

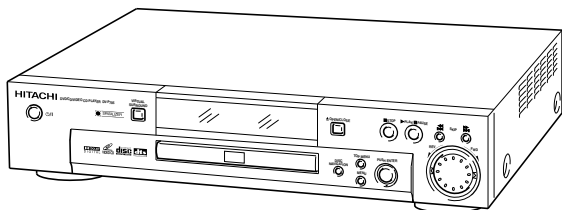
HITACHI

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.

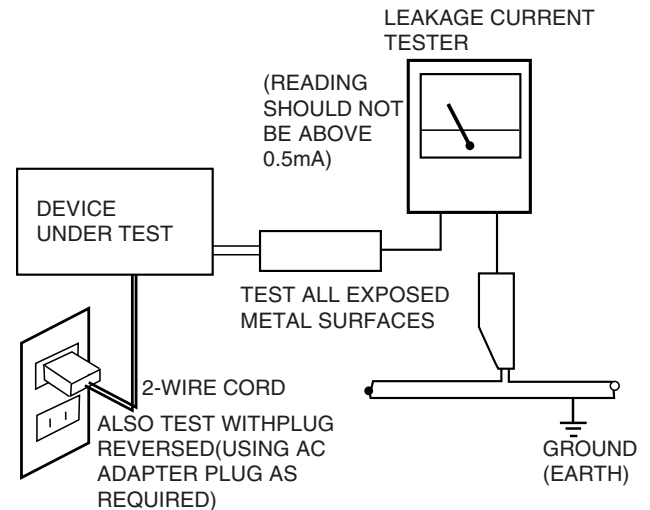
Leakage Current Cold Check

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.

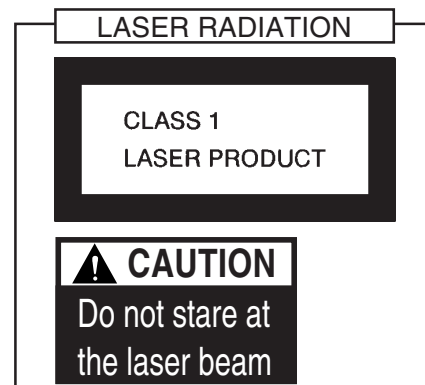


AC Leakage Test

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 |

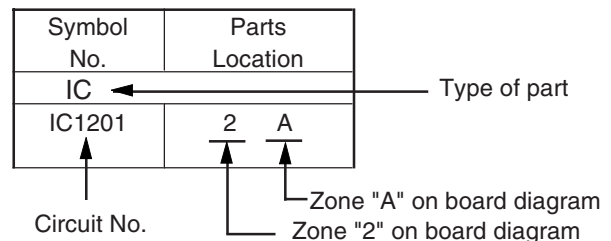
3. Identifications of sides A/B in circuit board diagrams

- 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.

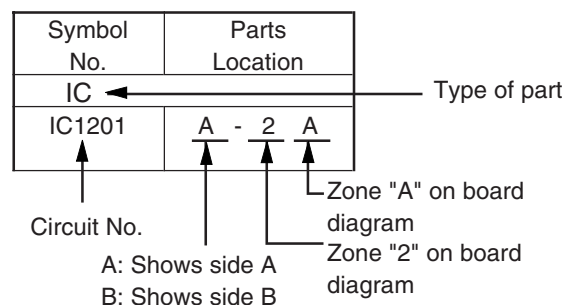
4. Table for indexing locations of parts

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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| SN ratio | 110dB | | | | | | | | | | | |
| Dynamic range | 100dB | | | | | | | | | | | |
| Total harmonic distortion rate | 0.003% | | | | | | | | | | | |
| Wow fluttertics | Measurement limit less than (±0.001% W.PEAK) (EIAJ) | | | | | | | | | | | |
| 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.

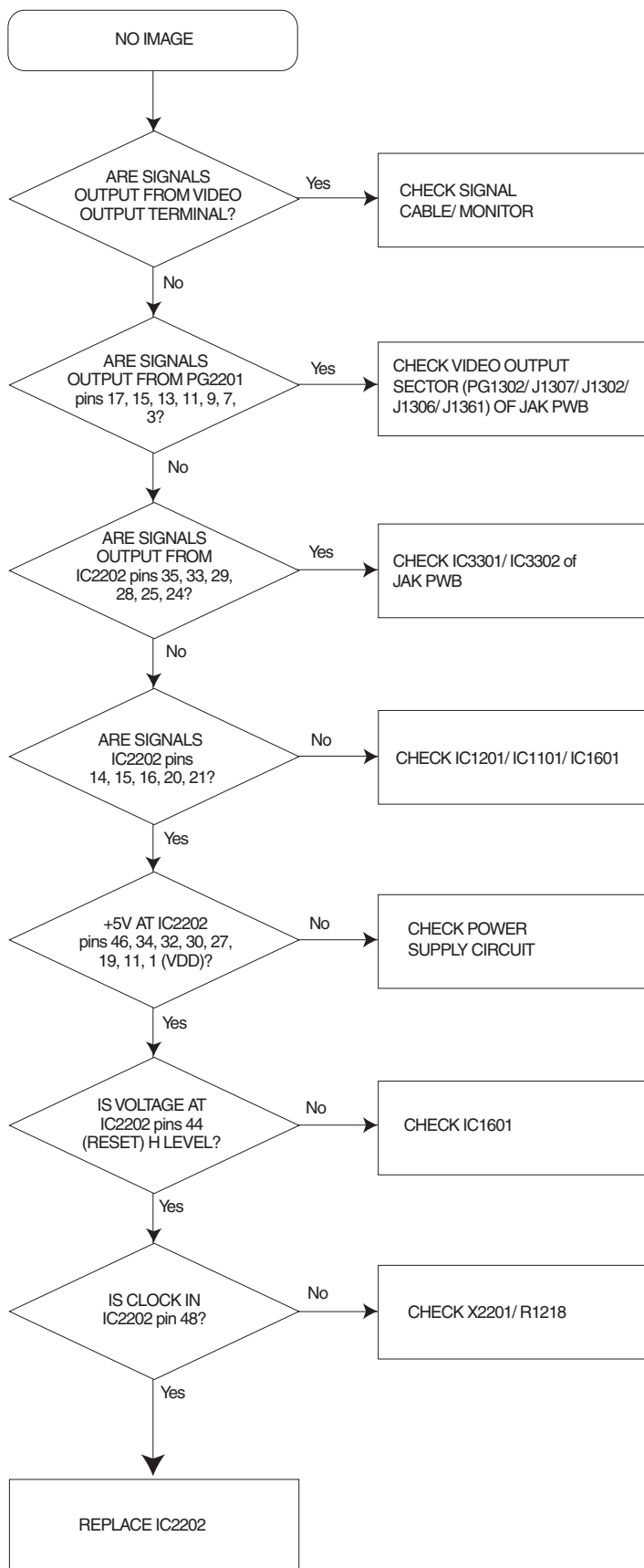
2. Comparison with Previous Model

| | 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 | --- |

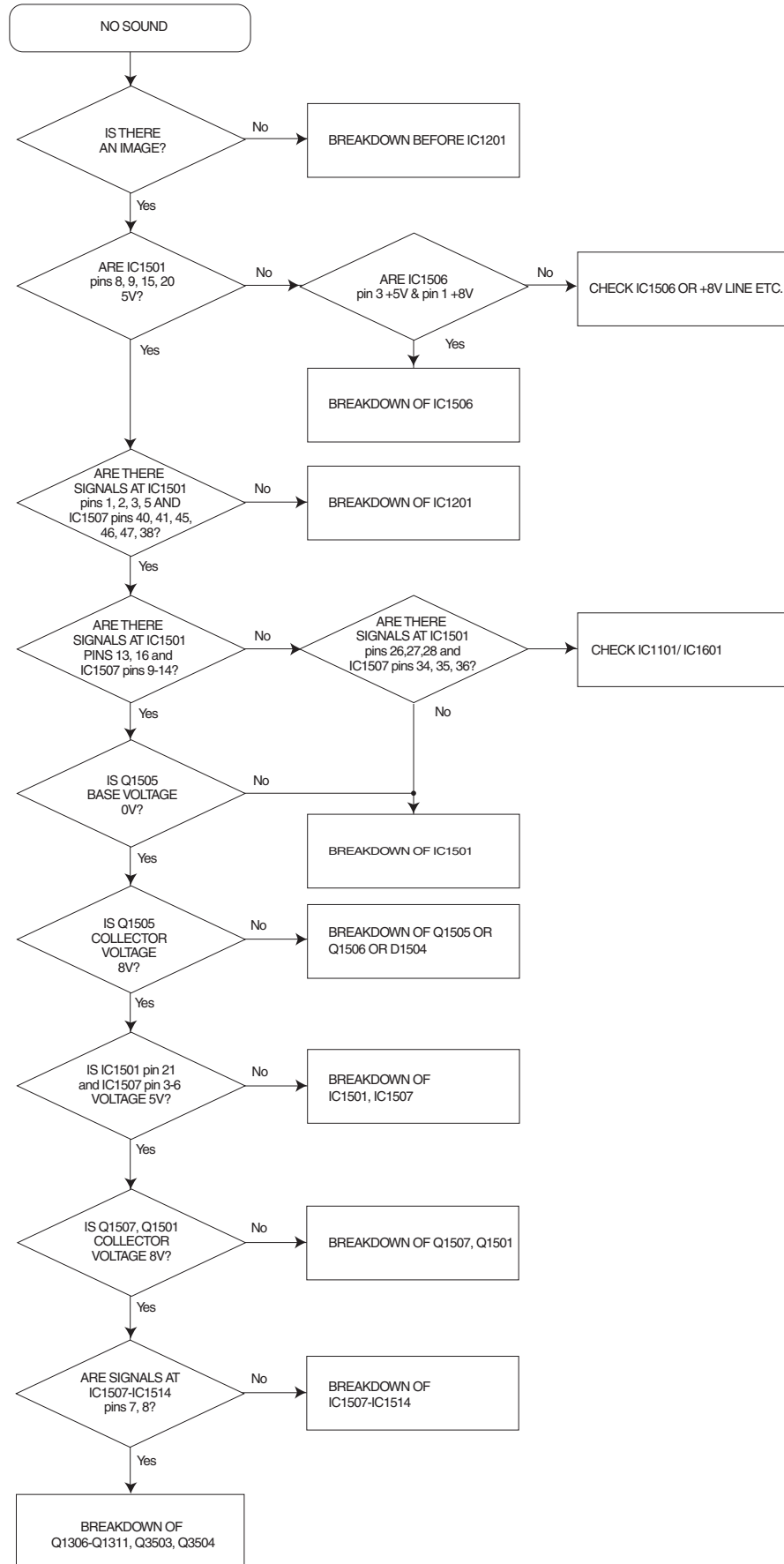
| | | |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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):

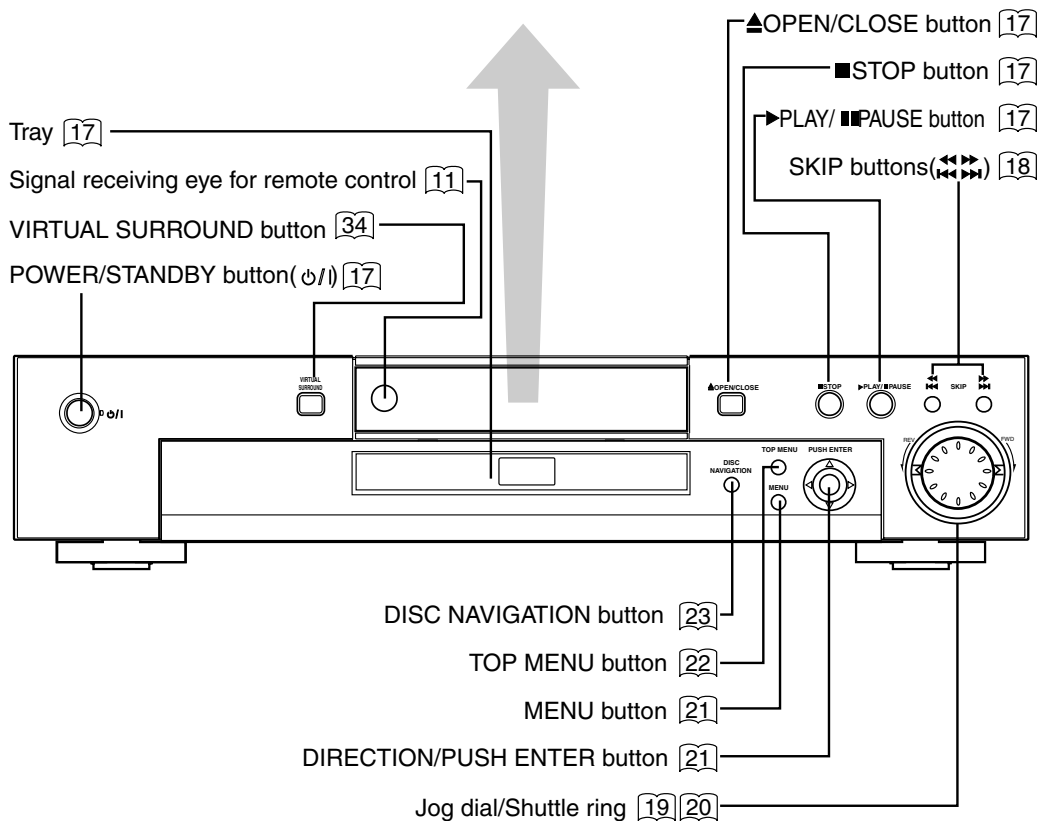
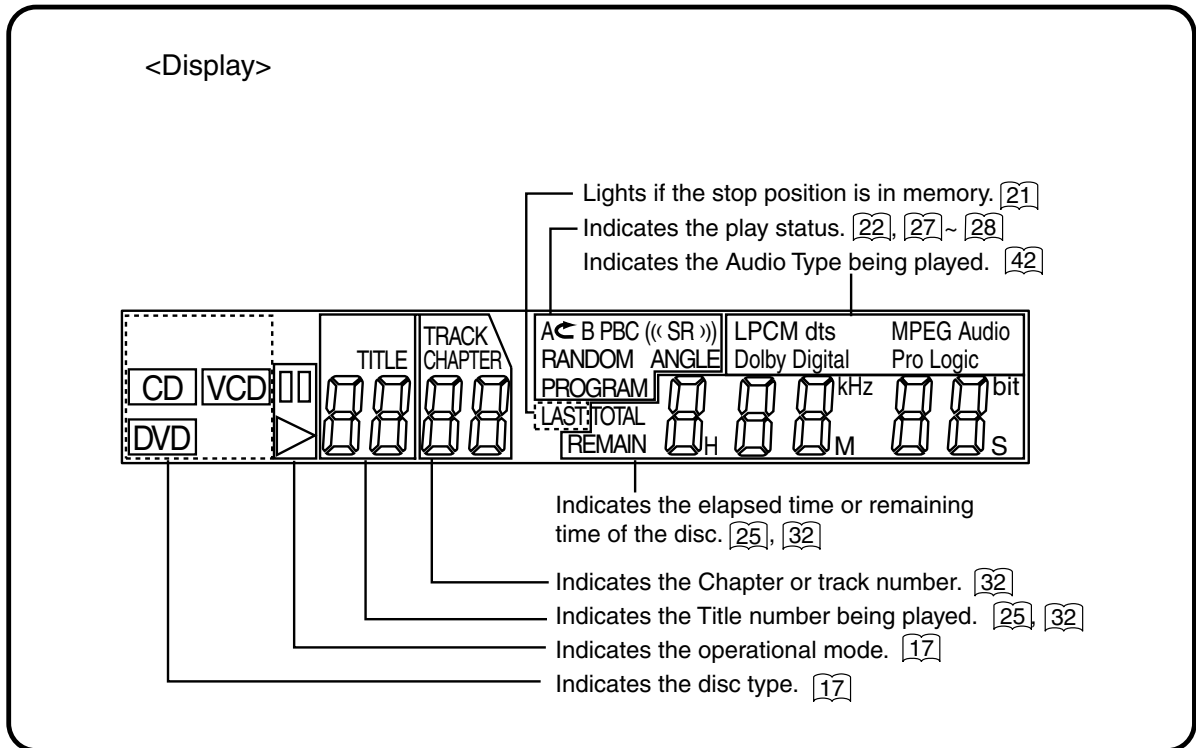
a-f of "aP20 bcdef" that appears in the display are defined in bits (displayed in octal notation).

| # | 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 |

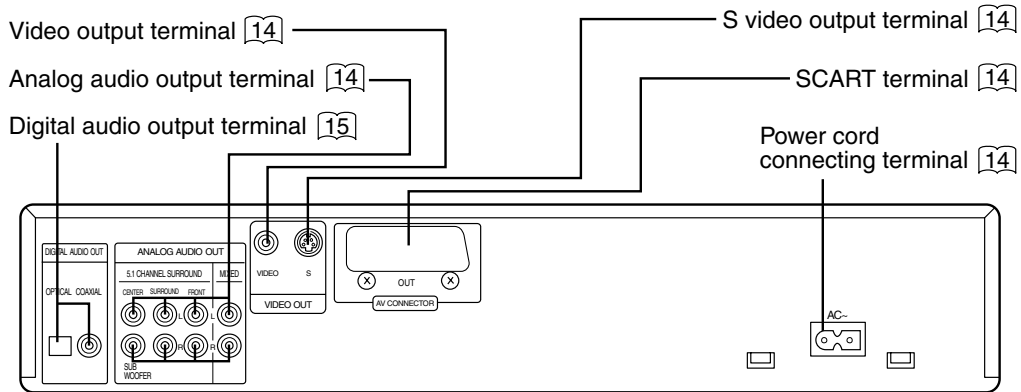
5. Instructions on Use

- DV-P705E/E(UK) -

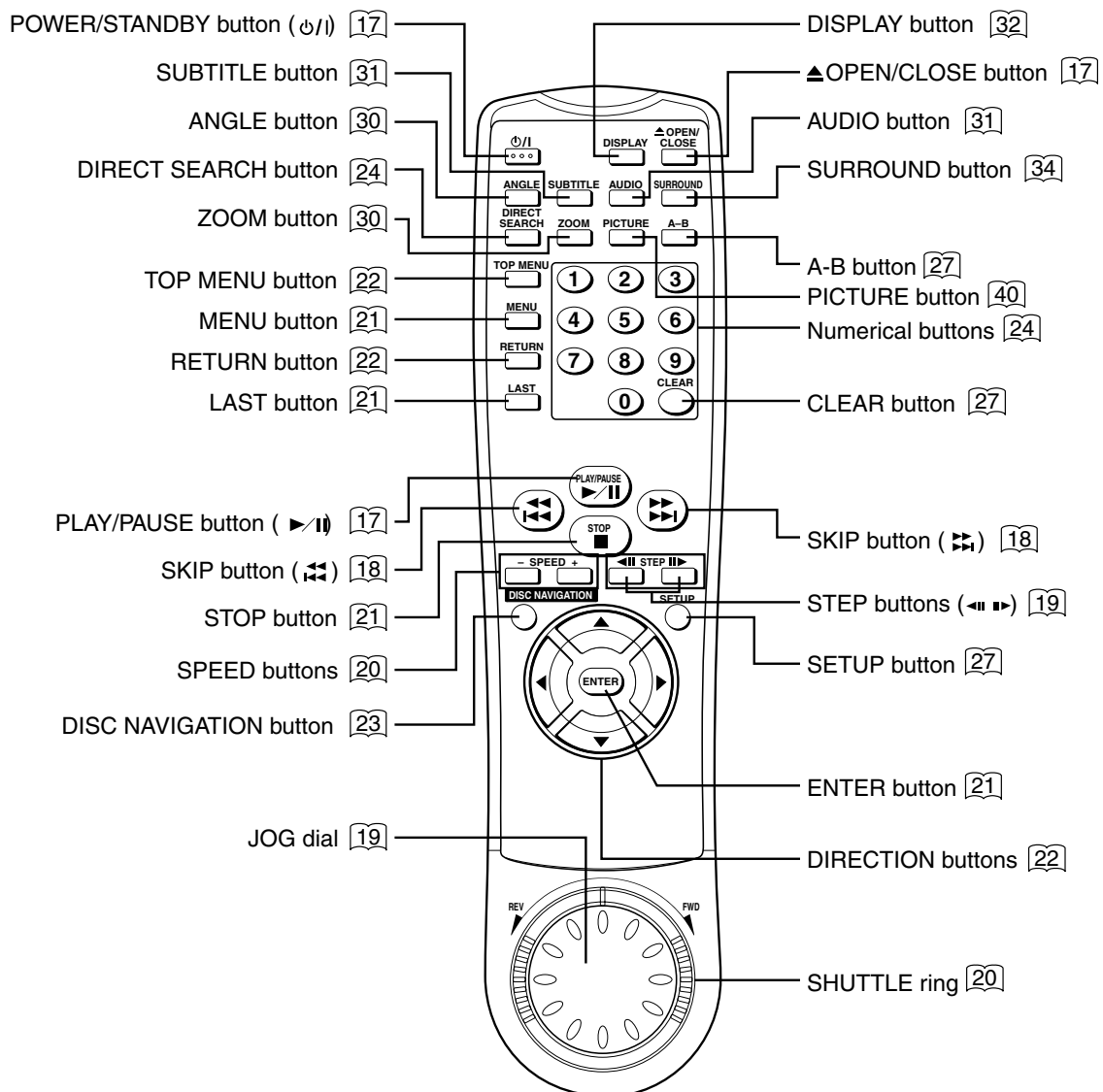
FRONT



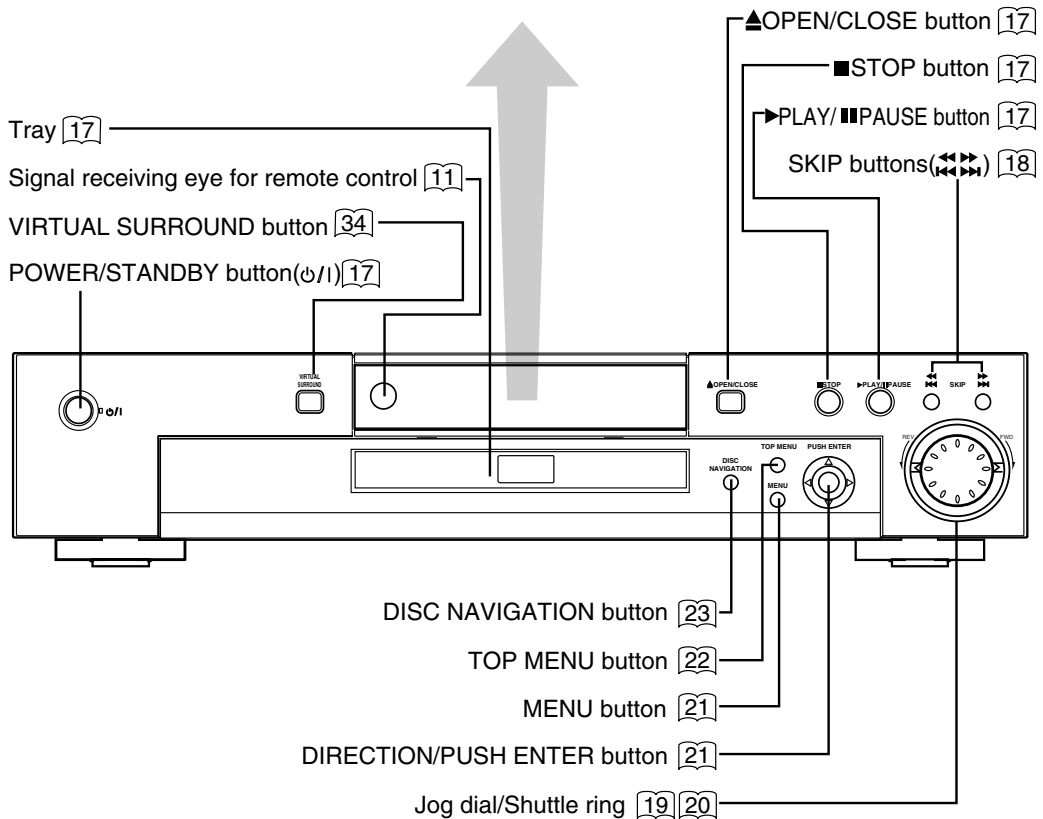
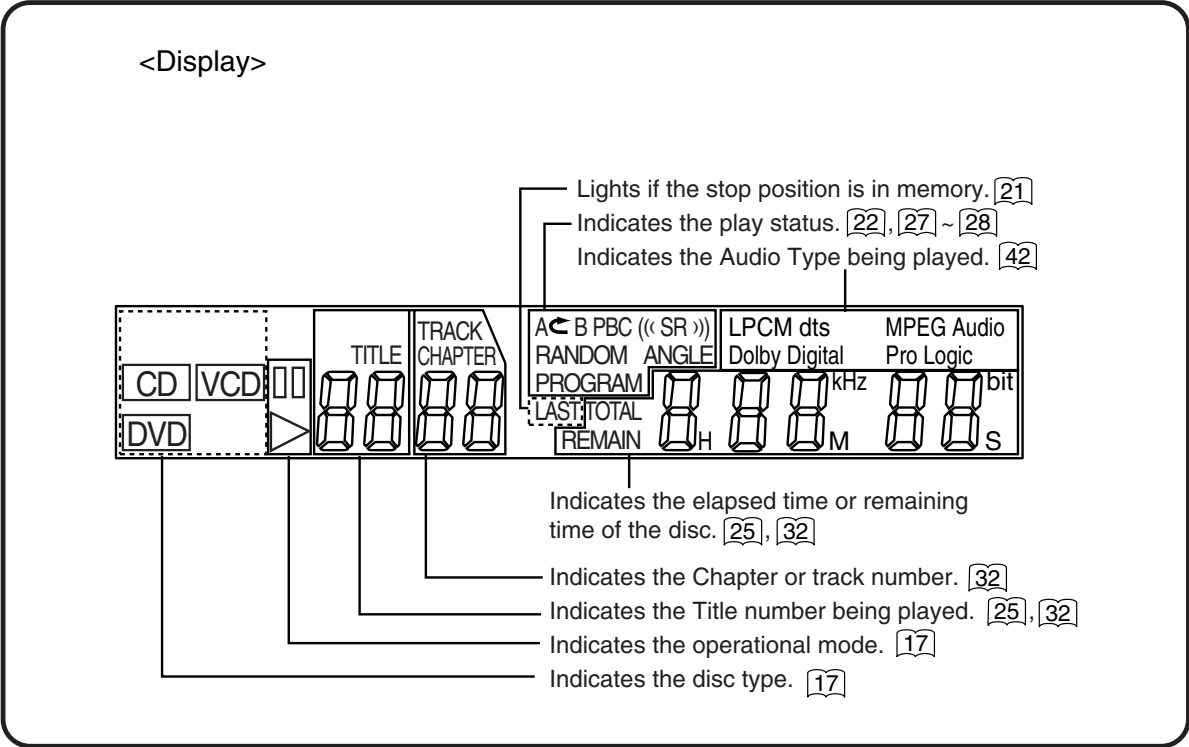
REAR VIEW



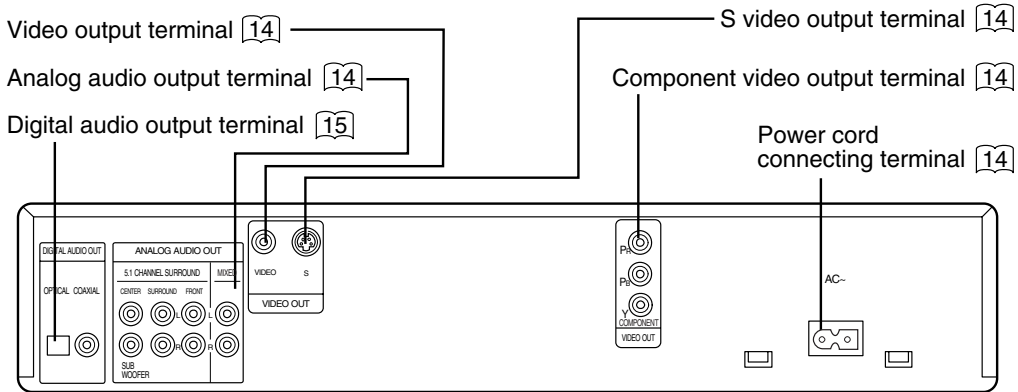
REMOTE CONTROL UNIT



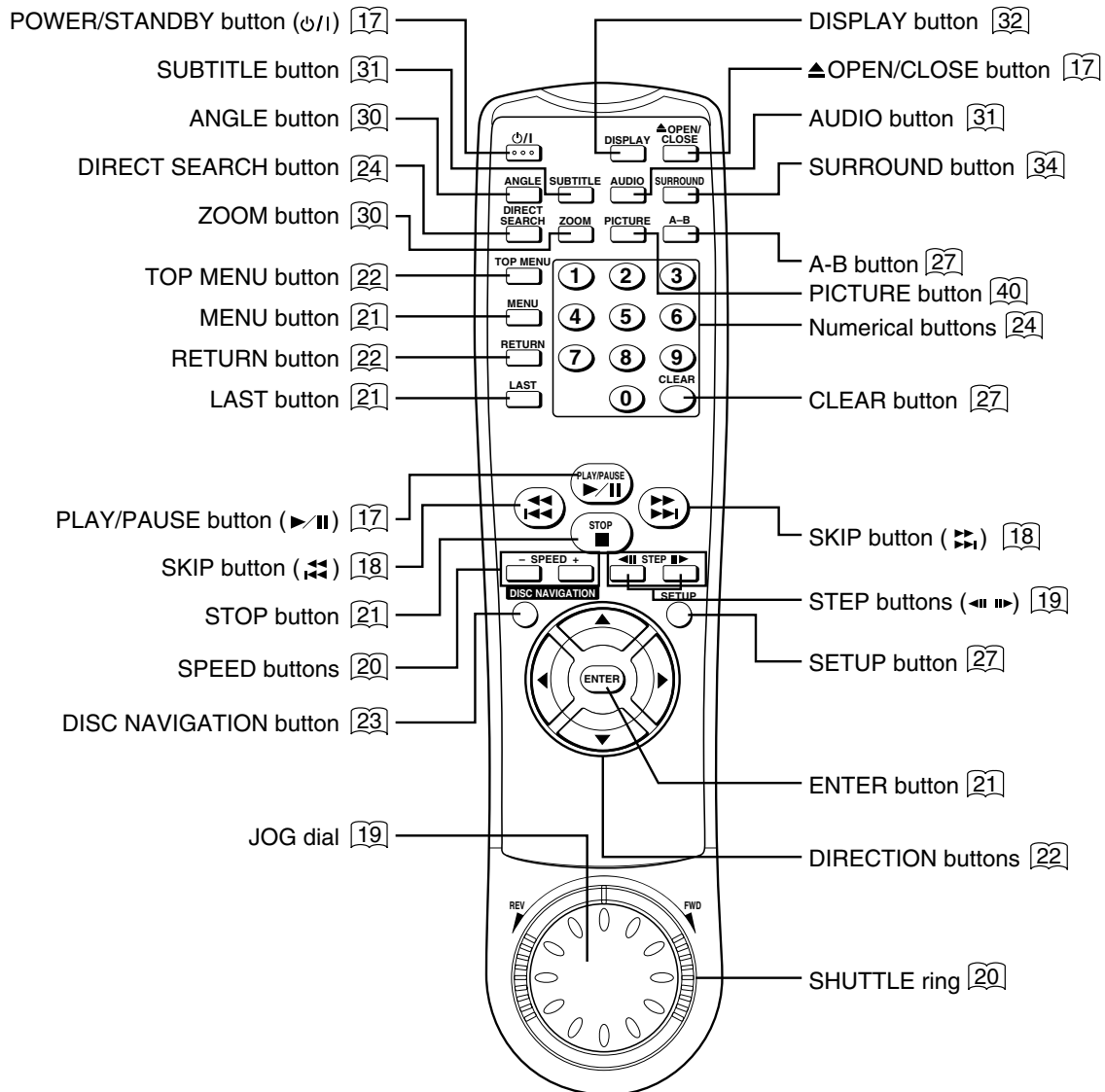
FRONT



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.

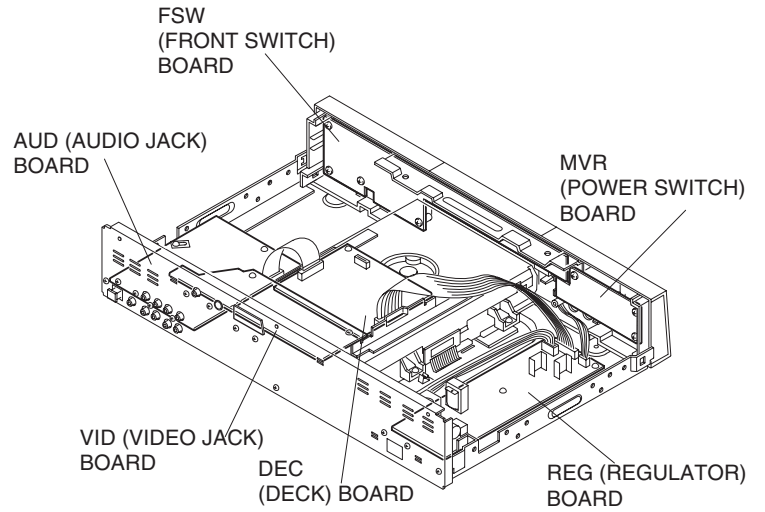


Fig. 1-1

2. Disassembly Method

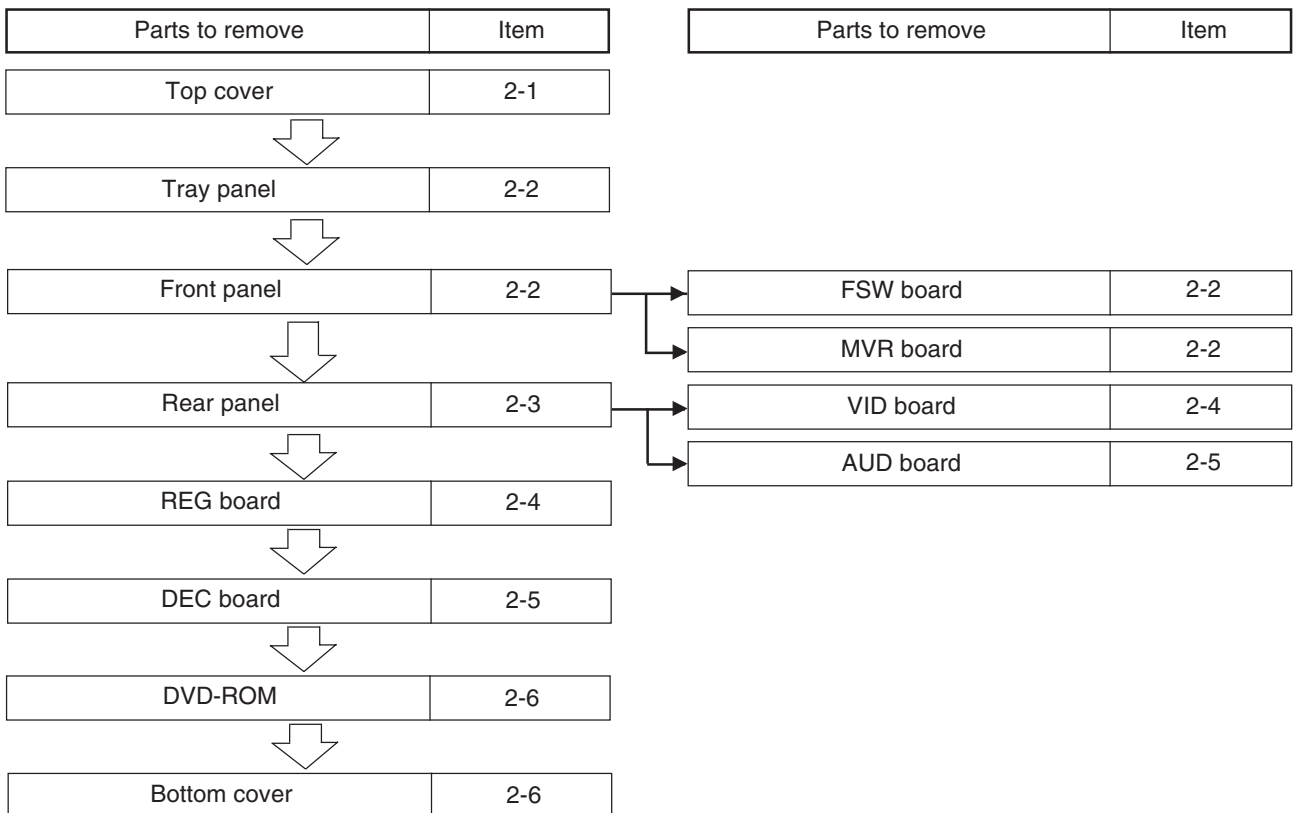
When replacing defective parts, first refer to the "Parts hierarchy chart" shown below. This chart shows the procedure for parts removal when replacing defective parts.

[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 |

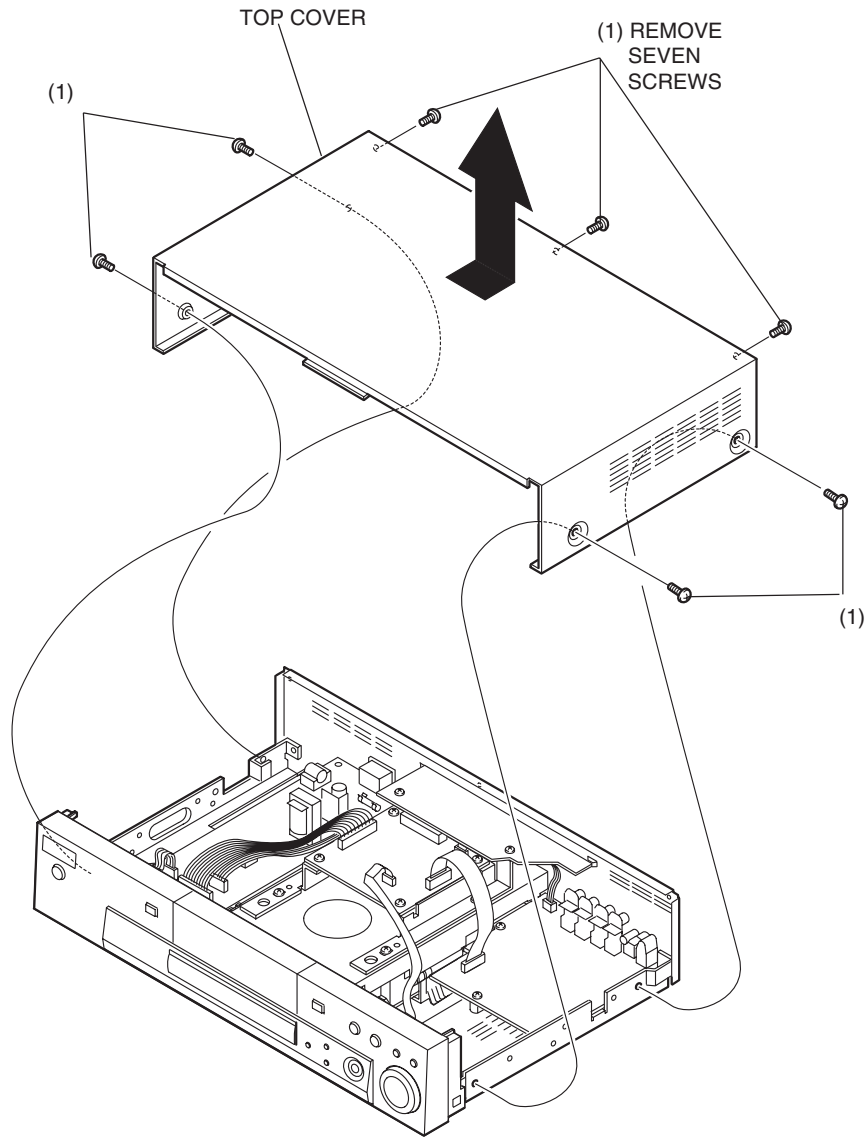


Fig. 2-1

| 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.

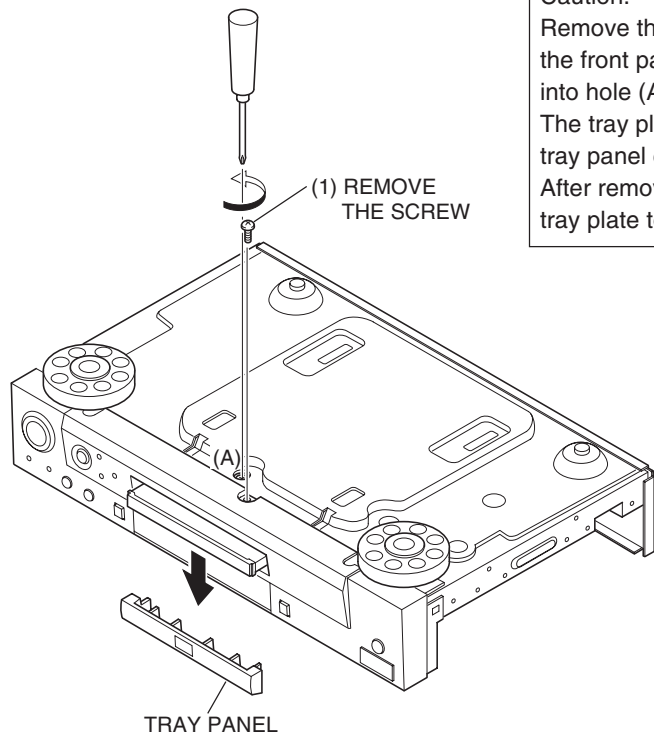


Fig. 2-2

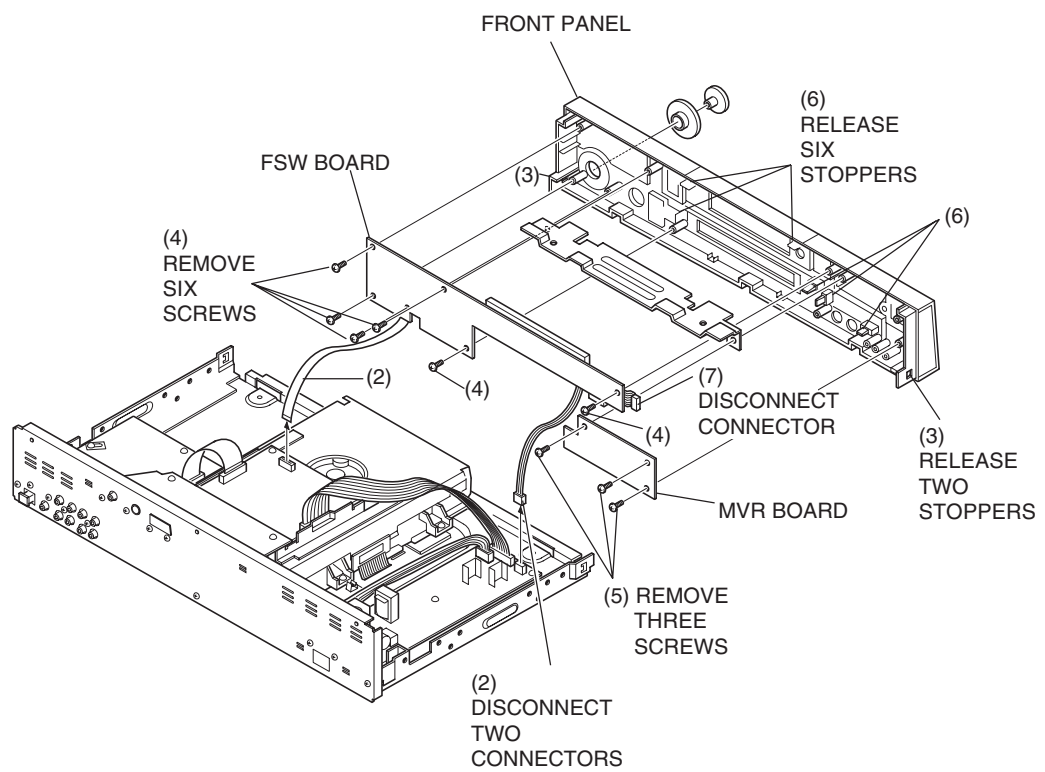
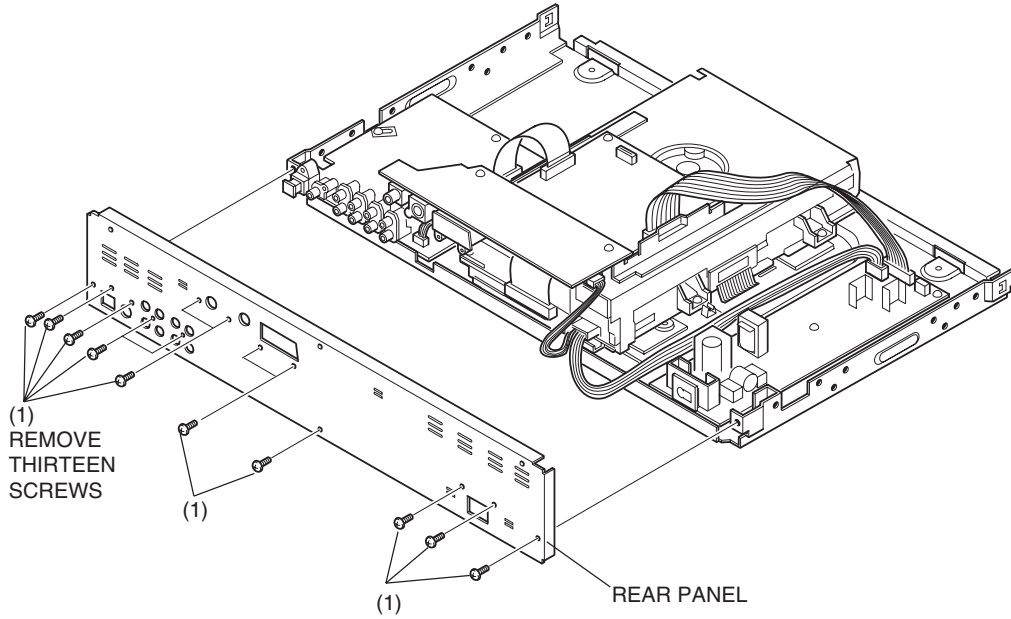


Fig. 2-3

| Item | Parts to remove |
|------|-----------------|
| 2-3 | Rear panel |

[FOR DV-P705E/E(UK)]



[FOR DV-P705U]

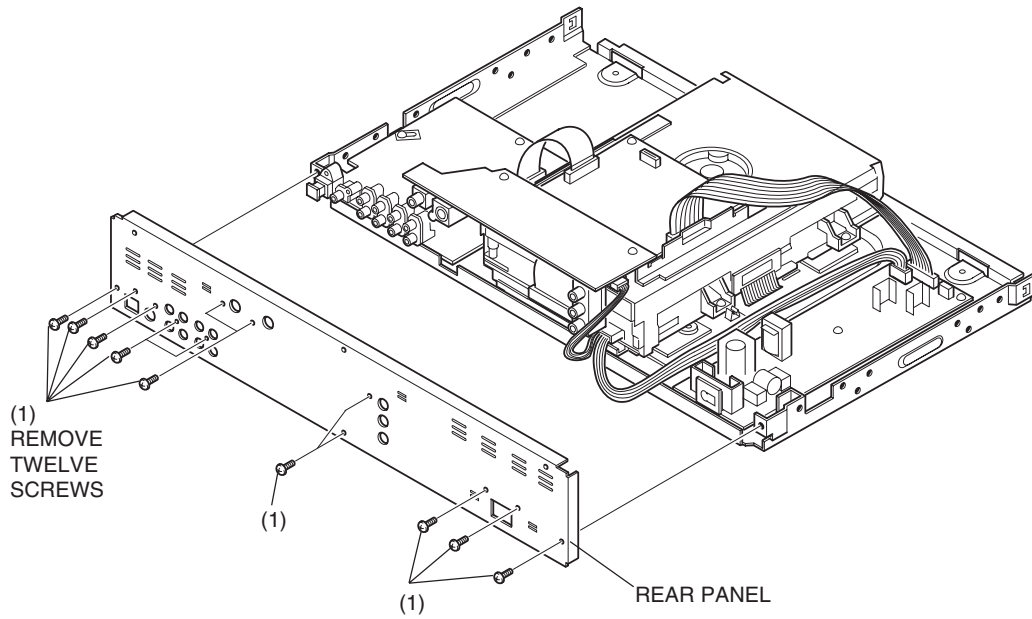
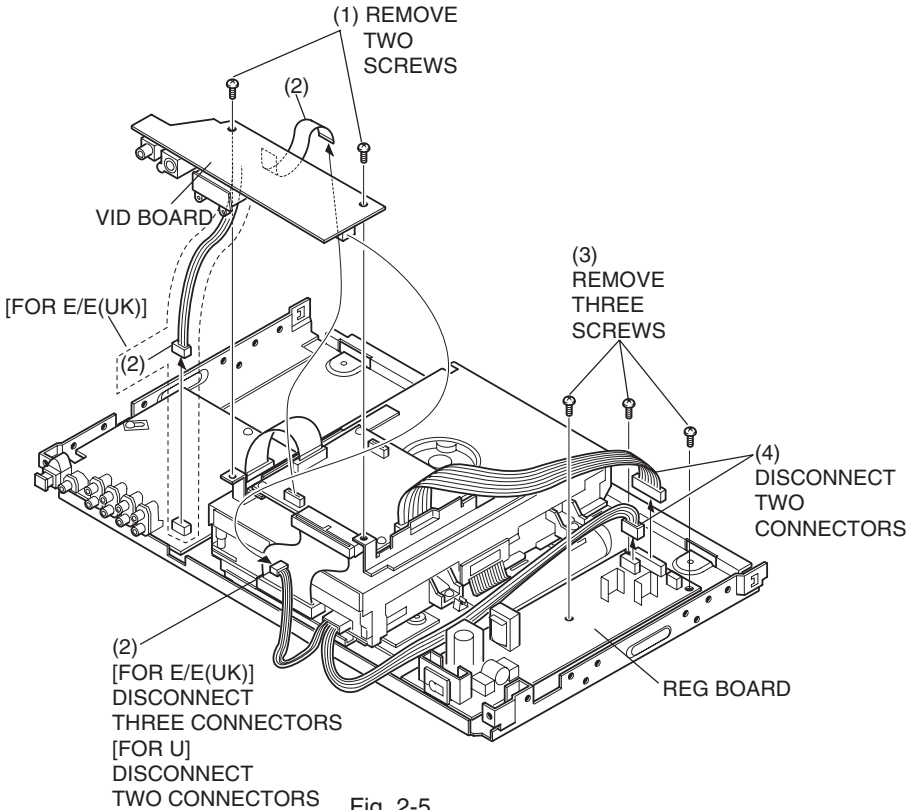
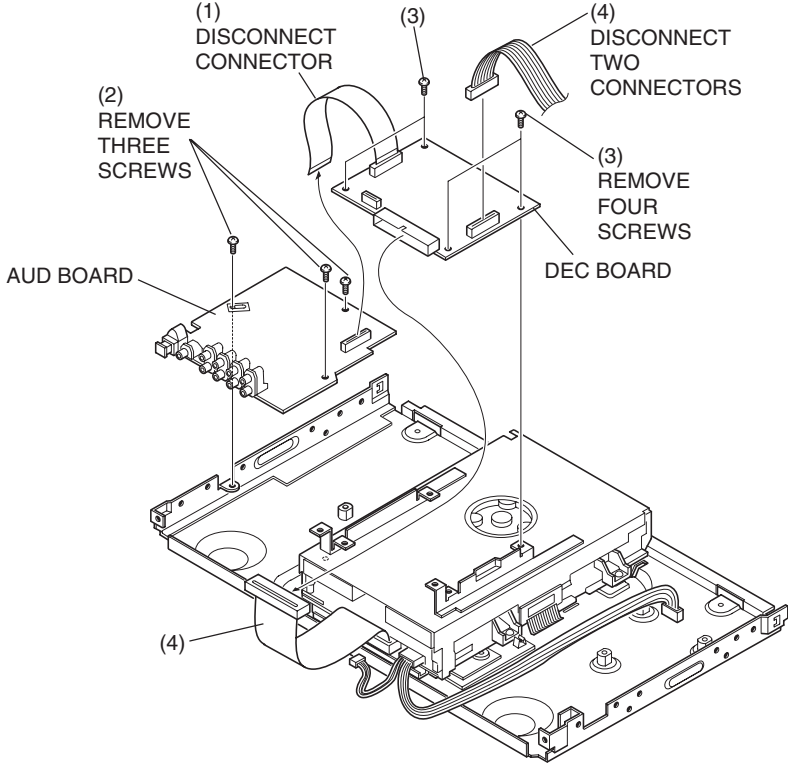


Fig. 2-4

| Item | Parts to remove |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 2-4 | VID board and REG board |
|  <p>(1) REMOVE TWO SCREWS</p> <p>VID BOARD</p> <p>[FOR E/E(UK)]</p> <p>(2) [FOR E/E(UK)] DISCONNECT THREE CONNECTORS [FOR U] DISCONNECT TWO CONNECTORS</p> <p>(3) REMOVE THREE SCREWS</p> <p>(4) DISCONNECT TWO CONNECTORS</p> <p>REG BOARD</p> <p>Fig. 2-5</p> | |

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 2-5 | AUD board and DEC board |
|  <p>(1) DISCONNECT CONNECTOR</p> <p>(2) REMOVE THREE SCREWS</p> <p>AUD BOARD</p> <p>(3) REMOVE FOUR SCREWS</p> <p>DEC BOARD</p> <p>(4) DISCONNECT TWO CONNECTORS</p> <p>Fig. 2-6</p> | |

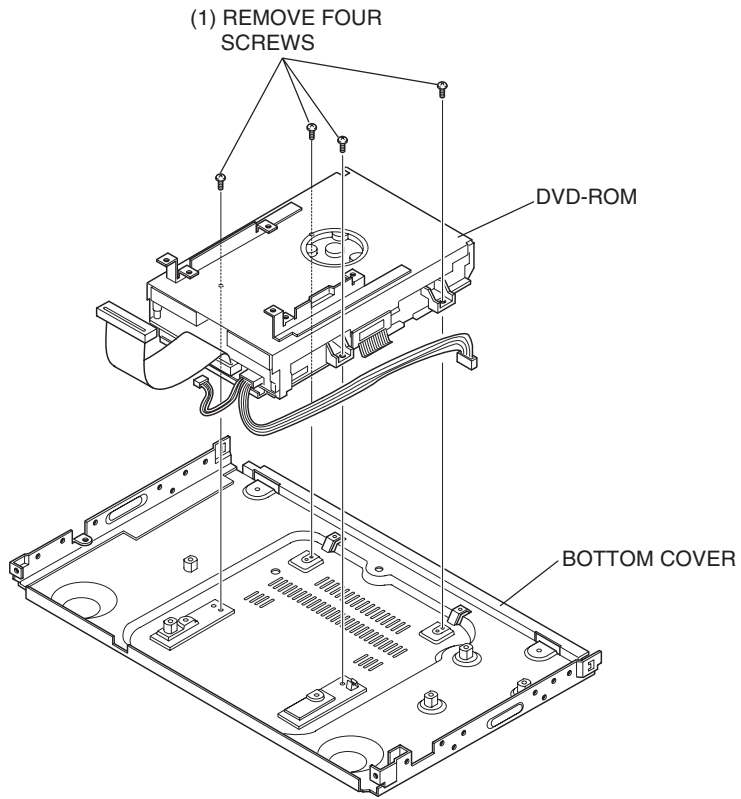
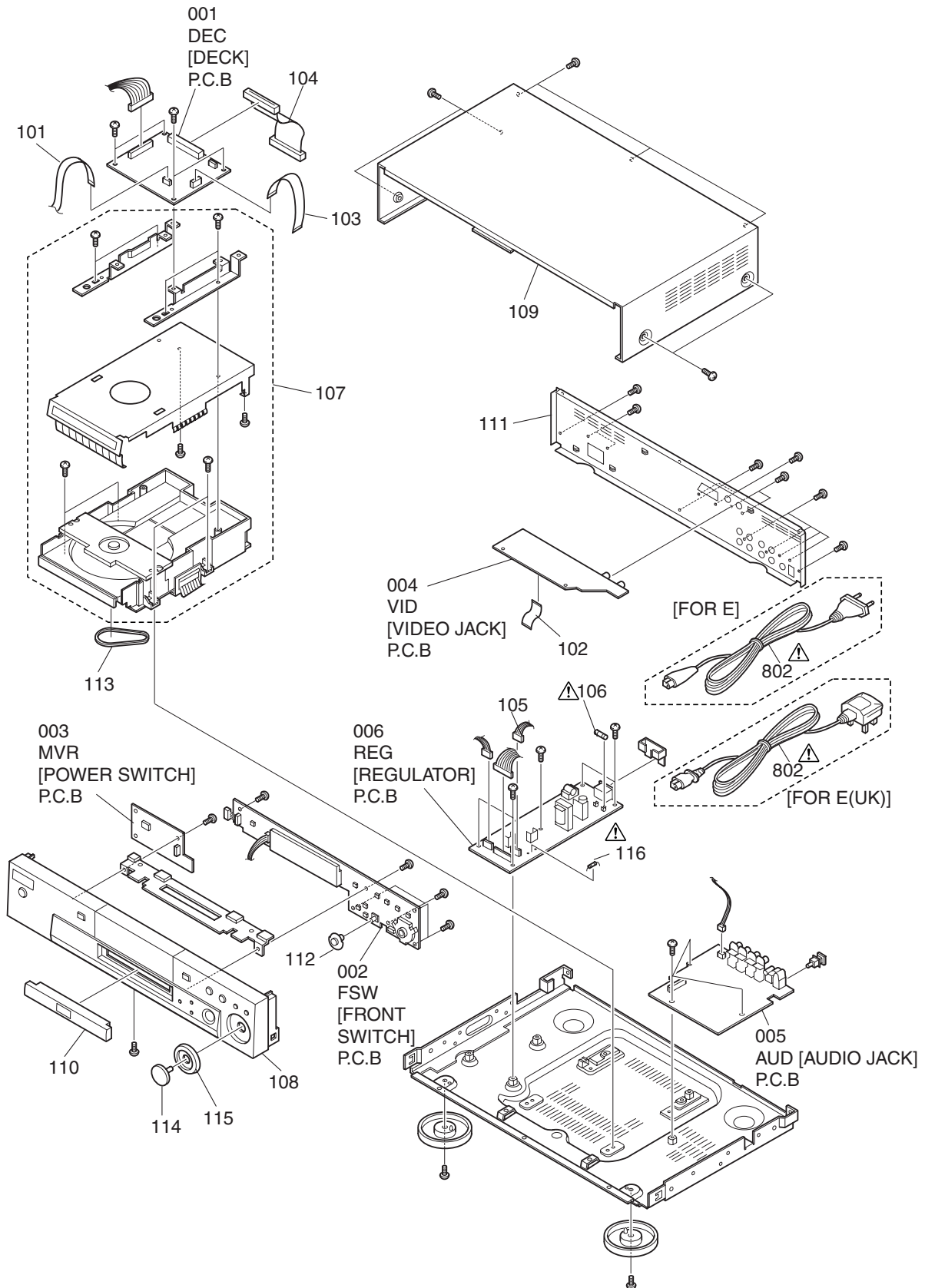


Fig. 2-7

1. CABINET SECTION

[FOR DV-P705E/E(UK)]



1

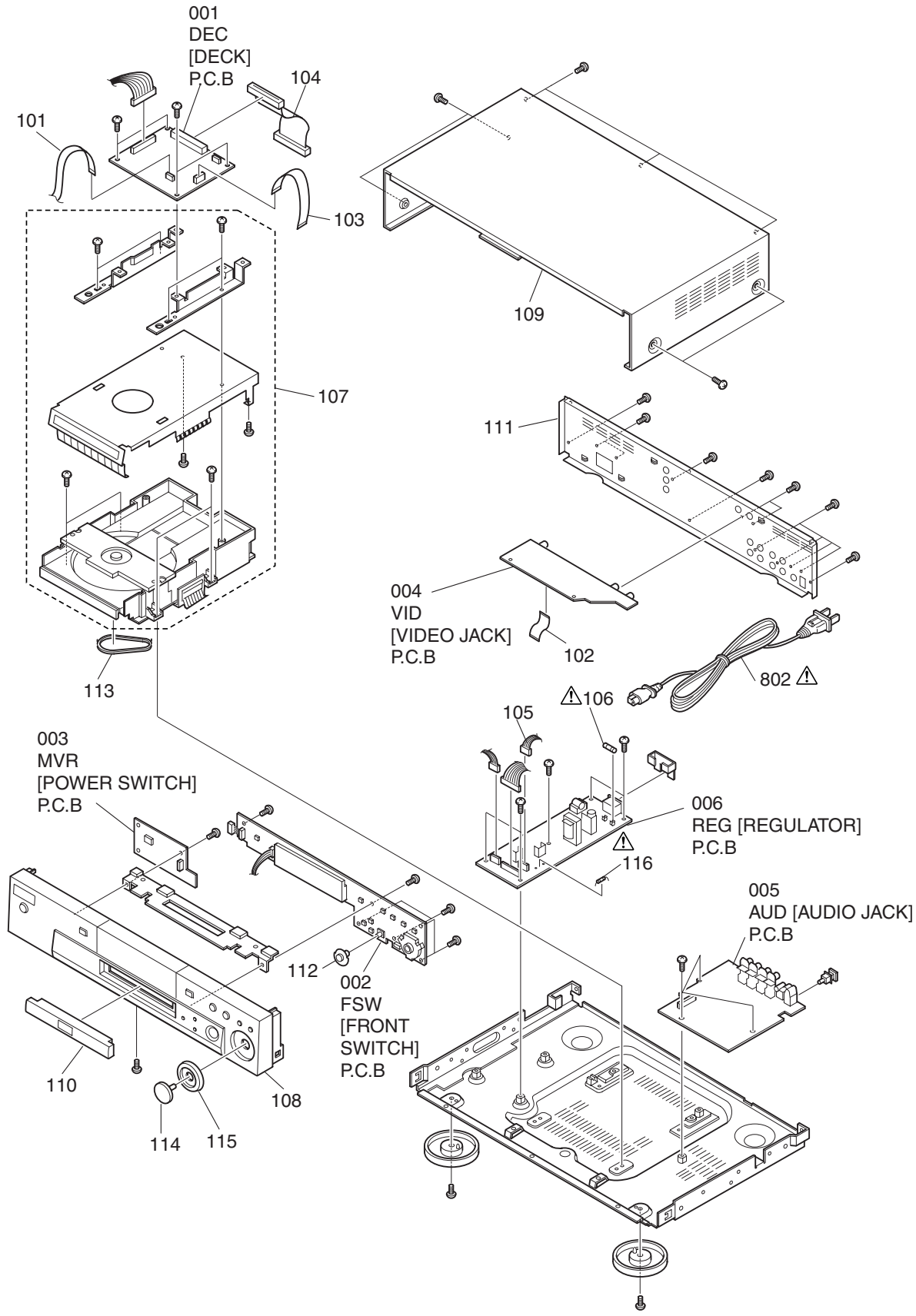
2

3

4

[FOR DV-P705U]

E
D
C
B
A



1 | 2 | 3 | 4

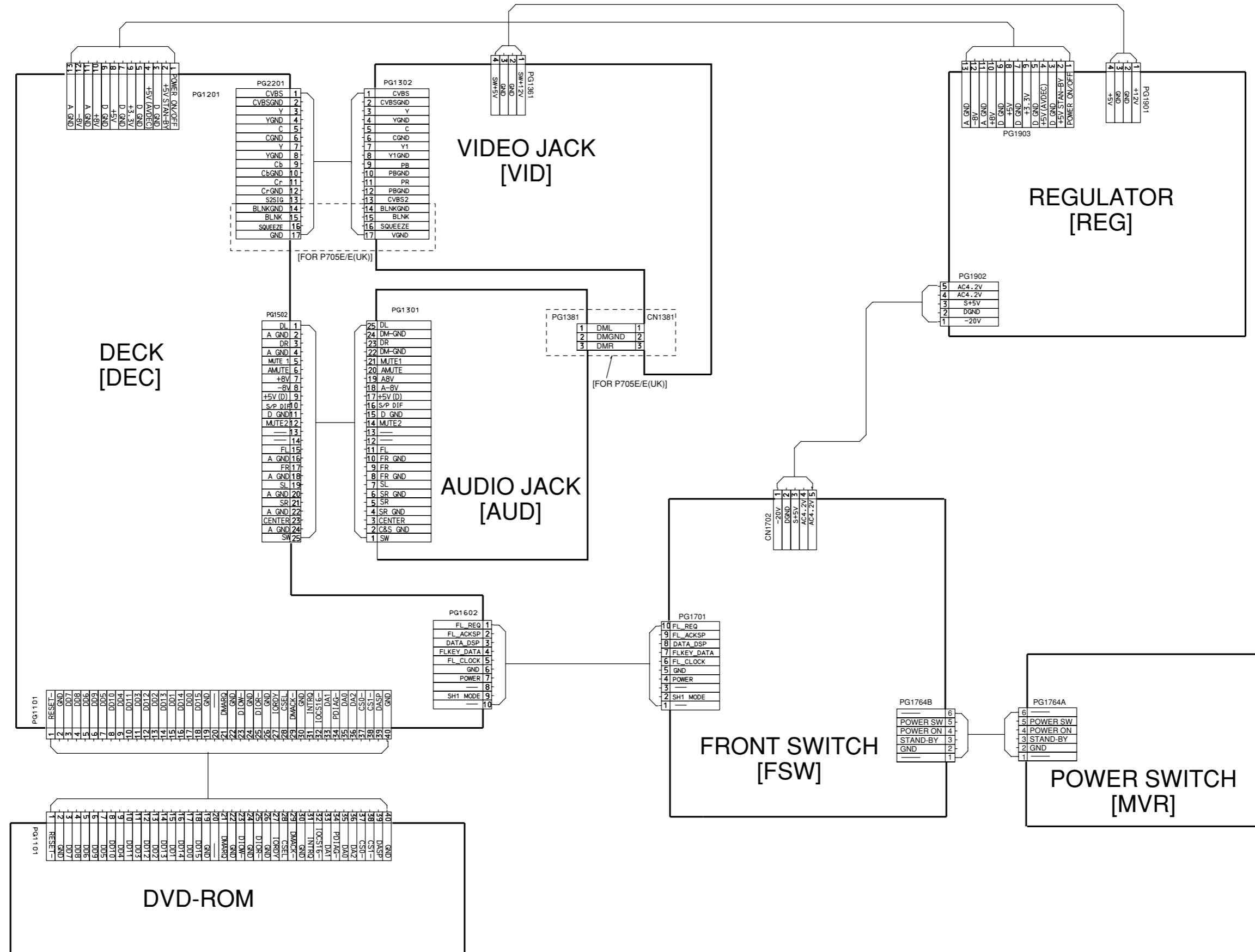
1. MECHANICAL PARTS LIST

| 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

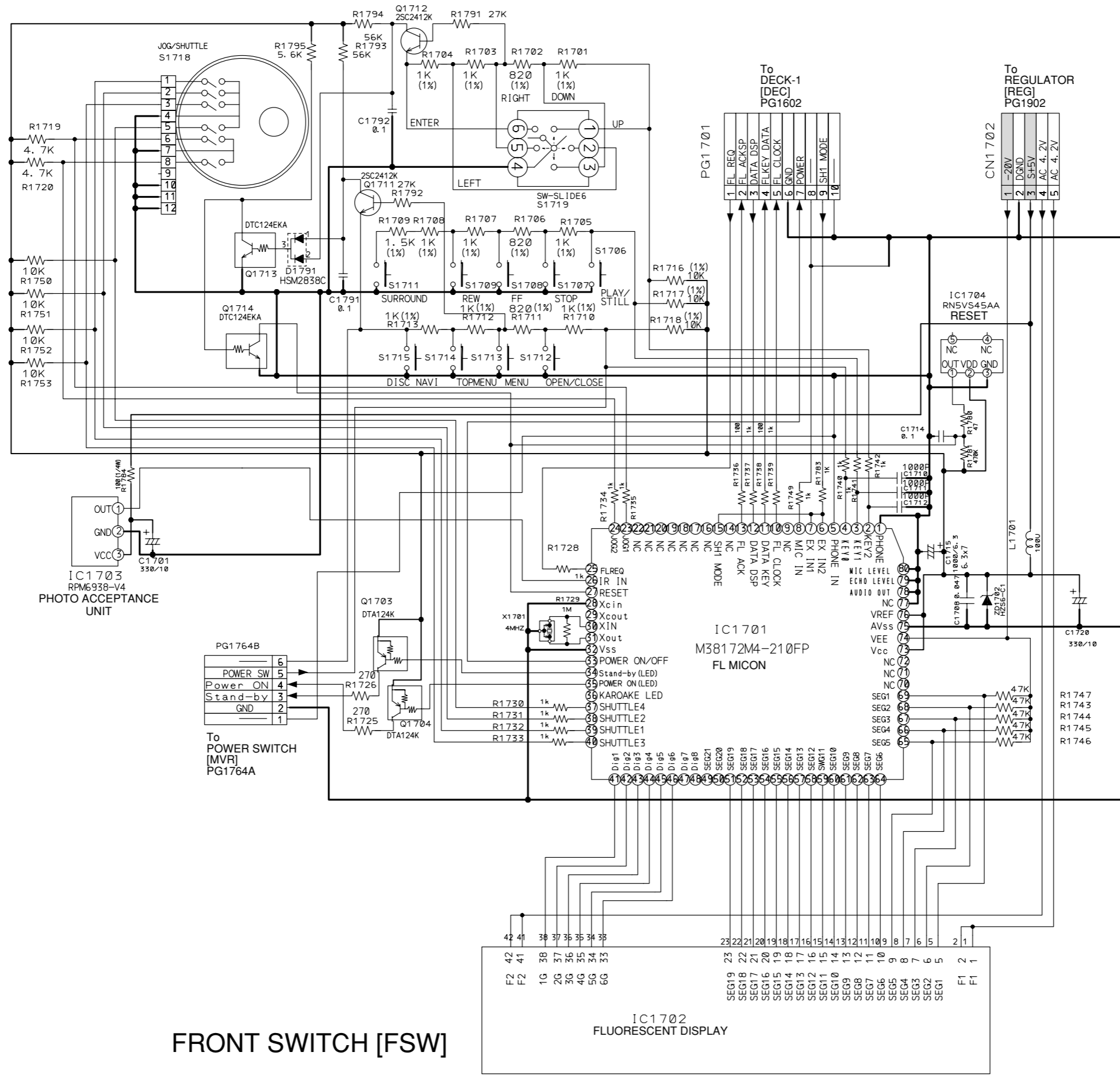
E

D

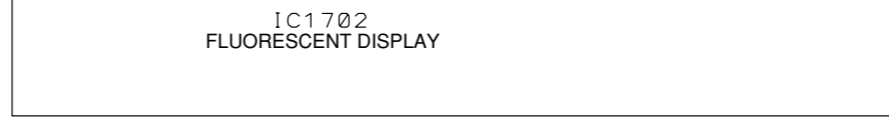
C

B

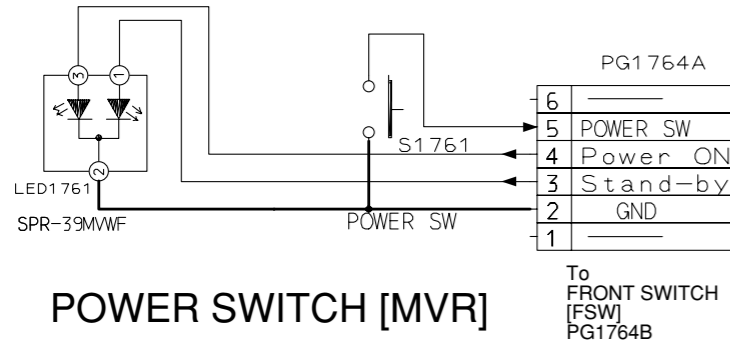
A



FRONT SWITCH [FSW]

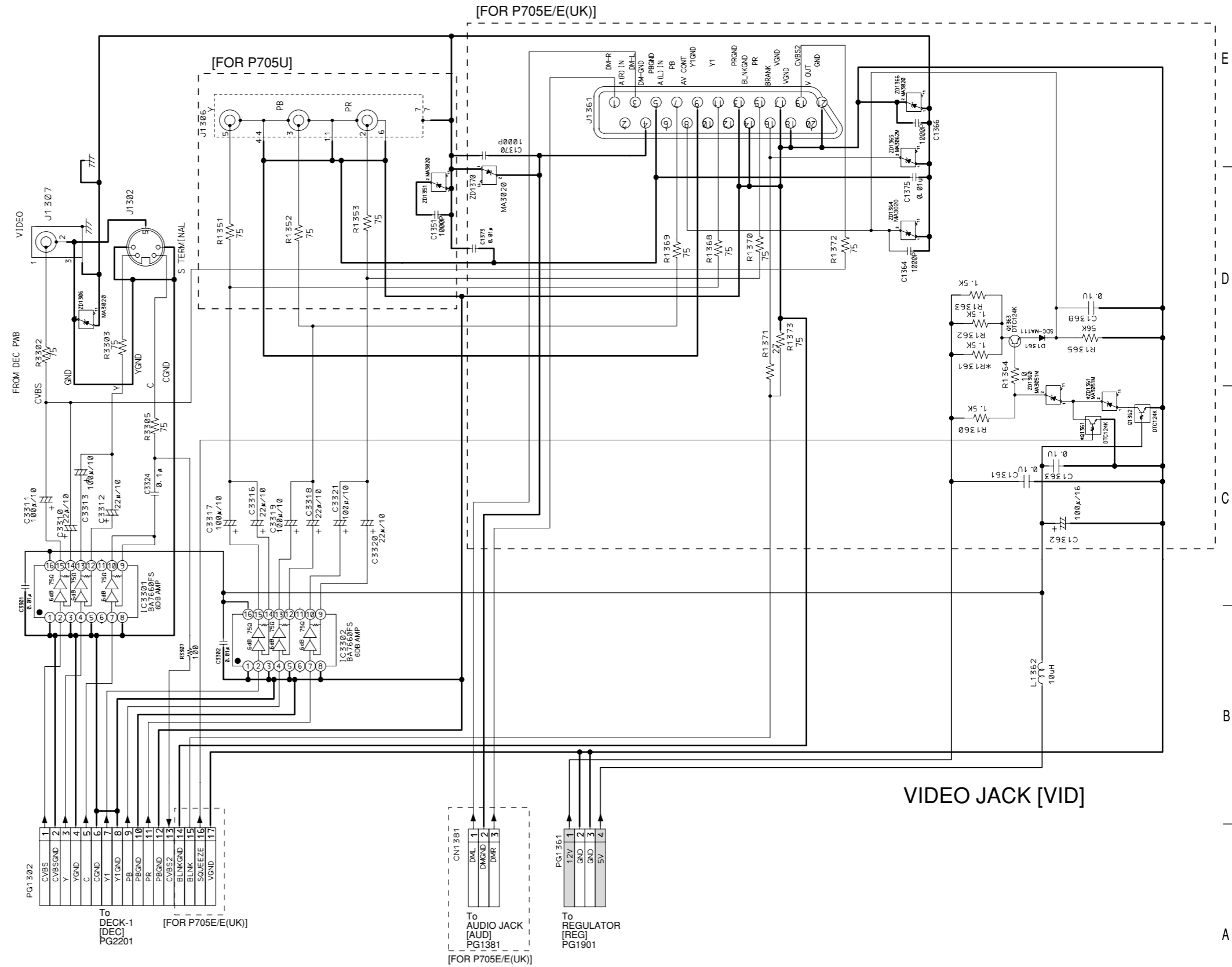


POWER SWITCH [MVR] SCHEMATIC DIAGRAM



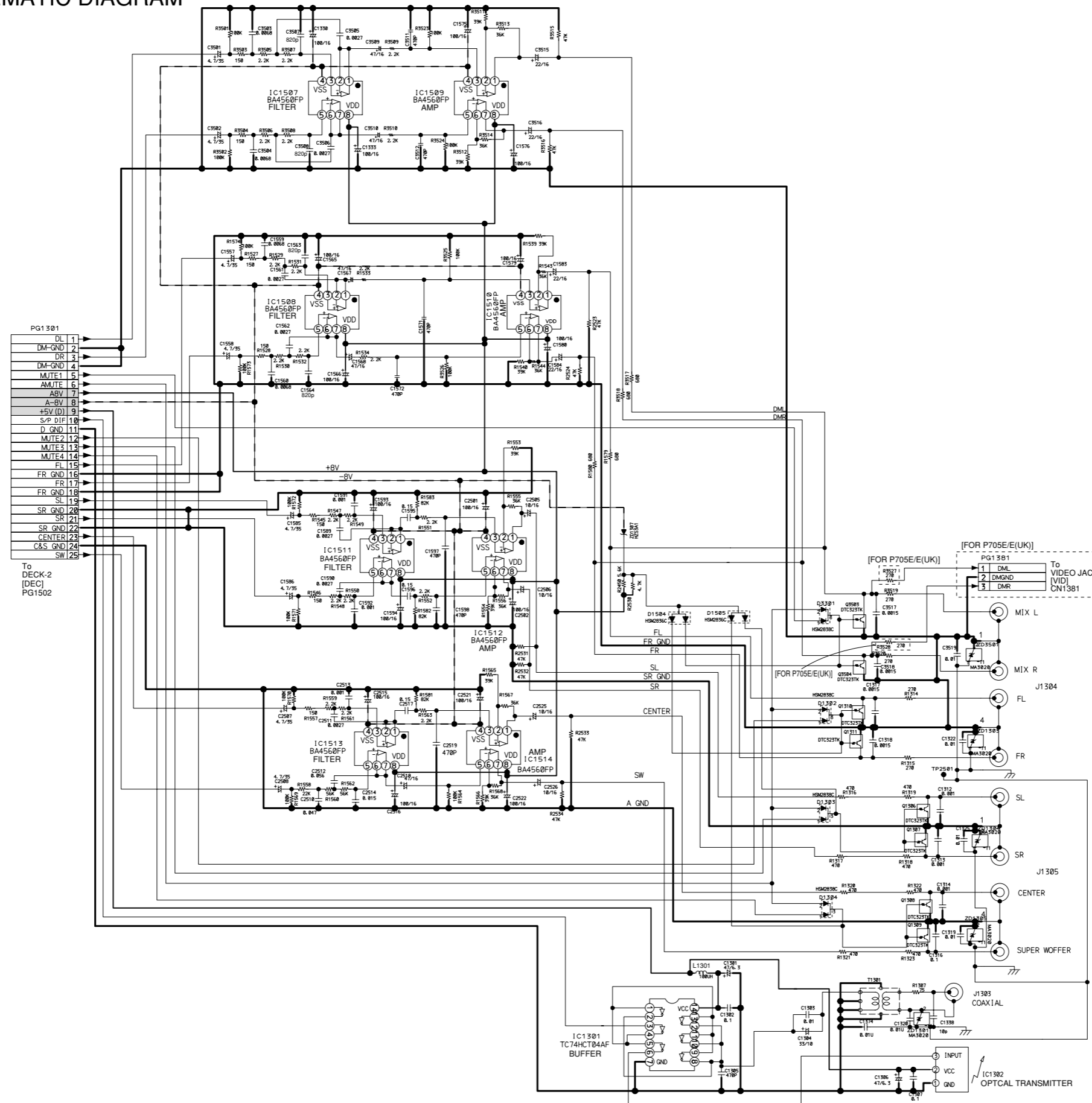
POWER SWITCH [MVR]

VIDEO JACK [VID] SCHEMATIC DIAGRAM



VIDEO JACK [VID]

AUDIO JACK [AUD] SCHEMATIC DIAGRAM



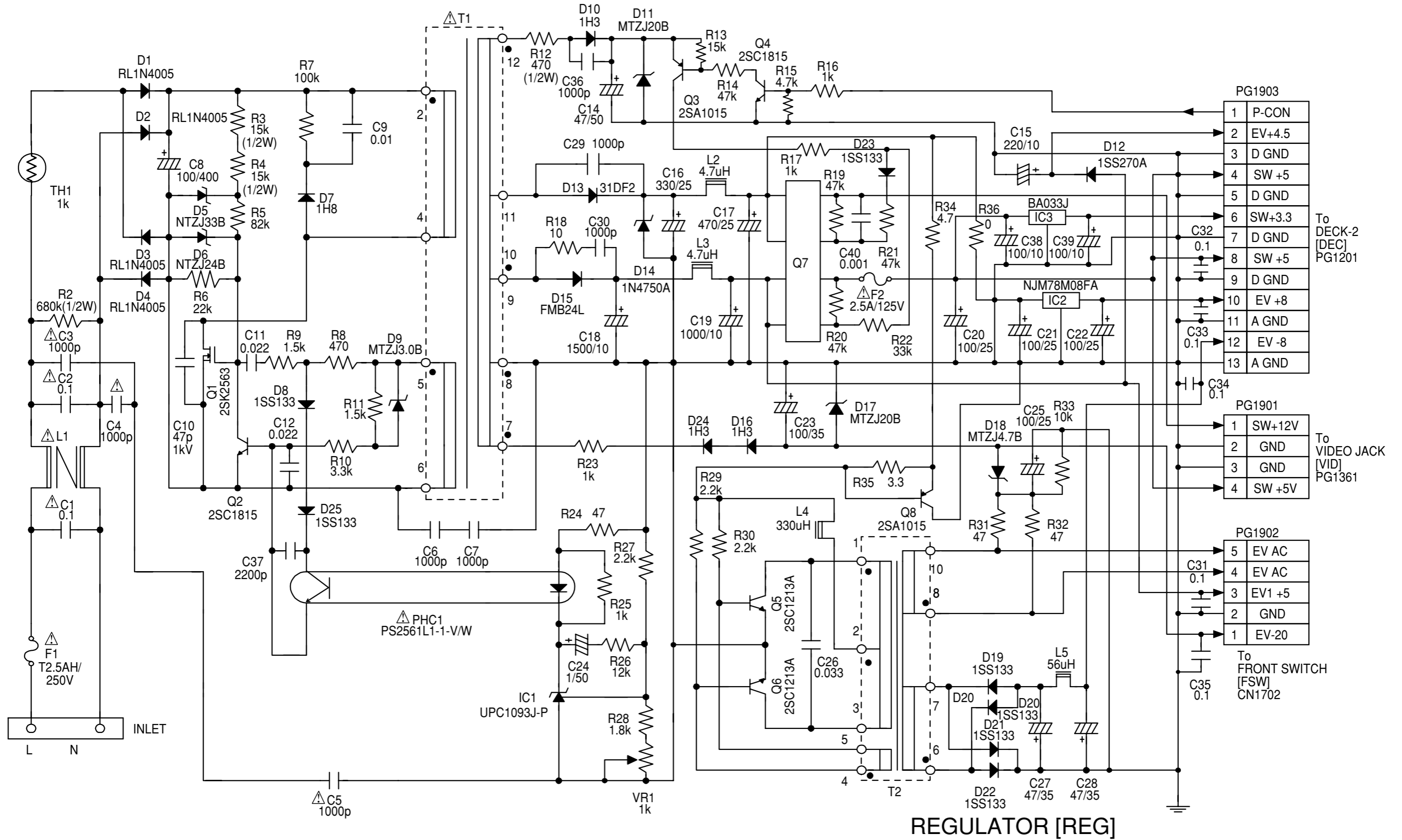
AUDIO JACK [AUD]

E
D
C
B
A

1 2 3 4 5 6 7 8

AUDIO JACK 5 - 7 5 - 8 AUDIO JACK

REGULATOR [REG] SCHEMATIC DIAGRAM



To DECK-2
[DEC]
PG1201

To VIDEO JACK
[VID]
PG1361

| | |
|----|--------|
| 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 |

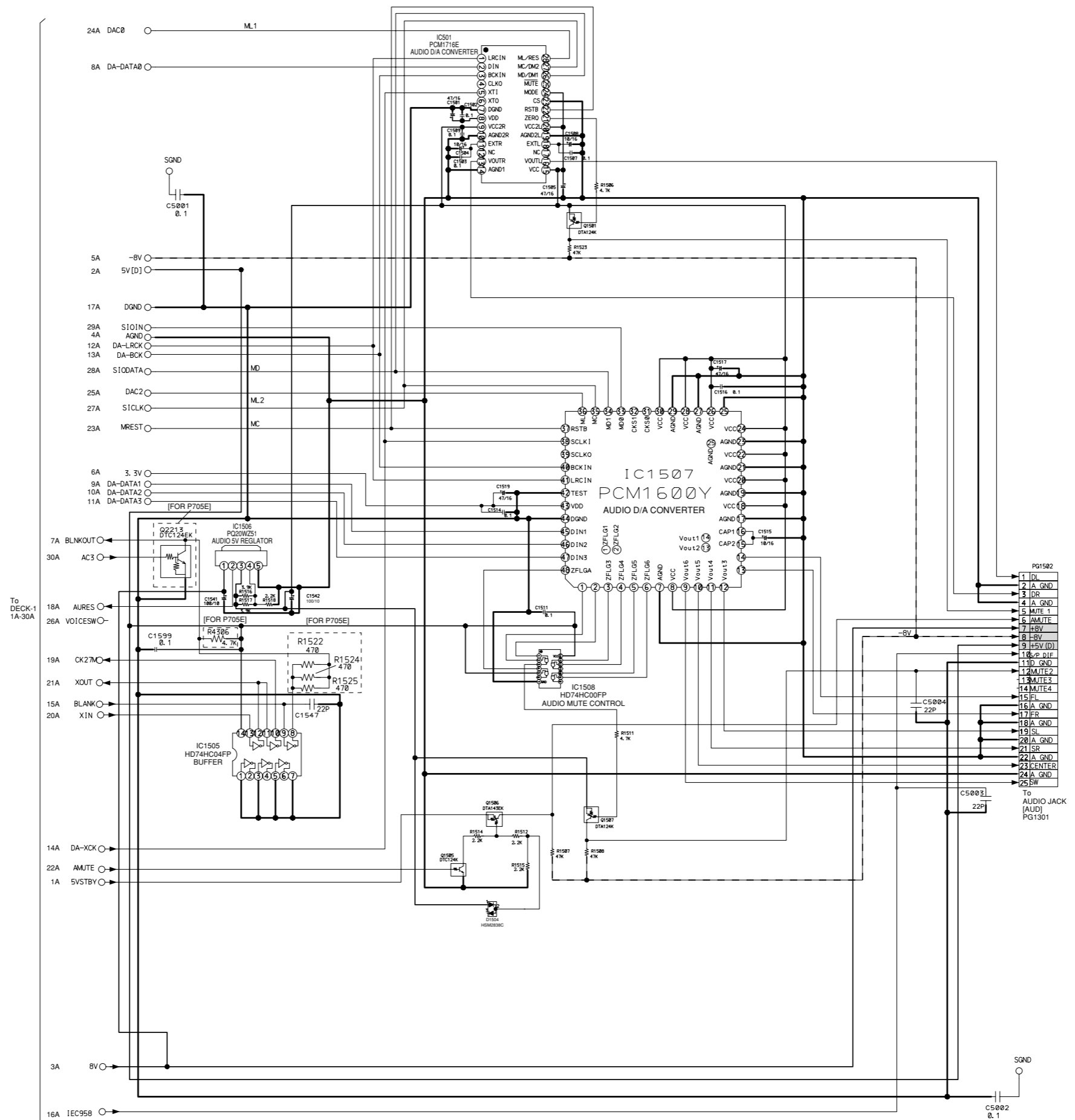
| | |
|---|--------|
| 1 | SW+12V |
| 2 | GND |
| 3 | GND |
| 4 | SW +5V |

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

To FRONT SWITCH
[FSW]
CN1702

DECK-1 [DEC] SCHEMATIC DIAGRAM

E
D
C
B
A

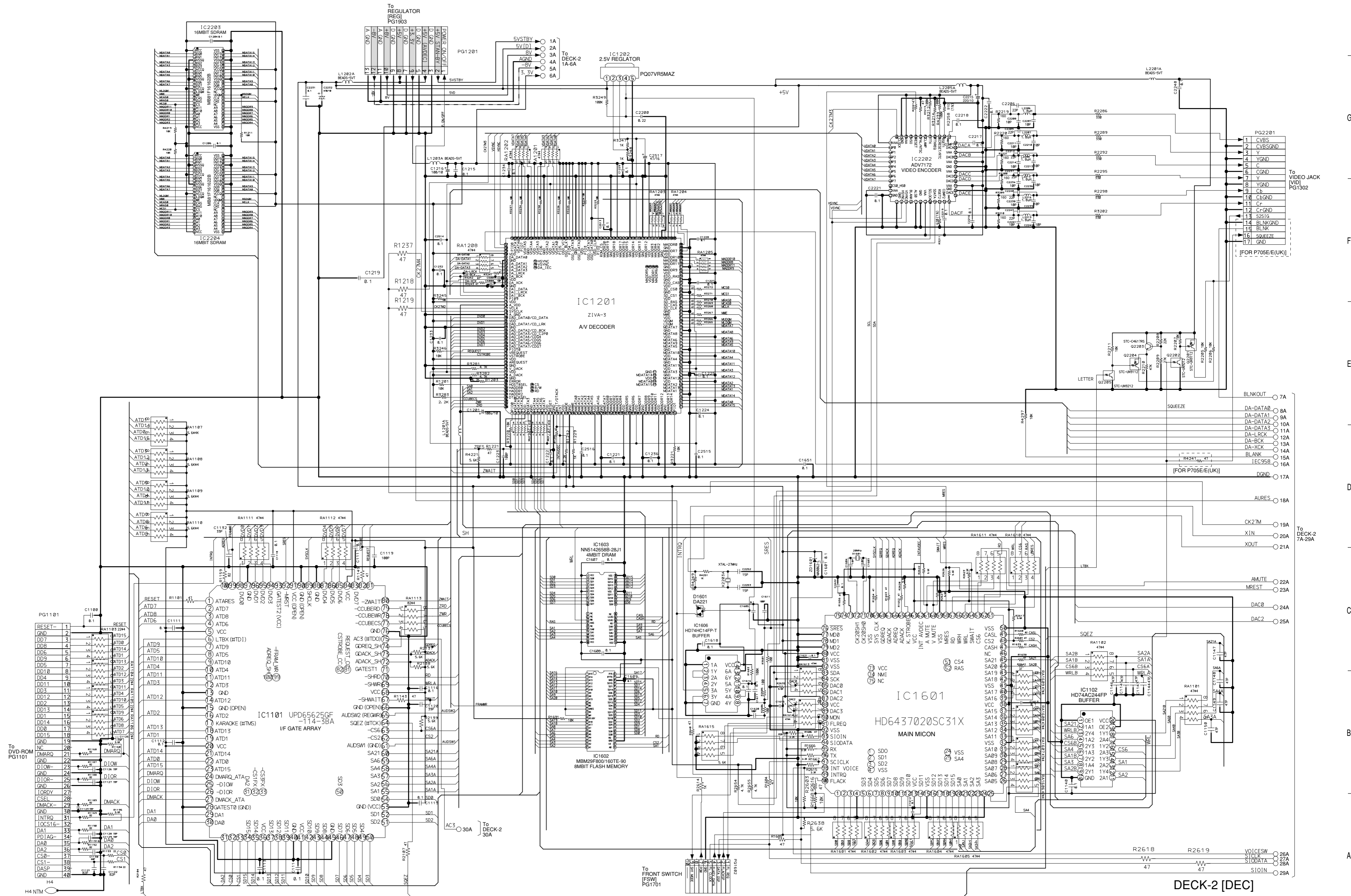


DEC-1 [DEC]

1 2 3 4 5 6 7 8

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

DECK-2 [DEC] SCHEMATIC DIAGRAM



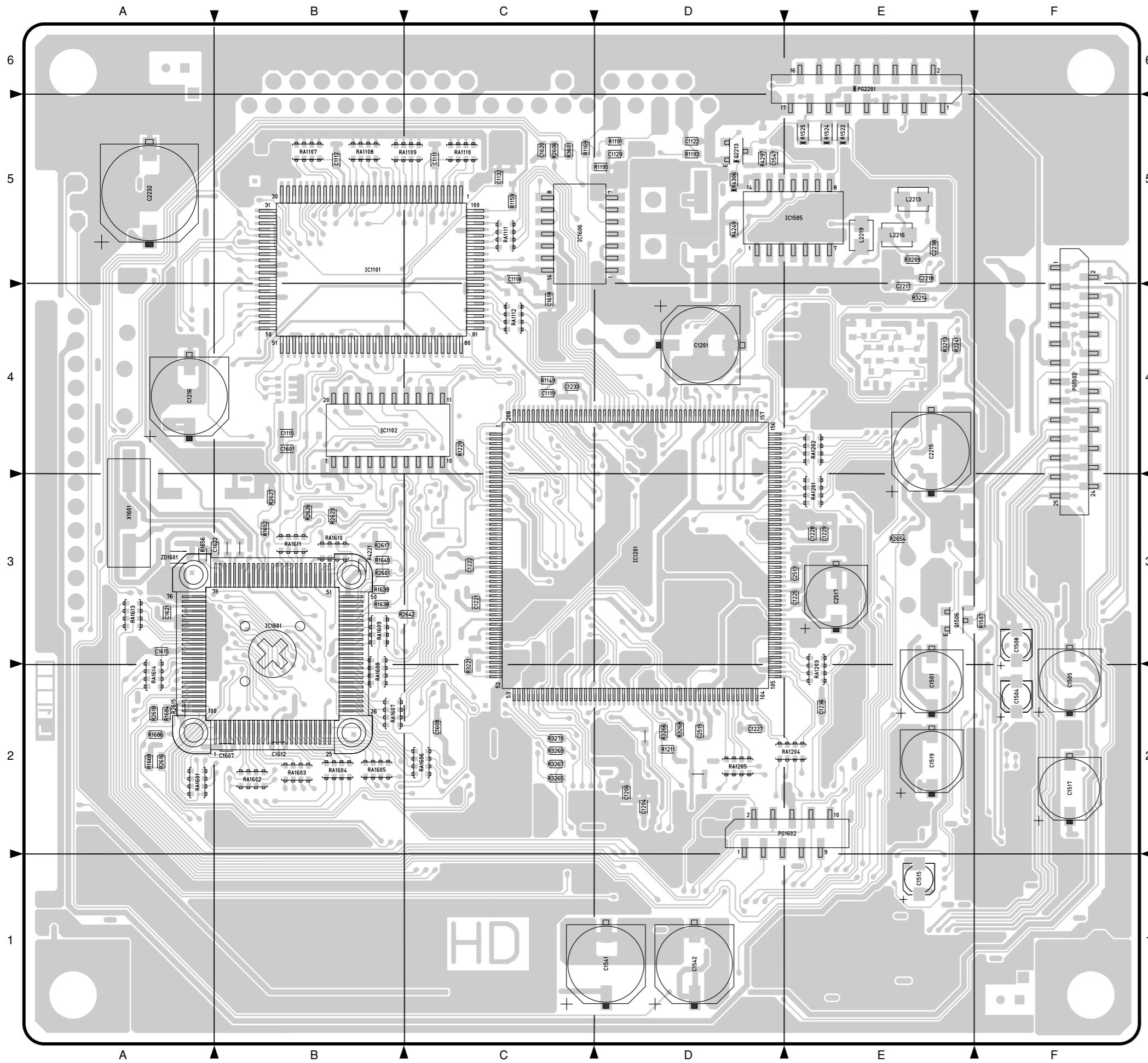
DEC CIRCUIT BOARD DIAGRAM

DIFFERENCE TABLE

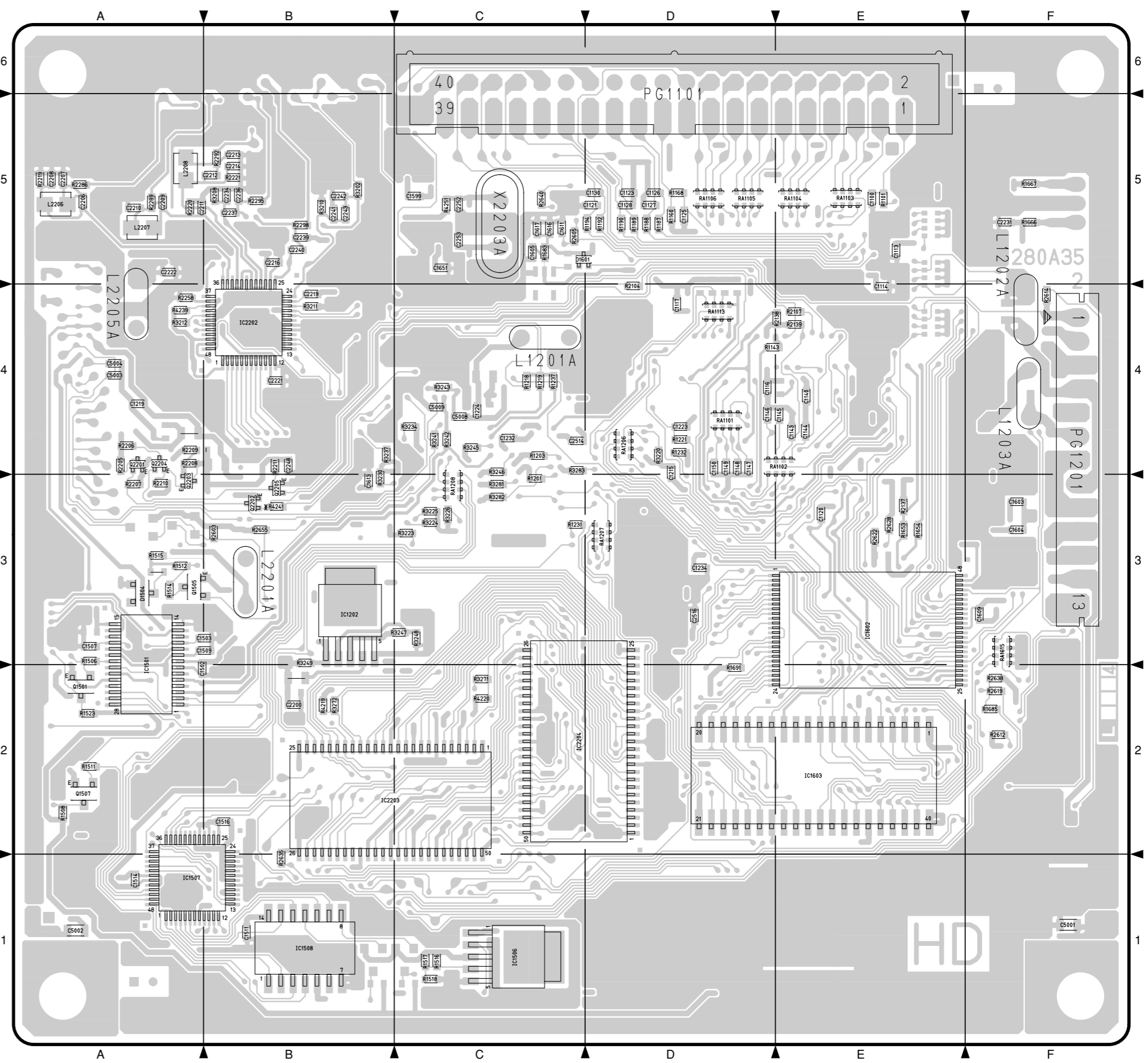
DEC

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 |

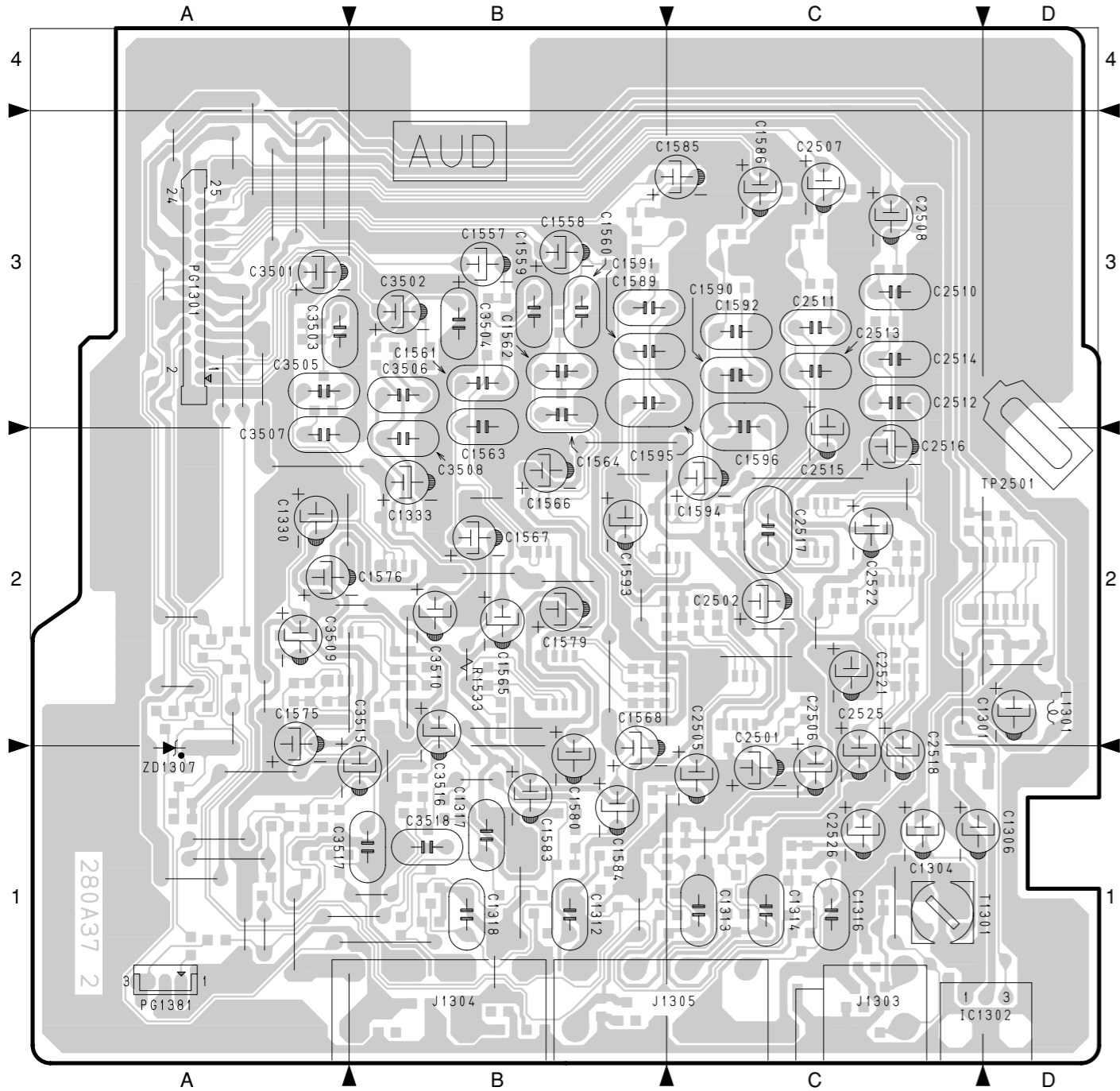


DEC [DECK] -SIDE A-

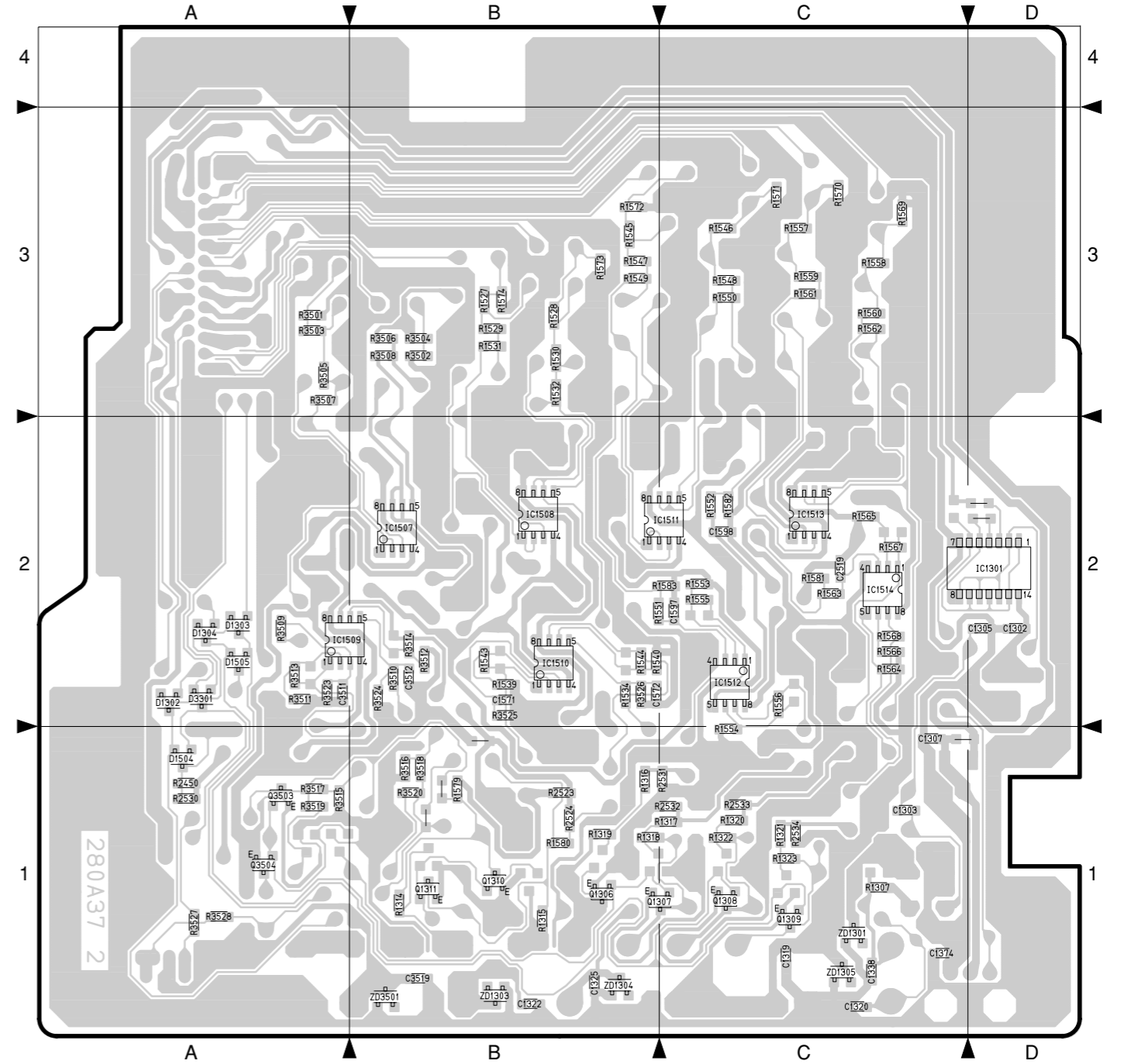


DEC [DECK] -SIDE B-
[PATTERN No. 280A35-2]

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

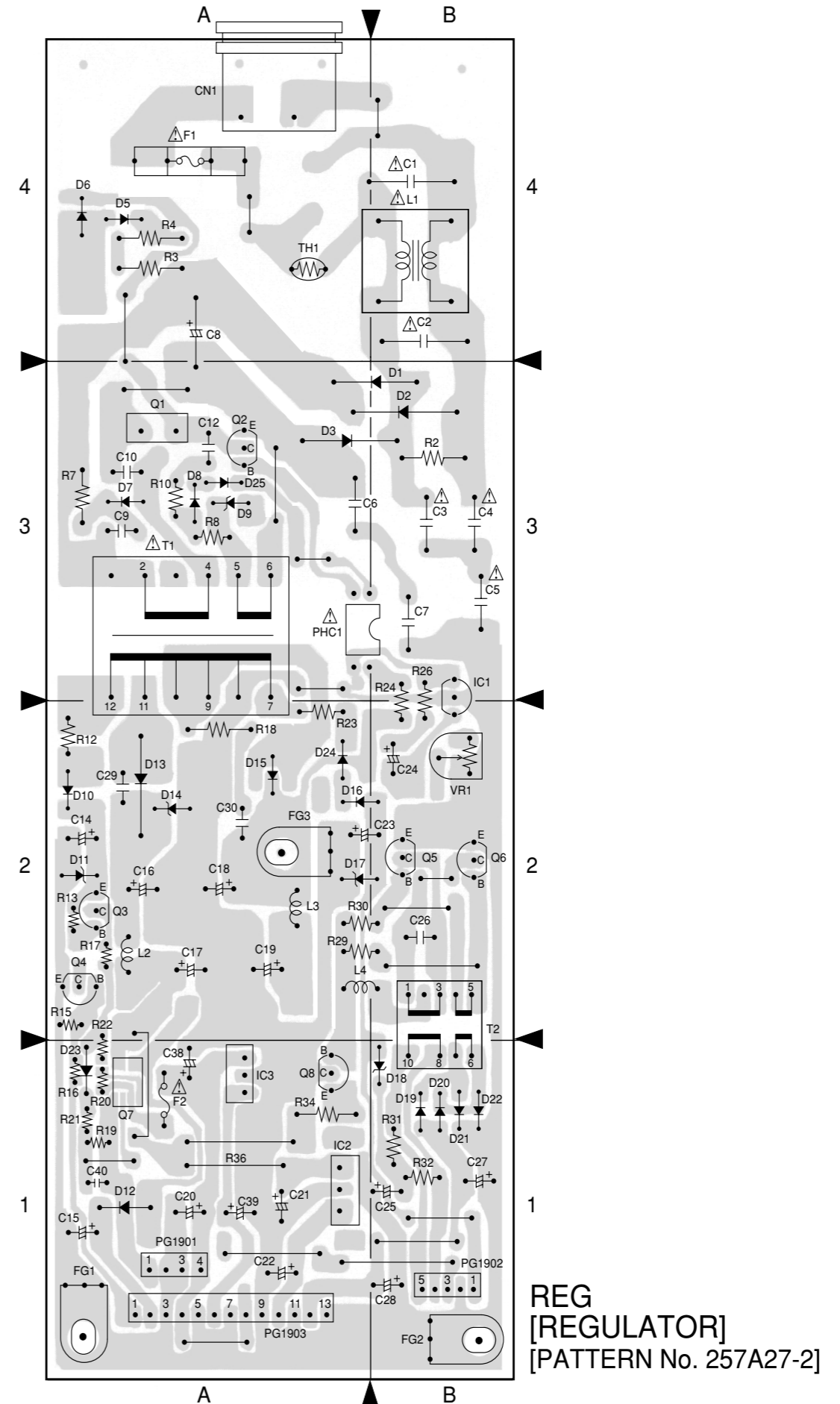
AUD

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

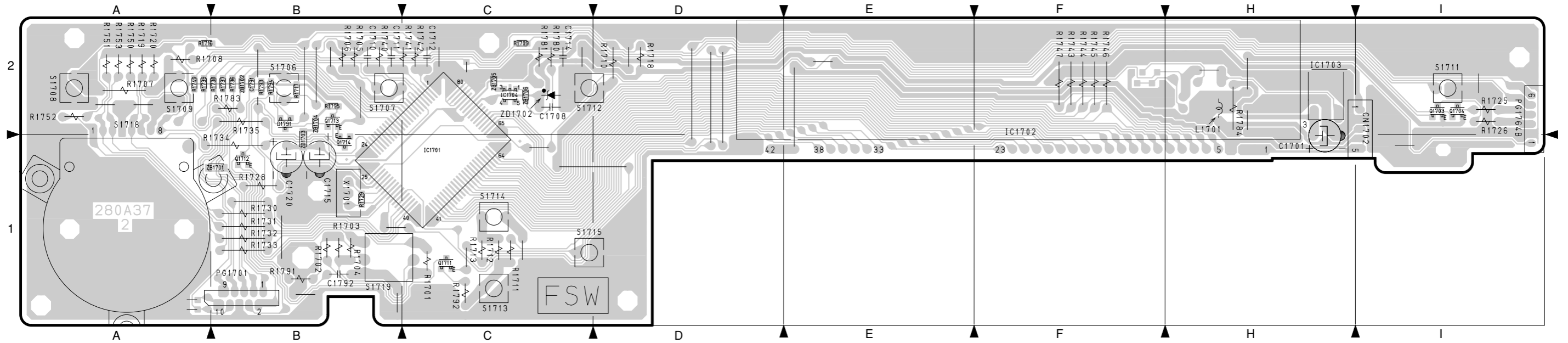
REG

| Symbol No. | Parts Location | Symbol No. | Parts Location | Symbol No. | Parts Location |
|------------|----------------|------------|----------------|------------|----------------|
| C | | | | | |
| C0001 | 4B | D0025 | 3A | T | |
| C0002 | 4B | F | | T0001 | 3A |
| C0003 | 3B | F0001 | 4A | T0002 | 2B |
| C0004 | 3B | F0002 | 1A | TH | |
| C0005 | 3B | FG | | TH0001 | 4A |
| C0006 | 3A | FG0001 | 1A | VR | |
| C0007 | 3B | FG0002 | 1B | VR0001 | 2B |
| C0008 | 4A | FG0003 | 2A | IC | |
| C0009 | 3A | IC | | IC0001 | 3B |
| C0010 | 3A | IC0001 | 3B | IC0002 | 1A |
| C0012 | 3A | IC0002 | 1A | IC0003 | 1A |
| C0014 | 2A | L | | L | |
| C0015 | 1A | L0001 | 4B | L0001 | 4B |
| C0016 | 2A | L0002 | 2A | L0002 | 2A |
| C0017 | 2A | L0003 | 2A | L0003 | 2A |
| C0018 | 2A | L0004 | 2A | L0004 | 2A |
| C0019 | 2A | PG | | PG | |
| C0020 | 1A | PG1901 | 1A | PG1901 | 1A |
| C0021 | 1A | PG1902 | 1B | PG1902 | 1B |
| C0022 | 1A | PG1903 | 1A | PG1903 | 1A |
| C0023 | 2A | PHC | | PHC | |
| C0024 | 2B | PHC0001 | 3A | PHC0001 | 3A |
| C0025 | 1B | Q | | Q | |
| C0026 | 2B | Q0001 | 3A | Q0001 | 3A |
| C0027 | 1B | Q0002 | 3A | Q0002 | 3A |
| C0028 | 1B | Q0003 | 2A | Q0003 | 2A |
| C0029 | 2A | Q0004 | 2A | Q0004 | 2A |
| C0030 | 2A | Q0005 | 2B | Q0005 | 2B |
| C0038 | 1A | Q0006 | 2B | Q0006 | 2B |
| C0039 | 1A | Q0008 | 1A | Q0008 | 1A |
| C0040 | 1A | R | | R | |
| CN | | | | | |
| CN0001 | 4A | R0002 | 3B | R0002 | 3B |
| D | | | | | |
| D0001 | 3B | R0003 | 4A | R0003 | 4A |
| D0002 | 3B | R0004 | 4A | R0004 | 4A |
| D0003 | 3A | R0007 | 3A | R0007 | 3A |
| D0005 | 4A | R0008 | 3A | R0008 | 3A |
| D0006 | 4A | R0010 | 3A | R0010 | 3A |
| D0007 | 3A | R0012 | 2A | R0012 | 2A |
| D0008 | 3A | R0013 | 2A | R0013 | 2A |
| D0009 | 3A | R0015 | 2A | R0015 | 2A |
| D0010 | 2A | R0016 | 1A | R0016 | 1A |
| D0011 | 2A | R0017 | 2A | R0017 | 2A |
| D0012 | 1A | R0018 | 2A | R0018 | 2A |
| D0013 | 2A | R0019 | 1A | R0019 | 1A |
| D0014 | 2A | R0020 | 1A | R0020 | 1A |
| D0015 | 2A | R0021 | 1A | R0021 | 1A |
| D0016 | 2A | R0022 | 1A | R0022 | 1A |
| D0017 | 2A | R0023 | 2A | R0023 | 2A |
| D0018 | 1B | R0024 | 2B | R0024 | 2B |
| D0019 | 1B | R0026 | 3B | R0026 | 3B |
| D0020 | 1B | R0029 | 2A | R0029 | 2A |
| D0021 | 1B | R0030 | 2A | R0030 | 2A |
| D0022 | 1B | R0031 | 1B | R0031 | 1B |
| D0023 | 1A | R0032 | 1B | R0032 | 1B |
| D0024 | 2A | R0034 | 1A | R0034 | 1A |
| T | | | | | |
| T0001 | 3A | R0036 | 1A | R0036 | 1A |
| T0002 | 2B | R0038 | 1A | R0038 | 1A |

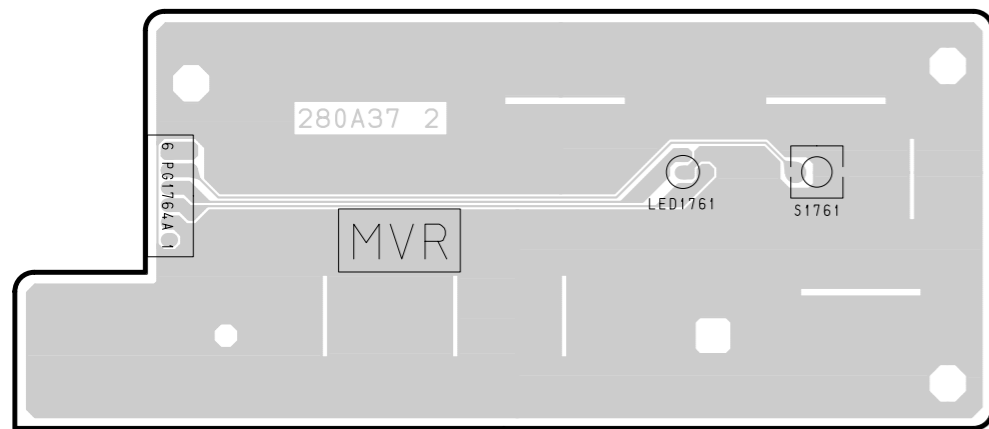
REG CIRCUIT BOARD DIAGRAM



FSW, MVR CIRCUIT BOARD DIAGRAMS



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



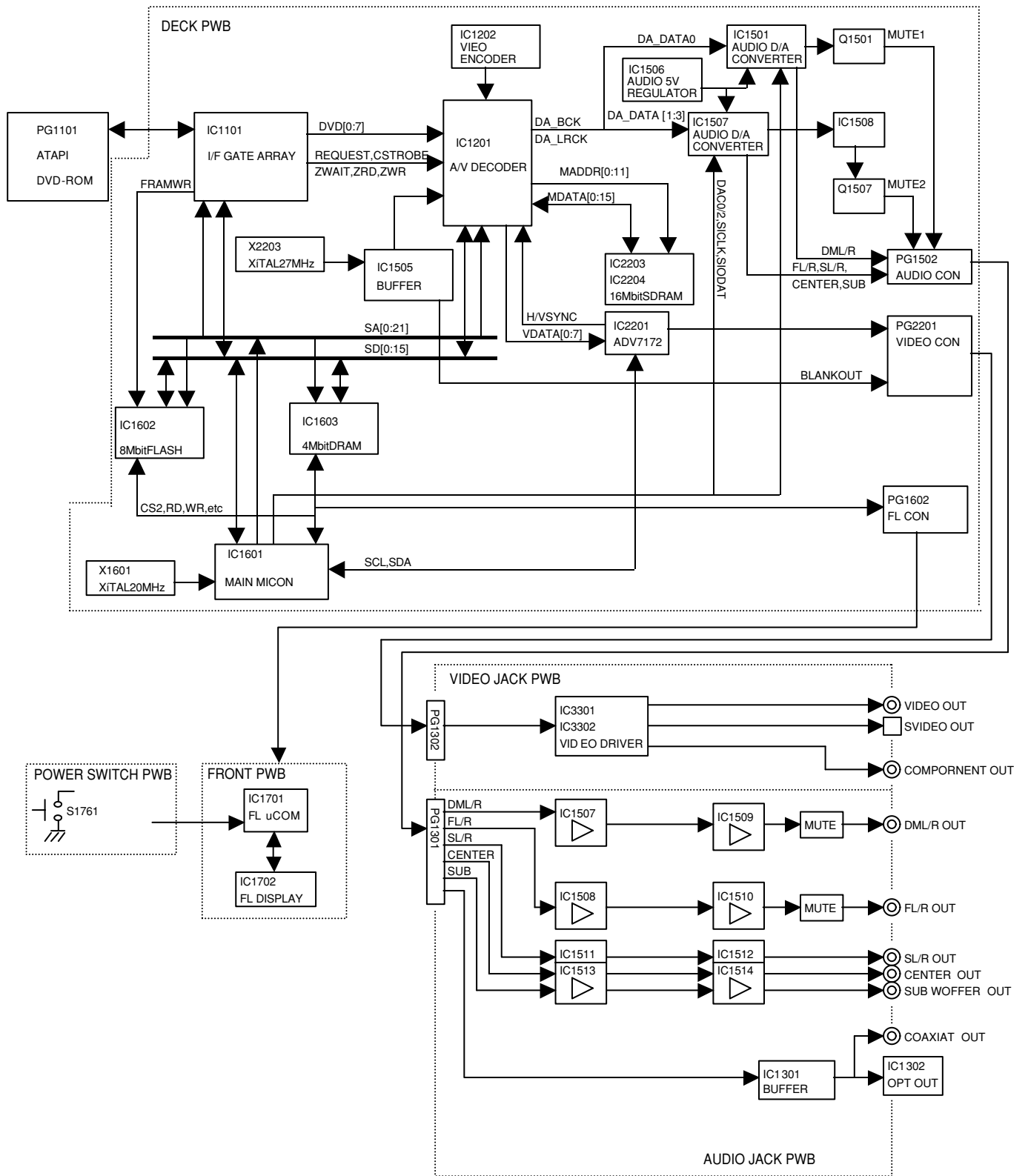
MVR [POWER SWITCH]
[PATTERN No. 280A37-2]

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



HITACHI