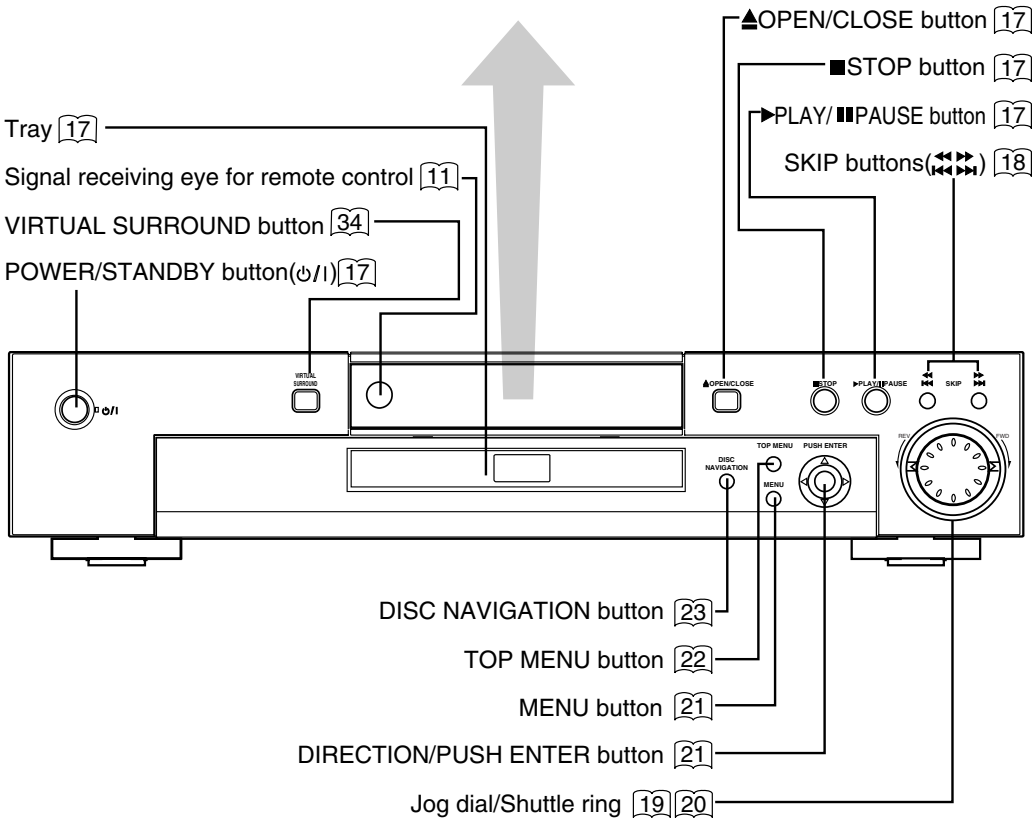
REMOTE CONTROL UNIT



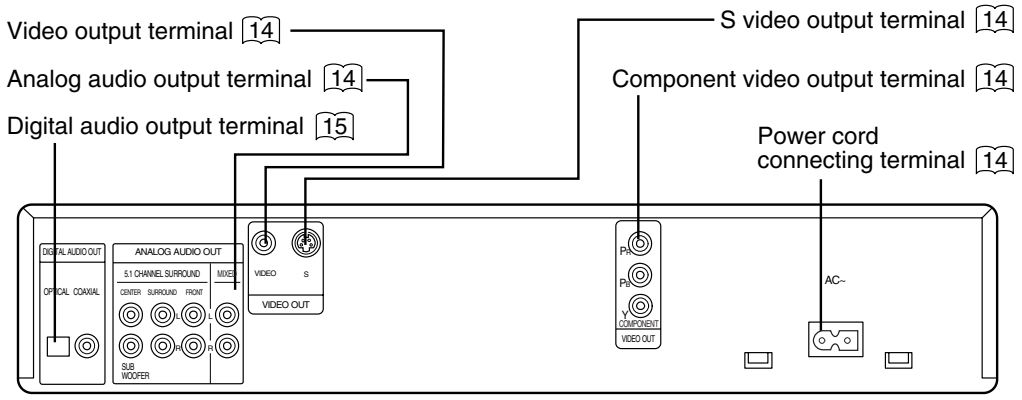
FRONT

<Display>

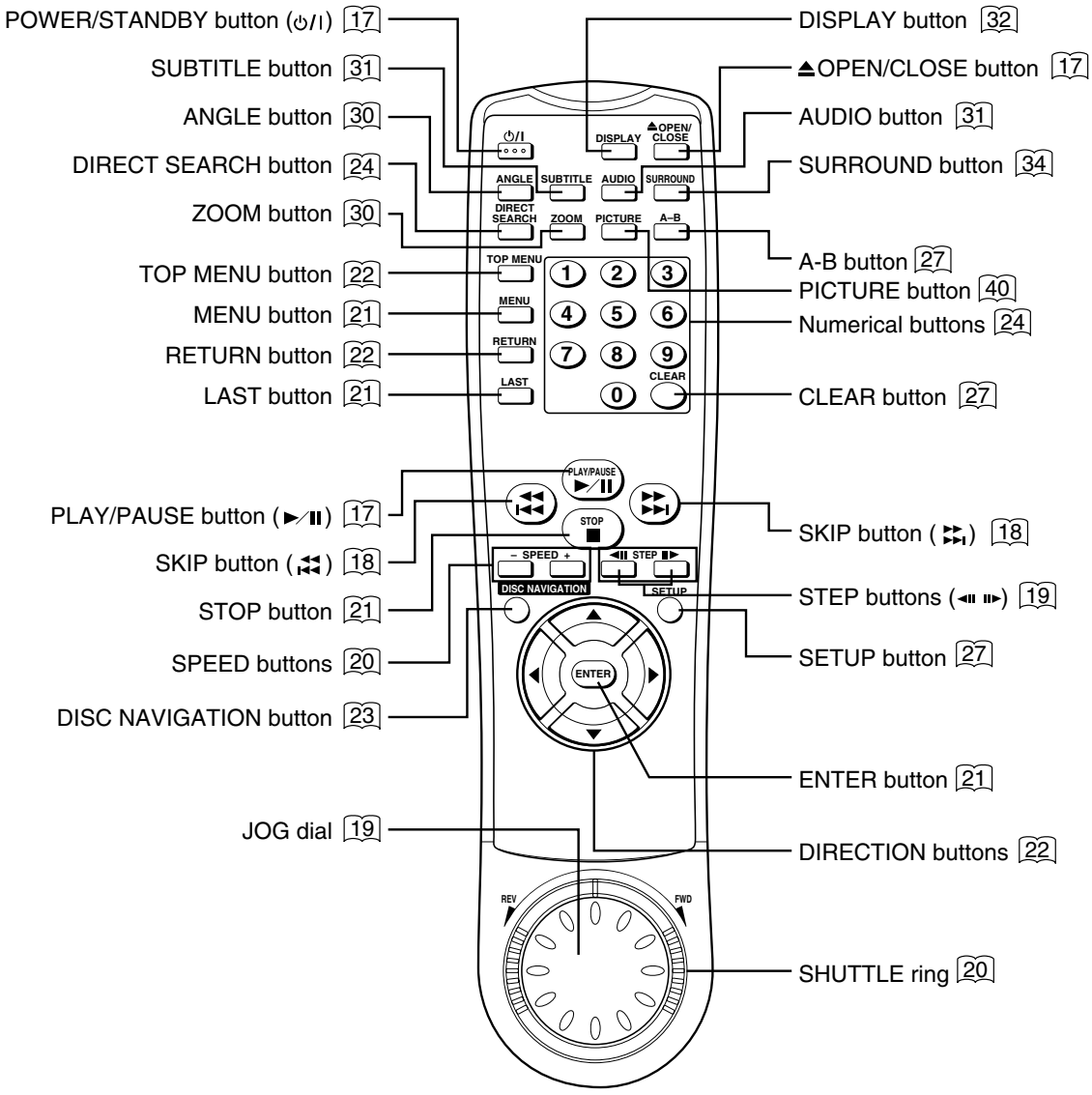




REAR VIEW



REMOTE CONTROL UNIT



CHAPTER 2 DISASSEMBLY

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.

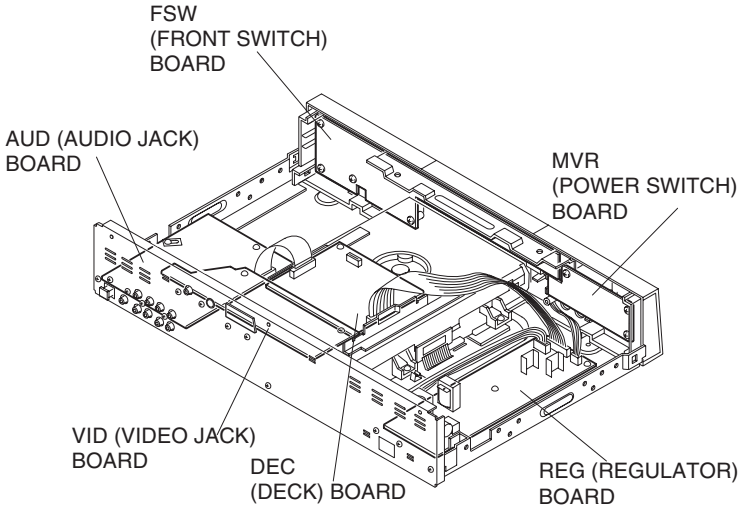


Fig. 1-1

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.

Parts to remove	Item
Top cover	2-1
⇩	
Tray panel	2-2
⇩	
Front panel	2-2
⇩	
Rear panel	2-3
⇩	
REG board	2-4
⇩	
DEC board	2-5
⇩	
DVD-ROM	2-6
⇩	
Bottom cover	2-6

Parts to remove	Item
FSW board	2-2
MVR board	2-2
VID board	2-4
AUD board	2-5

Item	Parts to remove
2-1	Top cover

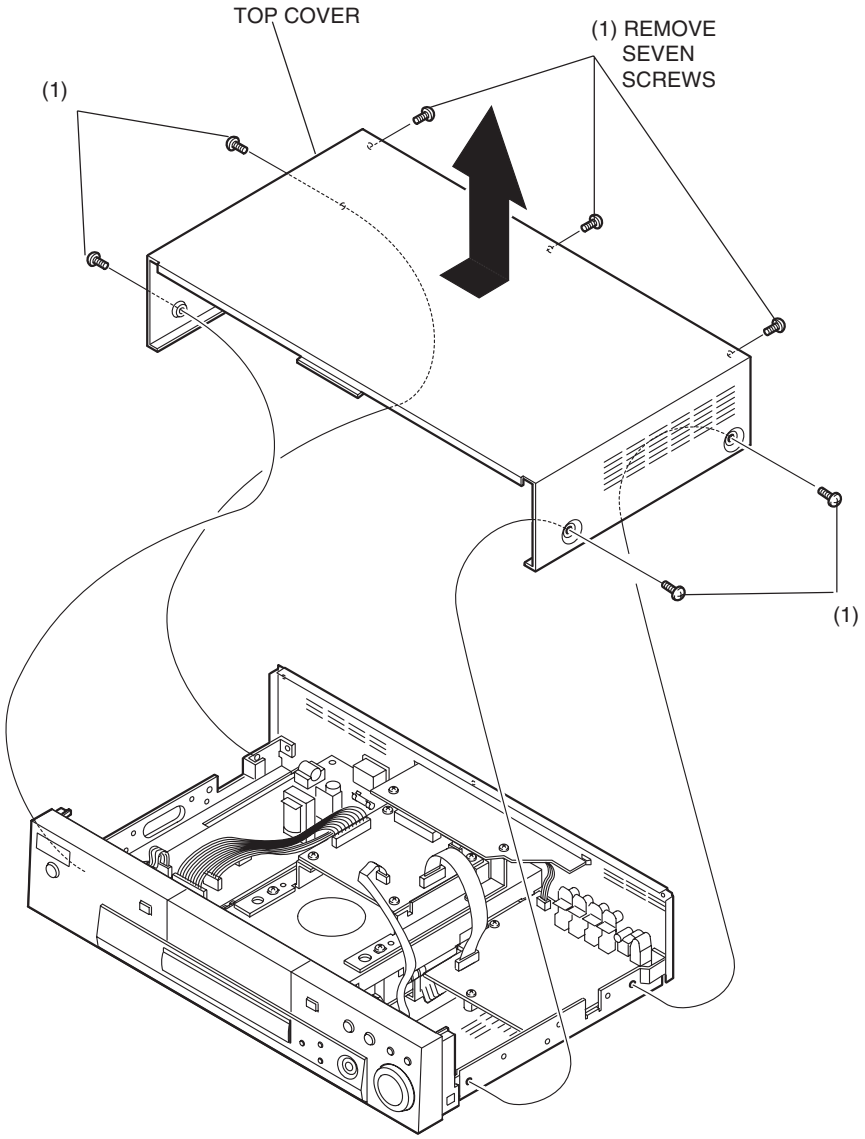


Fig. 2-1

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.

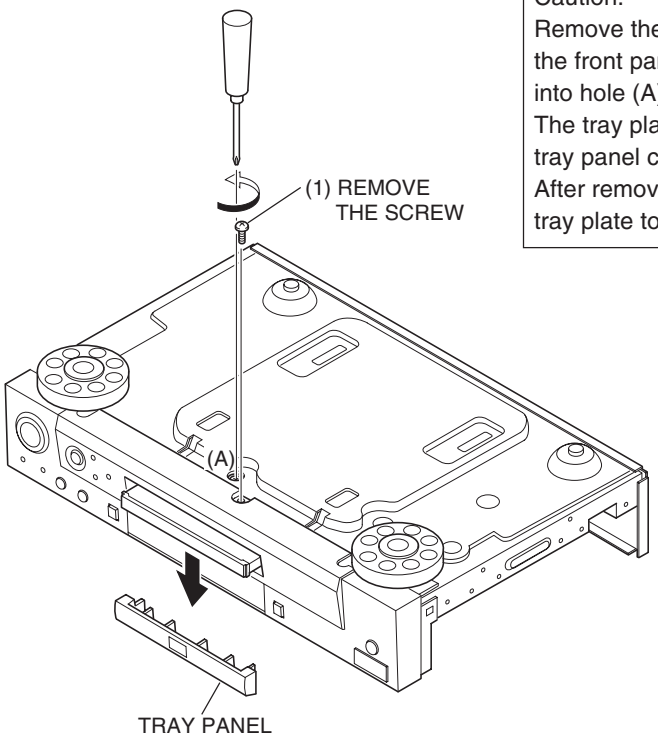


Fig. 2-2

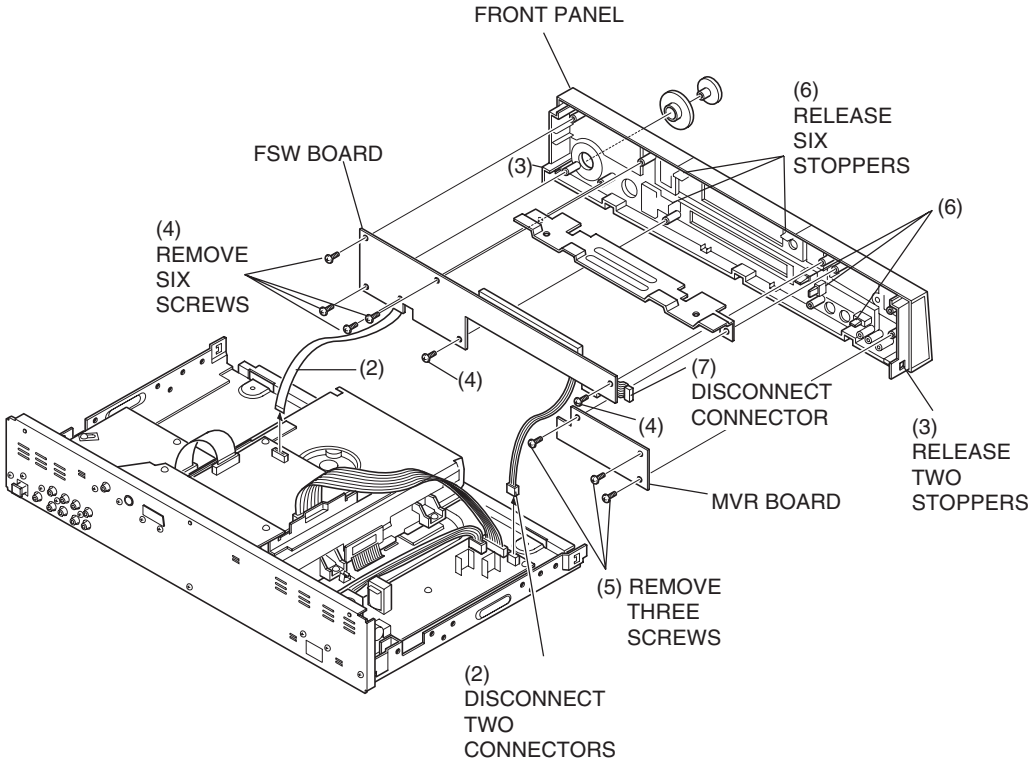
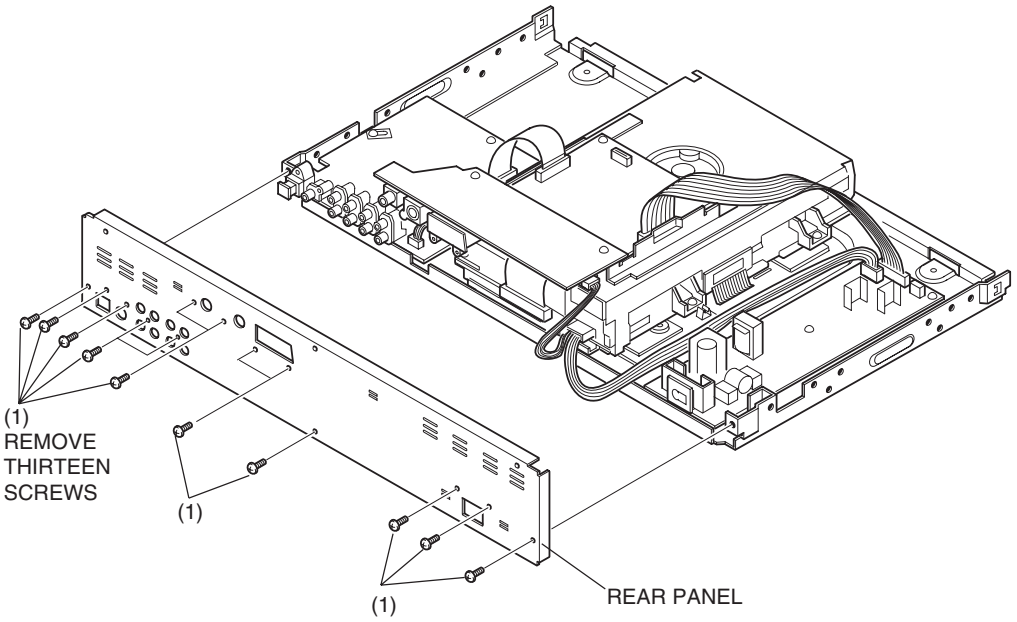


Fig. 2-3

Item	Parts to remove
2-3	Rear panel

[FOR DV-P705E/E(UK)]



[FOR DV-P705U]

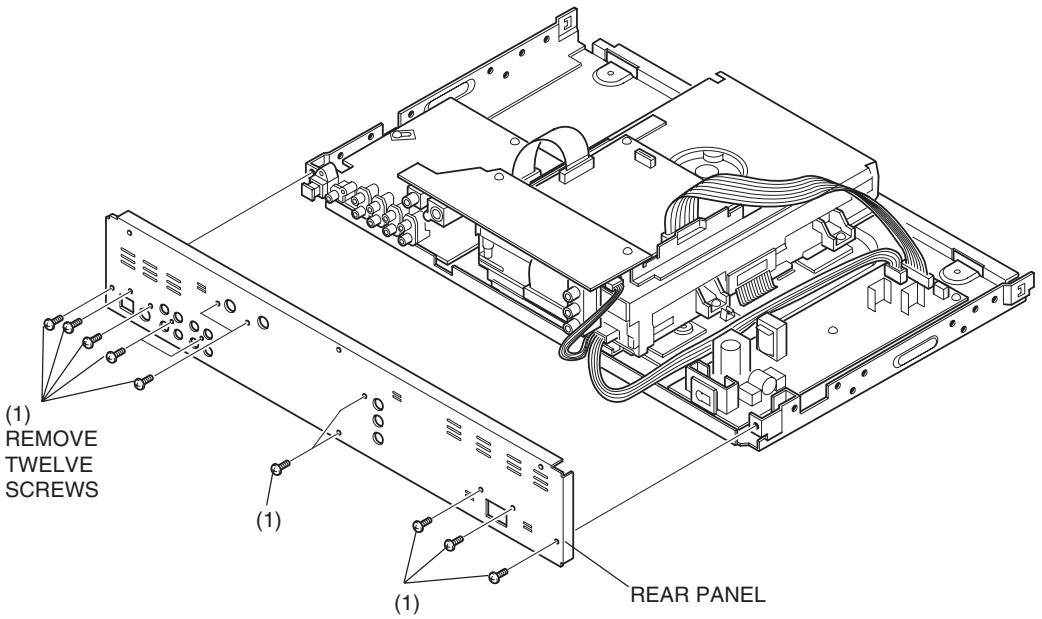


Fig. 2-4

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

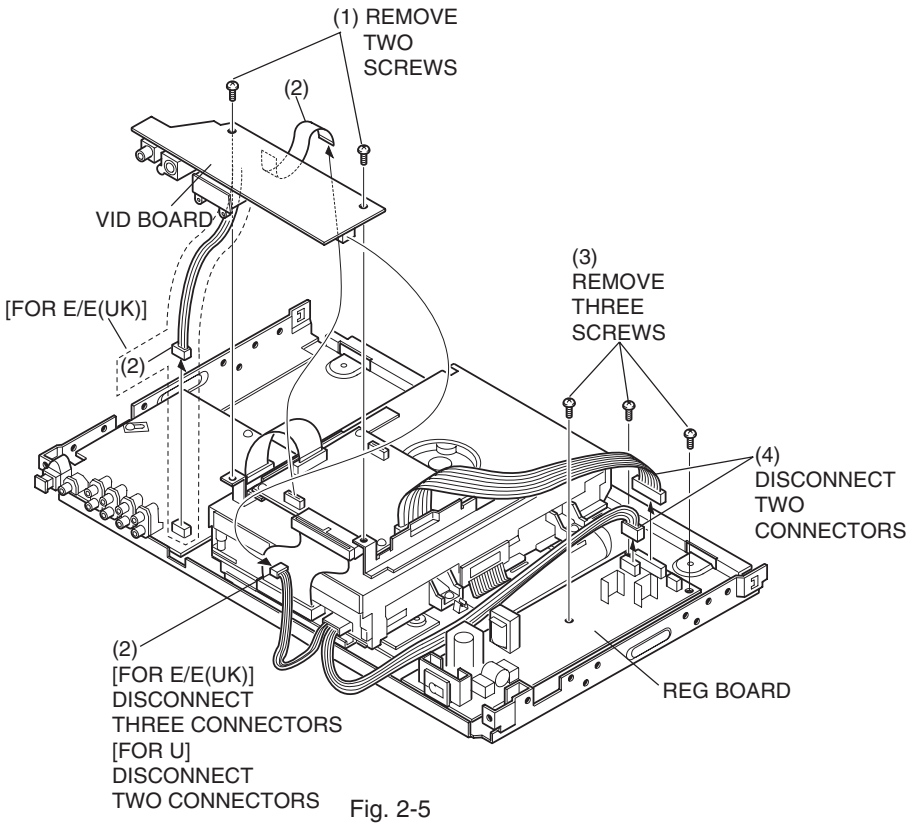


Fig. 2-5

2-5	AUD board and DEC board

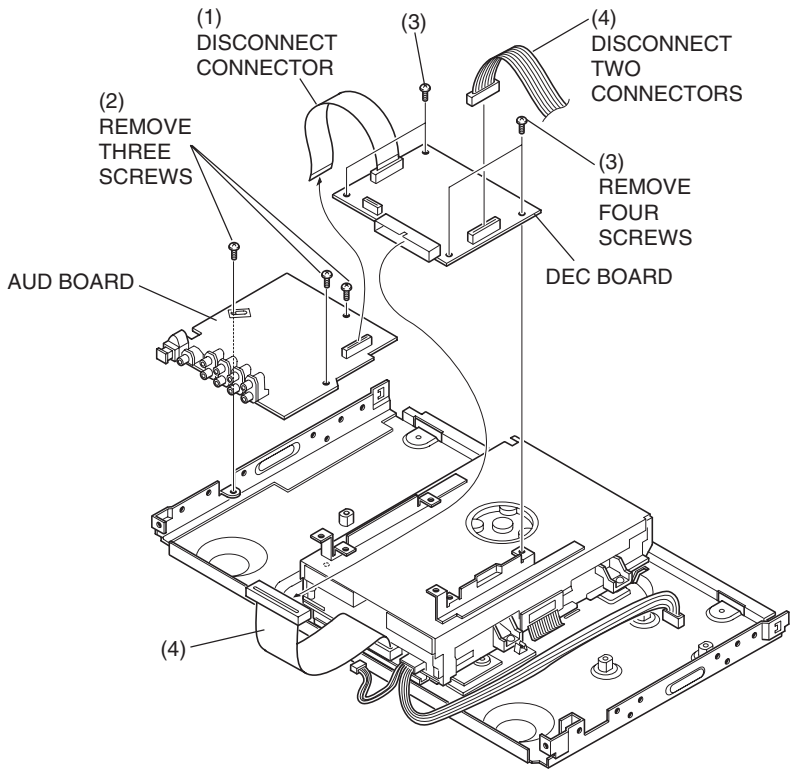


Fig. 2-6

2-6	DVD-ROM and Bottom cover

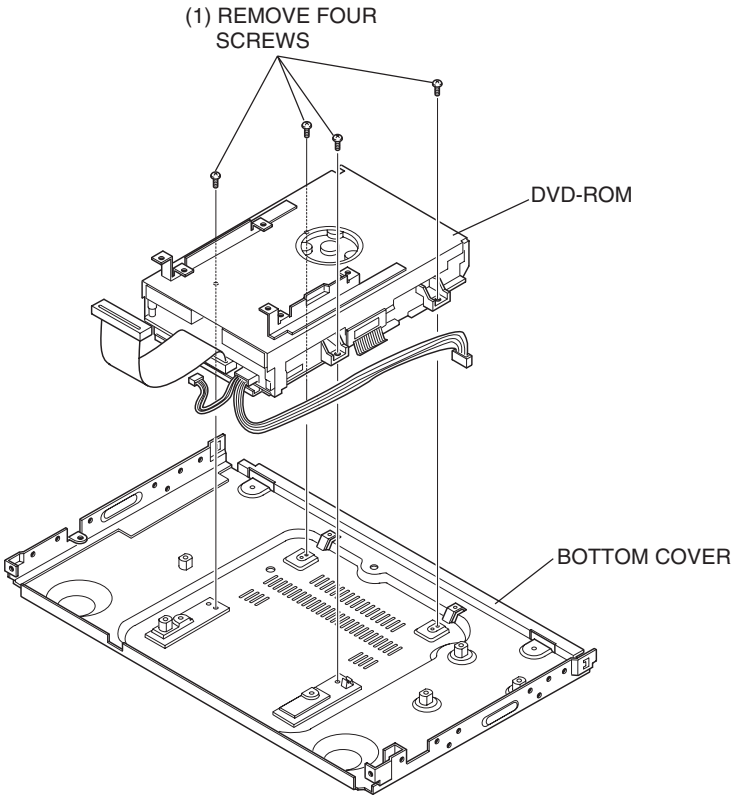
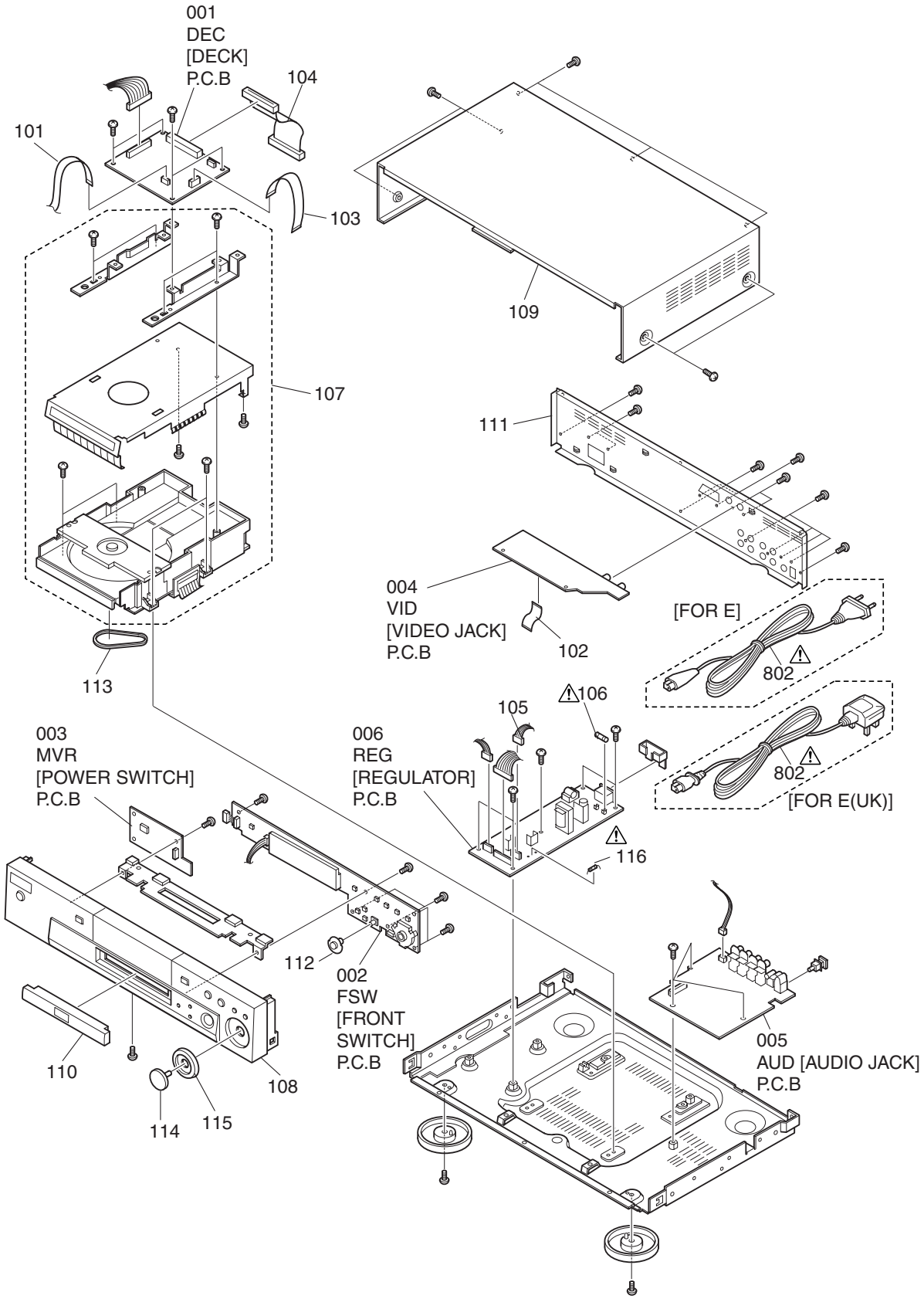


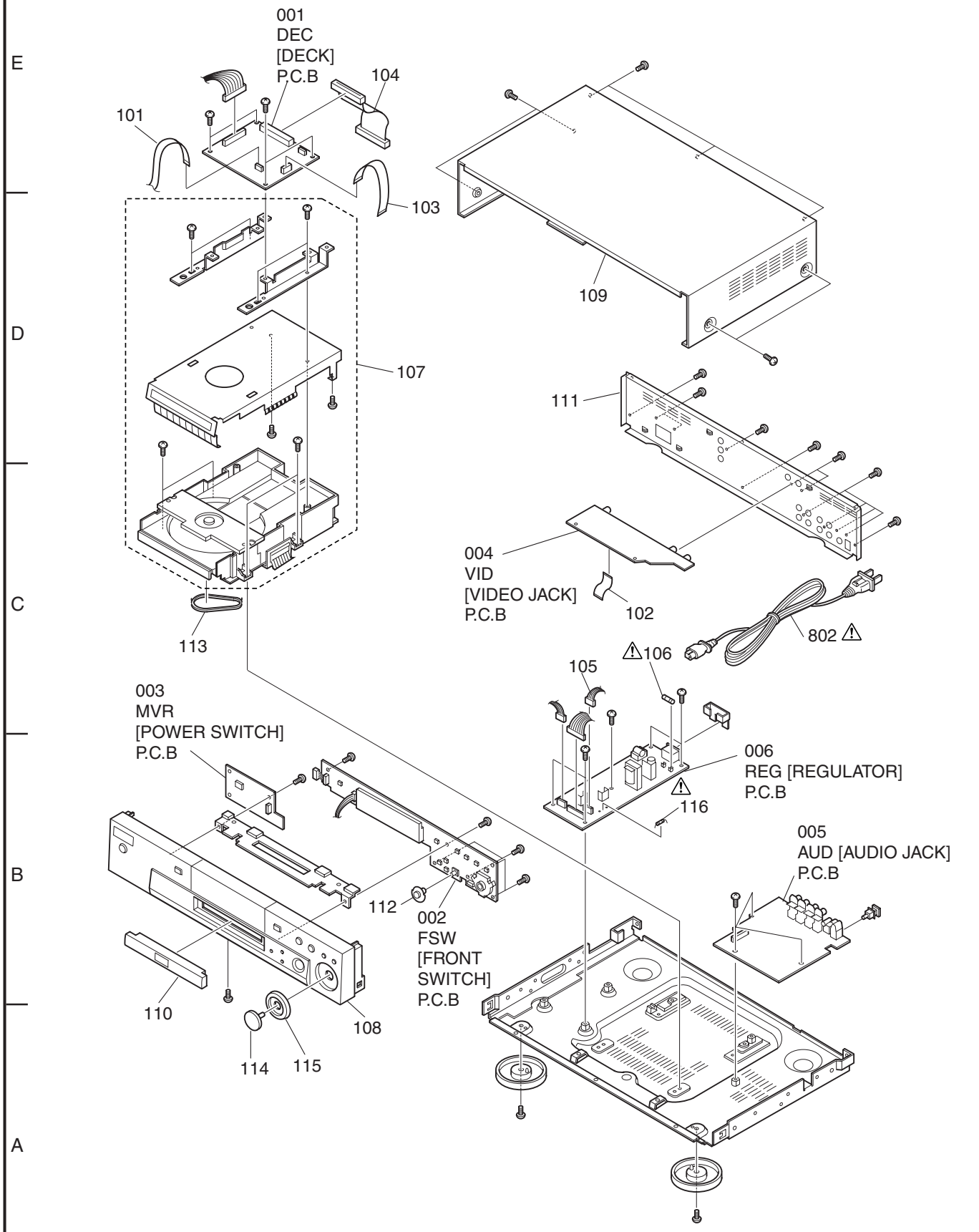
Fig. 2-7

1. CABINET SECTION

[FOR DV-P705E/E(UK)]



[FOR DV-P705U]


001
DEC
[DECK]
P.C.B
104
101
103
109
107
111
004
VID
[VIDEO JACK]
P.C.B
102
802
113
106
105
003
MVR
[POWER SWITCH]
P.C.B
006
REG [REGULATOR]
P.C.B
116
005
AUD [AUDIO JACK]
P.C.B
112
002
FSW
[FRONT
SWITCH]
P.C.B
110
108
114
115
E
D
C
B
A
1
2
3
4

CHAPTER 4 REPLACEMENT PARTS LIST

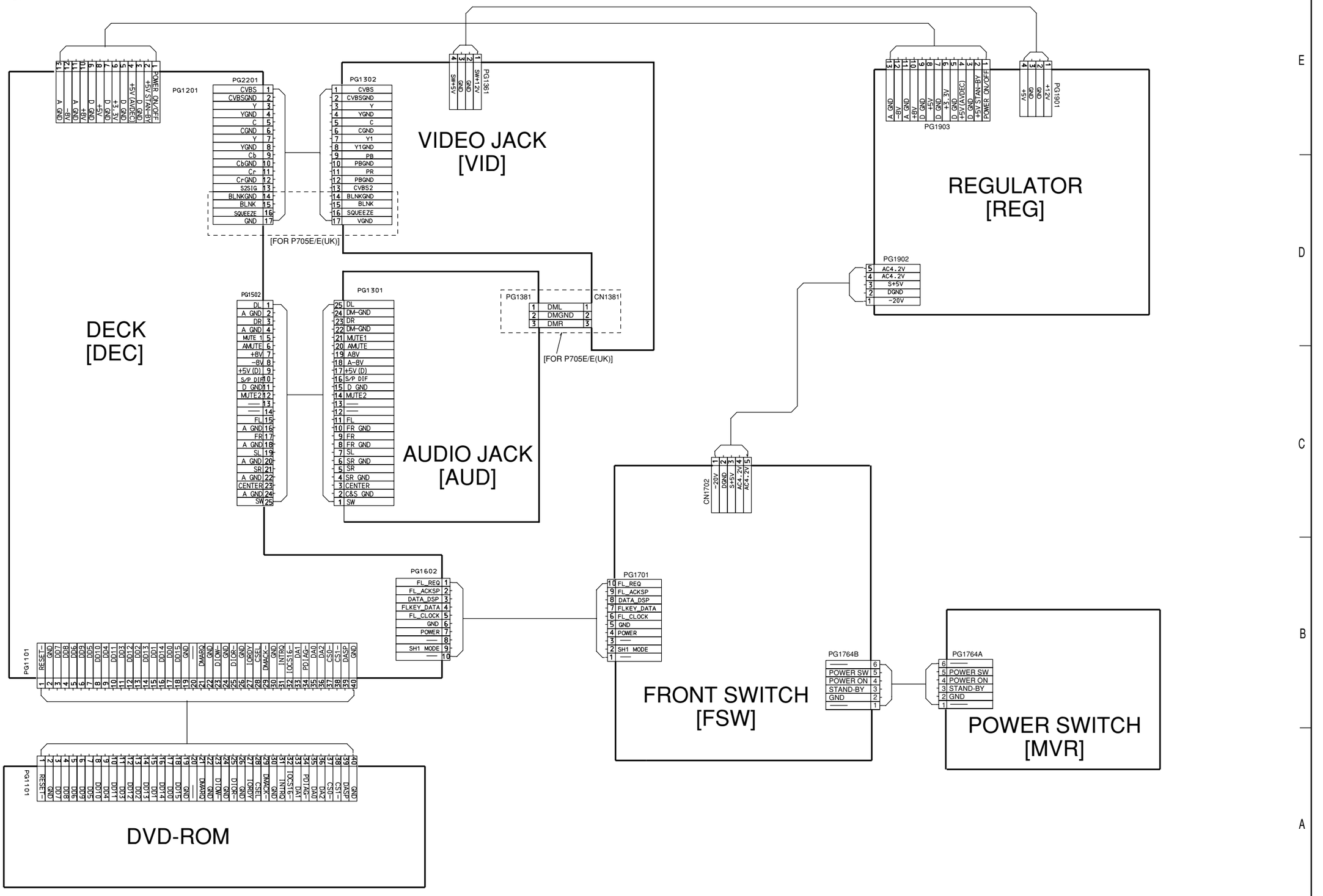
1. MECHANICAL PARTS LIST

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(UKI]
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)	

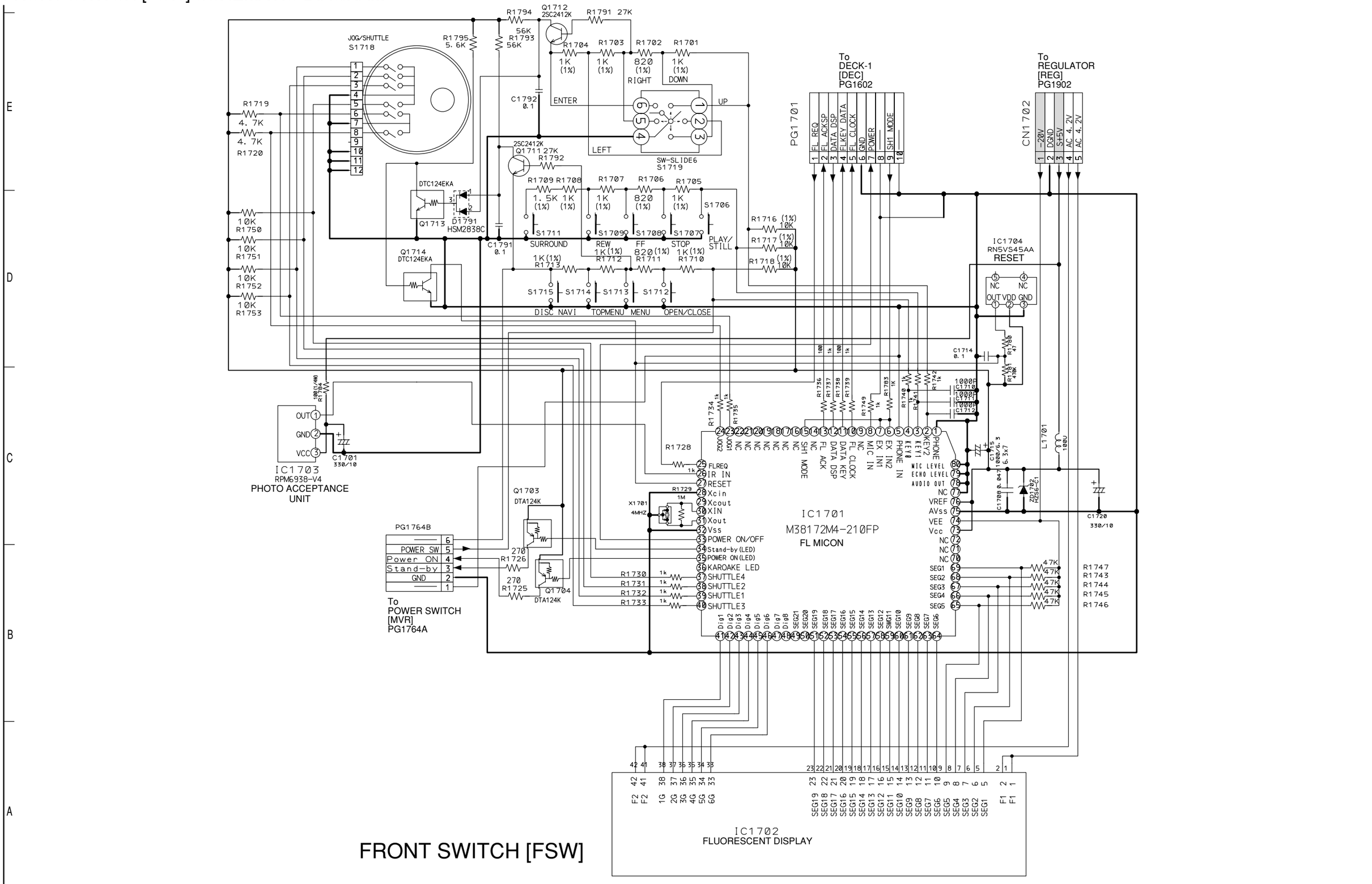
SYMBOL NO	P-NO	DESCRIPTION

MEMO

CONNECTION DIAGRAM

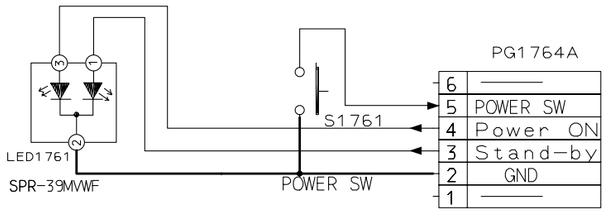


FRONT SWITCH [FSW] SCHEMATIC DIAGRAM



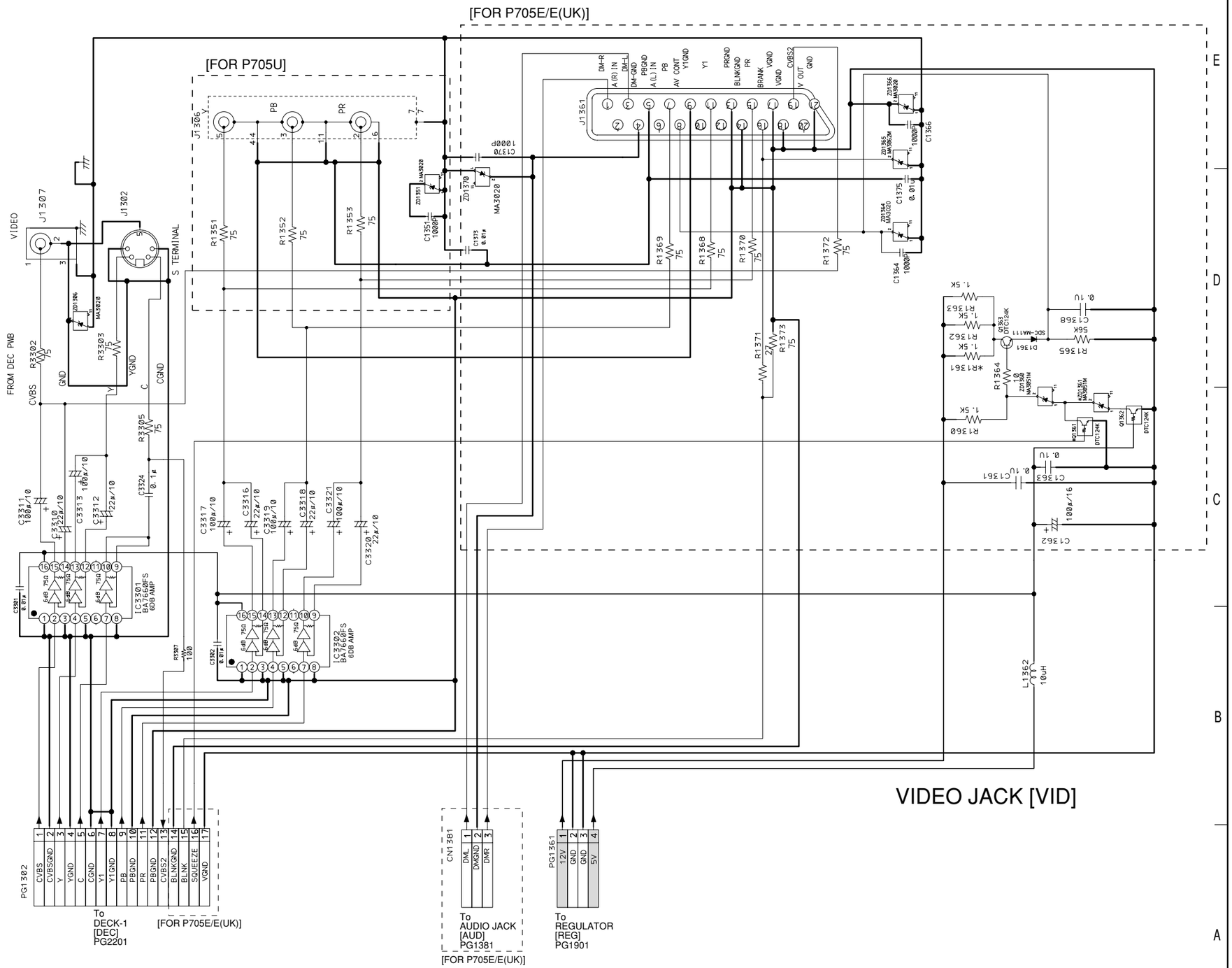
FRONT SWITCH [FSW]

POWER SWITCH [MVR] SCHEMATIC DIAGRAM



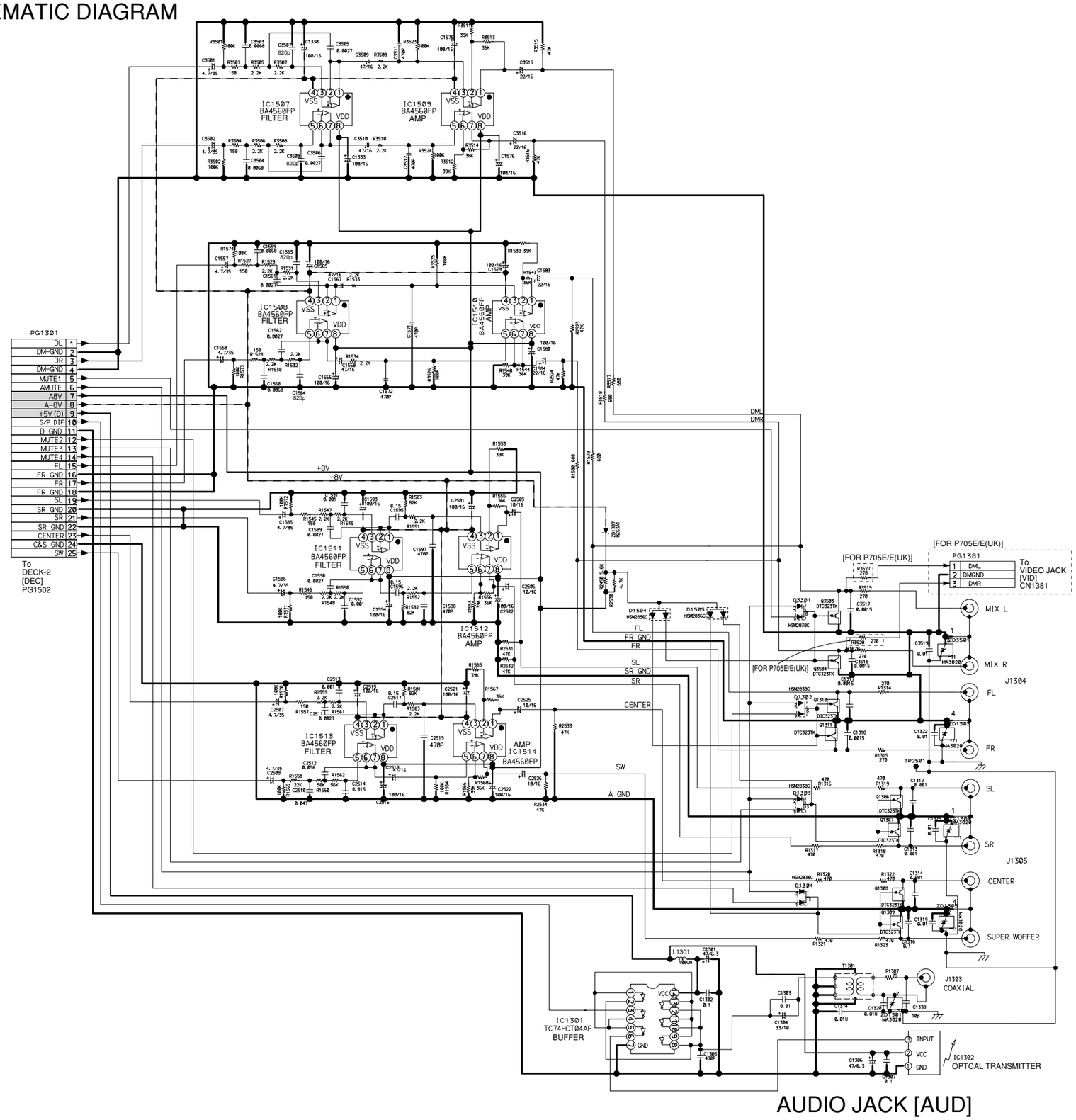
POWER SWITCH [MVR]

VIDEO JACK [VID] SCHEMATIC DIAGRAM



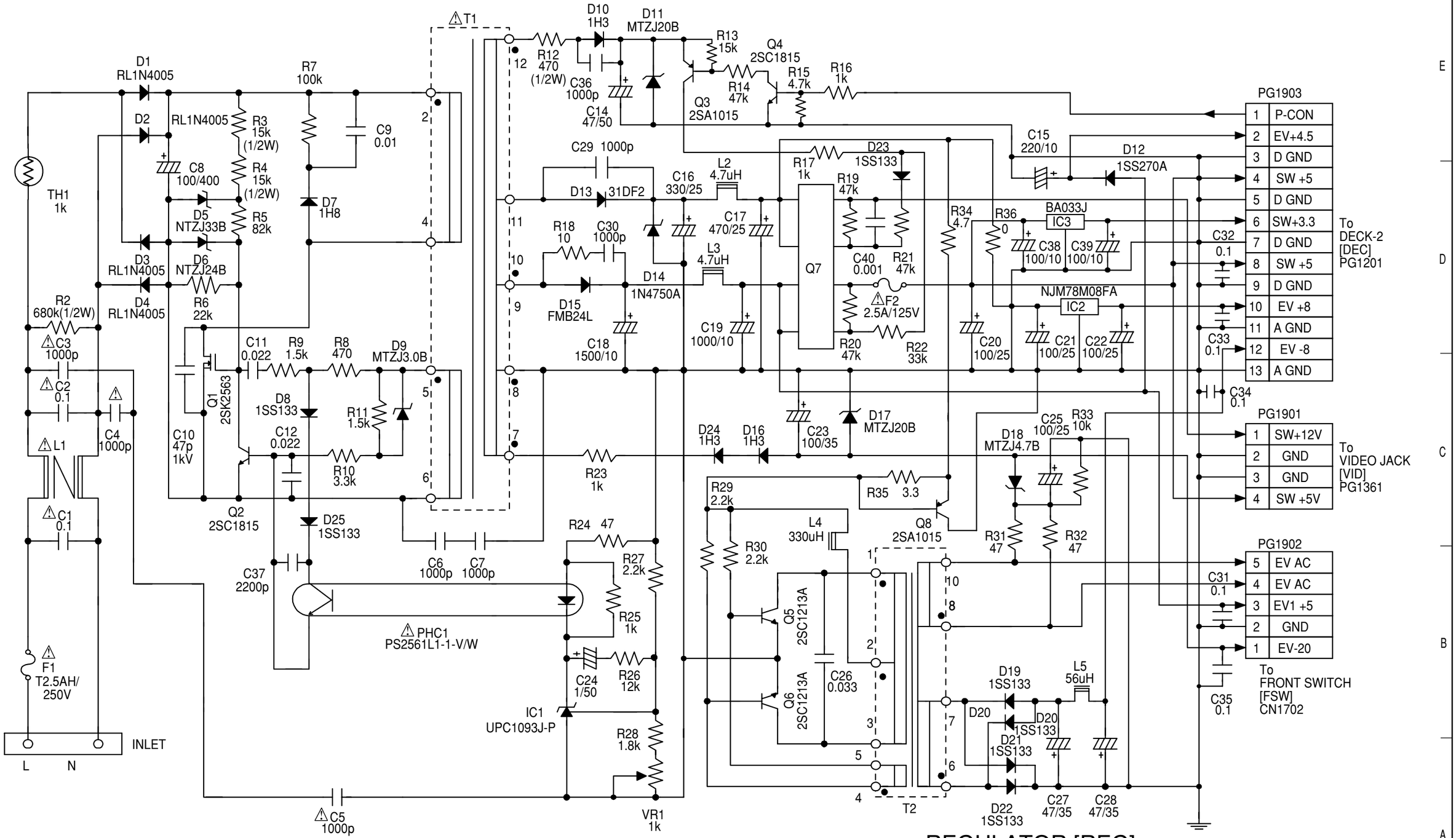
VIDEO JACK [VID]

AUDIO JACK [AUD] SCHEMATIC DIAGRAM

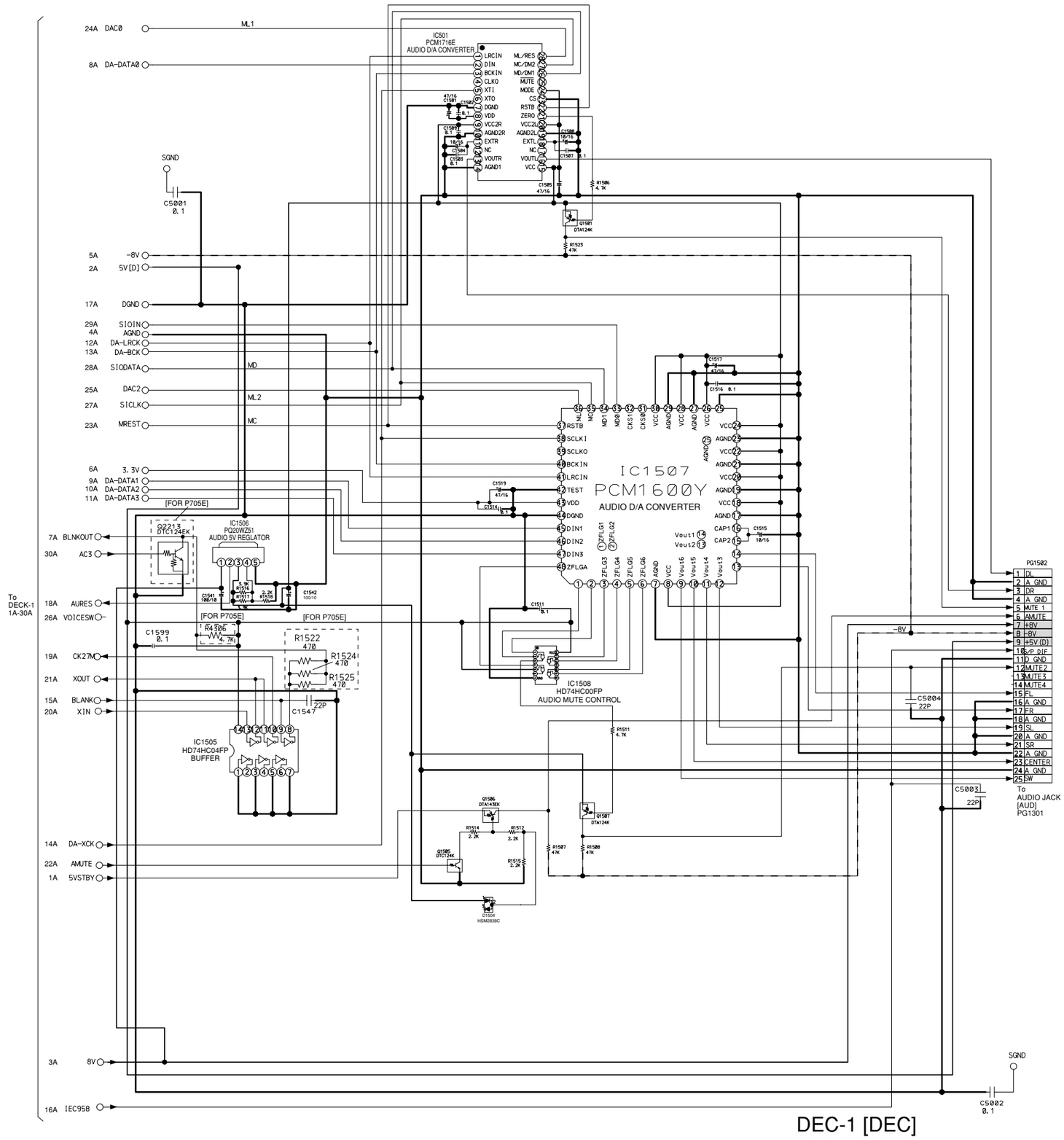


AUDIO JACK [AUD]

REGULATOR [REG] SCHEMATIC DIAGRAM

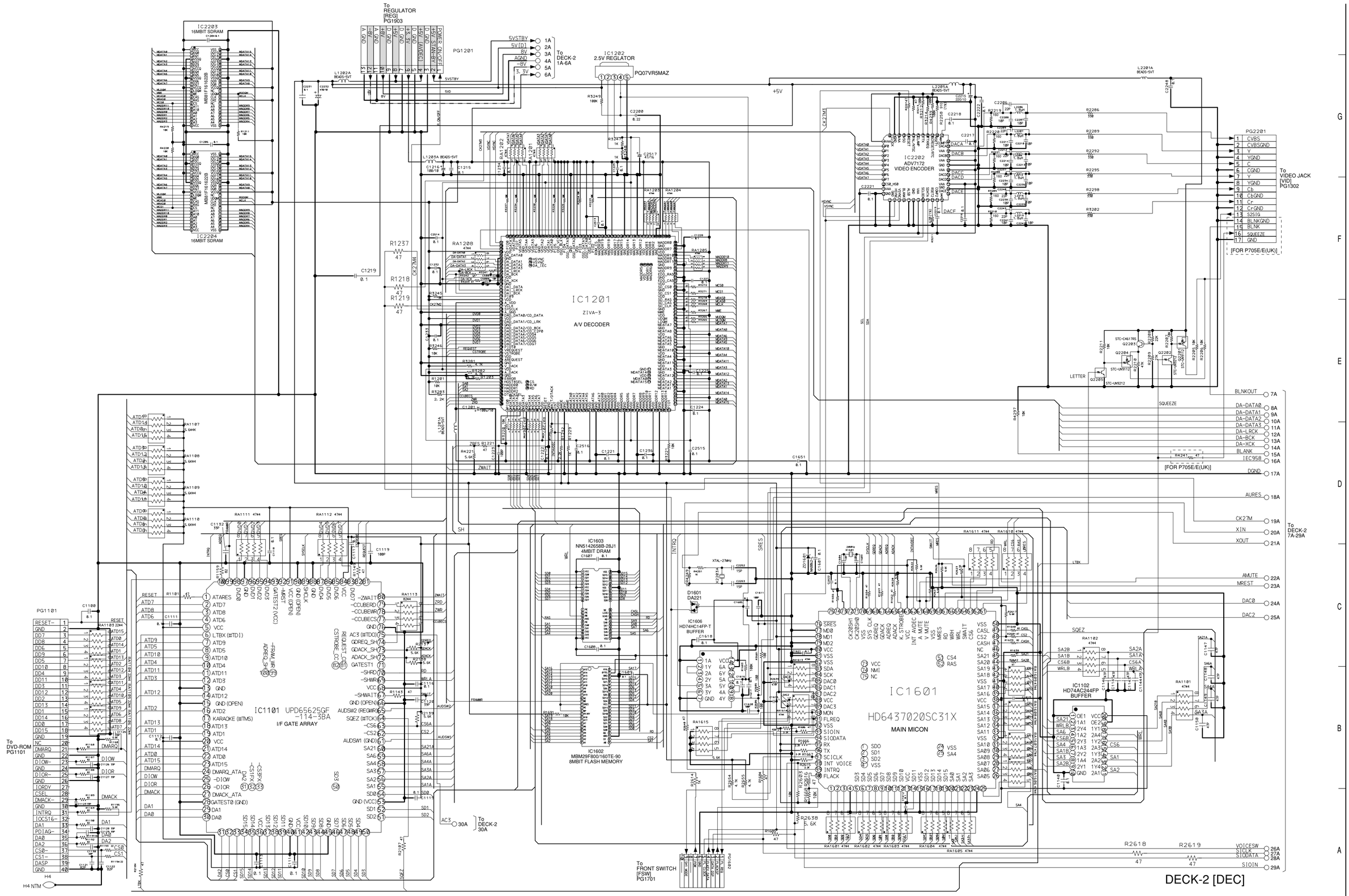


DECK-1 [DEC] SCHEMATIC DIAGRAM



DEC-1 [DEC]

DECK-2 [DEC] SCHEMATIC DIAGRAM



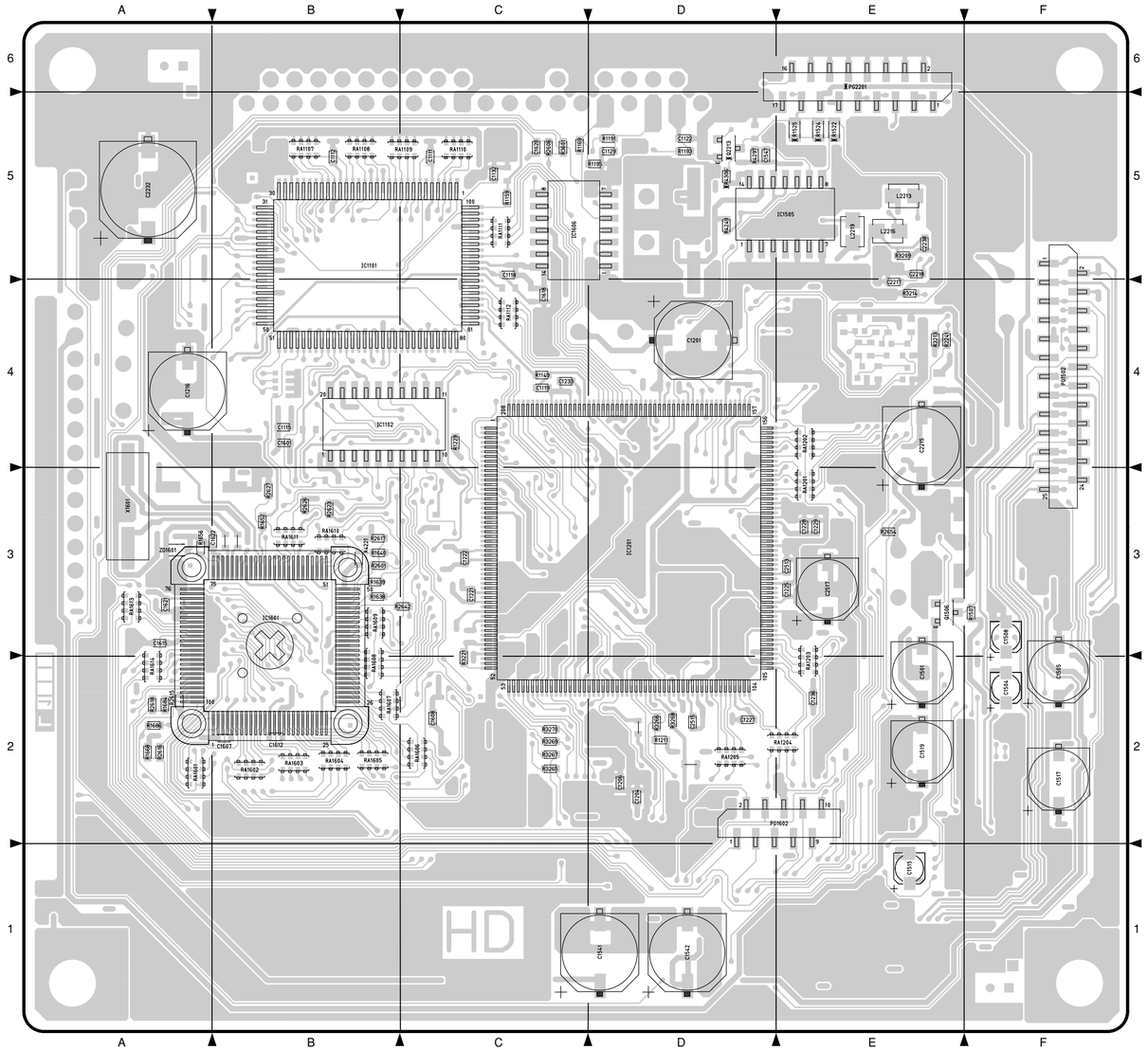
DEC CIRCUIT BOARD DIAGRAM

DIFFERENCE TABLE

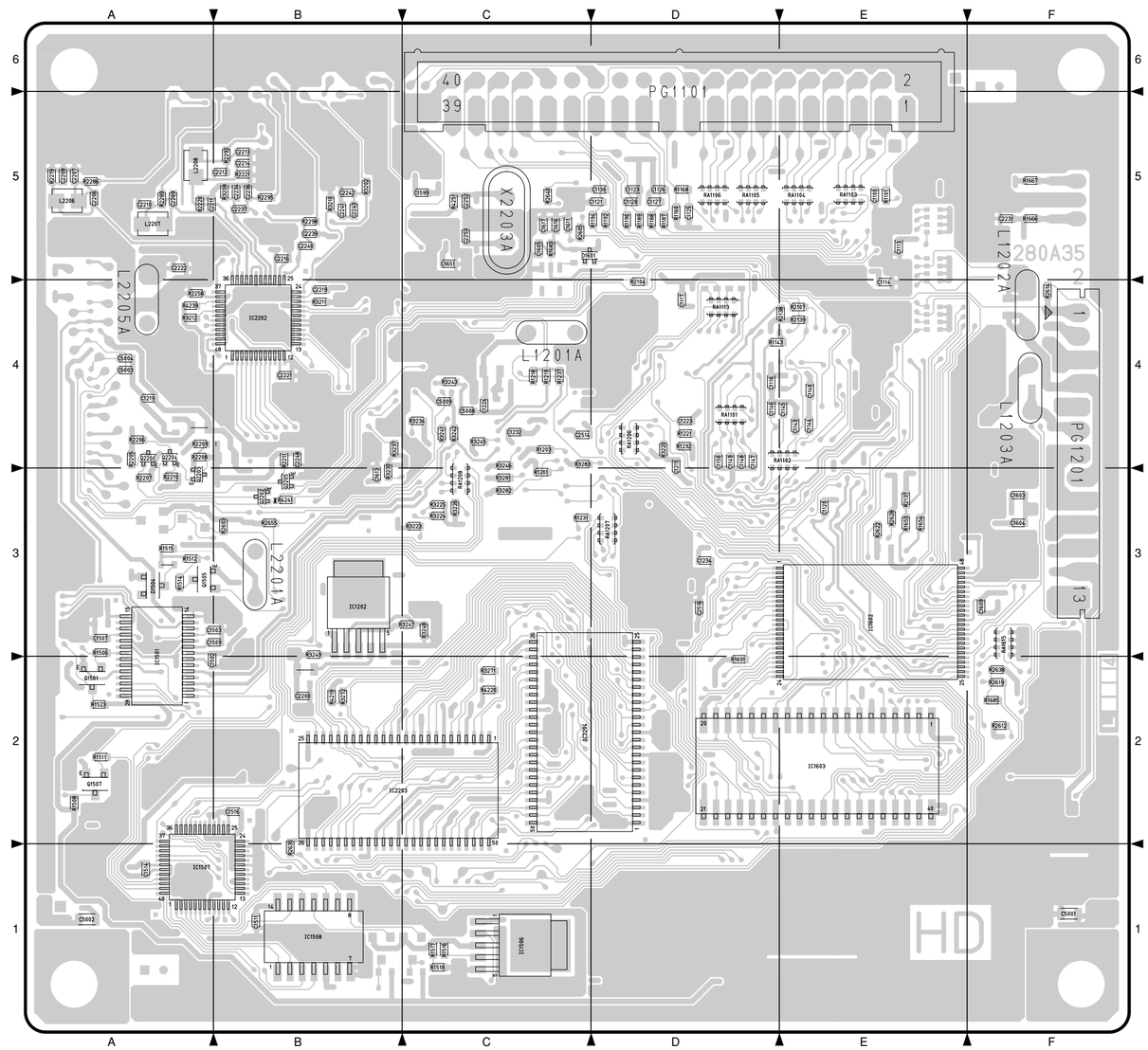
DEC

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

SYMBOL No.	P705E/E(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-



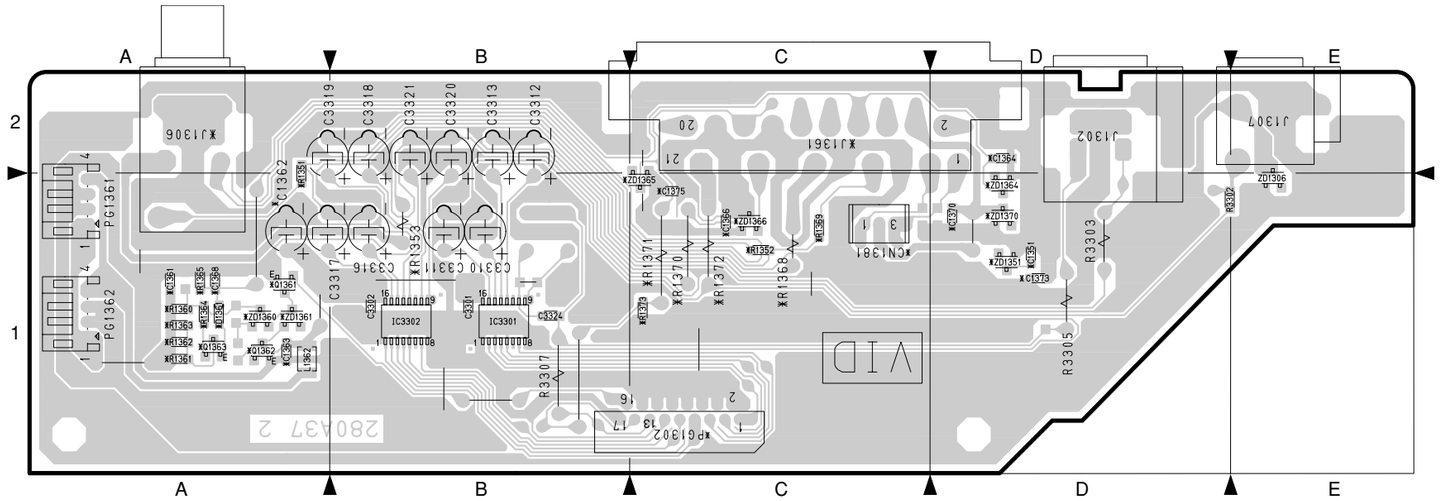
DEC [DECK] -SIDE B-
[PATTERN No. 280A35-2]

IDENTIFICATION OF PARTS LOCATION

DEC

Symbol No.	Parts Location
C	
C1100	B-5E
C1111	A-5C
C1112	A-5B
C1113	B-5E
C1114	B-4E
C1115	A-4B
C1116	B-4D
C1117	B-4D
C1118	A-5C
C1119	A-4C
C1120	B-3E
C1121	B-5D
C1122	A-5D
C1123	B-5D
C1125	B-5D
C1126	B-5D
C1127	B-5D
C1128	B-5D
C1129	A-5D
C1130	B-5D
C1132	A-5C
C1140	B-4E
C1143	B-4E
C1144	B-4E
C1145	B-4E
C1146	B-4D
C1147	B-4D
C1148	B-4D
C1149	B-4D
C1150	B-4D
C1201	A-4D
C1204	A-2D
C1206	A-2D
C1215	B-4D
C1216	A-4A
C1219	B-4A
C1221	A-3C
C1222	A-3C
C1223	B-4D
C1224	B-4C
C1225	A-3E
C1227	A-2D
C1228	A-3E
C1229	A-3E
C1232	B-4C
C1233	A-4C
C1234	B-3D
C1236	A-2E
C1501	A-2E
C1502	B-2A
C1503	B-3B
C1504	A-2F
C1505	A-2F
C1507	B-3A
C1508	A-3F
C1509	B-3B
C1511	B-1B
C1514	B-1A
C1515	A-1E
C1516	B-2B
C1517	A-2F
C1519	A-2E
C1541	A-1D
C1542	A-1D
C1547	A-5D
C1599	B-5C
C1601	A-4B
C1603	B-3F
C1604	B-3F
C1605	B-5C
C1607	A-2B
C1608	A-2C
C1609	B-3F
C1611	B-5C
C1612	A-2B
C1613	B-3B
C1615	A-3A
C1616	B-5C
C1617	B-5C
C1618	A-4C
C1620	A-5C
C1621	A-3A
C1622	A-3A
C1651	B-5C
C2200	B-2B
C2206	B-5A
C2207	B-5A
C2208	B-5A
C2209	B-5A
C2210	B-5A
C2211	B-5A
C2212	B-5B
C2213	B-5B
C2214	B-5B
C2215	A-4E
C2216	B-5B
C2217	A-4E
C2218	A-5E
C2219	B-4B
C2221	B-4B
C2222	B-5A
C2231	B-5F
C2232	A-5A
C2234	B-5B
C2236	B-5B
C2237	B-5B
C2238	A-5E
C2239	B-5B
C2240	B-5B
C2241	B-5B
C2242	B-5B
C2243	B-5B
C2248	B-4B
C2252	B-5C
C2253	B-5C
C2513	A-3E
C2514	B-4C
C2515	A-2D
C2516	B-3D
C2517	A-3E
C5001	B-1F
C5002	B-1A
C5003	B-4A
C5004	B-4A
C5008	B-4C
C5009	B-4C
D	
D1504	B-3A
D1601	B-5C
IC	
IC1101	A-5B
IC1102	A-4B
IC1201	A-3D
IC1202	B-3B
IC1501	B-2A
IC1505	A-5E
IC1506	B-1C
IC1507	B-1A
IC1508	B-1B
IC1601	A-3B
IC1602	B-3E
IC1603	B-2E
IC1606	A-5C
IC2202	B-4B
IC2203	B-2B
IC2204	B-2C
L	
L1201A	B-4C
L1202A	B-4F
L1203A	B-4F
L2201A	B-3B
L2205A	B-4A
L2206	B-5A
L2207	B-5A
L2208	B-5A
L2213	A-5E
L2216	A-5E
L2219	A-5E
PG	
PG1101	B-5D
PG1201	B-4F
PG1502	A-4F
PG1602	A-2E
PG2201	A-6E
Q	
Q1501	B-2A
Q1505	B-3A
Q1506	A-3E
Q1507	B-2A
Q2201	B-4A
Q2202	B-3B
Q2203	B-3A
Q2204	B-4A
Q2205	B-3B
Q2213	A-5D
R	
R1101	B-5E
R1143	B-4D
R1149	A-4C
R1159	A-5C
R1160	B-5D
R1168	B-5D
R1169	A-5C
R1187	B-5D
R1188	B-5D
R1189	B-5D
R1190	B-5D
R1191	A-5D
R1192	B-5D
R1193	A-5D
R1194	B-5D
R1195	A-5D
R1201	B-3C
R1203	B-4C
R1211	A-2D
R1218	B-4C
R1219	B-4C
R1221	B-4D
R1229	A-4C
R1231	B-3C
R1232	B-4D
R1237	B-4C
R1506	B-3A
R1507	A-3F
R1508	B-2A
R1511	B-2A
R1512	B-3A
R1514	B-3A
R1515	B-3A
R1516	B-1C
R1517	B-1C
R1518	B-1C
R1522	A-5E
R1523	B-2A
R1524	A-5E
R1525	A-5E
R1638	A-3B
R1639	A-3B
R1640	A-3B
R1652	A-3B
R1653	B-3E
R1654	B-3E
R1656	A-3A
R1666	B-5F
R1667	B-5F
R1668	A-2A
R1683	B-5C
R1684	A-2A
R1685	B-2F
R1686	A-2A
R1691	B-2D
R2104	B-4D
R2107	B-4E
R2137	B-3E
R2138	B-4E
R2139	B-4E
R2205	B-4A
R2206	B-4A
R2207	B-3A
R2208	B-4A
R2209	B-4A
R2210	B-3A
R2211	B-4B
R2219	B-5A
R2220	B-5A
R2221	B-5B
R2241	A-4E
R2258	B-4A
R2286	B-5A
R2289	B-5A
R2292	B-5B
R2295	B-5B
R2298	B-5B
R2601	A-3B
R2603	B-3B
R2605	B-5C
R2606	A-5C
R2612	B-2F
R2614	B-4F
R2615	A-2A
R2616	A-2A
R2617	A-3B
R2618	A-2A
R2619	B-2F
R2622	B-3E
R2623	A-3B
R2626	A-3B
R2627	A-3B
R2628	B-3E
R2635	B-1B
R2638	B-2F
R2640	B-5C
R2642	A-3C
R2654	A-3E
R2655	B-3B
R3202	B-5B
R3208	B-5B
R3209	A-5E
R3210	B-5B
R3211	B-4B
R3212	B-4A
R3213	A-4E
R3214	A-4E
R3220	B-4D
R3221	A-2C
R3223	B-3C
R3224	B-3C
R3225	B-3C
R3226	B-3C
R3230	B-3B
R3234	B-4C
R3237	B-4B
R3241	B-4C
R3242	B-4C
R3243	B-4C
R3245	B-4C
R3246	B-3C
R3247	B-3C
R3248	B-3C
R3249	B-3B
R3265	A-2C
R3266	A-2D
R3267	A-2C
R3268	A-2D
R3269	A-2C
R3270	A-2C
R3271	B-2C
R3272	B-2B
R3281	B-3C
R3282	B-3C
R3283	B-4C
R3601	A-5C
R4219	B-2B
R4220	B-2C
R4221	A-3B
R4239	B-4A
R4241	B-3B
R4249	A-5D
R4251	B-5C
R4297	A-5D
R4306	A-5D
RA	
RA1101	B-4D
RA1102	B-4E
RA1103	B-5E
RA1104	B-5E
RA1105	B-5D
RA1106	B-5D
RA1107	A-5B
RA1108	A-5B
RA1109	A-5C
RA1110	A-5C
RA1111	A-5C
RA1112	A-4C
RA1113	B-4D
RA1201	A-3E
RA1202	A-4E
RA1203	A-2E
RA1204	A-2E
RA1205	A-2D
RA1206	B-4D
RA1207	B-3D
RA1208	B-3C
RA1601	A-2A
RA1602	A-2B
RA1603	A-2B
RA1604	A-2B
RA1605	A-2B
RA1606	A-2C
RA1607	A-2B
RA1608	A-2B
RA1609	A-3B
RA1610	A-3B
RA1611	A-3B
RA1613	A-3A
RA1614	A-2A
RA1615	B-3F
X	
X1601	A-3A
X2203A	B-5C
ZD	
ZD1601	A-3A

VID CIRCUIT BOARD DIAGRAM



VID [VIDEO JACK]
[PATTERN No. 280A37-2]

VID

Symbol No.	Parts Location
C	
C1351	1D
C1361	1A
C1362	1A
C1363	1A
C1364	2D
C1366	1C
C1368	1A
C1370	1D
C1373	1D
C1375	1C
C3301	1B
C3302	1B
C3310	1B
C3311	1B
C3312	2B
C3313	2B
C3316	1B
C3317	1B
C3318	2B
C3319	2B
C3320	2B
C3321	2B
C3324	1B
CN	
CN1381	1C
D	
D1361	1A
IC	
IC3301	1B
IC3302	1B
J	
J1302	2D
J1306	2A
J1307	2E
J1361	2C
L	
L1362	1A
PG	
PG1302	1C
PG1361	1A
PG1362	1A
Q	
Q1361	1A
Q1362	1A
Q1363	1A
R	
R1351	1A
R1352	1C
R1353	1B
R1360	1A
R1361	1A
R1362	1A
R1363	1A
R1364	1A
R1365	1A
R1368	1C
R1369	1C
R1370	1C
R1371	1C
R1372	1C
R1373	1C
R3302	1D
R3303	1D
R3305	1D
R3307	1B
ZD	
ZD1306	1E
ZD1351	1D
ZD1360	1A
ZD1361	1A
ZD1364	1D
ZD1365	1C
ZD1366	1C
ZD1370	1D

DIFFERENCE TABLE

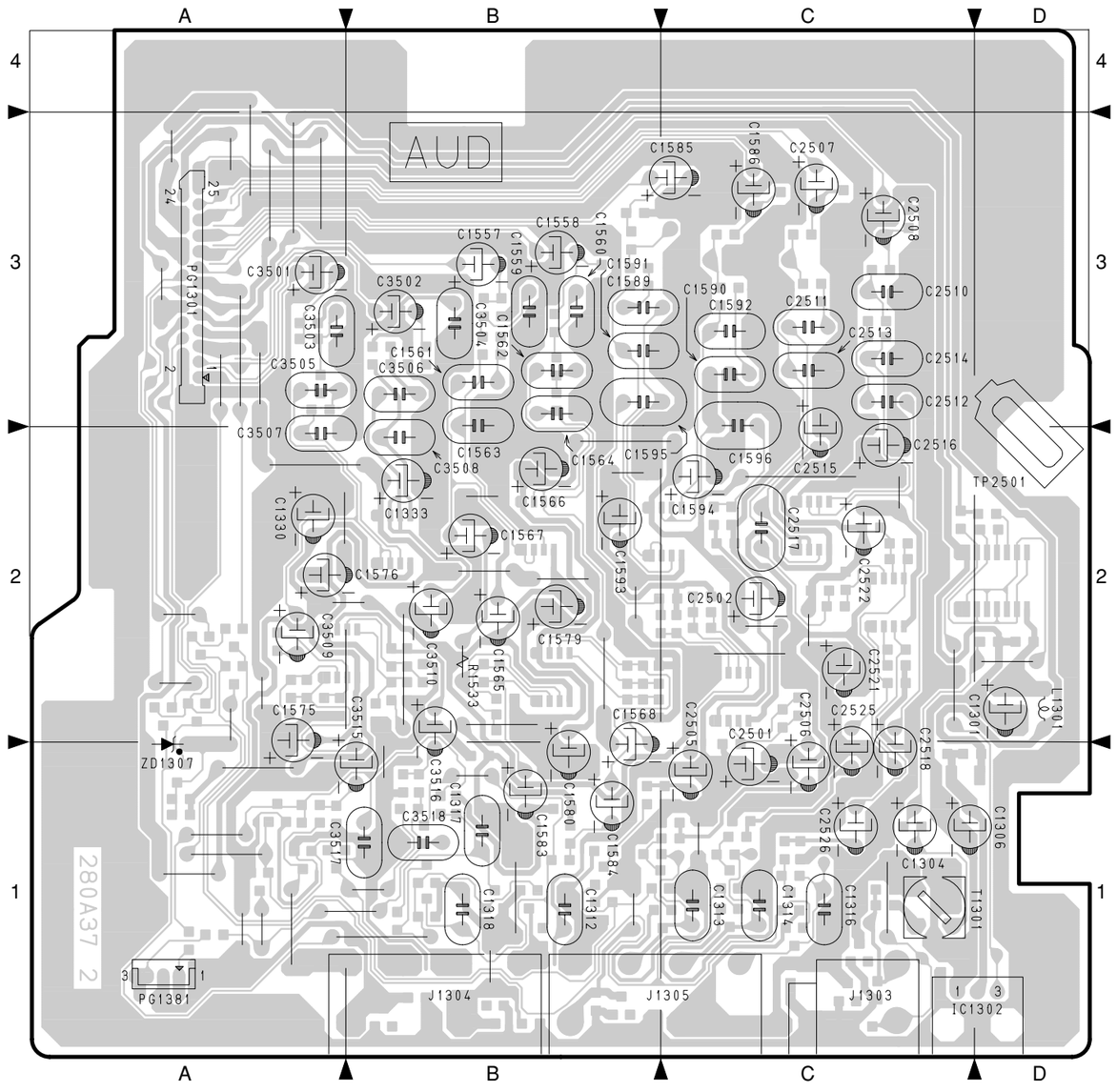
VID

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

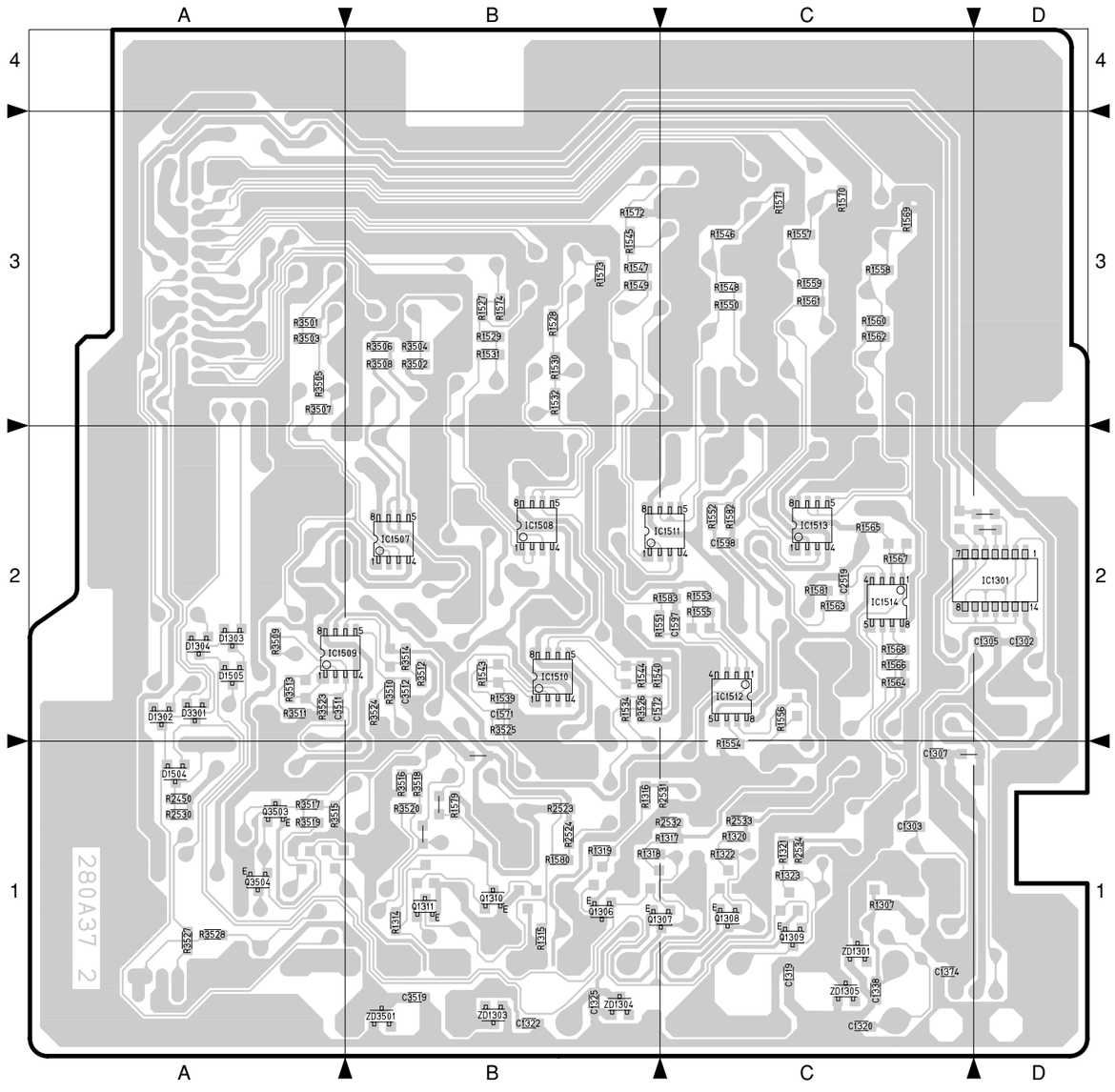
SYMBOL No.	P705E/E(UK)	P705U	Parts Location
C1351	×	○	1D
C1361	○	×	1A
C1362	○	×	1A
C1363	○	×	1A
C1364	○	×	2D
C1366	○	×	1C
C1368	○	×	1A
C1370	○	×	1D
C1373	○	×	1D
C1375	○	×	1C
CN1381	○	×	1C
D1361	○	×	1A
J1306	×	○	2A
J1361	○	×	2C
PG1302	17P	13P	1C
Q1361	○	×	1A
Q1362	○	×	1A
Q1363	○	×	1A
R1351	×	○	1A
R1352	×	○	1C

SYMBOL No.	P705E/E(UK)	P705U	Parts Location
R1353	×	○	1B
R1360	○	×	1A
R1361	○	×	1A
R1362	○	×	1A
R1363	○	×	1A
R1364	○	×	1A
R1365	○	×	1A
R1368	○	×	1C
R1369	○	×	1C
R1370	○	×	1C
R1371	○	×	1C
R1372	○	×	1C
R1373	○	×	1C
ZD1351	×	○	1D
ZD1360	○	×	1A
ZD1361	○	×	1A
ZD1364	○	×	1D
ZD1365	○	×	1C
ZD1366	○	×	1C
ZD1370	○	×	1D

AUD CIRCUIT BOARD DIAGRAM



AUD [AUDIO JACK] -SIDE A-



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

DIFFERENCE TABLE

AUD

NOTE: This table listes 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
C	
C1301	A-2D
C1302	B-2D
C1303	B-1C
C1304	A-1C
C1305	B-2D
C1306	A-1C
C1307	B-1C
C1312	A-1B
C1313	A-1C
C1314	A-1C
C1316	A-1C
C1317	A-1B
C1318	A-1B
C1319	B-1C
C1320	B-1C
C1322	B-1B
C1325	B-1B
C1330	A-2A
C1333	A-2B
C1338	B-1C
C1374	B-1C
C1557	A-3B
C1558	A-3B
C1559	A-3B
C1560	A-3B
C1561	A-3B
C1562	A-3B
C1563	A-2B
C1564	A-3B
C1565	A-2B
C1566	A-2B
C1567	A-2B
C1568	A-2B
C1571	B-2B
C1572	B-2B
C1575	A-2A
C1576	A-2A
C1579	A-2B
C1580	A-1B
C1583	A-1B
C1584	A-1B
C1585	A-3C
C1586	A-3C
C1589	A-3B
C1590	A-3C
C1591	A-3B
C1592	A-3C
C1593	A-2B
C1594	A-2C
C1595	A-3B
C1596	A-2C
C1597	B-2C
C1598	B-2C
C2501	A-1C
C2502	A-2C
C2505	A-1C
C2506	A-1C

Symbol No.	Parts Location
C2507	A-3C
C2508	A-3C
C2510	A-3C
C2511	A-3C
C2512	A-3C
C2513	A-3C
C2514	A-3C
C2515	A-2C
C2516	A-2C
C2517	A-2C
C2518	A-1C
C2519	B-2C
C2521	A-2C
C2522	A-2C
C2525	A-1C
C2526	A-1C
C3501	A-3A
C3502	A-3B
C3503	A-3A
C3504	A-3B
C3505	A-3A
C3506	A-3B
C3507	A-2A
C3508	A-2B
C3509	A-2A
C3510	A-2B
C3511	B-2A
C3512	B-2B
C3515	A-1B
C3516	A-2B
C3517	A-1B
C3518	A-1B
C3519	B-1B
D	
D1302	B-2A
D1303	B-2A
D1304	B-2A
D1504	B-1A
D1505	B-2A
D3301	B-2A
IC	
IC1301	B-2D
IC1302	A-1D
IC1507	B-2B
IC1508	B-2B
IC1509	B-2A
IC1510	B-2B
IC1511	B-2C
IC1512	B-2C
IC1513	B-2C
IC1514	B-2C
J	
J1303	A-1C
J1304	A-1B
J1305	A-1B
L	
L1301	A-2D
PG	

Symbol No.	Parts Location
PG1301	A-3A
PG1381	A-1A
Q	
Q1306	B-1B
Q1307	B-1C
Q1308	B-1C
Q1309	B-1C
Q1310	B-1B
Q1311	B-1B
Q3503	B-1A
Q3504	B-1A
R	
R1307	B-1C
R1314	B-1B
R1315	B-1B
R1316	B-1B
R1317	B-1C
R1318	B-1B
R1319	B-1B
R1320	B-1C
R1321	B-1C
R1322	B-1C
R1323	B-1C
R1527	B-3B
R1528	B-3B
R1529	B-3B
R1530	B-3B
R1531	B-3B
R1532	B-3B
R1533	A-2B
R1534	B-2B
R1539	B-2B
R1540	B-2B
R1543	B-2B
R1544	B-2B
R1545	B-3B
R1546	B-3C
R1547	B-3B
R1548	B-3C
R1549	B-3B
R1550	B-3C
R1551	B-2B
R1552	B-2C
R1553	B-2C
R1554	B-1C
R1555	B-2C
R1556	B-2C
R1557	B-3C
R1558	B-3C
R1559	B-3C
R1560	B-3C
R1561	B-3C
R1562	B-3C
R1563	B-2C
R1564	B-2C
R1565	B-2C
R1566	B-2C
R1567	B-2C

Symbol No.	Parts Location
R1568	B-2C
R1569	B-3C
R1570	B-3C
R1571	B-3C
R1572	B-3B
R1573	B-3B
R1574	B-3B
R1579	B-1B
R1580	B-1B
R1581	B-2C
R1582	B-2C
R1583	B-2C
R2450	B-1A
R2523	B-1B
R2524	B-1B
R2530	B-1A
R2531	B-1C
R2532	B-1C
R2533	B-1C
R2534	B-1C
R3501	B-3A
R3502	B-3B
R3503	B-3A
R3504	B-3B
R3505	B-3A
R3506	B-3B
R3507	B-3A
R3508	B-3B
R3509	B-2A
R3510	B-2B
R3511	B-2A
R3512	B-2B
R3513	B-2A
R3514	B-2B
R3515	B-1A
R3516	B-1B
R3517	B-1A
R3518	B-1B
R3519	B-1A
R3520	B-1B
R3523	B-2A
R3524	B-2B
R3525	B-2B
R3526	B-2B
R3527	B-1A
R3528	B-1A
T	
T1301	A-1C
TP	
TP2501	A-2D
ZD	
ZD1301	B-1C
ZD1303	B-1B
ZD1304	B-1B
ZD1305	B-1C
ZD1307	A-1A
ZD3501	B-1B

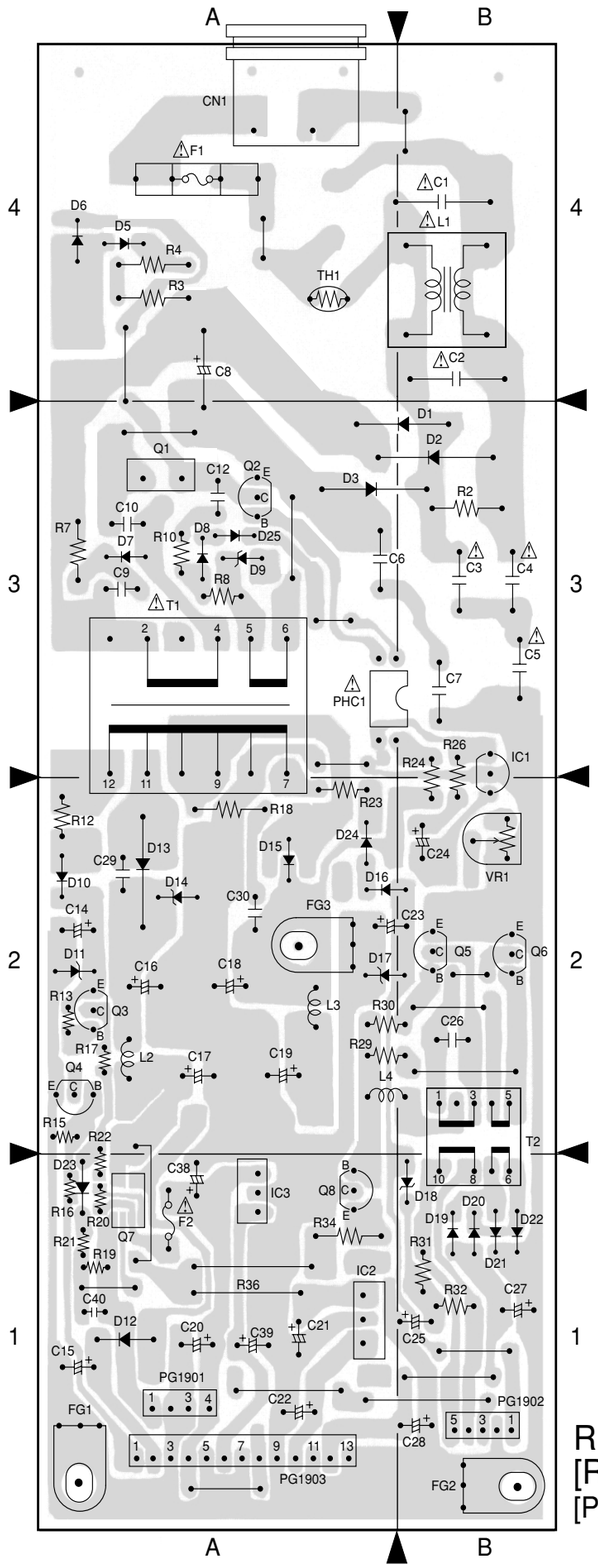
REG

Symbol No.	Parts Location
C	
C0001	4B
C0002	4B
C0003	3B
C0004	3B
C0005	3B
C0006	3A
C0007	3B
C0008	4A
C0009	3A
C0010	3A
C0012	3A
C0014	2A
C0015	1A
C0016	2A
C0017	2A
C0018	2A
C0019	2A
C0020	1A
C0021	1A
C0022	1A
C0023	2A
C0024	2B
C0025	1B
C0026	2B
C0027	1B
C0028	1B
C0029	2A
C0030	2A
C0038	1A
C0039	1A
C0040	1A
CN	
CN0001	4A
D	
D0001	3B
D0002	3B
D0003	3A
D0005	4A
D0006	4A
D0007	3A
D0008	3A
D0009	3A
D0010	2A
D0011	2A
D0012	1A
D0013	2A
D0014	2A
D0015	2A
D0016	2A
D0017	2A
D0018	1B
D0019	1B
D0020	1B
D0021	1B
D0022	1B
D0023	1A
D0024	2A

Symbol No.	Parts Location
D0025	3A
F	
F0001	4A
F0002	1A
FG	
FG0001	1A
FG0002	1B
FG0003	2A
IC	
IC0001	3B
IC0002	1A
IC0003	1A
L	
L0001	4B
L0002	2A
L0003	2A
L0004	2A
PG	
PG1901	1A
PG1902	1B
PG1903	1A
PHC	
PHC0001	3A
Q	
Q0001	3A
Q0002	3A
Q0003	2A
Q0004	2A
Q0005	2B
Q0006	2B
Q0008	1A
R	
R0002	3B
R0003	4A
R0004	4A
R0007	3A
R0008	3A
R0010	3A
R0012	2A
R0013	2A
R0015	2A
R0016	1A
R0017	2A
R0018	2A
R0019	1A
R0020	1A
R0021	1A
R0022	1A
R0023	2A
R0024	2B
R0026	3B
R0029	2A
R0030	2A
R0031	1B
R0032	1B
R0034	1A
R0036	1A
T	

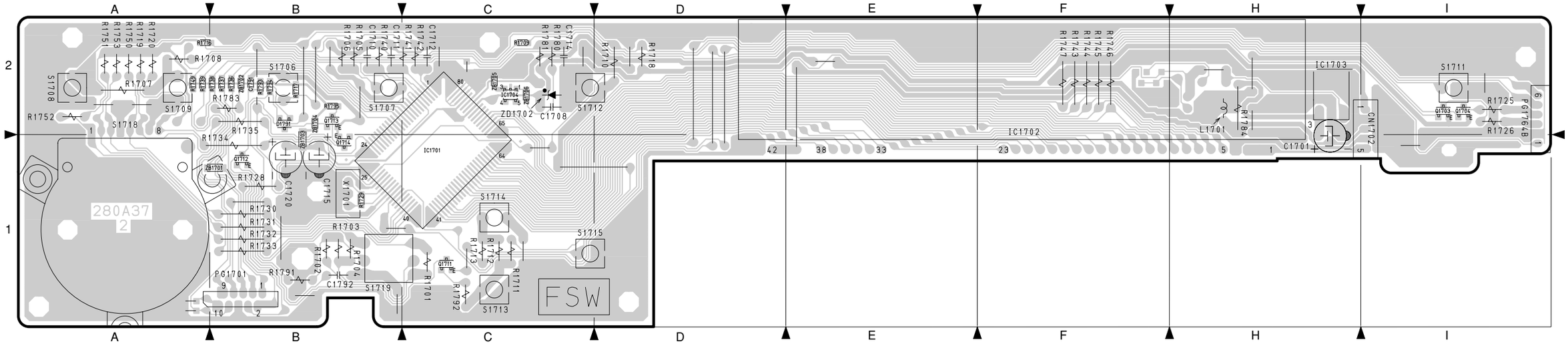
Symbol No.	Parts Location
T0001	3A
T0002	2B
TH	
TH0001	4A
VR	
VR0001	2B

REG CIRCUIT BOARD DIAGRAM

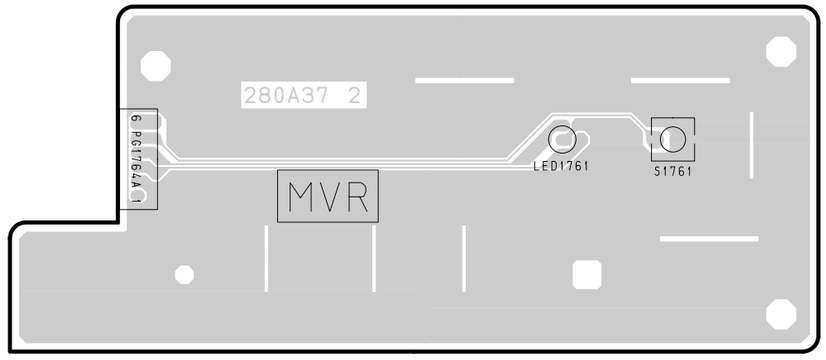


REG
[REGULATOR]
[PATTERN No. 257A27-2]

FSW, MVR CIRCUIT BOARD DIAGRAMS



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



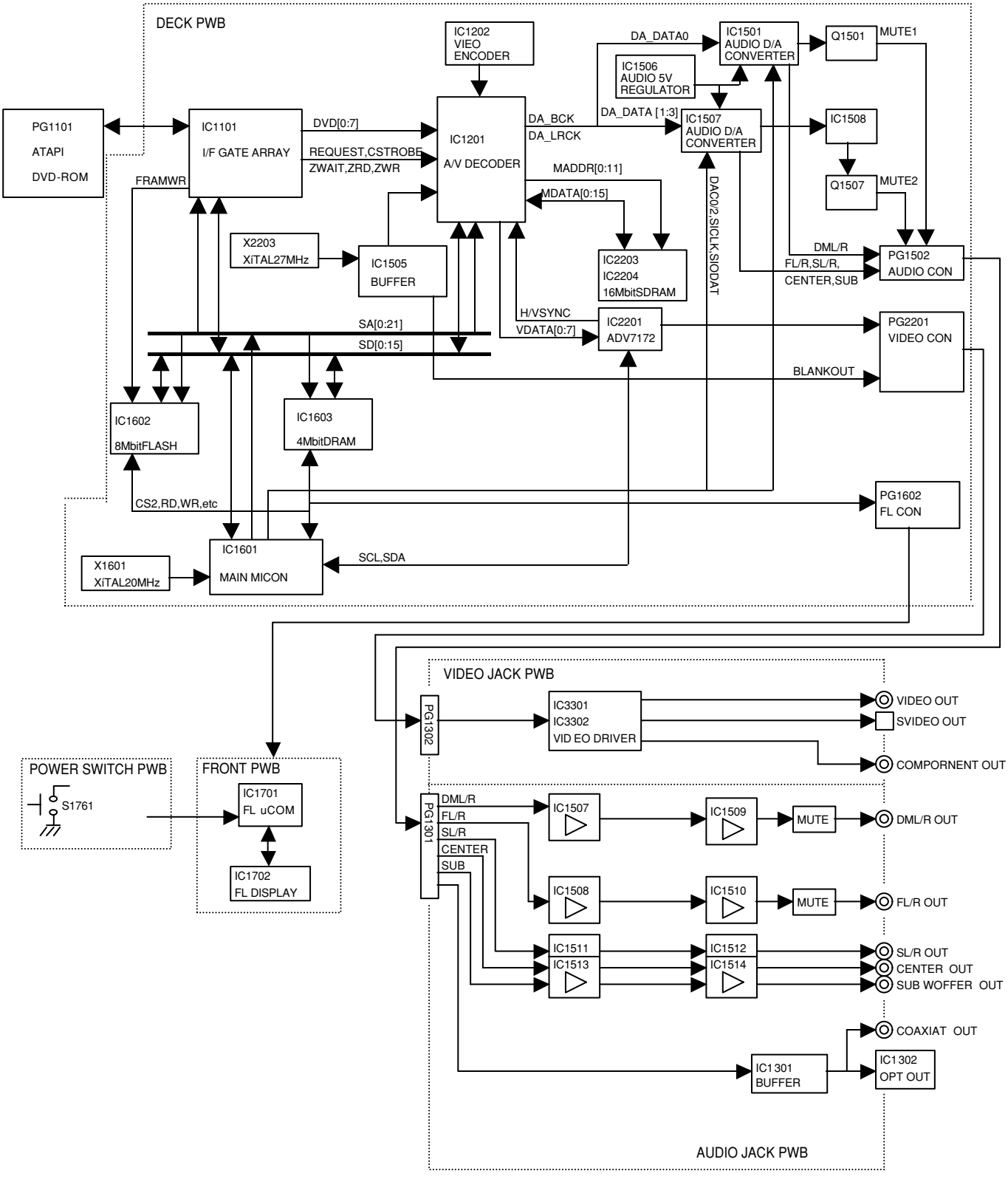
MVR [POWER SWITCH]
[PATTERN No. 280A37-2]

IDENTIFICATION OF PARTS LOCATION

FSW

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

BLOCK DIAGRAM



DV-P705E/E(UK)/U

HITACHI

DV-P705E/E(UK)/U

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

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