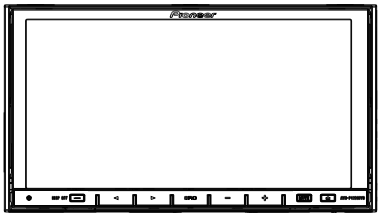
Pioneer

# Service Manual



AVH-P4100DVD/XN/UC

ORDER NO.
**CRT4275**

## DVD AV RECEIVER
# AVH-P4100DVD/XN/UC
## DVD RDS AV RECEIVER
# AVH-P4100DVD/XNEW5
# AVH-P4100DVD/XNUW5

**This service manual should be used together with the following manual(s):**

| Model No. | Order No. | Mech.Module | Remarks |
|---|---|---|---|
| CX-3250 | CRT4300 | LS1 | DVD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly |

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For details, refer to "Important Check Points for Good Servicing".

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# SAFETY INFORMATION

**CAUTION**

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safety repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safety, you should not risk trying to do so and refer the repair to a qualified service technician.

**WARNING**

This product contains certain electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

**Where in a manufacturer's service documentation, for example in circuit diagrams or lists of components, a symbol is used to indicate that a specific component shall be replaced only by the component specified in that documentation for safety reasons, the following symbol shall be used:**

This product contains mercury. Disposal of this material may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

The backlighting lamp of LCD in this equipment contains mercury. Disposal of this material may be regulated due to environmental considerations according to Local, State or Federal Laws. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: www.eiae.org

● **Safety Precautions for those who Service this Unit.**
**When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.**

**Caution:**

1. **During repair or tests, minimum distance of 13 cm from the focus lens must be kept.**
2. **During repair or tests, do not view laser beam for 10 seconds or longer.**

**CAUTION:**
**USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**

**CAUTION**
**CLASS 1M INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS**

## WARNING!

The AEL (accessible emission level )of the laser power output is less than CLASS 1 but the laser component is capable of emitting radiation exceeding the limit for CLASS 1.
A specially instructed person should do servicing operation of the apparatus.

## Laser diode characteristics

Wave length:
DVD:660 nm to 670 nm
CD:780 nm to 800 nm

Focus lens on Maximum output:
CD:6.26 mW(Emitting period :9 sec.)
DVD:1.27 mW (Emitting period : unlimited)

## Additional Laser Caution

Transistors Q1103 and Q1104 in PCB drive the laser diodes for DVD and CD respectively. When Q1103 or Q1104 is shorted between their terminals, the laser diodes for DVD or CD will radiate beam. If the top cover is removed with no disc loaded while such short-circuit is continued, the naked eyes may be exposed to the laser beam.

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

### 1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

### 2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

### 4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

# CONTENTS


SAFETY INFORMATION ..... 2
1. SERVICE PRECAUTIONS ..... 6
1.1 SERVICE PRECAUTIONS ..... 6
1.2 NOTES ON SOLDERING ..... 7
2. SPECIFICATIONS ..... 8
2.1 SPECIFICATIONS ..... 8
2.2 DISC/CONTENT FORMAT ..... 11
2.3 PANEL FACILITIES ..... 13
2.4 CONNECTION DIAGRAM ..... 15
3. BASIC ITEMS FOR SERVICE ..... 21
3.1 CHECK POINTS AFTER SERVICING ..... 21
3.2 PCB LOCATIONS ..... 22
3.3 JIGS LIST ..... 23
3.4 CLEANING ..... 24
4. BLOCK DIAGRAM ..... 26
4.1 OVERALL CONNECTION DIAGRAM ..... 26
4.2 BLOCK DIAGRAM ..... 28
5. DIAGNOSIS ..... 36
5.1 OPERATIONAL FLOWCHART ..... 36
5.2 INSPECTION METHOD OF PICKUP UNIT ..... 37
5.3 DIAGNOSIS FLOWCHART ..... 40
5.4 ERROR CODE LIST ..... 67
5.5 CONNECTOR FUNCTION DESCRIPTION ..... 70
6. SERVICE MODE ..... 71
6.1 MONITOR TEST MODE ..... 71
6.2 DVD TEST MODE ..... 91
6.3 DVD TOUCH PANEL TEST MODE ..... 95
7. DISASSEMBLY ..... 96
8. EACH SETTING AND ADJUSTMENT ..... 105
8.1 DVD ADJUSTMENT ..... 105
8.2 MONITOR UNIT ADJUSTMENT ..... 113
8.3 PCL OUTPUT CONFIRMATION ..... 116
9. EXPLODED VIEWS AND PARTS LIST ..... 117
9.1 PACKING(AVH-P4100DVD/XN/UC) ..... 118
9.2 PACKING(AVH-P4100DVD/XNEW5, XNUW5) ..... 120
9.3 EXTERIOR(1) ..... 122
9.4 EXTERIOR(2) ..... 124
9.5 EXTERIOR(3) ..... 126
9.6 DVD MECHANISM MODULE ..... 128
10. SCHEMATIC DIAGRAM ..... 132
10.1 MOTHER PCB(ANALOG) ..... 132
10.2 MOTHER PCB(TUNER) ..... 134
10.3 MOTHER PCB(SYSTEM)(GUIDE PAGE) ..... 136
10.4 MOTHER PCB(POWER SUPPLY) ..... 142
10.5 IF PCB ..... 144
10.6 DVD CORE UNIT(GUIDE PAGE) ..... 146
10.7 CONNECT PCB ..... 152
10.8 KEYBOARD UNIT ..... 154
10.9 MONITOR UNIT(uCOM)(GUIDE PAGE) ..... 156
10.10 MONITOR UNIT(MONITOR)(GUIDE PAGE) ..... 162
10.11 SERVICE PCB ASSY ..... 168
10.12 WAVEFORMS ..... 170
11. PCB CONNECTION DIAGRAM ..... 172
11.1 MOTHER PCB ..... 172
11.2 DVD CORE UNIT ..... 176
11.3 CONNECT PCB ..... 178
11.4 KEYBOARD UNIT ..... 180
11.5 MONITOR UNIT ..... 182
11.6 SERVICE PCB ASSY ..... 186
11.7 IF PCB ..... 188
12. ELECTRICAL PARTS LIST ..... 189

# 1. SERVICE PRECAUTIONS

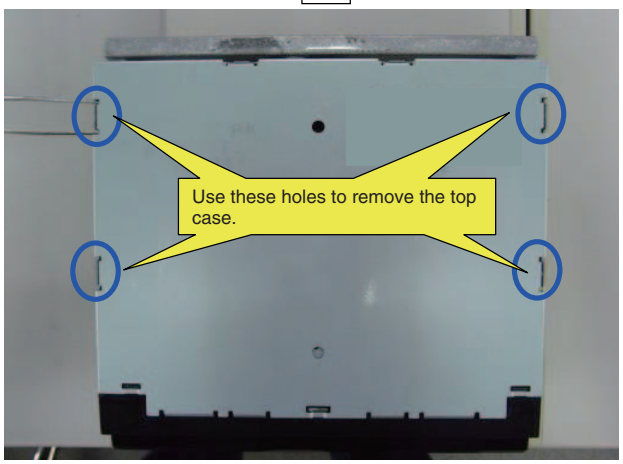
## 1.1 SERVICE PRECAUTIONS

1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.
3. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
4. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY" .
5. After replacing the pickup unit, be sure to skew adjustment.
6. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
7. After the replacement of LS1 mecha, connect ACC and BUP, and then press RESET button.
   ->Some functions such as BOOK mark may not work normally.
8. Connector CN5001 in the monitor unit : When you remove the flexible from the CKS5951, hold up the end of the flexible holddown part to remove it.
   ->There is a possibility of breakage of connector pin.
9. Connector CN5001 in the monitor unit : CKS5951 is a connector of both contact points.
   If you insert the flexible inversely, there is a possibility of IC damaged because of unintended connection.
   So please take care not to insert it inversely. If perchance you insert it inversely, you need to replace the unit.
10. The FFC styling between mother unit and DVD mecha (LS1) requires careful attention. Fold FFC to the mecha side and style it.
11. Eject lock
    How to enter:Reset with [VOL-] key and [SOURCE] key pressed.
    Summary:DISC EJECT behavior of built-in DVD mecha is prohibited
    It is for DISC antitheft from the storefront display.
    With or without DISC, the behavior of pressing EJECT key during the EJECT lock is as follows.
    During grille closed
    Press EJECT key -> Grille is opened.
    *The key is valid at the point of being pressed (BEEP). To Leave the key makes grille opened.
    During grille opened
    Press EJECT key -> Grille is closed.
    *The key is valid at the point of being pressed (BEEP). To Leave the key makes grille opened
    Remarks: [Notes] EJECT lock is not unlocked by turning ACC ON or product reset.
    To unlock it, you need to operate keys as above.
    For existing model (AVH-P9DVA), it is unlocked by turning ACC ON or reset.
12. Background display data is stored in IC5201. So, if you replace the IC, user photo data will be lost.
13. If the gasket (CNN2782) on the FM/AM tuner unit was damaged or lost, then the reception sensitivity would be poor. So, replace it with the new one.

**NOTE: When you remove the top case**

**NG**

**OK**



# 1.2 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ˚C.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ˚C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

# 2. SPECIFICATIONS
## 2.1 SPECIFICATIONS

AVH-P4100DVD/XN/UC

### General

Power source ..... 14.4 V DC (10.8 V to 15.1 V allowable)
Grounding system..... Negative type
Max. current consumption ..... 10.0 A
Backup current ..... 2.2 mA or less

Dimensions (W × H × D):
- DIN
  - Chassis..... 178 mm × 100 mm × 165 mm (7 in. × 3-7/8 in. × 6-1/2 in.)
  - Nose ..... 171 mm × 97 mm × 9 mm (6-3/4 in.× 3-7/8 in.× 3/8 in.)

Weight ..... 1.7 kg(3.7 lbs)

### Display

Screen size/aspect ratio.....6.95 inch wide/16:9 (effective display area: 155.2 × 81.3 mm)
Pixels ..... 336 960 (1 440 × 234)
Display method ..... TFT active matrix
Color system..... NTSC
Durable temperature range (power off) ..... -20 °C to +80 °C

### Audio

Maximum power output ..... 50 W × 4
50 W × 2/4 Ω + 70 W × 1/2 Ω (for subwoofer)
Continuous power output .. 22 W × 4 (1 kHz, 5% THD, 4 Ω load, both channels driven)
Load impedance ..... 4 Ω to 8 Ω × 4
4 Ω to 8 Ω × 2 + 2 Ω × 1
Preout max output level ..... 4.0 V
Equalizer (3-Band Parametric Equalizer):
- Low
  - Frequency ..... 40/80/100/160 Hz
  - Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
  - Gain ..... ±12 dB
- Mid
  - Frequency ..... 200/500/1k/2k Hz
  - Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
  - Gain ..... ±12 dB
- High
  - Frequency ..... 3.15k/8k/10k/12.5k Hz
  - Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
  - Gain ..... ±12 dB

HPF:
- Frequency ..... 50/63/80/100/125 Hz
- Slope ..... –12 dB/oct

Subwoofer (mono):
- Frequency ..... 50/63/80/100/125 Hz
- Slope ..... –18 dB/oct
- Gain ..... +6 dB to –24 dB
- Phase ..... Normal/Reverse

Bass boost:
- Gain ..... +12 dB to 0 dB

### DVD Player

System ..... DVD video, Video CD, CD, WMA, MP3, AAC, DivX, JPEG system
Usable discs ..... DVD video, Video CD, CD, CD-R/RW, DVD-R/RW/RDL
Region number ..... 1
Frequency response ..... 5 Hz to 44 000 Hz (with DVD, at sampling frequency 96 kHz)
Signal-to-noise ratio..... 96 dB (1 kHz) (IHF-A network) (RCA level)
Output level:
- Video ..... 1.0 Vp-p/75 Ω (±0.2 V)

Number of channels ..... 2 (stereo)
MP3 decoding format .....MPEG-1 & 2 Audio Layer 3
WMA decoding format ..... Ver. 7,7.1, 8, 9, 10, 11 (2ch audio) (Windows Media Player)
AAC decoding format.....MPEG-4 AAC (iTunes encoded only) (.m4a) (Ver. 8.0 and earlier)
DivX decoding format.....Home Theater Ver. 3, 4, 5.2, 6 (.avi, .divx)

### USB

USB standard specification ..... USB 1.1, USB 2.0 full speed
Maximum current supply ... 500 mA
USB Class ..... MSC (Mass Storage Class)
File system..... FAT16, FAT32
MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3
WMA decoding format ..... Ver. 7,7.1, 8, 9, 10, 11 (2ch audio) (Windows Media Player)
AAC decoding format..... MPEG-4 AAC (iTunes encoded only) (.m4a) (Ver. 8.0 and earlier)

### FM tuner

Frequency range ..... 87.9 MHz to 107.9 MHz
Usable sensitivity..... 9 dBf (0.8 µV/75 Ω, mono, S/N: 30 dB)

Signal-to-noise ratio..... 72 dB (IHF-A network)

### AM tuner

Frequency range ..... 530 kHz to 1 710 kHz (10 kHz)
Usable sensitivity..... 25 µV (S/N: 20 dB)
Signal-to-noise ratio..... 62 dB (IHF-A network)

### CEA2006 Specifications

Power output ..... 14 W RMS × 4 Channels (4 Ω and ≦1 % THD+N)
S/N ratio ..... 91 dBA (reference: 1 W into 4 Ω)

**Note**

Specifications and the design are subject to modifications without notice due to improvements. ■

# AVH-P4100DVD/XNEW5, AVH-P4100DVD/XNUW5

## General

Power source ..... 14.4 V DC (10.8 V to 15.1 V allowable)
Grounding system..... Negative type
Max. current consumption ..... 10.0 A
Backup current ..... 2.2 mA or less

Dimensions (W × H × D):
- DIN
  - Chassis..... 178 mm × 100 mm × 165 mm
  - Nose ..... 171 mm × 97 mm × 9 mm

Weight ..... 1.7 kg

## Display

Screen size/aspect ratio..... 6.95 inch wide/16:9 (effective display area: 155.2 × 81.3 mm)
Pixels ..... 336 960 (1 440 × 234)
Display method ..... TFT active matrix
Color system..... PAL/SECAM compatible
Durable temperature range (power off) ..... -20 °C to +80 °C

## Audio

Maximum power output ..... 50 W × 4
50 W × 2/4 Ω + 70 W × 1/2 Ω (for subwoofer)
Continuous power output .. 22 W × 4 (1 kHz, 5% THD, 4 Ω load, both channels driven)
Load impedance ..... 4 Ω to 8 Ω × 4
4 Ω to 8 Ω × 2 + 2 Ω × 1
Preout max output level ..... 4.0 V
Equalizer (3-Band Parametric Equalizer):
- Low
  - Frequency ..... 40/80/100/160 Hz
  - Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
  - Gain ..... ±12 dB
- Mid
  - Frequency ..... 200/500/1k/2k Hz
  - Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
  - Gain ..... ±12 dB
- High
  - Frequency ..... 3.15k/8k/10k/12.5k Hz
  - Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
  - Gain ..... ±12 dB

HPF:
- Frequency ..... 50/63/80/100/125 Hz
- Slope .....–12 dB/oct

Subwoofer (mono):
- Frequency ..... 50/63/80/100/125 Hz
- Slope ..... –18 dB/oct
- Gain ..... +6 dB to –24 dB
- Phase ..... Normal/Reverse

Bass boost:
- Gain ..... +12 dB to 0 dB

## DVD Player

System ..... DVD video, DVD-VR, Video CD, CD, WMA, MP3, AAC, DivX, JPEG system
Usable discs ..... DVD video, Video CD, CD, CD-R/RW, DVD-R/RW/RDL
Region number ..... 2 (EW5)
5 (UW5)
Frequency response..... 5 Hz to 44 000 Hz (with DVD, at sampling frequency 96 kHz)
Signal-to-noise ratio ..... 96 dB (1 kHz) (IEC-A network) (RCA level)
Output level:
- Video ..... 1.0 Vp-p/75 Ω (±0.2 V)

Number of channels ..... 2 (stereo)
MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3
WMA decoding format ..... Ver. 7,7.1, 8, 9, 10, 11 (2ch audio)
(Windows Media Player)
AAC decoding format..... MPEG-4 AAC (iTunes encoded only) (.m4a)
(Ver. 8.0 and earlier)
DivX decoding format..... Home Theater Ver. 3, 4, 5.2, 6 (.avi, .divx)

## USB

USB standard specification ..... USB 1.1, USB 2.0 full speed
Maximum current supply ... 500 mA
USB Class ..... MSC (Mass Storage Class)
File system..... FAT16, FAT32
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(Windows Media Player)
AAC decoding format..... MPEG-4 AAC (iTunes encoded only) (.m4a)
(Ver. 8.0 and earlier)

## FM tuner

Frequency range ..... 87.5 MHz to 108.0 MHz
Usable sensitivity..... 9 dBf (0.8 µV/75 Ω, mono, S/N: 30 dB)
Signal-to-noise ratio ..... 72 dB (IEC-A network)

## MW tuner

Frequency range ..... 531 kHz to 1 602 kHz (9 kHz)
Usable sensitivity..... 25 µV (S/N: 20 dB)
Signal-to-noise ratio ..... 62 dB (IEC-A network)

## LW tuner

Frequency range ..... 153 kHz to 281 kHz
Usable sensitivity..... 28 µV (S/N: 20 dB)
Signal-to-noise ratio ..... 62 dB (IEC-A network)

**Note**

Specifications and the design are subject to modifications without notice due to improvements.

## 2.2 DISC/CONTENT FORMAT

### Handling guideline of discs and player

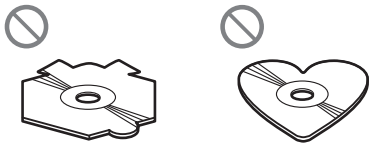
- Use only discs featuring any of following logos.

**DVD video**

**Video CD**

**CD**

- Use only normal, round discs. If you insert irregular, non-round, shaped discs they may jam in the DVD player or not play properly.



- Check all discs for cracks, scratches or warping before playing. Discs that have cracks, scratches or are warped may not play properly. Do not use such discs.
- Avoid touching the recorded (non-printed) surface when handling the disc.
- Store discs in their cases when not in use.
- Keep discs out of direct sunlight and do not expose the discs to high temperatures.
- Do not attach labels, write on or apply chemicals to the surface of the discs.
- To clean a disc, wipe the disc with a soft cloth outward from the center.

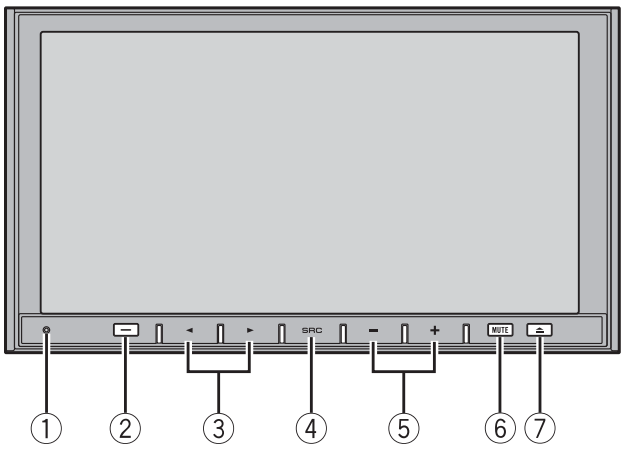
- If the heater is used in cold weather, condensation may form on components inside the DVD player. Condensation may cause the DVD player to not operate properly. If you think that condensation is a problem turn off the DVD player for an hour or so to allow it to dry out and wipe any damp discs with a soft cloth to remove the moisture.
- Road shocks may interrupt disc playback.

**is a trademark of DVD Format/Logo Licensing Corporation.**

AVH-P4100DVD/XN/UC

## 2.3 PANEL FACILITIES

AVH-P4100DVD/XN/UC, AVH-P4100DVD/XNEW5




# Head unit

① **RESET button**
Press to return to the factory settings (initial settings).

② **DISP OFF button**
Press to turn the information display on or off.

③ **◄/► (TRACK) buttons**
Press to do manual seek tuning, fast forward, reverse and track search controls.

④ **SRC/OFF button**
Press to cycle through all the available sources. Press and hold to turn the source off.

⑤ **+/– (VOLUME) buttons**
Press to increase or decrease the volume.

⑥ **MUTE button**
Press to turn off the sound. To turn on the sound, press again.

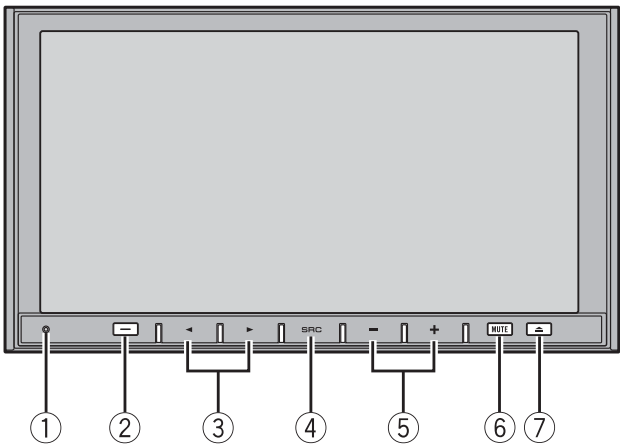
⑦ **⏏ (eject) button**
Press to eject a disc from this unit.▣

# Optional remote control

The remote control CD-R55 is sold separately.

For details concerning operations, see the remote control manual.▣

AVH-P4100DVD/XNUW5




## Head unit

① **RESET button**
Press to return to the factory settings (initial settings).

② **DISP OFFAV/NAVI button**
Press to turn the information display on or off.
If separately sold navigation unit is connected to this unit via RGB cable, pressing and holding this button switches between navigation display and audio display.

③ **◄/► (TRACK) buttons**
Press to do manual seek tuning, fast forward, reverse and track search controls.

④ **SRC/OFF button**
Press to cycle through all the available sources. Press and hold to turn the source off.

⑤ **+/− (VOLUME) buttons**
Press to increase or decrease the volume.

⑥ **MUTE button**
Press to turn off the sound. To turn on the sound, press again.

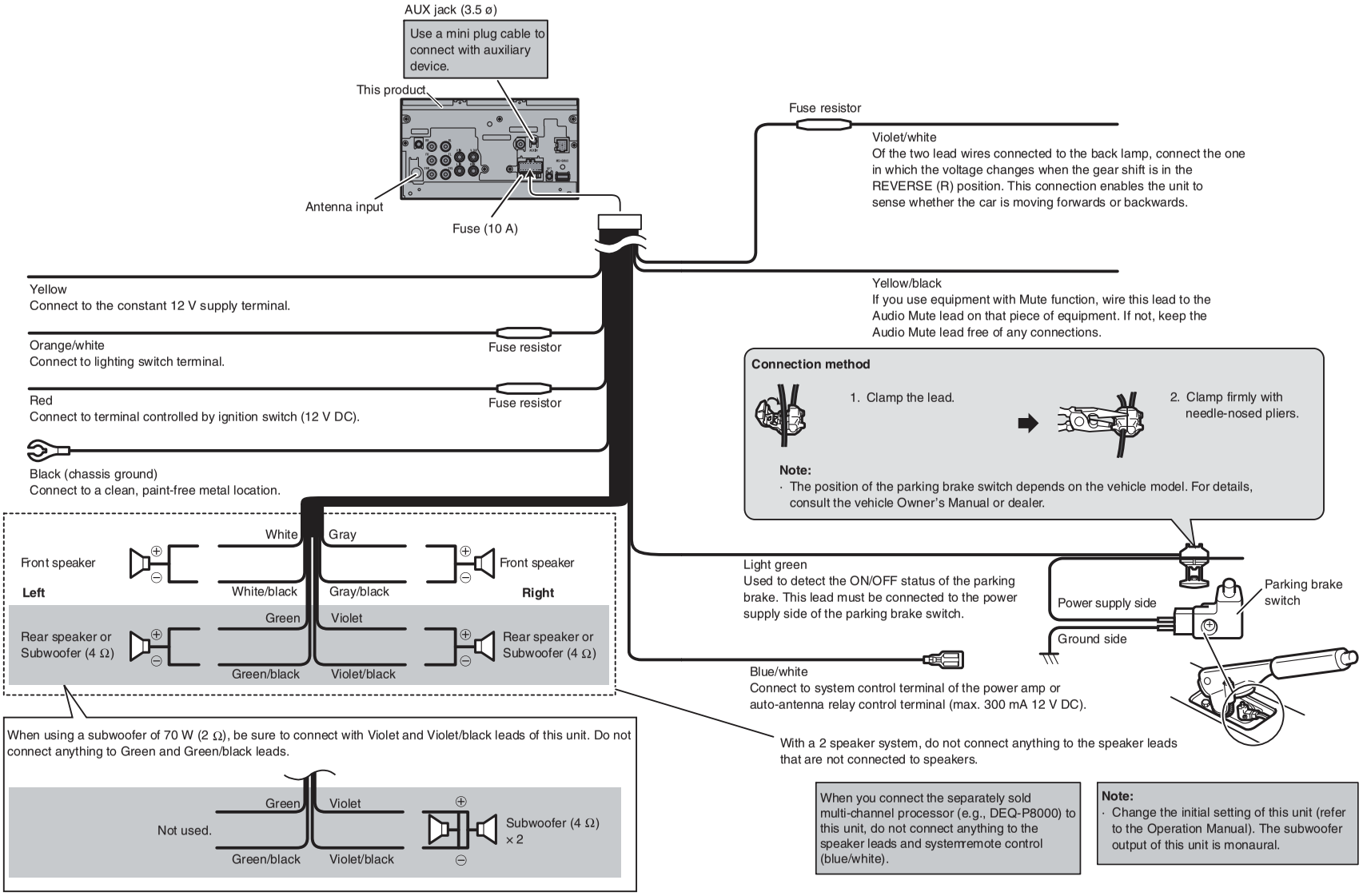
⑦ **⏏ (eject) button**
Press to eject a disc from this unit.▣

## Optional remote control

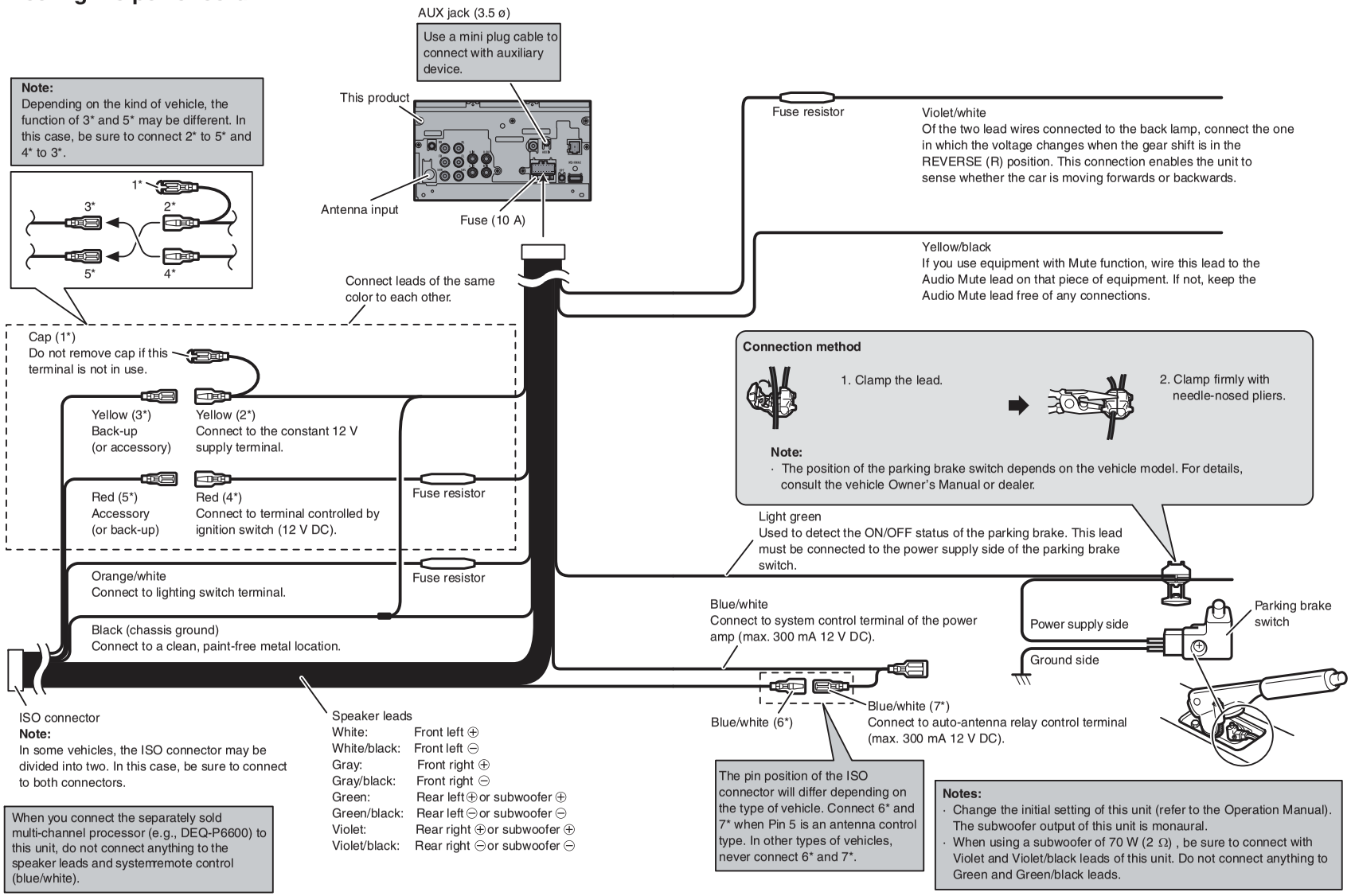
The remote control CD-R55 is sold separately. For details concerning operations, see the remote control manual.▣

# AVH-P4100DVD/XN/UC

## Connecting the power cord

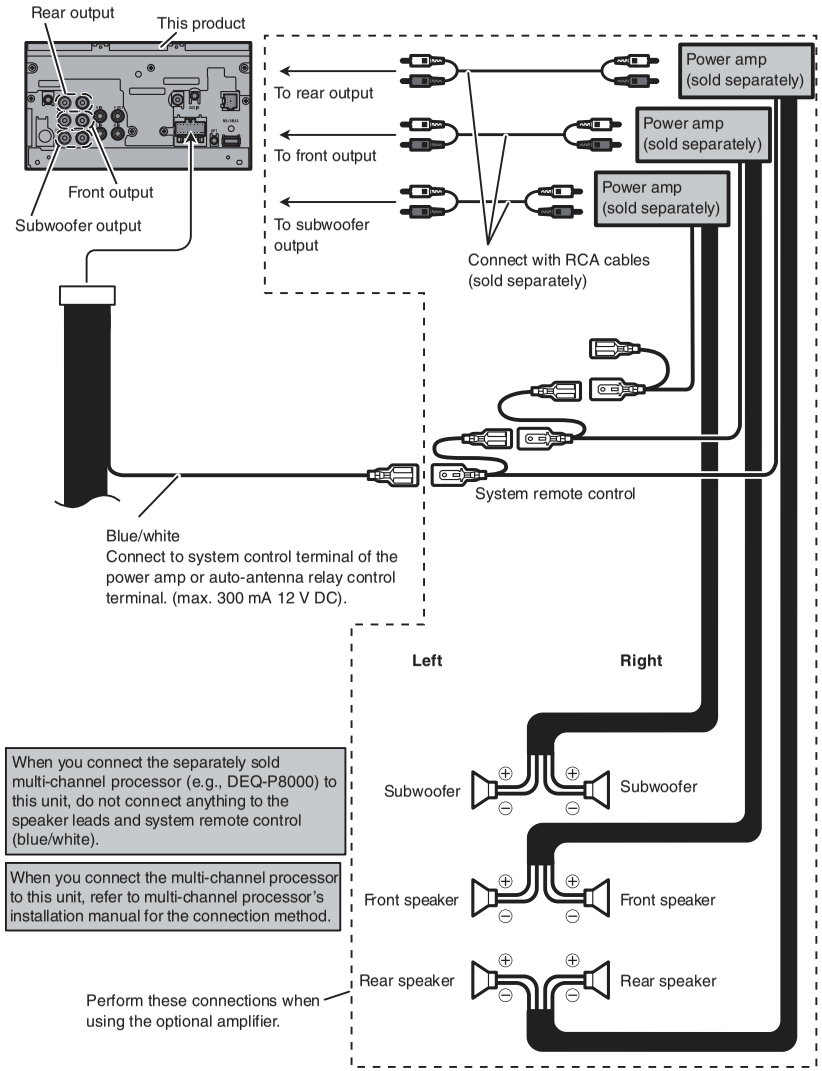


## Connecting the power cord



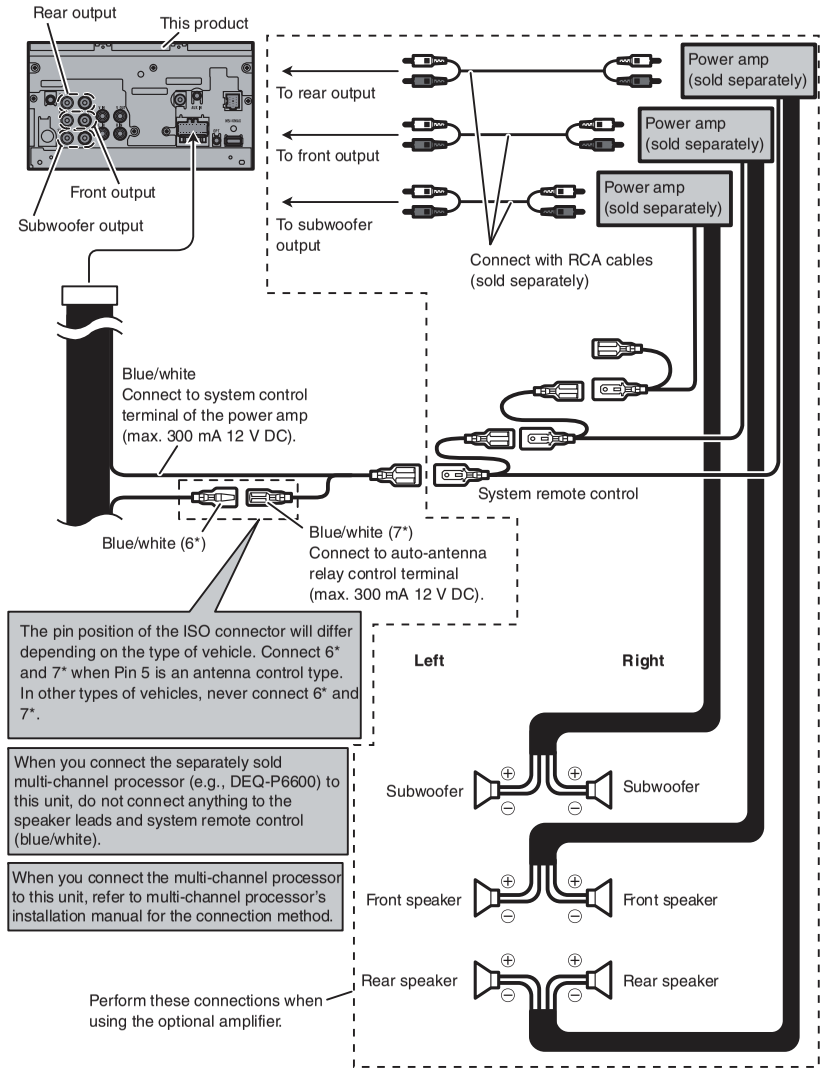
## AVH-P4100DVD/XN/UC

### When connecting to separately sold power amp

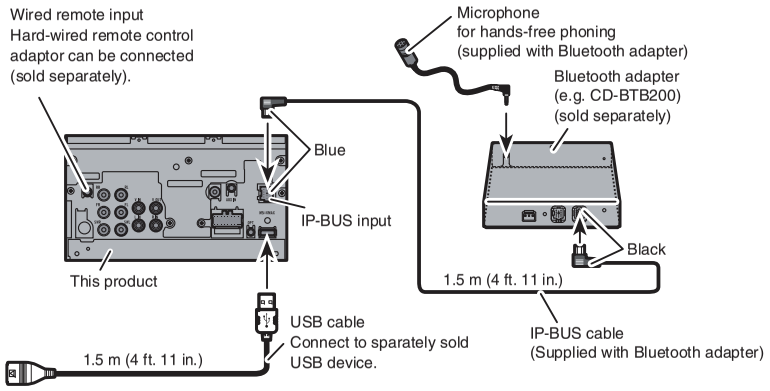



## AVH-P4100DVD/XNEW5, AVH-P4100DVD/XNUW5

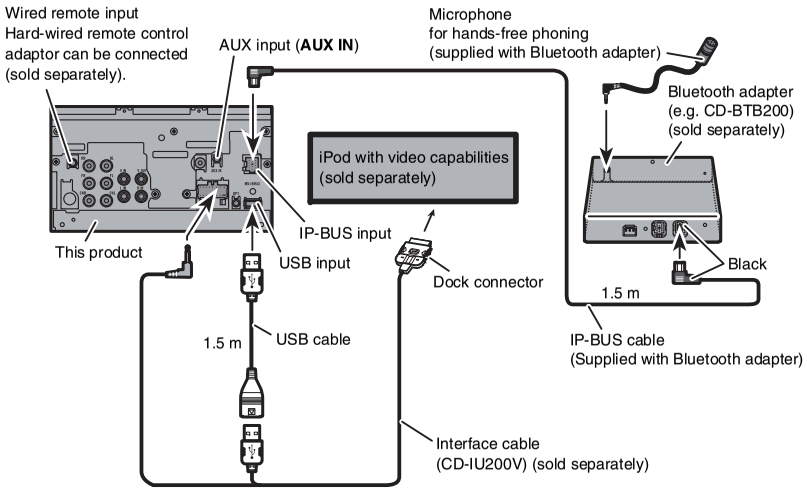
### When connecting to separately sold power amp



## When connecting with supplied USB cable




## When connecting with optional CD-IU200V cable




## When connecting with a rear view camera

When this product is used with a rear view camera, it is possible to automatically switch from the video to rear view image when the gear shift is moved to REVERSE (R).

**⚠ WARNING**

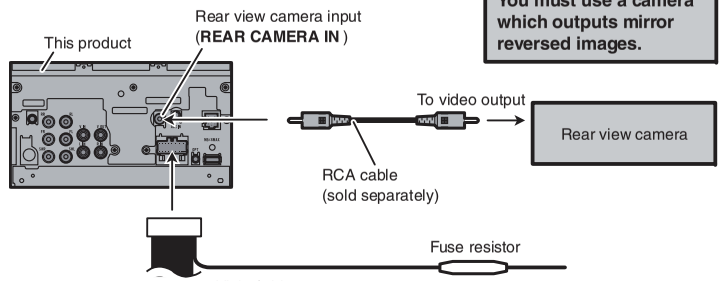
**USE INPUT ONLY FOR REVERSE OR MIRROR IMAGE REAR VIEW CAMERA. OTHER USE MAY RESULT IN INJURY OR DAMAGE.**

**⚠ CAUTION**

- The screen image may appear reversed.
- The rear view camera function is to be used as an aid for backing into a tight parking spot. Do not use this function for entertainment purposes.
- Objects in the rear view may appear closer or more distant than they actually are.

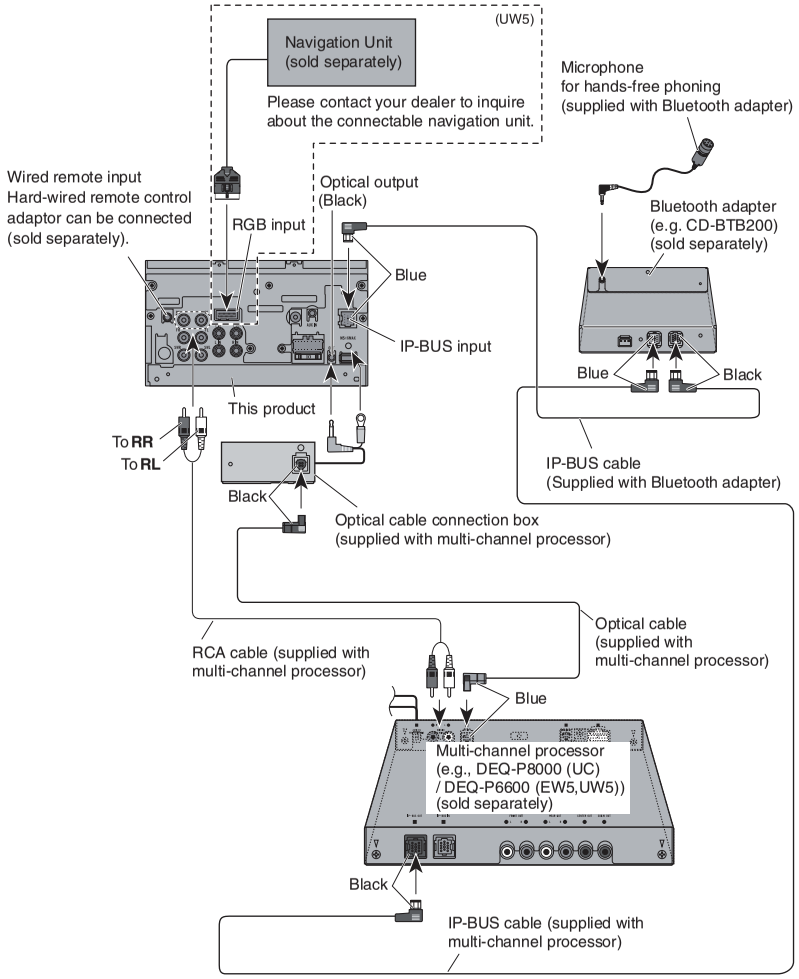
**⚠ CAUTION**

**You must use a camera which outputs mirror reversed images.**




- It is necessary to set **Camera Polarity** properly in **System Menu** when connecting the rear view camera.

## When connecting with a multi-channel processor




## Connecting and installing the optical cable connection box

### ⚠ WARNING

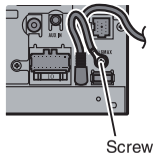
- **Avoid installing the optical cable connection box in locations where the operation of safety devices such as airbags is prevented by this unit. Otherwise, there is a danger of a fatal accident.**
- **Avoid installing the optical cable connection box in locations where the operation of the brake may be prevented. Otherwise, it may result in a traffic accident.**
- **Fix the optical cable connection box securely with the hook and loop fastener or lock tie. If the unit is loose, it disturbs driving stability, which may result in a traffic accident.**

### ⚠ CAUTION

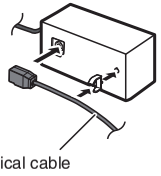
- Install this unit using only the parts supplied with this unit. If other parts are used, this unit may be damaged or could dismount itself, which leads to an accident or other problems.
- Do not install this unit near the doors where rainwater is likely to be spilled on the unit. Incursion of water into the unit may cause smoke or fire.

### Connecting the optical cable

1. **Connect the optical cable and ground lead to the main unit.**
   Connect the optical cable so that it does not protrude from the main unit, as shown in the illustration. Fasten the ground lead to the protrusion on the back of the main unit.

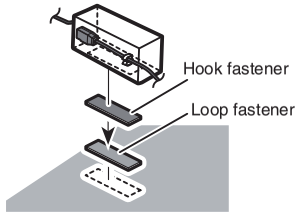



2. **Connect the optical cable to the optical cable connection box.**

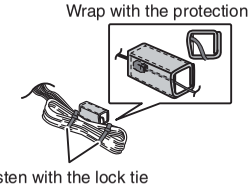



### Installing the optical cable connection box

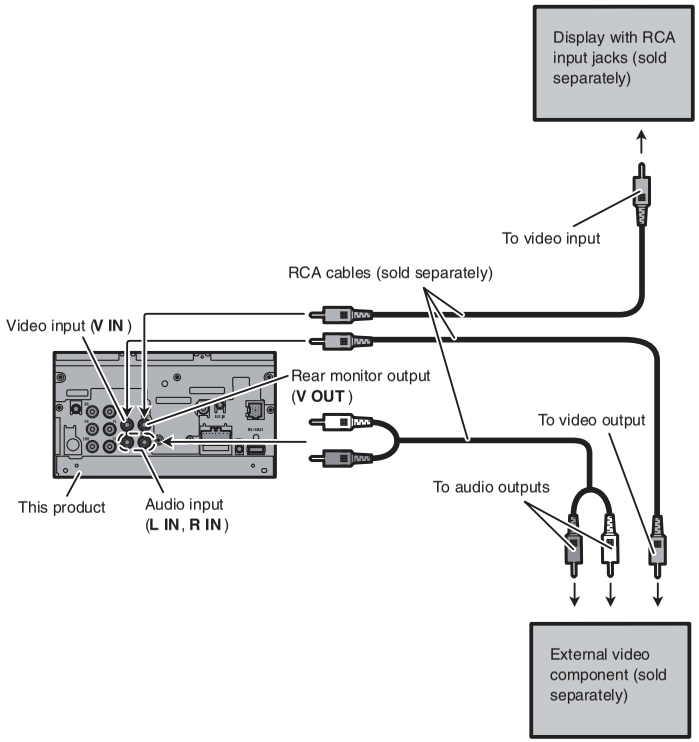
- **When installing the optical cable connection box with the hook and loop fastener.**
  Install the optical cable connection box using the hook and loop fastener in the ample space of the console box.




- **When installing the optical cable connection box with the lock tie.**
  Wrap the optical cable and connection box with the protection tape and fasten with the power code using the lock tie.



## When connecting the external video component and the display




- It is necessary to change **AV Input** in **System Menu** when connecting the external video component.

## When using a display connected to rear video output

This product's rear video output is for connection of a display to enable passengers in the rear seats to watch video.

**⚠ WARNING**

**Never install the display in a location where it is visible to the driver while driving.**

# 3. BASIC ITEMS FOR SERVICE

## 3.1 CHECK POINTS AFTER SERVICING

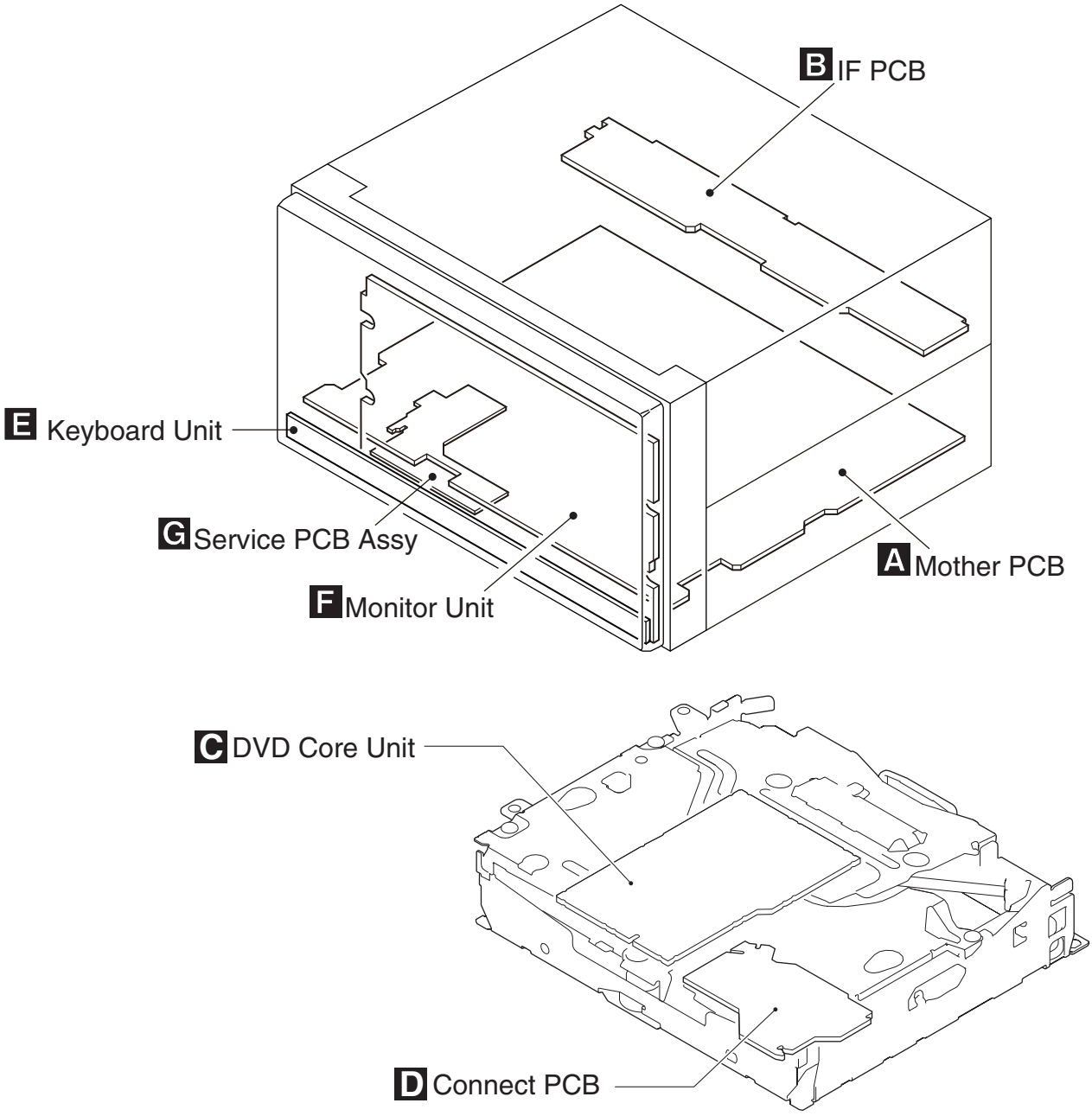
To keep the product quality after servicing, please confirm following check points.

| No. | | Procedures | Check points |
|---|---|---|---|
| 1 | | Confirm whether the customer complain has been solved.<br>If the customer complain occurs with the specific media, use it for the operation check. | The customer complain must not be reappeared.<br>Display, video, audio and operations must be normal. |
| 2 | Flap-mecha | Check the operation of the flap mechanism. | The flap mechanism operation must be smooth without making the noise and scratches. |
| 3 | DVD | Measure playback error rates at the innermost and outermost tracks by using the test mode with the following disc.<br>DVD test disc (TDV-582) | Deterioration of mecha-drive can be checked.<br>The error rate must be less than the threshold value.<br>(Refer to the chapter of DIAGNOSIS for the threshold value.) |
| 4 | DVD | Play back a DVD.<br>(Menu operation; Title/chapter search) | Display, video, audio and operations must be normal. |
| 5 | CD | Play back a CD.<br>(Track search) | Display, audio and operations must be normal. |
| 6 | FM/AM tuner | Check FM/AM tuner action.<br>(Seek, Preset)<br>Switch band to check both FM and AM. | Display, audio and operations must be normal. * If the reception sensitivity is poorer than normal, the gasket on the FM/AM tuner unit may be damaged or lost. |
| 7 | | Check whether no disc is inside the product. | The media used for the operating check must be ejected. |
| 8 | | Appearance check | No scratches or dirt on its appearance after receiving it for service. |

See the table below for the items to be checked regarding video and audio:

| **Item to be checked regarding video** | **Item to be checked regarding audio** |
|---|---|
| Block-noise | Distortion |
| Horizontal noise | Noise |
| Dot noise | Volume too low |
| Disturbed image (video jumpiness) | Volume too high |
| Too dark | Volume fluctuating |
| Too bright | Sound interrupted |
| Mottled color | |
| | |

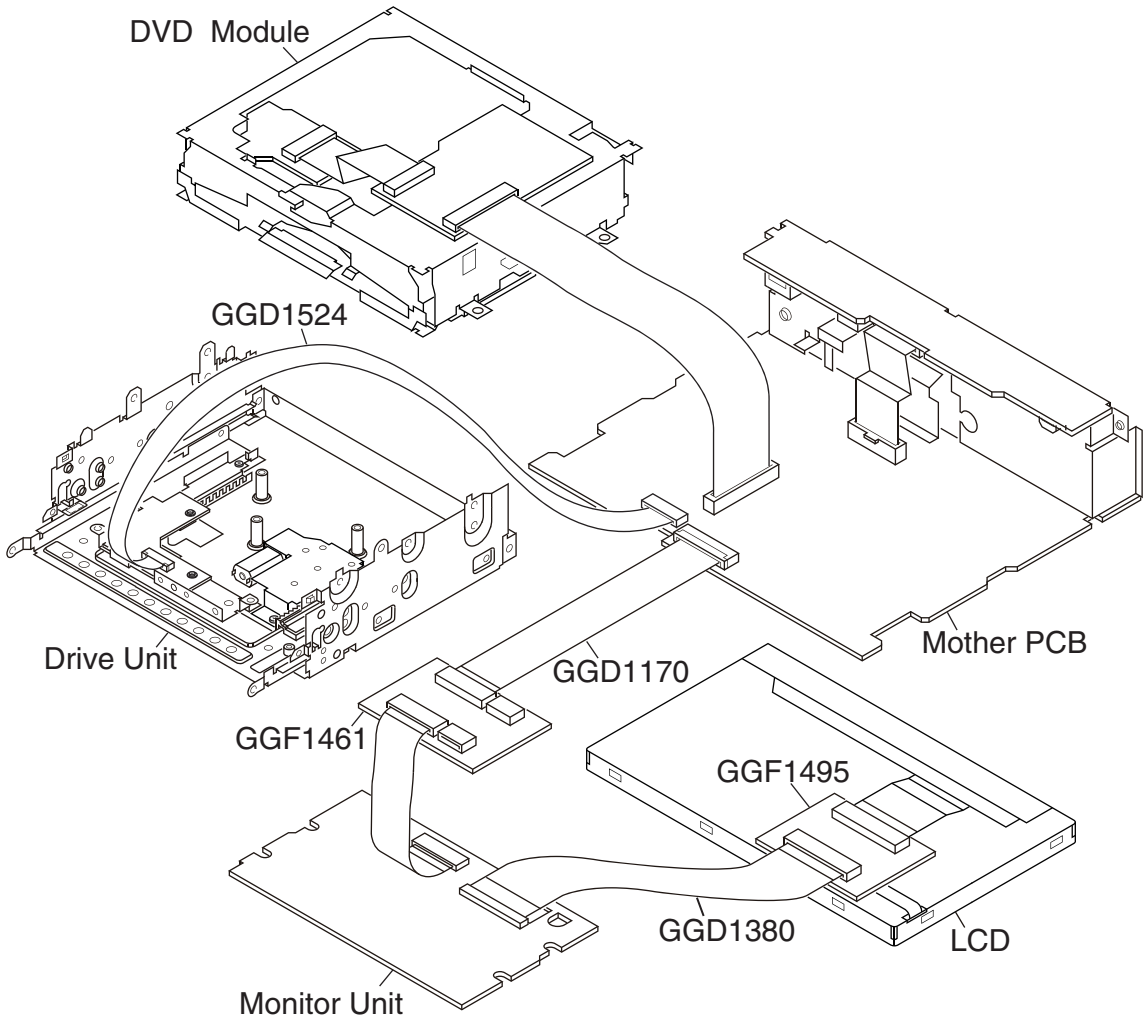
## 3.2 PCB LOCATIONS




| | | |
|---|---|---|
| Mother Unit | | |
| Consists of | | |
| Mother PCB | | |
| IF PCB | | |
| Unit Number | : | CWN3794(UC) |
| Unit Number | : | CWN3790(EW5) |
| Unit Number | : | CWN3795(UW5) |
| Unit Name | : | Mother Unit |
| Unit Number | : | (UC,EW5) |
| Unit Number | : | (UW5) |
| Unit Name | : | Keyboard Unit |

| | | |
|---|---|---|
| Unit Number | : | CWN3797(UC,EW5) |
| Unit Number | : | CWN3796(UW5) |
| Unit Name | : | Monitor Unit |
| Unit Number | : | YWX5007 |
| Unit Name | : | DVD Core Unit |
| Unit Number | : | |
| Unit Name | : | Connect PCB |
| Unit Number | : | EXX1058 |
| Unit Name | : | Service PCB Assy |

## 3.3 JIGS LIST




● **Jigs List**

| Name | Jig No. | Remarks |
|---|---|---|
| 60-Pin Relay PCB | GGF1495 | LCD <--> 60-Pin FFC (GGD1380) |
| 60-Pin FFC | GGD1380 | 60-Pin Relay PCB (GGF1495) <--> Monitor PCB (CN6001) |
| 40-Pin + 20-Pin Relay PCB | GGF1461 | Monitor Unit (CN5001) <--> FFC (CDE8744) |
| 40-Pin FFC | GGD1170 | 40-Pin + 20-Pin Relay PCB (GGF1461) <--> Mother PCB (CN501) |
| 11-Pin FFC | GGD1524 | Mother PCB (CN801) <--> Drive Unit |
| Disc | TDV-582 | Skew adjustment, Check points after servicing, Inspection method of Pickup Unit |
| Disc | TCD-782 | Inspection method of Pickup Unit |

● **Grease List**

| Name | Jig No. | Remarks |
|---|---|---|
| Grease | GEM1024 | DVD Mechanism Module |
| Grease | GEM1038 | DVD Mechanism Module |
| Grease | GEM1045 | DVD Mechanism Module |
| Locking agents | 1401M | Skew adjustment (1401M:produced by THREE BOND) |
| Bond | GEM1033 | Skew adjustment |
| Bond | 1530 | Skew adjustment (1530:produced by THREE BOND) |

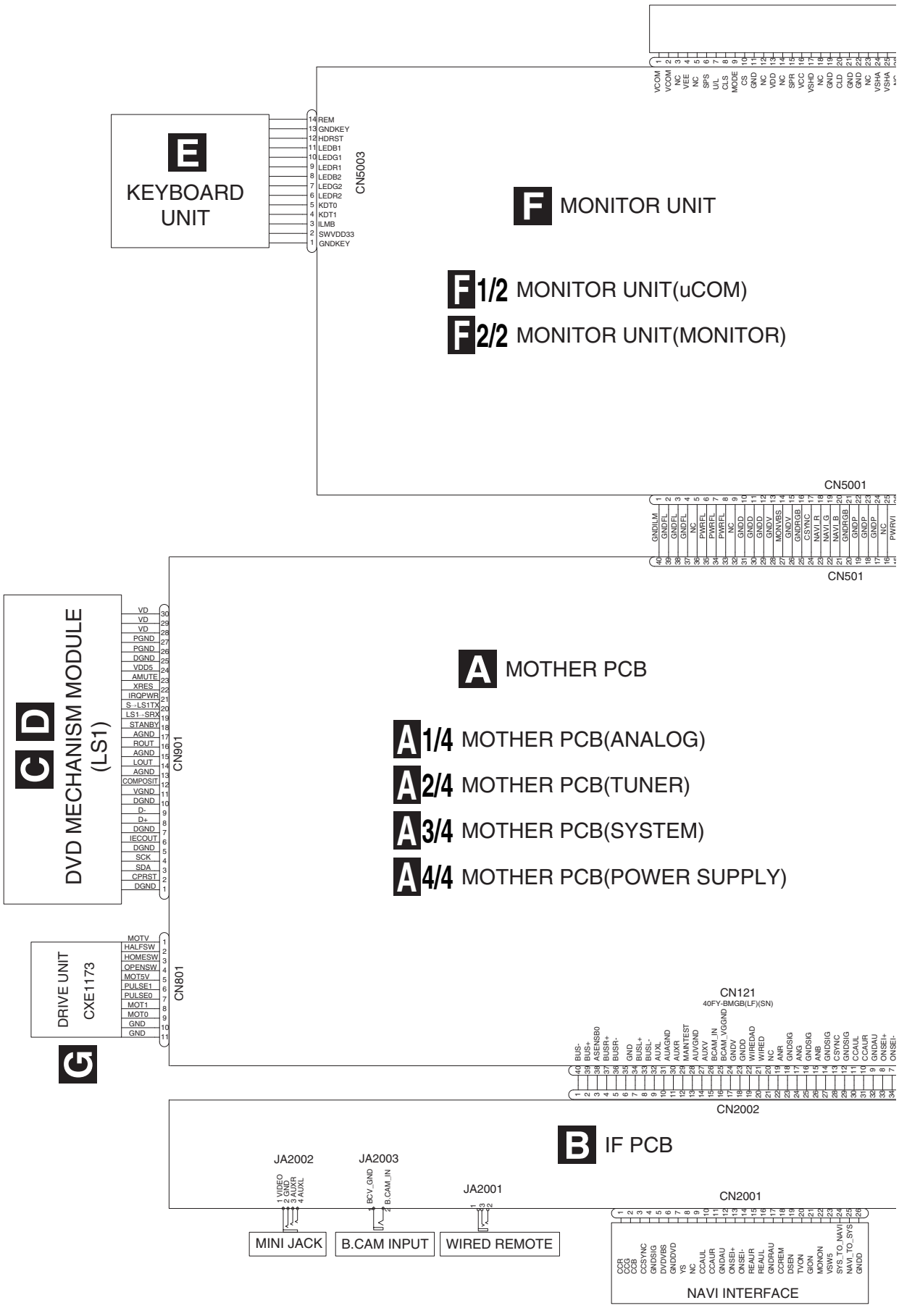
# 3.4 CLEANING

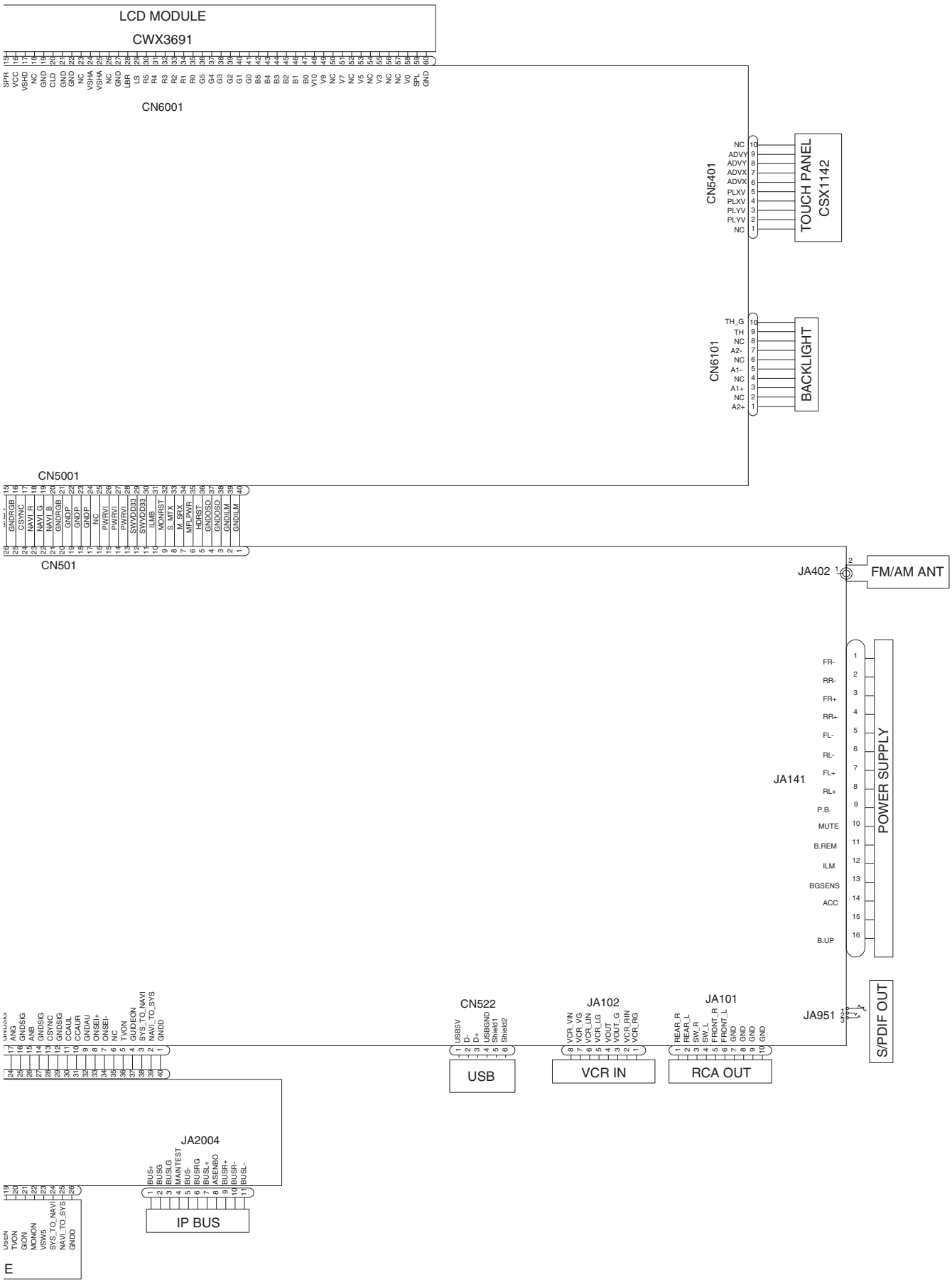
Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

| Portions to be cleaned | Cleaning tools |
|---|---|
| DVD pickup lenses | Cleaning liquid : GEM1004<br>Cleaning paper : GED-008 |

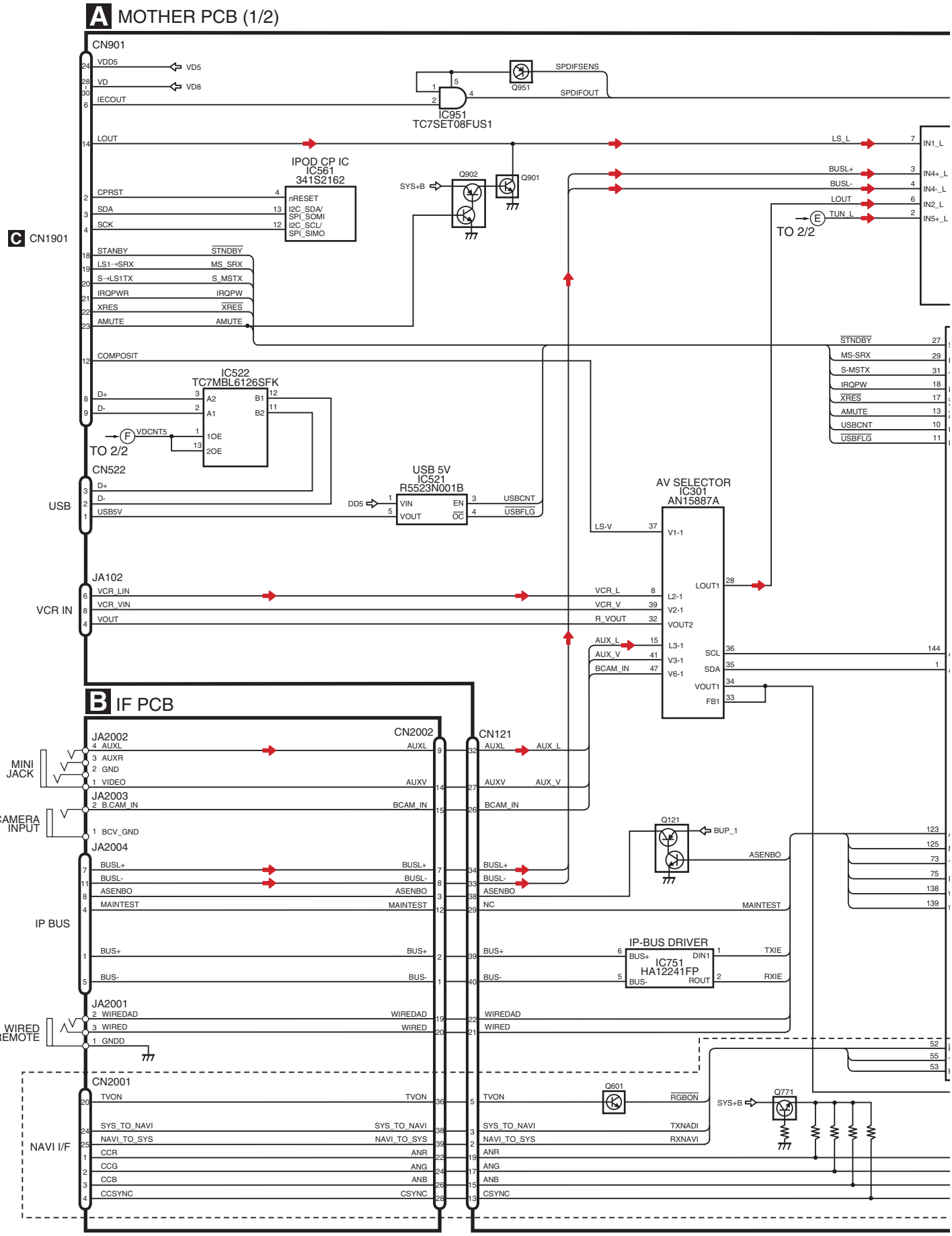
# 4. BLOCK DIAGRAM

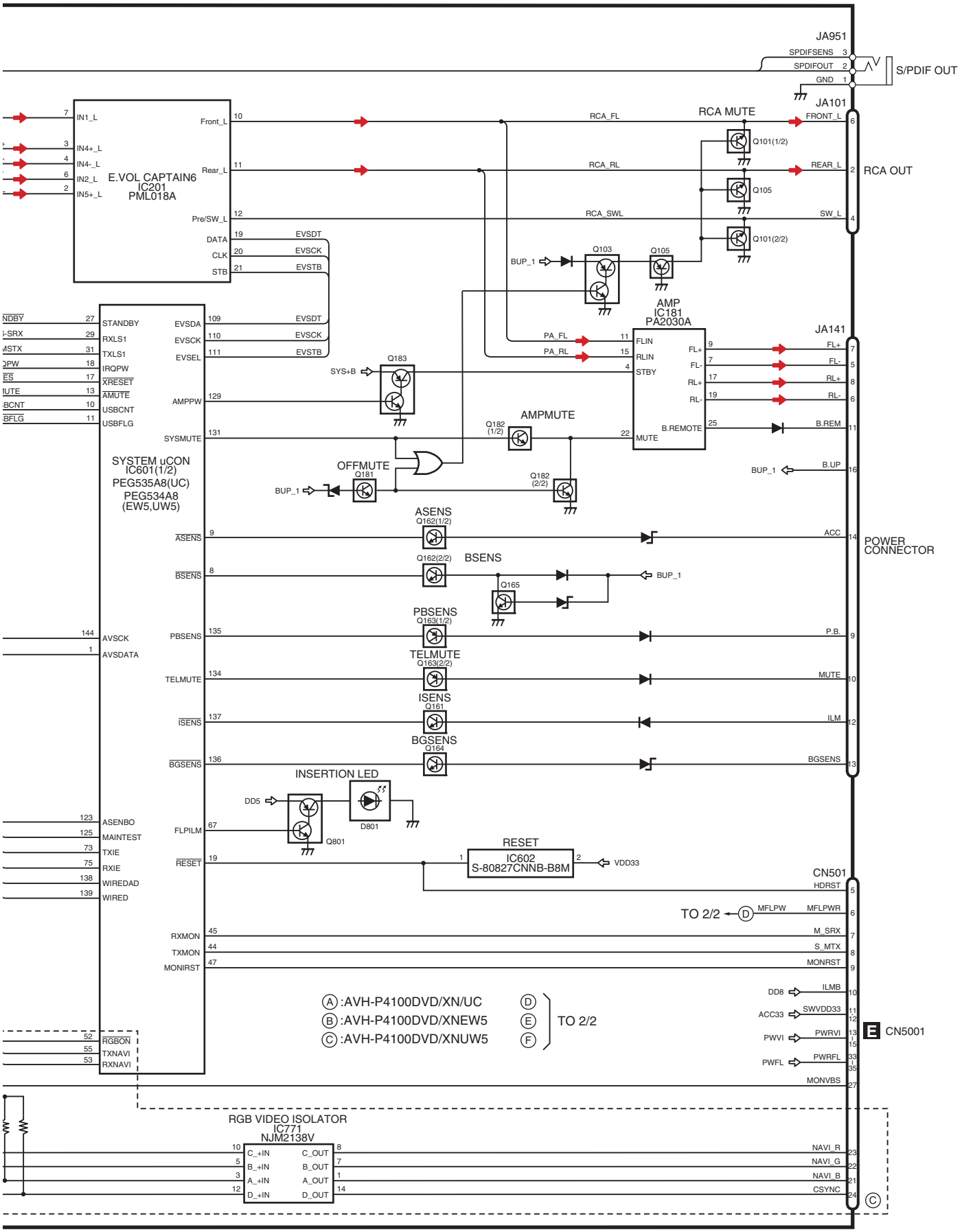
## 4.1 OVERALL CONNECTION DIAGRAM



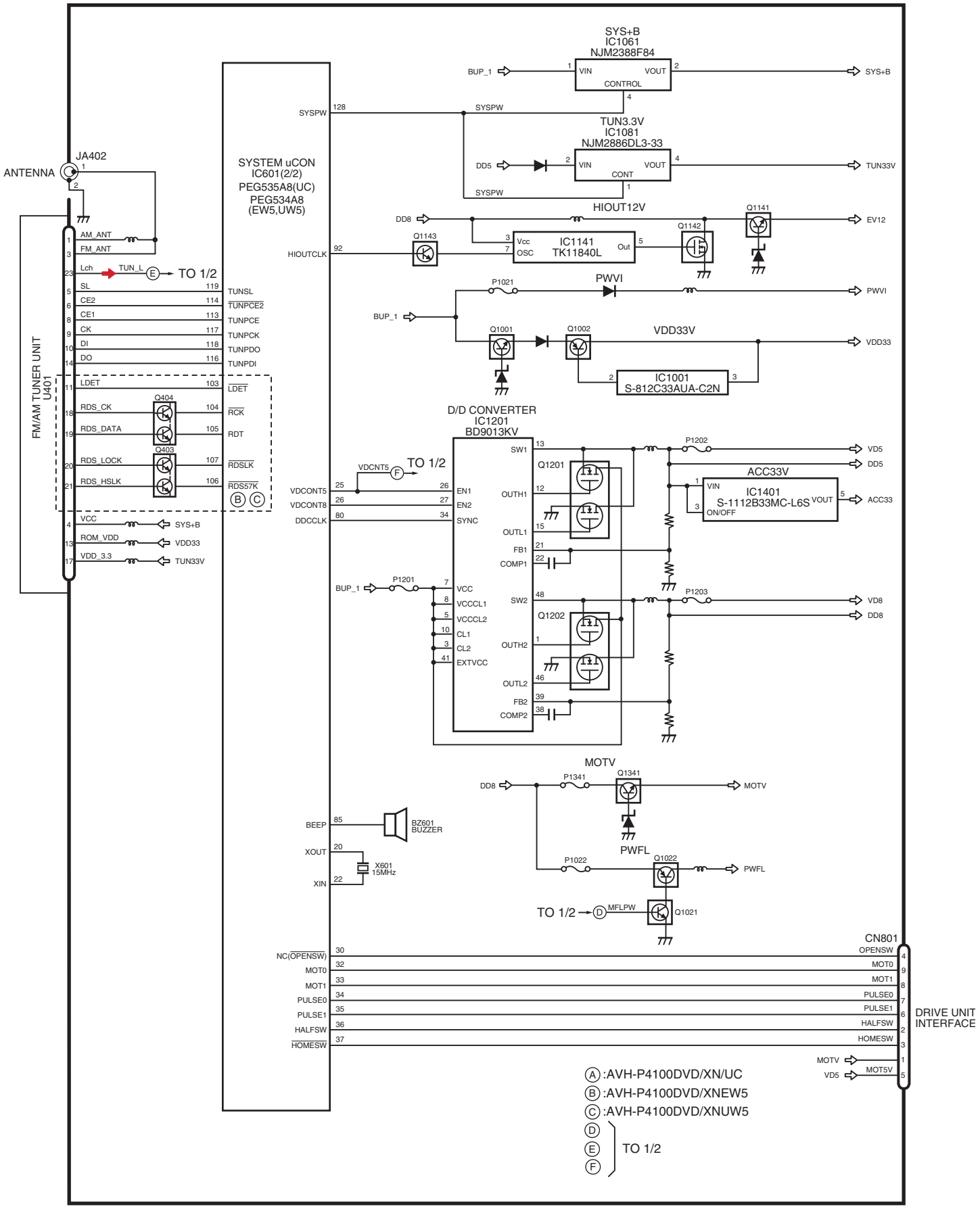

LCD MODULE
CWX3691
CN6001
CN5401
TOUCH PANEL
CSX1142
CN6101
BACKLIGHT
CN5001
CN501
JA402
FM/AM ANT
JA141
POWER SUPPLY
FR-
RR-
FR+
RR+
FL-
RL-
FL+
RL+
P.B.
MUTE
B.REM
ILM
BGSENS
ACC
B.UP
JA951
S/PDIF OUT
CN522
USB
JA102
VCR IN
JA101
RCA OUT
JA2004
IP BUS

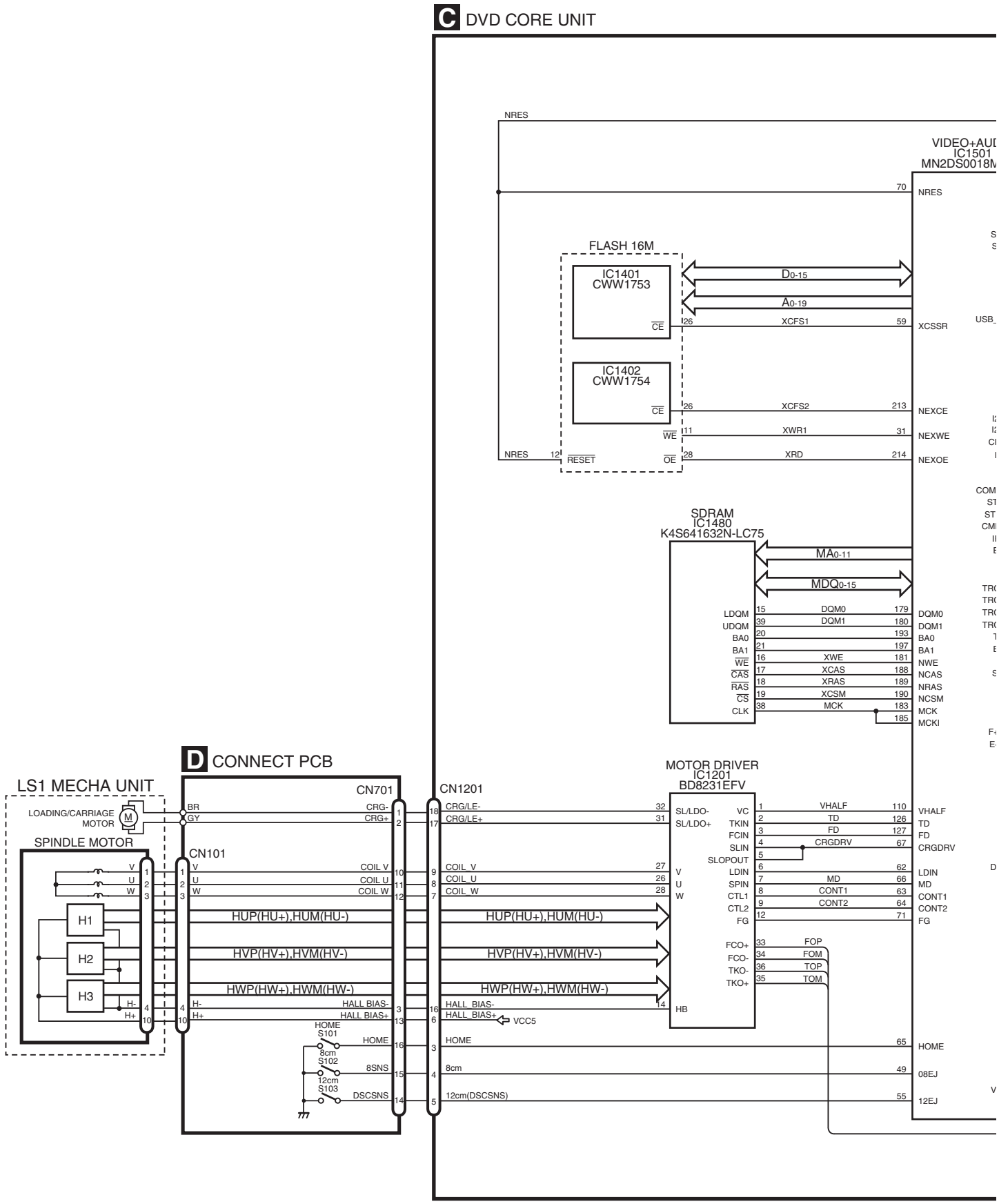
# 4.2 BLOCK DIAGRAM

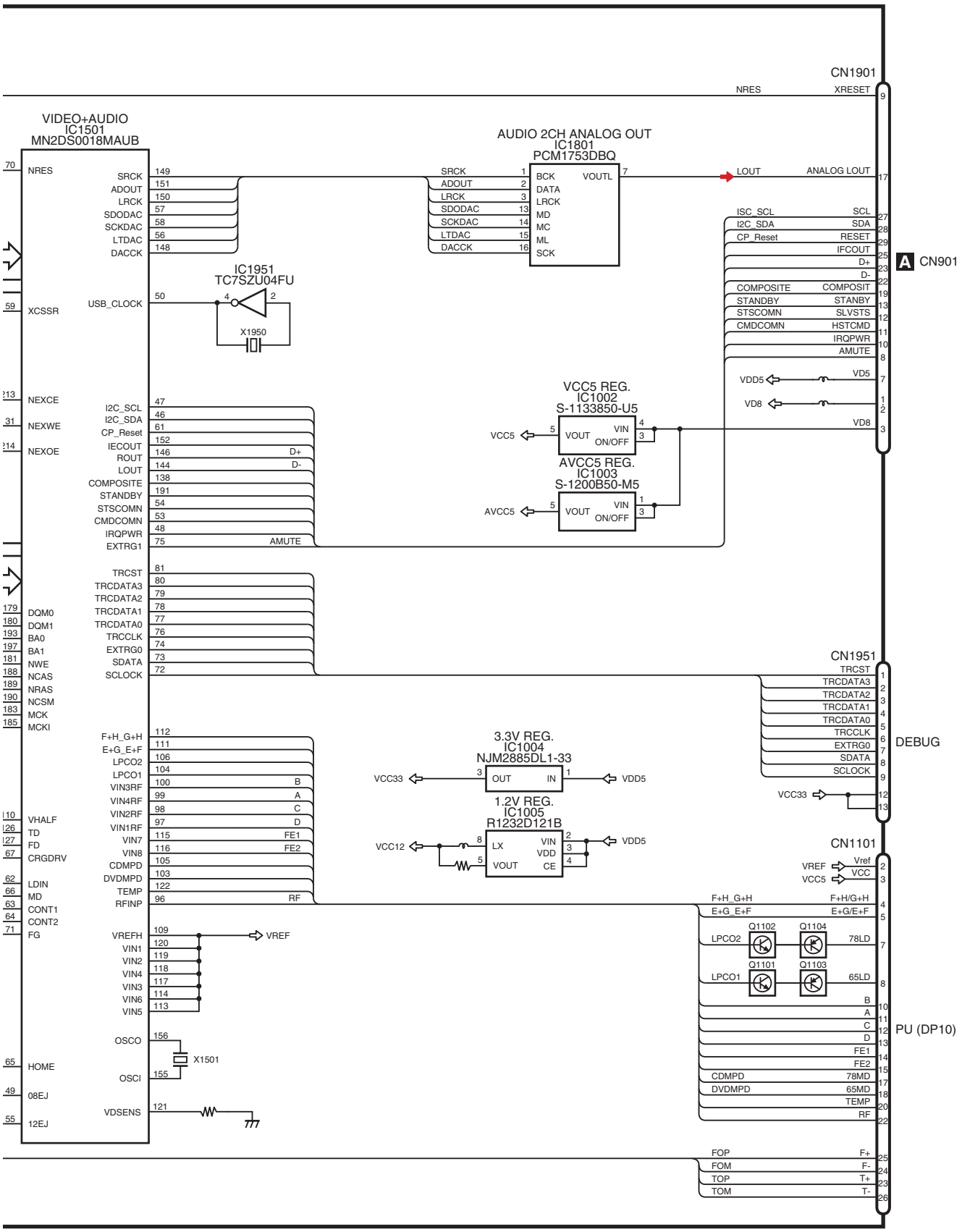



JA951
SPDIFSENS 3
SPDIFOUT 2
GND 1
S/PDIF OUT
JA101
RCA MUTE
FRONT_L 6
REAR_L 2
SW_L 4
RCA OUT
RCA_FL
RCA_RL
RCA_SWL
Q101(1/2)
Q105
Q101(2/2)
E.VOL CAPTAIN6
IC201
PML018A
IN1_L 7
IN4+_L 3
IN4-_L 4
IN2_L 6
IN5+_L 2
Front_L 10
Rear_L 11
Pre/SW_L 12
DATA 19 EVSDT
CLK 20 EVSCK
STB 21 EVSTB
BUP_1
Q103
Q105
AMP
IC181
PA2030A
PA_FL 11
PA_RL 15
FLIN
RLIN
STBY 4
MUTE 22
FL+ 9
FL- 7
RL+ 17
RL- 19
B.REMOTE 25
JA141
FL+ 7
FL- 5
RL+ 8
RL- 6
B.REM 11
B.UP 16
Q183
SYS+B
AMPMUTE
Q182 (1/2)
Q182 (2/2)
OFFMUTE
Q181
SYSTEM uCON
IC601(1/2)
PEG535A8(UC)
PEG534A8
(EW5,UW5)
STANDBY 27
RXLS1 29
TXLS1 31
IRQPW 18
XRESET 17
AMUTE 13
USBCNT 10
USBFLG 11
EVSDA 109
EVSCK 110
EVSEL 111
AMPPW 129
SYSMUTE 131
ASENS
Q162(1/2)
Q162(2/2)
BSENS
Q165
PBSENS
Q163(1/2)
TELMUTE
Q163(2/2)
ISENS
Q161
BGSENS
Q164
ACC 14
BSENS 8
P.B. 9
MUTE 10
ILM 12
BGSENS 13
POWER
CONNECTOR
INSERTION LED
DD5
Q801
D801
FLPILM 67
RESET 19
IC602
S-80827CNNB-B8M
VDD33
CN501
HDRST 5
MFLPW 6
M_SRX 7
S_MTX 8
MONRST 9
ILMB 10
SWVDD33 11 12
PWRVI 13 15
PWRFL 33 35
MONVBS 27
CN5001
ASENBO 123
MAINTEST 125
TXIE 73
RXIE 75
WIREDAD 138
WIRED 139
AVSCK 144
AVSDATA 1
RXMON 45
TXMON 44
MONIRST 47
RGBON 52
TXNAVI 55
RXNAVI 53
TO 2/2
Ⓐ :AVH-P4100DVD/XN/UC
Ⓑ :AVH-P4100DVD/XNEW5
Ⓒ :AVH-P4100DVD/XNUW5
RGB VIDEO ISOLATOR
IC771
NJM2138V
C_+IN 10
B_+IN 5
A_+IN 3
D_+IN 12
C_OUT 8
B_OUT 7
A_OUT 1
D_OUT 14
NAVI_R 23
NAVI_G 22
NAVI_B 21
CSYNC 24

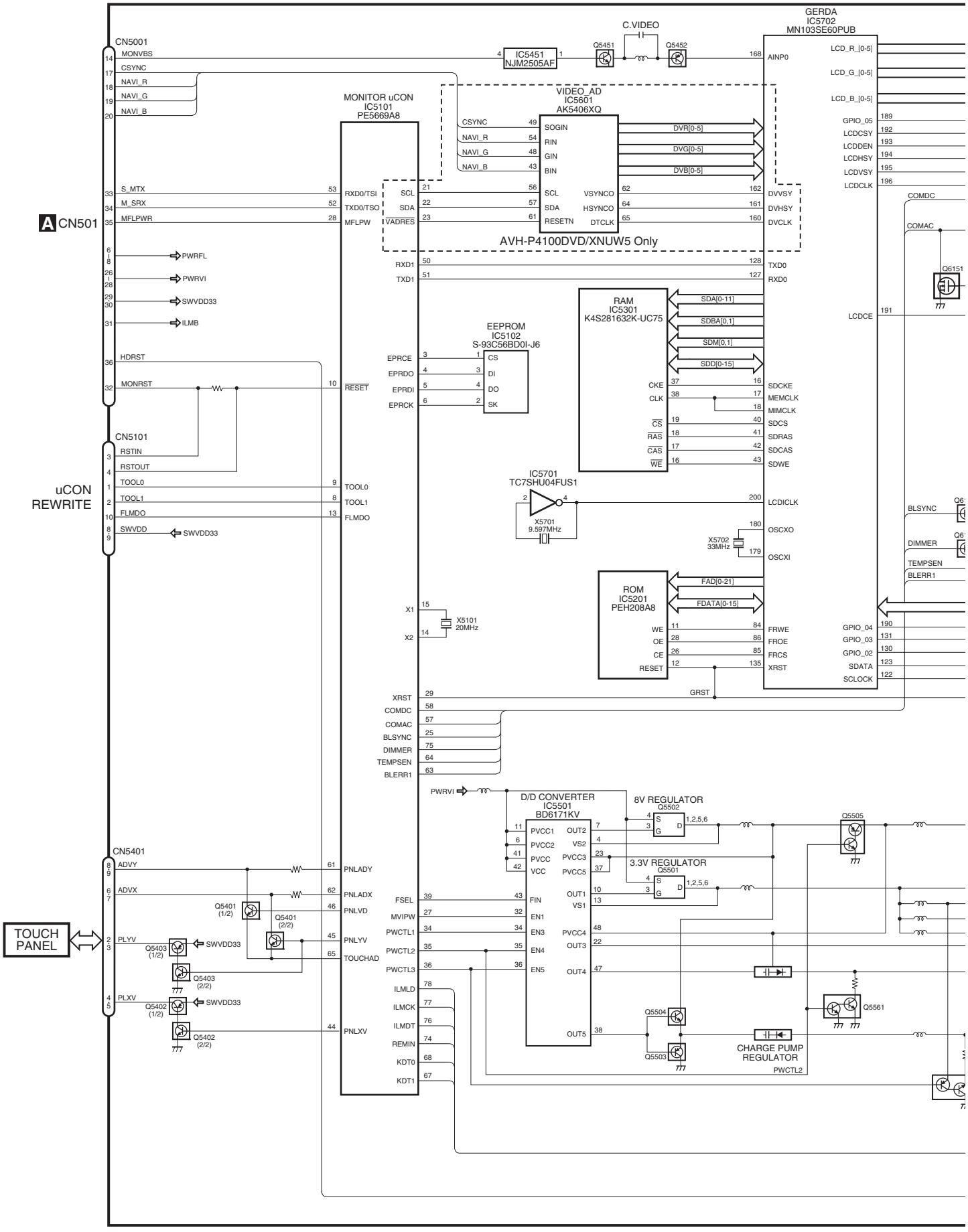
# A MOTHER PCB(2/2)

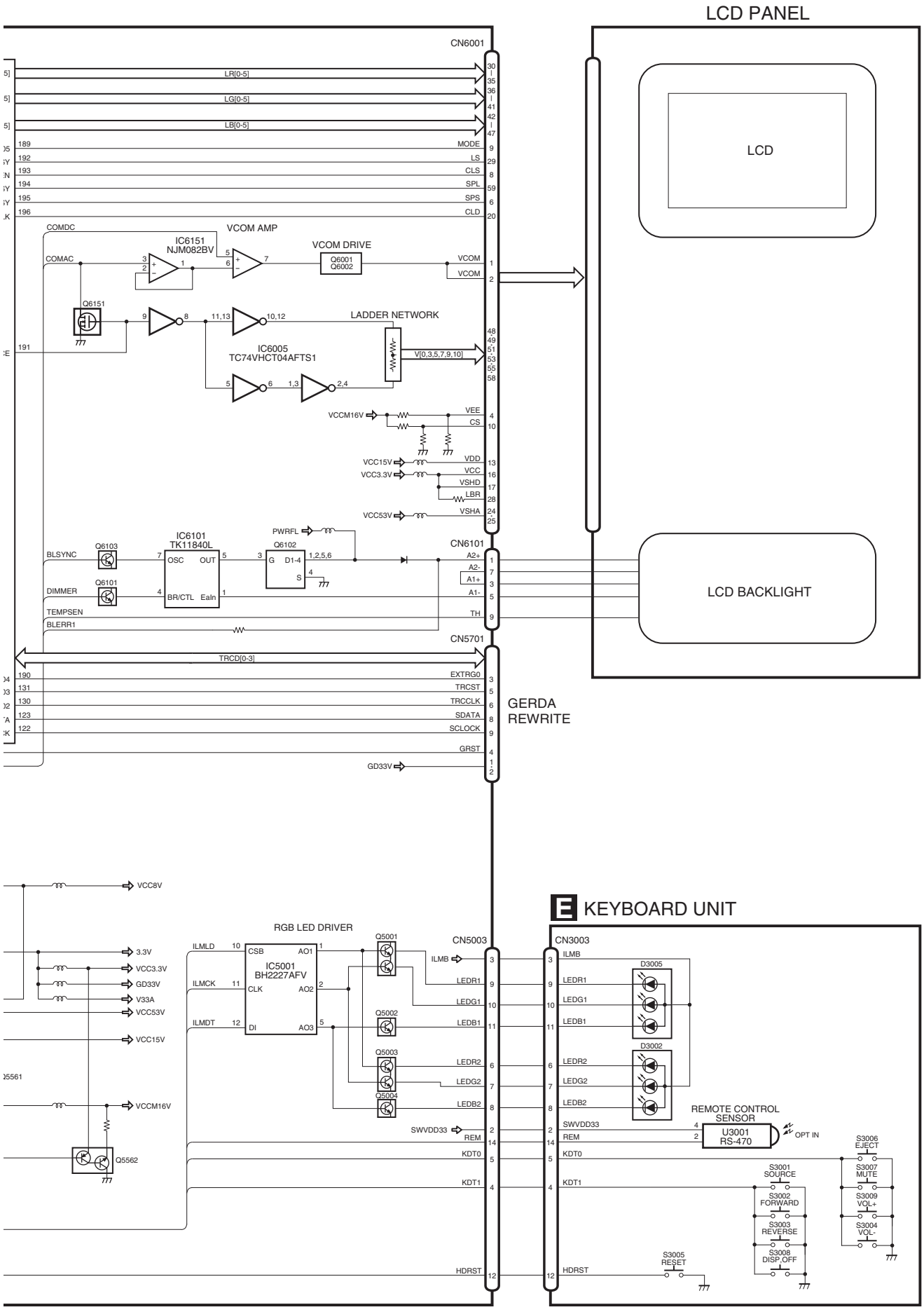



C DVD CORE UNIT
NRES
VIDEO+AUD
IC1501
MN2DS0018M
70
NRES
FLASH 16M
IC1401
CWW1753
D0-15
A0-19
CE
26
XCFS1
59
XCSSR
IC1402
CWW1754
CE
26
XCFS2
213
NEXCE
WE
11
XWR1
31
NEXWE
NRES
12
RESET
OE
28
XRD
214
NEXOE
SDRAM
IC1480
K4S641632N-LC75
MA0-11
MDQ0-15
LDQM
UDQM
BA0
BA1
WE
CAS
RAS
CS
CLK
DQM0
DQM1
XWE
XCAS
XRAS
XCSM
MCK
NWE
NCAS
NRAS
NCSM
MCKI
D CONNECT PCB
LS1 MECHA UNIT
LOADING/CARRIAGE MOTOR
SPINDLE MOTOR
H1
H2
H3
CN701
CN101
CN1201
BR
GY
CRG-
CRG+
COIL V
COIL U
COIL W
HALL BIAS-
HALL BIAS+
HUP(HU+),HUM(HU-)
HVP(HV+),HVM(HV-)
HWP(HW+),HWM(HW-)
CRG/LE-
CRG/LE+
HALL_BIAS-
HALL_BIAS+
VCC5
MOTOR DRIVER
IC1201
BD8231EFV
SL/LDO-
SL/LDO+
SLOPOUT
FCIN
SLIN
LDIN
SPIN
CTL1
CTL2
FG
FCO+
FCO-
TKO-
TKO+
VC
TKIN
HB
VHALF
TD
FD
CRGDRV
MD
CONT1
CONT2
FOP
FOM
TOP
TOM
HOME
S101
8cm
S102
12cm
S103
8SNS
DSCSNS
12cm(DSCSNS)
08EJ
12EJ

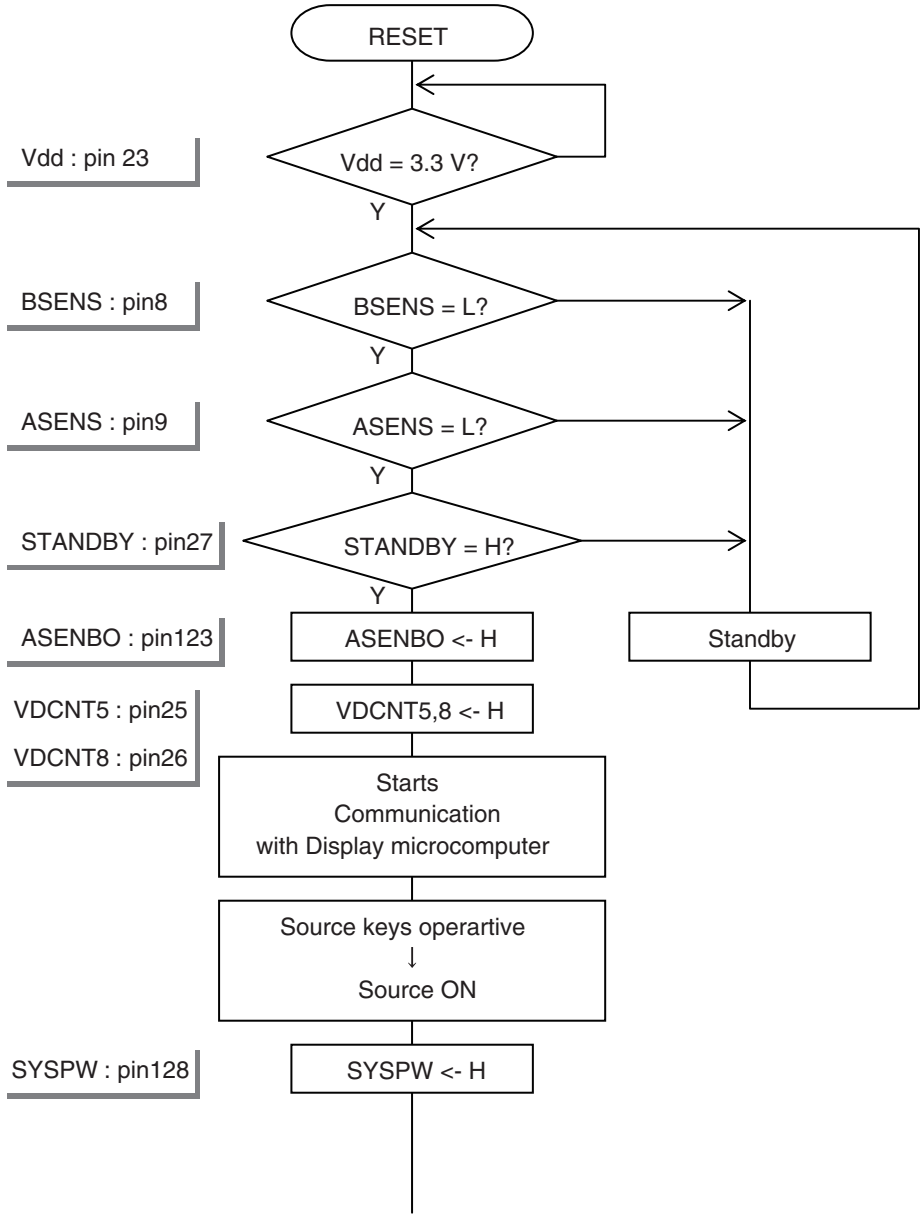

VIDEO+AUDIO
IC1501
MN2DS0018MAUB
AUDIO 2CH ANALOG OUT
IC1801
PCM1753DBQ
IC1951
TC7SZU04FU
X1950
VCC5 REG.
IC1002
S-1133850-U5
AVCC5 REG.
IC1003
S-1200B50-M5
3.3V REG.
IC1004
NJM2885DL1-33
1.2V REG.
IC1005
R1232D121B
X1501
CN1901
CN901
CN1951
DEBUG
CN1101
PU (DP10)
NRES
XRESET
LOUT
ANALOG LOUT
SRCK
ADOUT
LRCK
SDODAC
SCKDAC
LTDAC
DACCK
BCK
DATA
LRCK
MD
MC
ML
SCK
VOUTL
USB_CLOCK
XCSSR
NEXCE
NEXWE
NEXOE
I2C_SCL
I2C_SDA
CP_Reset
IECOUT
ROUT
LOUT
COMPOSITE
STANDBY
STSCOMN
CMDCOMN
IRQPWR
EXTRG1
AMUTE
D+
D-
ISC_SCL
I2C_SDA
CP_Reset
IFCOUT
D+
D-
COMPOSITE
STANDBY
STSCOMN
CMDCOMN
IRQPWR
AMUTE
SCL
SDA
RESET
HSTCMD
SLVSTS
STANBY
COMPOSIT
VD5
VD8
VCC5
AVCC5
VOUT
VIN
ON/OFF
TRCST
TRCDATA3
TRCDATA2
TRCDATA1
TRCDATA0
TRCCLK
EXTRG0
SDATA
SCLOCK
DQM0
DQM1
BA0
BA1
NWE
NCAS
NRAS
NCSM
MCK
MCKI
VHALF
TD
FD
CRGDRV
LDIN
MD
CONT1
CONT2
FG
HOME
08EJ
12EJ
F+H_G+H
E+G_E+F
LPCO2
LPCO1
VIN3RF
VIN4RF
VIN2RF
VIN1RF
VIN7
VIN8
CDMPD
DVDMPD
TEMP
RFINP
VREFH
VIN1
VIN2
VIN4
VIN3
VIN6
VIN5
OSCO
OSCI
VDSENS
VREF
VCC33
VCC12
OUT
IN
LX
VDD
CE
VDD5
Vref
VCC
F+H/G+H
E+G/E+F
Q1102
Q1104
Q1101
Q1103
78LD
65LD
78MD
65MD
FOP
FOM
TOP
TOM
F+
F-
T+
T-

# F MONITOR UNIT




LCD PANEL
LCD
LCD BACKLIGHT
CN6001
LR[0-5]
LG[0-5]
LB[0-5]
MODE
LS
CLS
SPL
SPS
CLD
COMDC
VCOM AMP
IC6151
NJM082BV
COMAC
VCOM DRIVE
Q6001
Q6002
VCOM
Q6151
LADDER NETWORK
IC6005
TC74VHCT04AFTS1
V[0,3,5,7,9,10]
VCCM16V
VEE
CS
VCC15V
VDD
VCC3.3V
VCC
VSHD
LBR
VCC53V
VSHA
PWRFL
IC6101
TK11840L
Q6103
Q6102
BLSYNC
DIMMER
Q6101
TEMPSEN
BLERR1
OSC
OUT
BR/CTL
Ealn
G
D1-4
S
CN6101
A2+
A2-
A1+
A1-
TH
CN5701
TRCD[0-3]
EXTRG0
TRCST
TRCCLK
SDATA
SCLOCK
GRST
GD33V
GERDA
REWRITE
VCC8V
3.3V
VCC3.3V
GD33V
V33A
VCC53V
VCC15V
VCCM16V
Q5561
Q5562
RGB LED DRIVER
IC5001
BH2227AFV
ILMLD
ILMCK
ILMDT
CSB
CLK
DI
AO1
AO2
AO3
Q5001
Q5002
Q5003
Q5004
CN5003
ILMB
LEDR1
LEDG1
LEDB1
LEDR2
LEDG2
LEDB2
SWVDD33
REM
KDT0
KDT1
HDRST
KEYBOARD UNIT
CN3003
D3005
D3002
REMOTE CONTROL
SENSOR
U3001
RS-470
OPT IN
S3001
SOURCE
S3002
FORWARD
S3003
REVERSE
S3008
DISP_OFF
S3005
RESET
S3006
EJECT
S3007
MUTE
S3009
VOL+
S3004
VOL-

# 5. DIAGNOSIS
## 5.1 OPERATIONAL FLOWCHART



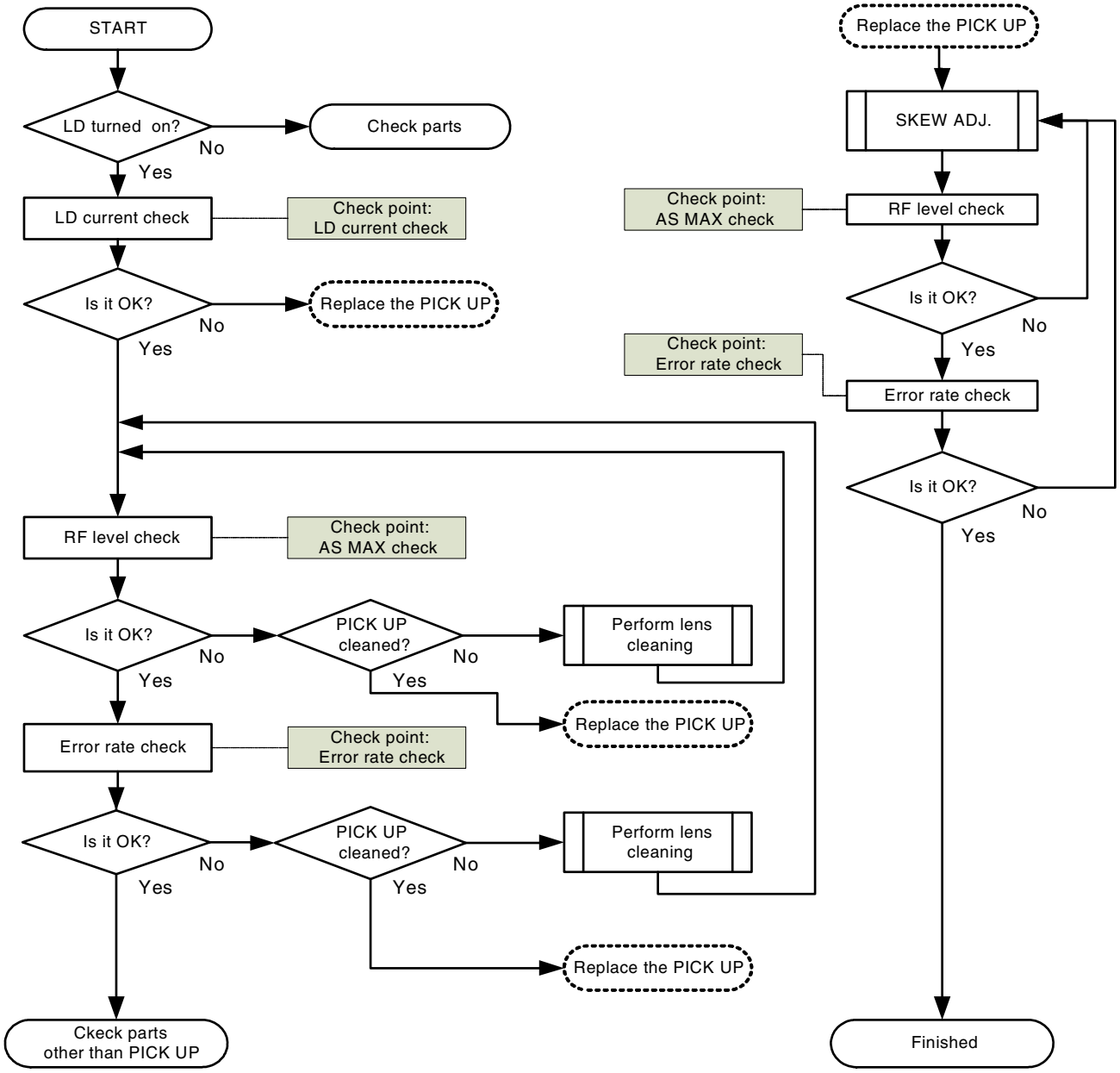
# 5.2 INSPECTION METHOD OF PICKUP UNIT

### Disc to be used

CD-DA: TCD-782

DVD-Video: TDV-582

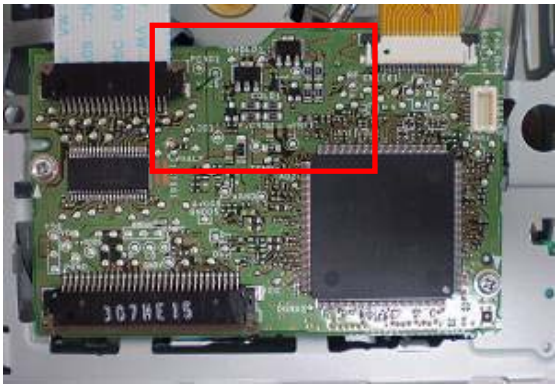
### Execution method



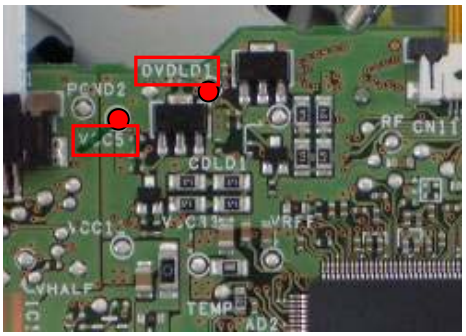
LD current check

Check
Status: [Foucs closed] of TEST MODE

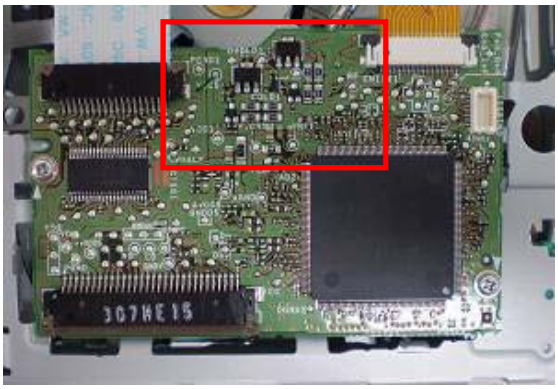
| NO. | Disc | Check Point | Threshold | Remarks: LD current |
|---|---|---|---|---|
| 1 | GGV1025 | DVDLD1-VCC5_3 | 60 - 390 (mV) | 10 - 65 (mA) |



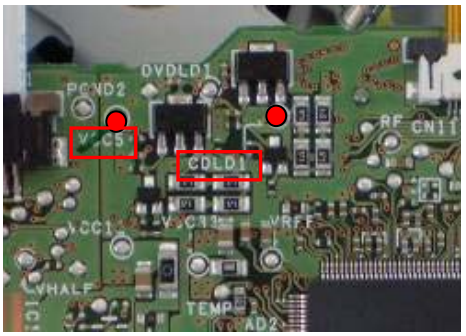
Expansion




| NO. | Disc | Check Point | Threshold | Remarks: LD current |
|---|---|---|---|---|
| 2 | TCD-782 | CDLD1-VCC5_3 | 60 - 360 (mV) | 10 - 60 (mA) |



Expansion



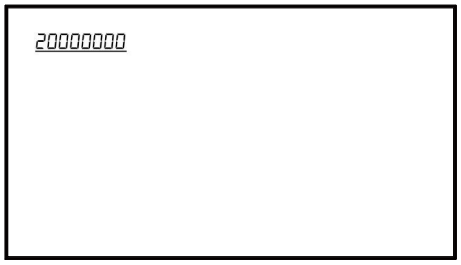

Notes: Please pay attention to the laser diode damage by static electricity.

## ASMAX check

ASMAX value shows the value of RF level.
Status: [Foucs closed] of TEST MODE

| No. | Disc | Check Point | Threshold | Remarks: |
|---|---|---|---|---|
| 1 | GGV1025 | 8 digits value of ASMAX on display | more than 0000 0B00 | Only four last digits are displayed according to the product. |
| 2 | TCD-782 | 8 digits value of ASMAX on display | more than 0000 0C00 | Only four last digits is displayed according to the product. |

Test mode display will not appear on the display of this product. Connect the rear monitor output to a monitor.



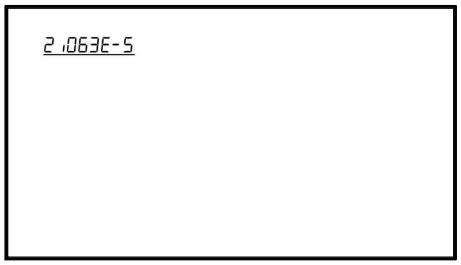

In this case, the value is displayed for a split second.
When you tried to perform [FOCS CLOSE],
the display will charge automatically in the following order.
[1FFF0000]->[FEMAX]->[FE MIN]->[AS MAX]->
[ENV MAX]->[FE normal]->[Spindle gain]->
[TEMAX]->[TEMIN] ->[20000000]
Watch carefully the value of ASMAX.

## Error rate check

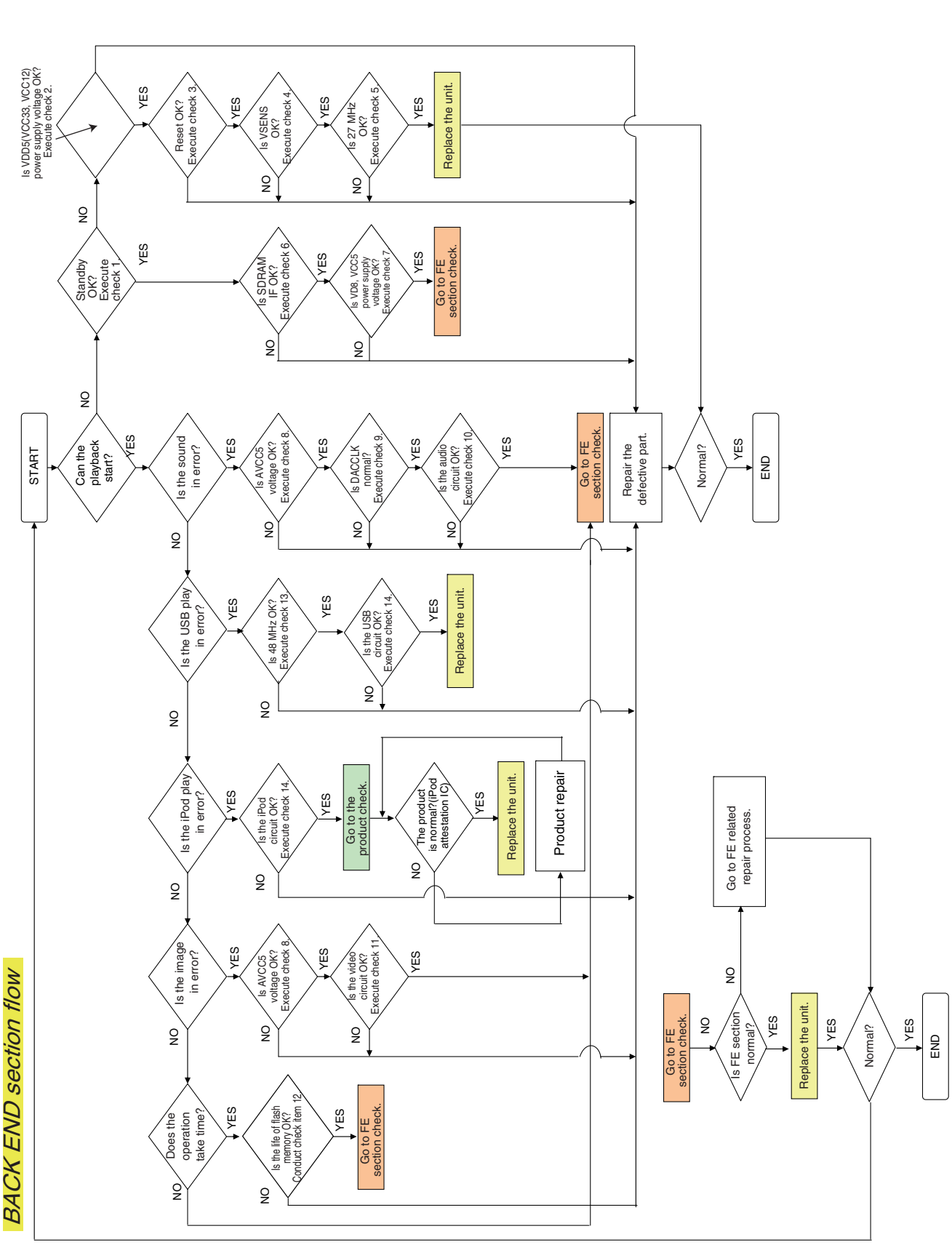
Status: [Tracking Closed] of TEST MODE

| No. | Disc | Check Point | Threshold | Remarks: |
|---|---|---|---|---|
| 1 | GGV1025 | ID: 40000 | less than 1.000E-03 | |
| 2 | GGV1025 | ID: 200000 | less than 1.000E-03 | |
| 3 | TCD-782 | ID: HOME Position | less than 2.500E-03 | |

Test mode display will not appear on the display of this product. Connect the rear monitor output to a monitor.



# 5.3 DIAGNOSIS FLOWCHART



# Check 1: Standby OK?

<Check> Check the voltage at the “STANBY” test point while the power is on.
Use the “DGND1” test point at the reference.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 1 | STANBY-DGND1 | ALL | VCC33 V-<br>0.6 V or more | V |

Side A

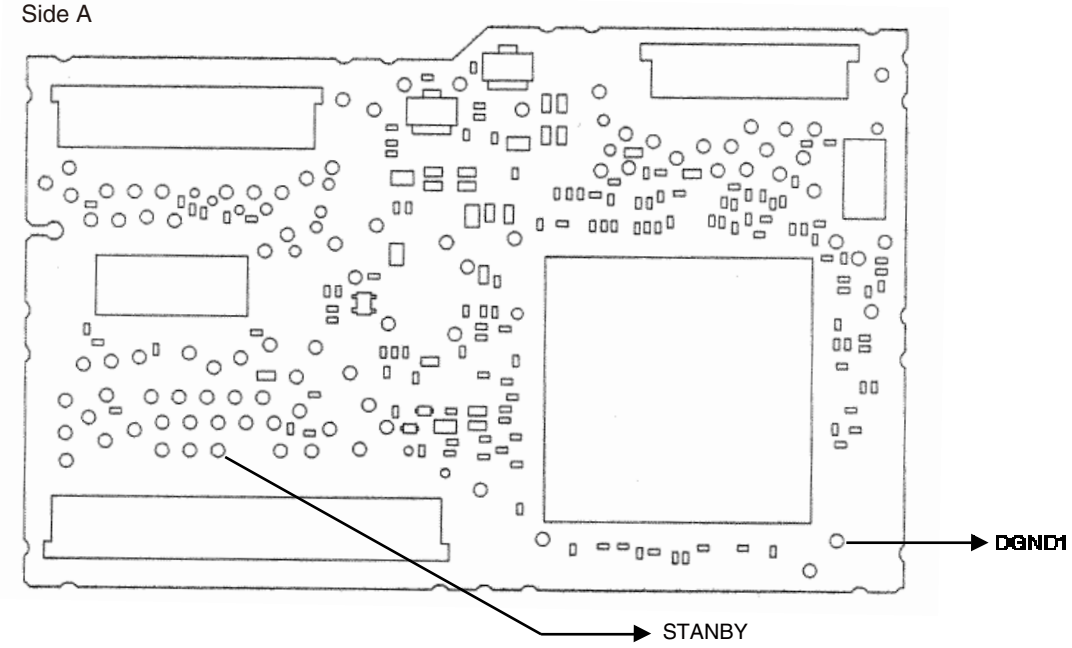



Fig 1.1: STANBY check point

## Check 2: Is VDD5 (VCC33, VCC12) power supply voltage OK?

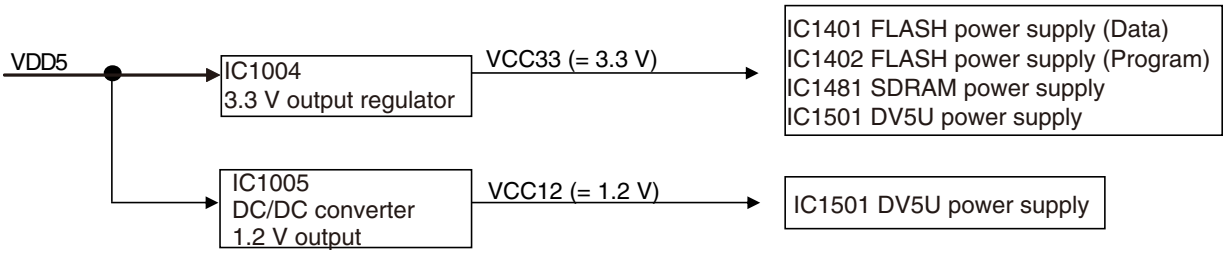



Fig 2.1: Power supply configuration

<Check> Check the voltage at the “VDD5_1, VCC33_1 and VCC12_1” test point while the power is on.
Use the “DGND1” test point at the reference.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 1 | VDD5_1 - DGND1 | ALL | 5.0 ± 0.4 | V |
| 2 | VCC33_1 - DGND1 | ALL | 3.3 ± 0.15 | V |
| 3 | VCC12_1 - DGND1 | ALL | 1.2 ± 0.12 | V |

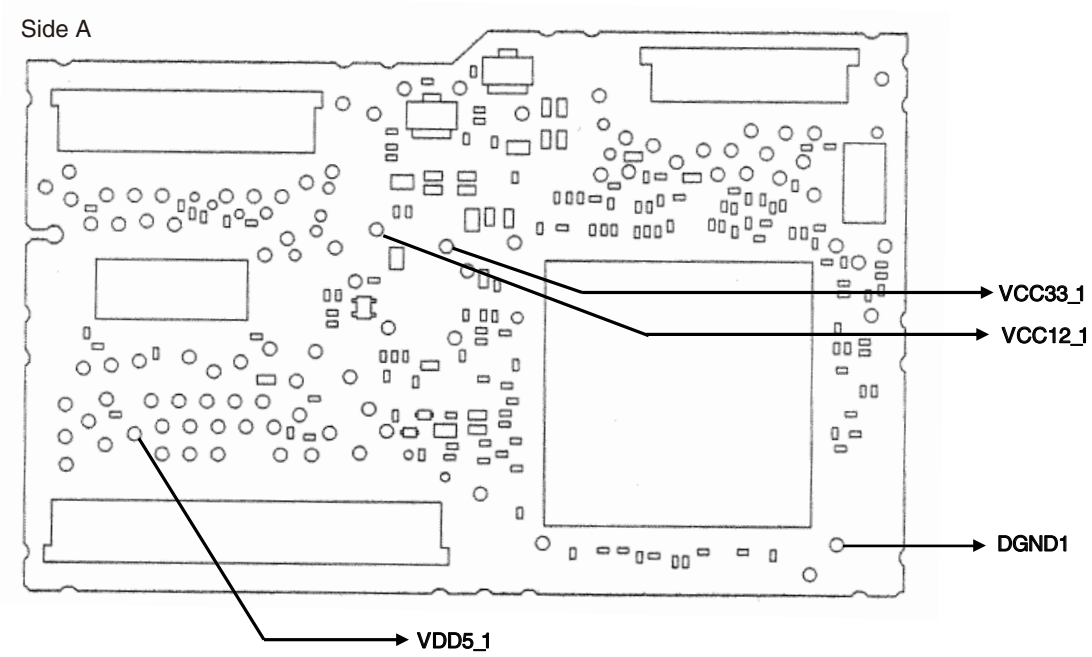



Fig 2.2: VDD5, VCC33, VCC12 voltage check points

# Check 3: Reset OK?

<Check> Check the voltage at the “XRES” test point while the power is on.
Use the “DGND1” test point at the reference.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 1 | XRES-DGND1 | ALL | VCC33 × 0.7 or more | V |

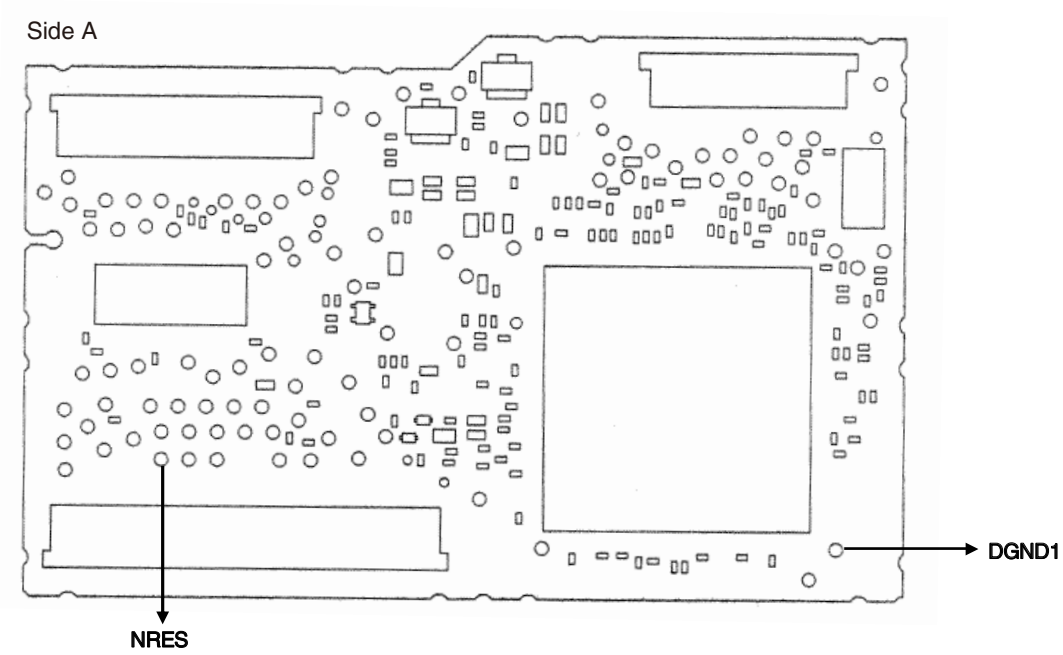



Fig 3.1: RESET check point

## Check 4: Is VSENS OK?

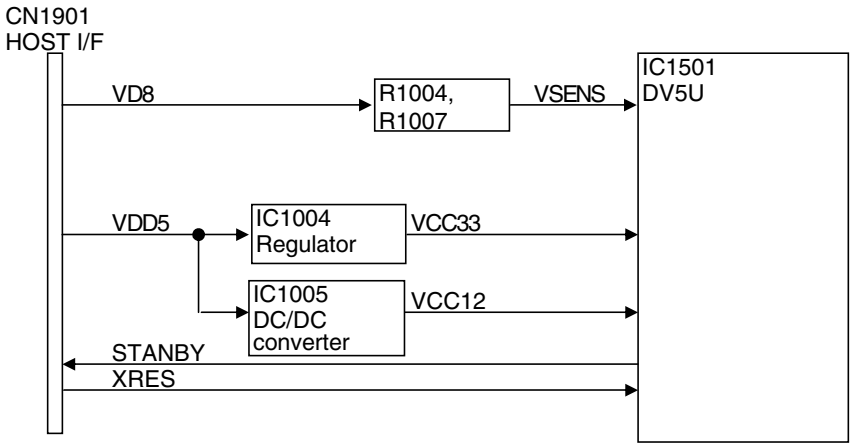



Fig 4.1: Power supply configuration and VSENS

<Check> Check the voltage at the “VSENS” test point while the power is on.
Use the “DGND1” test point at the reference.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 1 | VSENS - DGND1 | ALL | 0.95 - 1.07 | V |

VD8 = 8.0 ± 0.4 V

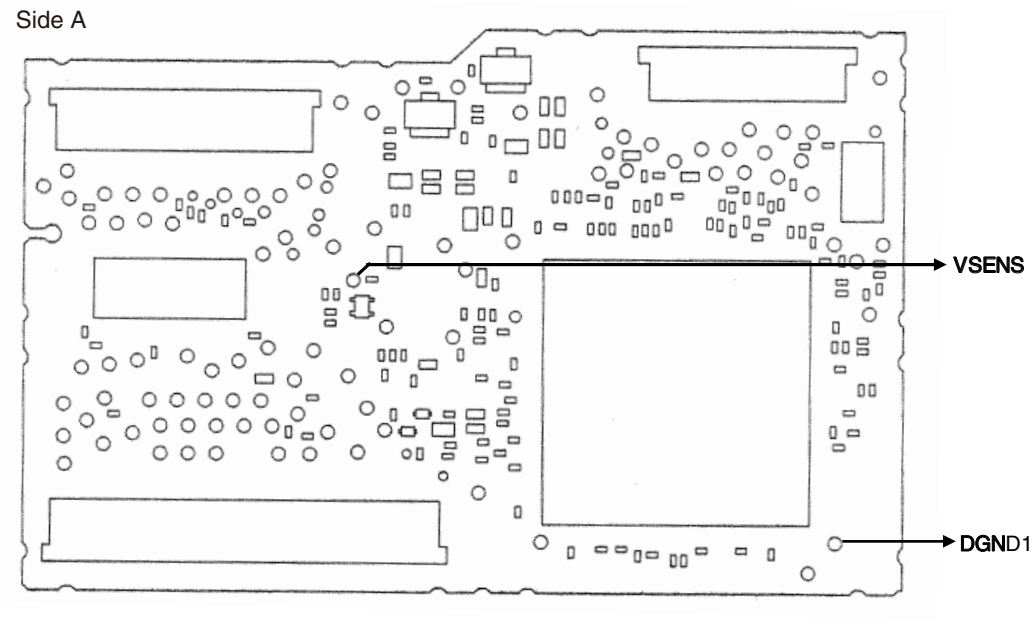



Fig 4.2: VSENS check point

## Check 5: 27 MHz Normal?

<Outline> Each clock is created inside the IC1501 using the 27 MHz master crystal oscillator (X1501).

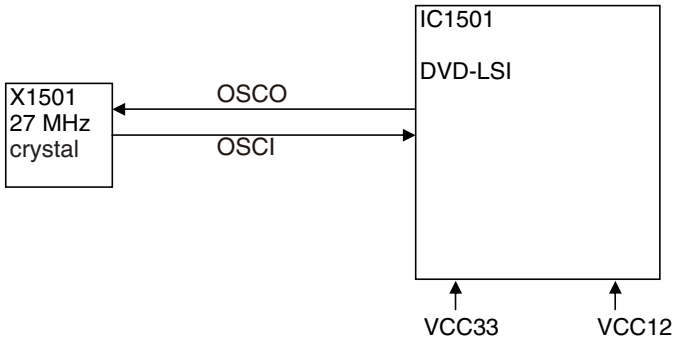



Fig 5.1: Clock configuration

<Check method> Turn the power on, and check with DGND being the reference.
In case of NG, check the applicable line, periphery of IC1501,
soldering of the peripheral components and defective components.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 2 | IC1501 169pin | ALL | 27 MHz<br>± 50 ppm | ppm |

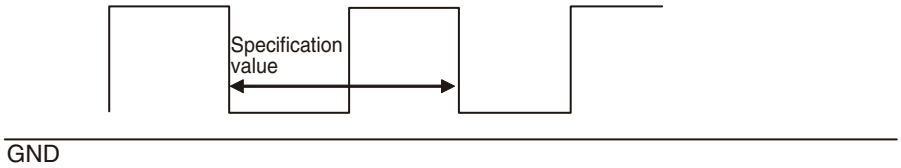



Fig 5.2: Clock specification value

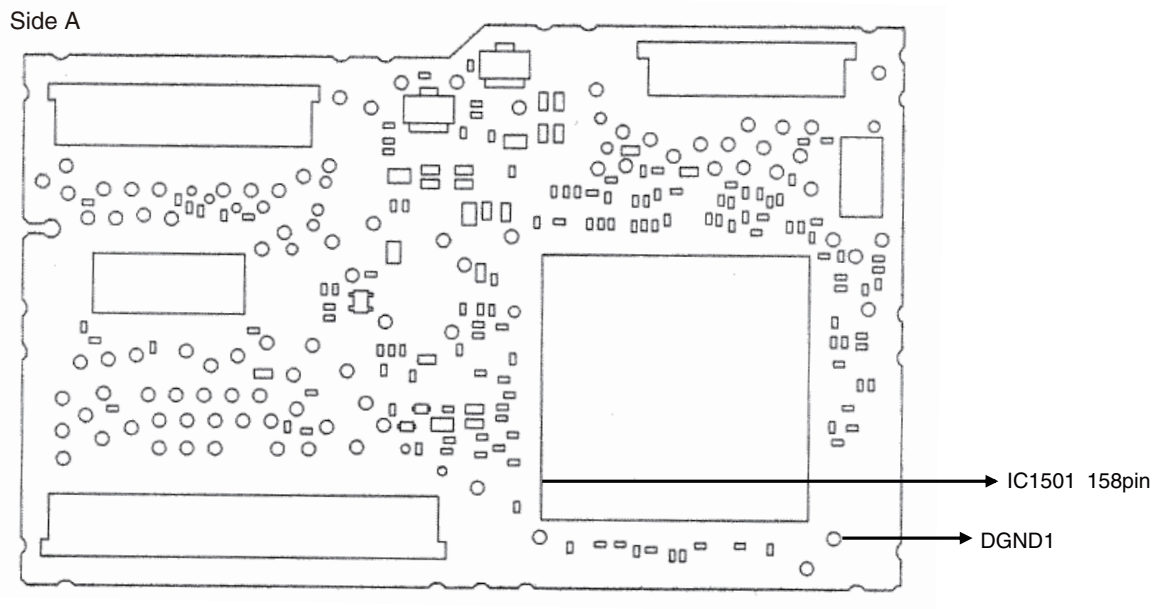



Fig 5.3: 27 MHz check point

# Check 6: Is SDRAM I/F OK?

<Outline> In order to secure the MPEG stream data as the buffer,
the capacity of communication I/F SDRAM between the LSI and the memory is 64Mbit.
Be careful as XCSM, XWE, XCAS and XRAS of IC1480 are called differently in IC1501,
namely NCSM, NWE, NCAS, NRAS.

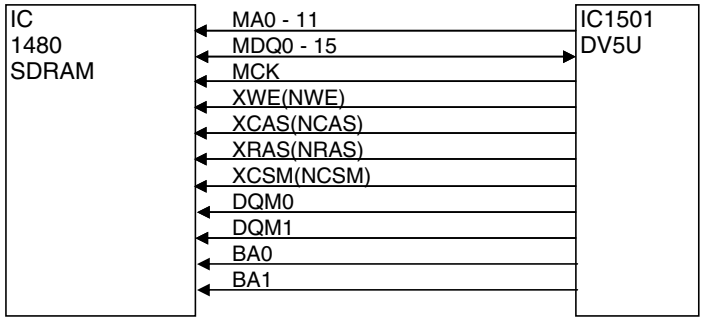
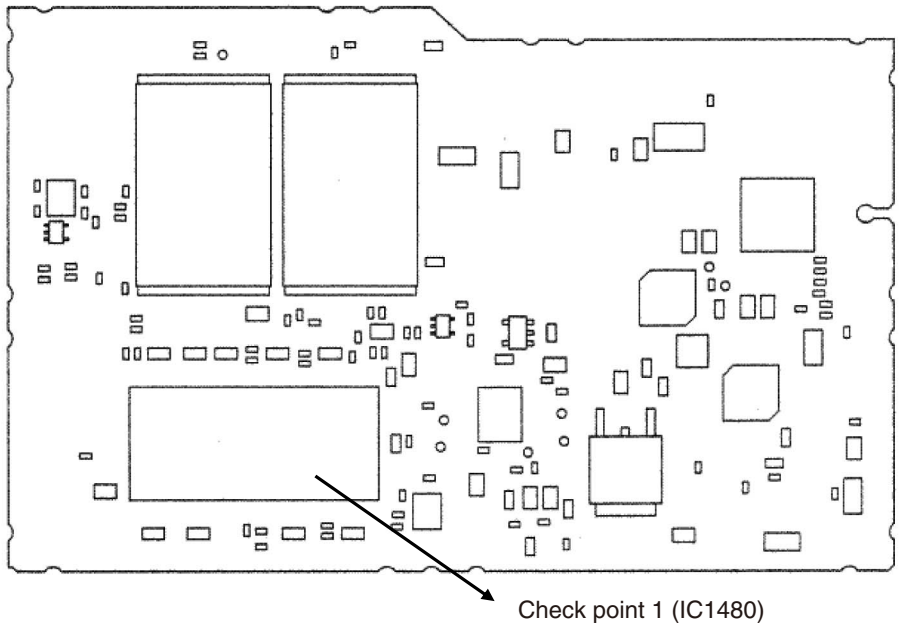



Fig 6.1: SDRAM I/F

<Check> Check the conductivity at “check point 1” and “check point 2” without power.
In case of NG, check the soldering and defective components throughout the “output → input” of the applicable section.

| NO. | Signal name | Check point 1 | | Check point 2 | | Specification value |
|---|---|---|---|---|---|---|
| 1 | MA0 | IC1480 | 23pin | IC1501 | 201pin | 56 ohm ± 5 % |
| 2 | MA1 | IC1480 | 24pin | IC1501 | 203pin | 56 ohm ± 5 % |
| 3 | MA2 | IC1480 | 25pin | IC1501 | 207pin | 56 ohm ± 5 % |
| 4 | MA3 | IC1480 | 29pin | IC1501 | 209pin | 56 ohm ± 5 % |
| 5 | MA4 | IC1480 | 30pin | IC1501 | 208pin | 56 ohm ± 5 % |
| 6 | MA5 | IC1480 | 31pin | IC1501 | 206pin | 56 ohm ± 5 % |
| 7 | MA6 | IC1480 | 32pin | IC1501 | 202pin | 56 ohm ± 5 % |
| 8 | MA7 | IC1480 | 33pin | IC1501 | 200pin | 56 ohm ± 5 % |
| 9 | MA8 | IC1480 | 34pin | IC1501 | 198pin | 56 ohm ± 5 % |
| 10 | MA9 | IC1480 | 33pin | IC1501 | 194pin | 56 ohm ± 5 % |
| 11 | MA10 | IC1480 | 22pin | IC1501 | 199pin | 56 ohm ± 5 % |
| 12 | MA11 | IC1480 | 35pin | IC1501 | 192pin | 56 ohm ± 5 % |
| 13 | MDQ0 | IC1480 | 2pin | IC1501 | 160pin | 56 ohm ± 5 % |
| 14 | MDQ1 | IC1480 | 4pin | IC1501 | 162pin | 56 ohm ± 5 % |
| 15 | MDQ2 | IC1480 | 5pin | IC1501 | 164pin | 56 ohm ± 5 % |
| 16 | MDQ3 | IC1480 | 7pin | IC1501 | 168pin | 56 ohm ± 5 % |
| 17 | MDQ4 | IC1480 | 8pin | IC1501 | 170pin | 56 ohm ± 5 % |
| 18 | MDQ5 | IC1480 | 10pin | IC1501 | 172pin | 56 ohm ± 5 % |
| 19 | MDQ6 | IC1480 | 11pin | IC1501 | 176pin | 56 ohm ± 5 % |
| 20 | MDQ7 | IC1480 | 13pin | IC1501 | 178pin | 56 ohm ± 5 % |
| 21 | MDQ8 | IC1480 | 42pin | IC1501 | 177pin | 56 ohm ± 5 % |
| 22 | MDQ9 | IC1480 | 44pin | IC1501 | 175pin | 56 ohm ± 5 % |
| 23 | MDQ10 | IC1480 | 45pin | IC1501 | 171pin | 56 ohm ± 5 % |
| 24 | MDQ11 | IC1480 | 47pin | IC1501 | 169pin | 56 ohm ± 5 % |
| 25 | MDQ12 | IC1480 | 48pin | IC1501 | 167pin | 56 ohm ± 5 % |
| 26 | MDQ13 | IC1480 | 50pin | IC1501 | 163pin | 56 ohm ± 5 % |
| 27 | MDQ14 | IC1480 | 51pin | IC1501 | 161pin | 56 ohm ± 5 % |
| 28 | MDQ15 | IC1480 | 53pin | IC1501 | 159pin | 56 ohm ± 5 % |
| 29 | MCK | IC1480 | 38pin | IC1501 | 183pin | 0.17 ohm or lower |
| 30 | XWE | IC1480 | 16pin | IC1501 | 181pin | 56 ohm ± 5 % |
| 31 | XCAS | IC1480 | 17pin | IC1501 | 188pin | 56 ohm ± 5 % |
| 32 | XRAS | IC1480 | 18pin | IC1501 | 189pin | 56 ohm ± 5 % |
| 33 | XCSM | IC1480 | 19pin | IC1501 | 190pin | 56 ohm ± 5 % |
| 34 | DQM0 | IC1480 | 15pin | IC1501 | 179pin | 56 ohm ± 5 % |
| 35 | DQM1 | IC1480 | 39pin | IC1501 | 180pin | 56 ohm ± 5 % |
| 36 | BA0 | IC1480 | 20pin | IC1501 | 193pin | 56 ohm ± 5 % |
| 37 | BA1 | IC1480 | 21pin | IC1501 | 197pin | 56 ohm ± 5 % |

Side B




Side A

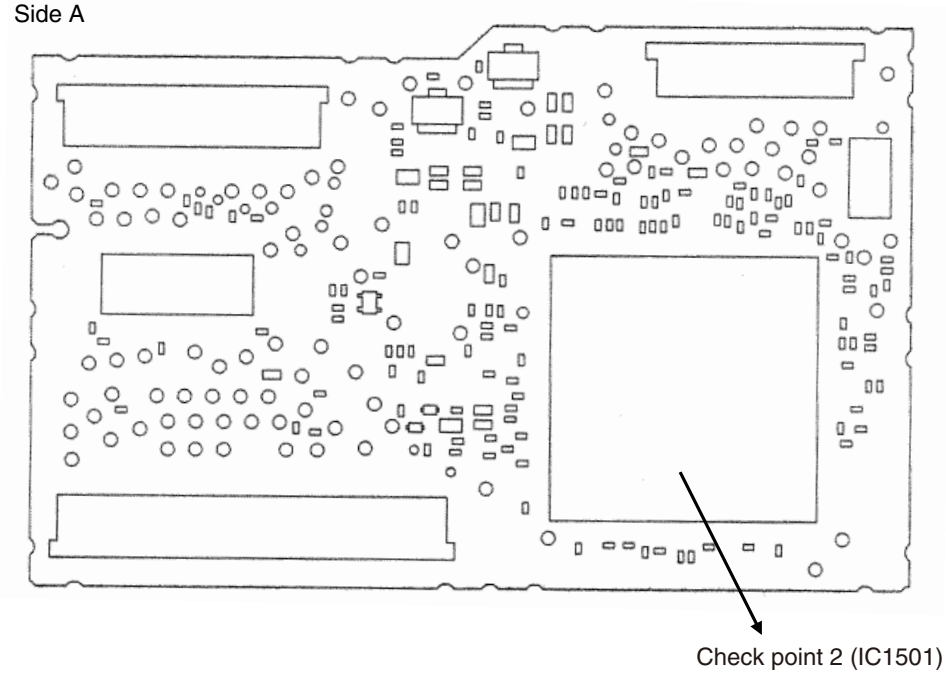



Fig 6.2: SDRAM I/F check point

## Check 7: Is VD8, VCC5 power supply voltage OK?

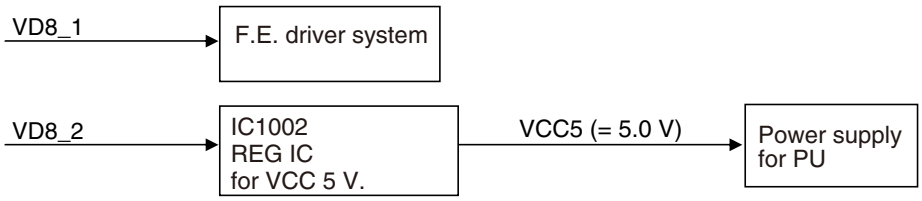



Fig 7.1: Power supply configuration

<Check> Check the voltage at the “VD8_1, VD and VCC5_1” test point while the power is on.
Use the “PGND3 and AGND1” test point at the reference.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 1 | VD8_1 - PGND3 | ALL | 8.0 ± 0.4 | V |
| 2 | VD - PGND3 | ALL | 8.0 ± 0.4 | V |
| 3 | VCC5_1- AGND1 | ALL | 5.0 ± 0.1 | V |

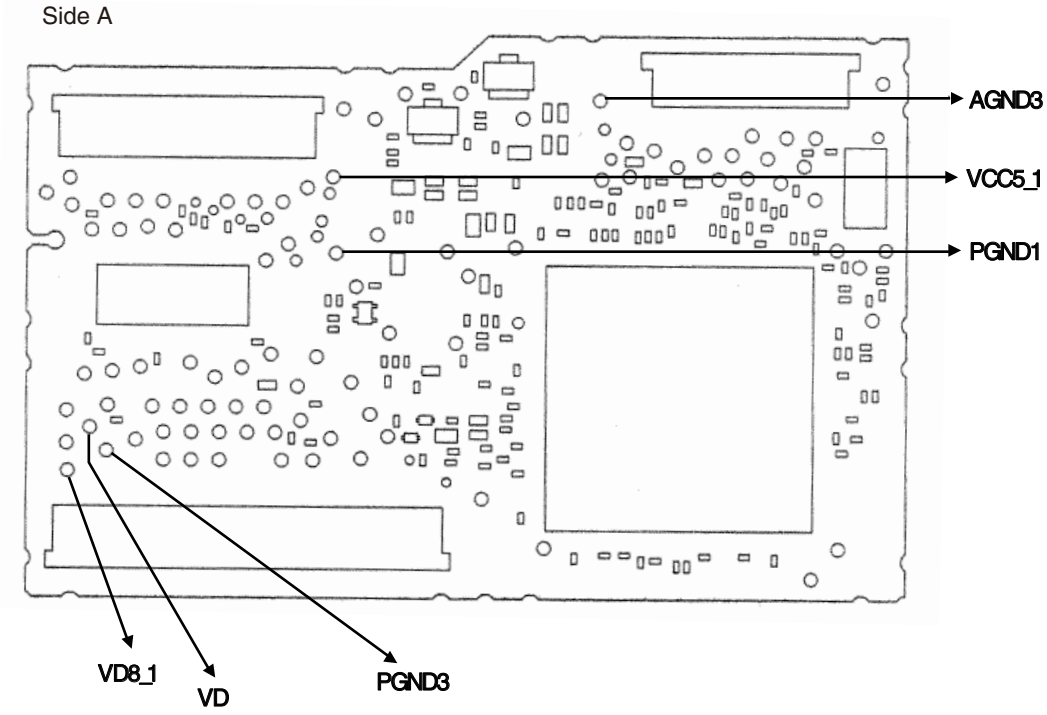



Fig 7.2: VD8, VCC5 voltage check points

## Check 8: Is AVCC5 voltage OK?

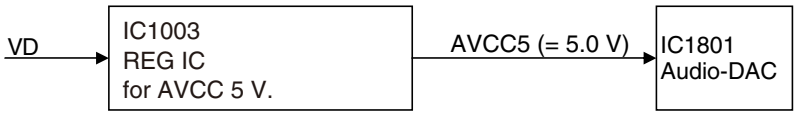



Fig 8.1: Power supply configuration

<Check> Playback DVD-REF-A1 TITLE 1 and check the voltage at the stylus.
Check with PGND and GNDAU being the reference.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 1 | VD - PGND_3 | ALL | 8.0 ± 0.4 | V |
| 2 | AVCC5 - GNDAU1 | ALL | 5.0 ± 0.1 | V |

Side A

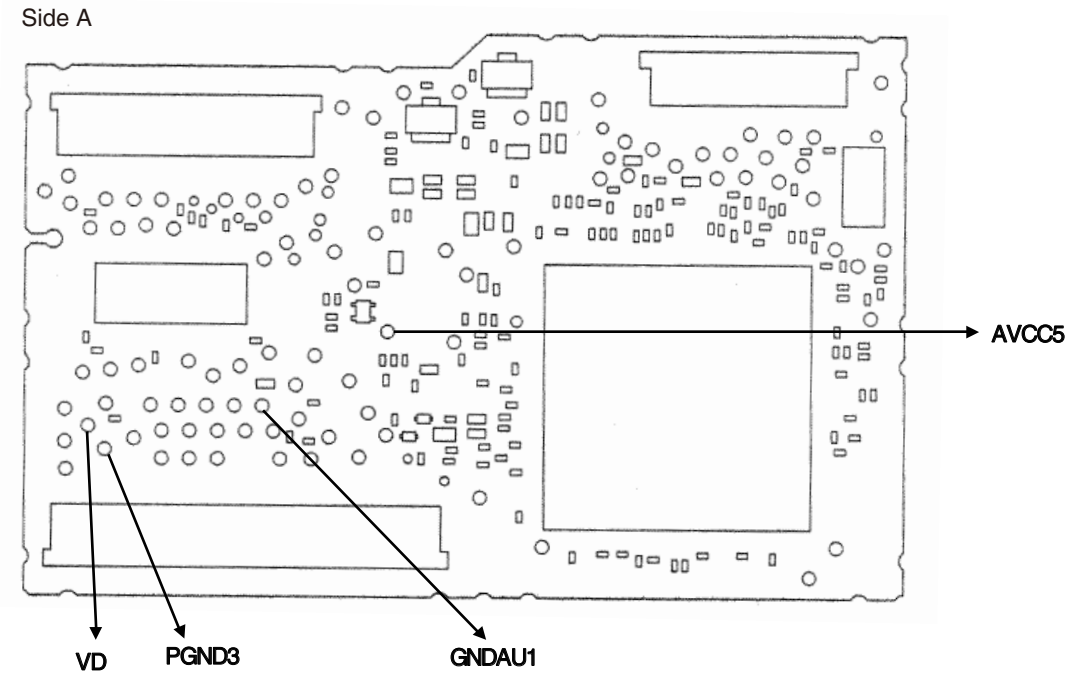



Fig 8.2: VD8, AVCC5 voltage check points

## Check 9: Is DACCLK normal?

<Outline> DACCLK for Audio-DAC is created by IC1501 using the 27 MHz master crystal oscillator (X1501).

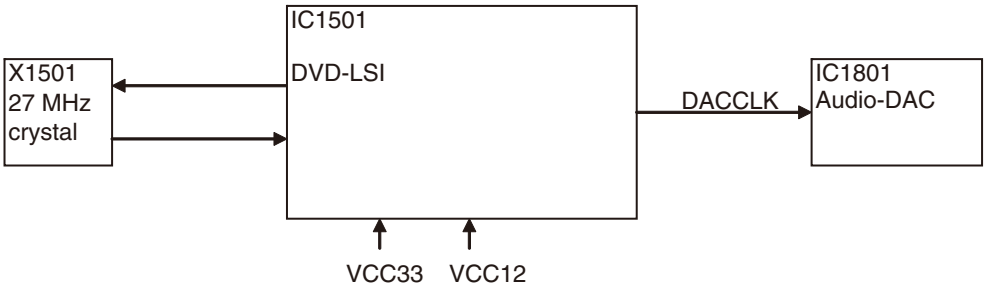



Fig 9.1: Clock configuration

<Check method>
DVD: DVD-REF-A1 TITLE 1
CD: Playback a normal CDDA.
Common to all DVD-V compatible modules.
Check with DGND being the reference.
In case of NG, check the applicable line, the periphery of IC1501, soldering of the peripheral components and defective components.

| NO. | Check point 1 (stylus) | Media | Specification value 1 | Specification value 2 | Specification value 3 |
|---|---|---|---|---|---|
| 1 | DACCK | DVD | 2.0 V~VCC33 V | DGND~0.8 V | 36.864 0 MHz ± 300 ppm |
| 2 | DACCK | CD | 2.0 V~VCC33 V | DGND~0.8 V | 33.868 8 MHz ± 300 ppm |

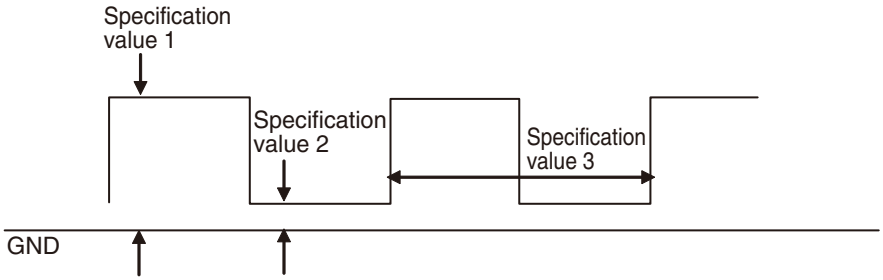
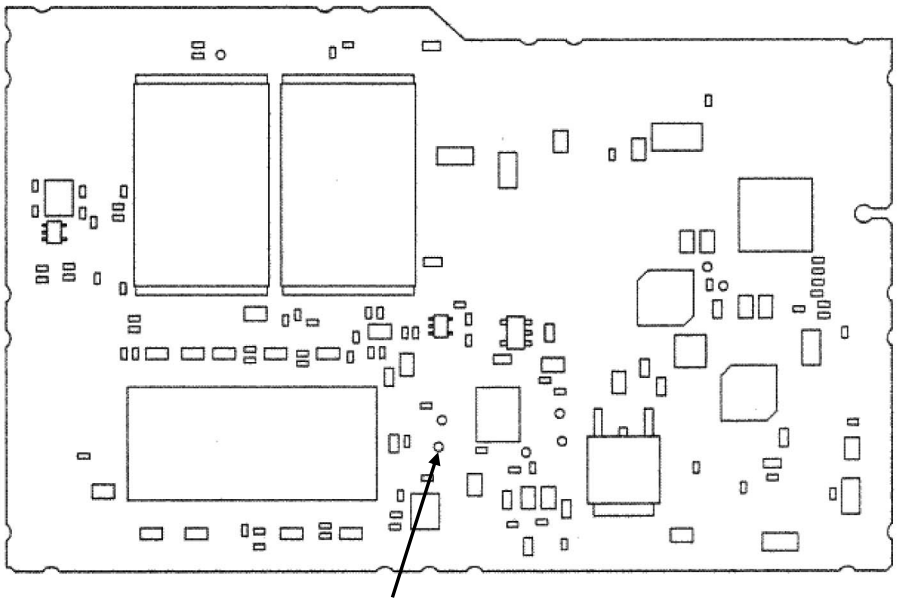



Fig 9.2: Clock specification value

Side B




Side A

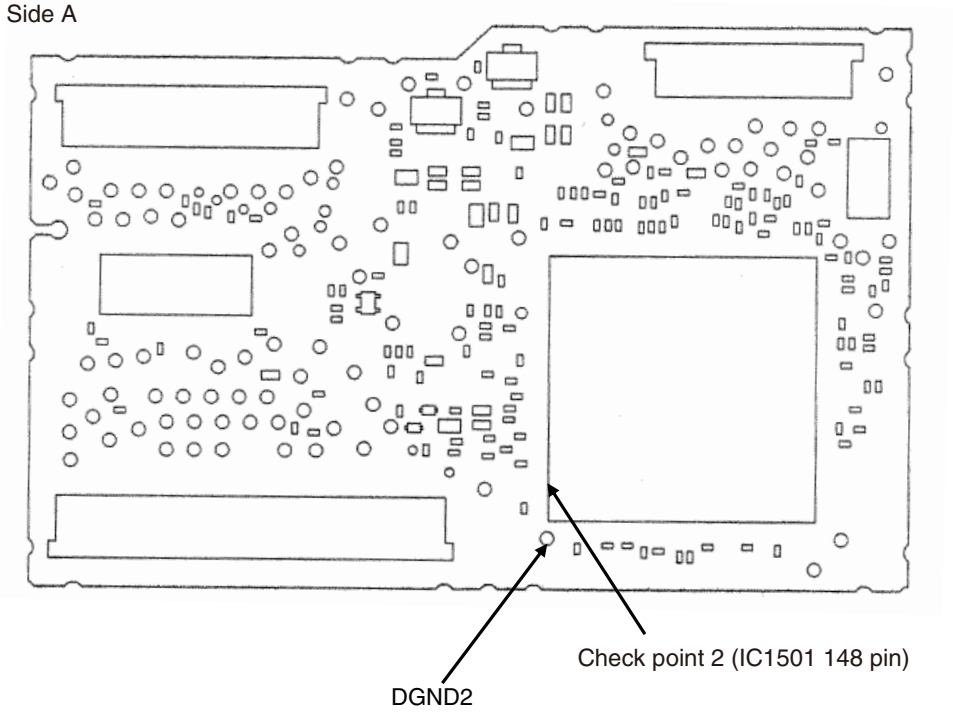



Fig 9.3: 27 MHz, DACCLK check point

## Check 10: Is the audio circuit OK?

<Outline> The serial 3 lines digital output + DACCLK, output from DVD-LSI (IC1501), are converted to analog audio signal at Audio-DAC (IC1801) and are output from the HOST I/F (CN1901).
Simultaneously, the analog MUTE signal is also output from DVD-LSI (IC1501) via the HOST I/F.
The digital audio signal (IECOUT), output from DVD-LSI (IC1501).

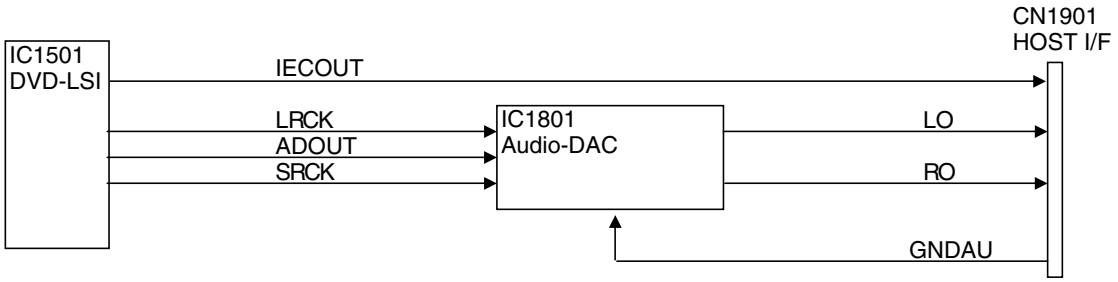



Fig 10.1: Audio circuit

<Check method> Playback DVD-REF-A1 TITLE 2 CHAPTER 1 (48 k/16 bit 1 kHz 0 dB),
and check with DGND being the reference.
In case of NG, check the applicable line, periphery of major components as described in the above drawing, soldering of the peripheral components and defective components.

| NO. | Check point 1 (stylus) | Specification value 1 | Specification value 2 | Reference waveform |
|---|---|---|---|---|
| 1 | ADOUT3 | VCC33 V-0.6 V or higher | 0.4 V or lower | Waveform 1 |
| 2 | SRCK | VCC33 V-0.6 V or higher | 0.4 V or lower | Waveform 2 |
| 3 | LRCK | VCC33 V-0.6 V or higher | 0.4 V or lower | Waveform 3 |

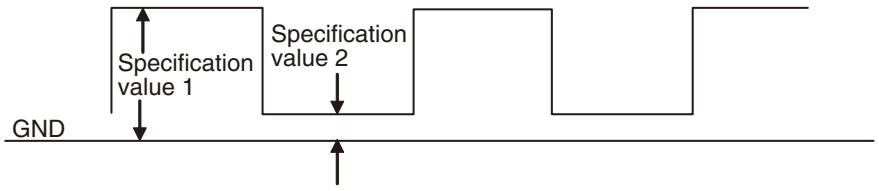
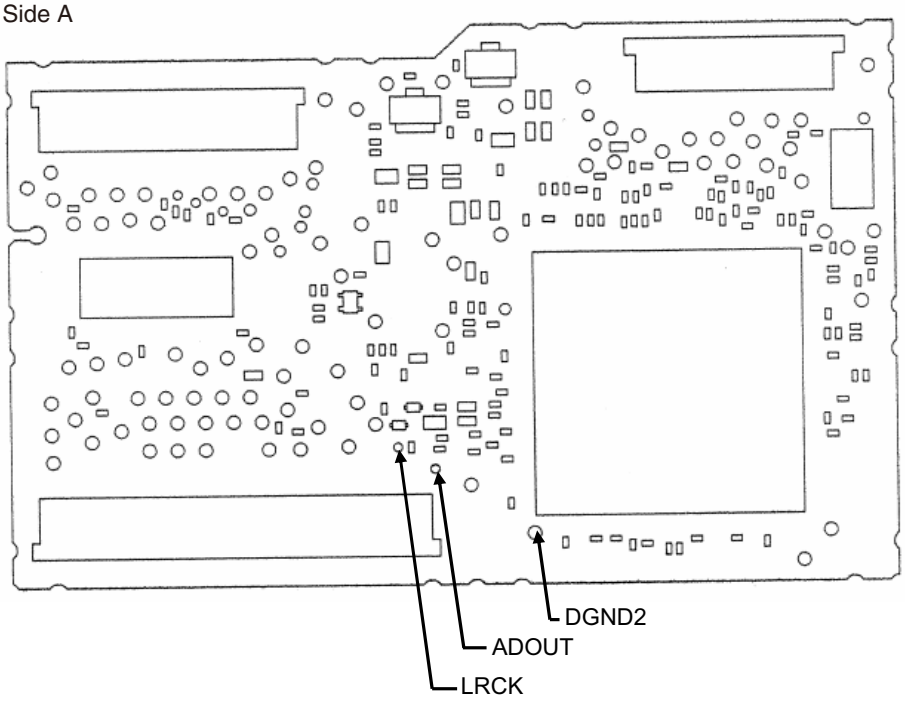



Fig 10.2: Serial 3 lines specification value

Side A




Side B

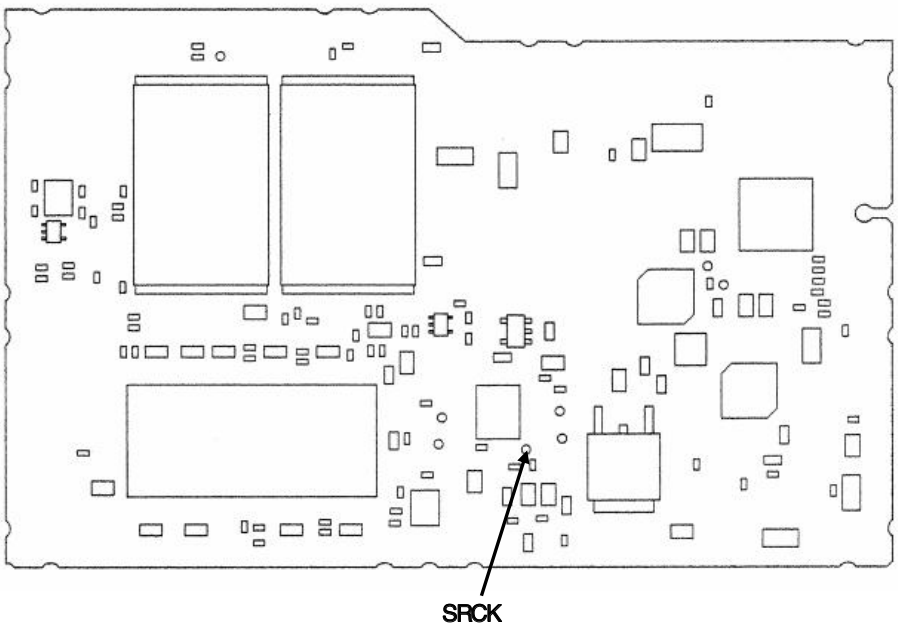
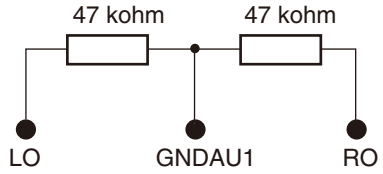



Fig 10.3: Serial 3 lines check points

The following checks shall be conducted using the following measurement circuits with GNDAU1 being the reference.




| NO. | Check point 1 (stylus) | Specification value (rms) | Reference waveform |
|---|---|---|---|
| 4 | LO | 1 400 ± 150 mV | Waveform 4 |
| 5 | RO | 1 400 ± 150 mV | Waveform 4 |

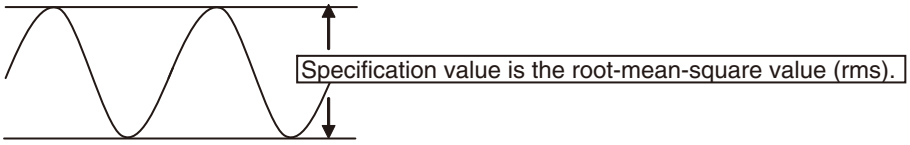



Fig 10.4: Analog audio out (LO, RO) specification value.

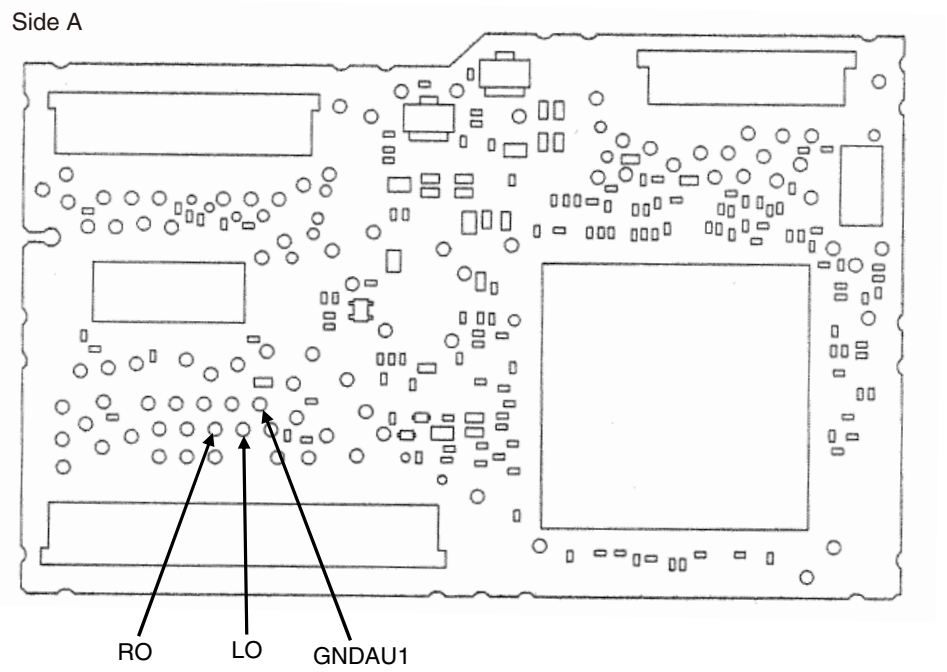



Fig 10.5: Analog audio out check point

Check with DGND being the reference.

| NO. | Check point 1 (stylus) | Specification value 1 | Specification value 2 | Reference waveform |
|---|---|---|---|---|
| 6 | IEC | VCC33 V-0.6 V or higher | 0.4 V or lower | Waveform 5 |

Side A

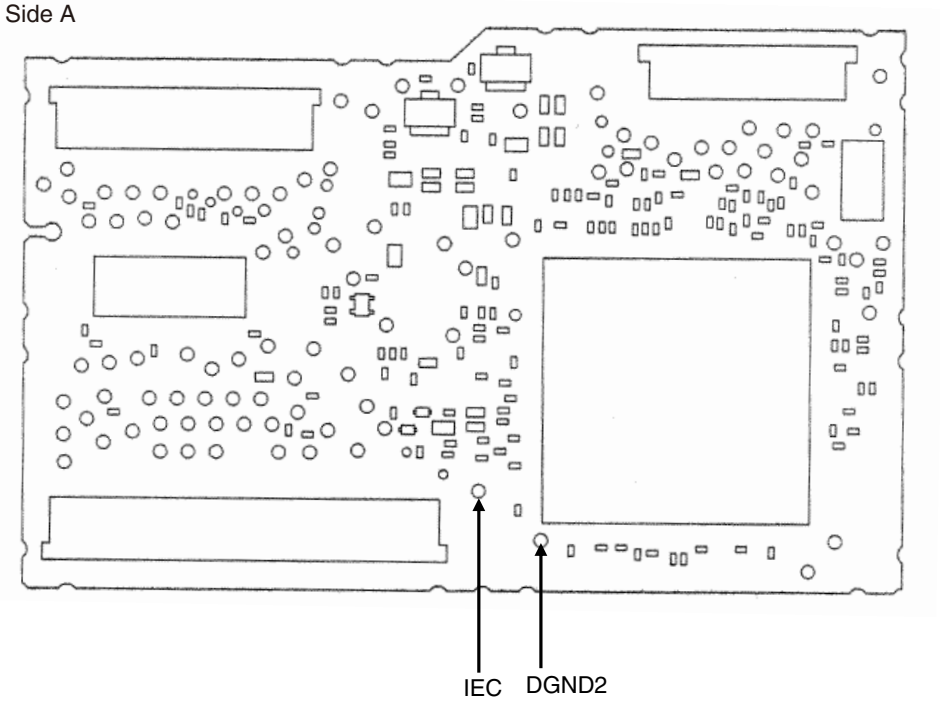



Fig 10.6: Digital audio signal (IECOUT) check point

## Check 11: Is the video circuit OK?

<Outline> Composite signal and component signal are output from DVD-LSI (IC1501), and are output from the HOST I/F (CN1901) via a buffer circuit.

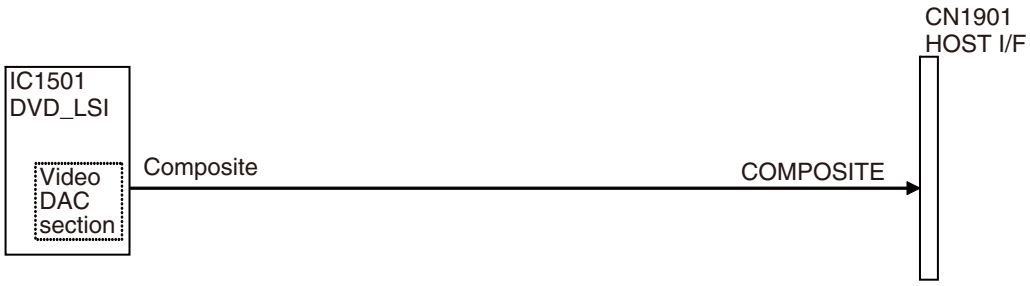



Fig 11.1: Video circuit

<Checking method> Playback DVD-REF-A1 TITLE2 CHAPTER5 (WHITE 100%), and monitor COMPOSITE signal with an oscilloscope with GNDV1 (stylus) being the reference. Set the trigger mode to “TV trigger” and the trigger line to “150 line”.

Check point 1 (stylus)

| NO. | | Specification value | Reference waveform |
|---|---|---|---|
| 1 | COMPOSITE | 1 000 mVpp ± 5 % | Waveform 6 |

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

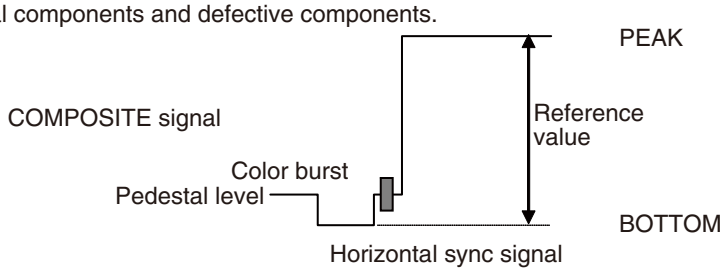



Fig 11.2: Waveform for the case of composite white 100% output

Side A

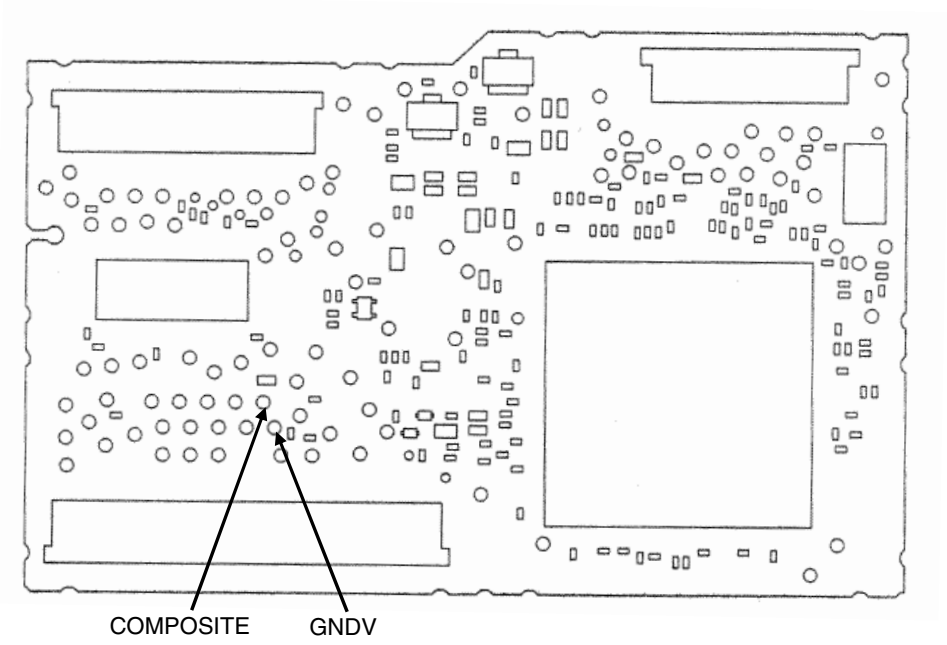


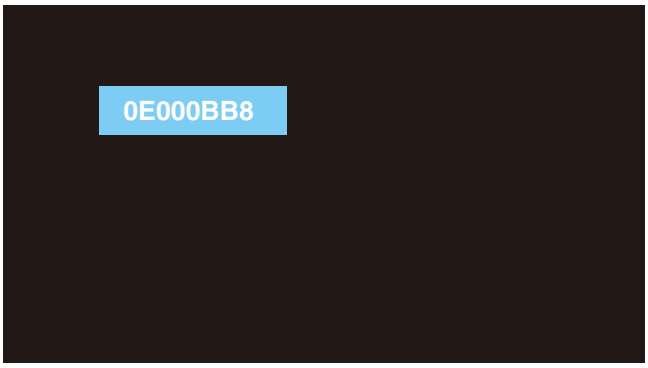

Fig 11.3: VIDEO signal check point

## Check 12:How to judge whether the flash memory has reached its life or not.

If the reaction to user operation is slow or operation is slow in general, there is a possibility that the flash memory has reached its life.
Make judgment regarding the flash memory life by looking at the display of the LD energizing time.

1.Let the LD energizing time displayed.
(Refer to the FE test mode for the method of displaying the LD energizing time.)
2.If the second digit from the left of the energizing time display is showing E,
such as " ∗E∗∗ ∗∗∗∗ ", it means that the flash memory has reached its life.

Example:



# Check 13: 48 MHz Normal?

<Outline> Each clock is created inside the IC1501 using the 48 MHz master crystal oscillator (X1501).

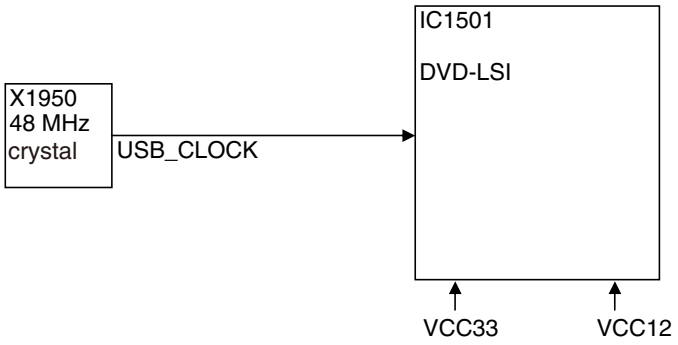



Fig 13.1: Clock configuration

<Check method> Turn the power on, and check with DGND1 being the reference.
In case of NG, check the applicable line, periphery of IC1501,
soldering of the peripheral components and defective components.

| NO. | Check point | Module No. | Specification value | Unit |
|---|---|---|---|---|
| 2 | IC1501 50pin-DGND1 | ALL | 48 MHz<br>± 50 ppm | ppm |

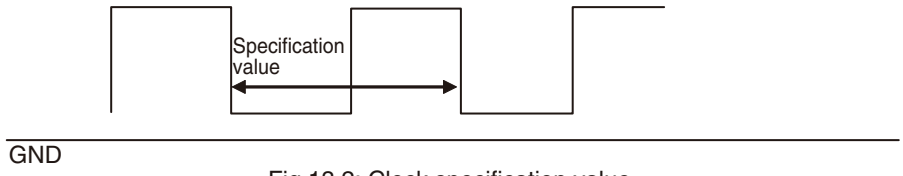



Fig 13.2: Clock specification value

Side A

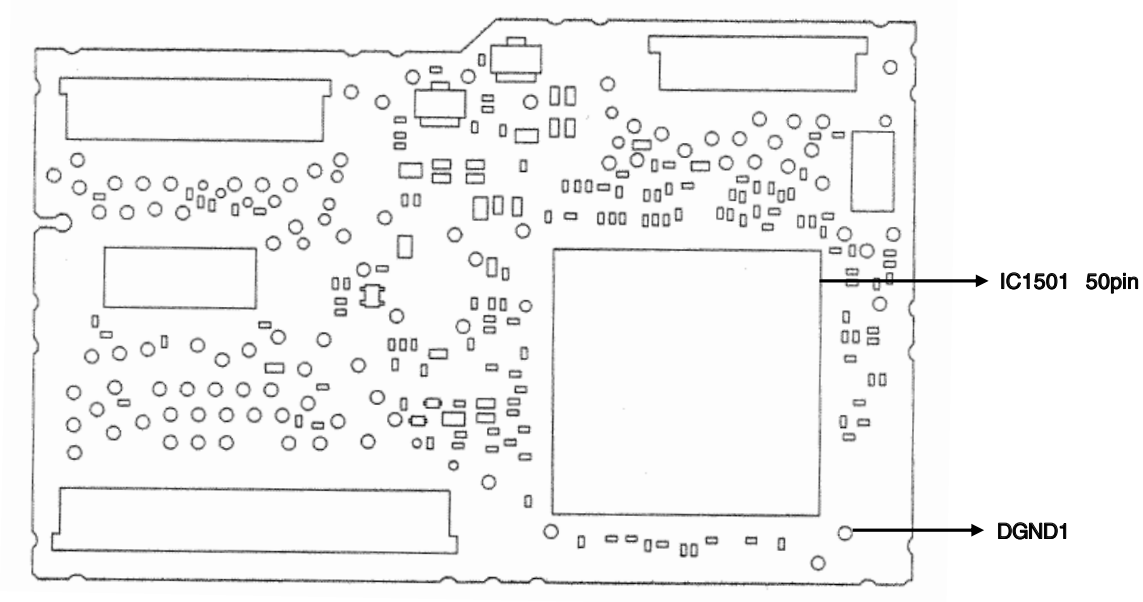



Fig 13.3: 48 MHz check point

# Check 14: Is USB Circuit OK?

<Outline>

The data is transmitted through D+, D- and SDA of HOST I/F while playing USB/IPOD.
USB memory uses only D+ and D-, but IPOD uses SDA (DATA) and SCL (CLOCK)
in addition to D+ and D-.

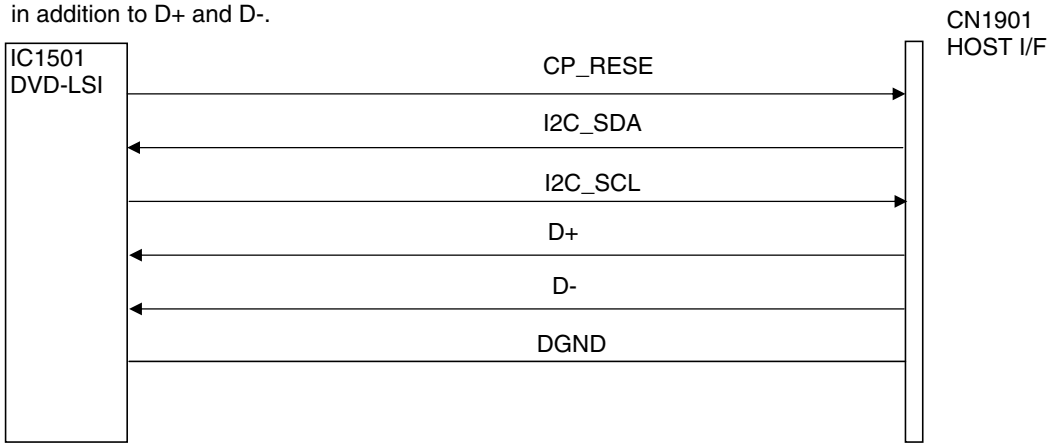



Fig. 14-1: USB Circuit

<Check Method>

1.USB Memory: Play a song from USB memory and check D+ and D- with the DGND standards.
2.iPod: Connect iPod and check CP_RESET, SDA and SCL with the DGND standards until the pioneer log appears.
Play a song from iPod and check D+/D- with the DGND standards.
When it does not conform to the standards, check appropriate line, main parts shown in the above figure,
soldering of peripheral parts and malfunctions in parts.

| No. | Checking spot (stylus) | Standard value 1 | Standard value 2 | |
|---|---|---|---|---|
| 1 | CP_RESET | VCC33*0.7or more | | |
| 2 | SDATA | VCC33*0.7or more | VCC33*0.2 or less | *Until the pioneer log appears after connecting the iPod |
| 3 | SCLOCK | VCC33*0.7or more | VCC33*0.2 or less | *Until the pioneer log appears after connecting the iPod |
| 4 | D+ | VCC33*0.7or more | VCC33*0.3 or less | |
| 5 | D- | VCC33*0.7or more | VCC33*0.3 or less | |

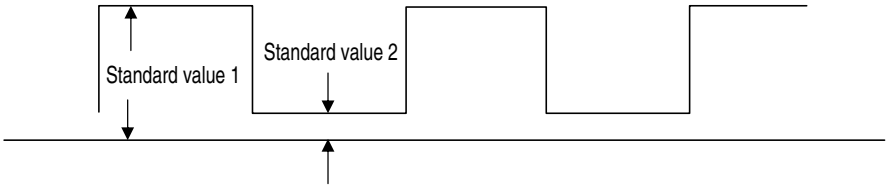
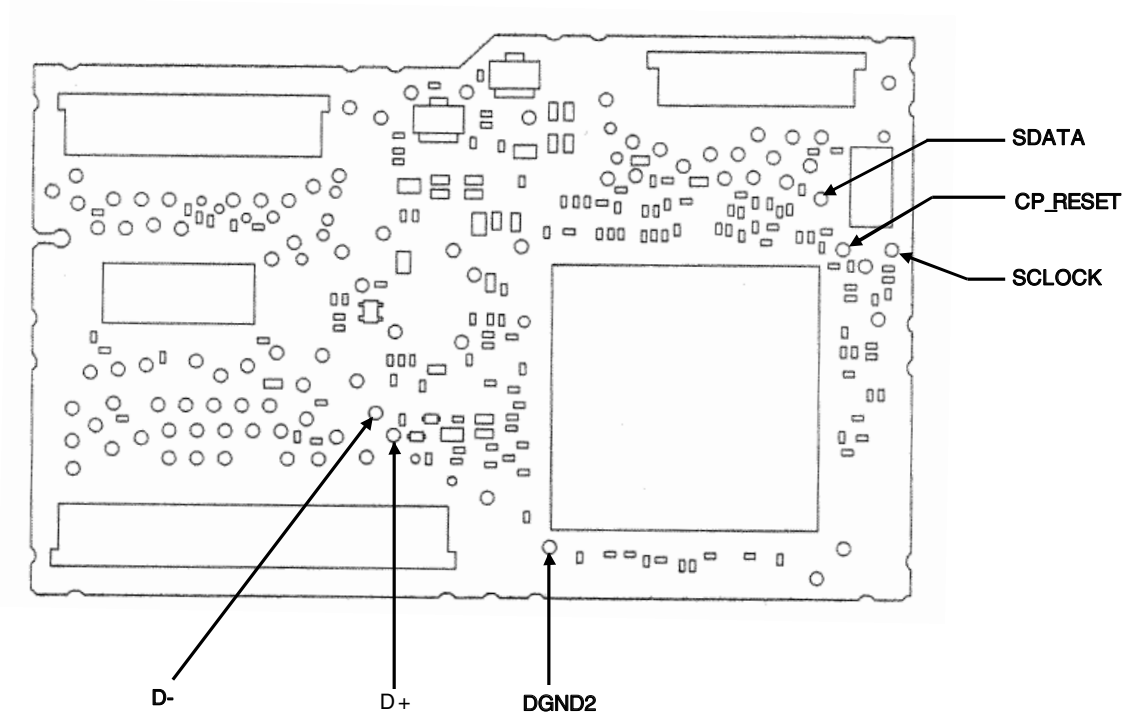


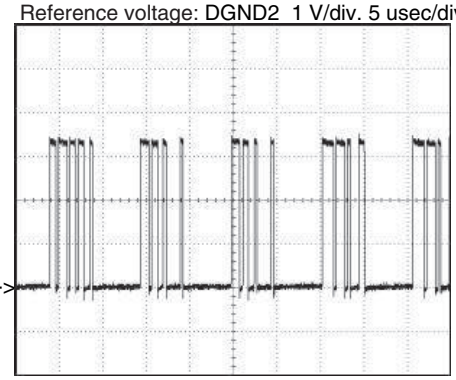

Fig. 14.2: USB Circuit Communication Wave

Side A



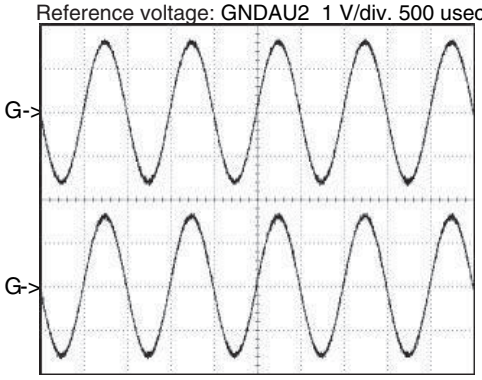
# AUDIO

CH1:ADOUT3
Reference voltage: DGND2 1 V/div. 5 usec/div



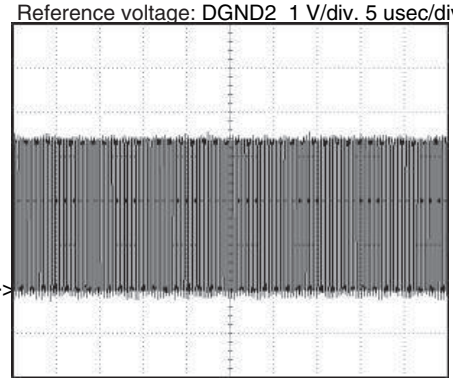

Waveform 1

CH1:LO
CH2:RO
Reference voltage: GNDAU2 1 V/div. 500 usec/div



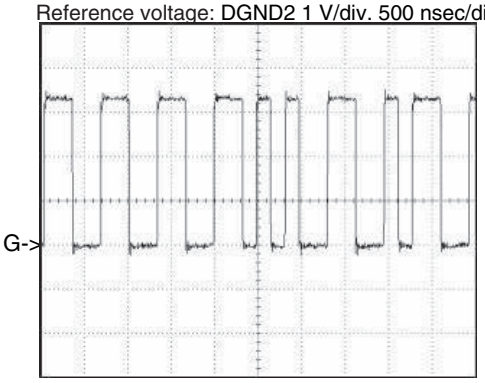

Waveform 4

CH1:SRCK
Reference voltage: DGND2 1 V/div. 5 usec/div



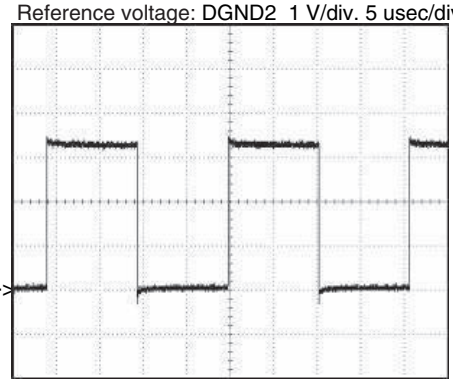

Waveform 2

CH1:IECOUT
Reference voltage: DGND2 1 V/div. 500 nsec/div




Waveform 5

CH1:LRCK
Reference voltage: DGND2 1 V/div. 5 usec/div



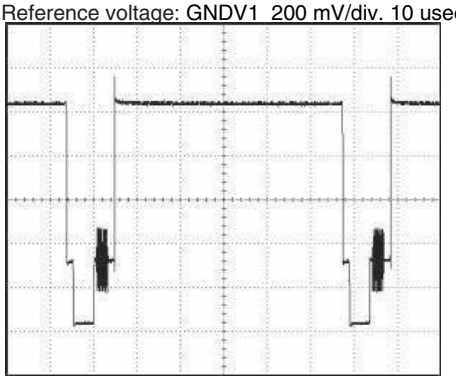

Waveform 3

## VIDEO

[WHITE 100IRE]

CH1:COMPO

Reference voltage: GNDV1 200 mV/div. 10 usec/div

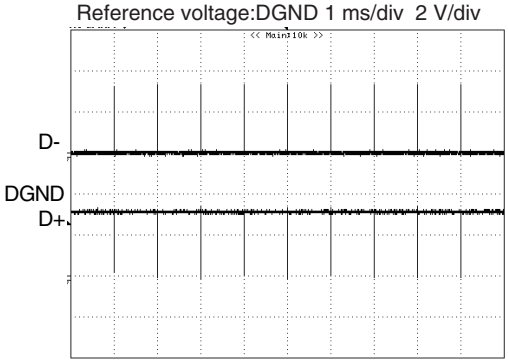


Waveform 6

## USB memory

USB memory

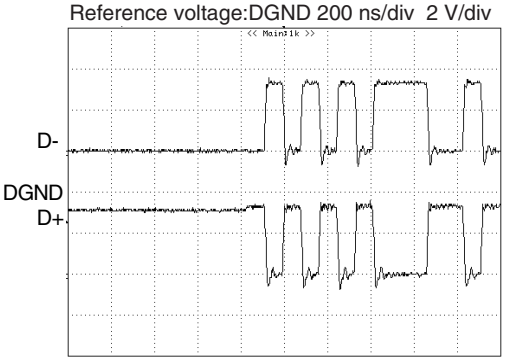
Reference voltage:DGND 1 ms/div 2 V/div




Waveform 7

USB memory

Reference voltage:DGND 200 ns/div 2 V/div

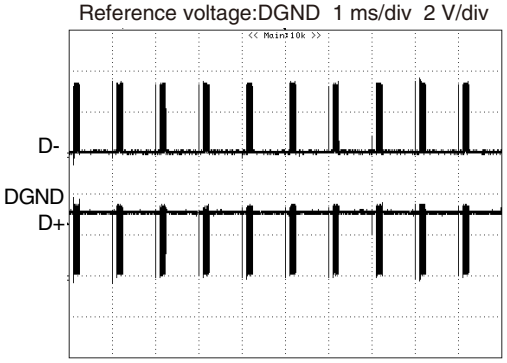



Waveform 8

## iPod

iPod

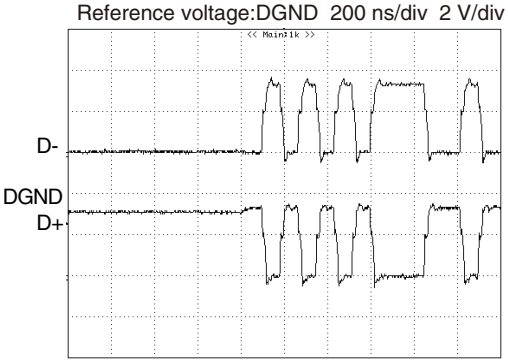
Reference voltage:DGND 1 ms/div 2 V/div




Waveform 9

iPod

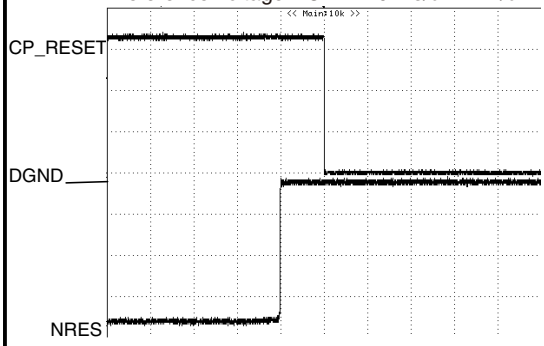
Reference voltage:DGND 200 ns/div 2 V/div




Waveform 10

iPod

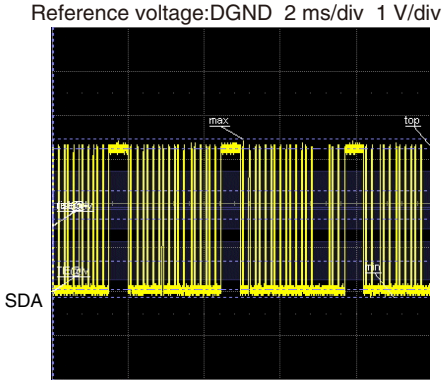
Reference voltage:DGND 20 ms/div 1 V/div




Waveform 11

iPod

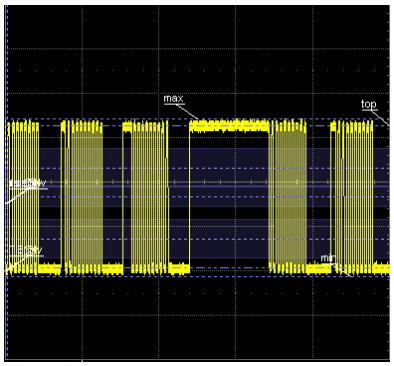
Reference voltage:DGND 2 ms/div 1 V/div




Waveform 12

iPod

Reference voltage:DGND 500 us/div 1 V/div




Waveform 13

# 5.4 ERROR CODE LIST

| Error status | OSD *1 | UART *2 | Meaning | Generation source | | | Method of reset | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Disc | USB (MSC) | USB (iPod) | ACC Off/On | Source Off/On | Eject | Play Key |
| Media Error | NON-PLAYABLE DISC | 00h | A disc containing the unplayable Format only | X | - | - | X | X | X | - |
| | INCOMPATIBLE DEVICE | 00h | USB device that doesn't correspond | - | X | X | X | X | - | - |
| | UNPLAYABLE FILE | 00h | USB device of format alone that cannot be reproduced | - | X | - | X | X | - | - |
| Open | (No display) | 10h | Door open error | X | - | - | * | * | * | * |
| Read Error | ERROR-02-99 | 20h | Transfer start error | X | - | - | X | X | X | X |
| Focus Error(Focus Error in mechanism set up) | ERROR-02-90 | 21h | Focus error | X | - | - | X | X | X | X |
| Surface Error | ERROR-02-9E | 22h | Focus error during set up (A focus has never been achieved with that disc.) | X | - | - | X | X | X | X |
| Address not found(Invalid Track) | ERROR-02-80 | 23h | Address not found. | X | - | - | X | X | X | X |
| Spindle Lock | ERROR-02-91 | 24h | Spindle lock NG (the disc cannot rotate) | X | - | - | X | X | X | X |
| Carriage HOME | ERROR-02-92 | 25h | Carriage home NG (The pick up tries to return to carriage home, but it cannot go back and stopped.) | X | - | - | X | X | X | X |
| ID/SUBCODE Read Error | ERROR-02-94 | 26h | ID/SUBCODE Read Error (ID/SUBCODE cannot be read due to scratch or stain.) | X | - | - | X | X | X | X |
| AV CHIP decode Error | ERROR-02-9A | 2Ah | AV CHIP decode NG (AV chip cannot be decoded.) | X | X | - | X | X | X | X |
| AV CHIP Recovery NG | ERROR-02-9B | 2Bh | AV CHIP recovery NG | X | X | X | X | X | X | X |
| Error of PLAY BACK Mode Status | ERROR-02-9C | 2Ch | Playback state error (An error due to software bug.) | X | X | - | X | X | X | X |
| Disc Data Error | ERROR-02-9D | 2Dh | Disc Data NG | X | - | - | X | X | X | X |
| Temp Error (In Case of High Temperature ) | THERMAL PROTECTION IN MOTION | 30h | High temperature (Playback is stopped because the pick up temperature is 89 C or higher.) | X | - | - | X | - | - | - |
| No Disc ( including Disc loading and ejecting) | (No display) | 40h | Disc has not been inserted. (Including Load in process or Eject in process.) | X | - | - | * | * | * | * |
| Loading_Mecha Error | (No display) | 50h | Loading mechanism error (The disc cannot be clamped.) | X | X | X | X | - | X | - |
| Communication fault attesting iPod | ERROR-02-60 | 60h | Communication fault attesting iPod | X | - | X | - | - | X | - |
| **iPod authentication data is abnormal** | ERROR-02-61 | 61h | **iPod authentication data is abnormal** | X | - | X | - | - | X | - |
| iPod attestation retrying failure | ERROR-02-62 | 62h | iPod attestation retrying failure | X | - | X | - | - | X | - |
| iPod attestation time out | ERROR-02-63 | 63h | iPod attestation time out | X | - | X | - | - | X | - |
| Error when iPod is connected/ It is generated STALL by the USB communication | ERROR-02-64 | 64h | Error when iPod is connected/ It is generated STALL by the USB communication | - | - | X | - | - | X | - |
| Error setting iPod | ERROR-02-65 | 65h | Error setting iPod | - | - | X | - | - | X | - |
| **Demand timeout when initial is communicated** | ERROR-02-66 | 66h | **Demand timeout when initial is communicated** | - | - | X | - | - | X | - |
| **Protocol version non-correspondence** | ERROR-02-67 | 67h | **Protocol version non-correspondence** | - | - | X | - | - | X | - |
| **Timeout when protocol version is judged** | ERROR-02-68 | 68h | **Timeout when protocol version is judged** | - | - | X | - | - | X | - |
| No songs error | (No display) | 69h | No songs error | - | - | X | - | - | X | - |
| iPod control forwarding/ Intarapta forwarding error | ERROR-02-6A | 6Ah | iPod control forwarding/ Intarapta forwarding error | - | - | X | - | - | X | - |
| Demand timeout iPod's reproducing | ERROR-02-6B | 6Bh | Demand timeout iPod's reproducing | - | - | X | - | - | X | - |
| **Remote switch error** | ERROR-02-6C | 6Ch | **Remote switch error** | - | - | X | - | - | X | - |
| Remote switch demand timeout | ERROR-02-6D | 6Dh | Remote switch demand timeout | - | - | X | - | - | X | - |
| DRM Error | PROTECTED DISC | 70h | DRM error (All music cannot be played back due to DRM.) | X | - | - | - | - | X | - |
| | NO ACCESSIBLE DATA AVAILABL | 70h | DRM error (All music cannot be played back due to DRM.) | - | X | - | - | - | - | - |
| Region code Error NG | DIFFERENT REGION DISC | 90h | Region code NG (Unable to be played back due to incorrect mechanism region.) | X | - | - | - | - | X | - |
| CPRM*7 Key Error *8 | NON-PLAYABLE DISC | 93h | Key Error for playback | X | - | - | - | - | X | - |
| REQUEST error | ERROR-02-A0 | A0h | REQUEST error | X | - | - | X | X | X | X |
| Failure in issuing read command (chip dependent) | ERROR-02-A1 | A1h | Failure in issuing the read command | X | - | - | X | X | X | X |
| Adjustment of L0 is NG. | ERROR-02-A2 | A2h | L0 adjustment is NG. | X | - | - | X | X | X | X |
| Adjustment of L1 is NG. | ERROR-02-A3 | A3h | L1 adjustment is NG | X | - | - | X | X | X | X |
| LD system NG | ERROR-02-A4 | A4h | LD system NG | X | - | - | X | X | X | X |
| Gain adjustment system NG. | ERROR-02-A5 | A5h | Gain adjustment system NG. | X | - | - | X | X | X | X |
| Gain determining system NG. | ERROR-02-A6 | A6h | Gain determining system NG. | X | - | - | X | X | X | X |
| Servo initial setting related items NG. | ERROR-02-A7 | A7h | Servo initial setting related items NG. | X | - | - | X | X | X | X |
| Disc is not clamped yet. | ERROR-02-A8 | A8h | Disc is not clamped yet. | X | - | - | X | X | X | X |
| Tracking system NG. | ERROR-02-A9 | A9h | Tracking system NG | X | - | - | X | X | X | X |
| Media setting system NG. | ERROR-02-AA | AAh | Media setting system NG | X | - | - | X | X | X | X |
| Focus Error | ERROR-02-AB | ABh | JUMP over layers NG | X | - | - | X | X | X | X |
| Error of PLAY BACK Mode Status | ERROR-02-B0 | B0h | Navigation command error | X | - | - | X | X | X | X |
| Error of PLAY BACK Mode Status | ERROR-02-B1 | B1h | Retry over | X | - | - | X | X | X | X |
| Audio Property Timeout Error *9 | ERROR-02-C0 | C0h | Audio property timeout error | X | - | - | X | X | X | - |
| Error when MCS is connected/ It is generated STALL by the USB communication | ERROR-02-D0 | D0h | Error when MCS is connected/ It is generated STALL by the USB communication | - | X | - | - | - | X | - |
| CBW and CSW forwarding error | ERROR-02-D1 | D1h | CBW and CSW forwarding error | - | X | - | - | - | X | - |
| Audio class band securing failure | ERROR-02-D8 | D8h | Audio class band securing failure | - | - | X | - | - | X | - |
| Audio class FS setting failure | ERROR-02-D9 | D9h | Audio class FS setting failure | - | - | X | - | - | X | - |
| Undefined Error | ERROR-FF-FF | FFh | Undefined error | X | - | - | X | X | X | X |

X: Cancel the error by operation. -: Error is not cancelled by operation. *: No setting
*1 A content displayed on OSD. As for the items having multiple display patterns, the upper row is for the Japanese version Full GUI, and the lower row is for the Touch Panel model and Full GUI (English version).
*2 A parameter of UART command, such as “receipt error notice”, that the DVD mechanism transmits.
*3 CPPM(Content Protection for Prerecorded Media) : A copyright protection technique used in DVD-A. The protection is realized by using the keys recorded on the media and the device key held by the player.
*4 DVD-A compatible model only.
When an error has occurred, only the audio output will be muted but playback operation will continue. Furthermore, acceptance of the user operation will be the same as usual.
*5 AWM (Audio WaterMark): Electronic watermark. Information on the copyright owner or CCI (copy control information) are recorded so that illegally copied discs can be identified.
*6 Notice as an error status will not be given
*7 CPRM(Content Protection for Recordable Media) : A copyright protection technique for digital contents used for re-writable DVD or memory card. (DVD-VR model only)

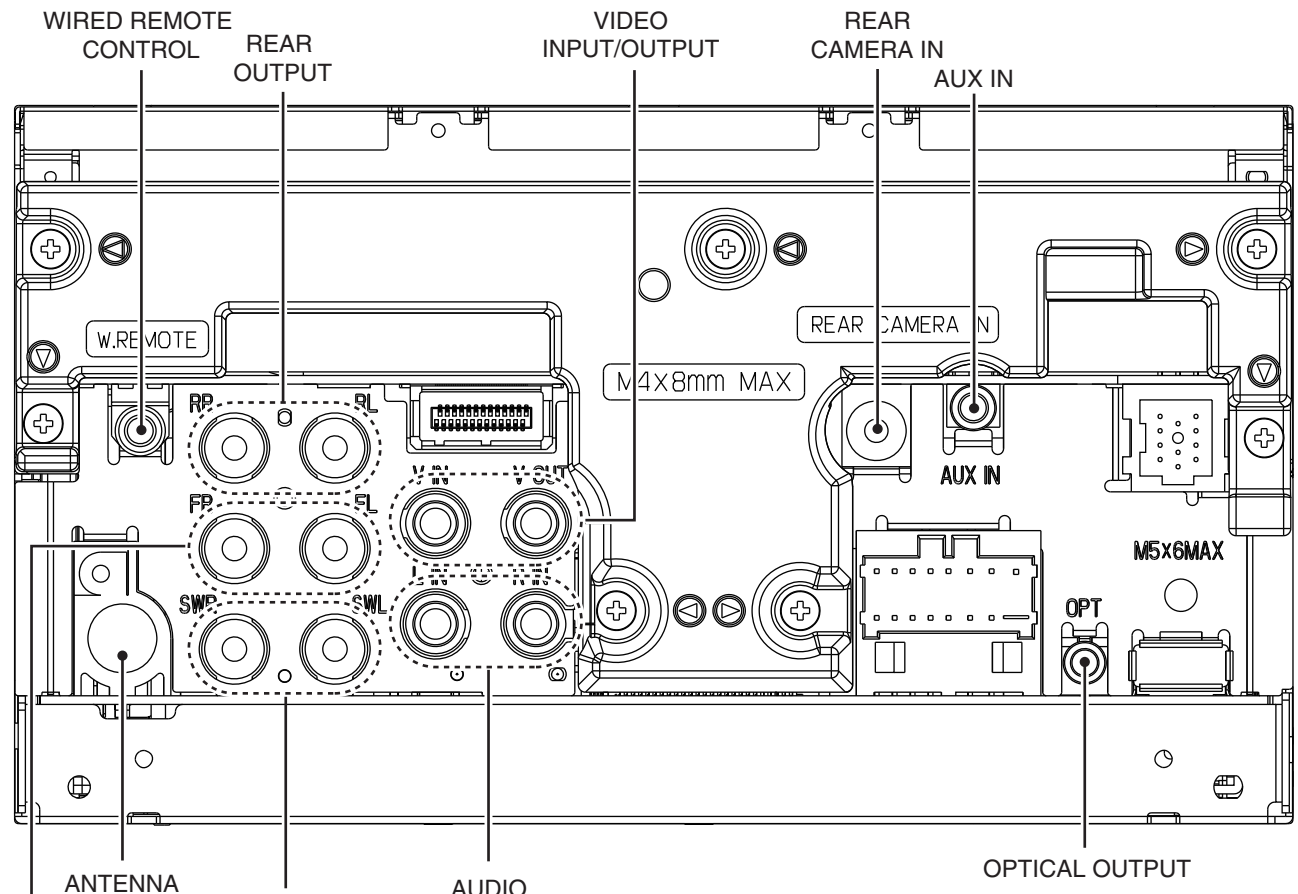
### USB audio player/USB memory

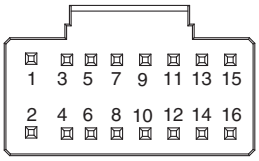
| Message | Cause | Action |
|---|---|---|
| **Unplayable File** | This type of file cannot be played by this unit. | Select the playable file. |
| | No songs | Transfer the audio files to the USB portable audio player/USB memory and connect. |
| | USB memory with security enabled is connected | Follow the USB memory instructions to disable the security. |
| **Skipped** | The connected USB portable audio player/USB memory contains WMA files that are protected by Windows Media™ DRM 9/10 | Play an audio file not protected by Windows Media DRM 9/10. |
| **Protect** | All the files on the connected USB portable audio player/USB memory are protected by Windows Media DRM 9/10 | Transfer audio files not protected by Windows Media DRM 9/10 to the USB portable audio player/USB memory and connect. |
| **N/A USB** | The USB device connected to is not supported by this unit. | Connect a USB portable audio player or USB memory that is USB Mass Storage Class compliant. |
| | USB device is not formatted with FAT16 or FAT32 | USB device should be formatted with FAT16 or FAT32. |
| **Check USB** | The USB connector or USB cable is short-circuited. | Confirm that the USB connector or USB cable is not caught in something or damaged. |
| | The connected USB portable audio player/USB memory consumes more than 500 mA (maximum allowable current). | Disconnect the USB portable audio player/USB memory and do not use it. Turn the ignition switch to OFF, then to ACC or ON and then connect the compliant USB portable audio player/USB memory. |
| **Error-02-9X/-DX** | Communication failure | Perform one of the following operations.<br>–Turn the ignition switch OFF and back ON.<br>–Disconnect the USB portable audio player/USB memory.<br>–Change to a different source.<br>Then, return to the USB portable audio player/USB memory. |

### iPod

| Message | Cause | Action |
|---|---|---|
| **Error-02-6X/-9X/-DX** | Communication failure | Disconnect the cable from iPod. Once iPod main menu is displayed, connect the cable again.<br>Reset the iPod. |
| | iPod failure | Disconnect the cable from iPod. Once iPod main menu is displayed, connect the cable again.<br>Reset the iPod. |
| **Error-02-67** | Old version of iPod | Update the iPod version. |
| **No Songs** | No songs | Transfer the songs to iPod. |
| **Stop** | No songs in the current list | Select a list that contains the songs. |

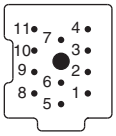
# 5.5 CONNECTOR FUNCTION DESCRIPTION



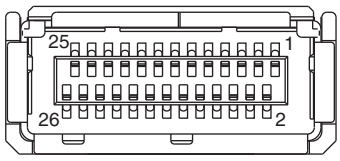

1. FR-
2. RR-
3. FR+
4. RR+
5. FL-
6. RL-
7. FL+
8. RL+
9. PARKING BRAKE
10. MUTE
11. B.REM
12. ILM
13. BGSENS
14. ACC
15. GND
16. B.UP

IP-BUS INPUT



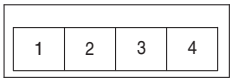

1. BUS+
2. BUSG
3. BUSLG
4. MAINTEST
5. BUS-
6. BUSRG
7. BUSL+
8. ASENBO
9. BUSR+
10. BUSR-
11. BUSL-

RGB INPUT(UW5)




1. CCR
2. CCG
3. CCB
4. CCSYNC
5. GNDSIG
6. DVDVBS
7. GNDDVD
8. YS
9. NC
10. CCAUL
11. CCAUR
12. GNDAU
13. ONSEI+
14. ONSEI-
15. REAUR
16. REAUL
17. GNDRAU
18. CCREM
19. DSEN
20. TVON
21. GION
22. MONON
23. VSW5
24. SYS_TO_NAVI
25. NAVI_TO_SYS
26. GNDD

USB



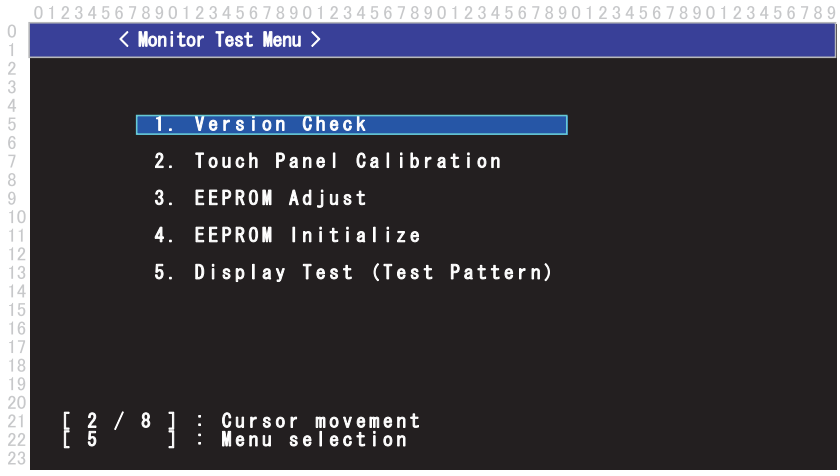

1. USB5V
2. D-
3. D+
4. USBGND

# 6. SERVICE MODE
## 6.1 MONITOR TEST MODE

### [Method for Mode IN]

When the reset start is done while pushing MUTE and TRACK DOWN, it shifts to the monitor test mode.

### [Display specifications]




**[Operation specification]**

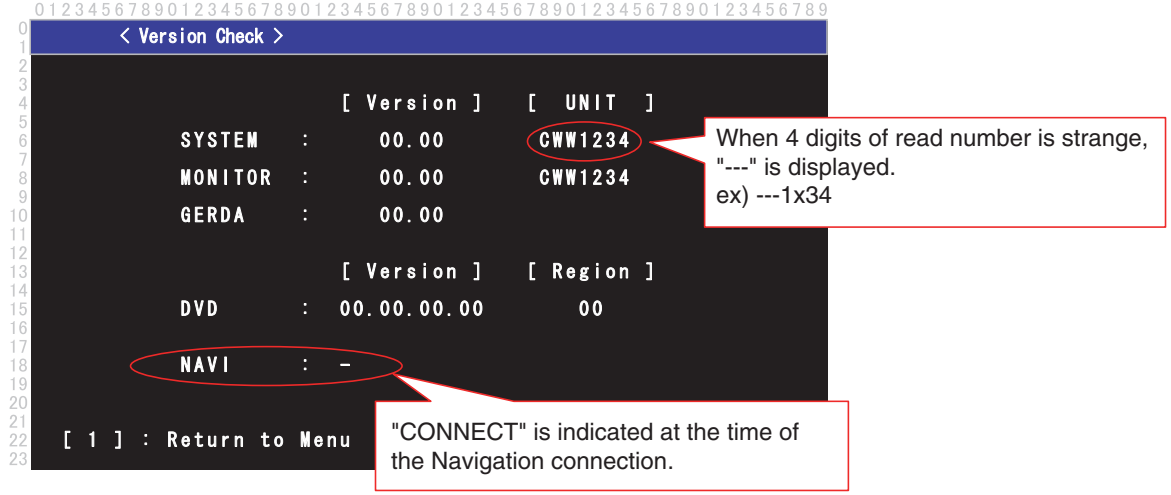
| Operational description | Remote controller key |
|---|---|
| Selection cursor up movement | 2 |
| Selection cursor down movement | 8 |
| Menu enter | 5 |

## 1. Version Check

### [Method for Mode IN]

Choose "Version Check" among the monitor test mode menu screen.

### [Display specifications]




**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |

## 2. Touch Panel Calibration

### [How to activate the touch panel test mode]

Choose "Touch Panel Calibration" among the monitor test mode menu screen.

### [Menu types in the mode]

The calibration test mode consists of the following menus.

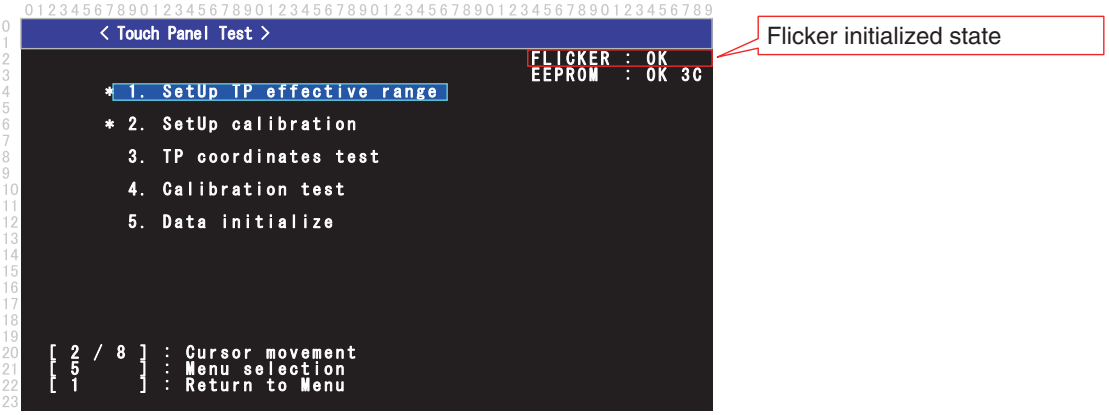
Top menu
- Outermost circumference inspection
- 16 points adjustment
- Coordinate inspection
- Calibration verification
- Data initialization

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Selection cursor up movement | 2 |
| Selection cursor down movement | 8 |
| Return to test mode mene | 1 |
| Menu enter | 5 |

### [Description of the top menu]

**[Display specification]**




**Conditions for lighting of the adjustment complete mark " * ".**

Outermost circumference inspection :
In case the outermost circumference inspection has been completed normally.

16 points adjustment :
In case the calibration has been completed normally.

**Conditions for the adjustment complete mark " * " to go out.**

Outermost circumference inspection :
In case the outermost circumference inspection has never been performed.
In case the EEPROM initialization has been performed.
In case the adjustment value has been initialized.

16 points adjustment :
In case the 16 points adjustment has never been performed.
In case the EEPROM initialization has been performed.
In case the adjustment value has been initialized.

## [Outermost circumference inspection]

**[Outline]**

Outermost circumference value of X and Y is obtained by tracing the outermost circumference of the touch panel screen.
When exiting the menu screen by pressing 5 key, the captured value is stored in the EEPROM.
Furthermore, when storing the value, checking is made as to whether the value is within the range or not.

When the value is within the range.
Write the following value and adjustment information to the EEPROM, then “OK” is displayed.
1. The outermost value of X and Y(min/max) : 4 byte
2. The reference value for A/D correction of X,Y : 2 byte
3. Adjustment information(Adjustment OK) : 1 byte

When the value is within the range.
Write the following adjustment information to the EEPROM, then “NG” is displayed.
1. Adjustment information(Adjustment NG) : 1 byte

The initial value and the setting value allowable range are as follows.

<Before initial value>
①Outermost value
Xmin : 35h
Ymin : 3Fh
Xmax : F3h
Ymax : EAh
②A/D correction value
X : 33h
Y : 38h

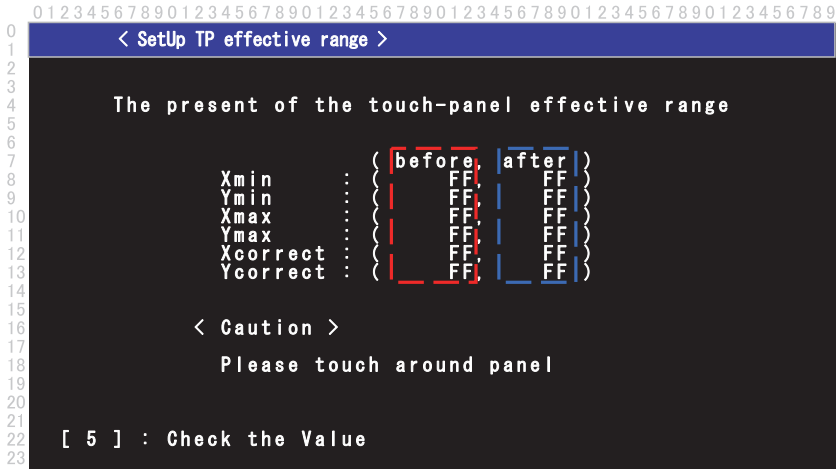
<After initial value>
① Outermost value
Xmin : 78h
Ymin : 78h
Xmax : B4h
Ymax : B4h
② A/D correction value
X : 00h
Y : 00h

③Setting value allowable range

| | | |
|---|---|---|
| X direction | Minimum value | : 00h to 80h |
| | Maximum value | : 9Eh to FFh |
| | Maximum value - Minimum value | : more then 73h |
| Y direction | Minimum value | : 00h to 83h |
| | Maximum value | : 9Ah to FFh |
| | Maximum value - Minimum value | : more then 6Bh |

**[Display specifications]**

Outermost circumference inspection in process




X/Y information of [MIN] and [MAX] of the outermost circumference are displayed.
[BEFOR] indicates the value stored in the EEPROM.
[AFTER] indicates MIN/MAX of the A/D value currently captured.

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to top mene | 5 |

## [16 points adjustment]

**[Outline]**

When correctly touched, the cursor will disappear, and the next cursor will appear. Calibration is conducted by repeating this process 16 times.
When the 17th point has been finally touched, setting information for the 16 points and the normal ending information, total of 17 byte data, are written into the EEPROM, and the screen returns to the TOP menu.

**[Display specifications]**

16 points adjustment in process

Order of display of the locations to be pressed.

This point is intended to end the calibration inspection, and therefore, the corrected value of this point is not obtained.

**[Operation specification]**

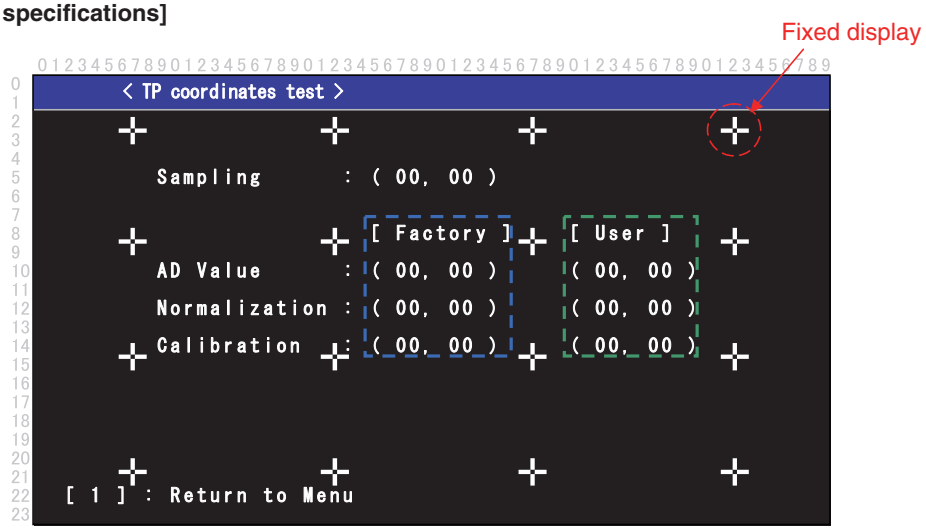
| Operational description | Remote controller key |
|---|---|
| Return to top mene | 5 |

## [Coordinate inspection]

**[Outline]**

The coordinate before correction and after correction at the time of pressing the touch panel are displayed for coordinate verification.
Furthermore, the red "+" cursor can be moved by the key operaiont mentioned bellow, and the coordinate of the cursor center is displayed.

**[Display specifications]**




Each displayed coordinate is as follows.
The values under [Factory] are the corrected values in the Factory region and the values under [User] are the corrected values in the User region.

- Sampling : A/D value (X direction, Y direction) of the pressed point is displayed.
- AD Value : The coordinate (X direction, Y direction) of the A/D value of the pressed point corrected by the reference value for A/D correction is displayed.
- Normalization : The coordinate (X direction, Y direction) after normalizing the A/D corrected coordinate within the effective range is displayed. (0~255)
- Calibration : The coordinate (X direction, Y direction) which is the result of adding the correction by calibration to the normalized coordinate is displayed.

Movable "+" cursor is displayed in red.
16 calibration points are displayed in white.

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to top mene | 1 |

## [Calibration verification]

### [Outline]

Touch the cursor “+” displayed on the screen. The correct touch will delete the cursor and another cursor will be displayed. The incorrect touch will make the characters of cursor turn red.
Repeat this for 4 points, and “OK” is displayed upon the last press of 4th point.

### [Display specifications]

confirming

The pushing order

### [Operation specification]

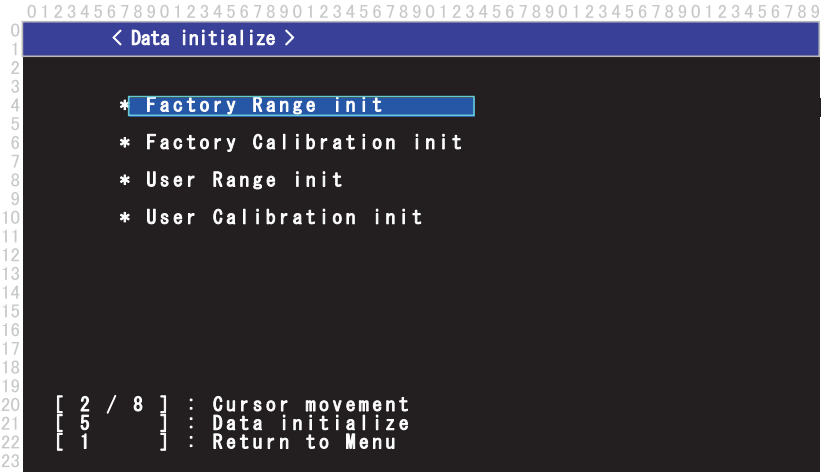
| Operational description | Remote controller key |
|---|---|
| Return to top mene | 1 |

## [Data initialization]

**[Outline]**

Result of outermost circumference inspection and of calibration inspection (corrected value) are returned to their initial values.
As for the initialized items, the initial values are written into the EEPROM and the adjustment information is cleared.

**[Display specifications]**




**Conditions for the adjustment completion mark (*) to be lighted up.**
(The mark will be lighted up if one of the multiple conditions is met.)

Outermost circumference inspection
When the outermost circumference inspection of the calibration for line has been completed normally.

16 point adjustment
When the 16 point adjustment of the calibration for line has been completed normally.

User outermost circumference inspection
When the user outermost circumference inspection of the calibration for line has been completed normally.

User 16 point adjustment
When the user 16 point adjustment of the calibration for line has been completed normally.

**Conditions for the adjustment completion mark (*) to go out.**

Outermost circumference inspection
When the above mentioned lighting conditions are not applicable.
When the adjusted value has been initialized (Data initialize).
When the EEPROM has been initialized.

16 point adjustment
When the above mentioned lighting conditions are not applicable.
When the adjusted value has been initialized (Data initialize).
When the EEPROM has been initialized.

User outermost circumference inspection
When the above mentioned lighting conditions are not applicable.
In case the outermost circumference inspection of the calibration for line or the 16-point adjustment is normally terminated after normal termination of the outermost circumference inspection for user calibration.
When the adjusted value has been initialized (Data initialize).
When the EEPROM has been initialized.

User 16 point adjustment
When the above mentioned lighting conditions are not applicable.
In case the outermost circumference inspection of the calibration for line or the 16-point adjustment is normally terminated after normal termination of the outermost circumference inspection for user calibration.
When the adjusted value has been initialized (Data initialize).
When the EEPROM has been initialized.

**[Operation specification]**

Refer to [Menu types in the mode].

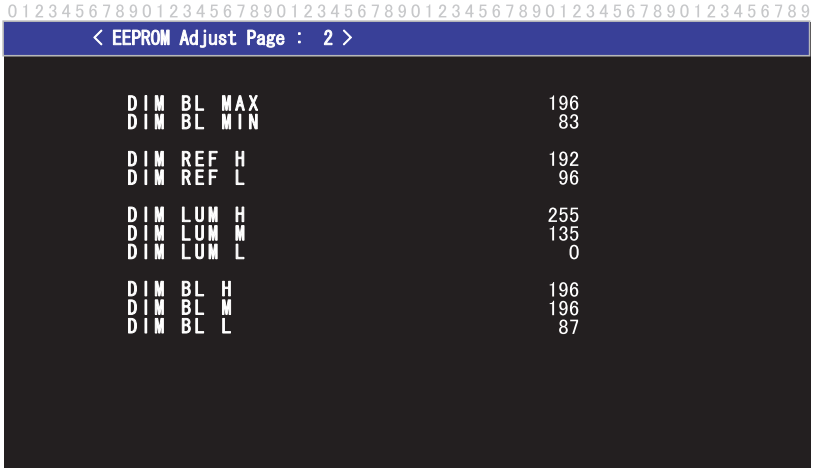
## 3. EEPROM Adjust

### [Method for Mode IN]

Choose "EEPROM Adjust" among the monitor test mode menu screen.

### [Display specifications]

Flicker Adjust

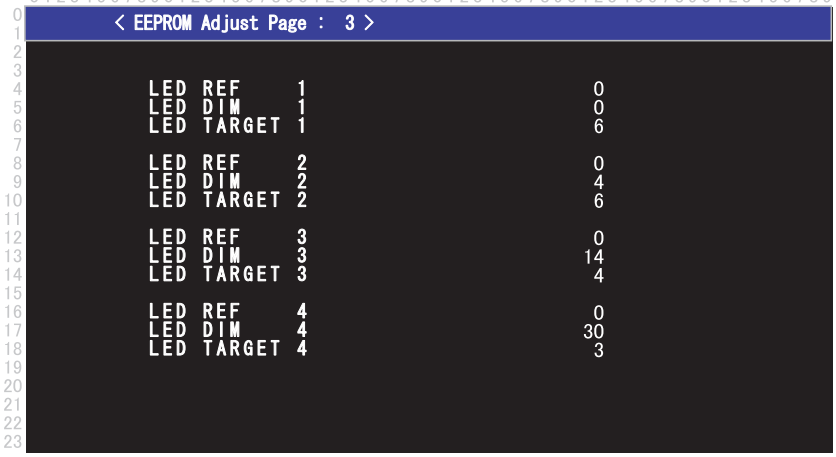



Backlight output max value : 196
Backlight output min value : 83

Dimmer threshold value (high) : 192
Dimmer threshold value (low) : 96

Dimmer external light point (high) : 255
Dimmer external light point (medium) : 135
Dimmer external light point (low) : 0

Dimmer backlight point (high) : 196
Dimmer backlight point (medium) : 196
Dimmer backlight point (low) : 87

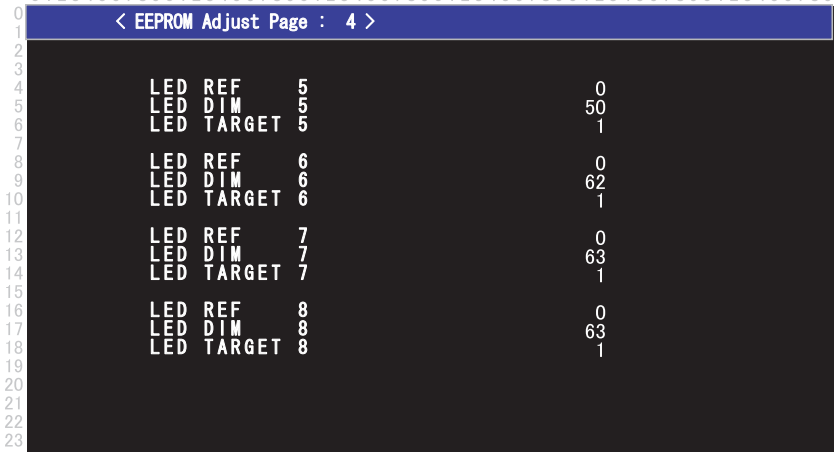



LCD protection value at High temperature (1) Temperature value : 0
LCD protection value at High temperature (1) Dimmer output : 0
LCD protection value at High temperature (1) Target arrival time : 6

LCD protection value at High temperature (2) Temperature value : 0
LCD protection value at High temperature (2) Dimmer output : 4
LCD protection value at High temperature (2) Target arrival time : 6

LCD protection value at High temperature (3) Temperature value : 0
LCD protection value at High temperature (3) Dimmer output : 14
LCD protection value at High temperature (3) Target arrival time : 4

LCD protection value at High temperature (4) Temperature value : 0
LCD protection value at High temperature (4) Dimmer output : 30
LCD protection value at High temperature (4) Target arrival time : 3

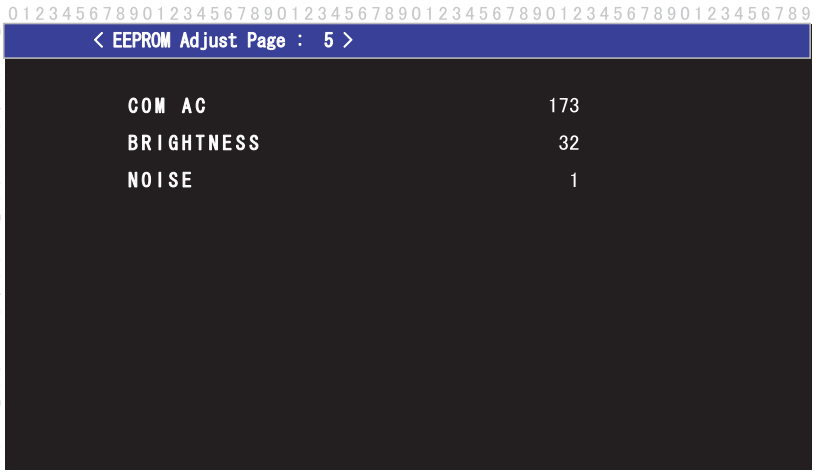



LCD protection value at High temperature (5) Temperature value : 0
LCD protection value at High temperature (5) Dimmer output : 50
LCD protection value at High temperature (5) Target arrival time : 1

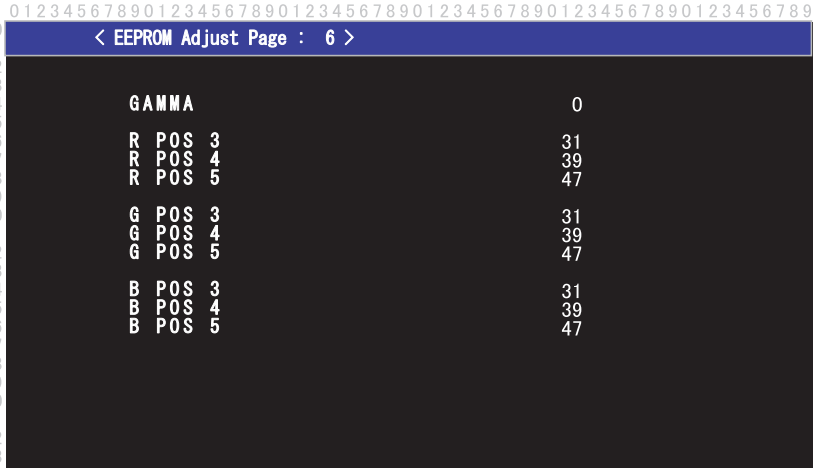
LCD protection value at High temperature (6) Temperature value : 0
LCD protection value at High temperature (6) Dimmer output : 62
LCD protection value at High temperature (6) Target arrival time : 1

LCD protection value at High temperature (7) Temperature value : 0
LCD protection value at High temperature (7) Dimmer output : 63
LCD protection value at High temperature (7) Target arrival time : 1

LCD protection value at High temperature (8) Temperature value : 0
LCD protection value at High temperature (8) Dimmer output : 63
LCD protection value at High temperature (8) Target arrival time : 1




Common inverted output amplitude adjusted value : 173
Brightness adjustment : 32
Noise shaping setting : 1

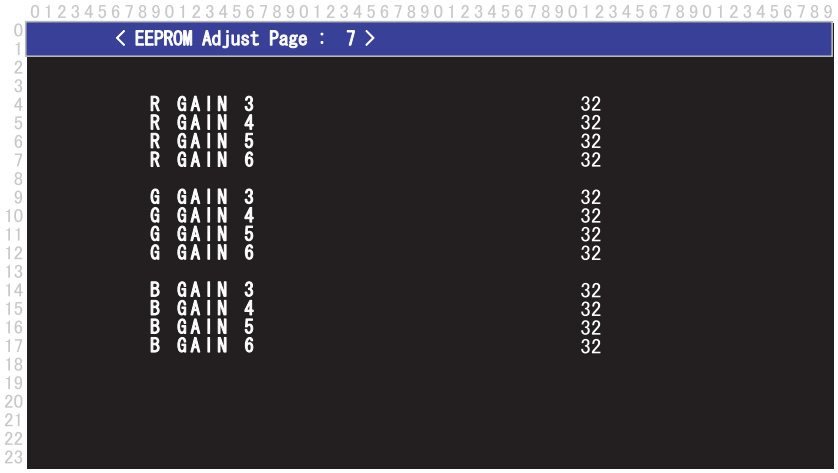



RGB gamma correction : 0

RGB gamma correction setting R polygonal line position setting arrangement [3] : 31
RGB gamma correction setting R polygonal line position setting arrangement [4] : 39
RGB gamma correction setting R polygonal line position setting arrangement [5] : 47

RGB gamma correction setting G polygonal line position setting arrangement [3] : 31
RGB gamma correction setting G polygonal line position setting arrangement [4] : 39
RGB gamma correction setting G polygonal line position setting arrangement [5] : 47

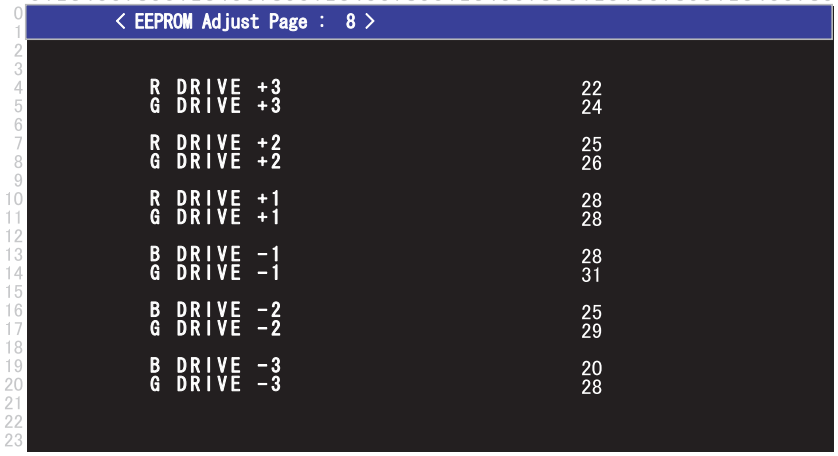
RGB gamma correction setting B polygonal line position setting arrangement [3] : 31
RGB gamma correction setting B polygonal line position setting arrangement [4] : 39
RGB gamma correction setting B polygonal line position setting arrangement [5] : 47




RGB gamma correction setting R gain arrangement [3] : 32
RGB gamma correction setting R gain arrangement [4] : 32
RGB gamma correction setting R gain arrangement [5] : 32
RGB gamma correction setting R gain arrangement [6] : 32

RGB gamma correction setting G gain arrangement [3] : 32
RGB gamma correction setting G gain arrangement [4] : 32
RGB gamma correction setting G gain arrangement [5] : 32
RGB gamma correction setting G gain arrangement [6] : 32

RGB gamma correction setting B gain arrangement [3] : 32
RGB gamma correction setting B gain arrangement [4] : 32
RGB gamma correction setting B gain arrangement [5] : 32
RGB gamma correction setting B gain arrangement [6] : 32




R drive adjustment +3 : 22
G drive adjustment +3 : 24

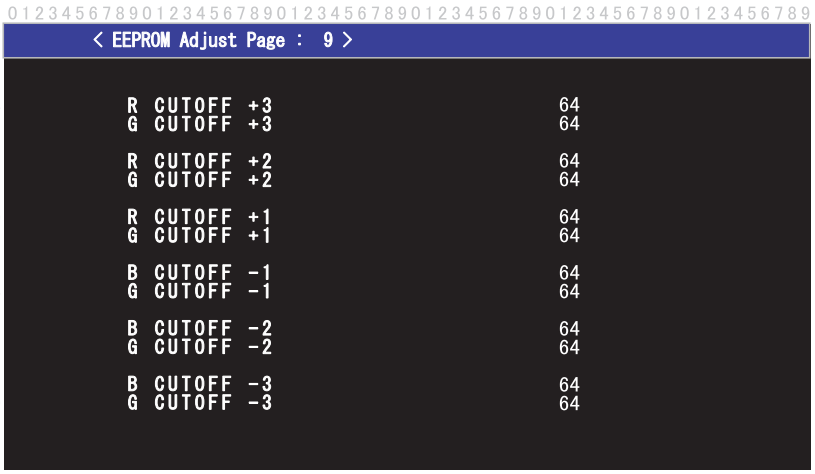
R drive adjustment +2 : 25
G drive adjustment +2 : 26

R drive adjustment +1 : 28
G drive adjustment +1 : 28

B drive adjustment +1 : 28
G drive adjustment +1 : 31

B drive adjustment +2 : 25
G drive adjustment +2 : 29

B drive adjustment +3 : 20
G drive adjustment +3 : 28




R cutoff adjustment +3 : 64
G cutoff adjustment +3 : 64

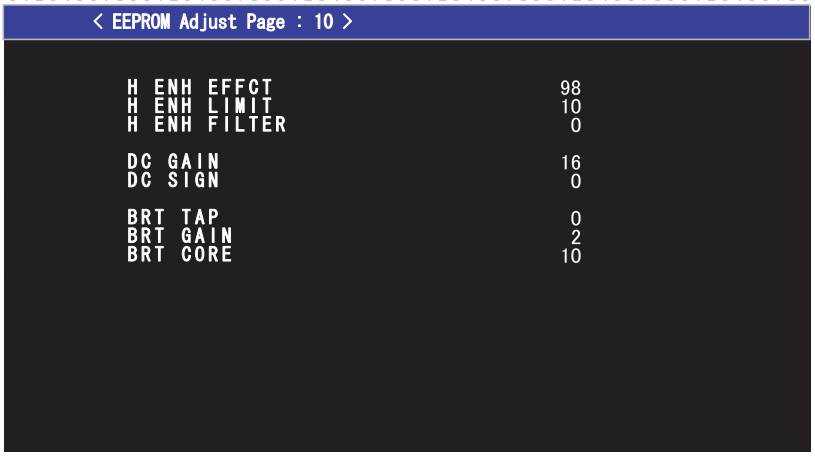
R cutoff adjustment +2 : 64
G cutoff adjustment +2 : 64

R cutoff adjustment +1 : 64
G cutoff adjustment +1 : 64

B cutoff adjustment -1 : 64
G cutoff adjustment -1 : 64

B cutoff adjustment -2 : 64
G cutoff adjustment -2 : 64

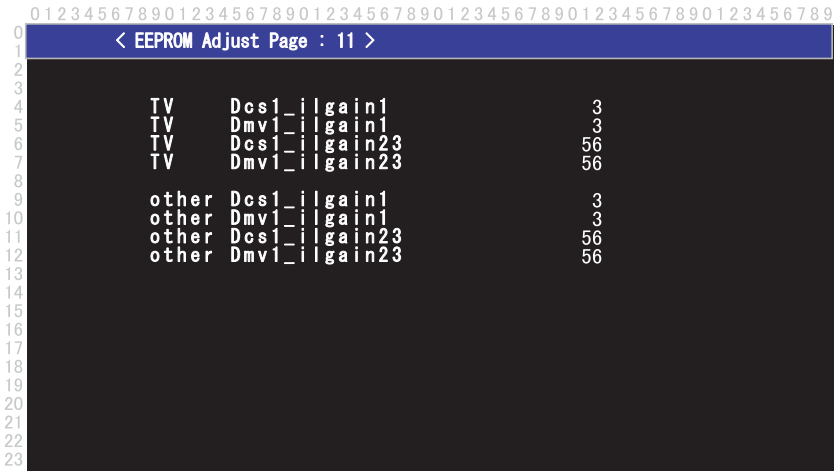
B cutoff adjustment -3 : 64
G cutoff adjustment -3 : 64



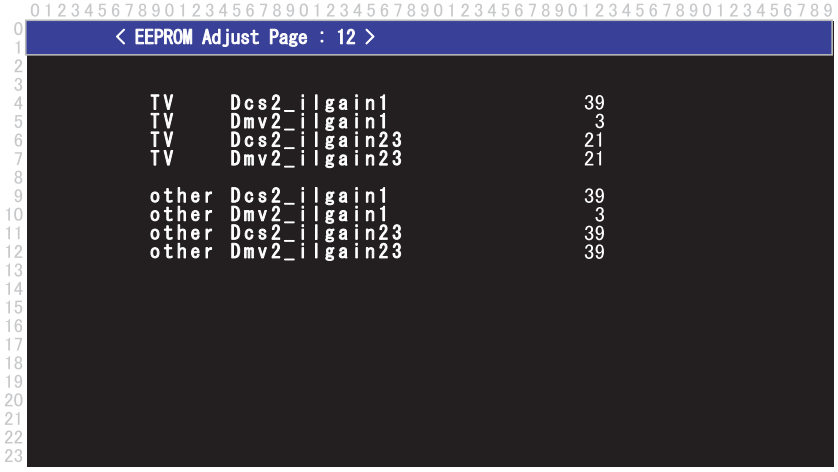

| | |
|---|---|
| Horizontal enhancer adjustment | Correction effect adjustment : 98 |
| Horizontal enhancer adjustment | Limiter for both shots of the positive/negative side : 10 |
| Horizontal enhancer adjustment | Horizontal enhancer adjustment : 0 |

| | |
|---|---|
| YUV DC transmission quantity correction setting | Correction gain : 16 |
| YUV DC transmission quantity correction setting | DC transmission quantity correction polarity : 0 |

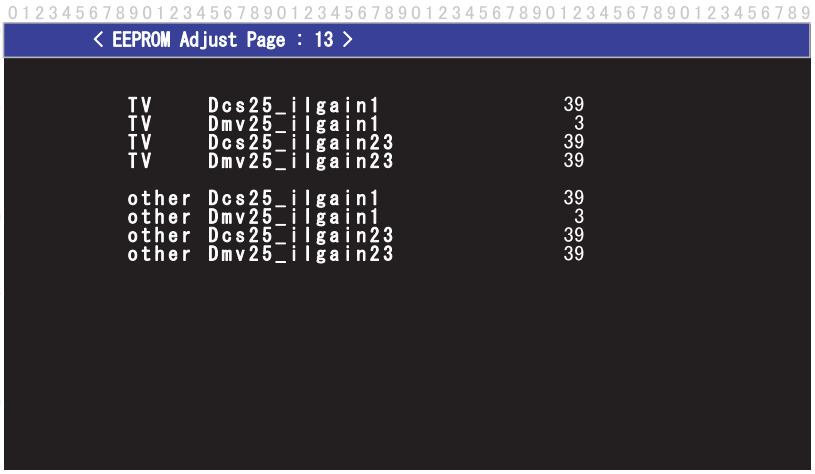
| | |
|---|---|
| Brightness outline correction adjustment | Correction tap select : 0 |
| Brightness outline correction adjustment | Correction gain : 2 |
| Brightness outline correction adjustment | Coring quantity : 10 |




| | |
|---|---|
| Synchronous separation | Top curl adjustment (Strong electric field, TV) Dcs1_ilgain1 : 3 |
| Synchronous separation | Top curl adjustment (Strong electric field, TV) Dmv1_ilgain1 : 3 |
| Synchronous separation | Top curl adjustment (Strong electric field, TV) Dcs1_ilgain23 : 56 |
| Synchronous separation | Top curl adjustment (Strong electric field, TV) Dmv1_ilgain23 : 56 |
| Synchronous separation | Top curl adjustment (Strong electric field, Besides TV) Dcs1_ilgain1 : 3 |
| Synchronous separation | Top curl adjustment (Strong electric field, Besides TV) Dmv1_ilgain1 : 3 |
| Synchronous separation | Top curl adjustment (Strong electric field, Besides TV) Dcs1_ilgain23 : 56 |
| Synchronous separation | Top curl adjustment (Strong electric field, Besides TV) Dmv1_ilgain23 : 56 |

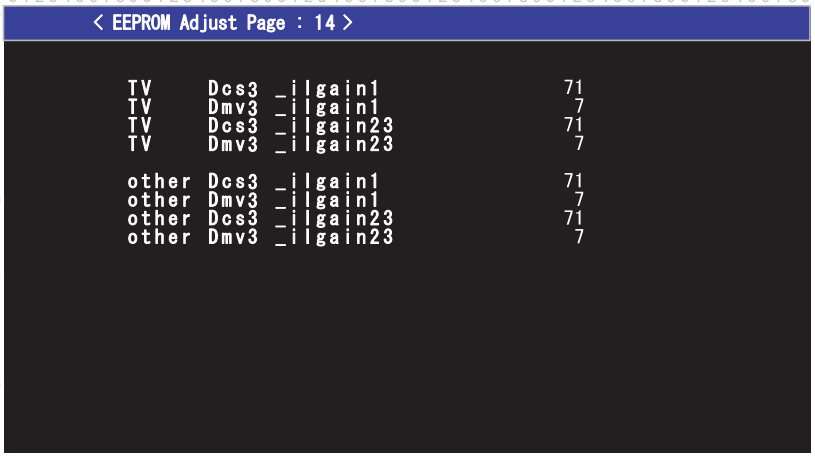



| | |
|---|---|
| Synchronous separation | Top curl adjustment (Weak electric field, TV) Dcs2_ilgain1 : 39 |
| Synchronous separation | Top curl adjustment (Weak electric field, TV) Dmv2_ilgain1 : 3 |
| Synchronous separation | Top curl adjustment (Weak electric field, TV) Dcs2_ilgain23 : 21 |
| Synchronous separation | Top curl adjustment (Weak electric field, TV) Dmv2_ilgain23 : 21 |
| Synchronous separation | Top curl adjustment (Weak electric field, Besides TV) Dcs2_ilgain1 : 39 |
| Synchronous separation | Top curl adjustment (Weak electric field, Besides TV) Dmv2_ilgain1 : 3 |
| Synchronous separation | Top curl adjustment (Weak electric field, Besides TV) Dcs2_ilgain23 : 39 |
| Synchronous separation | Top curl adjustment (Weak electric field, Besides TV) Dmv2_ilgain23 : 39 |




Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dcs25_ilgain1 : 39
Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dmv25_ilgain1 : 3
Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dcs25_ilgain23 : 39
Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dmv25_ilgain23 : 39

Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dcs25_ilgain1 : 39
Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dmv25_ilgain1 : 3
Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dcs25_ilgain23 : 39
Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dmv25_ilgain23 : 39




Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dcs3_ilgain1 : 71
Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dmv3_ilgain1 : 7
Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dcs3_ilgain23 : 71
Synchronous separation Top curl adjustment (Super-weak electric field, TV) Dmv3_ilgain23 : 7

Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dcs3_ilgain1 : 71
Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dmv3_ilgain1 : 7
Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dcs3_ilgain23 : 71
Synchronous separation Top curl adjustment (Super-weak electric field, Besides TV) Dmv3_ilgain23 : 7

```
< EEPROM Adjust Page : 15 >

TV     Dycomp5_ilgain1              2
TV     Dycomp5_ilgain23            39

other  Dycomp5_ilgain1              2
other  Dycomp5_ilgain23            39

TV     Dwec_th_cs225              150
TV     Dwec_th_cs12                16
```

Synchronous separation Top curl adjustment (Non signal, TV) Dycomp5_ilgain1 : 2
Synchronous separation Top curl adjustment (Non signal, TV) Dycomp5_ilgain23 : 39

Synchronous separation Top curl adjustment (Non signal, Besides TV) Dycomp5_ilgain1 : 2
Synchronous separation Top curl adjustment (Non signal, Besides TV) Dycomp5_ilg : 39

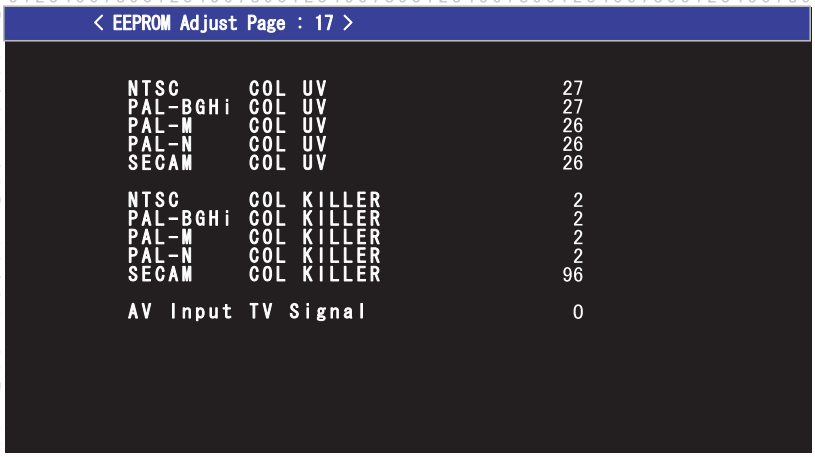
Electric field strength judgment value for TV Dwec_th_cs225 : 150
Electric field strength judgment value for Dwec_th_cs12 : 16

```
< EEPROM Adjust Page : 16 >

TV NTSC      ACCGAIN              8500
TV PAL-BGHi  ACCGAIN              8500
TV PAL-M     ACCGAIN              8500
TV PAL-N     ACCGAIN              8500
TV SECAM     ACCGAIN              8500

TV IVMODE                           10

NTSC      COM GAIN                221
PAL-BGHi  COM GAIN                218
PAL-M     COM GAIN                216
PAL-N     COM GAIN                208
SECAM     COM GAIN                211
```

ACCGAIN setting (ulNT358_SYNC1_08) : 8500
ACCGAIN setting (ulPALBG_SYNC1_08) : 8500
ACCGAIN setting (ulPALM_SYNC1_08) : 8500
ACCGAIN setting (ulPALN_SYNC1_08) : 8500
ACCGAIN setting (ulSECAM_SYNC1_08) : 8500

IVMODE setting : 10

Com part Brightness gain (ulNT358_CMB1_20) : 221
Com part Brightness gain (ulPALBG_CMB1_20) : 218
Com part Brightness gain (ulPALBG_CMB1_21) : 216
Com part Brightness gain (ulPALBG_CMB1_22) : 208
Com part Brightness gain (ulPALBG_CMB1_23) : 211




Color demodulate part UV delay adjustment (ulNT358_AVICOL3_03) : 27
Color demodulate part UV delay adjustment (ulPALBG_AVICOL3_03) : 27
Color demodulate part UV delay adjustment (ulPALM_AVICOL3_03) : 26
Color demodulate part UV delay adjustment (ulPALN_AVICOL3_03) : 26
Color demodulate part UV delay adjustment (ulSECAM_AVICOL3_03) : 26

Color demodulate part Phase killer value (ulNT358_AVICOL1_09) : 2
Color demodulate part Phase killer value (ulPALBG_AVICOL1_09) : 2
Color demodulate part Phase killer value (ulPALM_AVICOL1_09) : 2
Color demodulate part Phase killer value (ulPALN_AVICOL1_09) : 2
Color demodulate part Phase killer value (ulSECAM_AVICOL1_09) : 96

AV input picture indication movement : 0

**[Operation specification]**

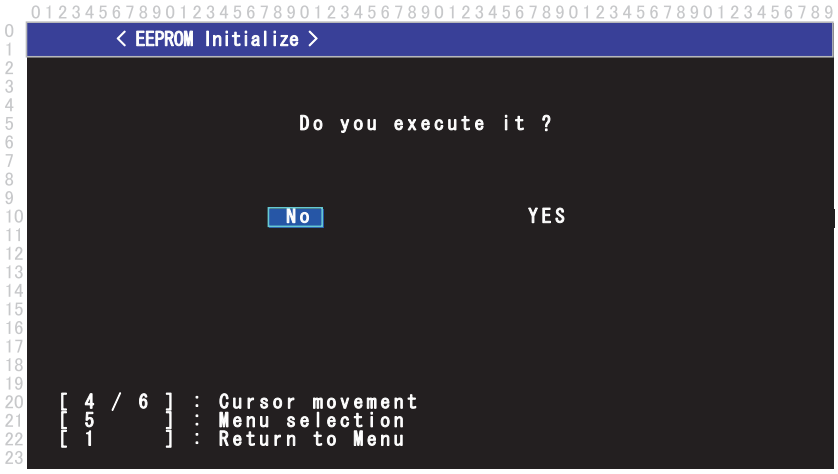
| Operational description | Remote controller key |
|---|---|
| Selection cursor up movement | 2 |
| Selection cursor down movement | 8 |
| Item content value up | 6 |
| Item content value down | 4 |
| Next menu page | 9 |
| Former menu page | 7 |
| Return to test mode mene | 1 |

## 4. EEPROM Initialize

### [Method for Mode IN]

Choose "EEPROM Initialize" among the monitor test mode menu screen.

### [Display specifications]




Default of a cursor is the location of "No".
Choose "YES" and decide, initialize a setting value.

*) Don't turn off power while initializing.

When normally ends, "success" is displayed.
When will not end in four seconds, judged to be abnormal, "failure" is displayed.

**[Operation specification]**

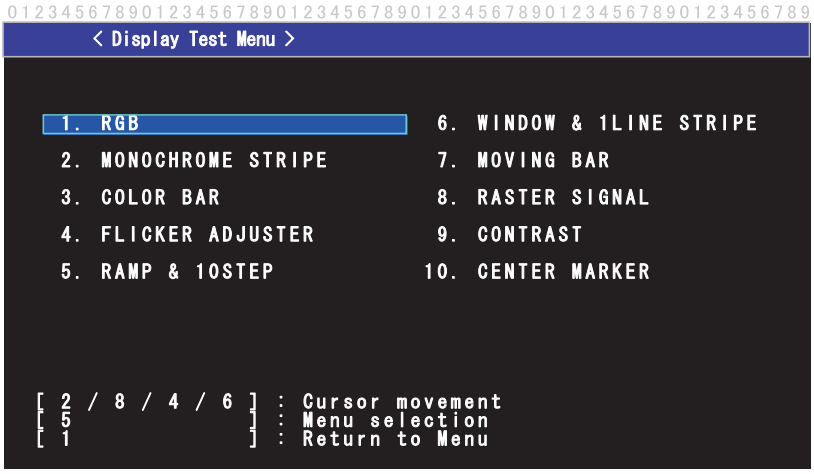
| Operational description | Remote controller key |
|---|---|
| Selection cursor left movement | 4 |
| Selection cursor right movement | 6 |
| Return to test mode mene | 1 |
| Menu enter | 5 |

## 5. Display Test (Test Pattern)

### [Method for Mode IN]

Choose "Display Test (Test Pattern)" among the monitor test mode menu screen.

### [Display specifications]




**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Selection cursor up movement | 2 |
| Selection cursor down movement | 8 |
| Selection cursor left movement | 4 |
| Selection cursor right movement | 6 |
| Return to test mode mene | 1 |
| Menu enter | 5 |

### [RGB]

RGB is plotted in the following pattern:
R100% -> R50% -> G100% -> G50% -> B100% -> B50% -> BLACK -> GRAY -> WHITE -> C.Video 60Hz -> C.Video 50Hz
(The display of the screen will be changed in 1 second.)

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |
| Stop/Restart | 5 |

### [MONOCHROME STRIPE]

Display of monochrome stripe signal (1dot Width)

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |

### [COLOR BAR]

Display of color bar signal

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |

## [FLICKER ADJUSTER]

Display of monochrome stripe signal of the flicker adjustment

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |

## [RAMP & 10STEP]

Display of step signal and signal for alpha blend check

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| alpha blend rate up | 2 |
| alpha blend rate down | 8 |
| Return to test mode mene | 1 |
| Next signal | 5 |

## [WINDOW & 1LINE STRIPE]

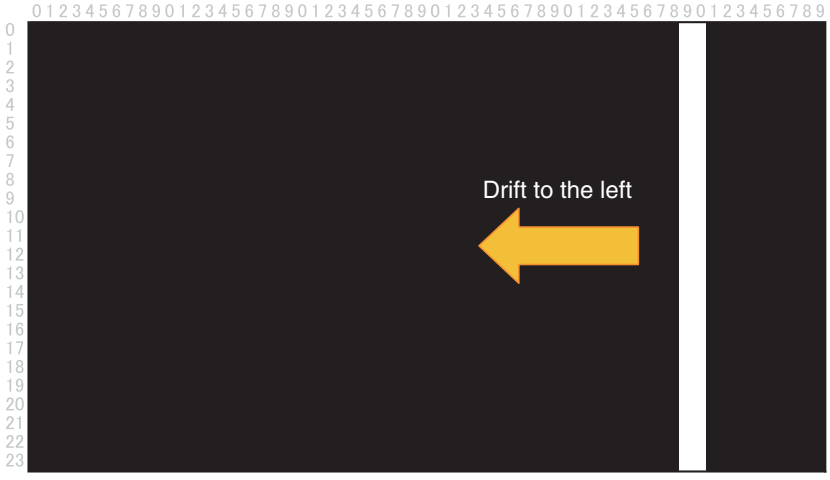
Display of signal for video signal reply check

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |
| Next signal | 5 |

## [MOVING BAR]

A white vertical line indicates the signal which moves from the right to the left.




Cycle1 : 1 seconds
Cycle2 : 2 seconds
Cycle3 : 3 seconds

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |
| Cycle1 -> 2 -> 3 -> stop -> 1 | 5 |

## [RASTER SIGNAL]

Display of signal for step confirmation

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |
| Next signal | 5 |

## [CONTRAST]

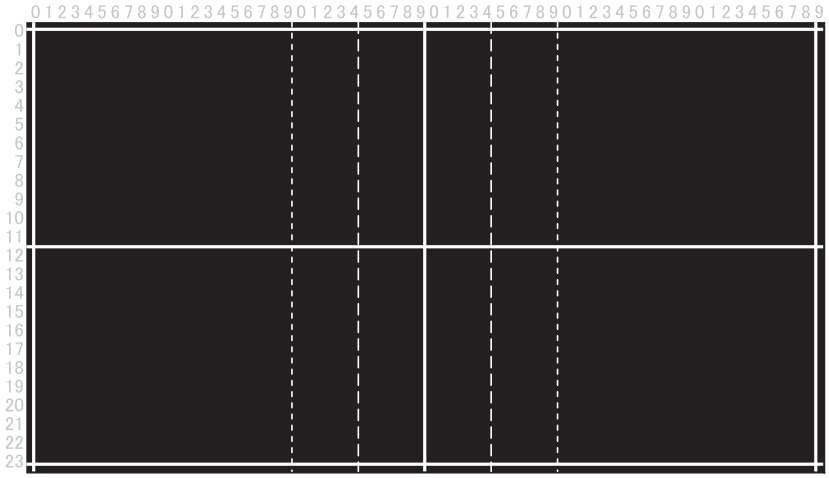
Display of Black/White signal

**[Operation specification]**

| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |
| Next signal | 5 |

## [CENTER MARKER]

Display of signal for screen central location setting.



**[Operation specification]**

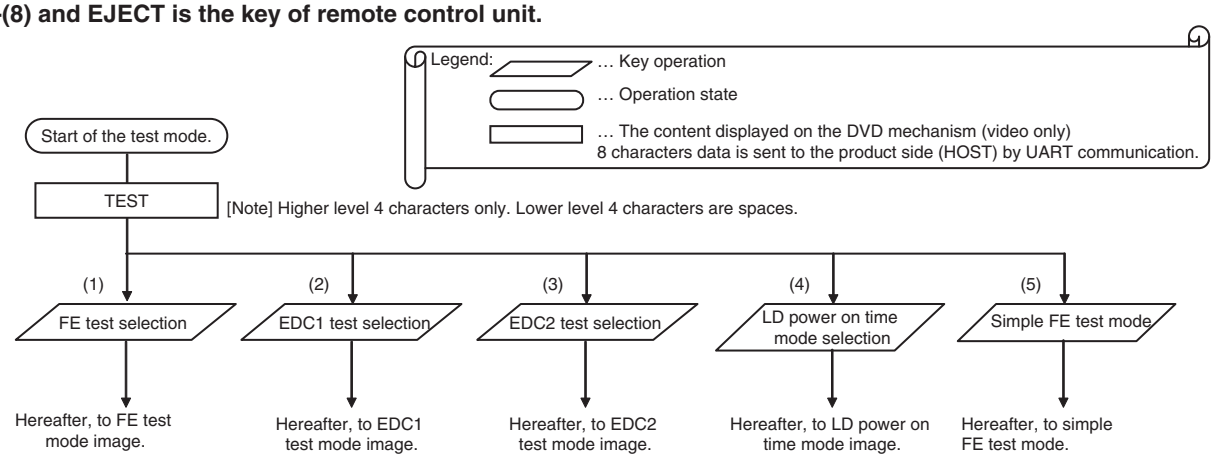
| Operational description | Remote controller key |
|---|---|
| Return to test mode mene | 1 |

# 6.2 DVD TEST MODE

Test mode display will not appear on the display of this product. Connect the rear monitor output to a monitor.

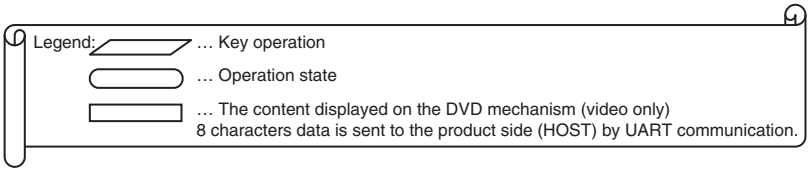
Image of the test mode.

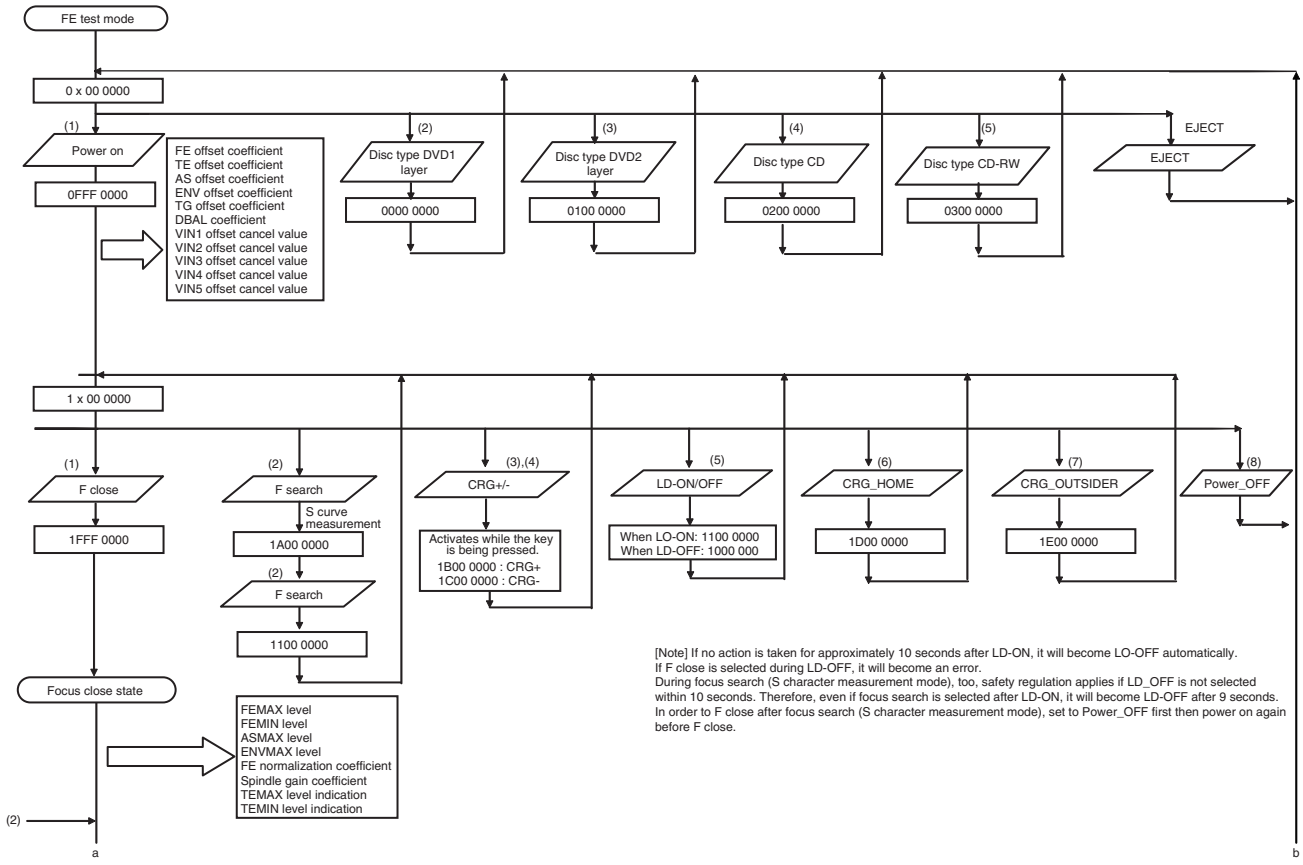
**[VOL-] + [TRACK UP] + Reset start**
**Switch position of the remote control unit.**
**[AVH mode]**
**(1)-(8) and EJECT is the key of remote control unit.**

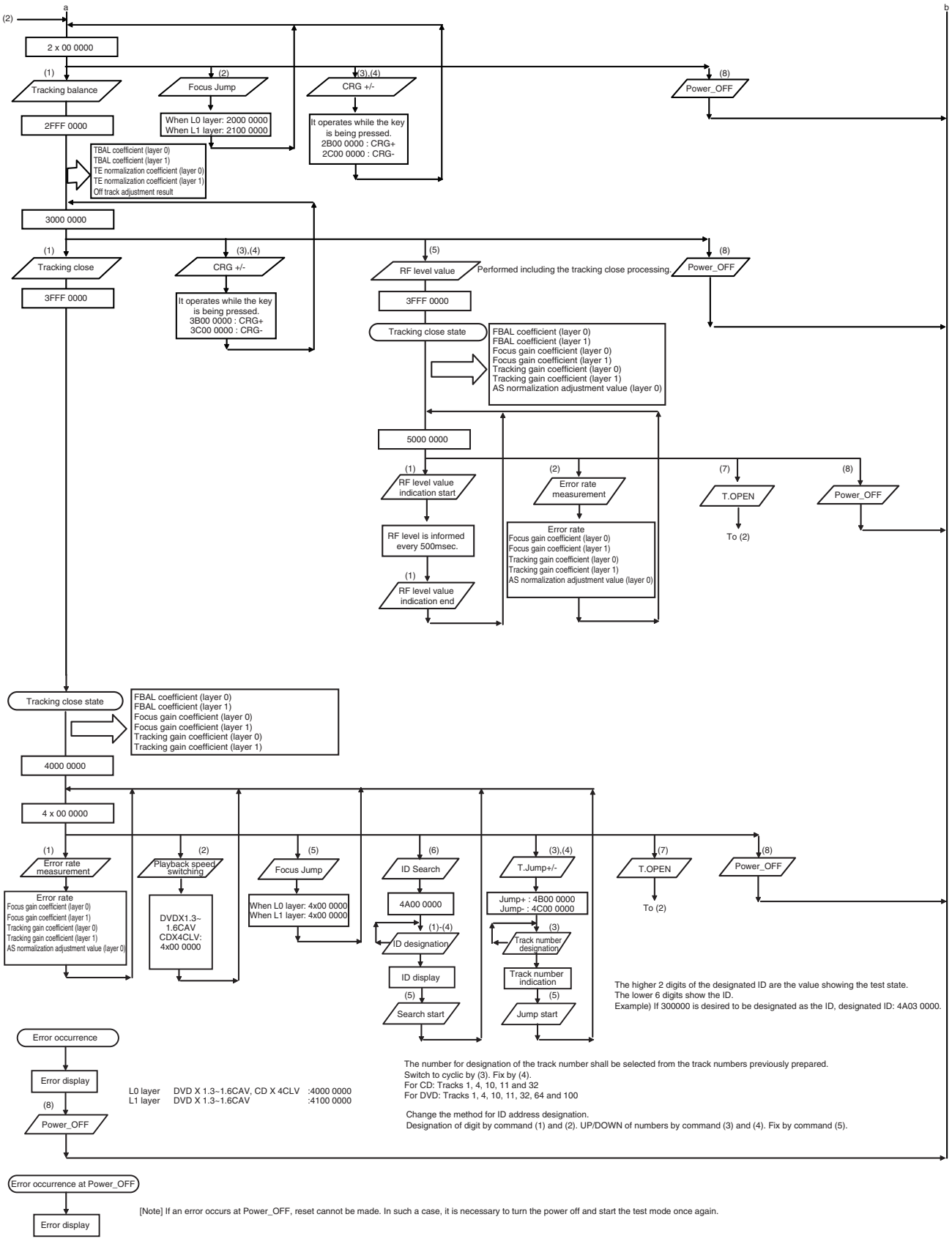



[Note] In order to move on to another test after selecting a test (FE/EDC1/EDC2), it is necessary to restart the DVD mechanism in the test mode.

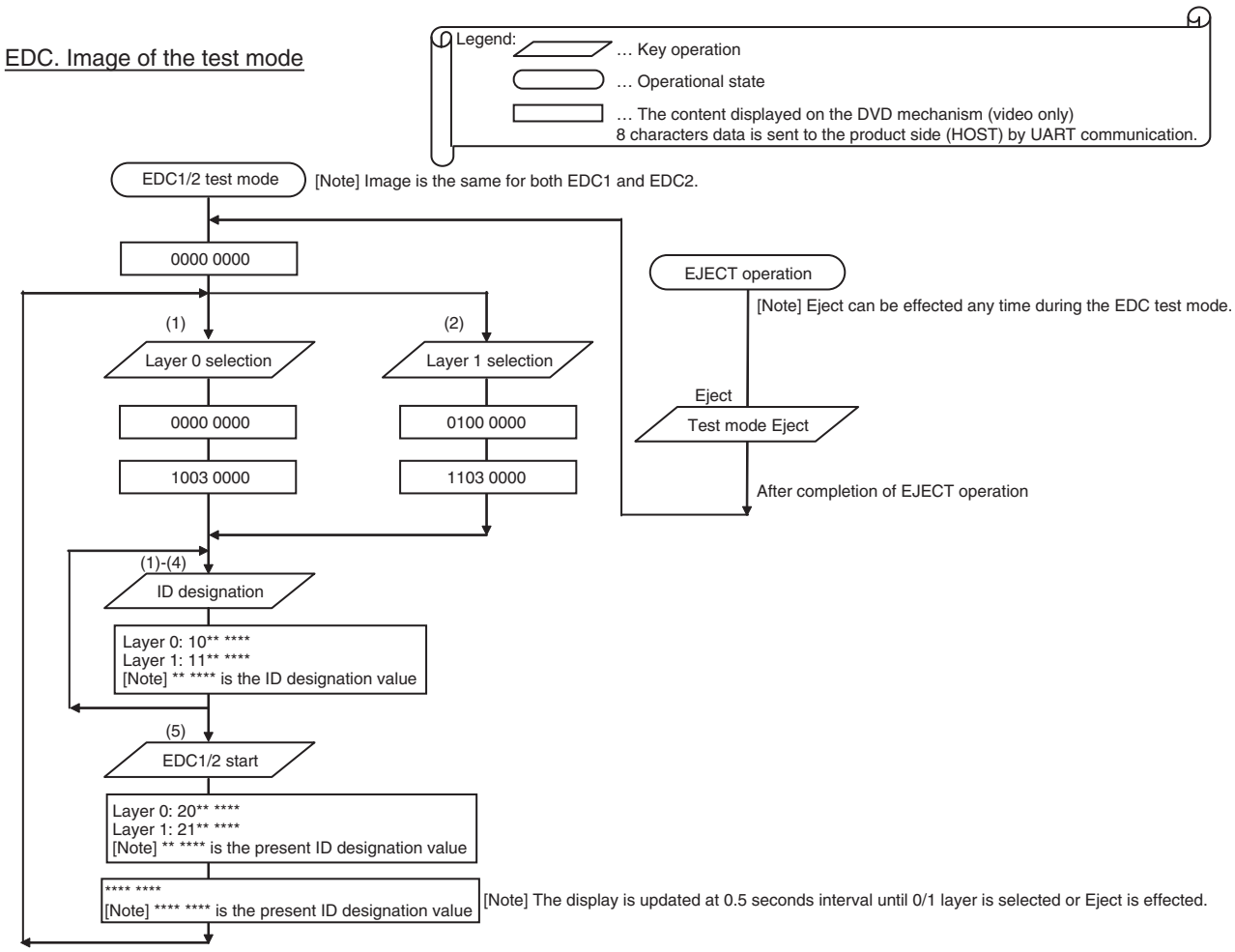
Image of the front end test mode.



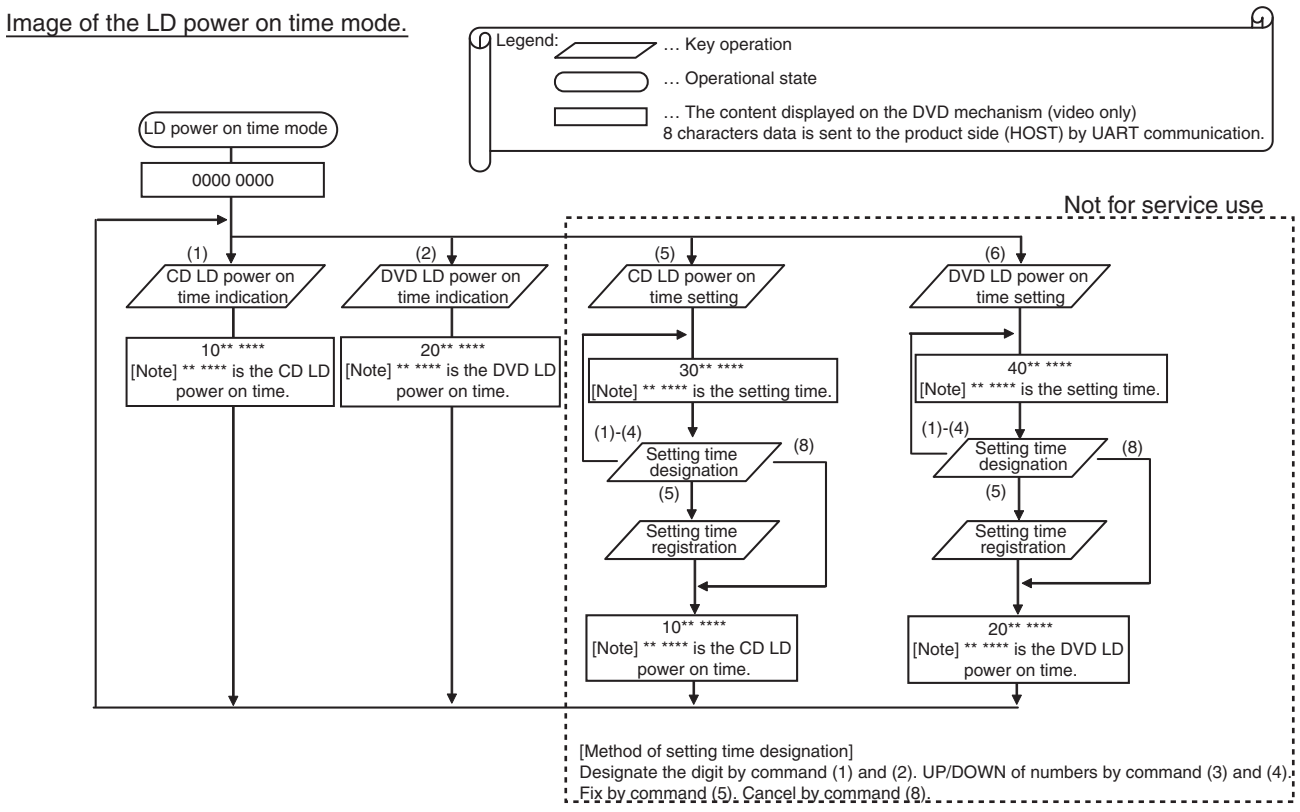




(2)
a
b
2 x 00 0000
(1)
Tracking balance
2FFF 0000
TBAL coefficient (layer 0)
TBAL coefficient (layer 1)
TE normalization coefficient (layer 0)
TE normalization coefficient (layer 1)
Off track adjustment result
(2)
Focus Jump
When L0 layer: 2000 0000
When L1 layer: 2100 0000
(3),(4)
CRG +/-
It operates while the key is being pressed.
2B00 0000 : CRG+
2C00 0000 : CRG-
(8)
Power_OFF
3000 0000
(1)
Tracking close
3FFF 0000
(3),(4)
CRG +/-
It operates while the key is being pressed.
3B00 0000 : CRG+
3C00 0000 : CRG-
(5)
RF level value
Performed including the tracking close processing.
(8)
Power_OFF
3FFF 0000
Tracking close state
FBAL coefficient (layer 0)
FBAL coefficient (layer 1)
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
5000 0000
(1)
RF level value indication start
RF level is informed every 500msec.
(1)
RF level value indication end
(2)
Error rate measurement
Error rate
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
(7)
T.OPEN
To (2)
(8)
Power_OFF
Tracking close state
FBAL coefficient (layer 0)
FBAL coefficient (layer 1)
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
4000 0000
4 x 00 0000
(1)
Error rate measurement
Error rate
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
(2)
Playback speed switching
DVDX1.3~1.6CAV
CDX4CLV:
4x00 0000
(5)
Focus Jump
When L0 layer: 4x00 0000
When L1 layer: 4x00 0000
(6)
ID Search
4A00 0000
(1)-(4)
ID designation
ID display
(5)
Search start
(3),(4)
T.Jump+/-
Jump+ : 4B00 0000
Jump- : 4C00 0000
(3)
Track number designation
Track number indication
(5)
Jump start
(7)
T.OPEN
To (2)
(8)
Power_OFF
The higher 2 digits of the designated ID are the value showing the test state.
The lower 6 digits show the ID.
Example) If 300000 is desired to be designated as the ID, designated ID: 4A03 0000.
Error occurrence
Error display
(8)
Power_OFF
L0 layer DVD X 1.3~1.6CAV, CD X 4CLV :4000 0000
L1 layer DVD X 1.3~1.6CAV :4100 0000
The number for designation of the track number shall be selected from the track numbers previously prepared.
Switch to cyclic by (3). Fix by (4).
For CD: Tracks 1, 4, 10, 11 and 32
For DVD: Tracks 1, 4, 10, 11, 32, 64 and 100
Change the method for ID address designation.
Designation of digit by command (1) and (2). UP/DOWN of numbers by command (3) and (4). Fix by command (5).
Error occurrence at Power_OFF
Error display
[Note] If an error occurs at Power_OFF, reset cannot be made. In such a case, it is necessary to turn the power off and start the test mode once again.

## EDC. Image of the test mode




## Image of the LD power on time mode.

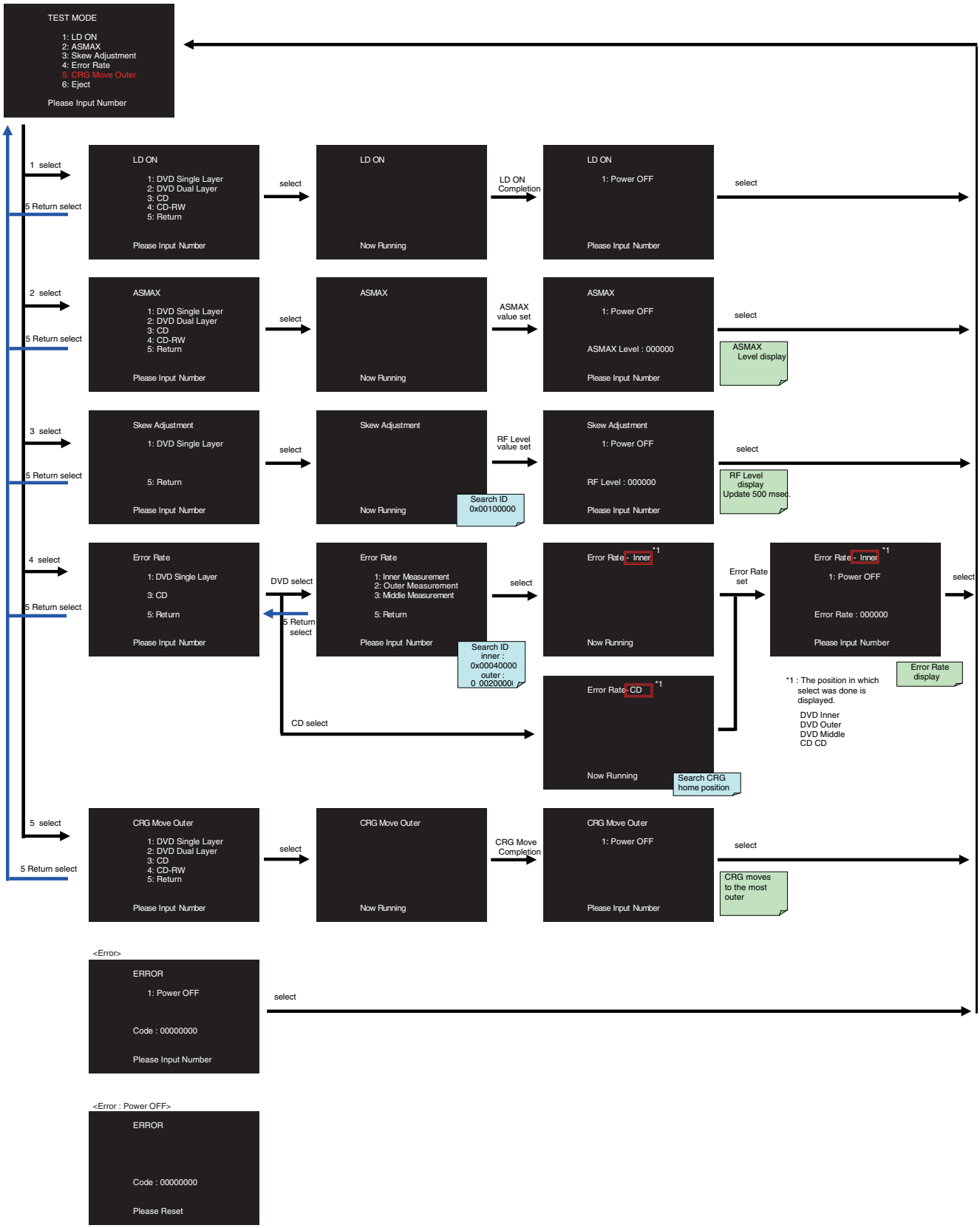



[Note] If the power on time is 999999 hours or more, it is always reported as 999999 hours.
[Note] If the power on time is "*E** ****", the value may not be correct due to the life of the flash memory.

## Simple test mode

The selection of the figure of each screen can be selected by "Key command for the test".

<Flow chart>



# 6.3 DVD TOUCH PANEL TEST MODE

How to enter:
Reset with [VOL-] key and [TrackDOWN] key pressed.

How to unlock:
Product reset
Turning ACC ON

Summary:
It is for temporary analysis in services.
(For temporary analysis of user claim and etc. against DVD touch direct.)
(1)Display a frame border in the valid area as a button in the contents by OSD of DVD mecha on DVD-Video menu time.
(2)Display a cross-shape on the place user touched on touch direct display time by OSD of DVD mecha.
(3)Every time pressing "C (clear)" key on the remote controller, the color of the frame border and the cross-shape above (1)(2) is changed (white -> red -> black -> clear -> white -> ... ).

Remarks:
The aim is as follows.
1.Display the available area of the disc button by OSD of MS5AVcode2.
->To clarify the true button position enables to judge the disc cause.
2.Display a cross-shape on the position that MS5AVcode2 thinks was pressed actually.
->To detect a gap in perception between HOST and mecha enables to judge the HOST cause.

# 7. DISASSEMBLY

### ● Removing the Panel and Holder (not shown) (EW5, UW5)

1. Remove the Panel.
2. Remove the eight screws and then remove the Holder.
3. Remove the four screws and then remove the Left and Right Holder.

### ● Removing the Monitor Assy (Fig.1, 2, 3)

1 Remove the two screws.(Fig.1)

Fig.1

2 Remove the screw and then remove the Cover.(Fig.2)

3 Disconnect the cable and then remove the Monitor Assy.(Fig.3)

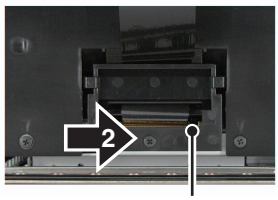



Fig.2

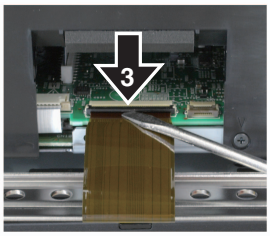



Fig.3

### ● Removing the Monitor Unit (Fig.5)

1 Remove the screw and then remove the Cover.(Fig.4)

2 Remove the two screws.(Fig.4)

3 Remove the four screws.(Fig.4)

4 Remove the four hooks and then remove the Case Unit.(Fig.4, 5)

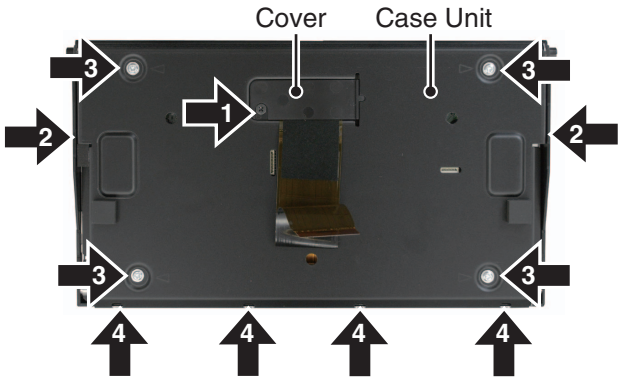



Fig.4

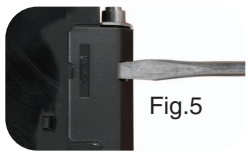


Fig.5

Please insert the driver from the hole when it is difficult to remove the hook.

5 Disconnect the two cables and then remove the LCD Assy.(Fig.6)

6 Disconnect the two cables.(Fig.6)

7 Remove the five screws and then remove the Monitor Unit.

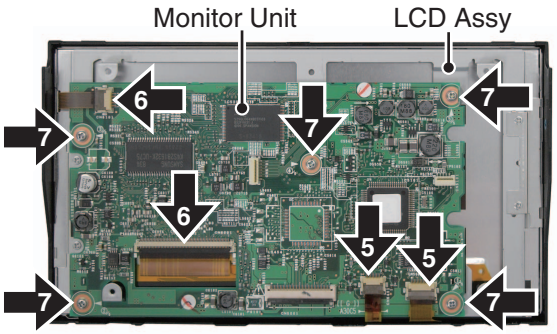



Fig.6

## ● Removing the Keybord Unit (Fig.7, 8)

➡1 Remove the three hooks
and then remove the Keybord Unit.(Fig.7)

Fig.7

Attention when the Keyboard Unit are exchanged.(Fig.8)

○ Refer to figure for how to bend the Cable.

○ Notes after exchanges.

The following items after the Keyboard Unit are exchanged are checked.

- Lighting confirmation of all LED
- All switch operation confirmations
- Confirming the operation of the Remote Control Unit

Fig.8

- Bend the cable of a broken line part.
- Don't bend it while rubbing right and left.

## ● Removing the Case (Fig.9, 10, 11)

The hook is removed with Tweezers as shown in figure. (Fig.9)

Don't remove from the hook of ✖ sign.(Fig.11)
Because the Holder may be deformed.(Fig.10)

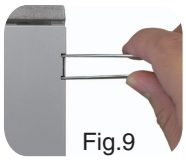


Fig.9

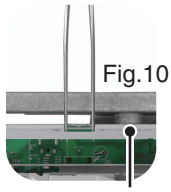



Fig.10

➡1 Remove the four hooks with Tweezers
and then remove the Case.(Fig.11)

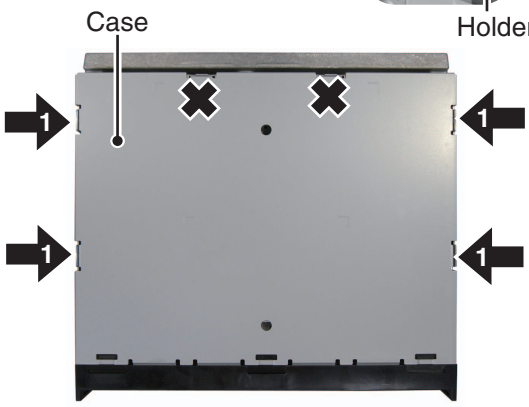



Fig.11

## ● Removing the Panel Unit (Fig.12)

➡1 Remove the six screws.

➡2 Remove the two hooks
and then remove the Panel Unit.

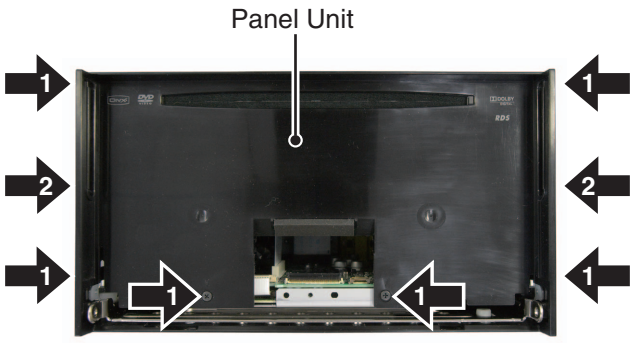



Fig.12

## ● Removing the DVD Mechanism Module (Fig.13)

1 Remove the four screws.

2 Disconnect the cable and then remove the DVD Mechanism Module.

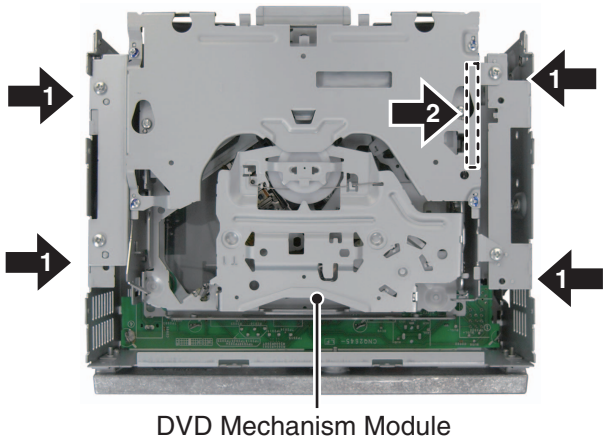



Fig.13

## ● Removing the Chassis(Upper) (Fig.14, 15)

1 Remove the two screws. (Fig.14)

2 Remove the five screws and then remove the Heat Sink. (Fig.14)

Remove the Holder. (Fig.14)

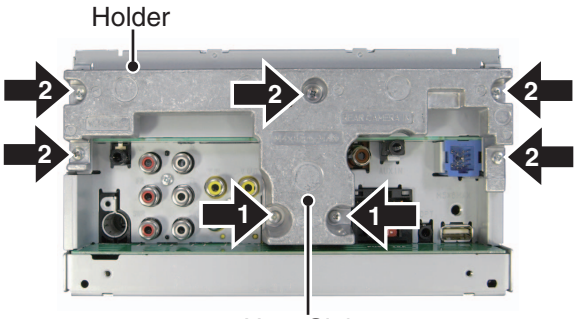



Fig.14

3 Remove the four screws and then remove Chassis(Upper) while holding both edges of the gasket. (Fig.15)

*If the gasket was damaged or lost, replace it with the new one.

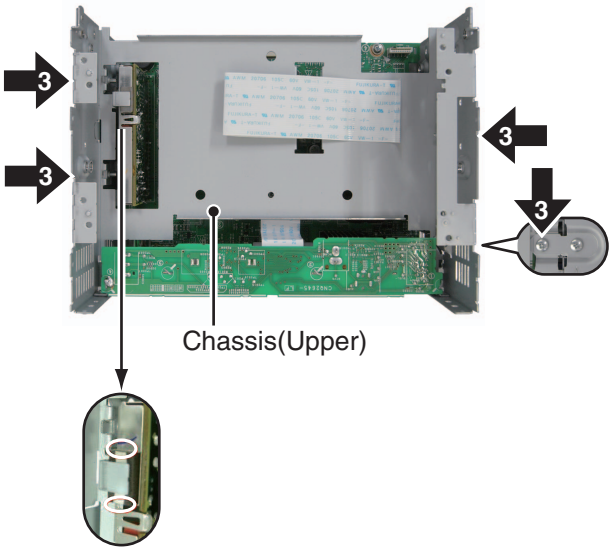



Fig.15

## ● Removing the Mother Unit (Fig.16)

1 Disconnect the cable.

2 Remove the screw.

3 Remove the four screws and then remove the Mother Unit.

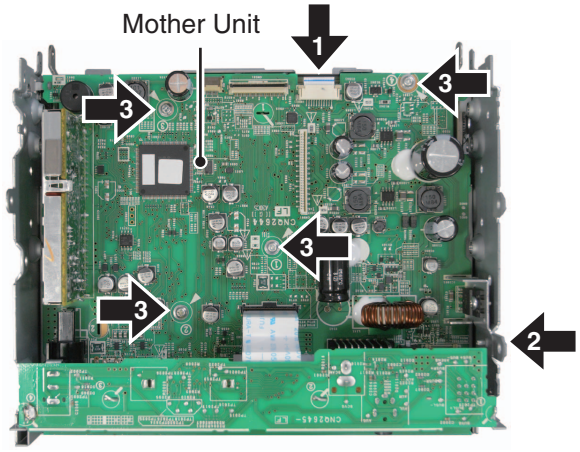
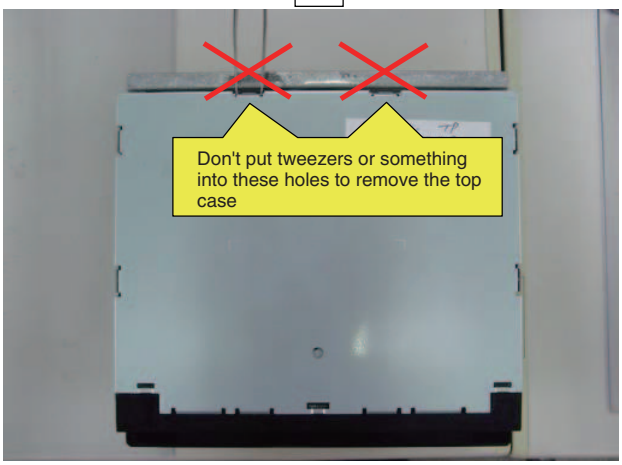


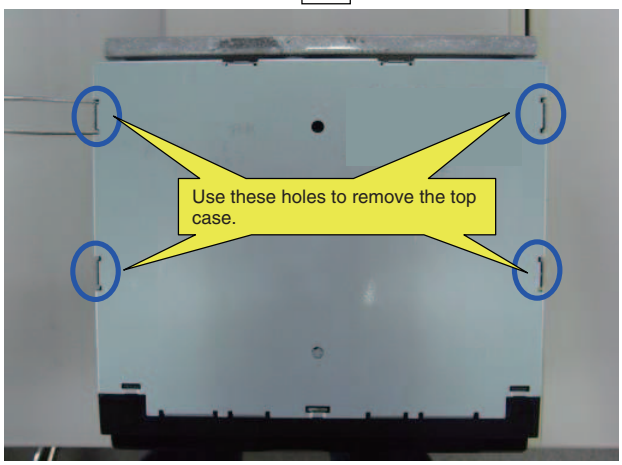

Fig.16

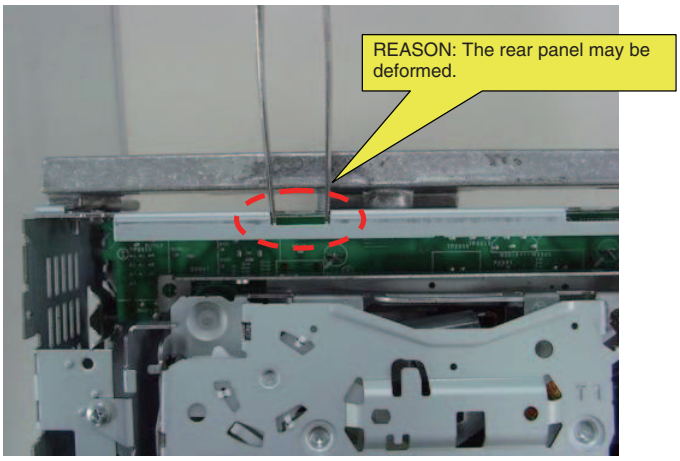
**NOTE: When you remove the top case**

**NG**




**OK**

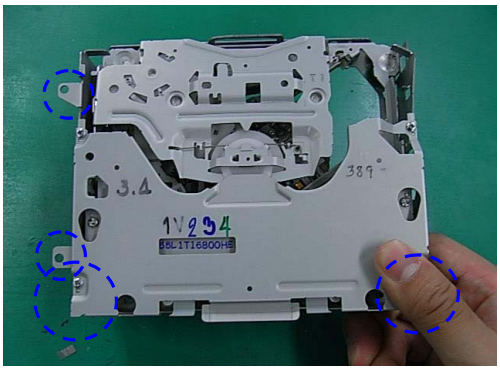


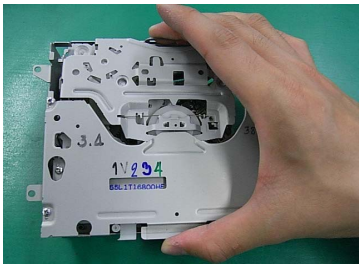



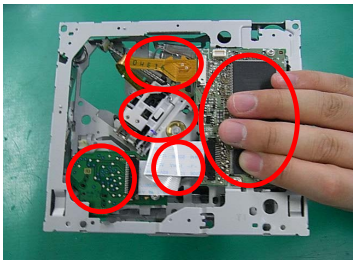
## How to have it

1.Have a specified part.

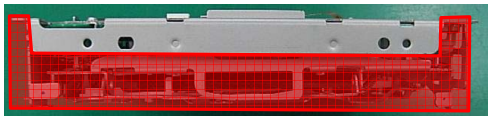
Handling OK

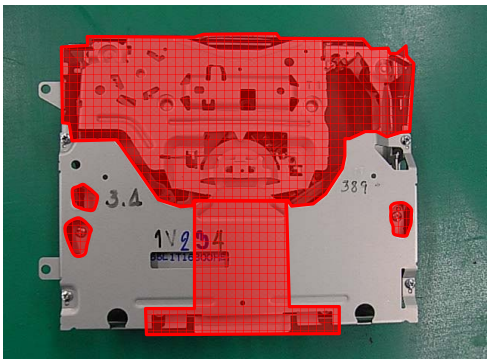


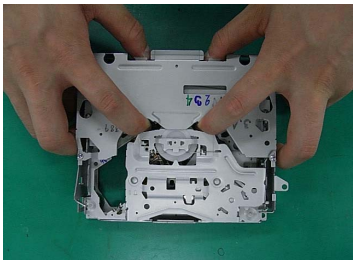


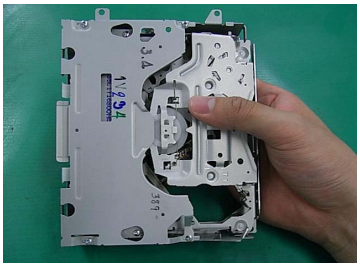


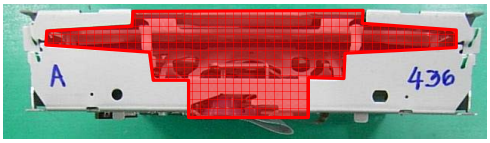
Handling NG

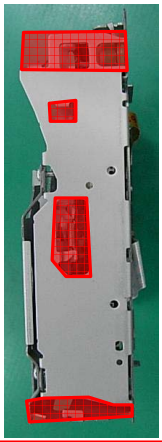


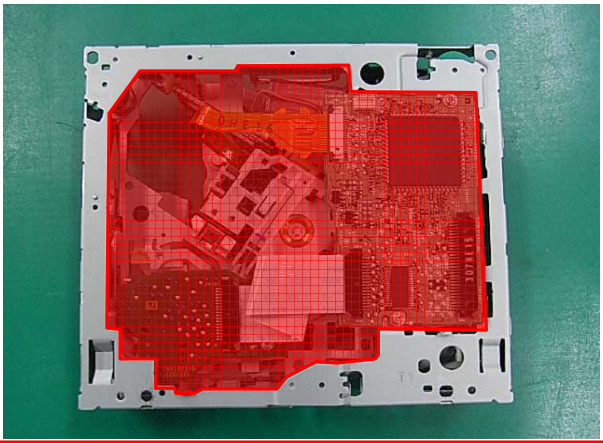












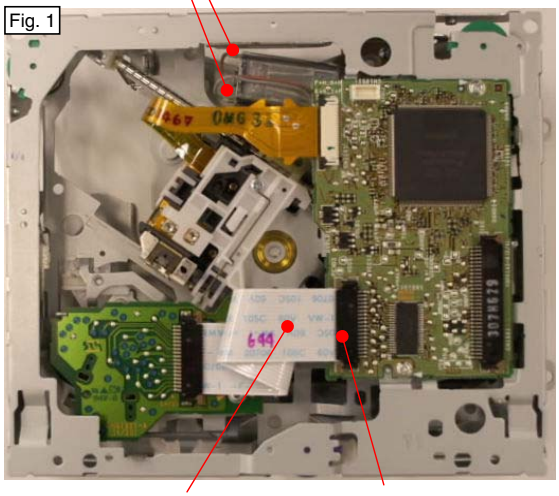
## Mecha Module_Bringing into the Clamp State with No Disc Loaded

1. Remove the relay FFC from the connector on the module PCB side (Fig. 1).
(Precaution) When it is difficult to apply 4V to the motor in procedure 2 below, remove the connector on the relay PCB side, then remove the FFC, and remove the solder of the CRG motor lead and apply voltage to the lead.
2. Push the Disc detection arm while applying 4V to the CRG motor (Fig. 2)
By this action, the mecha moves to the clamp state and the PU moves to the outer periphery.
3. Stop the motor when the PU comes to the vicinity of the intermediate periphery.
(Precaution) If the PU goes to the outer most periphery, it idles.
It is not a problem, but please try not to let it idle as much as possible.

GND the brown line

4V to the gray line

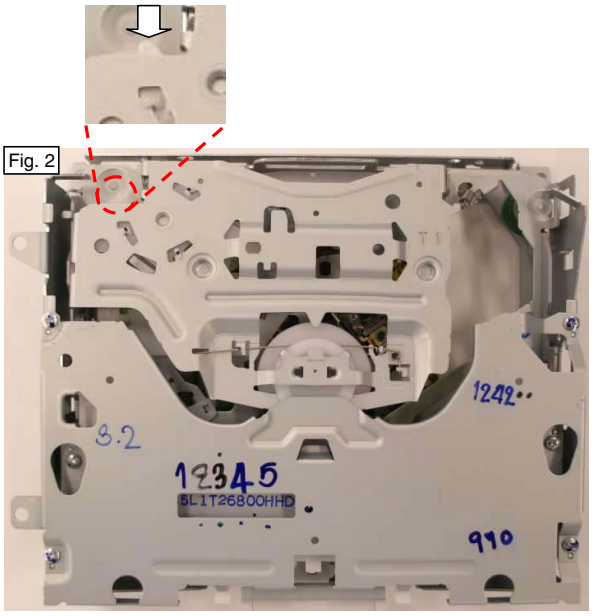
Fig. 1



Relay FFC

Connector (relay FFC)

Fig. 2



## CRG Mecha_Bringing into the Clamp State with No Disc Loaded

1.Remove the T-case washer and then remove the drive gear. (Fig. 1)
2.Lift the clamp arm assy until it is in the state shown in Fig. 2_b (open-lock state).
3.Put your finger on the area A of Fig. 2_c and then slide it to the direction of the arrow (the direction of the playing state).
4.Push down the clamp arm.
(Precaution) When bringing the CRG mecha into the ejecting state again, install the drive gear after sliding the drive lever and bringing it to the ejecting state, in order to prevent the cog of the pinion in the drive gear from chipping at the time of its installation.

Fig. 1

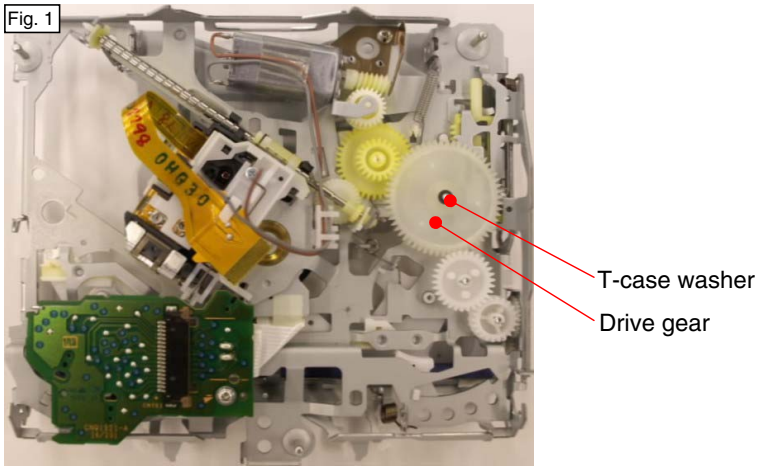
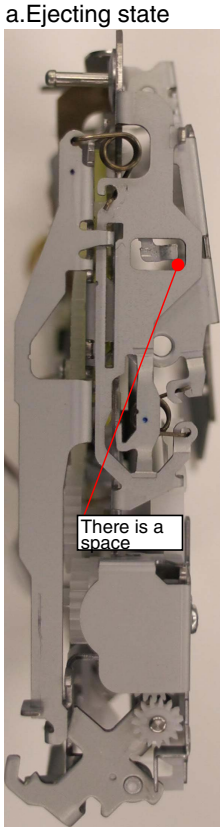
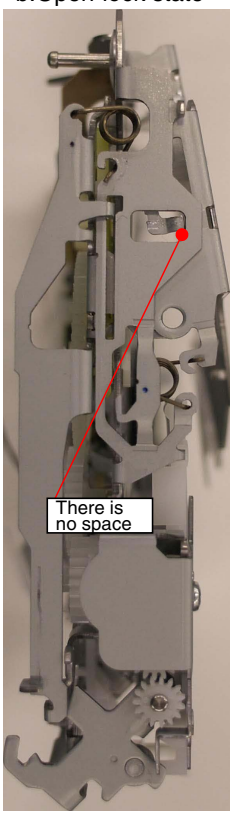



Fig. 2

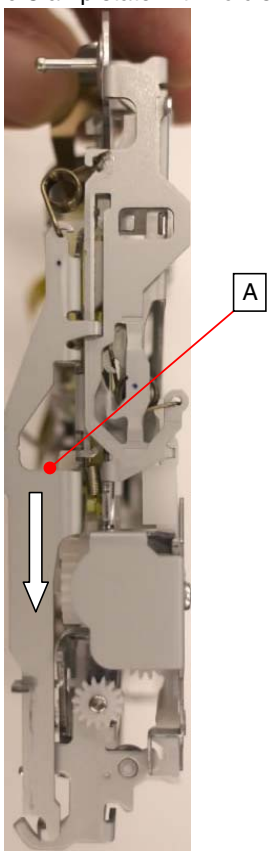
a.Ejecting state




b.Open-lock state




c.Clamp state with no disc loaded



## Removing the Module PCB

1.Short-circuit two spots on the land of the pick up FPC. (Fig. 1)
2.Remove the pick up FPC and the relay FFC from the connector. (Fig. 2)
3.Temporarily attach the pick up FPC to the pick up rack. (Fig. 3)
(in order to prevent the damage to the pick up FPC)
4.Remove the two PCB clinch screws and then remove the module PCB. (Fig. 2)

Fig. 2

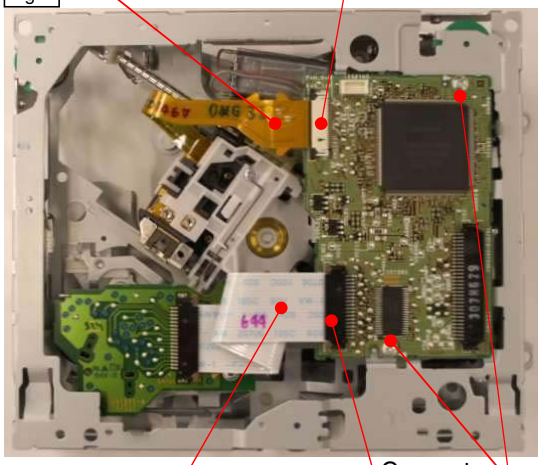
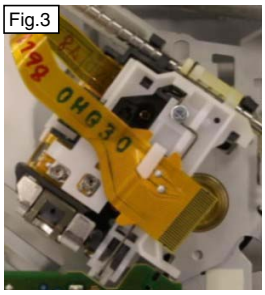



Fig.1

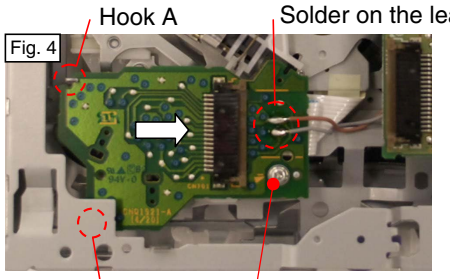
Fig.3



## Removing/Installing the Relay PCB

Removing)
1.Remove the relay FFC from the connector
(remove both sides so that the entire FFC will be removed). (Fig. 2)
2.Remove the solder on the lead for the CRG motor. (Fig. 4)
3.Remove the one relay PCB clinch screw. (Fig. 4)
4.Slide the relay PCB to the direction of the arrow and then remove the relay PCB from the hook A and the hook B. (Fig. 4)
5.Turn the relay PCB over and then remove the SPDL motor FFC from the connector.

Fig. 4




Installing)
1.Check the mecha is in the ejecting state (disc-load suspended state).
When it is not in the ejecting state, apply 4V to the lead (motor) and then bring it to the ejecting state (4V to the brown line and GND the gray line).
2.Fit the SPDL motor FFC to the connector (back of the relay PCB).
3.Hold the relay PCB so that it does not touch the SW knob as in Fig. 5.
4.Insert it into the hook B as it is a little off to the clockwise direction.
(Precaution) This is to prevent the SW knob from getting into the NG position as in Fig. 6.
5.Push down the relay PCB lightly and then rotate it to the counterclockwise direction.
It sets the relay PCB in the hook A and the positioning dowel.
(Precaution) Pay attention so the SW knob will not get onto the PU rack. (Fig. 6)
6.As in the Figures, while supporting the location A with your fingers, screw the relay PCB. (Fig. 7 / Fig. 8)
7.Solder the lead for the CRG motor.
8.Fit the relay FFC to the connector.

Fig. 5

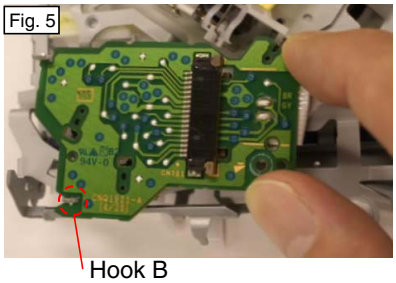



Fig. 6

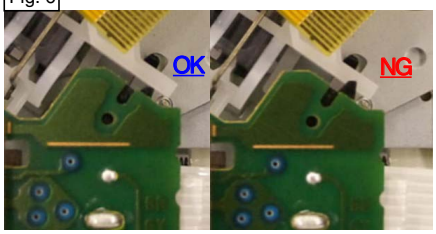



Fig. 7

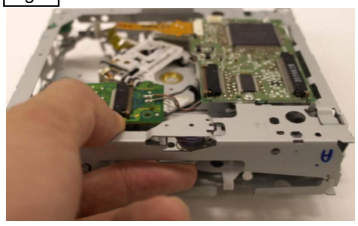
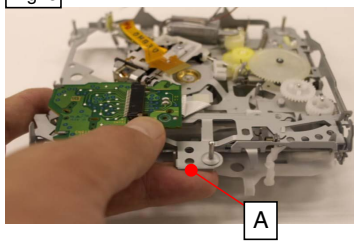


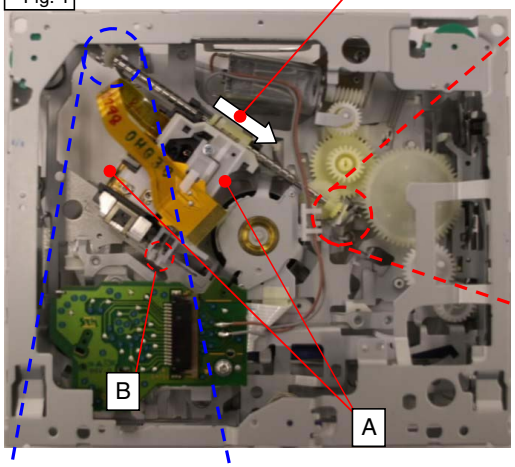
Fig. 8



## Removing the PU Unit

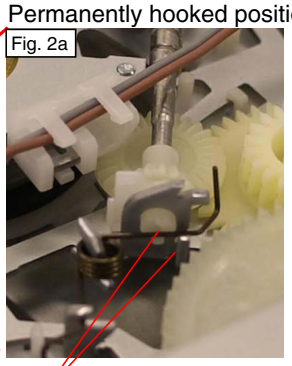
1.Hook the feed screw biasing spring on the temporary hook (Fig. 2b). Be careful not to get injured by the tip of the spring.
2.Hold the PU at the location A in Fig. 1 and slide and scoot it to the direction of the inner periphery.
3.As in Fig. 3, shift the back end of the feed screw to the side and then to above and remove it from the outside holder.
4.Remove the tucking joint for the chassis at the location B and the PU unit by lifting them up without changing their position and then remove the PU unit.
(Precaution) When installing the PU again, make sure to tuck the chassis in B and the PU unit (Fig. 4) first. Moreover, do not forget to permanently hook the feed screw biasing spring (Fig. 2a).
Adjustments to the PU after its installation should be made according to the service manual.

Fig. 1



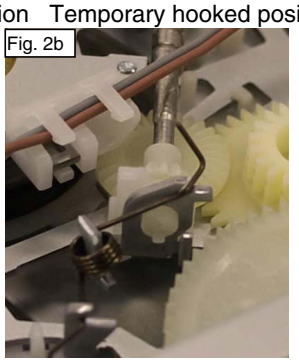

Permanently hooked position

Fig. 2a



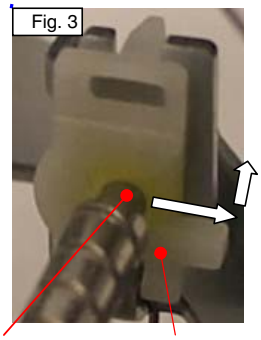
Temporary hooked position

Fig. 2b



The spring is installed under the resin flange and inside the bended metal plate.

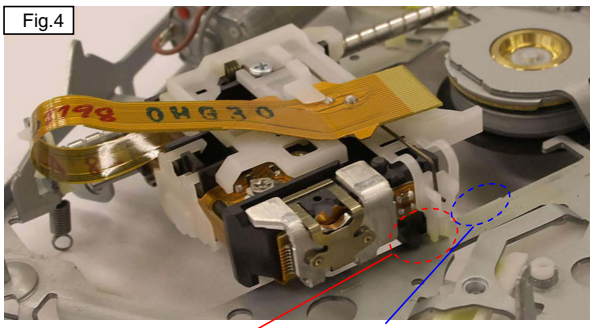
Fig. 3



Back end of the feed screw

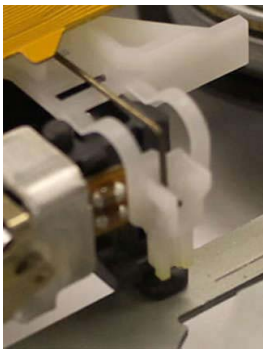
Outside holder

Fig.4



Regularly installed position

Install avoiding the area with blue broken line (the connected metal plate part)



[Installation NG]
The chassis is not tucked between the PU case and the PU rack.

## Sending the PU to the outer periphery

1.Bring to the clamp state with no disc loaded according to the “Mecha Module_Bringing into the Clamp State with No Disc Loaded” manual.
(Precaution) The relay FFC must be removed for certainty in order to prevent the IC damage.
2.Apply 1.5V to the CRG motor and then transfer the PU to the outer periphery.
(Precaution) Do not forget to reinstall the relay FFC after sending the PU to the outer periphery and take the necessary measures.

# 8. EACH SETTING AND ADJUSTMENT
## 8.1 DVD ADJUSTMENT

1) Precautions

This product uses 5 V and 3.3 V as standard voltages. The electrical potential that is the reference for signals, is not GND, but VREF (approximately 2.2 V) and VHALF (approximately 1.65 V) .

During product adjustments, if the reference voltage is mistakenly taken as GND, and a grounding contact is made, not only would it be impossible to measure the accurate electrical potential, but also the servo motor would malfunction, resulting in the application of a strong impact on the pick up. The following precautionary measures should be strictly adhered to, in order to avoid such problems.

The reference voltage and GND should not be confused when using the minus probe of a measurement device. When an oscilloscope is being used special care should be taken to make sure that the reference voltage is not connected to the probe of ch1 (on the minus side), while the probe of ch2 (on the minus side), is connected to GND. Further, since the body frame of most measurement devices have the same electrical potential as the minus side of the probe, the body frame of the measurement device should be set to floating ground.

If the reference voltage is connected to GND by mistake, turn the regulator OFF immediately, or turn the power OFF.

- Remove the filters and wires used for measurements only after the regulator has been turned OFF.
- After the power supply is turned on, regulator ON the following adjustment and measurement are promptly done.
- Whenever the product is in the test mode, the software will not take any protective action. For this reason, special care should be taken to make sure that no mechanical or electrical shock could be applied to the product when taking measurements in the test mode.
- Whenever the EJECT key is pressed to eject the disk, no other keys, other than the EJECT key, should be pressed until the disk eject action has been completed.
- Press the EJECT key only after the disk has stopped completely.
- If the product hangs up turn the power OFF immediately.
- Laser didoes may be damaged, if the volume switch for the laser power adjustment of the pick up unit, is turned.

## ● SKEW adjustment

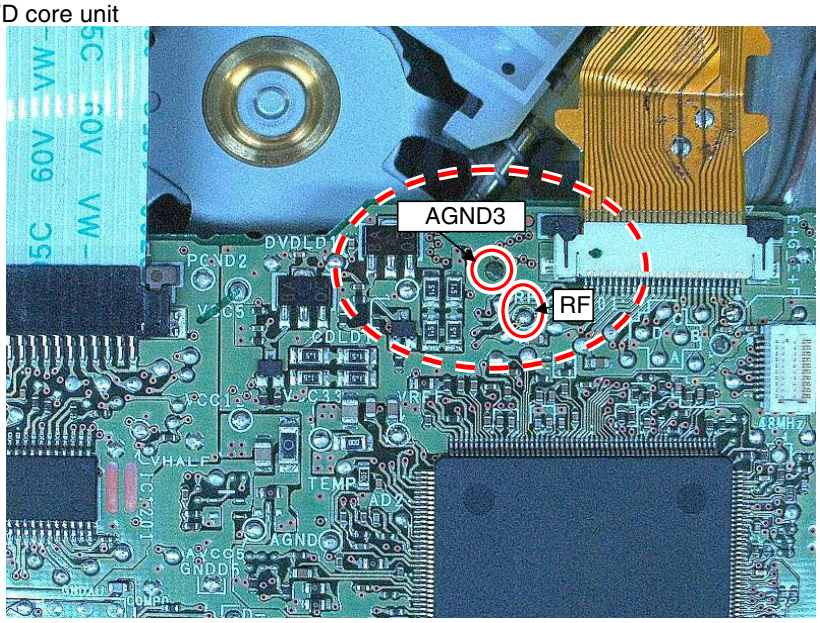
When one of the following replacements has taken place, SKEW adjustment for the pick up will be required.

(1) Replacement of the pick up unit
(2) Replacement of the spindle motor
(3) Replacement of the carriage chassis
(4) Replacement of the main shaft of the pick up unit

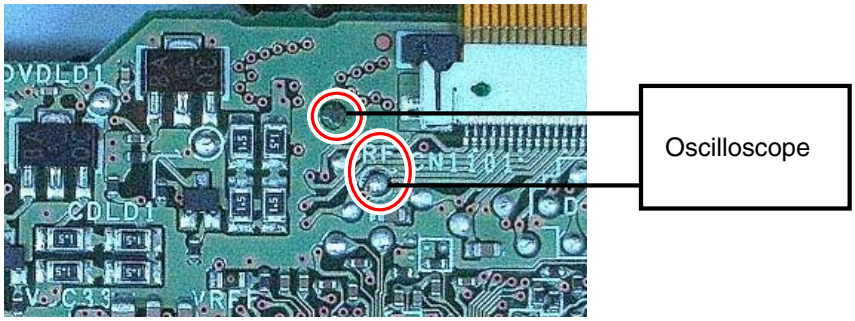
Measurement equipment and tools/jigs: Oscilloscope
Driver for SKEW adjustment -> Driver
Bond for fixing the SKEW -> GEM1033
Bond for resonance -> 1530 (1530 : produced by THREE BOND)
Bond for locking the screw -> 1401M (1401M : produced by THREE BOND)

Disc used:TDV-582

Measurement reference: AGND3
Measurement point: RF
Connection drawing
DVD core unit




Expansion

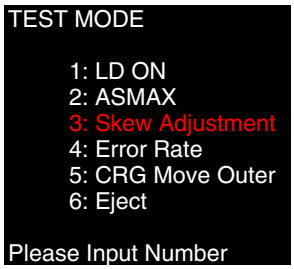



Symptom in case the adjustment is not adequate: Worsening of the error rate $10^{-3}$
(Normally $10^{-4}$ or less.)
Large RF jitter
RF waveform distortion
Tracking drawing/Unstable servo

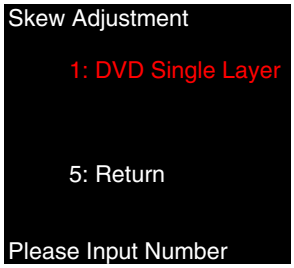
* Caution: Do not look into the laser light during adjustment.

There are two methods of making adjustment: a method of making adjustment through monitoring RF waves by the oscilloscope (method 1) and a method of making adjustment through checking the numerical value of the RF level by OSD (method 2).
Adjusting procedure is shown below, but regarding how to start the test mode and the operating procedure, please refer to the clause on the service test mode.

Adjusting Procedure:
1. Install the pickup
(Refer to the removal of the pickup from the mecha unit.)
When handling the pickup, refer to the precautions on how to handle the PU listed below.
2. Method 1:
Connect the oscilloscope according to the AGND3 standards with reference to the connection diagram so that the RF signals can be monitored.
Method 2:
The device does not need to be set. Proceed to the procedure 3.
3. Turn ON the power of the product.
4. Start the simplified FE test mode.
(Regarding how to start the test mode and the operating procedure, refer to the clause on the service test mode.)
5. Load the disc for adjustment (TDV582).
6. TEST MODE
Select “3: Skew Adjustment.”




Skew Adjustment
Select “1: DVD Single Layer.”




Adjust the Skew using a driver while checking the RF value.
Refer to the following pages concerning the locations to make SKEW adjustment.
Method 1:
Slightly turn the skew adjusting screw A while checking the RF wave level by the oscilloscope and make adjustment so the wave level would reach its maximum.
Next, slightly turn the skew adjusting screw B so the wave level would reach its maximum.
Slightly turn the skew adjusting screw A again so the wave level would reach its maximum.
(Make adjustment in the order of A->B->A and in the end complete adjustment by turning each screw in the clockwise direction.)

Method 2:
Slightly turn the skew adjusting screw A while checking the value of the RF level through the OSD display so the wave level would reach its maximum.
Next, slightly turn the skew adjusting screw B so the level would reach its maximum.
Slightly turn the skew adjusting screw A again so the level would reach its maximum.
(Make adjustment in the order of A->B->A and in the end complete adjustment by turning each screw in the clockwise direction.)

Skew Adjustment

1: Power OFF

RF Level : 000000

Please Input Number

9. Skew Adjustment
Select “1: Power OFF.”

Skew Adjustment

1: Power OFF

RF Level : 000000

Please Input Number

10. TEST MODE
Select “6: Eject.”

TEST MODE

1: LD ON
2: ASMAX
3: Skew Adjustment
4: Error Rate
5: CRG Move Outer
6: Eject

Please Input Number

11. TEST MODE
Select “5: CRG Move Outer.”

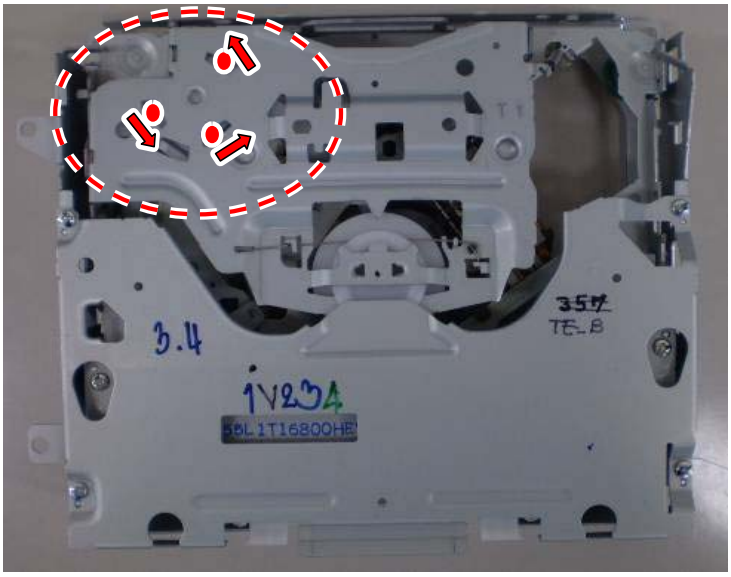
TEST MODE

1: LD ON
2: ASMAX
3: Skew Adjustment
4: Error Rate
5: CRG Move Outer
6: Eject

Please Input Number

12. In order to produce the clamping state with no disc loaded, slightly move the disc detection arm in the counterclockwise direction while moving the switch arms outward.

Switch arms




Disc Detection Arm

13. CRG Move Outer
Select “1: DVD Single Layer.”

```
CRG Move Outer

      1: DVD Single Layer
      2: DVD Dual Layer
      3: CD
      4: CD-RW
      5: Return


Please Input Number
```

The pickup moves to the outer periphery.
Apply the adhesive to fix the skew, the resonance adhesive and the screw lock.
Refer to the next page regarding the locations of adhesive joining.

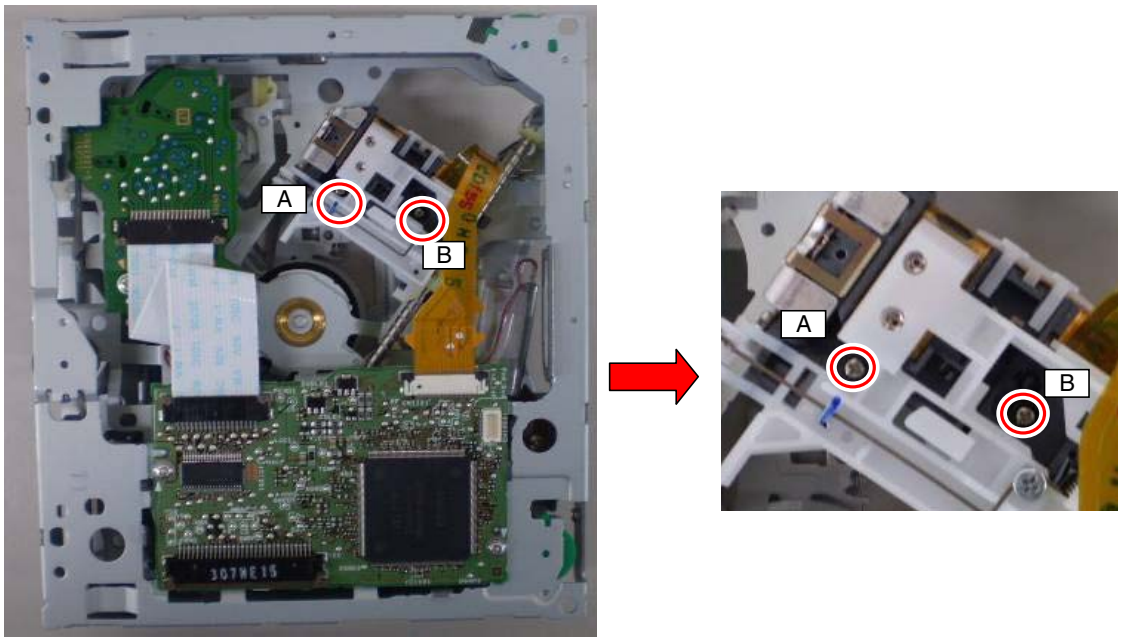
14. CRG Move Outer
1: Power OFF

```
CRG Move Outer

      1: Power OFF




Please Input Number
```

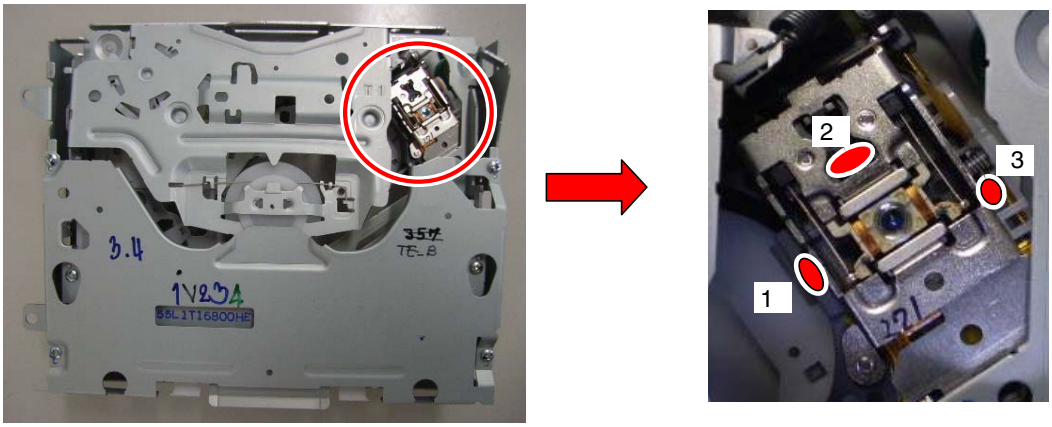
15. TEST MODE
Select “6: Eject.”

```
TEST MODE

      1: LD ON
      2: ASMAX
      3: Skew Adjustment
      4: Error Rate
      5: CRG Move Outer
      6: Eject

Please Input Number
```

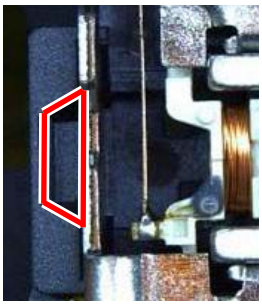
Locations to make SKEW adjustment




Locations to adhere the SKEW 1,2,3: BOND QUICK MENDER

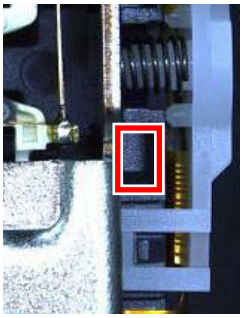



1

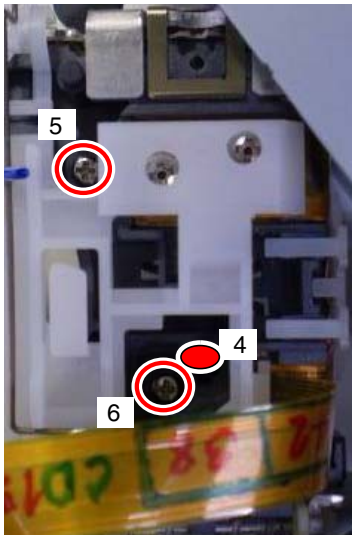


2

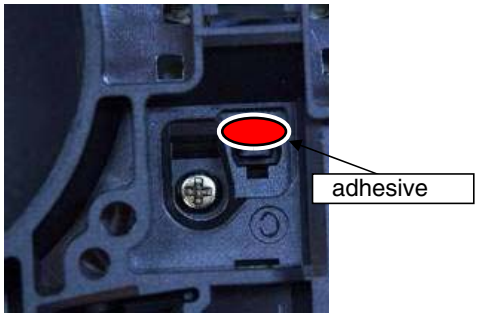
3



Bond for resonance 4:Three Bond 1530

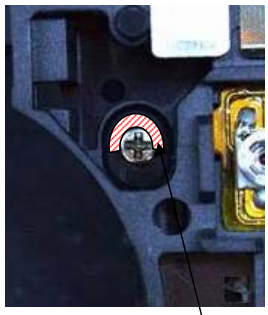



4

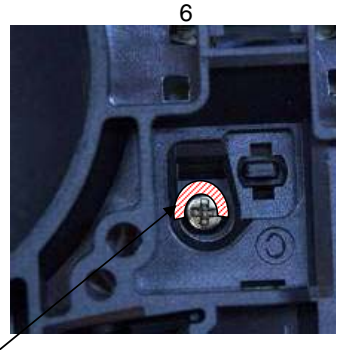



Bond for locking the screw 5,6 : Three Bond 1401M

5

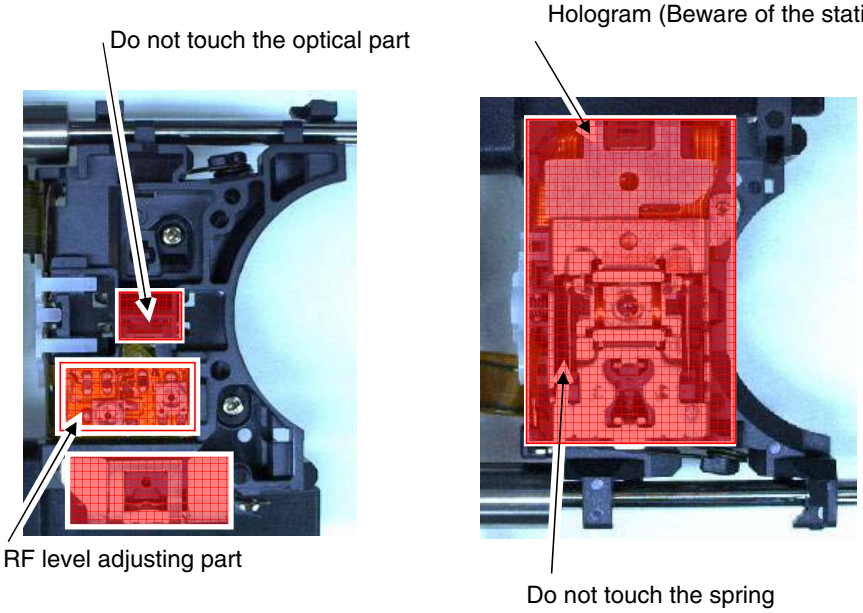


6



Bond for locking the screw

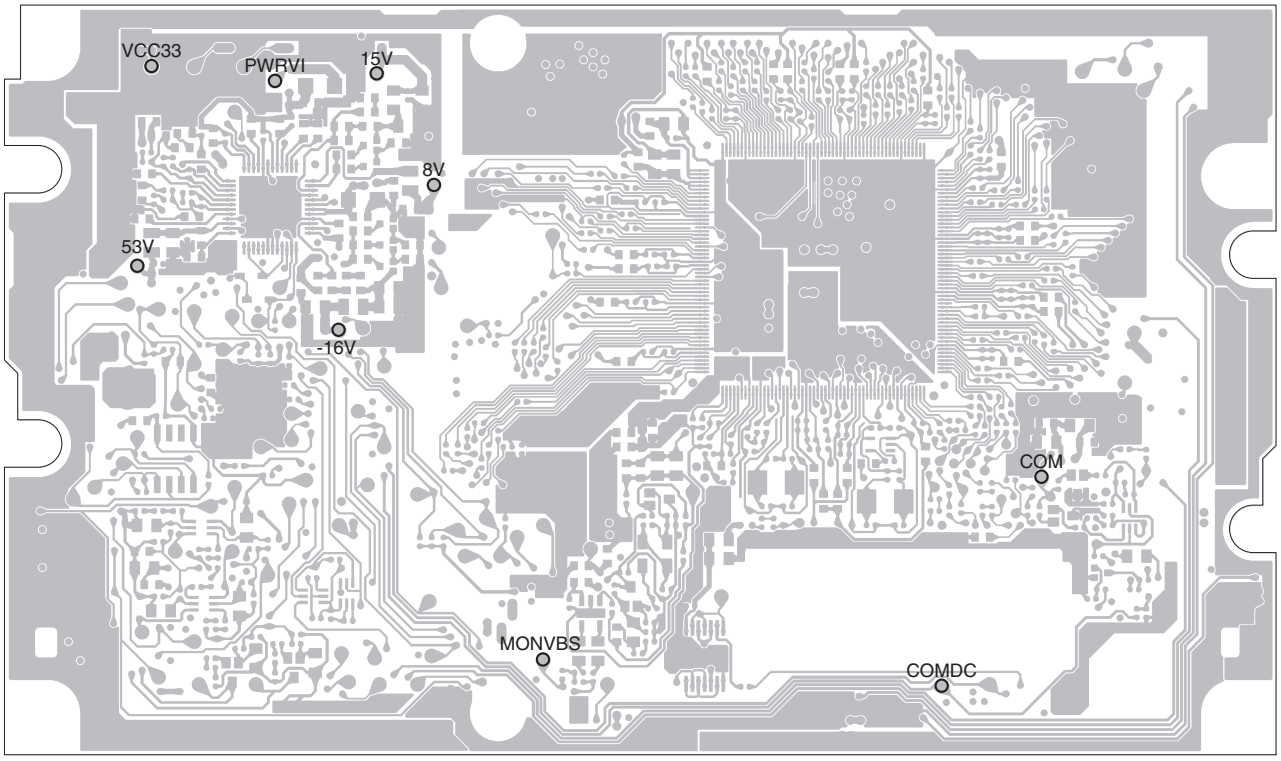
Precautions on handling the PU
*Precaution: Do not touch those shaded areas in the following figures.



# 8.2 MONITOR UNIT ADJUSTMENT

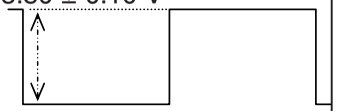
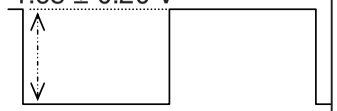
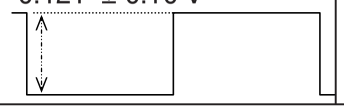
MONITOR UNIT(SIDE B)

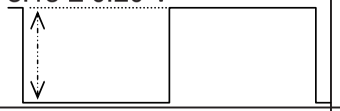
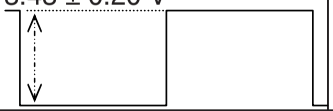
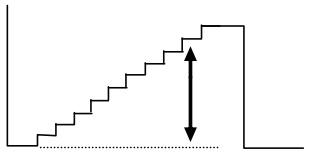
● **Adjustment Point**



## MONITOR UNIT ADJUSTMENT

NOTE:When shutting off the power supply of TC90A96BFGSING, be careful not to energize each IC terminal.
However , IIC lines(SDA and SCL) is not included in this case and it is possible to energize them with up 5 V.

| No. | Adustment item | Input signal | Measurement point | Adustment point | Adustment | Note |
|---|---|---|---|---|---|---|
| 1 | Check 3.3 V power supply voltage | TP:PWRVI to 14.4 V | TP:VCC33 | - | VCC33 = 3.3 ± 0.3 V | |
| 2 | Check 5.3 V power supply voltage | TP:PWRVI to 14.4 V | TP:53V | - | 53V = 5.3 ± 0.3 V | |
| 3 | Check 8 V power supply voltage | TP:PWRVI to 14.4 V | TP:8V | - | 8V = 8.0 ± 0.5 V | |
| 4 | Check 15 V power supply voltage | TP:PWRVI to 14.4 V | TP:15V | - | 15V = 15.0 ± 0.2 V | |
| 5 | Check -16 V power supply voltage | TP:PWRVI to 14.4 V | TP:-16V | - | -16V = 16.35 ± 0.35 V | |
| 6 | Vcom amplifier output amplitude check | No definition | TP:COM | - | 5.80 ± 0.10 V  | Connect LCD panel for measurement |
| 7 | Tone voltage amplitude check V0 | No definition | 58pin of CN6001 | - | 4.50 ± 0.30 V | Connect LCD panel for measurement |
| 8 | Tone voltage amplitude check V3 | No definition | 55pin of CN6001 | - | 1.68 ± 0.20 V  | Connect LCD panel for measurement |
| 9 | Tone voltage amplitude adjustment V5 | No definition | 53pin of CN6001 | - | 0.121 ± 0.10 V  | Connect LCD panel for measurement |

| No. | Adustment item | Input signal | Measurement point | Adustment point | Adustment | Note |
|---|---|---|---|---|---|---|
| 10 | Tone voltage amplitude adjustment V7 | No definition | 51pin of CN6001 | - | 1.262 ± 0.20 V | Connect LCD panel for measurement |
| 11 | Tone voltage amplitude adjustment V9 | No definition | 49pin of CN6001 | - | 3.15 ± 0.20 V  | Connect LCD panel for measurement |
| 12 | Tone voltage amplitude adjustment V10 | No definition | 48pin of CN6001 | - | 3.43 ± 0.20 V  | Connect LCD panel for measurement |
| 13 | Image check of RGB signal | Input Color-bar signal from IC5702 | Screen | - | - | |
| 14 | Composite level check | Input composite image 10-step signal to TP MONVBS (2.0 Vpp ± 1%) | DAC output | - | The amplitude of the 9-step and the 0-step is 1.77 ± 0.05 V.  1.77 V ± 0.05 V | |
| 15 | Image check | Input composite image lamp signal (monochrome) to TP MONVBS | Screen | - | Make sure that tone changes smoothly, and there is no colored area in the entire display. | Execute to verify that IC5702 digital-out is not bridged or "OPEN"ed. |
| 16 | Flicker adjustment | Output black-white 50% reverse signal per 1 line from IC5702 | Screen | TP COMDC DC output | Adjust the flicker level to minimum from all directions. | Adjustment point can be COM DC off flicker adjustment mode. |

# 8.3 PCL OUTPUT CONFIRMATION

● **PCL output**

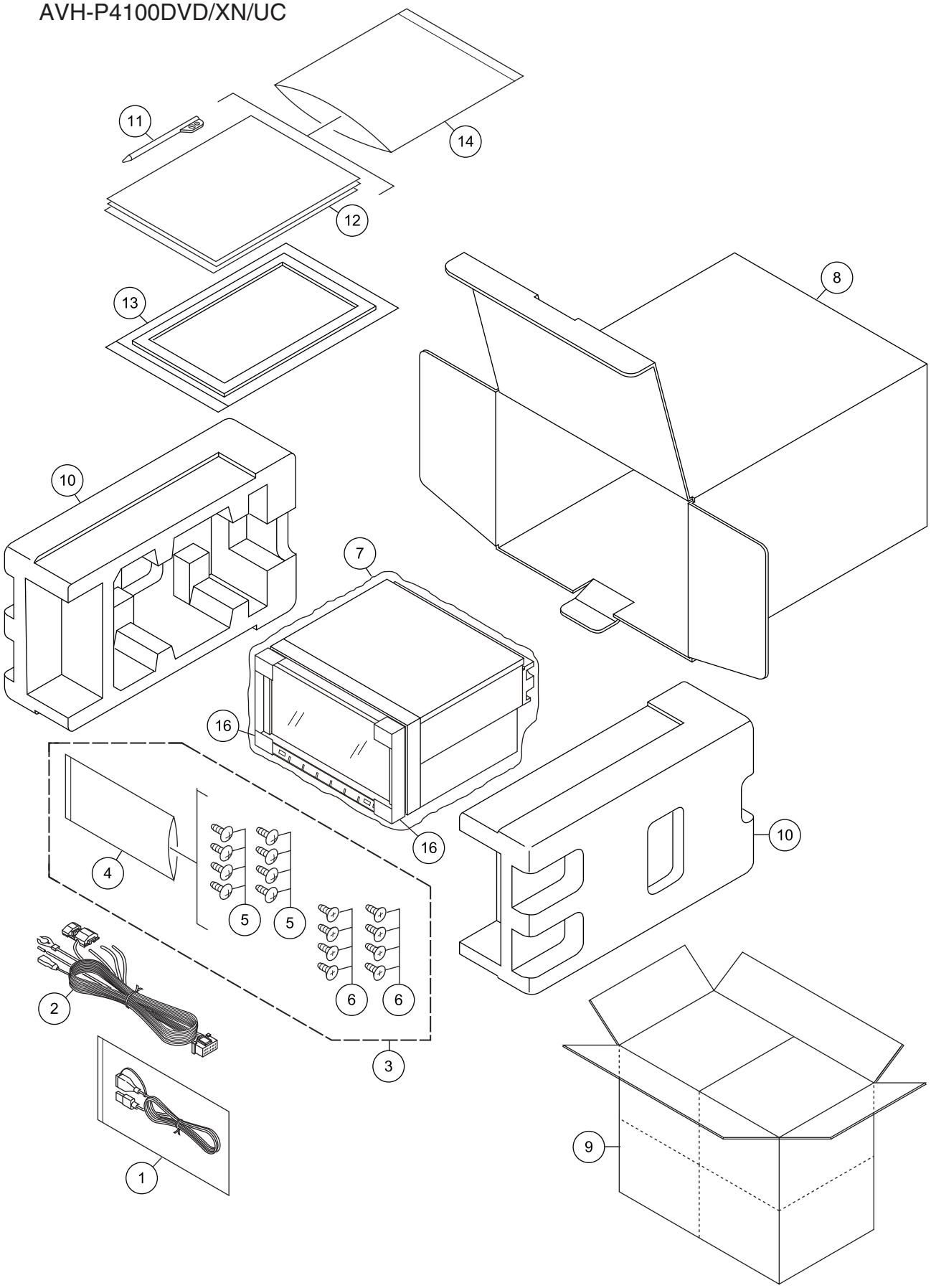
In the normal operation mode (with the detachable panel installed, the ACC switched ON, the standby mode cancelled), shift the TESTIN IC601(Pin 87) terminal to H.
The clock signal is output from the CLKOUT terminal IC601(Pin 62).
The frequency of the clock signal is 625 000 Hz that is one 32th of the fundamental frequency.
The clock signal should be 625 000 Hz (- 10 Hz, + 15 Hz).
If the clock signal out of the range, the X'tal (X601) should be replaced with new one.

# 9. EXPLODED VIEWS AND PARTS LIST

*NOTES :* • *Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
• *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
• *Screw adjacent to▽ mark on the product are used for disassembly.*
• *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions,apply as you think it appropriate.)*

# 9.1 PACKING(AVH-P4100DVD/XN/UC)

AVH-P4100DVD/XN/UC



## PACKING(AVH-P4100DVD/XN/UC) SECTION PARTS LIST

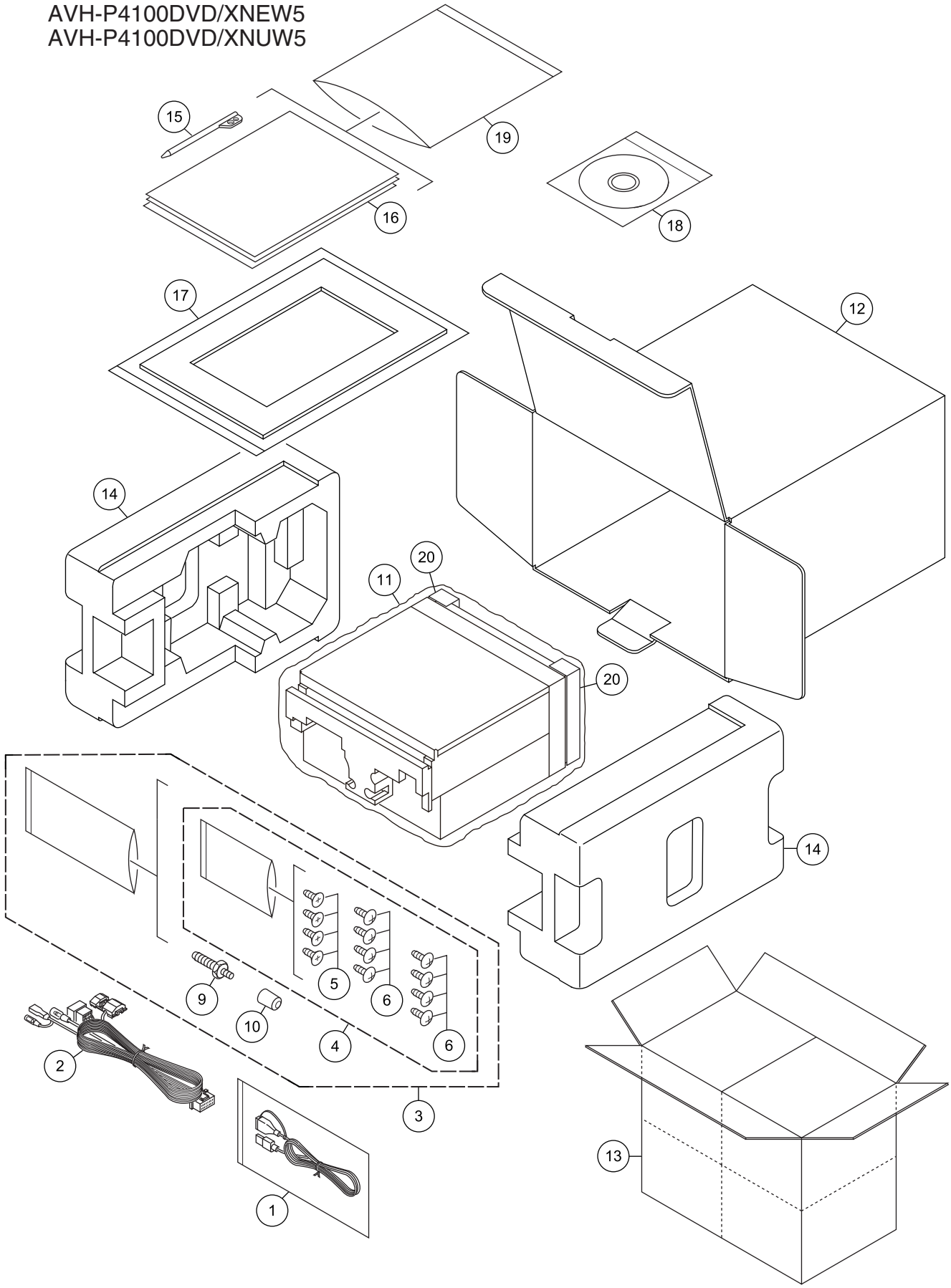
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Cord Assy | CDP1219 |
| | 2 | Cord Assy | CDP1166 |
| | 3 | Screw Assy | CEA2788 |
| * | 4 | Polyethylene Bag | CEG-127 |
| | 5 | Screw | BMZ50P080FTC |
| | 6 | Screw | CMZ50P080FTC |
| | 7 | Poly Bag | CEG1402 |
| | 8 | Unit Box | CHG6730 |
| | 9 | Contain Box | CHL6730 |
| | 10 | Protector | CHP3709 |
| | 11 | Pen | CNV8969 |
| | 12-1 | Owner's Manual | CRB2897 |
| | 12-2 | Owner's Manual | CRB2898 |
| | 12-3 | Owner's Manual | CRB2983 |
| | 12-4 | Installation Manual | CRD4377 |
| | 12-5 | Caution Card | CRP1387 |
| * | 16-6 | Warranty Card | CRY1276 |
| | 13 | Panel | CNS9475 |
| | 14 | Polyethylene Bag | CEG1426 |
| | 15 | ••••• | |
| | 16 | Sheet | CNN3089 |

### Owner's Manual,Installation Manual

| Part No. | Language |
|---|---|
| CRB2897 | English |
| CRB2898 | French |
| CRB2983 | Spanish(Espanol) |
| CRD4377 | English, French, Spanish(Espanol) |

# 9.2 PACKING(AVH-P4100DVD/XNEW5, XNUW5)

AVH-P4100DVD/XNEW5
AVH-P4100DVD/XNUW5



## (1) PACKING(AVH-P4100DVD/XNEW5, XNUW5) SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Cord Assy | CDP1040 |
| | 2 | Cord Assy | CDP1167 |
| * | 3 | Attachment Assy | CEC1766 |
| | 4 | Screw Assy | CEA9898 |
| | 5 | Screw | CMZ50P080FTC |
| | 6 | Screw | BMZ50P080FTC |
| | 7 | ••••• | |
| | 8 | ••••• | |
| | 9 | Screw | CBA1650 |
| | 10 | Bush | CNV3930 |
| | 11 | Poly Bag | CEG1401 |
| | 12 | Unit Box | See Contrast table(2) |
| | 13 | Contain Box | See Contrast table(2) |
| | 14 | Protector | CHP3708 |
| | 15 | Pen | CNV8969 |
| | 16-1 | Installation Manual | See Contrast table(2) |
| | 16-2 | Quick Start Guide | See Contrast table(2) |
| | 16-3 | Quick Start Guide | See Contrast table(2) |
| | 16-4 | Owner's Manual | See Contrast table(2) |
| | 16-5 | Owner's Manual | See Contrast table(2) |
| * | 16-6 | Caution Card | See Contrast table(2) |
| * | 16-7 | Caution Card | See Contrast table(2) |
| * | 16-8 | Passport | See Contrast table(2) |
| | 16-9 | Warranty Card | CRY1279 |
| | 17 | Panel | CNS9366 |
| | 18 | IM CD-ROM | See Contrast table(2) |
| | 19 | Polyethylene Bag | CEG1426 |
| | 20 | Sheet | CNN3089 |

## (2) CONTRAST TABLE

AVH-P4100DVD/XNEW5 and AVH-P4100DVD/XNUW5 are constructed the same except for the following:

| Mark | No. | Description | AVH-P4100DVD/XNEW5 | AVH-P4100DVD/XNUW5 |
|---|---|---|---|---|
| | 12 | Unit Box | CHG6728 | CHG6729 |
| | 13 | Contain Box | CHL6728 | CHL6729 |
| | 16-1 | Installation Manual | CRD4376 | CRD4378 |
| | 16-2 | Quick Start Guide | CRD4393 | Not used |
| | 16-3 | Quick Start Guide | CRD4394 | Not used |
| | 16-4 | Owner's Manual | Not used | CRB2899 |
| | 16-5 | Owner's Manual | Not used | CRB2900 |
| * | 16-6 | Caution Card | CRP1389 | Not used |
| * | 16-7 | Caution Card | CRP1394 | Not used |
| * | 16-8 | Passport | CRY1268 | Not used |
| | 18 | IM CD-ROM | CPJ1271 | Not used |

**Owner's Manual,Installation Manual,Quick Start Guide**

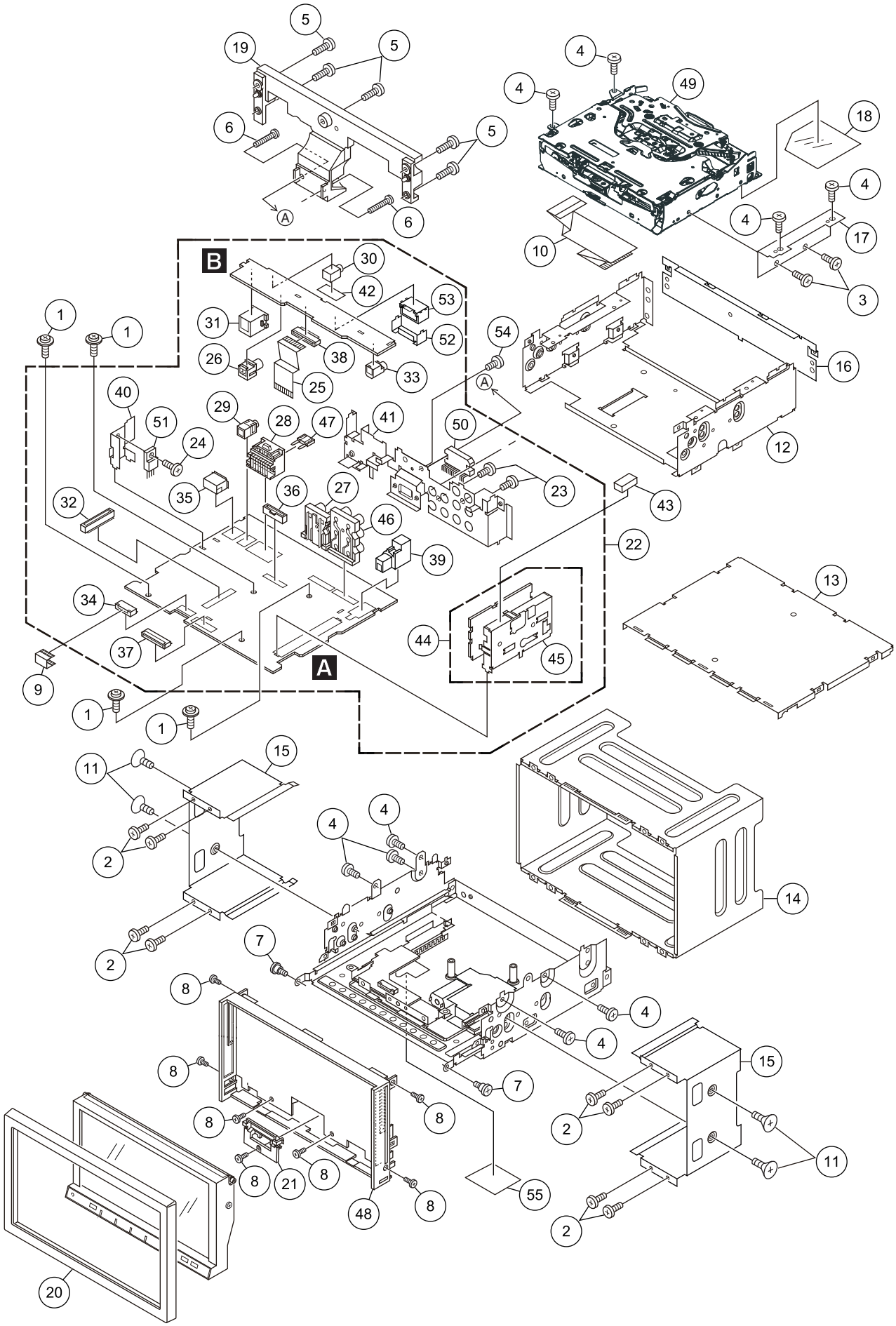
| Part No. | Language |
|---|---|
| CRD4393 | English, Spanish(Espanol), German, French |
| CRD4394 | Italian, Dutch |
| CRD4376 | English, Spanish(Espanol), German, French, Italian, Dutch |
| CRB2899 | English |
| CRB2900 | Russian |
| CRD4378 | English, Russian |

## (3) CONTENTS OF CD-ROM (Operation Manual), CPJ1271

| Part No. | Language |
|---|---|
| * CRB2878 | English |
| * CRB2879 | Spanish(Espanol) |
| * CRB2880 | German |
| * CRB2881 | French |
| * CRB2882 | Italian |
| * CRB2883 | Dutch |
| * CRB2884 | Swedish |
| * CRB2885 | Norwegian |
| * CRB2886 | Finnish |
| * CRB2887 | Danish |
| * CRB2888 | Portuguese |
| * CRB2889 | Greek |
| * CRB2890 | Turkish |

**All operation manuals are supplied in PDF files by the CD-ROM. No printed papers are available.**

# 9.3 EXTERIOR(1)



## (1) EXTERIOR(1) SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Screw | ASZ26P050FTC |
| | 2 | Screw | See Contrast table(2) |
| | 3 | Screw | BMZ25P040FTB |
| | 4 | Screw | BSZ26P060FTC |
| | 5 | Screw | BSZ26P100FTC |
| | 6 | Screw | BSZ26P160FTC |
| | 7 | Screw | CBA1735 |
| | 8 | Screw(M2 x 3) | CBA1877 |
| | 9 | FFC | CDE8603 |
| | 10 | FFC | CDE8746 |
| | 11 | Screw | See Contrast table(2) |
| | 12 | Chassis | CNA3100 |
| | 13 | Case | CNB3543 |
| | 14 | Holder | See Contrast table(2) |
| | 15 | Holder | See Contrast table(2) |
| | 16 | Holder | CND4809 |
| | 17 | Holder | CND4810 |
| | 18 | Insulator | CNN2764 |
| | 19 | Heat Sink | CNR1981 |
| | 20 | Panel | See Contrast table(2) |
| | 21 | Cover | CNW1450 |
| | 22 | Mother Unit | See Contrast table(2) |
| | 23 | Screw | BPZ26P080FTC |
| | 24 | Screw | BSZ26P060FTC |
| | 25 | FFC | CDE8747 |
| | 26 | Pin Jack(JA2003) | CKB1065 |
| | 27 | Pin Jack(JA102) | CKB1085 |
| | 28 | Plug(JA141) | CKM1376 |
| | 29 | Jack(JA951) | CKN1042 |
| | 30 | Jack(JA2002) | CKN1077 |
| | 31 | Connector(JA2004) | CKS3410 |
| | 32 | Connector(CN901) | CKS3871 |
| | 33 | Connector(JA2001) | CKS4124 |
| | 34 | Connector(CN801) | CKS4178 |
| | 35 | Connector(CN522) | CKS5669 |
| | 36 | Connector(CN121) | CKS6051 |
| | 37 | Connector(CN501) | CKS6062 |
| | 38 | Connector(CN2002) | CKS6062 |
| | 39 | Antenna Jack(JA402) | CKX1060 |
| | 40 | Holder | CND4811 |
| | 41 | Holder | See Contrast table(2) |
| | 42 | Insulator | CNN2307 |
| | 43 | Gasket | CNN2782 |
| | 44 | FM/AM Tuner Unit(U401) | See Contrast table(2) |
| | 45 | Holder | CND4324 |
| | 46 | Pin Jack(JA101) | XKB7001 |
| ⚠ | 47 | Fuse(10 A) | YEK5001 |
| | 48 | Panel Unit | See Contrast table(2) |
| | 49 | DVD Mechanism Module(LS1) | CXK6800 |
| | 50 | IC(IC181) | PA2030A |
| | 51 | IC(IC1061) | NJM2388F84 |
| | 52 | Holder | See Contrast table(2) |
| | 53 | Connector(CN2001) | See Contrast table(2) |
| | 54 | Screw | See Contrast table(2) |
| | 55 | Sheet | See Contrast table(2) |

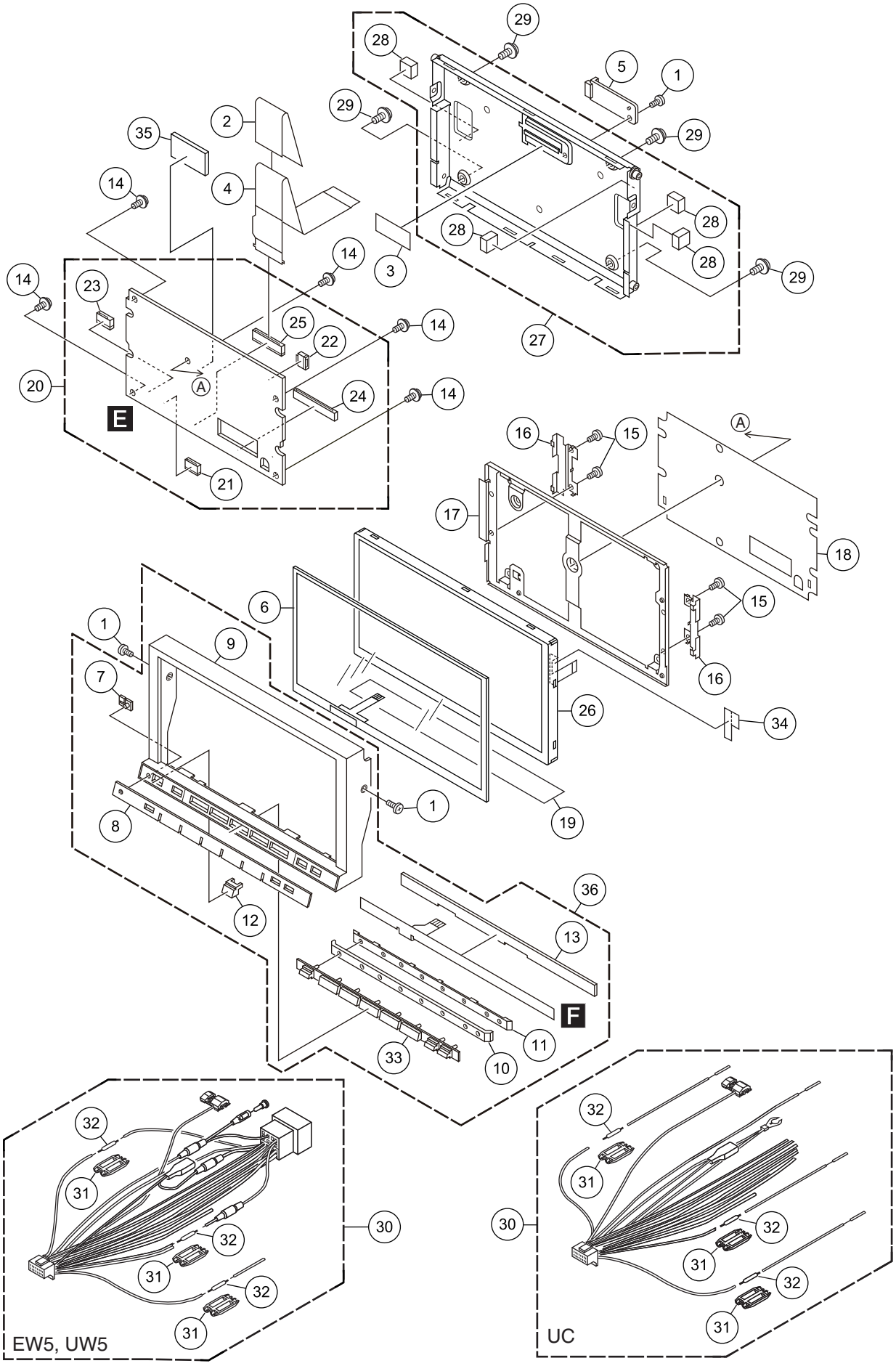
## (2) CONTRAST TABLE

AVH-P4100DVD/XN/UC, AVH-P4100DVD/XNEW5 and AVH-P4100DVD/XNUW5 are constructed the same except for the following:

| Mark | No. | Description | AVH-P4100DVD/XN/UC | AVH-P4100DVD/XNEW5 | AVH-P4100DVD/XNUW5 |
|---|---|---|---|---|---|
| | 2 | Screw | Not used | BMZ30P060FTC | BMZ30P060FTC |
| | 11 | Screw | Not used | CMZ50P080FTC | CMZ50P080FTC |
| | 14 | Holder | Not used | CND4337 | CND4337 |
| | 15 | Holder | Not used | CND4338 | CND4338 |
| | 20 | Panel | Not used | CNS9952 | CNS9952 |
| | 22 | Mother Unit | CWN3794 | CWN3790 | CWN3795 |
| | 41 | Holder | CND4864 | CND4864 | CND4808 |
| | 44 | FM/AM Tuner Unit(U401) | CWE2098 | CWE2097 | CWE2097 |
| | 48 | Panel Unit | CXE1738 | CXE1736 | CXE1736 |
| | 52 | Holder | Not used | Not used | CND4814 |
| | 53 | Connector(CN2001) | Not used | Not used | CKS4497 |
| | 54 | Screw | Not used | Not used | BSZ26P060FTC |
| | 55 | Sheet | Not used | CNN2947 | CNN2947 |

*If the gasket (No.43: CNN2782) was damaged or lost, replace it with the new one.

# 9.4 EXTERIOR(2)



## (1) EXTERIOR(2) SECTION PARTS LIST

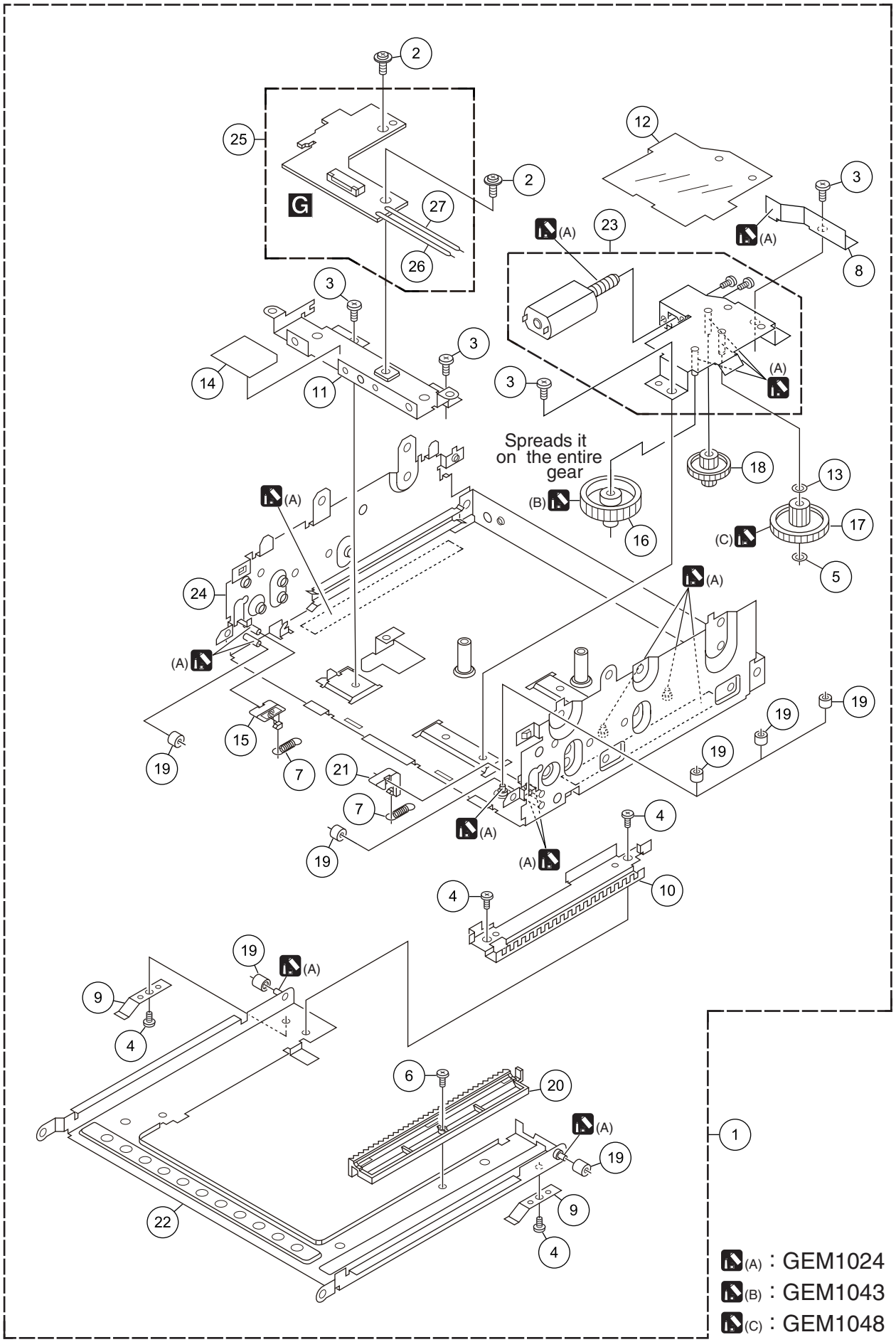
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Screw(M2 x 3) | CBA1877 |
| | 2 | Cover | CNN2600 |
| | 3 | Cover | CNN2601 |
| | 4 | Flexible PCB | CNQ2709 |
| | 5 | Cover | CNW1449 |
| | 6 | Touch Panel | CSX1142 |
| | 7 | Button(RESET) | CAI2199 |
| * | 8 | Plate | CNN2856 |
| * | 9 | Grille | See Contrast table(2) |
| | 10 | Lighting Conductor | CNW1445 |
| | 11 | Spacer | CNW1446 |
| | 12 | Lighting Conductor | CNW1458 |
| * | 13 | Holder Unit | CXE1268 |
| | 14 | Screw | AMZ20P030FTC |
| | 15 | Screw(M2 x 2) | CBA1771 |
| | 16 | Holder | CND4805 |
| | 17 | Holder | CND4807 |
| | 18 | Insulator | CNN2596 |
| | 19 | Insulator | CNN2778 |
| | 20 | Monitor Unit | See Contrast table(2) |
| | 21 | Connector(CN5401) | CKS5561 |
| | 22 | Connector(CN6101) | CKS5561 |
| | 23 | Connector(CN5003) | CKS5629 |
| | 24 | Connector(CN6001) | CKS5773 |
| | 25 | Connector(CN5001) | CKS5957 |
| | 26 | LCD | CWX3691 |
| | 27 | Case Unit | CXE1249 |
| | 28 | Cushion | CNN1325 |
| | 29 | Screw | IMS20P030FTC |
| | 30 | Cord Assy | CDP1167 |
| | 31 | Cap | CNS1472 |
| | 32 | Resistor | RS1/2PMF102J |
| * | 33 | Button Unit | CXE1271 |
| | 34 | Spacer | CNN3066 |
| | 35 | Spacer | See Contrast table(2) |
| | 36 | Keyboard Unit | See Contrast table(2) |

## (2) CONTRAST TABLE

AVH-P4100DVD/XN/UC, AVH-P4100DVD/XNEW5 and AVH-P4100DVD/XNUW5 are constructed the same except for the following:

| Mark | No. | Description | AVH-P4100DVD/XN/UC | AVH-P4100DVD/XNEW5 | AVH-P4100DVD/XNUW5 |
|---|---|---|---|---|---|
| * | 9 | Grille | CNS9812 | CNS9812 | CNS9665 |
| | 20 | Monitor Unit | CWN3797 | CWN3797 | CWN3796 |
| | 35 | Spacer | Not used | Not used | CNN2602 |
| | 36 | Keyboard Unit | CWN3798 | CWN3798 | CWN3800 |

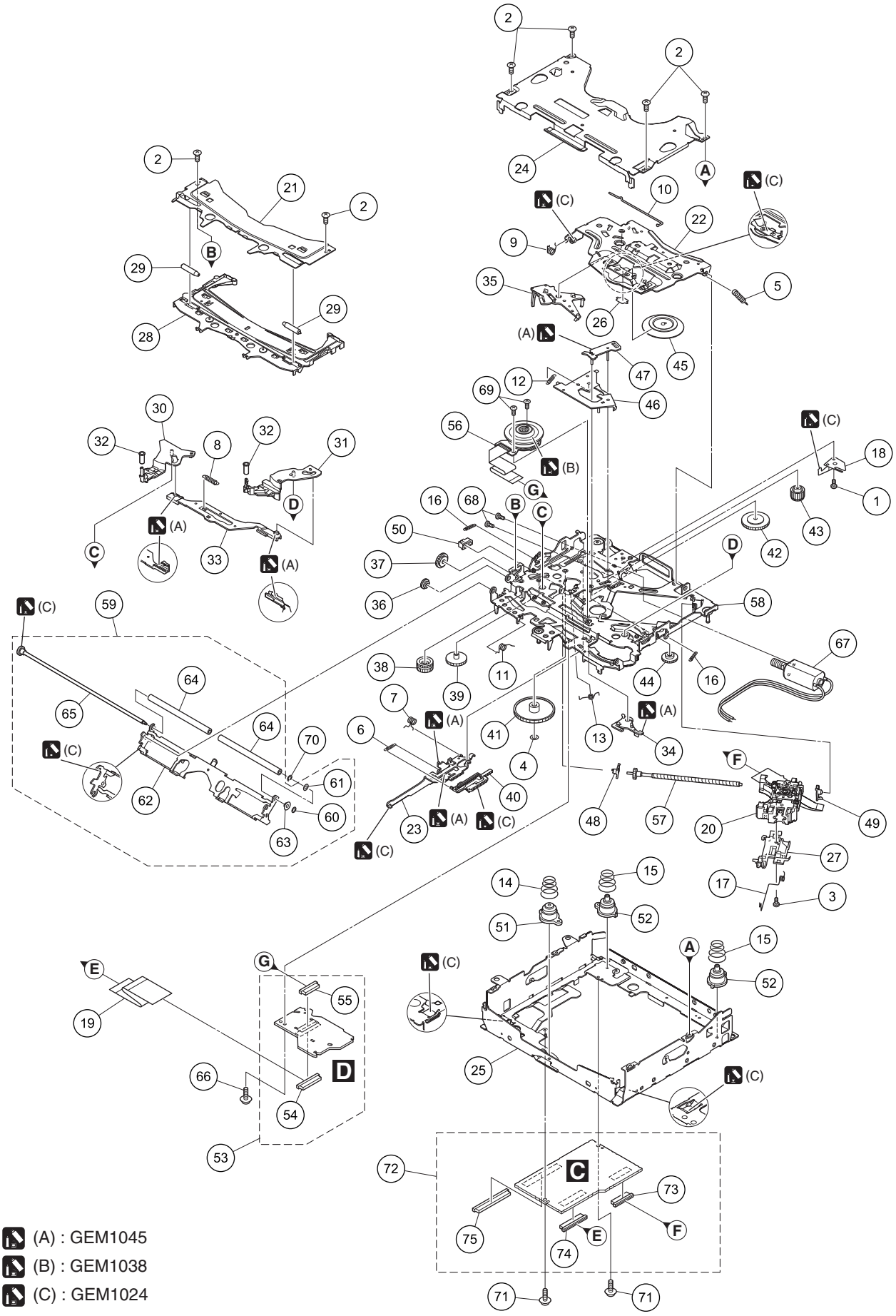
# 9.5 EXTERIOR(3)



## EXTERIOR(3) SECTION PARTS LIST

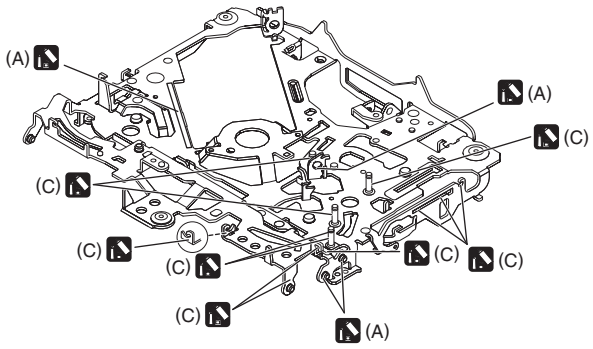
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Drive Unit | CXE1173 |
| | 2 | Screw | AMZ26P030FTC |
| | 3 | Screw | BMZ26P030FTC |
| | 4 | Screw(M2 x 2) | CBA2129 |
| | 5 | Washer | CBF1039 |
| | 6 | Screw | EBA1049 |
| | 7 | Spring | EBH1684 |
| | 8 | Spring | EBL1031 |
| | 9 | Spring | EBL1032 |
| | 10 | Slit board | ENC1582 |
| | 11 | Bracket | ENC1586 |
| | 12 | Insulator | ENM1048 |
| | 13 | Spacer | ENM1049 |
| | 14 | Insulator | ENM1051 |
| | 15 | Arm(White) | ENV1615 |
| | 16 | Gear | ENV1616 |
| | 17 | Gear | ENV1617 |
| | 18 | Gear | ENV1618 |
| | 19 | Roller | ENV1619 |
| | 20 | Rack | ENV1620 |
| | 21 | Arm(Black) | ENV1623 |
| | 22 | Frame Unit | EXA1669 |
| | 23 | Motor Unit | EXA1674 |
| * | 24 | Chassis Unit | EXA1687 |
| | 25 | Service PCB Assy | EXX1058 |
| | 26 | Cord(White) | EDC1024 |
| | 27 | Cord(Orange) | EDC1025 |

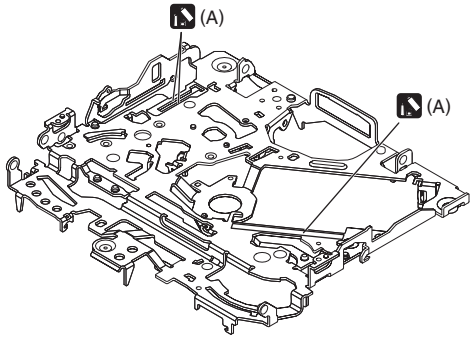
# 9.6 DVD MECHANISM MODULE



## DVD MECHANISM MODULE SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Screw | BMZ20P020FTC |
| | 2 | Screw | BSZ20P040FTC |
| | 3 | Screw(M2 x 4) | CBA1835 |
| | 4 | Washer | CBF1038 |
| | 5 | Spring | CBH2860 |
| | 6 | Spring | CBH3010 |
| | 7 | Spring | CBH3011 |
| | 8 | Spring | CBH3012 |
| | 9 | Spring | CBH3013 |
| | 10 | Spring | CBH3014 |
| | 11 | Spring | CBH3015 |
| | 12 | Spring | CBH3016 |
| | 13 | Spring | CBH3017 |
| | 14 | Spring | CBH3018 |
| | 15 | Spring | CBH3019 |
| | 16 | Spring | CBH3020 |
| | 17 | Spring | CBH3030 |
| | 18 | Plate Spring | CBL1797 |
| | 19 | Cable | CDE8631 |
| | 20 | Service PU Unit | CXX2398 |
| | 21 | Bracket | CND4553 |
| | 22 | Arm | CND4555 |
| | 23 | Lever | CND4556 |
| | 24 | Frame | CND4557 |
| | 25 | Frame | CND4558 |
| | 26 | Sheet | CNN2280 |
| | 27 | Rack | CNW1170 |
| | 28 | Guide | CNW1171 |
| | 29 | Roller | CNW1172 |
| | 30 | Arm | CNW1173 |
| | 31 | Arm | CNW1174 |
| | 32 | Roller | CNW1175 |
| | 33 | Lever | CNW1176 |
| | 34 | Arm | CNW1177 |
| | 35 | Arm | CNW1178 |
| | 36 | Gear | CNW1180 |
| | 37 | Gear | CNW1181 |
| | 38 | Gear | CNW1182 |
| | 39 | Gear | CNW1183 |
| | 40 | Rack | CNW1184 |
| | 41 | Gear | CNW1185 |
| | 42 | Gear | CNW1186 |
| | 43 | Gear | CNW1187 |
| | 44 | Gear | CNW1188 |
| | 45 | Clamper | CNW1190 |
| | 46 | Arm | CNW1191 |
| | 47 | Arm | CNW1192 |
| | 48 | Holder | CNW1193 |
| | 49 | Holder | CNW1194 |
| | 50 | Holder | CNW1195 |
| | 51 | Damper | CNW1197 |
| | 52 | Damper | CNW1198 |
| * | 53 | Connect PCB Unit | CWX3618 |
| | 54 | Connector(CN701) | CKS6003 |
| | 55 | Connector(CN101) | CKS6063 |
| | 56 | Motor Unit | CXC4026 |
| | 57 | Screw Unit | CXC8894 |
| | 58 | Chassis Unit | CXC8895 |
| | 59 | Arm Assy | CXC8896 |
| | 60 | Washer | CBF1037 |
| | 61 | Washer | CBF1038 |
| | 62 | Arm | CND4554 |
| | 63 | Collar | CNV6906 |
| | 64 | Roller | CNW1196 |
| | 65 | Gear Unit | CXC8893 |
| | 66 | Screw(M2 x 5) | EBA1028 |
| | 67 | Motor | EXM1050 |
| | 68 | Screw | JFZ20P025FTC |
| | 69 | Screw | JGZ17P022FTC |
| | 70 | Washer | YE15FTC |
| | 71 | Screw | IMS20P030FTC |
| | 72 | DVD Core Unit | YWX5007 |
| | 73 | Connector(CN1101) | CKS5775 |
| | 74 | Connector(CN1201) | CKS6003 |
| | 75 | Connector(CN1901) | CKS6025 |



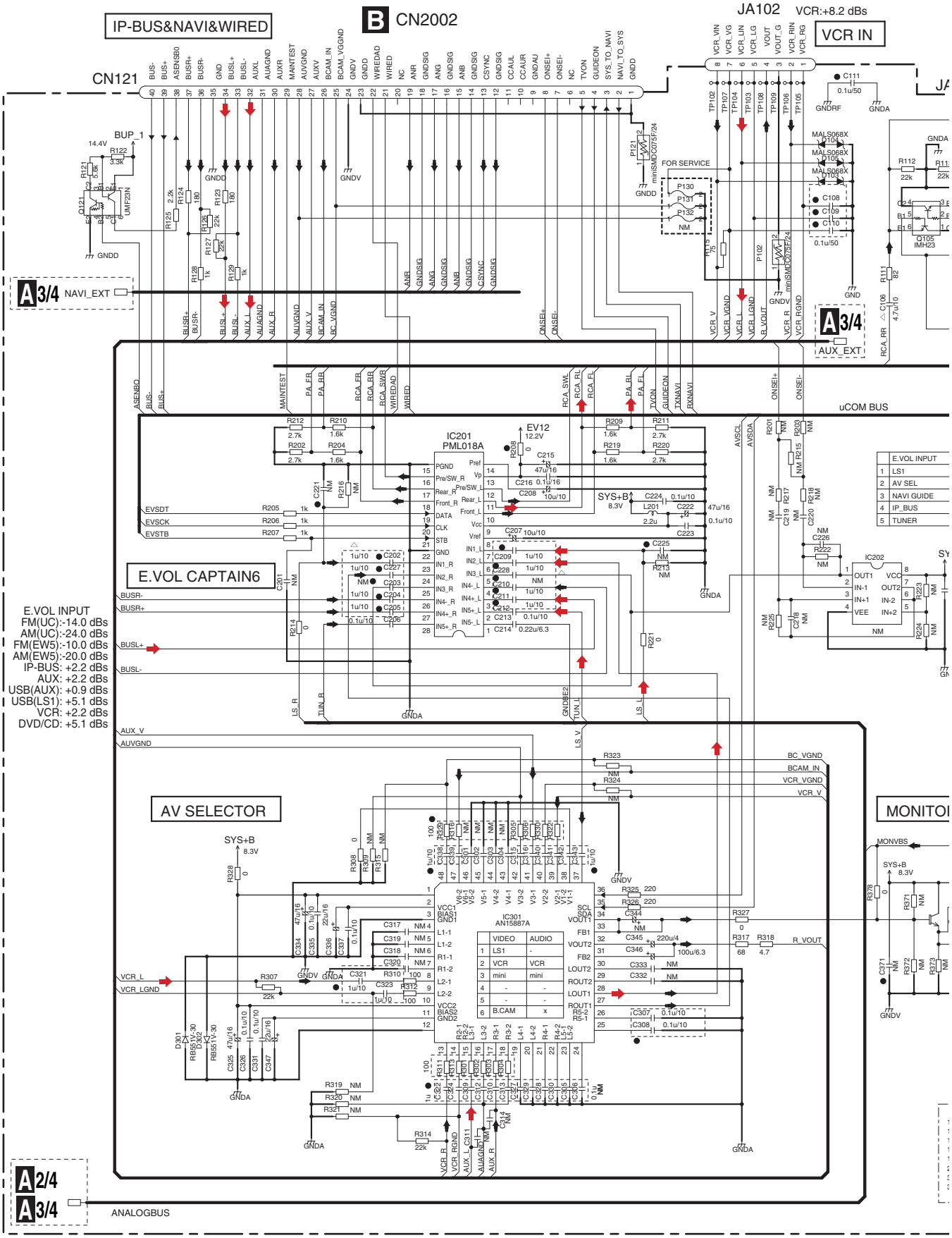




(A) : GEM1045
(B) : GEM1038
(C) : GEM1024

# 10. SCHEMATIC DIAGRAM

## 10.1 MOTHER PCB(ANALOG)

**Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".**



NOTE :
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

NM : No Mount

FM(UC): +7.1 dBs
AM(UC): -2.9 dBs
FM(EW5):+11.1 dBs
AM(EW5): +1.1 dBs
IP-BUS:+13.3 dBs
AUX:+13.3 dBs
USB(AUX):+12.0 dBs
USB(LS1):+13.2 dBs
VCR:+13.3 dBs
DVD/CD:+13.2 dBs

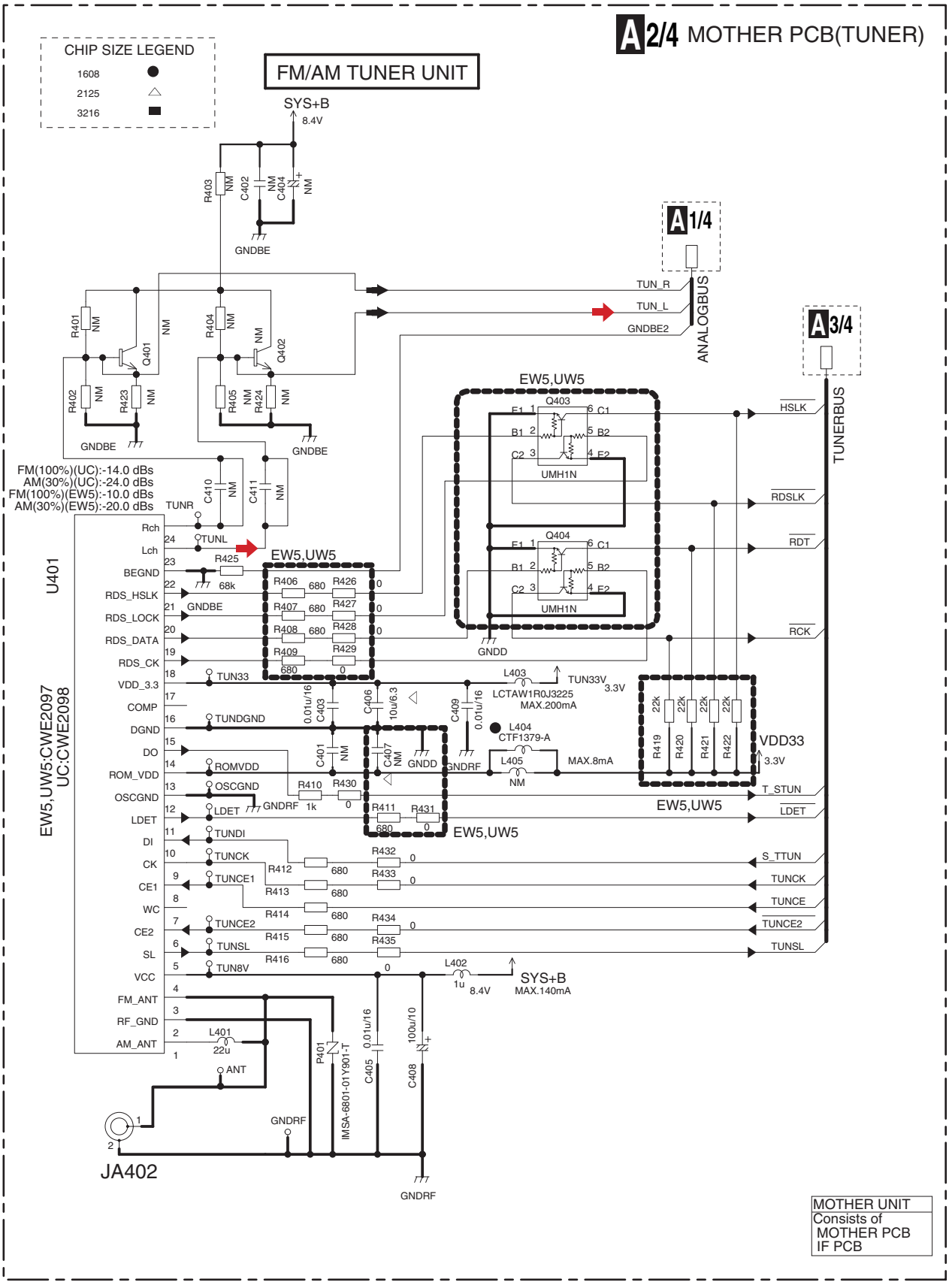
# A1/4 MOTHER PCB(ANALOG)

dBs
R IN
RCAOUT
JA101
REAR_R
REAR_L
SW_R
SW_L
FRONT_R
FRONT_L
GND
RCAGND
IC181 PA2030A
AMP
TAB
PW-GND2
OUT2(-)
STBY
OUT2(+)
VCC2
OUT1(-)
PW-GND1
OUT1(+)
RIPPLE
IN1
IN2
PRE-GND
IN4
IN3
AC-GND
OUT3(+)
PW-GND3
OUT3(-)
VCC1
OUT4(+)
MUTE
OUT4(-)
PW-GND4
H-SW/VOS-DET
1.TAB
2.PW.GND2
3.RR-
4.STBY
5.RR+
6.VCC1/2
7.RL-
8.PW.GND1
9.RL+
10.SVR
11.FLIN
12.FRIN
13.S-GND
14.RRIN
15.RLIN
16.ACGND
17.FL+
18.PW.GND3
19.FL-
20.VCC3/4
21.FR+
22.MUTE
23.FR-
24.PW.GND4
25.B.REMOTE
PA_FL
PA_FR
PA_RR
PA_RL
SYS+B
BUP_1
AMPPW
SYSMUTE
OFFMUTE
AMPMUTE
OFFMUTE1
ACC33
PBSENS
TELMUTE
ASENS
BSENS
ISENS
BGSENS
uCOMBUS
PW CONNECTOR
JA141
P.B.
MUTE
B.REM
ILM
BGSENS
ACC
GND
B.UP
SIDE_A
COM BUS
E.VOL INPUT
LS1
AV SEL
NAVI GUIDE
IP_BUS
TUNER
IC202
MONITOR VBS ADJUST
MONVBS
CHIP SIZE LEGEND
1608
2125
3216
MOTHER UNIT
Consists of
MOTHER PCB
IF PCB
101 ~ : RCAOUT MUTE&VCRIN
121 ~ : IP-BUS&NAVI&WIRED
141 ~ : PW CONNECTOR
161 ~ : SENS
181 ~ : AMP
201 ~ : E.VOL CAPTAIN6
301 ~ : AV SELECTER
371 ~ : MONITOR VBS ADJUST

FM(UC):+29.1 dBs
AM(UC):+19.1 dBs
FM(EW5):+33.1 dBs
AM(EW5):+23.1 dBs
IP-BUS:+35.3 dBs
AUX:+35.3 dBs
USB(AUX):+34.0 dBs
USB(LS1):+35.2 dBs
VCR:+35.3 dBs
DVD/CD:+35.2 dBs

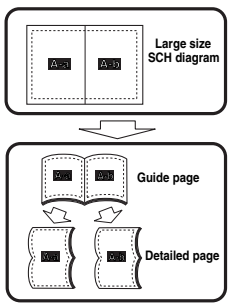
A1/4

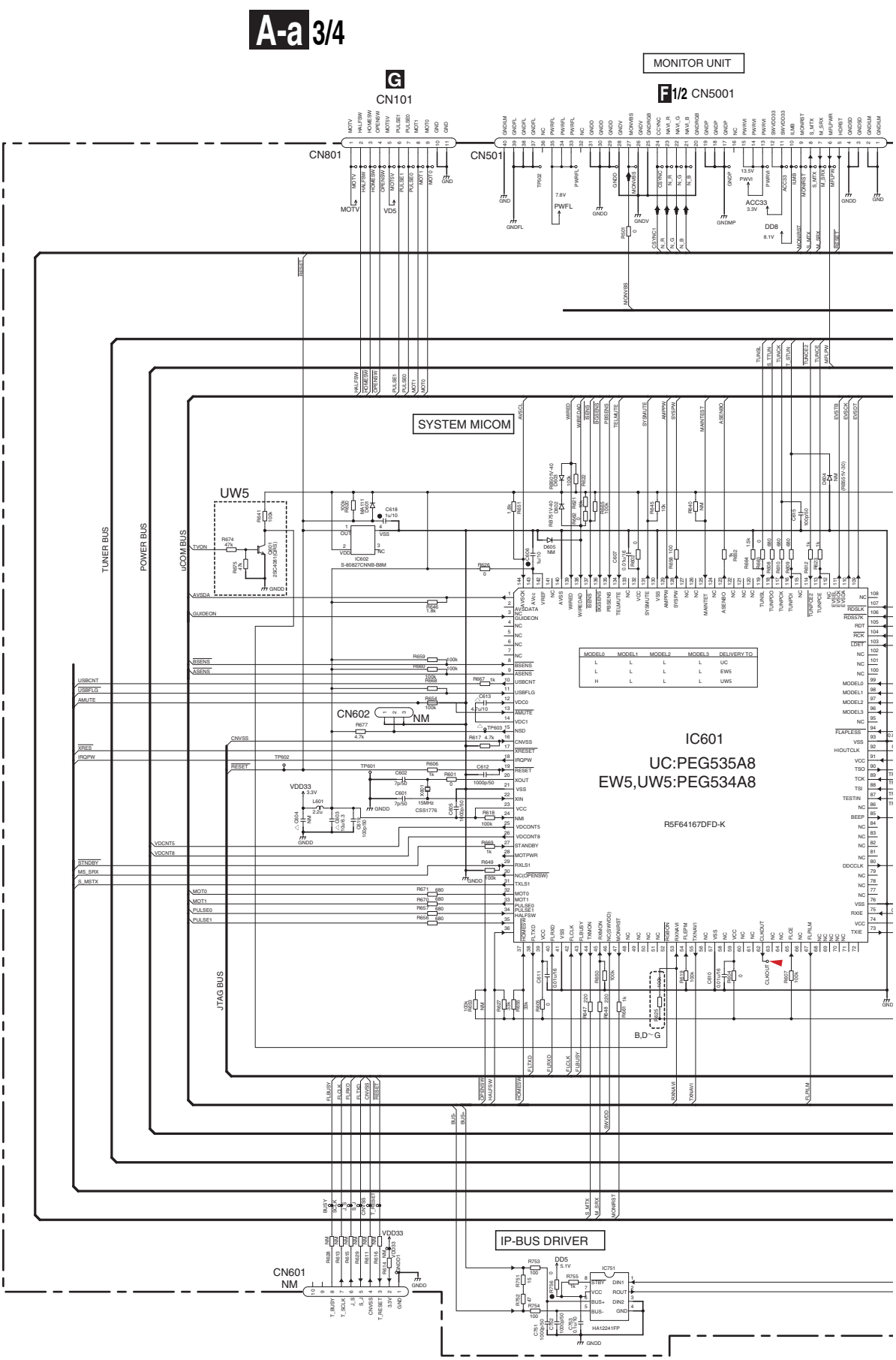
# 10.2 MOTHER PCB(TUNER)

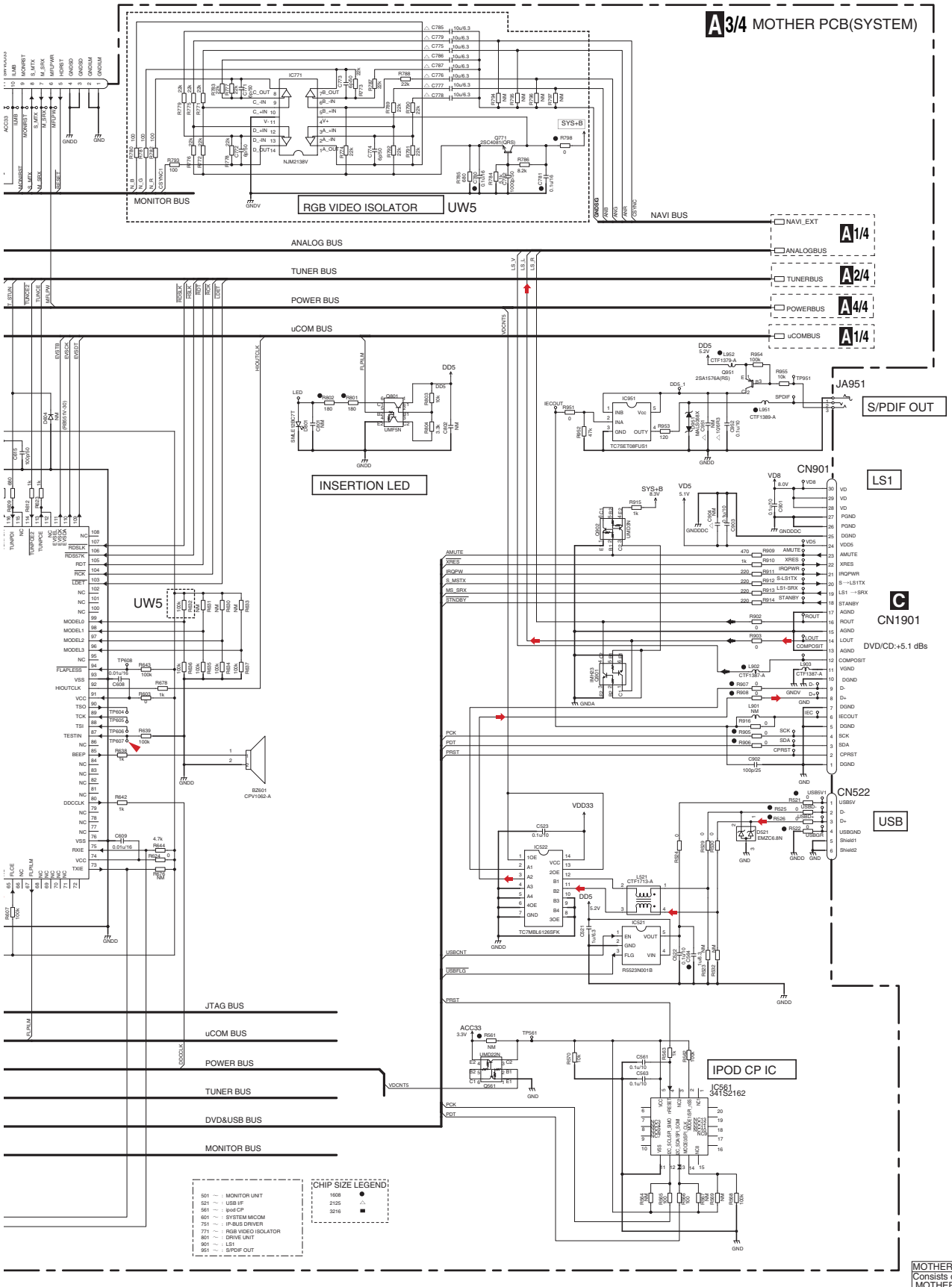



A2/4

# 10.3 MOTHER PCB(SYSTEM)(GUIDE PAGE)




A3/4 MOTHER PCB(SYSTEM)
MONITOR BUS
RGB VIDEO ISOLATOR UW5
NAVI BUS
NAVI_EXT
A1/4
ANALOG BUS
ANALOGBUS
TUNER BUS
TUNERBUS
A2/4
POWER BUS
POWERBUS
A4/4
uCOM BUS
uCOMBUS
A1/4
JA951
S/PDIF OUT
INSERTION LED
LS1
CN901
CN1901
DVD/CD:+5.1 dBs
USB
CN522
IPOD CP IC
JC561
34152162
JTAG BUS
uCOM BUS
POWER BUS
TUNER BUS
DVD&USB BUS
MONITOR BUS
CHIP SIZE LEGEND
MOTHER UNIT
Consists of
MOTHER PCB
IF PCB
A3/4

# A-b 3/4

A-a | A-b

## A 3/4 MOTHER PCB(SYSTEM)

AVH-P4100DVD/XN/UC

MONITOR BUS

RGB VIDEO ISOLATOR UW5

NAVI BUS

ANALOG BUS

TUNER BUS

POWER BUS

uCOM BUS

NAVI_EXT — A 1/4

ANALOGBUS

TUNERBUS — A 2/4

POWERBUS — A 4/4

uCOMBUS — A 1/4

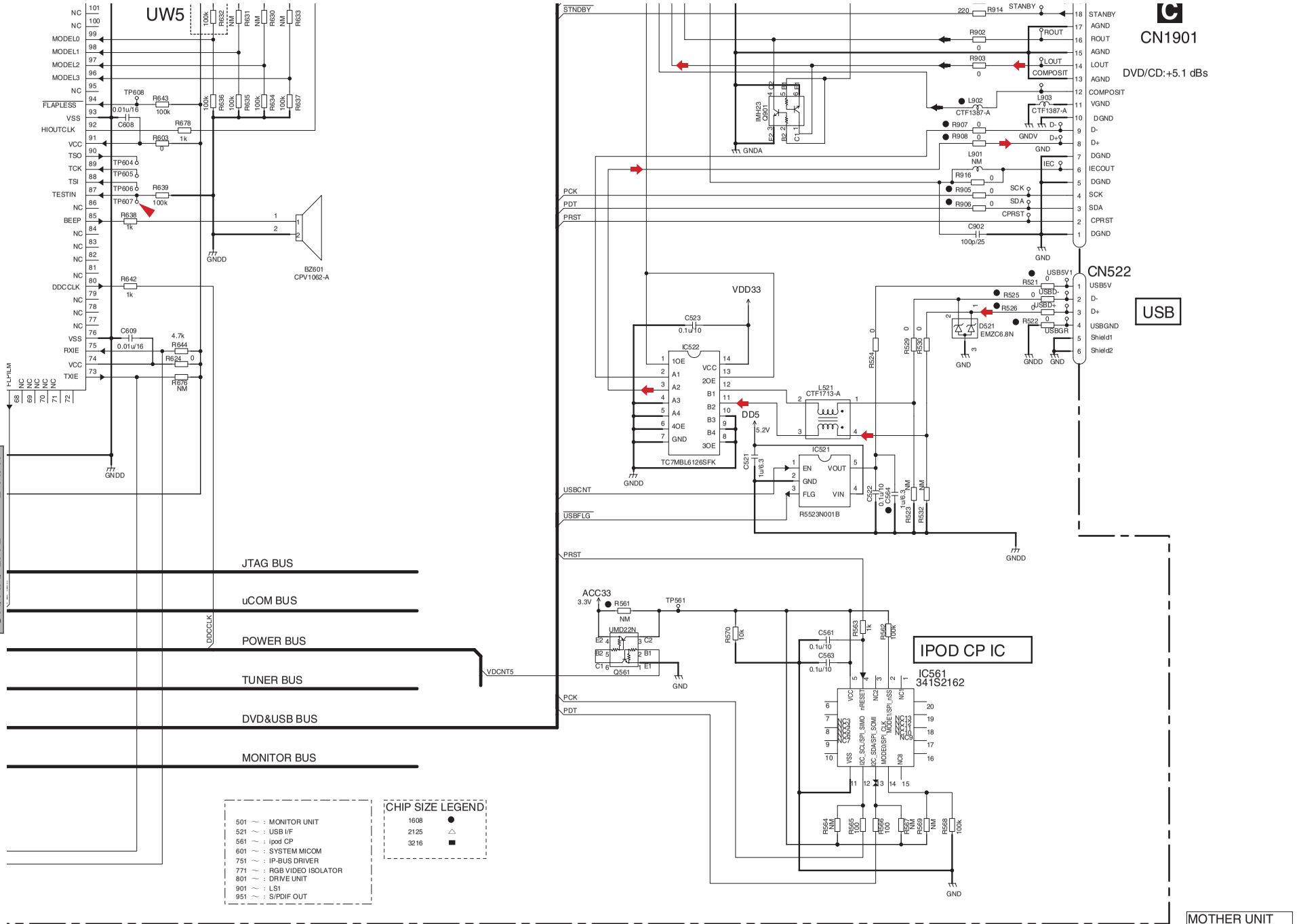
INSERTION LED

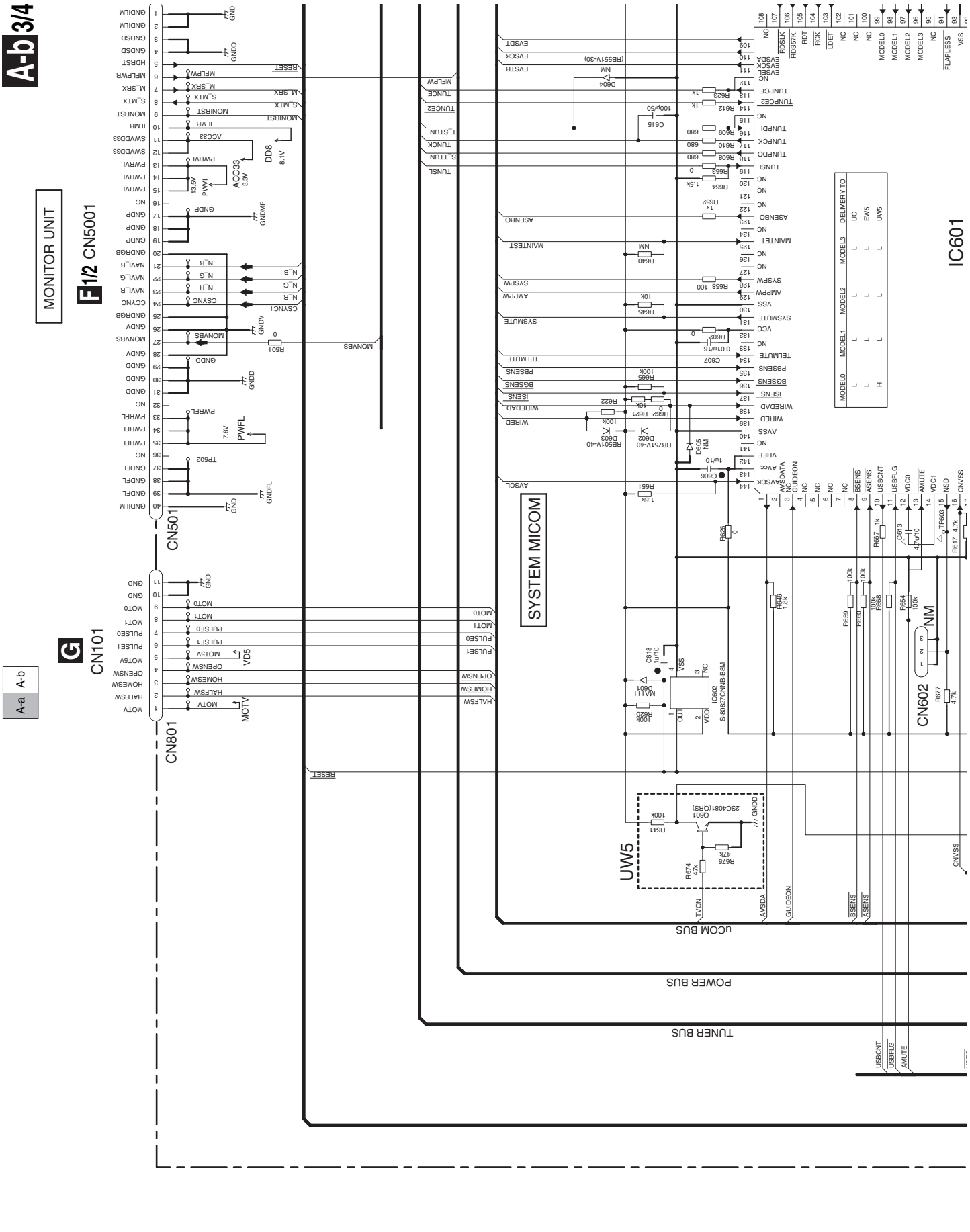
JA951 S/PDIF OUT

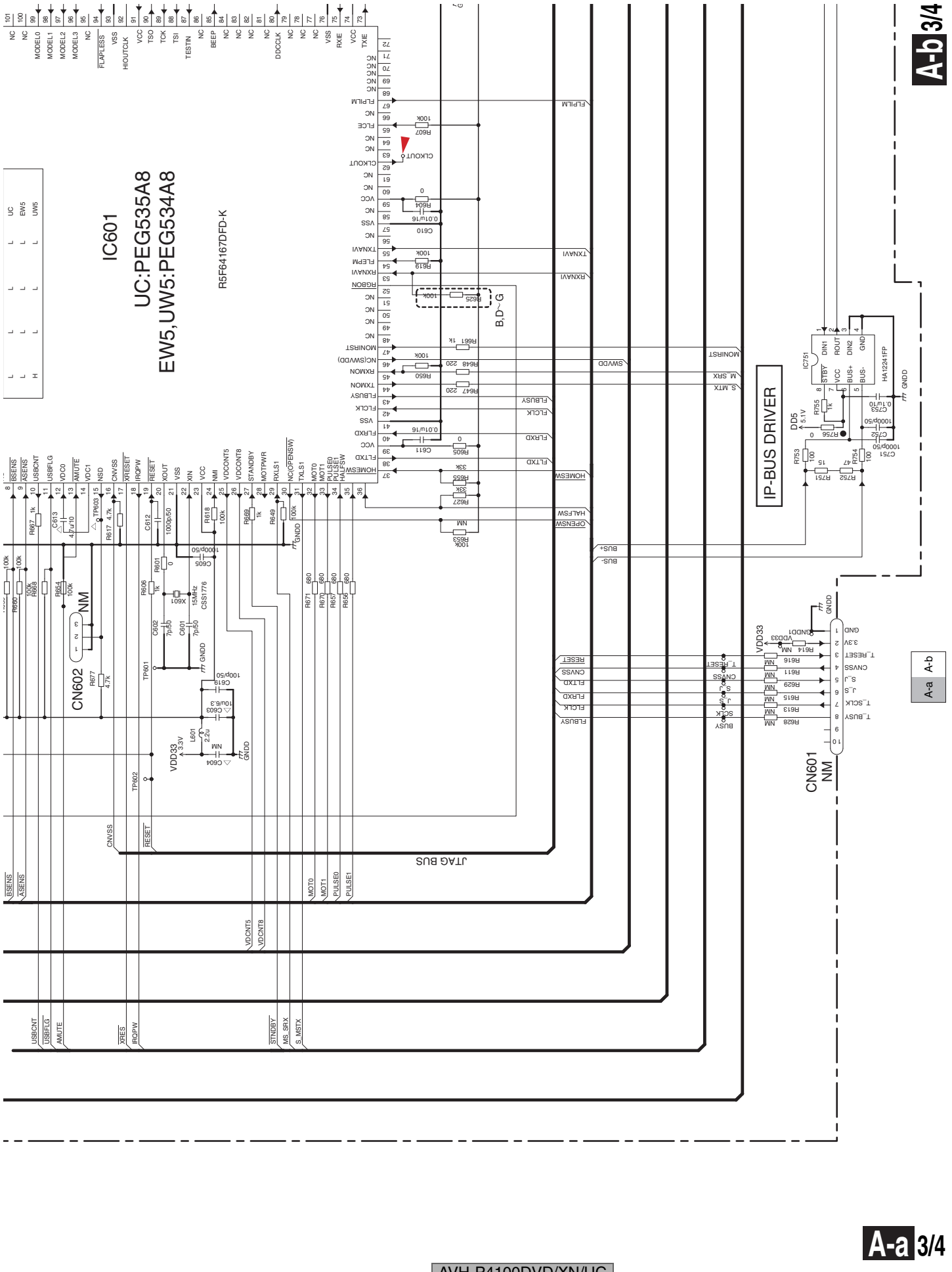
CN901 LS1

C CN1901

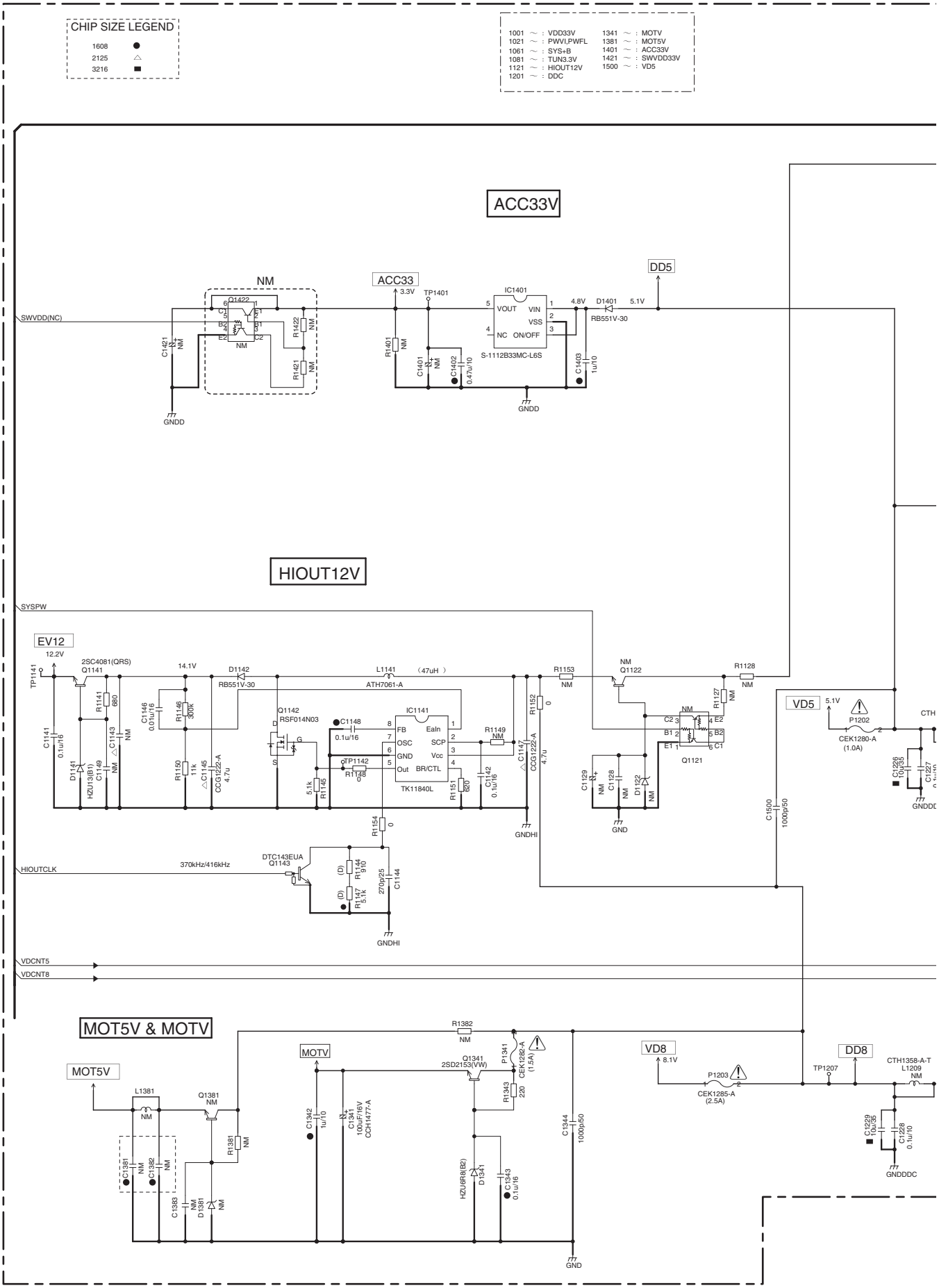
DVD/CD:+5.1 dBs


UW5
CN1901
DVD/CD:+5.1 dBs
CN522
USB
IPOD CP IC
IC561
341S2162
DD5
TC7MBL6126SFK
R5523N001B
CTF1387-A
CTF1713-A
EMZC6.8N
BZ601
CPV1062-A
AVH-P4100DVD/XN/UC
JTAG BUS
uCOM BUS
POWER BUS
TUNER BUS
DVD&USB BUS
MONITOR BUS
501 ~ : MONITOR UNIT
521 ~ : USB I/F
561 ~ : ipod CP
601 ~ : SYSTEM MICOM
751 ~ : IP-BUS DRIVER
771 ~ : RGB VIDEO ISOLATOR
801 ~ : DRIVE UNIT
901 ~ : LS1
951 ~ : S/PDIF OUT
CHIP SIZE LEGEND
1608
2125
3216
MOTHER UNIT
Consists of
MOTHER PCB
IF PCB


MONITOR UNIT
F 1/2 CN5001
CN501
CN801
G CN101
SYSTEM MICOM
IC601
CN602 NM
UW5
μCOM BUS
POWER BUS
TUNER BUS
DELIVERY TO
UC
EW5
UW5

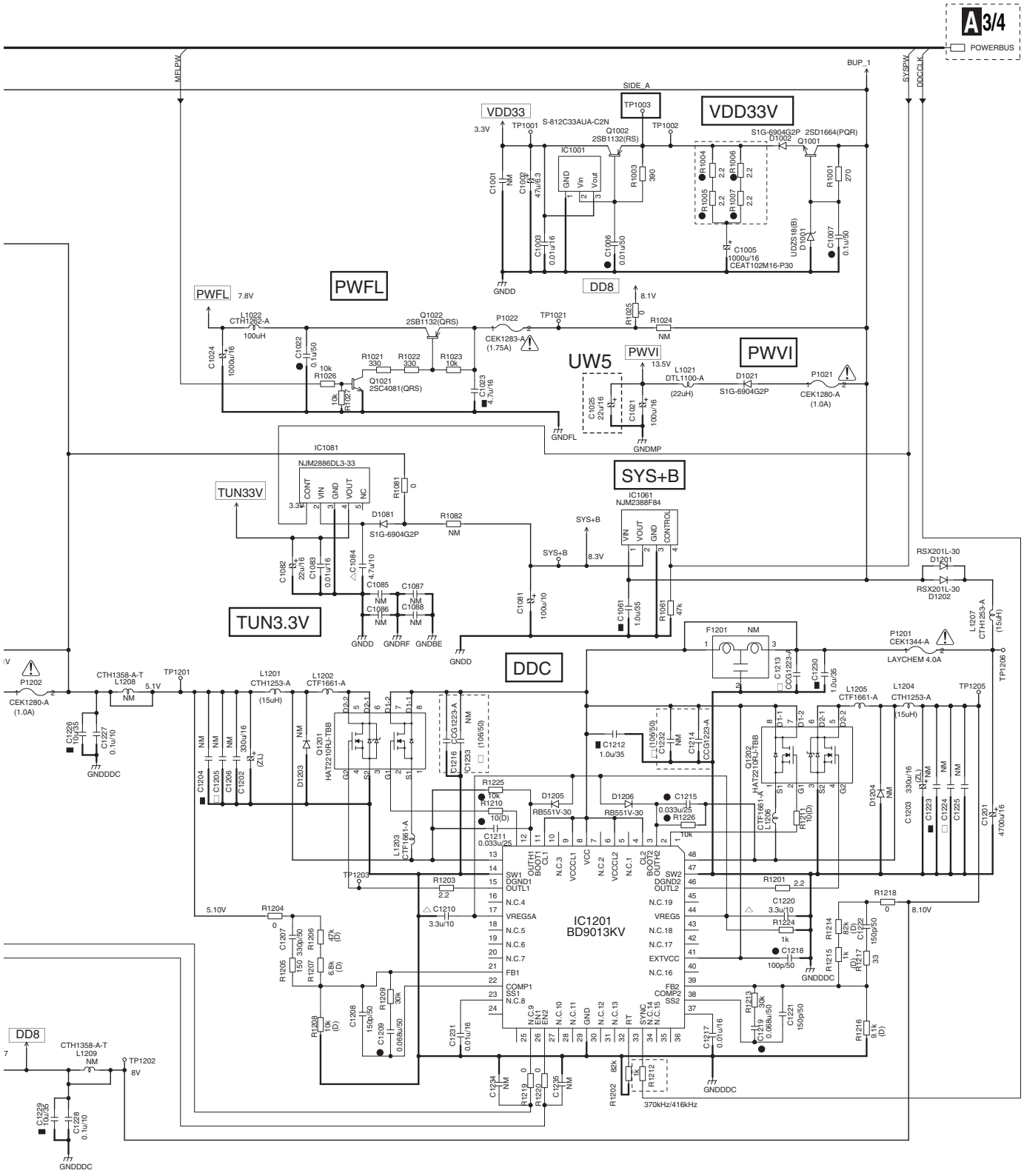

A-b 3/4
IC601
UC:PEG535A8
EW5,UW5:PEG534A8
R5F64167DFD-K
IP-BUS DRIVER
CN602 NM
CN601 NM
JTAG BUS
A-b
A-a
A-a 3/4

# 10.4 MOTHER PCB(POWER SUPPLY)




A4/4

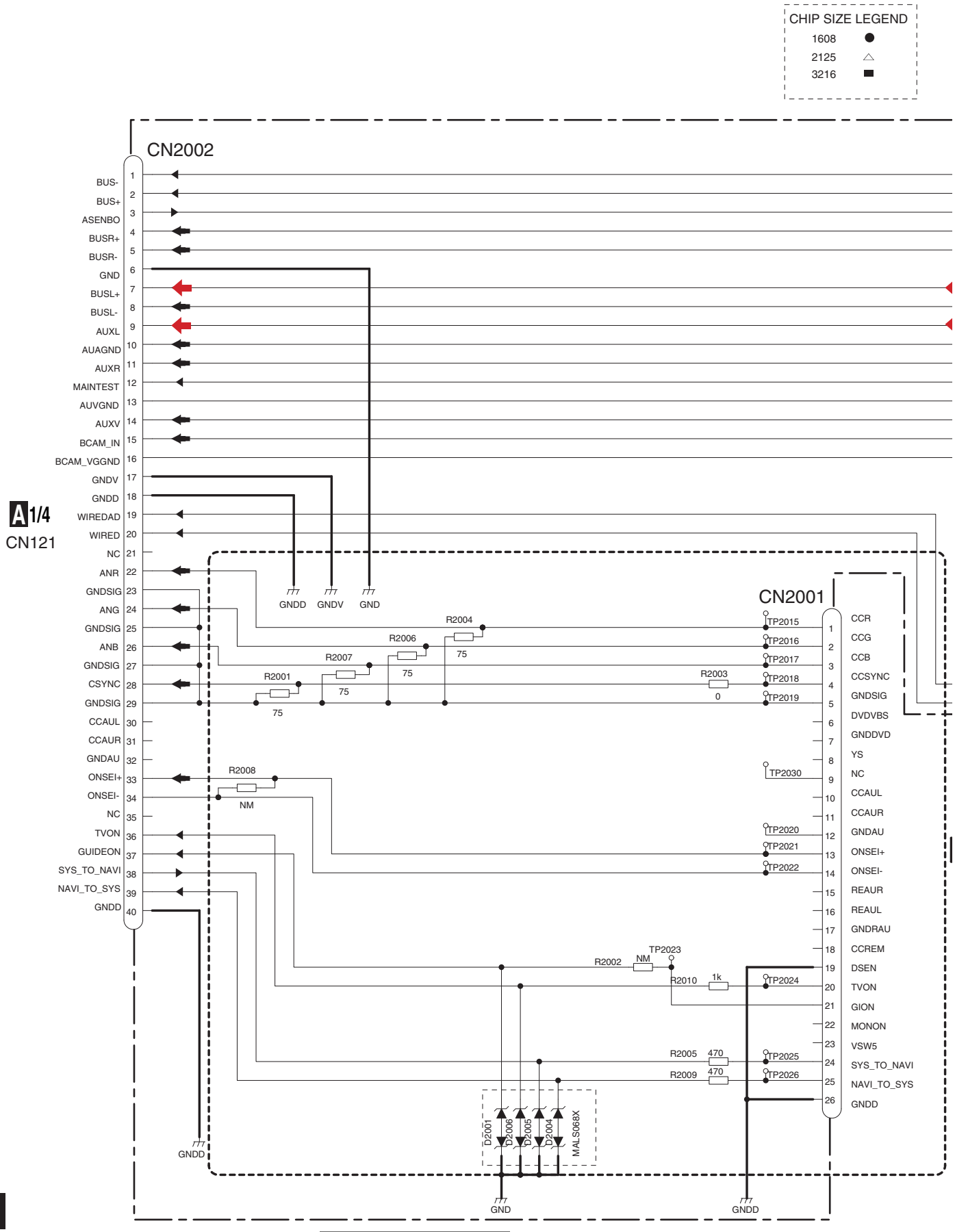
# A4/4 MOTHER PCB(POWER SUPPLY)

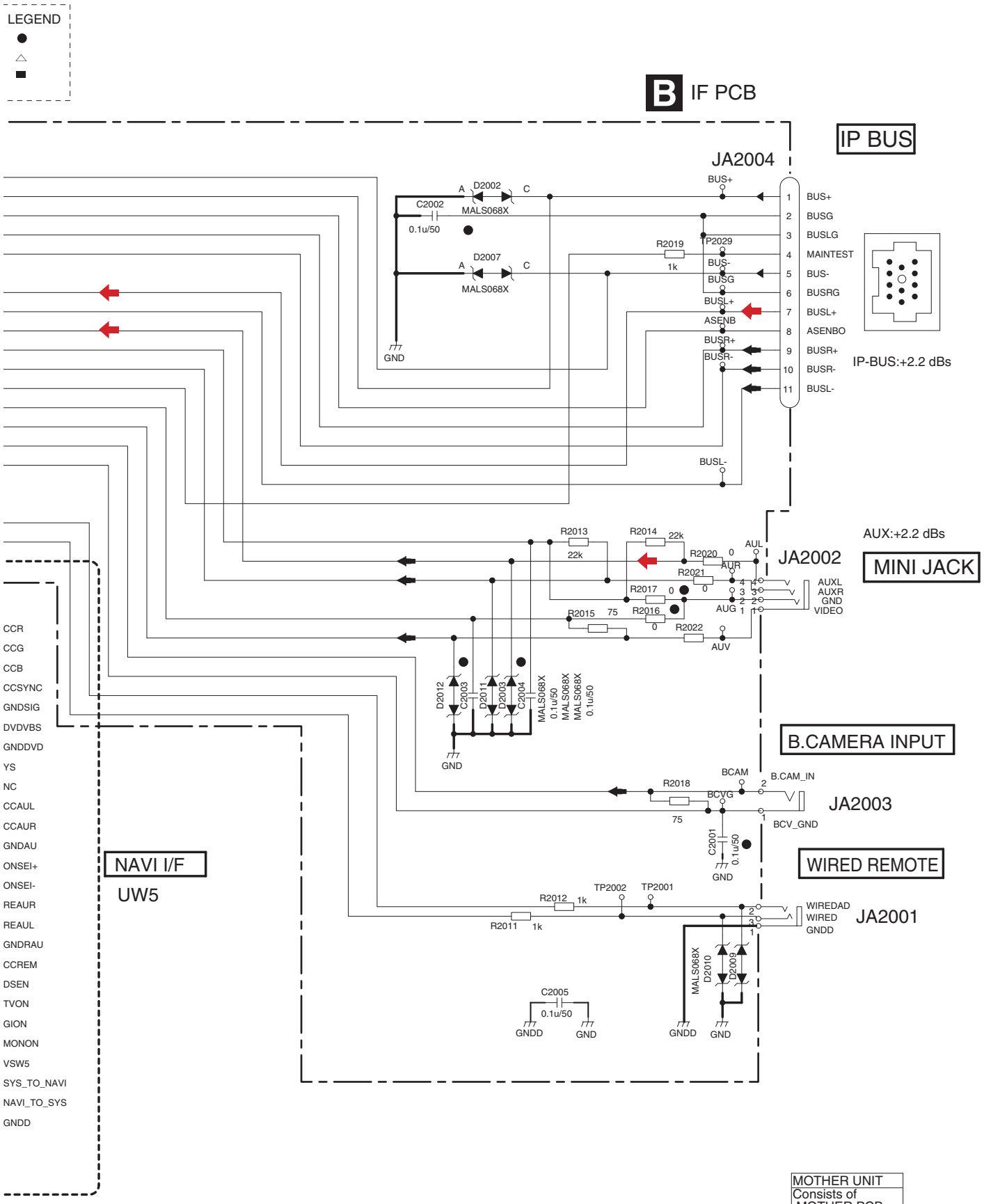



The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

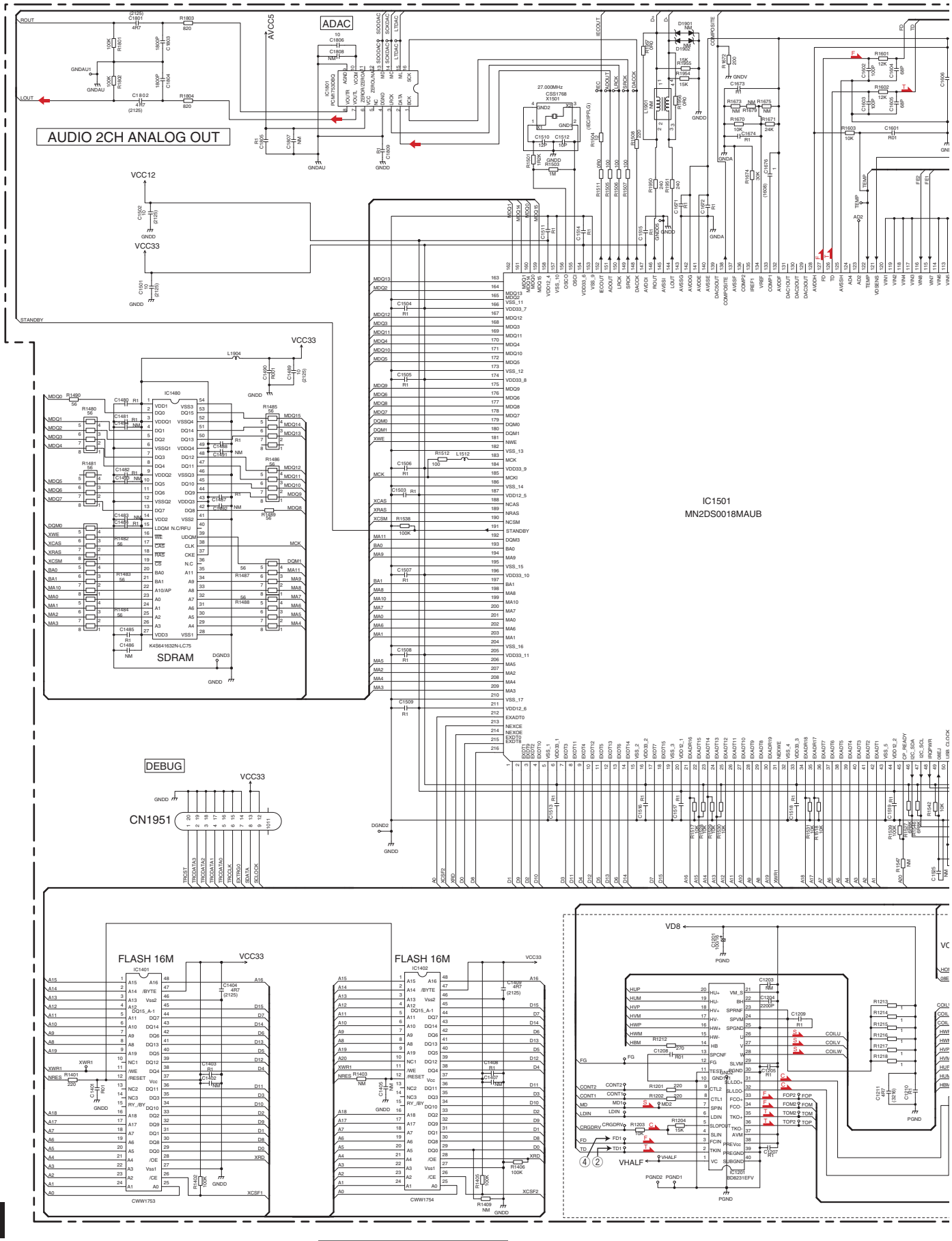
| MOTHER UNIT |
| --- |
| Consists of MOTHER PCB IF PCB |

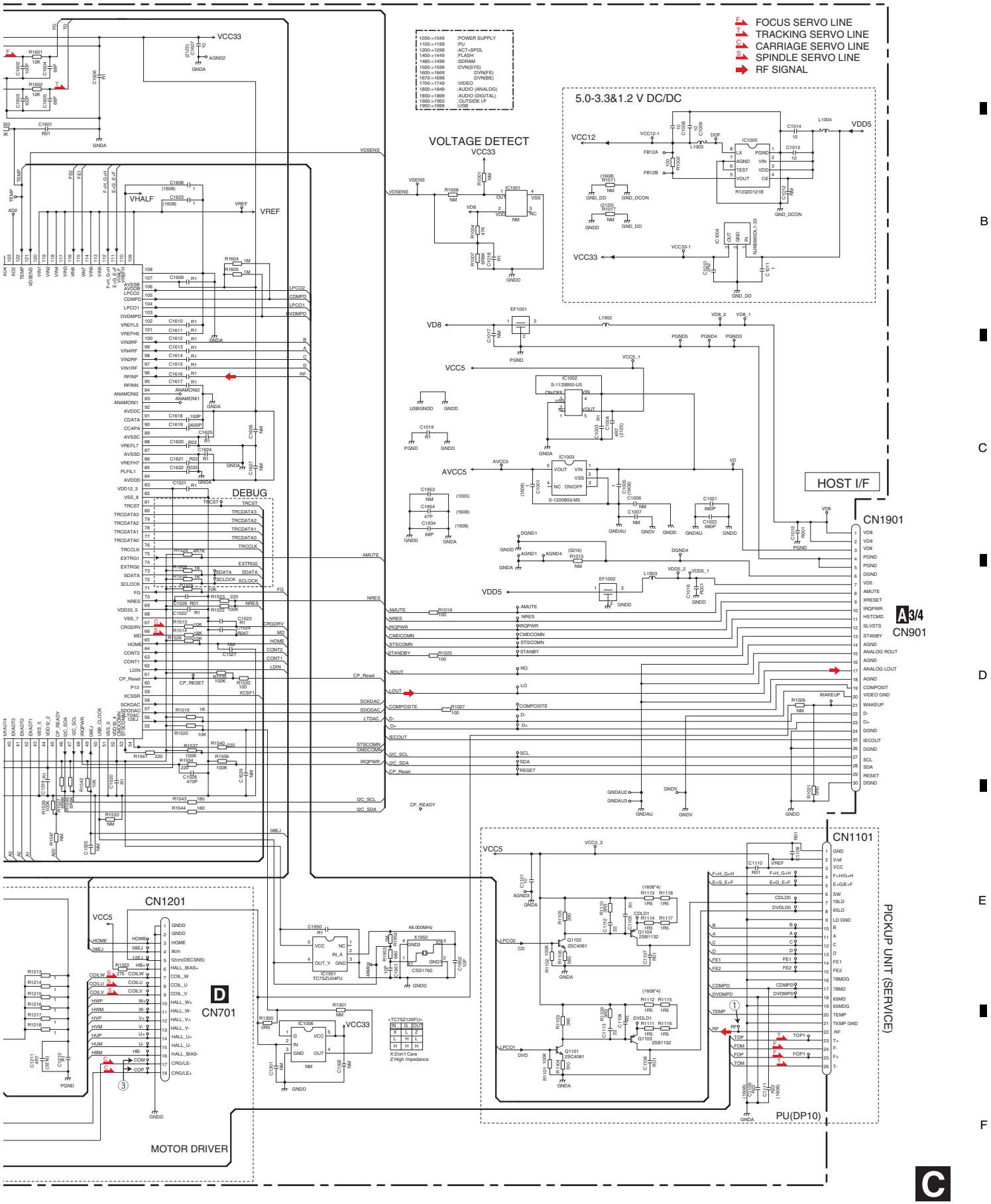
A4/4


CHIP SIZE LEGEND
1608
2125
3216
CN2002
BUS-
BUS+
ASENBO
BUSR+
BUSR-
GND
BUSL+
BUSL-
AUXL
AUAGND
AUXR
MAINTEST
AUVGND
AUXV
BCAM_IN
BCAM_VGGND
GNDV
GNDD
WIREDAD
WIRED
NC
ANR
GNDSIG
ANG
GNDSIG
ANB
GNDSIG
CSYNC
GNDSIG
CCAUL
CCAUR
GNDAU
ONSEI+
ONSEI-
NC
TVON
GUIDEON
SYS_TO_NAVI
NAVI_TO_SYS
GNDD
A 1/4
CN121
GNDD
GNDV
GND
R2004
R2006
R2007
R2001
75
75
75
75
R2003
0
R2008
NM
CN2001
TP2015
TP2016
TP2017
TP2018
TP2019
TP2030
TP2020
TP2021
TP2022
TP2023
R2002
NM
R2010
1k
TP2024
R2005
470
R2009
470
TP2025
TP2026
CCR
CCG
CCB
CCSYNC
GNDSIG
DVDVBS
GNDDVD
YS
NC
CCAUL
CCAUR
GNDAU
ONSEI+
ONSEI-
REAUR
REAUL
GNDRAU
CCREM
DSEN
TVON
GION
MONON
VSW5
SYS_TO_NAVI
NAVI_TO_SYS
GNDD
D2001
D2006
D2005
D2004
MALS068X
GND
GNDD


LEGEND
B IF PCB
IP BUS
JA2004
BUS+
BUSG
BUSLG
MAINTEST
BUS-
BUSRG
BUSL+
ASENBO
BUSR+
BUSR-
BUSL-
D2002
C2002
0.1u/50
MALS068X
D2007
R2019
1k
TP2029
GND
ASENB
IP-BUS:+2.2 dBs
AUX:+2.2 dBs
JA2002
MINI JACK
R2013
22k
R2014
R2020
R2021
R2017
R2015
75
R2016
R2022
AUL
AUR
AUG
AUV
AUXL
AUXR
GND
VIDEO
D2012
C2003
D2011
D2003
C2004
B.CAMERA INPUT
BCAM
B.CAM_IN
R2018
BCVG
BCV_GND
JA2003
C2001
WIRED REMOTE
TP2002
TP2001
R2012
R2011
WIREDAD
WIRED
GNDD
JA2001
D2010
D2009
C2005
NAVI I/F
UW5
CCR
CCG
CCB
CCSYNC
GNDSIG
DVDVBS
GNDDVD
YS
NC
CCAUL
CCAUR
GNDAU
ONSEI+
ONSEI-
REAUR
REAUL
GNDRAU
CCREM
DSEN
TVON
GION
MONON
VSW5
SYS_TO_NAVI
NAVI_TO_SYS
GNDD
MOTHER UNIT
Consists of
MOTHER PCB
IF PCB
B

C-a


AUDIO 2CH ANALOG OUT
ADAC
IC1501
MN2DS0018MAUB
SDRAM
K4S641632N-LC75
DEBUG
CN1951
FLASH 16M
IC1401
IC1402
CWW1753
CWW1754
IC1201
BD8231EFV
VHALF
27.000MHz
CSS1768
X1501


FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
RF SIGNAL
1000->1049 :POWER SUPPLY
1100->1199 :PU
1200->1299 :ACT+SPDL
1400->1449 :FLASH
1480->1499 :SDRAM
1500->1599 :DVN(SYS)
1600->1669 :DVN(FE)
1670->1699 :DVN(BE)
1700->1749 :VIDEO
1800->1849 :AUDIO (ANALOG)
1850->1899 :AUDIO (DIGITAL)
1900->1950 :OUTSIDE I/F
1950->1999 :USB
5.0-3.3&1.2 V DC/DC
VOLTAGE DETECT
HOST I/F
DEBUG
CN1901
CN901
CN1101
CN1201
CN701
PICKUP UNIT (SERVICE)
PU(DP10)
MOTOR DRIVER
VCC33
VCC12
VDD5
VD8
AVCC5
VCC5
VREF
VHALF
GNDA
GNDD
GNDGND
PGND
R1232D121B
S-1133B50-U5
S-1200B50-M5
NJM2880CL1-33
<TC7SZ126FU>
X:Don't Care
Z:High Impedance

# C DVD CORE UNIT

AVH-P4100DVD/XN/UC

F FOCUS SERVO LINE
T TRACKING SERVO LINE
CS CARRIAGE SERVO LINE
S SPINDLE SERVO LINE
RF RF SIGNAL

1000->1049 :POWER SUPPLY
1100->1199 :PU
1200->1299 :ACT+SPDL
1400->1449 :FLASH
1480->1499 :SDRAM
1500->1599 :DVN(SYS)
1600->1669 :DVN(FE)
1670->1699 :DVN(BE)
1700->1749 :VIDEO
1800->1849 :AUDIO (ANALOG)
1850->1899 :AUDIO (DIGITAL)
1900->1950 :OUTSIDE I/F
1950->1999 :USB

## 5.0-3.3&1.2 V DC/DC

VCC12 VCC12-1 VDD5 VCC33 VCC33-1 IC1005 R1232D121B IC1004 NJM2885DL1-33 L1003 L1004

## VOLTAGE DETECT

VCC33 VSENS VDSENS IC1001 VD8

## DEBUG

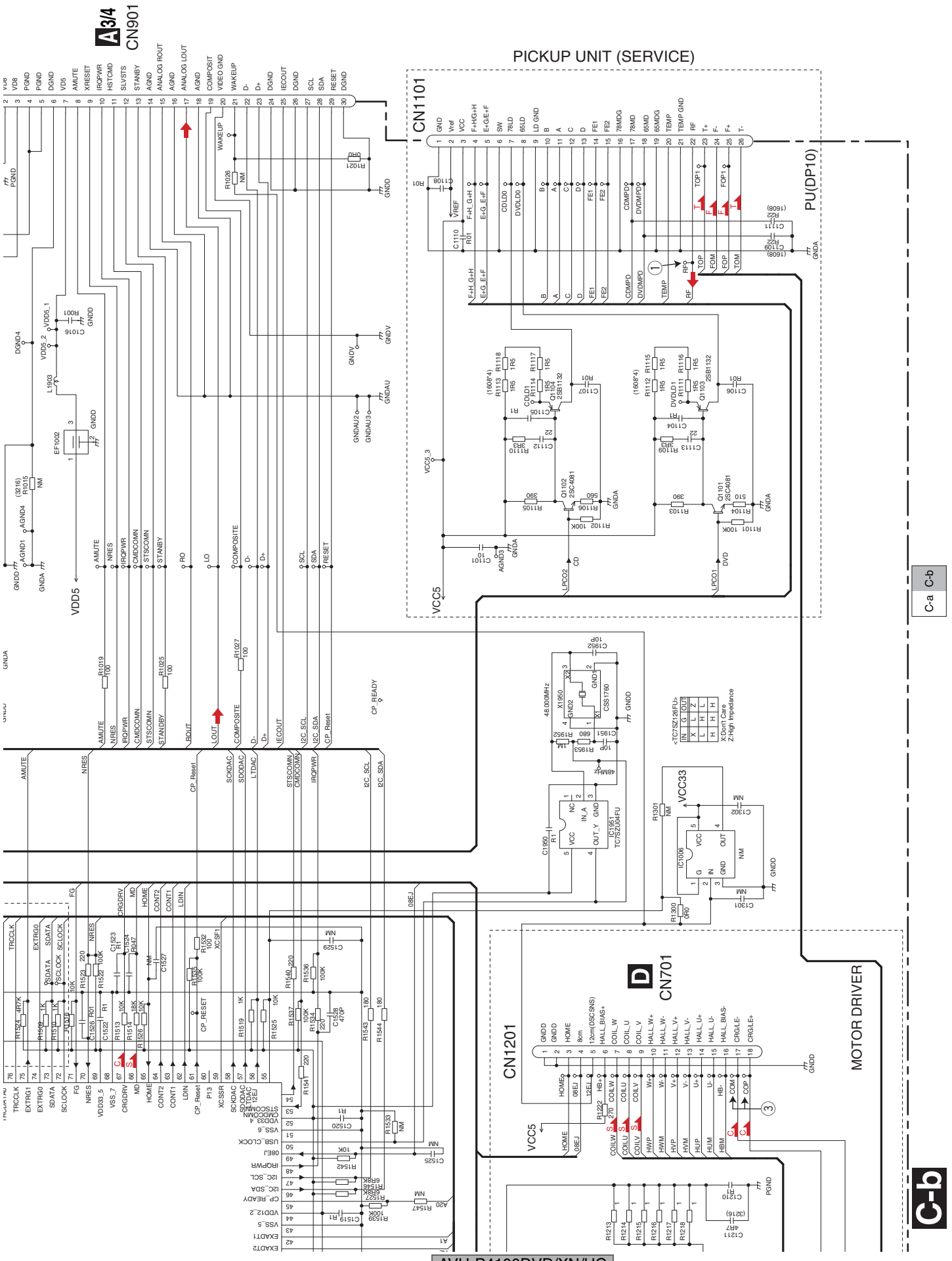
TRCST TRCDATA3 TRCDATA2 TRCDATA1 TRCDATA0 TRCCLK EXTRG1 EXTRG0 SDATA SCLOCK FG NRES VDD33_5 VSS_7 AMUTE

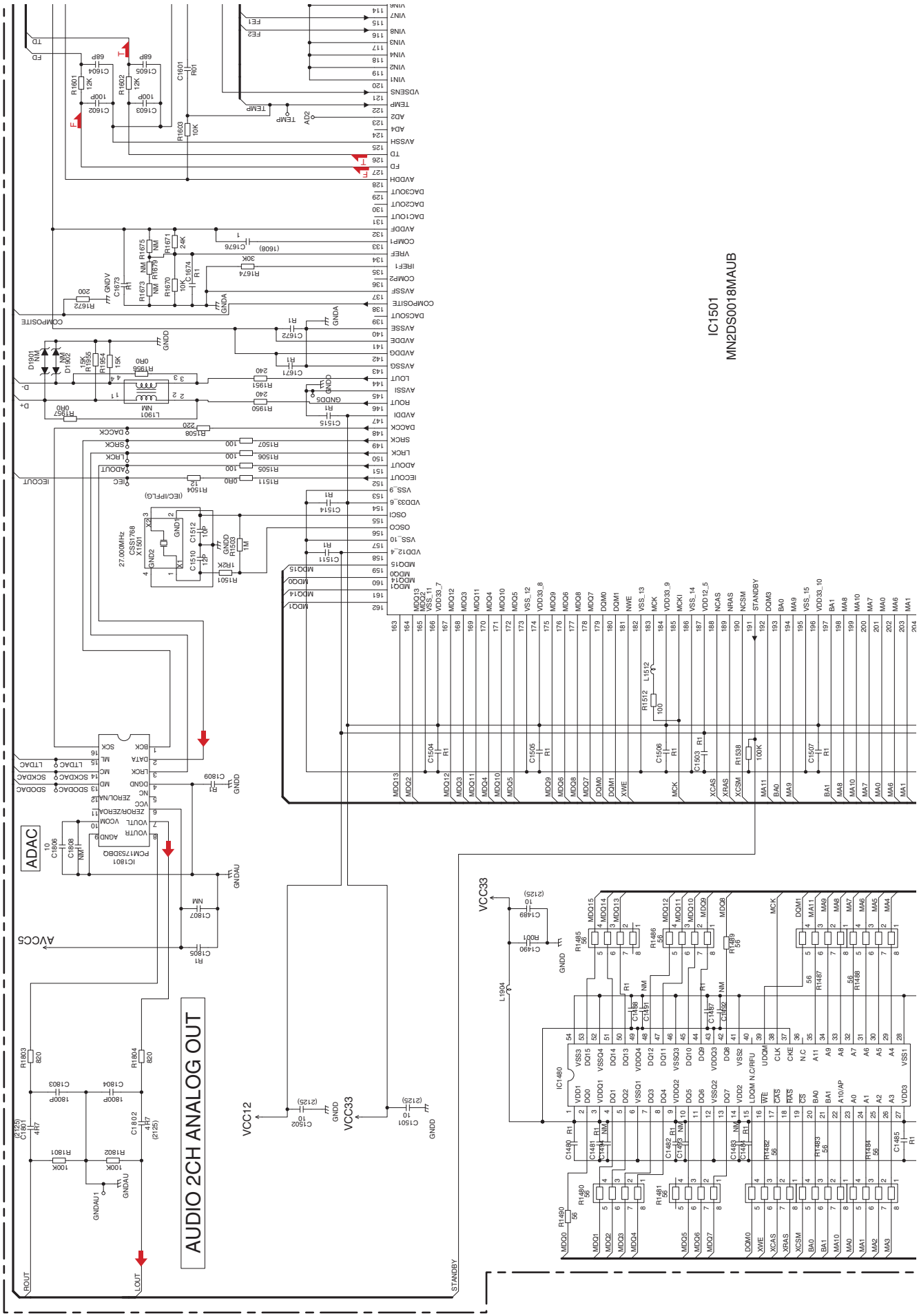
## HOST I/F

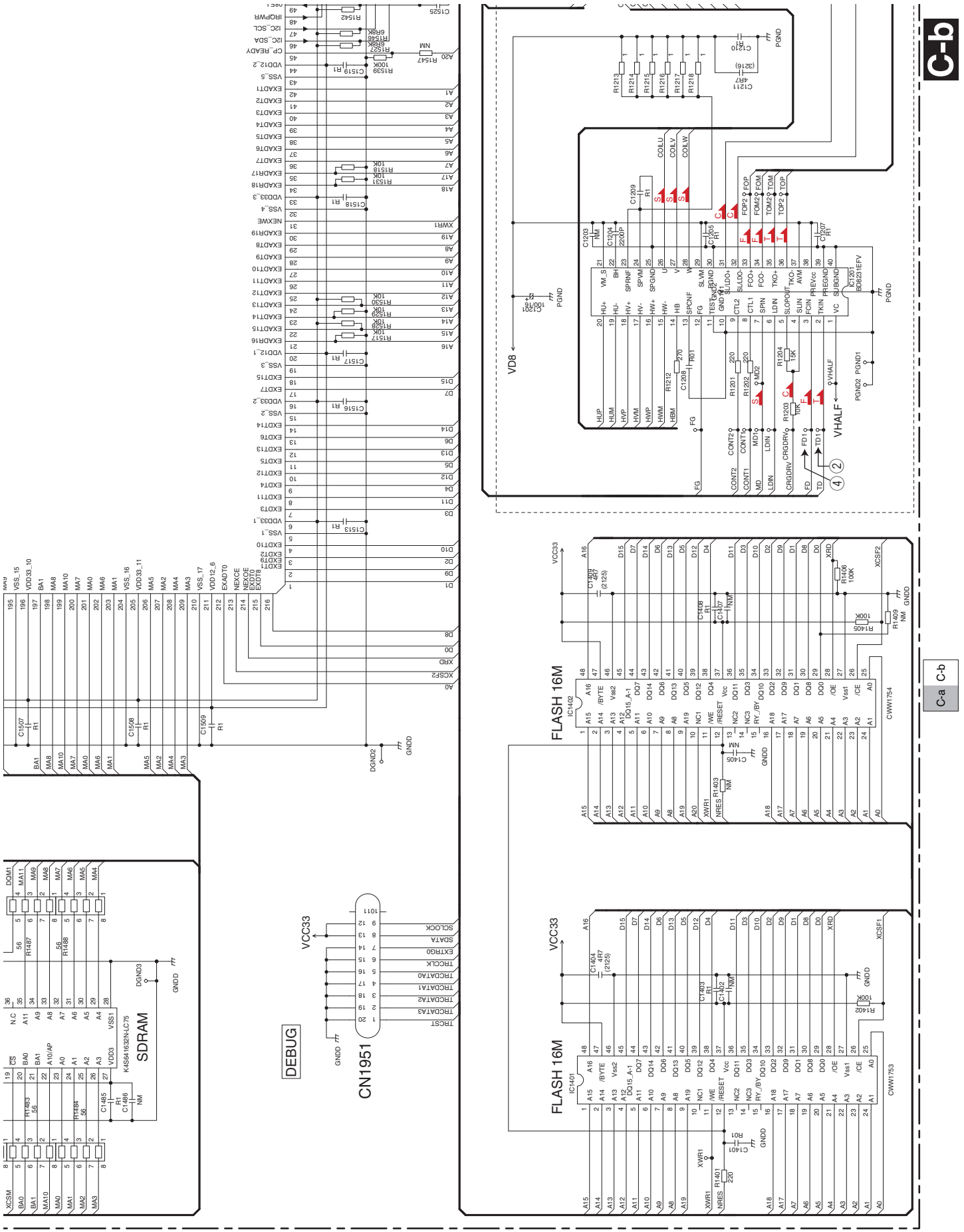
CN1901

VD8 VD8 VD8 PGND PGND DGND VD5 AMUTE XRESET IRQPWR HSTCMD

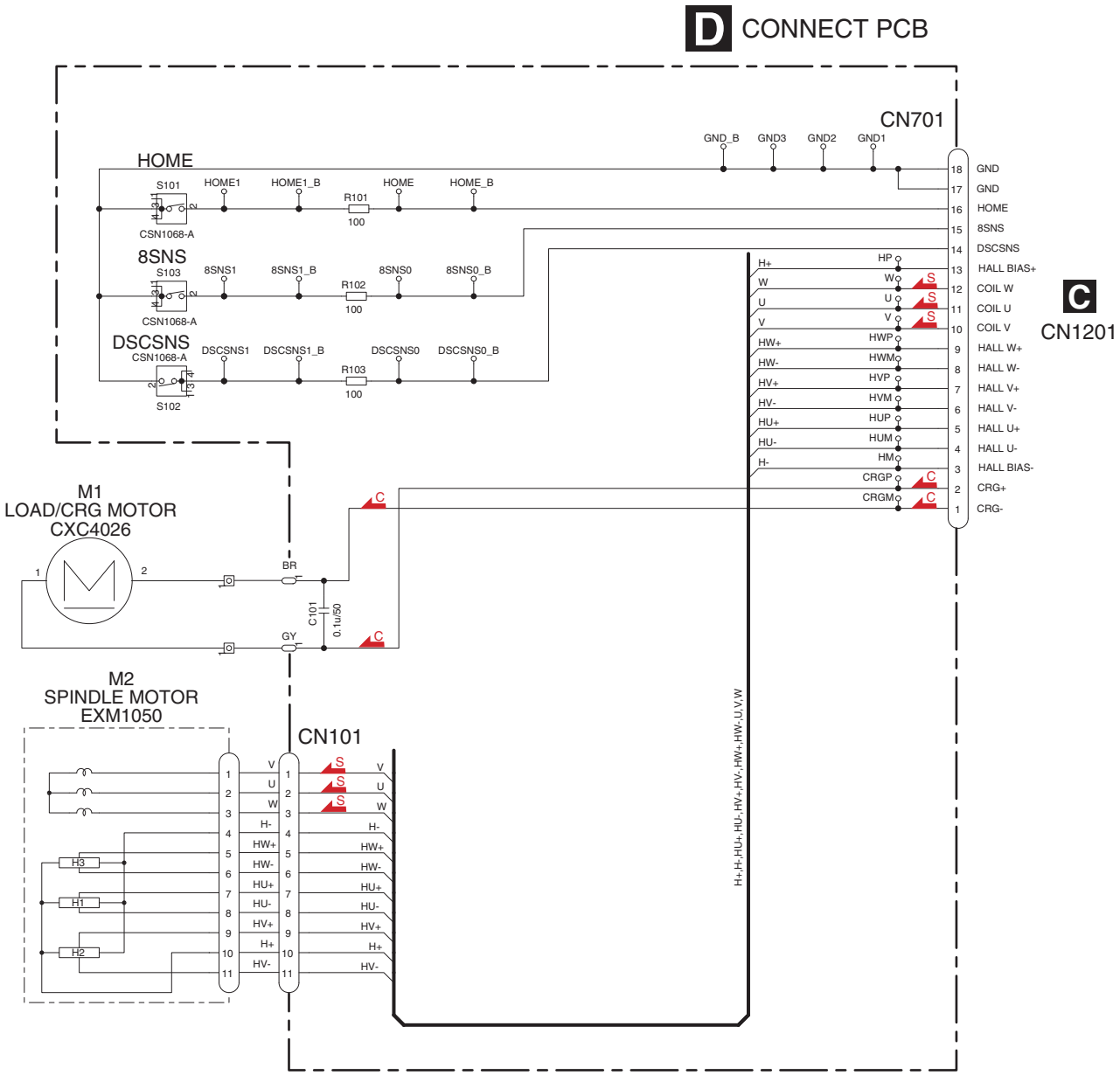
A3/4


A3/4
CN901
PICKUP UNIT (SERVICE)
CN1101
PU(DP10)
VDD5
VCC5
MOTOR DRIVER
CN701
CN1201
C-b
C-a C-b
AVH-P4100DVD/XN/UC
149

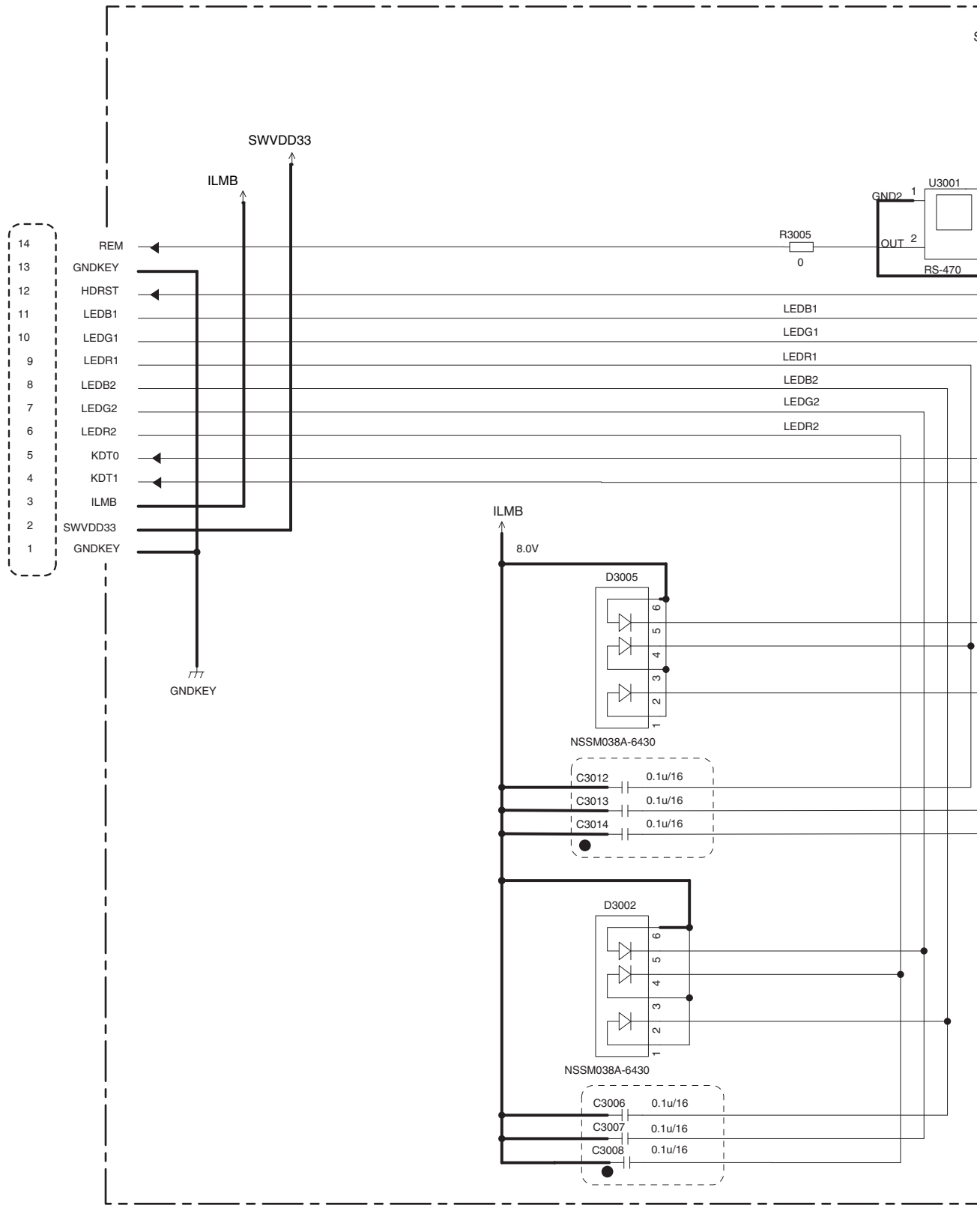

IC1501
MN2DS0018MAUB
AUDIO 2CH ANALOG OUT
ADAC
IC1480
IC1801
PCM1753DBQ
X1501
27.000MHz
CSS1768
VCC33
VCC12
AVCC5
ROUT
LOUT
STANDBY
D+
D-
COMPOSITE
IECOUT
DACK
SRCK
LRCK
ADOUT
SCKDAC
SDODAC
LTDAC


C-b
C-a
C-a C-b
DEBUG
CN1951
SDRAM
K4S641632N-LC75
FLASH 16M
IC1402
IC1401
CWW1754
CWW1753
IC1201
BD8231EFV
VD8
VHALF
PGND
GNDD
DGND2
DGND3
VCC33

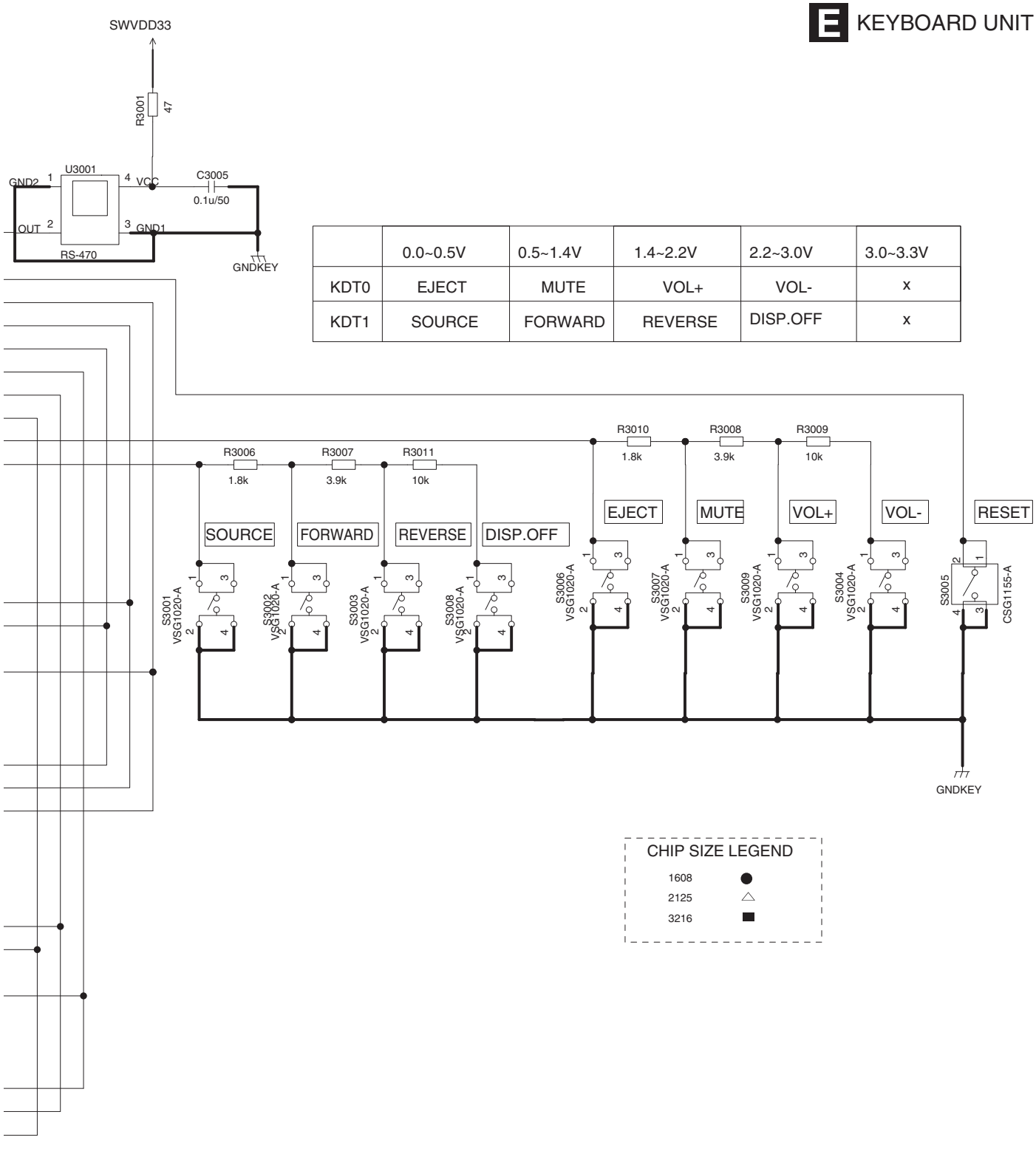
# 10.7 CONNECT PCB



# 10.8 KEYBOARD UNIT

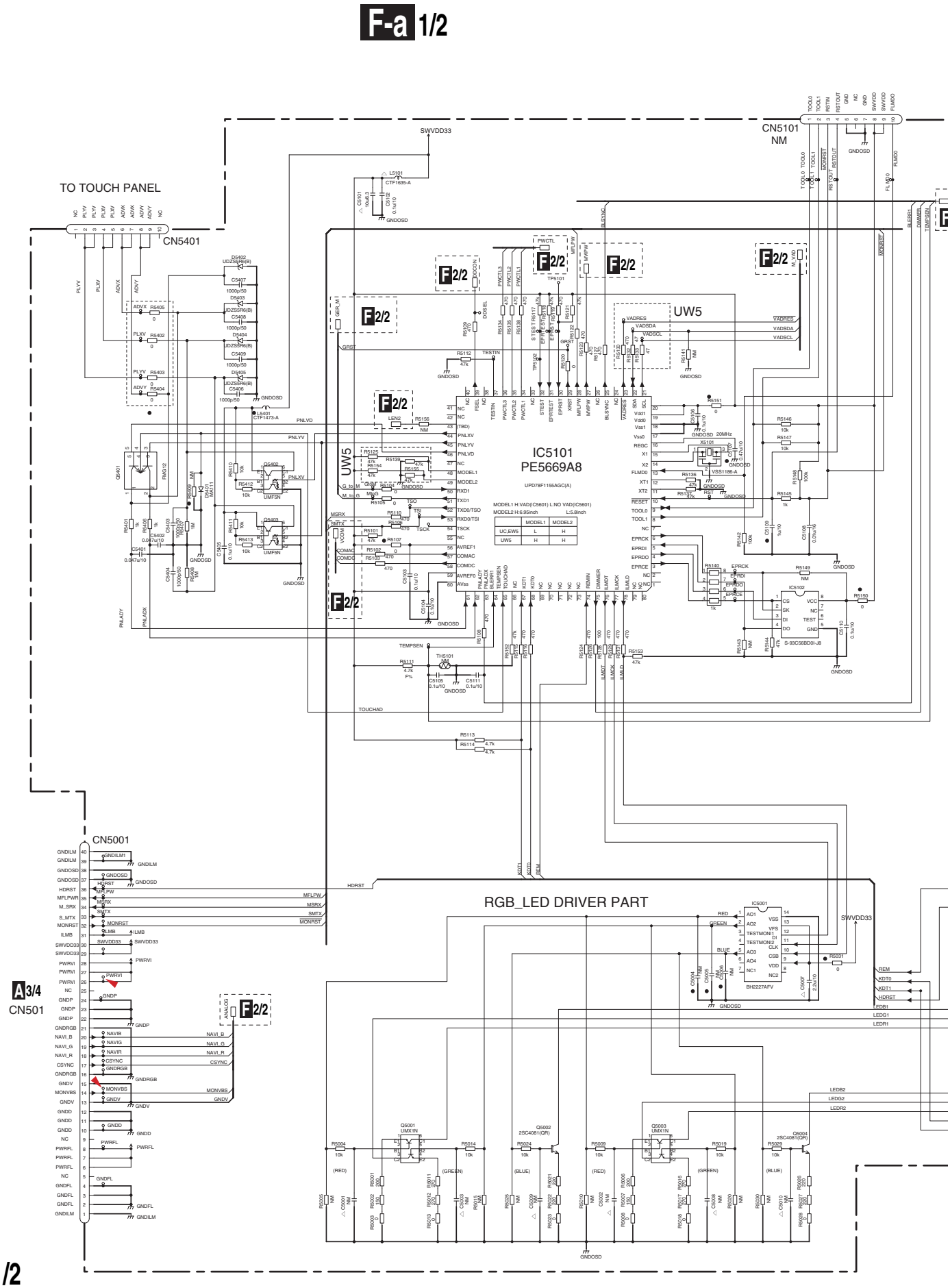


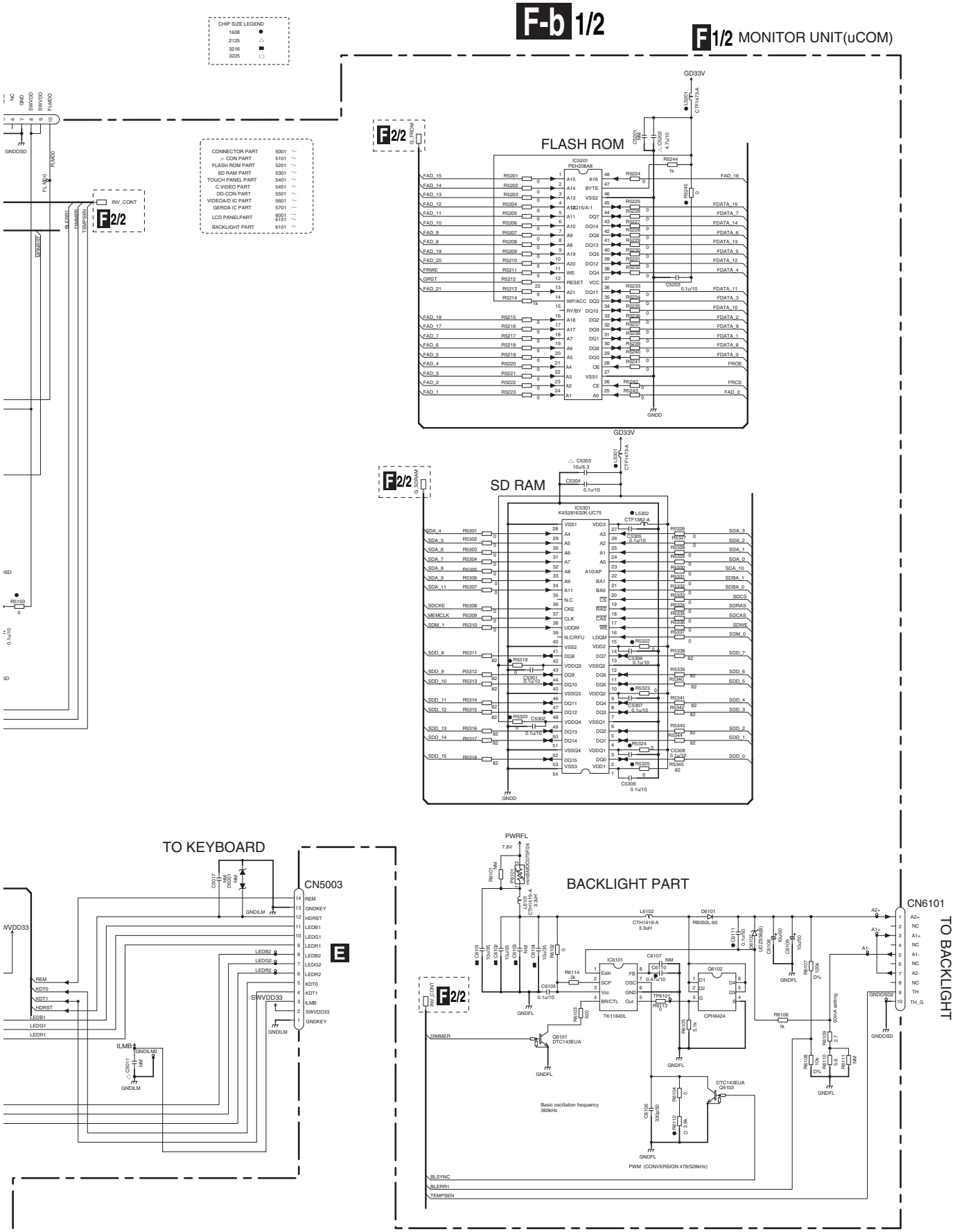
## E KEYBOARD UNIT




| | 0.0~0.5V | 0.5~1.4V | 1.4~2.2V | 2.2~3.0V | 3.0~3.3V |
|---|---|---|---|---|---|
| KDT0 | EJECT | MUTE | VOL+ | VOL- | x |
| KDT1 | SOURCE | FORWARD | REVERSE | DISP.OFF | x |

# 10.9 MONITOR UNIT(uCOM)(GUIDE PAGE)




F1/2 MONITOR UNIT(uCOM)
CHIP SIZE LEGEND
1608
2125
3216
3225
CONNECTOR PART 5001
μ CON PART 5101
FLASH ROM PART 5201
SD RAM PART 5301
TOUCH PANEL PART 5401
C.VIDEO PART 5451
DD-CON PART 5501
VIDEO/A/D IC PART 5601
GERDA IC PART 5701
LCD PANELPART 6001 6151
BACKLIGHT PART 6101
F2/2 G_FROM
FLASH ROM
IC5201 PEH208A8
GD33V
F2/2 G_SDRAM
SD RAM
IC5301 K4S281632K-UC75
TO KEYBOARD
CN5003
BACKLIGHT PART
PWRFL 7.8V
IC6101
Q6102 CPH6424
Q6101 DTC143EUA
Q6103 DTC143EUA
CN6101
TO BACKLIGHT
F2/2 INV_CONT
DIMMER
BLSYNC
BLERR1
TEMPSEN
PWM (CONVERSION 478/528kHz)
Basic oscillation frequency 360kHz
F1/2
AVH-P4100DVD/XN/UC
157

A

B

C

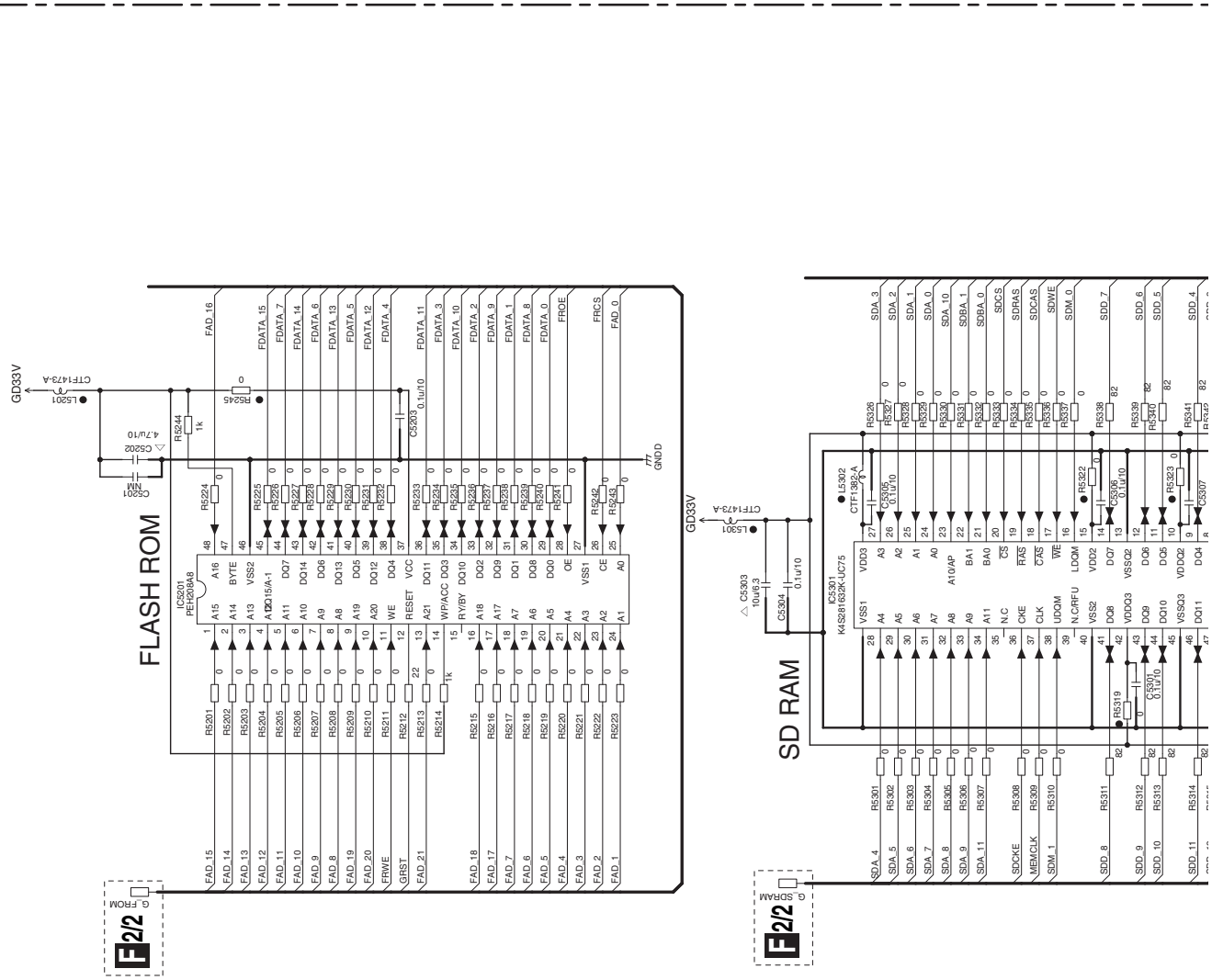
D

E

F

F-a F-b

**F 1/2** MONITOR UNIT(uCOM)

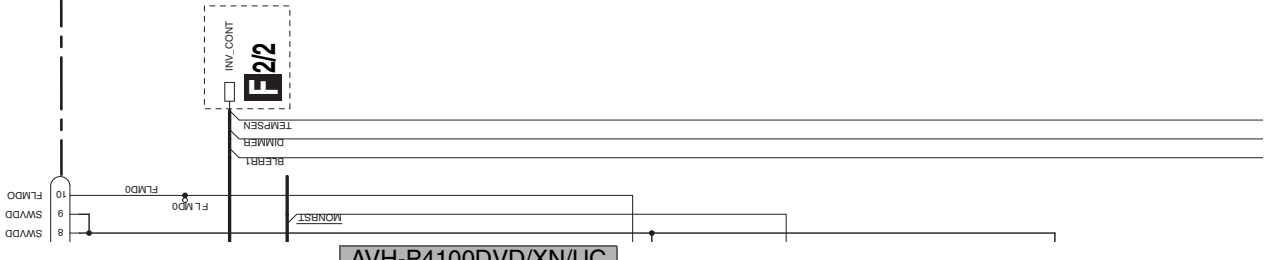


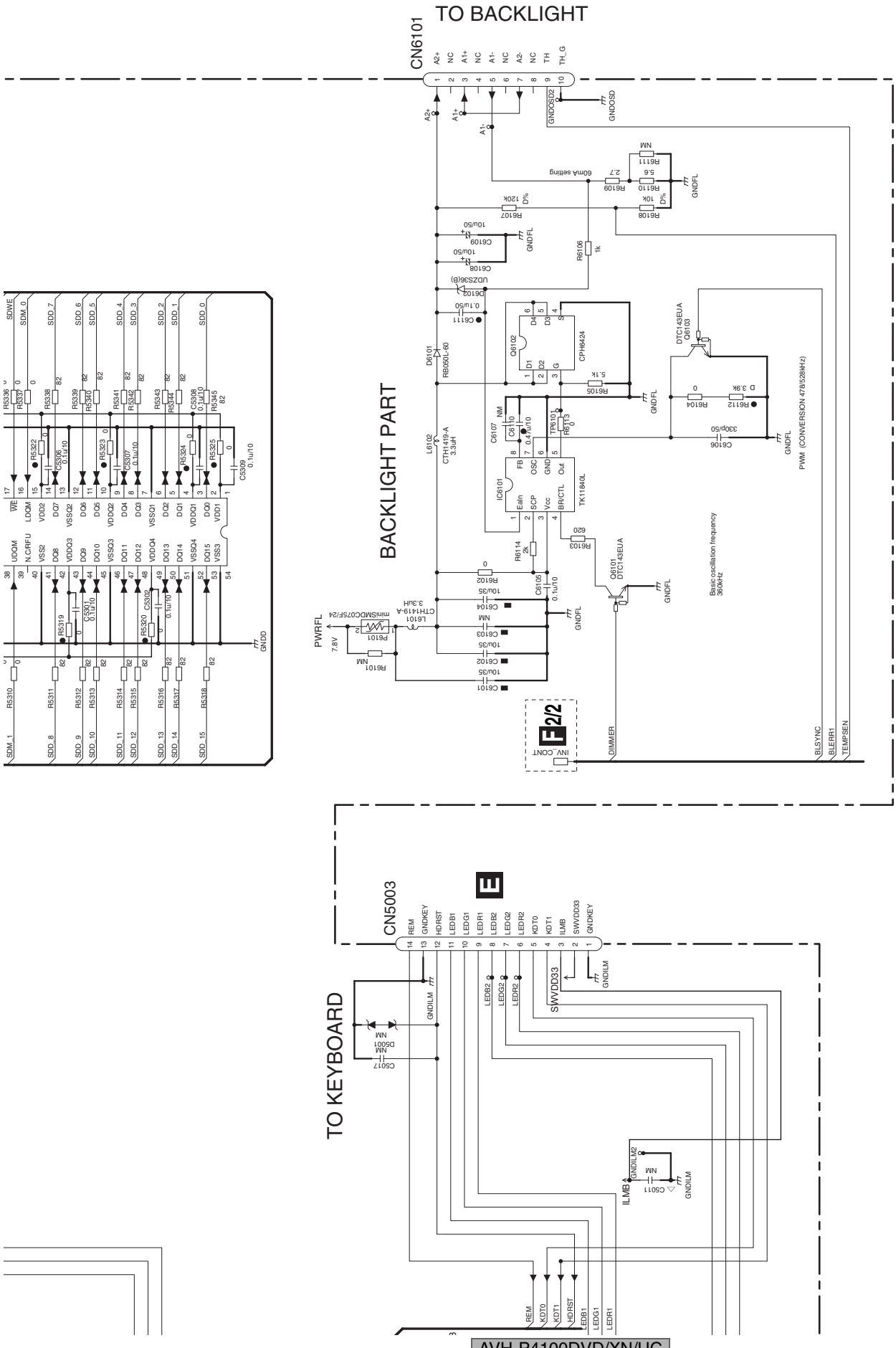

CHIP SIZE LEGEND

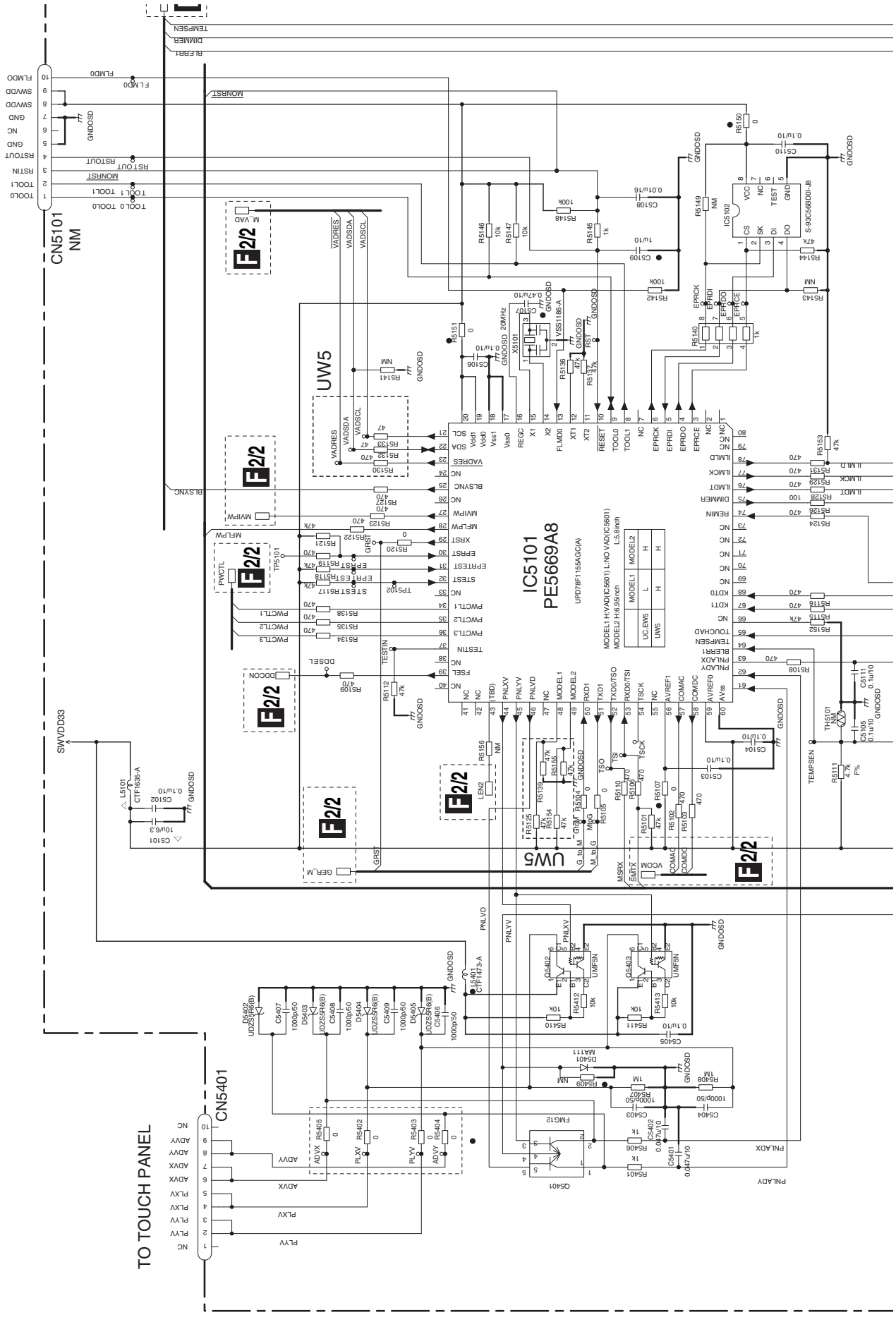
| | |
|---|---|
| 1608 | ● |
| 2125 | △ |
| 3216 | ■ |
| 3225 | □ |

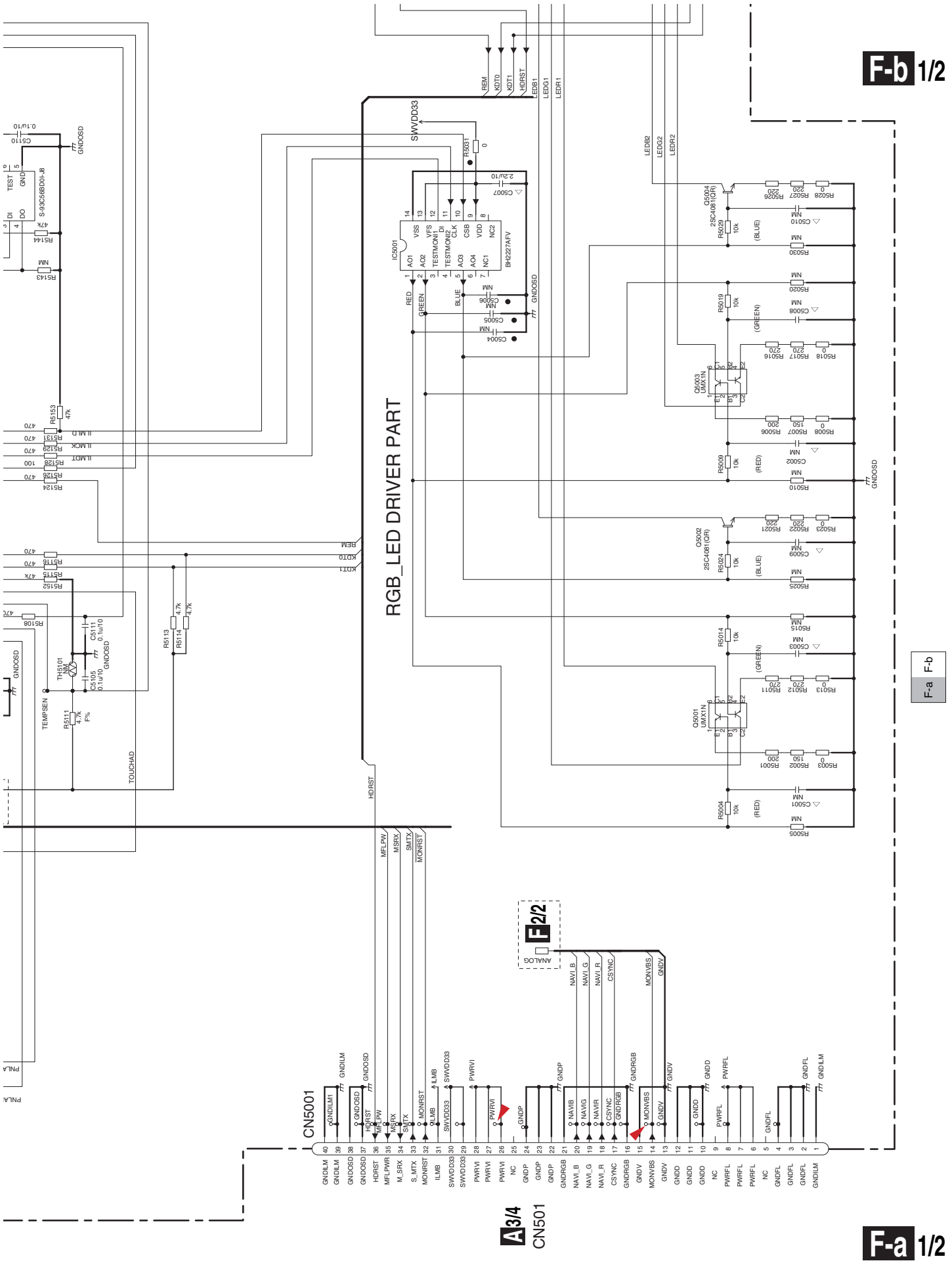
| | |
|---|---|
| CONNECTOR PART | 5001 |
| μ CON PART | 5101 |
| FLASH ROM PART | 5201 |
| SD RAM PART | 5301 |
| TOUCH PANEL PART | 5401 |
| C.VIDEO PART | 5451 |
| DD-CON PART | 5501 |
| VIDEO&I/O IC PART | 5601 |
| GERDA IC PART | 5701 |
| LCD PANEL PART | 6001 |
| BACKLIGHT PART | 6151 |
| | 6101 |

**F-b 1/2**

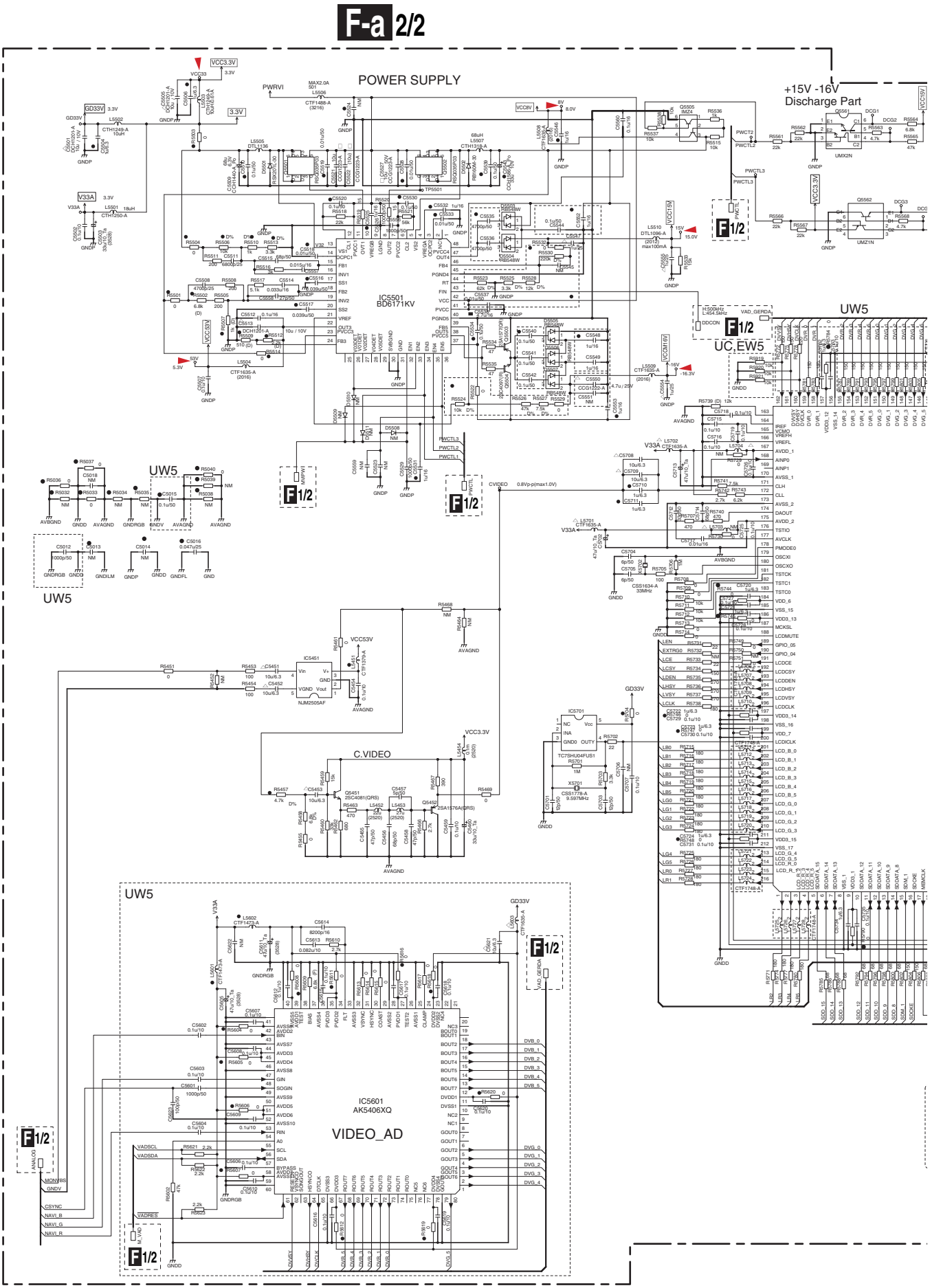


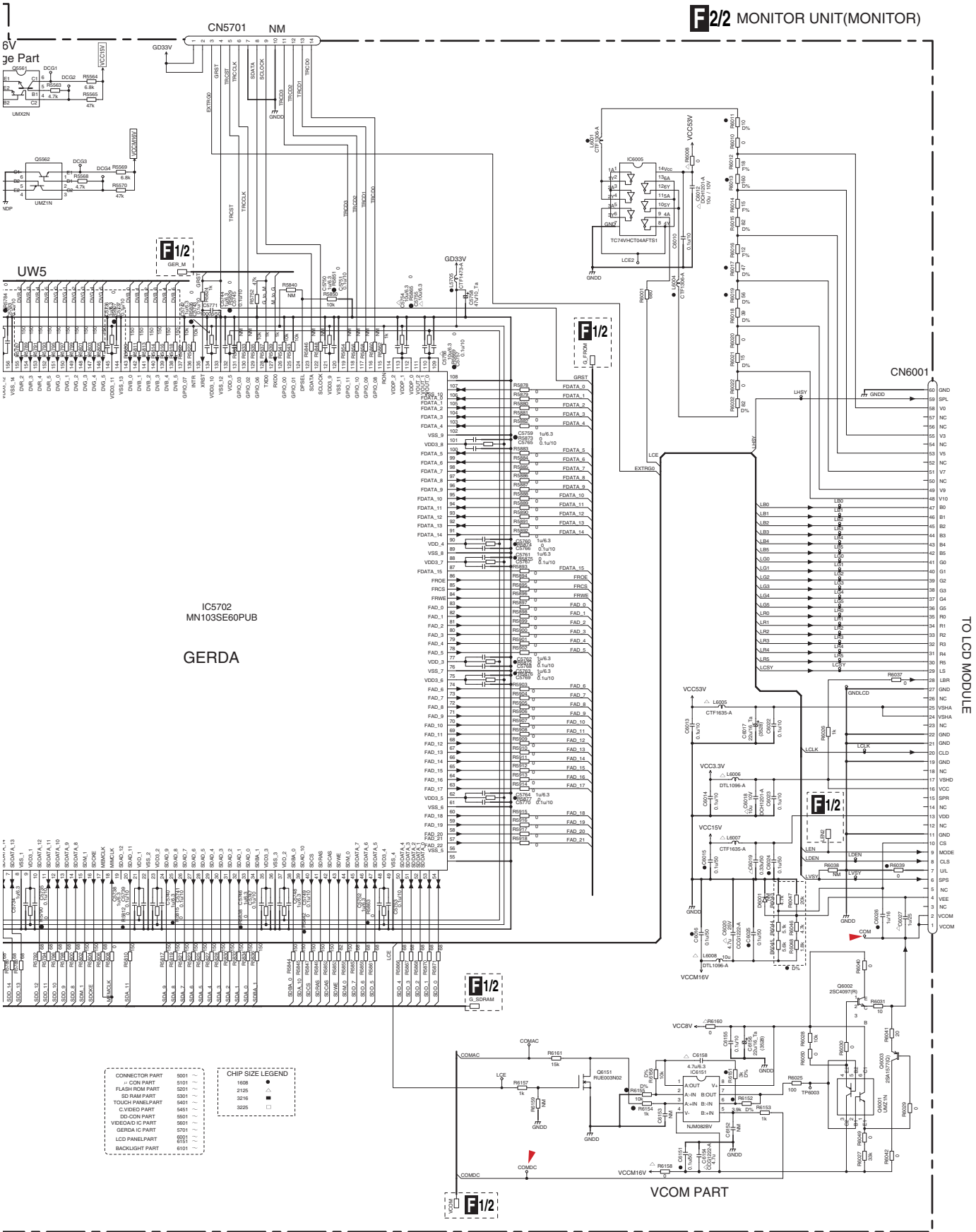

TO BACKLIGHT
CN6101
BACKLIGHT PART
F-2/2
TO KEYBOARD
CN5003
E
F-b 1/2
F-a F-b

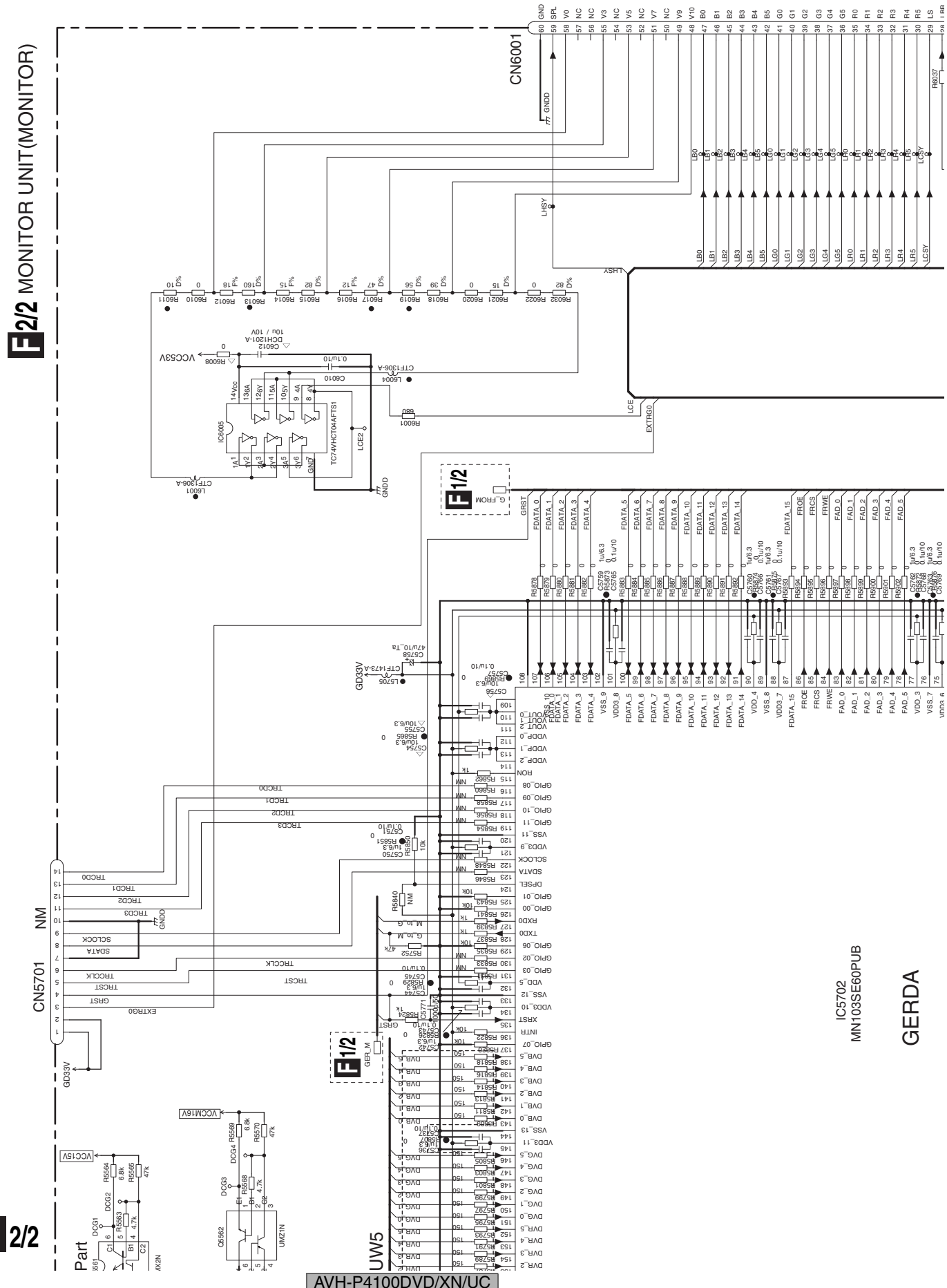

CN5101
NM
IC5101
PE5669A8
UPD78F1155AGC(A)
UW5
CN5401
TO TOUCH PANEL
F2/2
F2/2
F2/2


RGB_LED DRIVER PART
F-b 1/2
F-a 1/2
F2/2
A3/4
CN501
CN5001
IC5001
BH2227AFV
Q5001 UMX1N
Q5002 2SC4081(QR)
Q5003 UMX1N
Q5004 2SC4081(QR)
TH5101
S-93C66BD0I-J8
TEMPSEN
TOUCHAD
SWVDD33
GNDOSD
GNDILM
GNDFL
GNDD
GNDV
GNDP
GNDRGB
PWRFL
PWRVI
HDRST
REM
KDT0
KDT1
LEDB1
LEDG1
LEDR1
LEDB2
LEDG2
LEDR2
RED
GREEN
BLUE
(RED)
(GREEN)
(BLUE)
MFLPW
MSRX
SMTX
MONRST
ILMB
NAVI_B
NAVI_G
NAVI_R
CSYNC
MONVBS
ANALOG
F-b
F-a

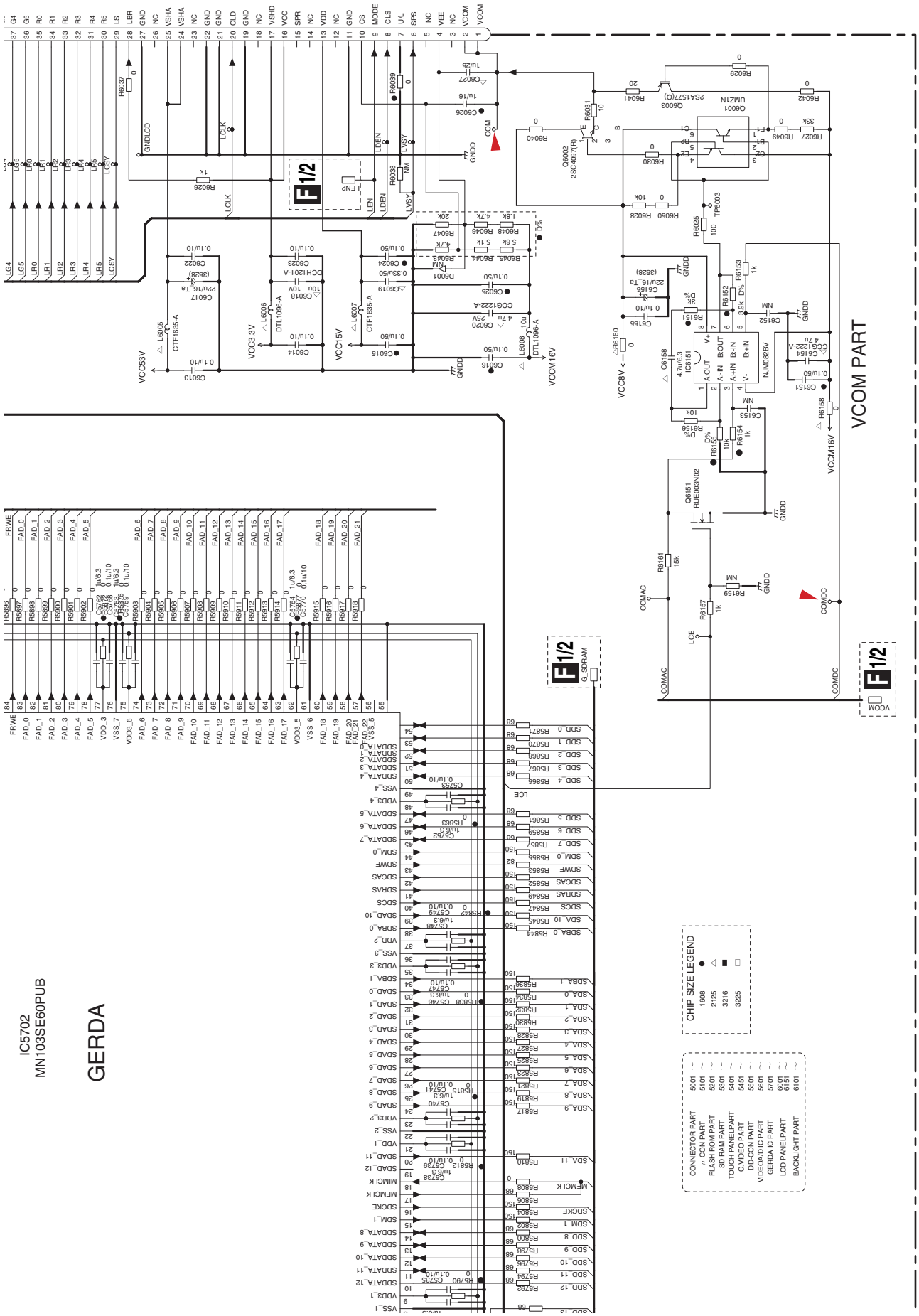
# 10.10 MONITOR UNIT(MONITOR)(GUIDE PAGE)

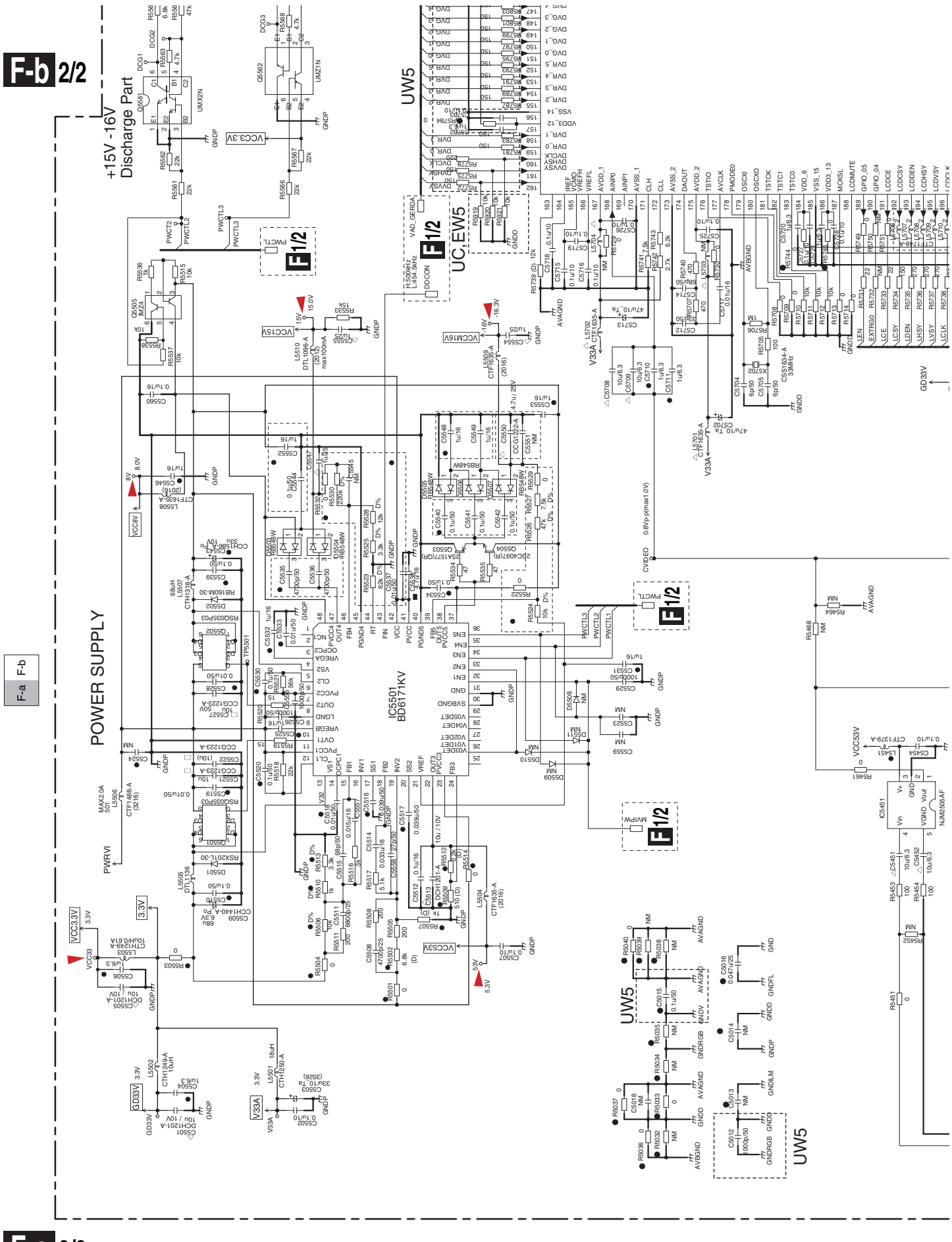


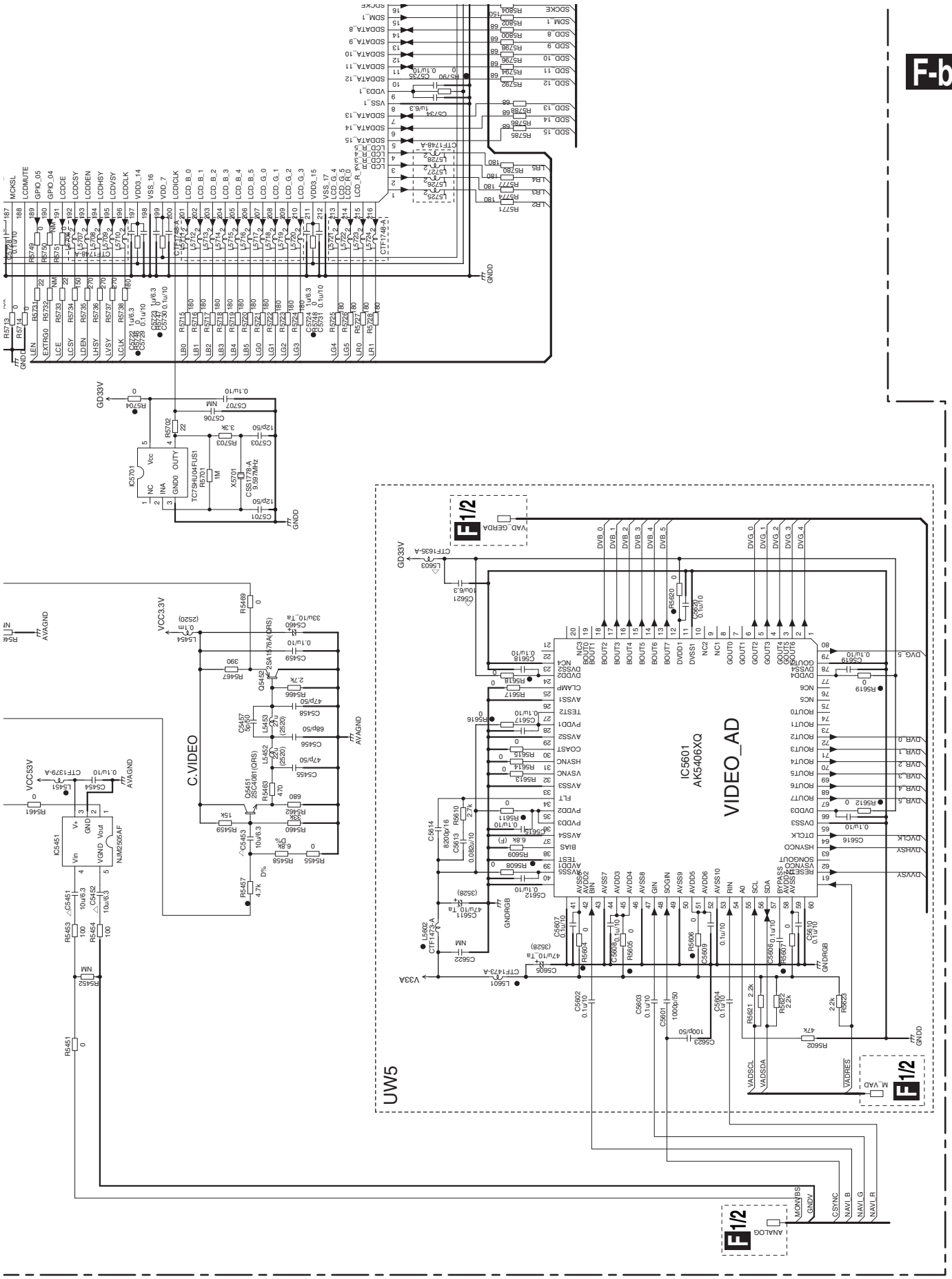

F2/2 MONITOR UNIT(MONITOR)
CN5701
NM
GD33V
UW5
F1/2
GER_M
IC5702
MN103SE60PUB
GERDA
CN6001
TO LCD MODULE
VCOM PART
VCCS3V
VCC3.3V
VCC15V
VCCM16V
VCC8V
CONNECTOR PART 5001
CON PART 5101
FLASH ROM PART 5201
SD RAM PART 5301
TOUCH PANELPART 5401
C.VIDEO PART 5451
DD CON PART 5501
VIDEOA/D IC PART 5601
GERDA IC PART 5701
LCD PANELPART 6001 6151
BACKLIGHT PART 6101
CHIP SIZE LEGEND
1608
2125
3216
3225


F 2/2 MONITOR UNIT(MONITOR)
CN6001
CN5701 NM
IC5702
MN103SE60PUB
GERDA
F 1/2
F 1/2
F-b 2/2
Part
UW5
IC6005
TC74VHCT04AFTS1
Q5562
UMZ1N
AVH-P4100DVD/XN/UC
F-a F-b

TO LCD MODULE

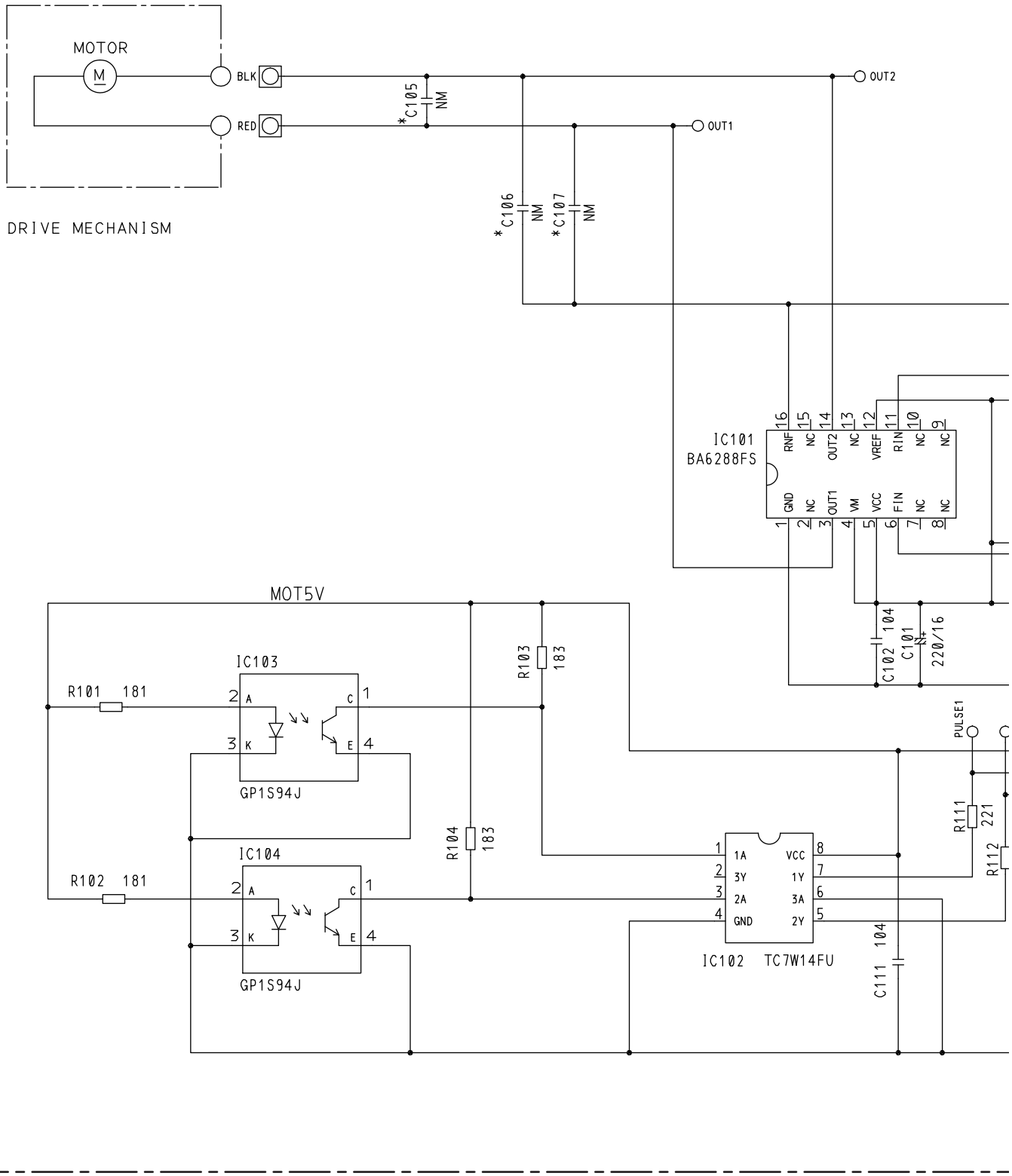



F-b 2/2
F-a 2/2
F-b
F-a
POWER SUPPLY
+15V -16V
Discharge Part
UW5
UC,EW5
IC5501
BD6171KV
F1/2
PWCTL
MVIPW
PWRVI
CVIDEO
0.8Vp-p(max1.0V)
VCC3.3V
VCC15V
VCC16V
VCC53V
V33A
GD33V
GNDP
AVGND
GNDV
GNDRGB
GNDILM
GNDFL
GNDD

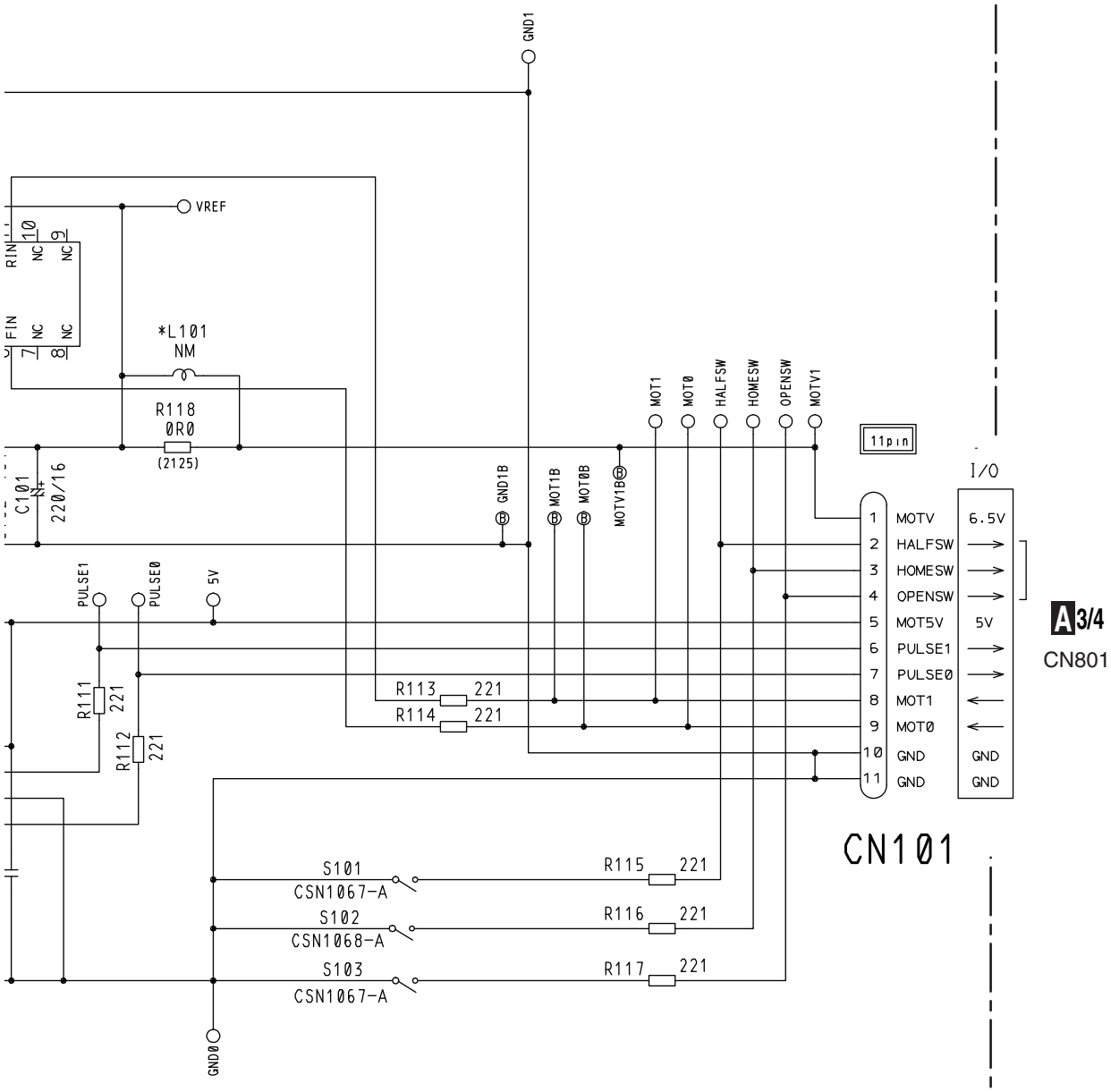

UW5
IC5601
AK5406XQ
VIDEO_AD
C.VIDEO
IC5701
X5701
IC5451
NJM2505AF
F1/2
F1/2
F1/2
VADSCL
VADSDA
VADRES
M_VAD
ANALOG
MONVBS
GNDV
CSYNC
NAVI_B
NAVI_G
NAVI_R
GD33V
VCC3.3V
VCC53V
V33A
AVAGND
GNDRGB
GNDD

F-a 2/2

## 10.11 SERVICE PCB ASSY



## G SERVICE PCB ASSY

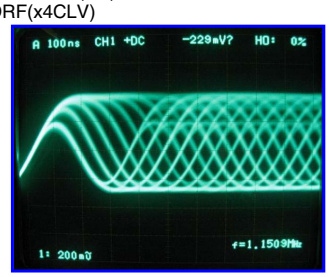
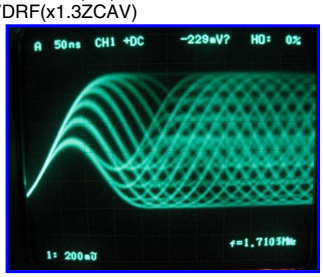
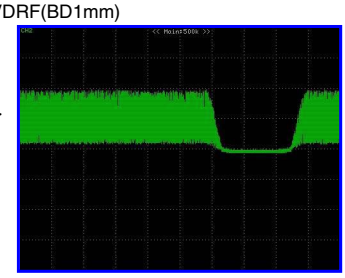
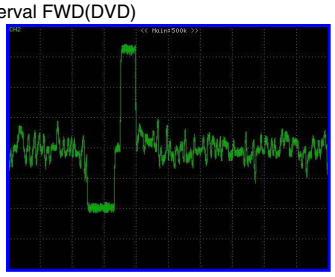
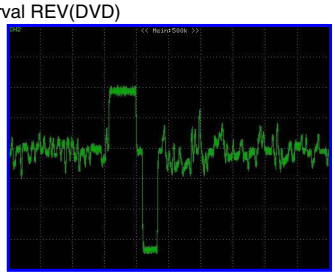
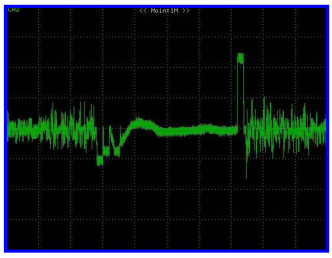
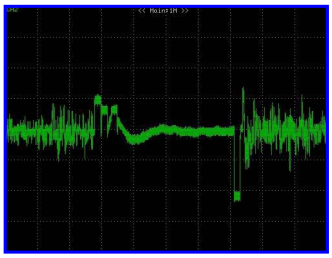
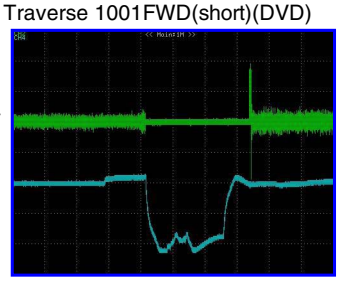


# 10.12 WAVEFORMS

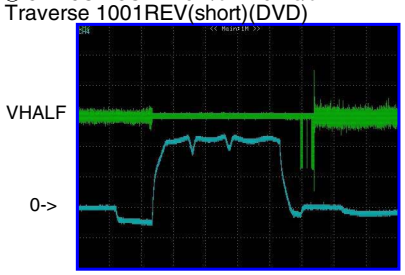
## ● DVD CORE UNIT

Note:1. The encircled number denote measuring points in the circuit diagram.
2. Reference voltage: 1.65 V(TD1,FD1)(=VHALF)
2.2 V(RF)(=VREF)

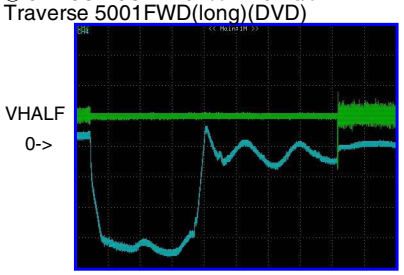
In the waveform, it is seeing on the GND standard.
Offset of 1.65 V or 2.2 V is put in.

| | | |
|---|---|---|
| ① RF 0.2 V/div(AC) 100 ns/div<br>CDRF(x4CLV)<br>  | ① RF 0.2 V/div(AC) 50 ns/div<br>DVDRF(x1.3ZCAV)<br>  | |
| ① RF 0.5 V/div 100 us/div<br>DVDRF(BD1mm)<br>2.2 V-><br>  | ② TD1 0.2 V/div 100 us/div<br>Interval FWD(DVD)<br>VHALF<br>  | ② TD1 0.2 V/div 100 us/div<br>Interval REV(DVD)<br>VHALF<br>  |
| ② TD1 0.2 V/div 500 us/div<br>Multi 32FWD(DVD)<br>VHALF<br>  | ② TD1 0.2 V/div 500 us/div<br>Multi 32REV(DVD)<br>VHALF<br>  | ② CH1:TD1 0.5 V/div 10 ms/div<br>③ CH2:COP-COM 2.0 V/div 10 ms/div<br>Traverse 1001FWD(short)(DVD)<br>VHALF<br>0-><br>  |

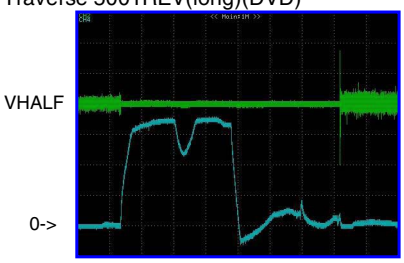
② CH1:TD1 0.5 V/div 10 ms/div
③ CH2:COP-COM 2.0 V/div 10 ms/div
Traverse 1001REV(short)(DVD)



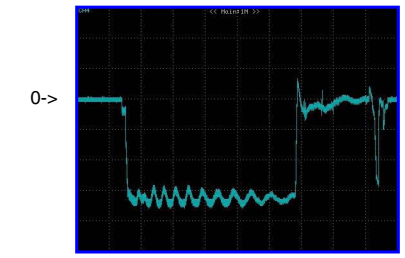

② CH1:TD1 0.5 V/div 20 ms/div
③ CH2:COP-COM 2.0 V/div 20 ms/div
Traverse 5001FWD(long)(DVD)



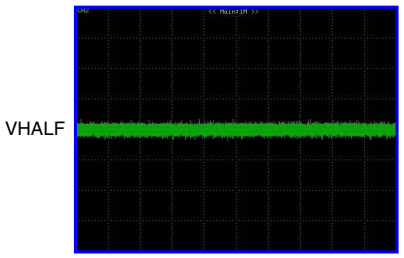

② CH1:TD1 0.5 V/div 20 ms/div
③ CH2:COP-COM 2.0 V/div 20 ms/div
Traverse 5001REV(long)(DVD)



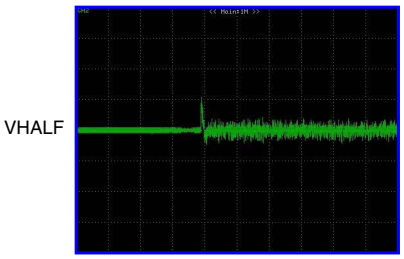

③ CH2:COP-COM 2.0 V/div 100 ms/div
ID search Inside -> Outside(DVD)



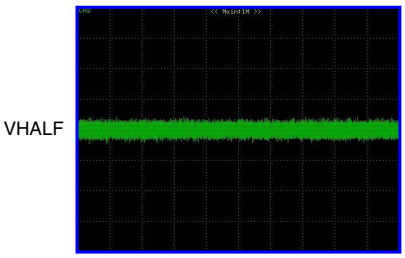

② TD1 0.5 V/div 100 ms/div
Play TD (DVD)



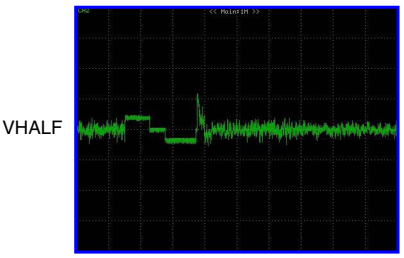

④ FD1 0.5 V/div 1 ms/div
Focus Close (DVD)



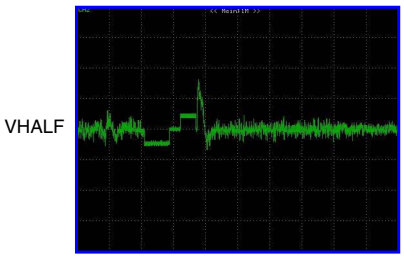

④ FD1 0.5 V/div 20 ms/div
Play FD(DVD)




④ FD1 0.5 V/div 500 us/div
Focus Jump L0 -> L1




④ FD1 0.5 V/div 500 us/div
Focus Jump L1 -> L0

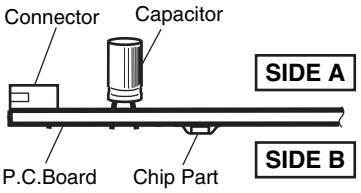


# 11. PCB CONNECTION DIAGRAM

## 11.1 MOTHER PCB

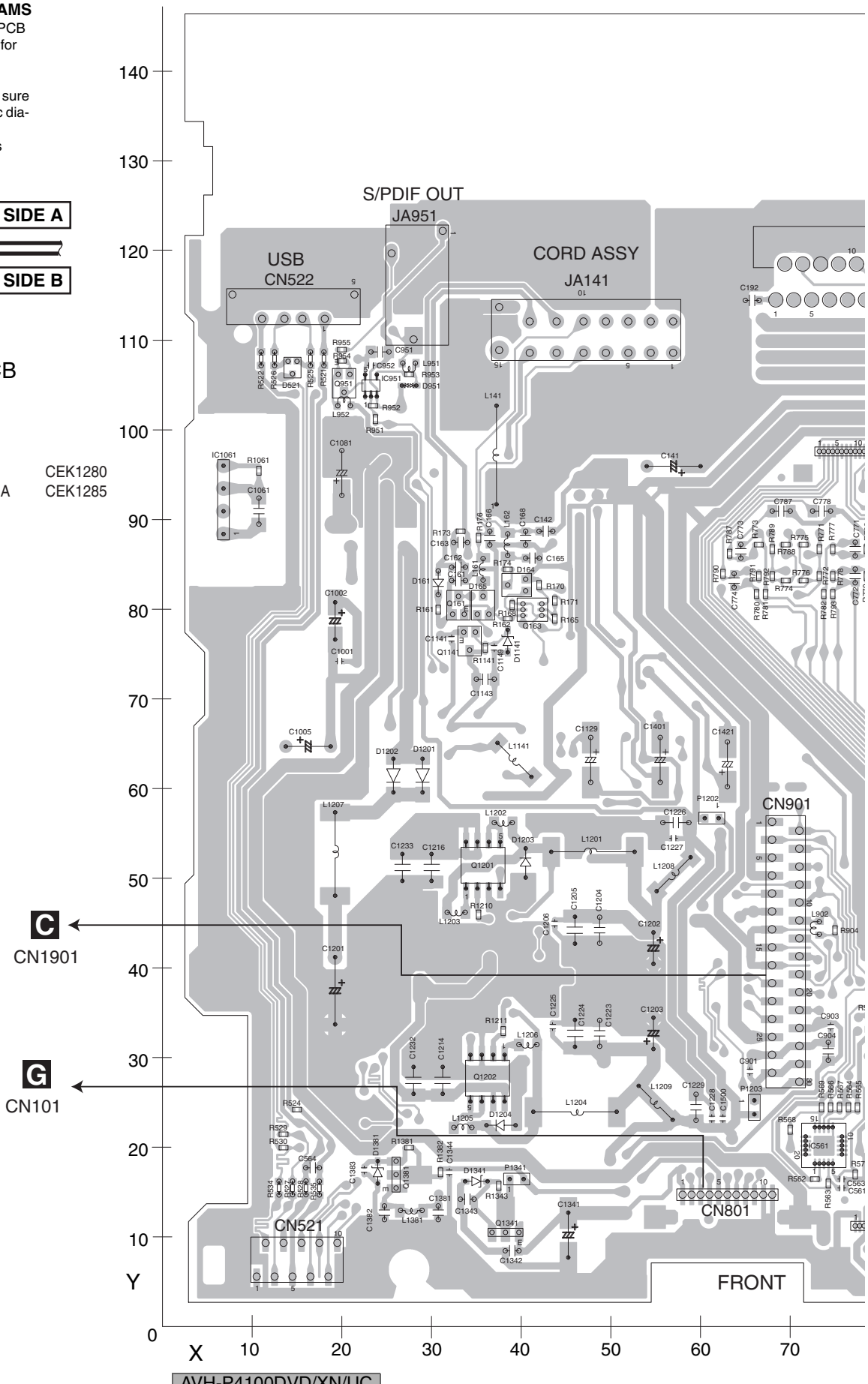
**NOTE FOR PCB DIAGRAMS**

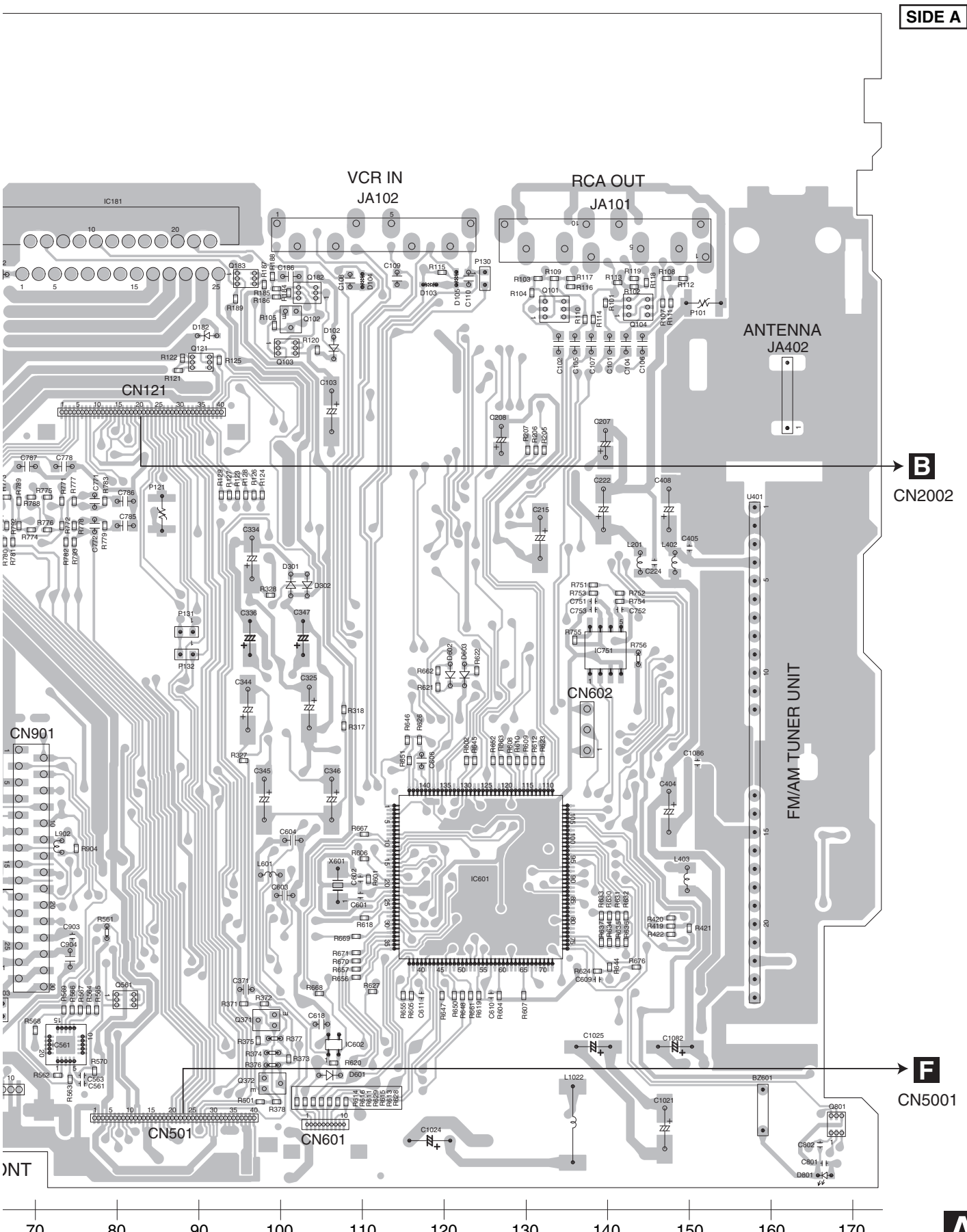
1. The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams




**A** MOTHER PCB

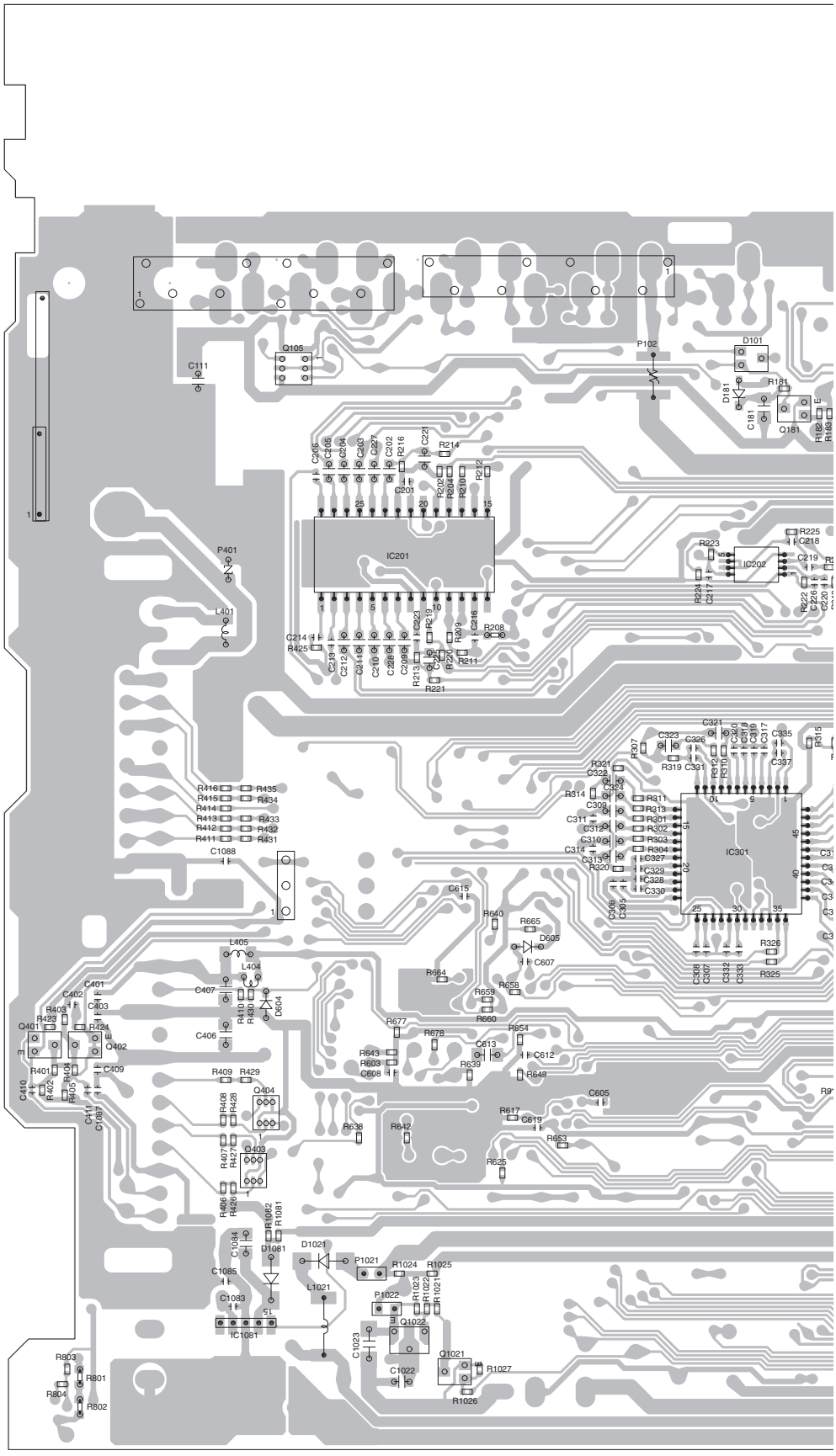
⚠ P 1202 (A,61,57) Fuse 1 A CEK1280
⚠ P 1203 (A,66,24) Fuse 2.5 A CEK1285



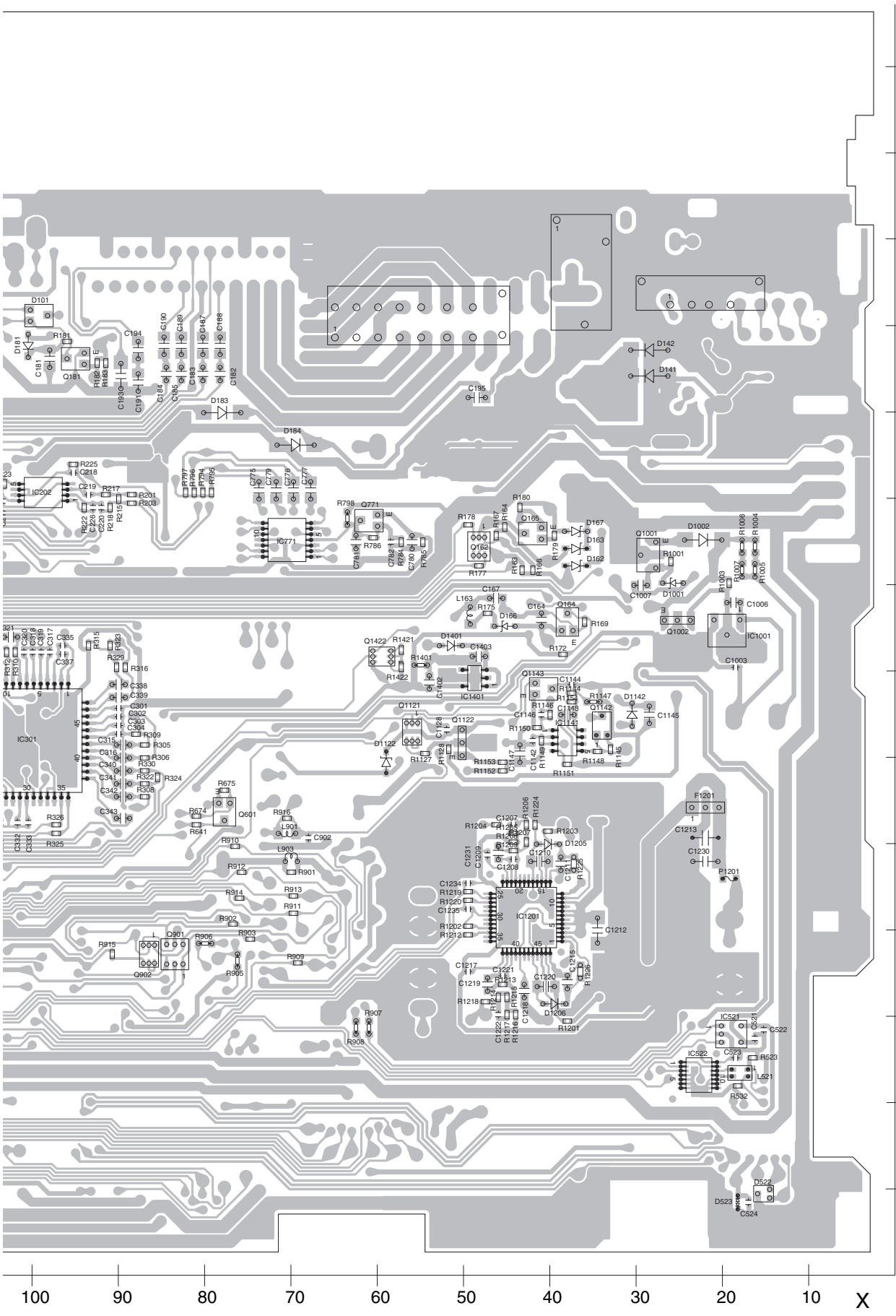

SIDE A
VCR IN
JA102
RCA OUT
JA101
ANTENNA
JA402
IC181
CN121
B
CN2002
CN602
CN901
FM/AM TUNER UNIT
IC601
F
CN5001
CN501
CN601
IC561
IC602
IC751
P101
P121
P130
P131
P132
U401
Q801
BZ601
L1022
C1024
C1025
C1082
C1021
D801
C801
C802
70
80
90
100
110
120
130
140
150
160
170
A

# A MOTHER PCB

⚠ P 1021 (B,137,20) Fuse 1 A CEK1280
⚠ P 1022 (B,136,17) Fuse 1.75 A CEK1283
⚠ P 1201 (B,19,46) Fuse 4 A CEK1344



SIDE B

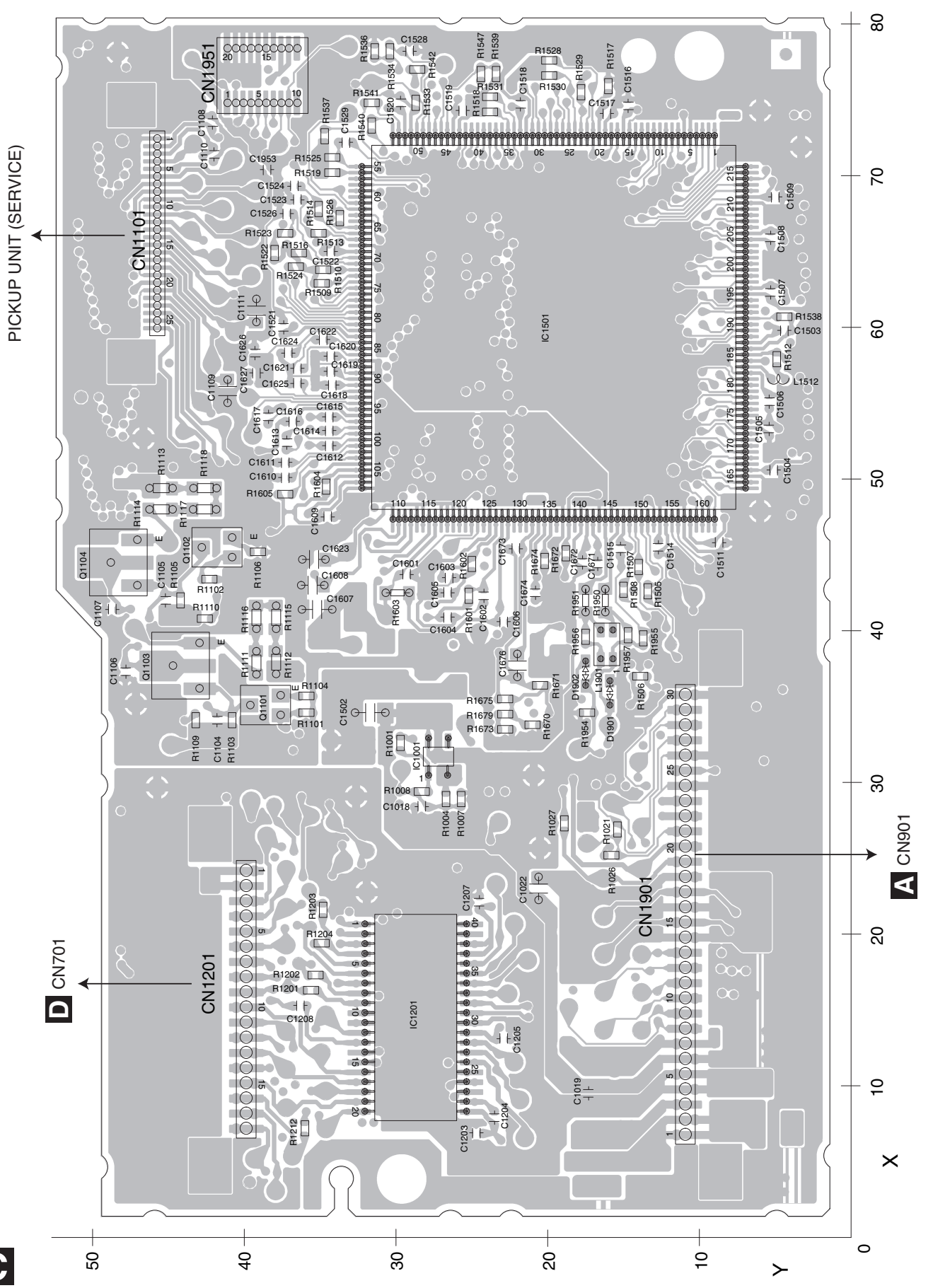


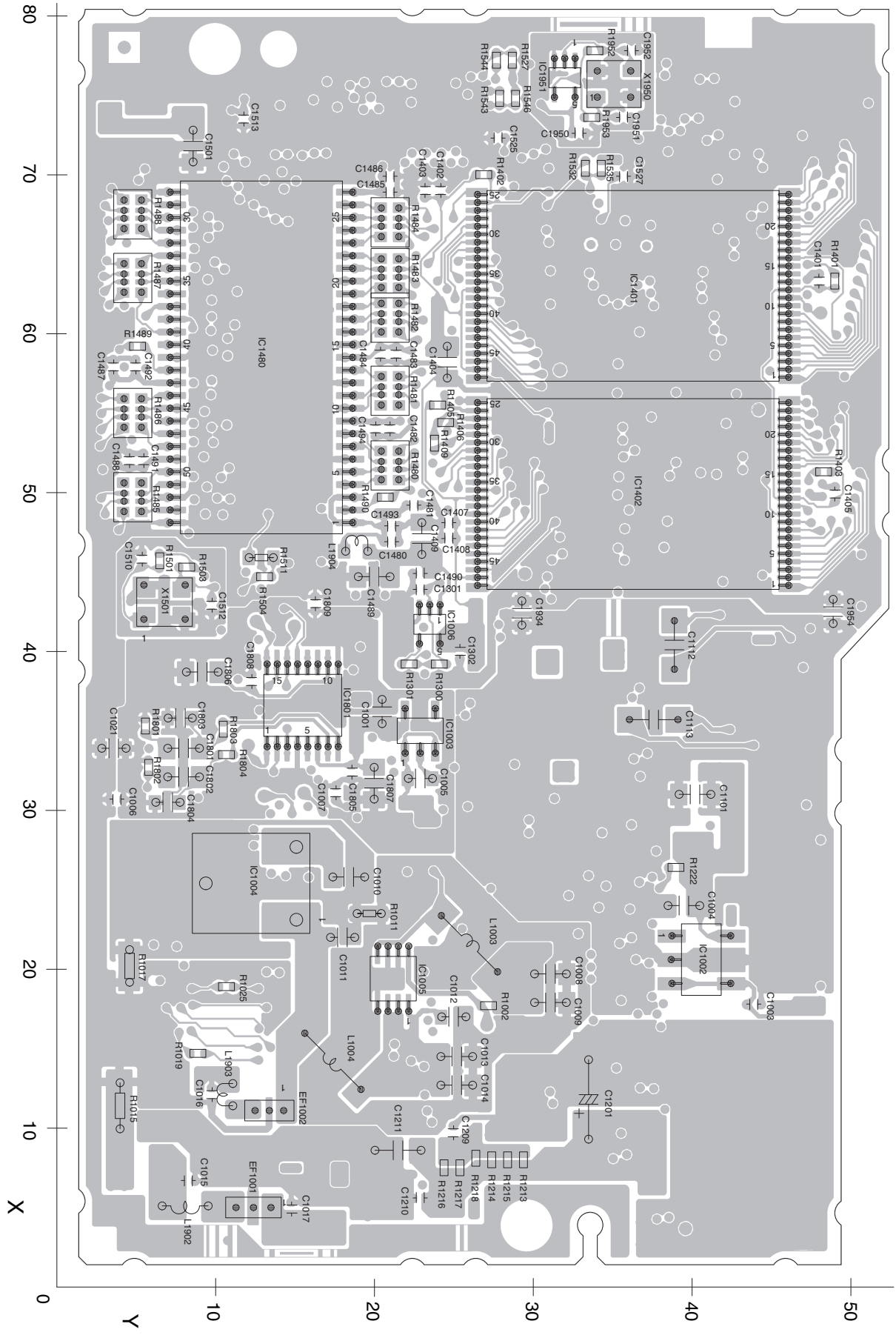

A B C D E F

# 11.2 DVD CORE UNIT

C DVD CORE UNIT

SIDE A

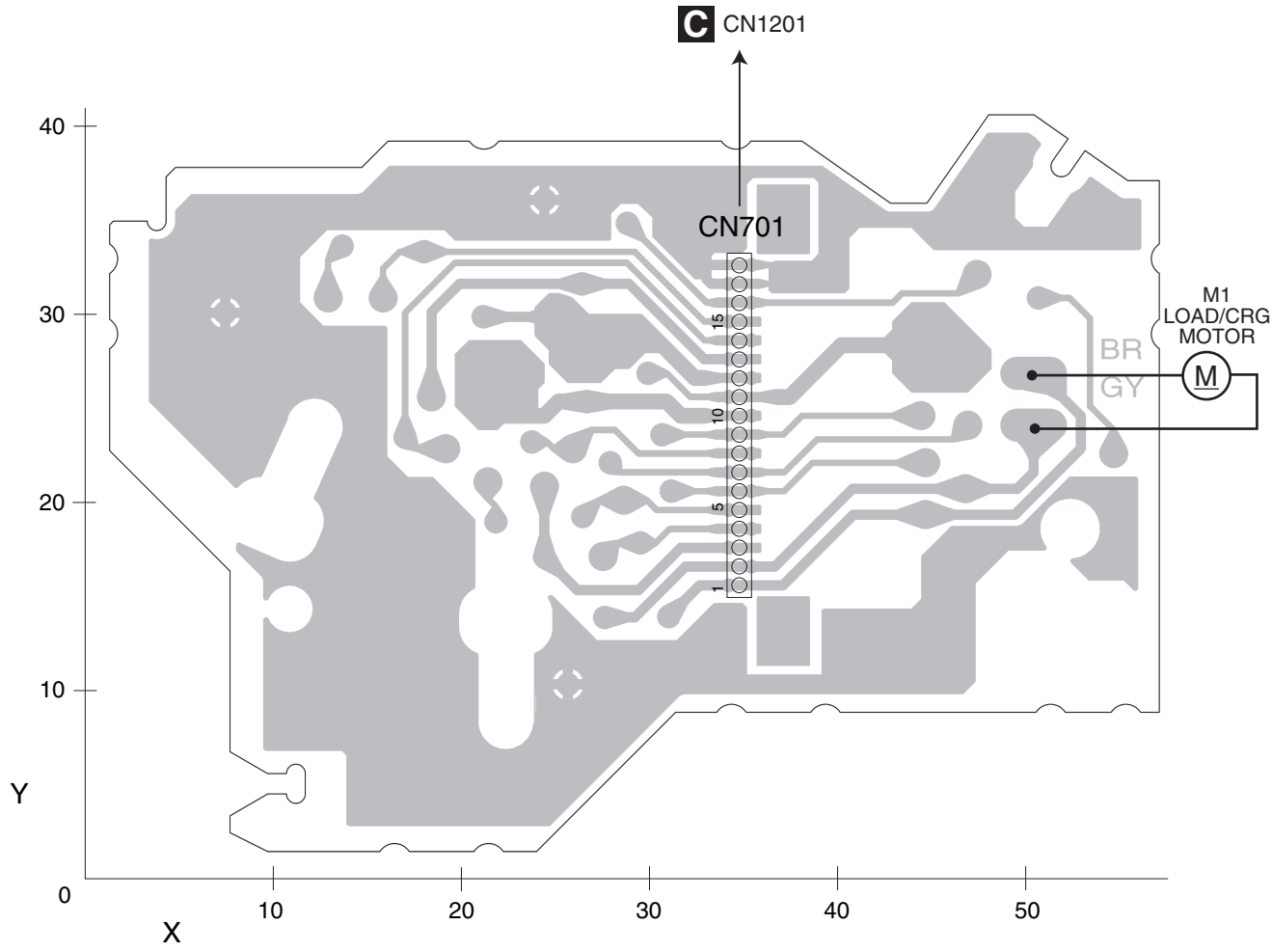



X
Y
IC1480
IC1401
IC1402
IC1004
IC1005
IC1003
IC1002
IC1801
IC1006
X1950
X1501
EF1002
EF1001
L1903
L1904
L1902
L1003
L1004

# 11.3 CONNECT PCB

D CONNECT PCB

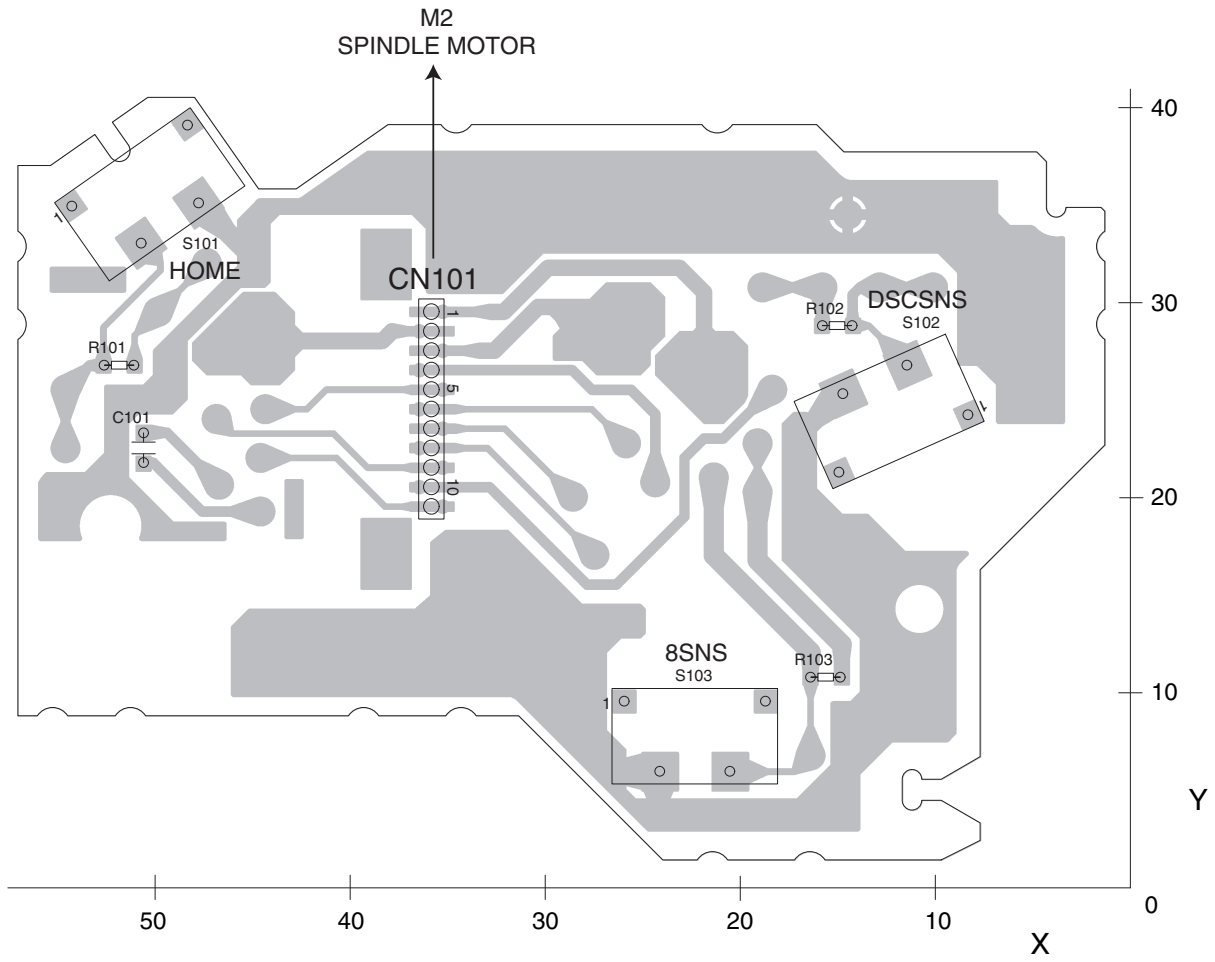
SIDE A




D

## D CONNECT PCB

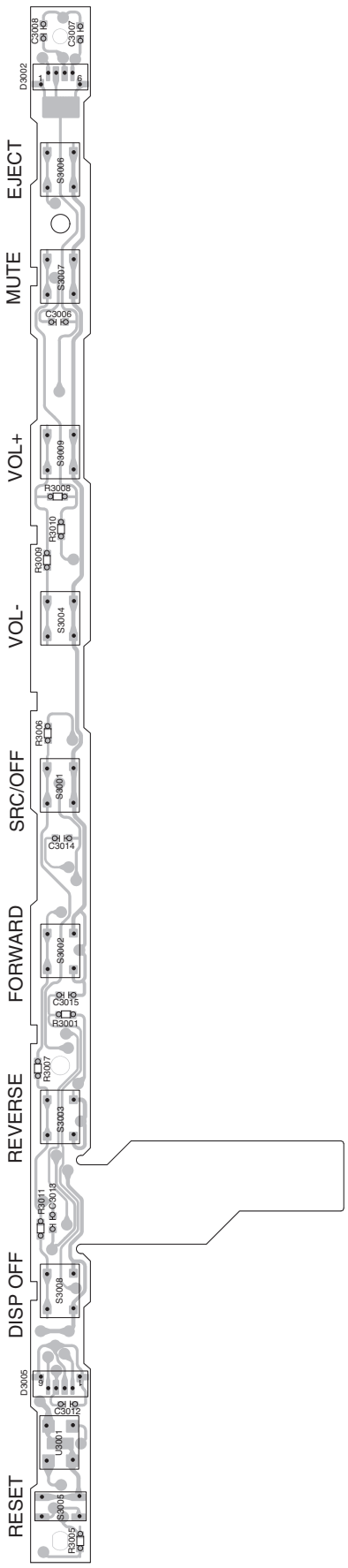
SIDE B



# 11.4 KEYBOARD UNIT

E KEYBOARD UNIT

SIDE A

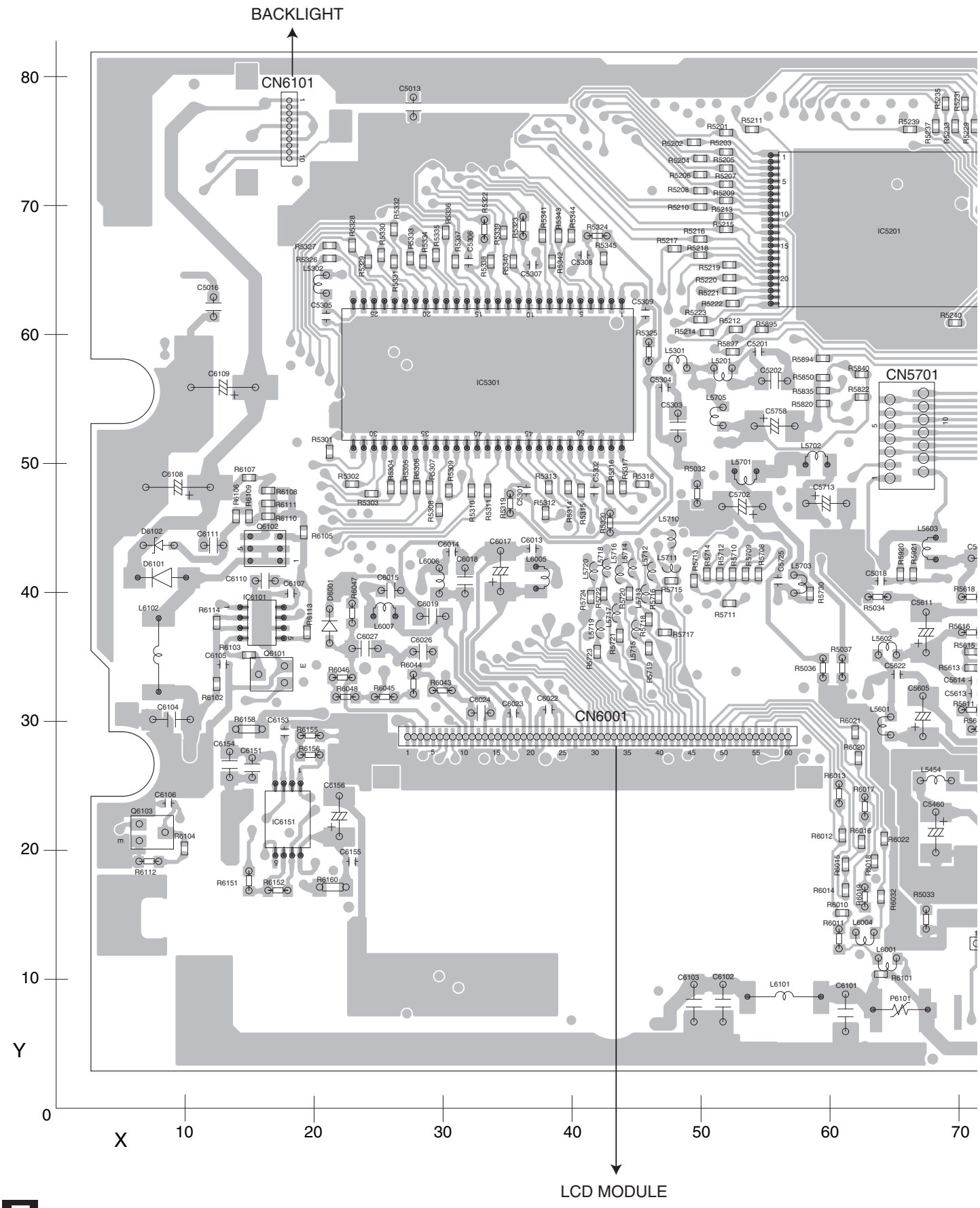


## E KEYBOARD UNIT

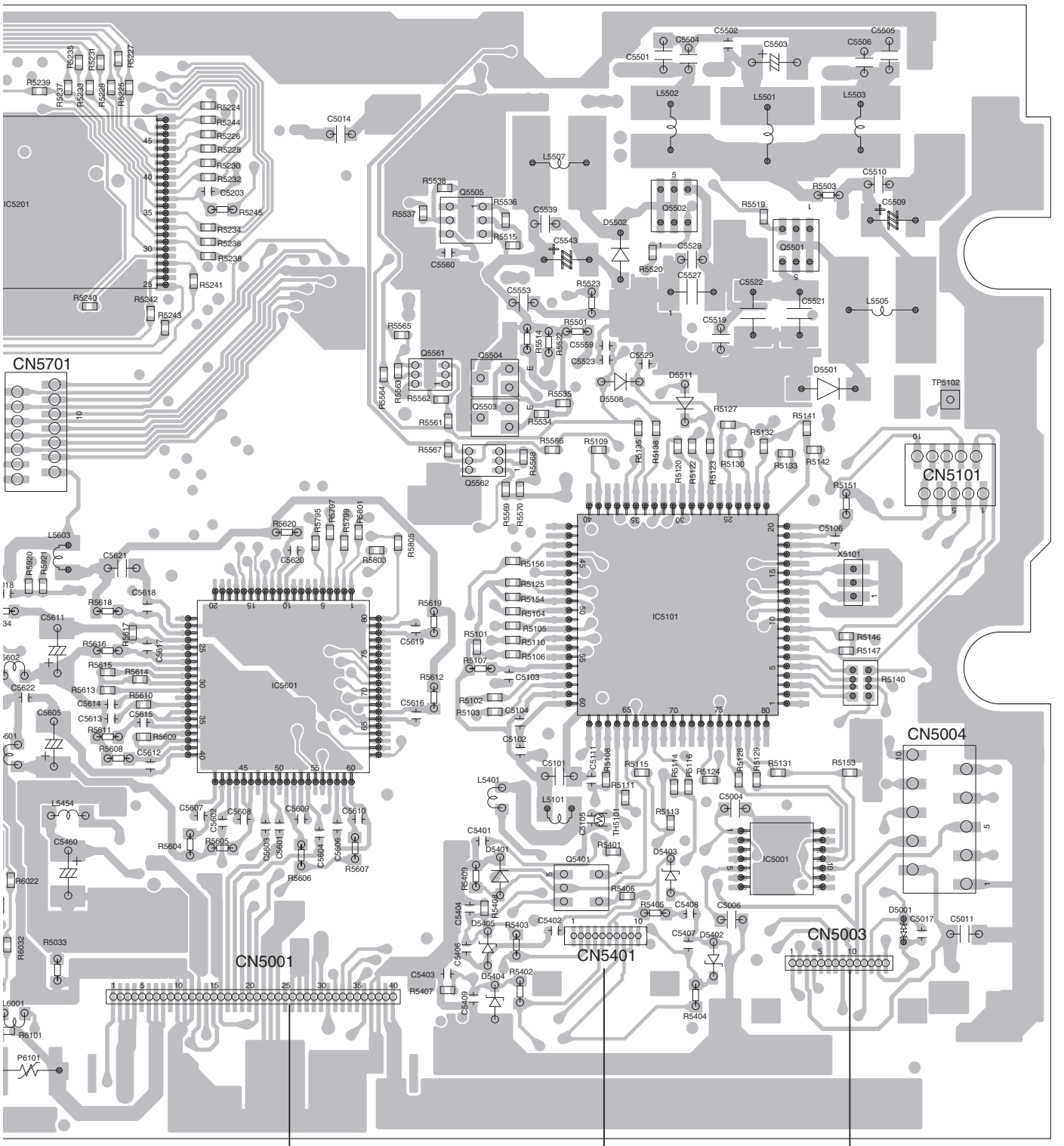
SIDE B

# 11.5 MONITOR UNIT

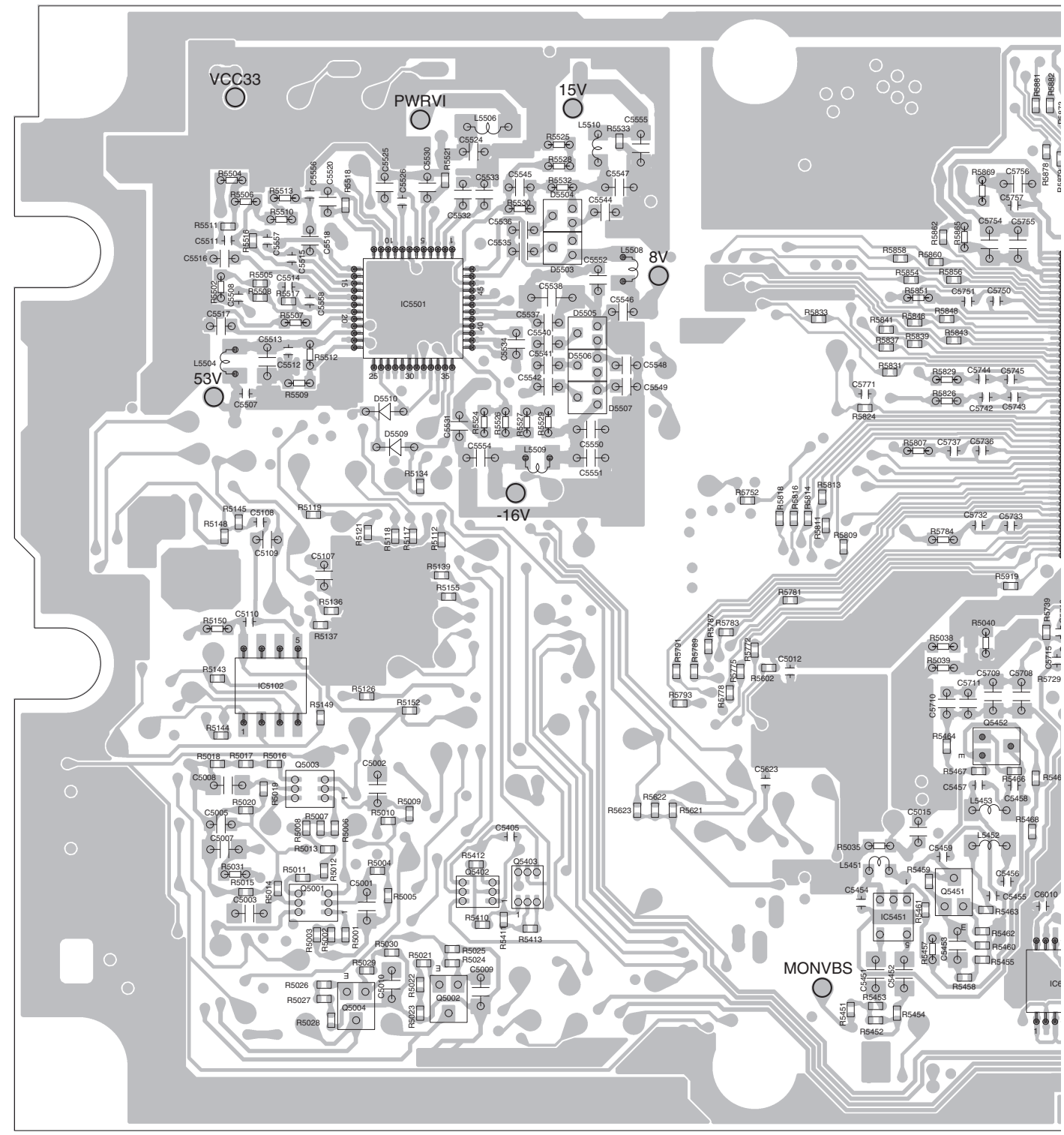
F MONITOR UNIT



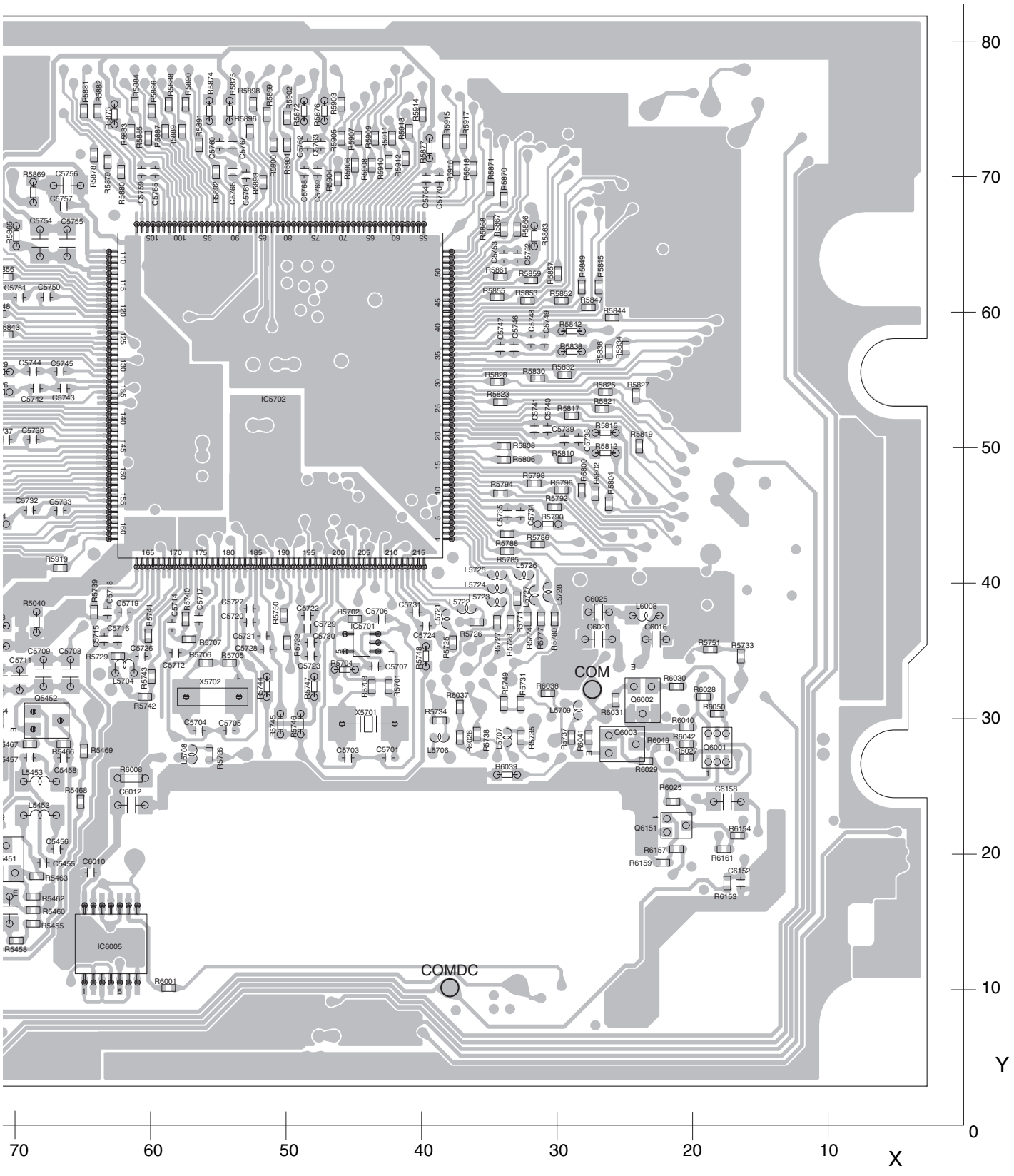
SIDE A


CN5701
CN5101
CN5004
CN5003
CN5001
CN5401
IC5201
IC5101
IC5601
IC5001
X5101
TP5102
70
80
90
100
110
120
130
A CN501
TOUCH PANEL
E

# F MONITOR UNIT



**SIDE B**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IC6005
X5702
X5701
COM
COMDC
Q6002
Q6003
Q6001
Q6151
Q5452
L6008
C6025
C6020
C6016
C6158
C6152
R6154
R6161
R6153
R6157
R6159
R6001
R5751
R5733
R6030
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R6042
R6049
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R6031
R6038
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R5452
R5456
R5455
R6010
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R5455
R5458
R5453
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C5456
C5455
L5452
L5453
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C5708
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R5744
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C5730
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R5728
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C5704
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L5708
R5736
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C5701
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C5723
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R5744
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R5701
C5702
C5704
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C5748
C5749
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R5832
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R5827
R5821
C5741
C5740
R5817
C5739
C5738
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C5734
R5788
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R5785
R5800
R5802
R5804
IC5702
IC6005
X5702
X5701
COM
COMDC
Q6002
Q6003
Q6001
Q6151
Q5452
L6008
C6025
C6020
C6016
C6158
C6152
R6154
R6161
R6153
R6157
R6159
R6001
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R6039
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R6008
R6012
R5452
R5456
R5455
R6010
R5463
R5462
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R5455
R5458
R5453
C5458
C5456
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L5452
L5453
R5466
R5467
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R5902
R5872
R5876
R5903
R5904
R5905
R5907
R5909
R5911
R5913
R5912
R5910
R5908
R5906
C5784
C5770
R5916
R5915
R5914
R5877
R5917
R5918
R5871
R5870
R5863
R5867
R5866
R5883
C5779
C5778
R5861
R5859
R5857
R5849
R5845
R5855
R5853
R5852
R5847
R5844
C5747
C5746
C5748
C5749
R5842
R5838
R5836
R5834
R5828
R5823
R5830
R5832
R5825
R5827
R5821
C5741
C5740
R5817
C5739
C5738
R5815
R5819
R5808
R5806
R5810
R5812
R5794
R5798
R5796
R5792
R5790
C5735
C5734
R5788
R5786
R5785
R5800
R5802
R5804
L5725
L5726
L5724
L5723
L5722
L5721
L5727
L5728
C6025
L6008
C6020
C6016
R5771
R5774
R5780
R5722
R5727
R5728
R5749
R5731
R5735
L5707
R5737
R6041
L5709
R6038
R6031
R6037
R6039
R6026
R6025
R6029
R6027
R6049
R6042
R6040
R6028
R6050
R6030
R5751
R5733
C6158
R6154
R6161
C6152
R6153
R6157
R6159
Q6151
R5734
C5723
R5747
R5744
R5703
R5701
C5702
C5704
C5707
R5748
C5724
R5725
R5726
L5722
L5723
L5721
C5731
R5702
C5706
C5701
C5704
C5705
L5708
R5736
C5711
C5709
C5708
R5729
C5716
C5715
R5739
C5718
C5719
R5744
C5714
R5740
C5717
C5727
C5720
R5750
C5722
C5729
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C5721
R5728
R5732
R5707
R5706
R5705
C5712
C5726
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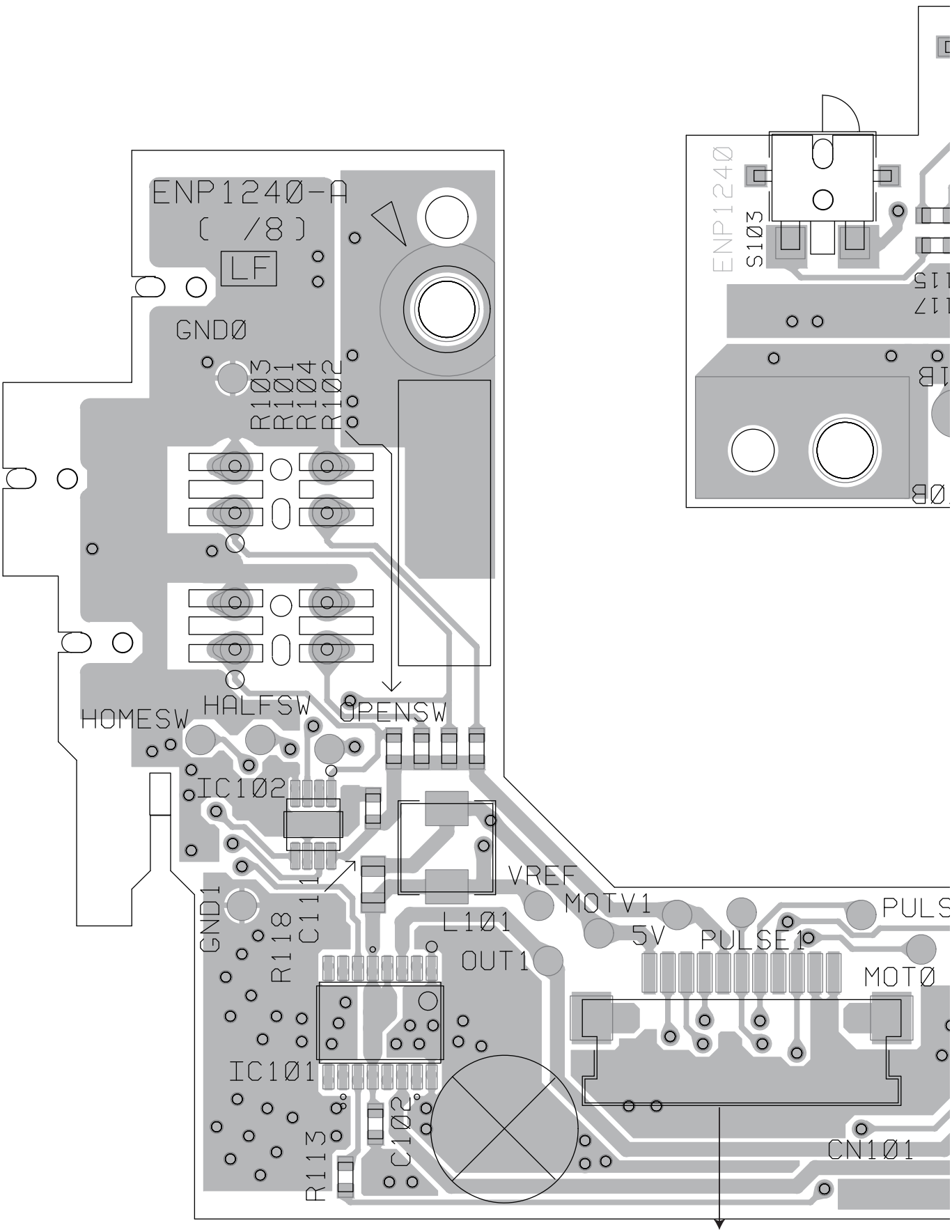
L5704
R5742
R5745
R5746
C5703
C5701
L5706
R5738
R6026
80
70
60
50
40
30
20
10
0
Y
70
60
50
40
30
20
10
X

# 11.6 SERVICE PCB ASSY

## G SERVICE PCB ASSY

SIDE A

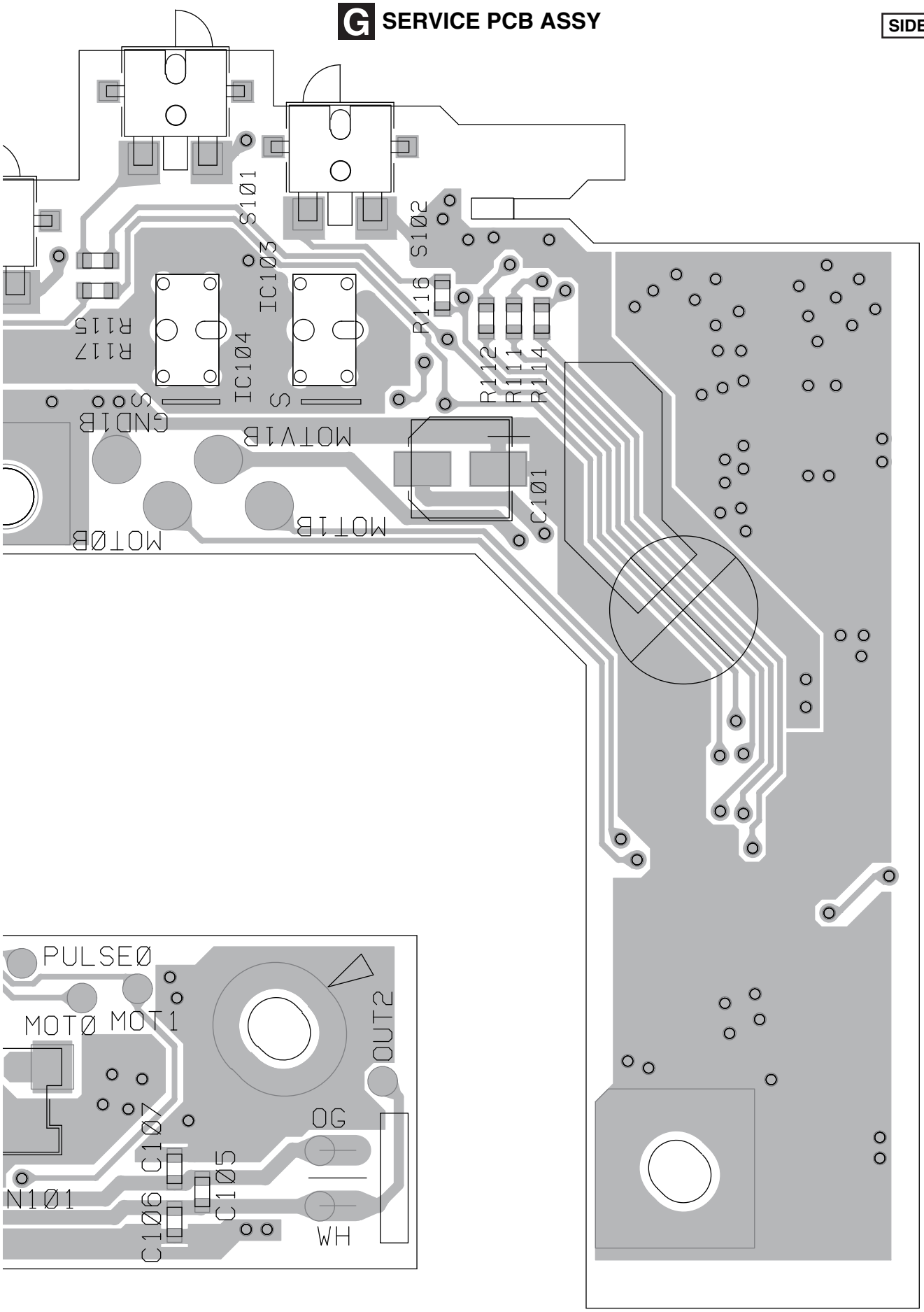



G

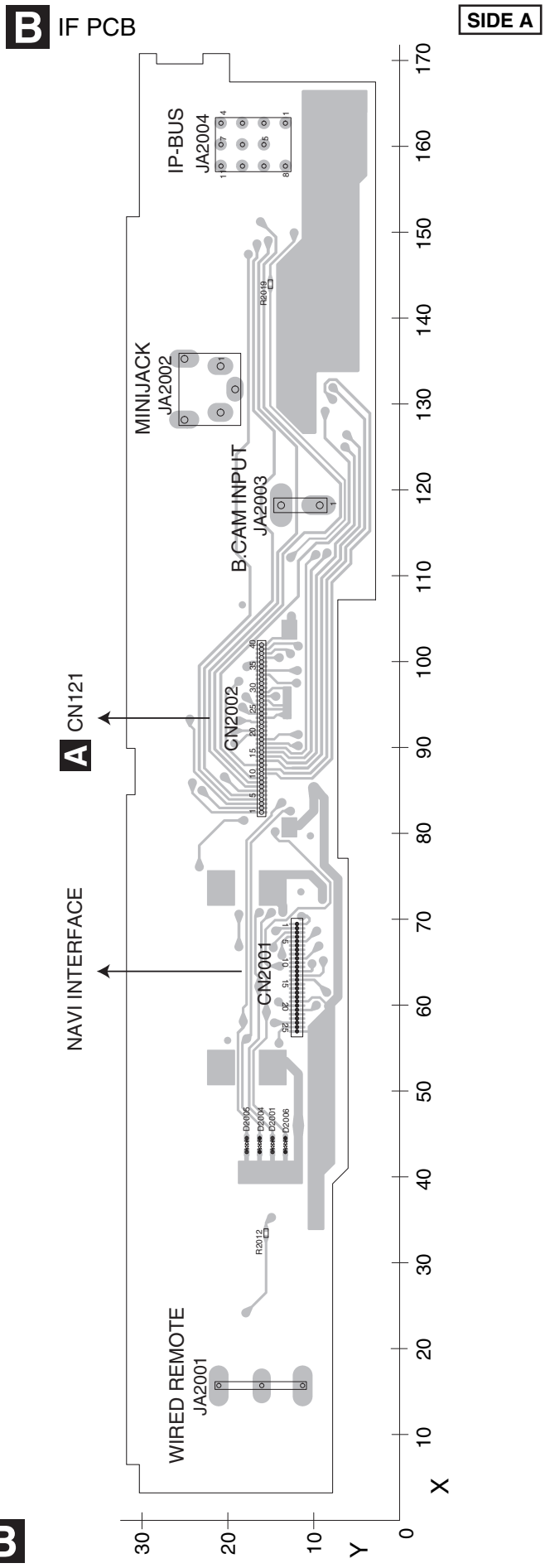
A CN801

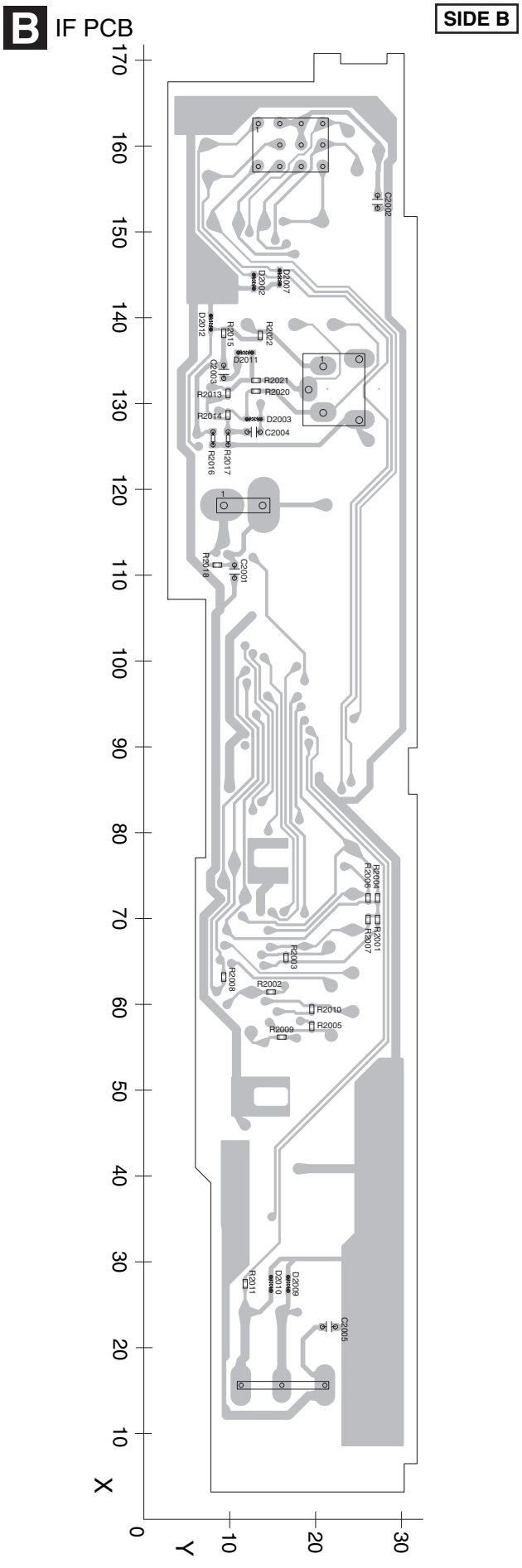
## G SERVICE PCB ASSY

SIDE B



# 11.7 IF PCB


B IF PCB
SIDE A
IP-BUS
JA2004
MINIJACK
JA2002
B.CAM INPUT
JA2003
CN2002
A CN121
NAVI INTERFACE
CN2001
WIRED REMOTE
JA2001
X
Y


B IF PCB
SIDE B
X
Y

# 12. ELECTRICAL PARTS LIST

*NOTE:*

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*

  *Chip Resistor*

  *RS1/◯S◯◯◯J,RS1/◯◯S◯◯◯J*

  *Chip Capacitor (except for CQS.....)*

  *CKS....., CCS....., CSZS.....*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Meaning of the figures and others in the parentheses in the parts list.*

*Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.*

*IC 301 (A, 91, 111) IC NJM2068V*

**Circuit Symbol and No.** **Part No.**

**Unit Number : CWN3794(UC)**
**Unit Number : CWN3790(EW5)**
**Unit Number : CWN3795(UW5)**
**Unit Name : Mother Unit**
**Unit Number :**
**Unit Name : Keyboard Unit**
**Unit Number : CWN3797(UC,EW5)**
**Unit Number : CWN3796(UW5)**
**Unit Name : Monitor Unit**
**Unit Number : YWX5007**
**Unit Name : DVD Core Unit**
**Unit Number :**
**Unit Name : Connect PCB**
**Unit Number : EXX1058**
**Unit Name : Service PCB Assy**

**Mother Unit**
**Consists of**
**Mother PCB**
**IF PCB**

**A B**

**Unit Number : CWN3794(UC)**
**Unit Number : CWN3790(EW5)**
**Unit Number : CWN3795(UW5)**
**Unit Name : Mother Unit**

**MISCELLANEOUS**

| | | |
|---|---|---|
| IC 181 | (A,80,120) IC | PA2030A |
| IC 201 | (B,134,92) IC | PML018A |
| IC 301 | (B,100,62) IC | AN15887A |
| IC 521 | (B,19,28) IC | R5523N001B |
| IC 522 | (B,23,23) IC | TC7MBL6126SFK |
| IC 561 | (A,74,20) IC | 341S2162 |
| IC 601 | (A,125,41) IC(UC) | PEG535A8 |
| | (A,125,41) IC(EW5,UW5) | PEG534A8 |
| IC 602 | (A,107,20) IC | S-80827CNNB-B8M |
| IC 751 | (A,140,68) IC | HA12241FP |
| IC 771 | (B,71,85) IC(UW5) | NJM2138V |
| IC 951 | (A,23,105) L-MOS And Gate | TC7SET08FUS1 |
| IC 1001 | (B,20,74) IC | S-812C33AUA-C2N |
| IC 1061 | (A,7,88) IC | NJM2388F84 |
| IC 1081 | (B,150,10) IC | NJM2886DL3-33 |
| IC 1141 | (B,38,62) IC | TK11840L |
| IC 1201 | (B,43,41) IC | BD9013KV |
| IC 1401 | (B,49,69) Regulator IC | S-1112B33MC-L6S |
| Q 101 | (A,134,110) Transistor | IMH23 |
| Q 102 | (A,101,109) Chip Digital Transistor | DTA124EUA |
| Q 103 | (A,101,105) Transistor | UMD2N |
| Q 104 | (A,144,110) Transistor | IMH23 |
| Q 105 | (B,145,110) Transistor | IMH23 |
| Q 121 | (A,90,104) Transistor | UMF23N |
| Q 161 | (A,33,80) Chip Transistor | DTC114EUA |
| Q 162 | (B,48,84) Transistor | UMX1N |
| Q 163 | (A,41,80) Transistor | UMT1N |
| Q 164 | (B,38,76) Chip Transistor | DTC114EUA |
| Q 165 | (B,42,86) Transistor | 2SC4081 |
| Q 181 | (B,95,106) Transistor | 2SC4081 |
| Q 182 | (A,103,112) Transistor | UMH1N |
| Q 183 | (A,96,114) Transistor | UMD3N |
| Q 403 | (B,149,30) Transistor(EW5,UW5) | UMH1N |
| Q 404 | (B,148,36) Transistor(EW5,UW5) | UMH1N |
| Q 561 | (A,81,26) Transistor | UMD22N |
| Q 601 | (B,78,54) Transistor(UW5) | 2SC4081 |
| Q 771 | (B,61,87) Transistor(UW5) | 2SC4081 |
| Q 801 | (A,168,10) Transistor | UMF5N |
| Q 901 | (B,84,37) Transistor | IMH23 |
| Q 902 | (B,87,37) Transistor | UMD3N |
| Q 951 | (A,20,105) Transistor | 2SA1576A |
| Q 1001 | (B,30,83) Transistor | 2SD1664 |
| Q 1002 | (B,25,74) Chip Transistor | 2SB1132 |
| Q 1021 | (B,129,10) Transistor | 2SC4081 |
| Q 1022 | (B,133,13) Chip Transistor | 2SB1132 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| Q 1141 | (A,34,76) Transistor | 2SC4081 |
| Q 1142 | (B,34,64) FET | RSF014N03 |
| Q 1143 | (B,41,68) Digital Transistor | DTC143EUA |
| Q 1201 | (A,36,51) FET | HAT2210RJ |
| Q 1202 | (A,36,28) FET | HAT2210RJ |
| Q 1341 | (A,38,12) Transistor | 2SD2153 |
| D 101 | (B,99,111) Diode | DAN202U |
| D 102 | (A,107,105) Diode | MA111 |
| D 103 | (A,118,113) Diode | MALS068X |
| D 104 | (A,110,114) Diode | MALS068X |
| D 105 | (A,122,114) Diode | MALS068X |
| D 141 | (B,29,104) Diode | S1G-6904G2P |
| D 142 | (B,29,107) Diode | S1G-6904G2P |
| D 161 | (A,31,83) Diode | MA111 |
| D 162 | (B,37,82) Diode | HZU7L(A1) |
| D 163 | (B,37,84) Diode | HZU7L(C3) |
| D 164 | (A,40,83) Diode | DAN202U |
| D 165 | (A,36,80) Diode | DAN202U |
| D 166 | (B,45,75) Diode | UDZS5R6(B) |
| D 167 | (B,37,86) Diode | UDZS20(B) |
| D 181 | (B,101,108) Diode | MA111 |
| D 182 | (A,91,107) Diode | UDZS8R2(B) |
| D 183 | (B,78,100) Diode | S1G-6904G2P |
| D 184 | (B,70,96) Diode | S1G-6904G2P |
| D 301 | (A,101,76) Diode | RB551V-30 |
| D 302 | (A,103,76) Diode | RB551V-30 |
| D 521 | (A,15,107) Diode | EMZC6.8N |
| D 601 | (A,106,16) Diode | MA111 |
| D 602 | (A,121,65) Diode | RB751V-40 |
| D 603 | (A,123,65) Diode | RB501V-40 |
| D 801 | (A,167,4) LED | SMLE12BC7T |
| D 951 | (A,28,105) Diode | MALS068X |
| D 1001 | (B,26,80) Diode | UDZS18(B) |
| D 1002 | (B,22,85) Diode | S1G-6904G2P |
| D 1021 | (B,142,21) Diode | S1G-6904G2P |
| D 1081 | (B,147,20) Diode | S1G-6904G2P |
| D 1141 | (A,39,76) Diode | HZU13(B1) |
| D 1142 | (B,31,65) Diode | RB551V-30 |
| D 1201 | (A,29,61) Diode | RSX201L-30 |
| D 1202 | (A,26,61) Diode | RSX201L-30 |
| D 1205 | (B,40,50) Diode | RB551V-30 |
| D 1206 | (B,40,31) Diode | RB551V-30 |
| D 1341 | (A,35,16) Diode | HZU6R8(B2) |
| D 1401 | (B,52,73) Diode | RB551V-30 |
| D 2002 | (B,144,13) Diode | MALS068X |
| D 2003 | (B,128,13) Diode | MALS068X |
| D 2004 | (A,44,16) Diode(UW5) | MALS068X |
| D 2005 | (A,44,18) Diode(UW5) | MALS068X |
| D 2006 | (A,44,13) Diode(UW5) | MALS068X |
| D 2007 | (B,145,16) Diode | MALS068X |
| D 2009 | (B,27,17) Diode | MALS068X |
| D 2010 | (B,27,15) Diode | MALS068X |
| D 2011 | (B,136,12) Diode | MALS068X |
| D 2012 | (B,139,8) Diode | MALS068X |
| L 141 | (A,37,97) Choke Coil 600 uH | CTH1221 |
| L 161 | (A,36,84) Inductor | LCTAW2R2J2520 |
| L 162 | (A,39,87) Inductor | LCTAW2R2J2520 |
| L 163 | (B,49,76) Inductor | CTF1295 |
| L 201 | (A,144,79) Inductor | LCTAW2R2J2520 |
| L 401 | (B,152,84) Inductor | LCTAW220J2520 |
| L 402 | (A,148,79) Chip Coil | LCTAW1R0J2520 |
| L 403 | (A,150,40) Inductor | LCTAW1R0J3225 |
| L 404 | (B,149,50) Inductor | CTF1379 |
| L 521 | (B,18,23) Inductor | CTF1713 |
| L 601 | (A,99,41) Inductor | LCTAW2R2J2520 |
| L 902 | (A,73,44) Inductor | CTF1387 |
| L 903 | (B,70,48) Inductor | CTF1381 |
| L 951 | (A,28,107) Inductor | CTF1389 |
| L 952 | (A,20,103) Inductor | CTF1379 |
| L 1021 | (B,142,15) Inductor | DTL1100 |
| L 1022 | (A,136,10) Inductor | CTH1262 |
| L 1141 | (A,39,63) Inductor | ATH7061 |
| L 1201 | (A,48,53) Inductor | CTH1253 |
| L 1202 | (A,38,56) Inductor | CTF1661 |
| L 1203 | (A,33,46) Inductor | CTF1661 |
| L 1204 | (A,46,24) Inductor | CTH1253 |
| L 1205 | (A,34,22) Inductor | CTF1661 |
| L 1206 | (A,41,31) Inductor | CTF1661 |
| L 1207 | (A,19,53) Inductor | CTH1253 |
| X 601 | (A,107,40) Oscillator 15 MHz | CSS1776 |
| P 101 | (A,152,111) Poly Switch | MINISMDC075F/24 |
| P 102 | (B,109,109) Poly Switch | MINISMDC075F/24 |
| P 121 | (A,86,85) Poly Switch | MINISMDC075F/24 |
| P 401 | (B,151,90) Surge Protector | IMSA-6801-01Y901 |
| ⚠P1021 | (B,137,20) Fuse 1 A | CEK1280 |
| ⚠P1022 | (B,136,17) Fuse 1.75 A | CEK1283 |
| ⚠P1201 | (B,19,46) Fuse 4 A | CEK1344 |
| ⚠P1202 | (A,61,57) Fuse 1 A | CEK1280 |
| ⚠P1203 | (A,66,24) Fuse 2.5 A | CEK1285 |
| ⚠P1341 | (A,40,16) Fuse 1.5 A | CEK1282 |
| BZ601 | (A,159,12) Buzzer | CPV1062 |
| U 401 | (A,158,86) FM/AM Tuner Unit(UC) | CWE2098 |
| | (A,158,86) FM/AM Tuner Unit(EW5,UW5) | CWE2097 |

## RESISTORS

| | | |
|---|---|---|
| R 101 | (A,140,111) | RS1/16SS820J |
| R 102 | (A,143,113) | RS1/16SS223J |
| R 103 | (A,132,114) | RS1/16SS223J |
| R 104 | (A,131,112) | RS1/16SS820J |
| R 107 | (A,147,111) | RS1/16SS820J |
| R 108 | (A,147,114) | RS1/16SS223J |
| R 109 | (A,134,114) | RS1/16SS223J |
| R 110 | (A,137,109) | RS1/16SS820J |
| R 111 | (A,148,111) | RS1/16SS820J |
| R 112 | (A,149,114) | RS1/16SS223J |
| R 113 | (A,141,113) | RS1/16SS223J |
| R 114 | (A,138,109) | RS1/16SS820J |
| R 115 | (A,120,115) | RS1/16SS750J |
| R 117 | (A,136,114) | RS1/16SS0R0J |
| R 118 | (A,145,113) | RS1/16SS0R0J |
| R 120 | (A,105,105) | RS1/16SS102J |
| R 121 | (A,88,103) | RS1/16SS562J |
| R 122 | (A,88,104) | RS1/16SS332J |
| R 123 | (A,95,87) | RS1/16SS181J |
| R 124 | (A,98,87) | RS1/16SS181J |
| R 125 | (A,93,104) | RS1/16SS222J |
| R 126 | (A,97,87) | RS1/16SS223J |
| R 127 | (A,94,87) | RS1/16SS223J |
| R 128 | (A,96,87) | RS1/16SS102J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 129 | (A,93,87) | RS1/16SS102J |
| R 161 | (A,31,80) | RS1/16SS103J |
| R 162 | (A,39,79) | RS1/16SS473J |
| R 163 | (B,43,82) | RS1/16SS103J |
| R 164 | (B,45,87) | RS1/16SS104J |
| R 165 | (A,44,79) | RS1/16SS473J |
| R 166 | (B,42,82) | RS1/16SS473J |
| R 167 | (B,46,86) | RS1/16SS473J |
| R 168 | (A,39,80) | RS1/16SS473J |
| R 170 | (A,42,83) | RS1/16SS473J |
| R 171 | (A,44,81) | RS1/16SS472J |
| R 172 | (B,39,72) | RS1/16SS104J |
| R 173 | (A,33,89) | RS1/16SS472J |
| R 174 | (A,39,84) | RS1/16SS103J |
| R 175 | (B,47,77) | RS1/16SS103J |
| R 176 | (A,35,88) | RS1/16SS153J |
| R 177 | (B,48,82) | RS1/16SS0R0J |
| R 178 | (B,50,87) | RS1/16SS0R0J |
| R 179 | (B,40,86) | RS1/16SS103J |
| R 180 | (B,44,89) | RS1/16SS103J |
| R 181 | (B,96,108) | RS1/16SS103J |
| R 182 | (B,93,106) | RS1/16SS104J |
| R 183 | (B,92,106) | RS1/16SS473J |
| R 184 | (A,101,112) | RS1/16SS683J |
| R 185 | (A,100,113) | RS1/16SS152J |
| R 186 | (A,100,112) | RS1/16SS683J |
| R 187 | (A,98,113) | RS1/16SS103J |
| R 188 | (A,99,114) | RS1/16SS101J |
| R 189 | (A,95,111) | RS1/16SS473J |
| R 202 | (B,130,100) | RS1/16SS272J |
| R 204 | (B,129,100) | RS1/16SS162J |
| R 205 | (A,132,93) | RS1/16SS102J |
| R 206 | (A,131,93) | RS1/16SS102J |
| R 207 | (A,130,93) | RS1/16SS102J |
| R 208 | (B,125,84) | RS1/16S0R0J |
| R 209 | (B,129,83) | RS1/16SS162J |
| R 210 | (B,128,100) | RS1/16SS162J |
| R 211 | (B,128,82) | RS1/16SS272J |
| R 212 | (B,126,100) | RS1/16SS272J |
| R 214 | (B,130,102) | RS1/16SS0R0J |
| R 219 | (B,131,83) | RS1/16SS162J |
| R 220 | (B,130,82) | RS1/16SS272J |
| R 221 | (B,131,79) | RS1/16SS0R0J |
| R 301 | (B,111,65) | RS1/16SS101J |
| R 302 | (B,111,64) | RS1/16SS101J |
| R 303 | (B,111,63) | RS1/16SS101J |
| R 304 | (B,111,62) | RS1/16SS101J |
| R 305 | (B,87,61) | RS1/16SS101J |
| R 306 | (B,87,60) | RS1/16SS101J |
| R 307 | (B,110,72) | RS1/16SS223J |
| R 308 | (B,87,55) | RS1/16SS0R0J |
| R 310 | (B,102,72) | RS1/16SS101J |
| R 311 | (B,111,67) | RS1/16SS101J |
| R 312 | (B,103,72) | RS1/16SS101J |
| R 313 | (B,111,66) | RS1/16SS101J |
| R 314 | (B,115,68) | RS1/16SS223J |
| R 316 | (B,89,70) | RS1/16SS101J |
| R 317 | (A,108,59) | RS1/16SS680J |
| R 318 | (A,108,61) | RS1/16SS4R7J |
| R 322 | (B,87,57) | RS1/16SS101J |

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| R 325 | (B,97,51) | | RS1/16SS221J |
| R 326 | (B,97,52) | | RS1/16SS221J |
| R 327 | (A,96,55) | | RS1/16SS0R0J |
| R 328 | (A,99,75) | | RS1/16SS0R0J |
| R 329 | (B,90,70) | | RS1/16SS101J |
| R 330 | (B,87,58) | | RS1/16SS101J |
| R 378 | (A,100,13) | | RS1/16SS0R0J |
| R 406 | (B,152,29) | (EW5,UW5) | RS1/16SS681J |
| R 407 | (B,152,33) | (EW5,UW5) | RS1/16SS681J |
| R 408 | (B,152,35) | (EW5,UW5) | RS1/16SS681J |
| R 409 | (B,152,39) | (EW5,UW5) | RS1/16SS681J |
| R 410 | (B,150,48) | | RS1/16SS102J |
| R 411 | (B,152,63) | (EW5,UW5) | RS1/16SS681J |
| R 412 | (B,152,64) | | RS1/16SS681J |
| R 413 | (B,152,65) | | RS1/16SS681J |
| R 414 | (B,152,66) | | RS1/16SS681J |
| R 415 | (B,152,67) | | RS1/16SS681J |
| R 416 | (B,152,68) | | RS1/16SS681J |
| R 419 | (A,148,35) | (EW5,UW5) | RS1/16SS223J |
| R 420 | (A,148,36) | (EW5,UW5) | RS1/16SS223J |
| R 421 | (A,150,34) | (EW5,UW5) | RS1/16SS223J |
| R 422 | (A,148,34) | (EW5,UW5) | RS1/16SS223J |
| R 425 | (B,143,82) | | RS1/16SS683J |
| R 426 | (B,151,29) | (EW5,UW5) | RS1/16SS0R0J |
| R 427 | (B,151,33) | (EW5,UW5) | RS1/16SS0R0J |
| R 428 | (B,151,35) | (EW5,UW5) | RS1/16SS0R0J |
| R 429 | (B,150,39) | (EW5,UW5) | RS1/16SS0R0J |
| R 430 | (B,149,48) | | RS1/16SS0R0J |
| R 431 | (B,150,63) | (EW5,UW5) | RS1/16SS0R0J |
| R 432 | (B,150,64) | | RS1/16SS0R0J |
| R 433 | (B,150,65) | | RS1/16SS0R0J |
| R 434 | (B,150,67) | | RS1/16SS0R0J |
| R 435 | (B,150,68) | | RS1/16SS0R0J |
| R 501 | (A,98,13) | | RS1/16SS0R0J |
| R 521 | (A,18,108) | | RS1/16S0R0J |
| R 522 | (A,11,108) | | RS1/16S0R0J |
| R 524 | (A,15,24) | | RS1/16SS0R0J |
| R 525 | (A,17,108) | | RS1/16S0R0J |
| R 526 | (A,13,108) | | RS1/16S0R0J |
| R 529 | (A,14,21) | | RS1/16SS0R0J |
| R 530 | (A,14,20) | | RS1/16SS0R0J |
| R 562 | (A,73,16) | | RS1/16SS104J |
| R 563 | (A,74,16) | | RS1/16SS102J |
| R 565 | (A,78,24) | | RS1/16SS101J |
| R 566 | (A,75,24) | | RS1/16SS101J |
| R 568 | (A,70,22) | | RS1/16SS1003F |
| R 570 | (A,77,17) | | RS1/16SS103J |
| R 601 | (A,111,40) | | RS1/16SS0R0J |
| R 602 | (A,123,55) | | RS1/16SS0R0J |
| R 603 | (B,135,41) | | RS1/16SS0R0J |
| R 604 | (A,127,26) | | RS1/16SS0R0J |
| R 605 | (A,116,26) | | RS1/16SS0R0J |
| R 606 | (A,110,43) | | RS1/16SS102J |
| R 607 | (A,130,26) | | RS1/16SS104J |
| R 608 | (A,128,55) | | RS1/16SS681J |
| R 609 | (A,130,55) | | RS1/16SS472J |
| R 610 | (A,129,55) | | RS1/16SS681J |
| R 612 | (A,131,55) | | RS1/16SS102J |
| R 617 | (B,123,36) | | RS1/16SS472J |
| R 618 | (A,110,36) | | RS1/16SS104J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 619 | (A,124,26) | RS1/16SS104J |
| R 620 | (A,107,18) | RS1/16SS104J |
| R 621 | (A,119,64) | RS1/16SS103J |
| R 622 | (A,124,66) | RS1/16SS104J |
| R 623 | (A,132,55) | RS1/16SS102J |
| R 624 | (A,139,29) | RS1/16SS0R0J |
| R 625 | (B,124,30) (UW5) | RS1/16SS104J |
| R 626 | (A,117,57) | RS1/16SS0R0J |
| R 627 | (A,111,27) | RS1/16SS333J |
| R 632 | (A,142,36) (UW5) | RS1/16SS104J |
| R 634 | (A,140,33) | RS1/16SS104J |
| R 635 | (A,141,33) | RS1/16SS104J |
| R 636 | (A,142,33) | RS1/16SS104J |
| R 637 | (A,139,33) | RS1/16SS104J |
| R 638 | (B,138,34) | RS1/16SS102J |
| R 639 | (B,127,40) | RS1/16SS104J |
| R 641 | (B,81,52) (UW5) | RS1/16SS104J |
| R 642 | (B,134,34) | RS1/16SS102J |
| R 643 | (B,135,42) | RS1/16SS104J |
| R 644 | (A,140,30) | RS1/16SS472J |
| R 645 | (A,124,55) | RS1/16SS103J |
| R 646 | (A,116,57) | RS1/16SS182J |
| R 647 | (A,120,26) | RS1/16SS221J |
| R 648 | (A,122,26) | RS1/16SS221J |
| R 649 | (B,122,40) | RS1/16SS104J |
| R 650 | (A,121,26) | RS1/16SS104J |
| R 651 | (A,116,55) | RS1/16SS182J |
| R 652 | (A,126,55) | RS1/16SS102J |
| R 654 | (B,122,43) | RS1/16SS104J |
| R 655 | (A,115,26) | RS1/16SS333J |
| R 656 | (A,109,28) | RS1/16SS681J |
| R 657 | (A,109,29) | RS1/16SS681J |
| R 658 | (B,123,48) | RS1/16SS101J |
| R 659 | (B,126,47) | RS1/16SS104J |
| R 660 | (B,126,46) | RS1/16SS104J |
| R 661 | (A,123,26) | RS1/16SS102J |
| R 662 | (A,119,66) | RS1/16SS0R0J |
| R 663 | (A,127,55) | RS1/16SS0R0J |
| R 664 | (B,130,49) | RS1/16SS1501D |
| R 665 | (B,121,54) | RS1/16SS104J |
| R 667 | (A,110,46) | RS1/16SS102J |
| R 668 | (A,105,26) | RS1/16SS104J |
| R 669 | (A,109,33) | RS1/16SS102J |
| R 670 | (A,109,30) | RS1/16SS681J |
| R 671 | (A,109,31) | RS1/16SS681J |
| R 674 | (B,81,53) (UW5) | RS1/16SS473J |
| R 675 | (B,78,56) (UW5) | RS1/16SS473J |
| R 677 | (B,135,44) | RS1/16SS472J |
| R 678 | (B,131,43) | RS1/16SS102J |
| R 751 | (A,138,76) | RS1/16SS150J |
| R 752 | (A,142,75) | RS1/16SS470J |
| R 753 | (A,138,75) | RS1/16SS101J |
| R 754 | (A,142,74) | RS1/16SS101J |
| R 755 | (A,136,70) | RS1/16SS102J |
| R 756 | (A,144,67) | RS1/16S0R0J |
| R 771 | (A,73,87) (UW5) | RS1/16SS472J |
| R 772 | (A,73,84) (UW5) | RS1/16SS472J |
| R 773 | (A,67,87) (UW5) | RS1/16SS472J |
| R 774 | (A,70,83) (UW5) | RS1/16SS472J |
| R 775 | (A,72,87) (UW5) | RS1/16SS472J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 776 | (A,72,83) (UW5) | RS1/16SS472J |
| R 777 | (A,75,87) (UW5) | RS1/16SS472J |
| R 778 | (A,75,84) (UW5) | RS1/16SS472J |
| R 779 | (A,79,84) (UW5) | RS1/16SS472J |
| R 780 | (A,66,82) (UW5) | RS1/16SS101J |
| R 781 | (A,67,82) (UW5) | RS1/16SS101J |
| R 782 | (A,74,82) (UW5) | RS1/16SS101J |
| R 783 | (A,79,87) (UW5) | RS1/16SS472J |
| R 784 | (B,57,85) (UW5) | RS1/16SS512J |
| R 785 | (B,55,85) (UW5) | RS1/16SS681J |
| R 786 | (B,61,85) (UW5) | RS1/16SS822J |
| R 787 | (A,63,86) (UW5) | RS1/16SS472J |
| R 788 | (A,70,87) (UW5) | RS1/16SS472J |
| R 789 | (A,68,87) (UW5) | RS1/16SS472J |
| R 790 | (A,63,84) (UW5) | RS1/16SS472J |
| R 791 | (A,67,84) (UW5) | RS1/16SS472J |
| R 792 | (A,68,84) (UW5) | RS1/16SS472J |
| R 793 | (A,75,82) (UW5) | RS1/16SS101J |
| R 798 | (B,64,88) (UW5) | RS1/16S0R0J |
| R 801 | (B,166,10) | RS1/16S181J |
| R 802 | (B,166,7) | RS1/16S181J |
| R 803 | (B,167,11) | RS1/16SS103J |
| R 804 | (B,168,9) | RS1/16SS332J |
| R 902 | (B,77,41) | RS1/16SS0R0J |
| R 903 | (B,75,39) | RS1/16SS0R0J |
| R 905 | (B,76,36) | RS1/16S0R0J |
| R 906 | (B,80,38) | RS1/16S0R0J |
| R 907 | (B,61,29) | RS1/16S0R0J |
| R 908 | (B,63,29) | RS1/16S0R0J |
| R 909 | (B,69,36) | RS1/16SS471J |
| R 910 | (B,77,50) | RS1/16SS102J |
| R 911 | (B,70,42) | RS1/16SS221J |
| R 912 | (B,76,47) | RS1/16SS221J |
| R 913 | (B,70,44) | RS1/16SS221J |
| R 914 | (B,76,44) | RS1/16SS221J |
| R 915 | (B,91,37) | RS1/16SS102J |
| R 916 | (B,71,53) | RS1/16SS0R0J |
| R 951 | (A,24,101) | RS1/16SS0R0J |
| R 952 | (A,24,103) | RS1/16SS473J |
| R 953 | (A,28,106) | RS1/16SS121J |
| R 954 | (A,20,108) | RS1/16SS104J |
| R 955 | (A,20,109) | RS1/16SS103J |
| R 1001 | (B,26,83) | RS1/16SS271J |
| R 1003 | (B,19,80) | RS1/16SS391J |
| R 1004 | (B,16,84) | RS1/16S2R2J |
| R 1005 | (B,16,82) | RS1/16S2R2J |
| R 1006 | (B,18,84) | RS1/16S2R2J |
| R 1007 | (B,18,82) | RS1/16S2R2J |
| R 1021 | (B,131,17) | RS1/16SS331J |
| R 1022 | (B,132,17) | RS1/16SS331J |
| R 1023 | (B,133,17) | RS1/16SS103J |
| R 1025 | (B,131,20) | RS1/16SS0R0J |
| R 1026 | (B,128,8) | RS1/16SS103J |
| R 1027 | (B,126,11) | RS1/16SS103J |
| R 1061 | (A,11,95) | RS1/16SS473J |
| R 1081 | (B,146,24) | RS1/16SS0R0J |
| R 1141 | (A,36,76) | RS1/16SS681J |
| R 1144 | (B,38,67) | RS1/16SS9100D |
| R 1145 | (B,33,61) | RS1/16SS512J |
| R 1146 | (B,40,65) | RS1/16SS3003D |

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| R 1147 | (B,35,66) | | RS1/16S5101D |
| R 1148 | (B,35,61) | | RS1/16SS0R0J |
| R 1150 | (B,42,63) | | RS1/16SS1102D |
| R 1151 | (B,38,59) | | RS1/16SS621J |
| R 1152 | (B,46,58) | | RS1/16SS0R0J |
| R 1154 | (B,38,66) | | RS1/16SS0R0J |
| R 1201 | (B,38,29) | | RS1/16SS2R2J |
| R 1202 | (B,50,40) | | RS1/16SS823J |
| R 1203 | (B,40,51) | | RS1/16SS2R2J |
| R 1204 | (B,46,52) | | RS1/16SS0R0J |
| R 1205 | (B,44,51) | | RS1/16SS151J |
| R 1206 | (B,43,52) | | RS1/16SS4702D |
| R 1207 | (B,43,50) | | RS1/16SS6801D |
| R 1208 | (B,44,50) | | RS1/16SS1002D |
| R 1209 | (B,44,49) | | RS1/16SS303J |
| R 1210 | (A,35,46) | | RS1/16SS10R0D |
| R 1211 | (A,38,33) | | RS1/16SS10R0D |
| R 1212 | (B,50,39) | | RS1/16SS102J |
| R 1213 | (B,46,34) | | RS1/16SS303J |
| R 1214 | (B,46,32) | | RS1/16SS8202D |
| R 1215 | (B,45,32) | | RS1/16SS102J |
| R 1216 | (B,44,30) | | RS1/16SS9101F |
| R 1217 | (B,45,30) | | RS1/16SS330J |
| R 1218 | (B,48,32) | | RS1/16SS0R0J |
| R 1219 | (B,50,44) | | RS1/16SS0R0J |
| R 1220 | (B,50,43) | | RS1/16SS0R0J |
| R 1224 | (B,42,52) | | RS1/16SS102J |
| R 1225 | (B,37,48) | | RS1/10SR103J |
| R 1226 | (B,37,35) | | RS1/10SR103J |
| R 1343 | (A,38,16) | | RS1/16SS221J |
| R 2001 | (B,70,27) | (UW5) | RS1/16SS750J |
| R 2003 | (B,65,17) | (UW5) | RS1/16SS0R0J |
| R 2004 | (B,72,27) | (UW5) | RS1/16SS750J |
| R 2005 | (B,57,20) | (UW5) | RS1/16SS471J |
| R 2006 | (B,72,26) | (UW5) | RS1/16SS750J |
| R 2007 | (B,70,26) | (UW5) | RS1/16SS750J |
| R 2009 | (B,56,16) | (UW5) | RS1/16SS471J |
| R 2010 | (B,59,20) | (UW5) | RS1/16SS102J |
| R 2011 | (B,27,12) | | RS1/16SS102J |
| R 2012 | (A,33,16) | | RS1/16SS102J |
| R 2013 | (B,131,10) | | RS1/16SS223J |
| R 2014 | (B,129,10) | | RS1/16SS223J |
| R 2015 | (B,138,9) | | RS1/16SS750J |
| R 2016 | (B,126,8) | | RS1/16S0R0J |
| R 2017 | (B,126,10) | | RS1/16S0R0J |
| R 2018 | (B,111,9) | | RS1/16SS750J |
| R 2019 | (A,144,15) | | RS1/16SS102J |
| R 2020 | (B,131,13) | | RS1/16SS0R0J |
| R 2021 | (B,133,13) | | RS1/16SS0R0J |
| R 2022 | (B,138,14) | | RS1/16SS0R0J |

## CAPACITORS

| | | | |
|---|---|---|---|
| C 101 | (A,140,106) | | CKSQYB475K10 |
| C 102 | (A,134,106) | | CKSQYB475K10 |
| C 103 | (A,106,98) | | CEVW101M16 |
| C 104 | (A,142,106) | | CKSQYB475K10 |
| C 105 | (A,136,106) | | CKSQYB475K10 |
| C 106 | (A,144,106) | | CKSQYB475K10 |
| C 107 | (A,138,106) | | CKSQYB475K10 |
| C 108 | (A,109,114) | | CKSRYB104K50 |
| C 109 | (A,114,114) | | CKSRYB104K50 |
| C 110 | (A,123,114) | | CKSRYB104K50 |
| C 111 | (B,154,109) | | CKSRYB104K50 |
| C 141 | (A,57,96) | | CEAT332M16 |
| C 142 | (A,43,89) | | CKSRYB104K50 |
| C 161 | (A,33,83) | | CKSRYB105K10 |
| C 162 | (A,33,85) | | CKSRYB104K50 |
| C 163 | (A,33,87) | | CKSRYB104K50 |
| C 164 | (B,41,76) | | CKSRYB104K50 |
| C 165 | (A,41,86) | | CKSRYB103K50 |
| C 166 | (A,37,88) | | CKSRYB104K50 |
| C 167 | (B,46,78) | | CKSRYB104K50 |
| C 181 | (B,98,106) | 10 uF | DCH1201 |
| C 182 | (B,78,104) | | CKSRYB474K16 |
| C 183 | (B,80,104) | | CKSRYB474K16 |
| C 184 | (B,85,104) | | CKSRYB474K16 |
| C 185 | (B,83,104) | | CKSRYB474K16 |
| C 186 | (A,101,114) | | CKSQYB475K10 |
| C 187 | (B,80,108) | | CKSQYB474K16 |
| C 188 | (B,78,108) | | CKSQYB474K16 |
| C 189 | (B,83,108) | | CKSQYB474K16 |
| C 190 | (B,85,108) | | CKSQYB474K16 |
| C 191 | (B,88,103) | | CKSQYB225K16 |
| C 192 | (A,66,114) | | CKSRYB104K50 |
| C 193 | (B,90,104) | 10 uF | CCG1236 |
| C 194 | (B,88,107) | | CKSQYB225K16 |
| C 195 | (B,49,102) | | CKSQYB104K50 |
| C 202 | (B,135,100) | | CKSRYB105K10 |
| C 204 | (B,140,100) | | CKSRYB105K10 |
| C 205 | (B,141,100) | | CKSRYB105K10 |
| C 206 | (B,143,99) | | CKSSYB104K10 |
| C 207 | (A,140,94) | | CEVW100M10 |
| C 208 | (A,127,94) | | CEVW100M10 |
| C 209 | (B,134,83) | | CKSRYB105K10 |
| C 211 | (B,138,83) | | CKSRYB105K10 |
| C 212 | (B,140,83) | | CKSRYB105K10 |
| C 213 | (B,141,83) | | CKSSYB104K10 |
| C 214 | (B,143,83) | | CKSSYB224K6R3 |
| C 215 | (A,132,82) | | CEVW470M16 |
| C 216 | (B,127,83) | | CKSSYB104K16 |
| C 222 | (A,140,86) | | CEVW470M16 |
| C 223 | (B,133,83) | | CKSSYB104K10 |
| C 224 | (A,146,79) | | CKSSYB104K10 |
| C 227 | (B,137,100) | | CKSRYB105K10 |
| C 228 | (B,135,83) | | CKSRYB105K10 |
| C 307 | (B,104,52) | | CKSSYB104K10 |
| C 308 | (B,105,52) | | CKSSYB104K10 |
| C 309 | (B,113,66) | | CKSRYB105K10 |
| C 310 | (B,113,63) | | CKSRYB105K10 |
| C 312 | (B,113,65) | | CKSRYB105K10 |
| C 313 | (B,113,62) | | CKSRYB105K10 |
| C 315 | (B,90,61) | | CKSRYB105K10 |
| C 316 | (B,90,60) | | CKSRYB105K10 |
| C 321 | (B,103,74) | | CKSRYB105K10 |
| C 322 | (B,113,69) | | CKSRYB105K10 |
| C 323 | (B,108,73) | | CKSRYB105K10 |
| C 324 | (B,113,68) | | CKSRYB105K10 |
| C 325 | (A,104,61) | | CEVW470M16 |
| C 326 | (B,105,72) | | CKSSYB104K10 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| C 331 | (B,105,71) | CKSSYB104K10 |
| C 334 | (A,97,80) | CEVW470M16 |
| C 335 | (B,97,73) | CKSSYB104K10 |
| C 336 | (A,96,70) | CEVW220M16 |
| C 337 | (B,97,72) | CKSSYB104K10 |
| C 338 | (B,90,68) | CKSRYB105K10 |
| C 339 | (B,90,67) | CKSRYB105K10 |
| C 340 | (B,90,58) | CKSRYB105K10 |
| C 341 | (B,90,57) | CKSRYB105K10 |
| C 342 | (B,90,55) | CKSRYB105K10 |
| C 343 | (B,90,53) | CKSRYB105K10 |
| C 345 | (A,98,50) | CEVW221M4 |
| C 346 | (A,106,50) | CEVW101M6R3 |
| C 347 | (A,103,70) | CEVW220M16 |
| C 403 | (B,164,46) | CKSSYB103K16 |
| C 405 | (A,150,81) | CKSSYB103K16 |
| C 406 | (B,152,44) | CKSQYB106K6R3 |
| C 408 | (A,148,86) | CEVW101M10 |
| C 409 | (B,164,40) | CKSSYB103K16 |
| C 521 | (B,16,27) | CKSSYB105K6R3 |
| C 522 | (B,15,28) | CKSSYB104K10 |
| C 523 | (B,19,25) | CKSSYB104K10 |
| C 561 | (A,76,15) | CKSSYB104K10 |
| C 563 | (A,76,16) | CKSSYB104K10 |
| C 564 | (A,17,18) | CKSRYB105K6R3 |
| C 601 | (A,110,38) | CCSSCH7R0D50 |
| C 602 | (A,110,40) | CCSSCH7R0D50 |
| C 603 | (A,101,38) | CKSQYB106K6R3 |
| C 605 | (B,114,37) | CKSSYB102K50 |
| C 606 | (A,117,55) | CKSRYB105K10 |
| C 607 | (B,122,51) | CKSSYB103K16 |
| C 608 | (B,135,40) | CKSSYB103K16 |
| C 609 | (A,139,28) | CKSSYB103K16 |
| C 610 | (A,126,26) | CKSSYB103K16 |
| C 611 | (A,117,26) | CKSSYB103K16 |
| C 612 | (B,122,42) | CKSSYB102K50 |
| C 613 | (B,126,42) | CKSQYB475K10 |
| C 615 | (B,128,58) | CCSSCH101J50 |
| C 618 | (A,105,23) | CKSRYB105K10 |
| C 619 | (B,121,35) | CCSSCH101J50 |
| C 751 | (A,138,74) | CKSSYB102K50 |
| C 752 | (A,142,73) | CKSSYB102K50 |
| C 753 | (A,138,73) | CKSSYB104K10 |
| C 771 | (A,77,87) (UW5) | CCSRCH6R0D50 |
| C 772 | (A,77,84) (UW5) | CCSRCH6R0D50 |
| C 773 | (A,65,86) (UW5) | CCSRCH6R0D50 |
| C 774 | (A,64,83) (UW5) | CCSRCH6R0D50 |
| C 775 | (B,74,91) (UW5) | CKSQYB106K6R3 |
| C 776 | (B,70,91) (UW5) | CKSQYB106K6R3 |
| C 777 | (B,68,91) (UW5) | CKSQYB106K6R3 |
| C 778 | (A,74,91) (UW5) | CKSQYB106K6R3 |
| C 779 | (B,72,91) (UW5) | CKSQYB106K6R3 |
| C 780 | (B,56,85) (UW5) | CKSRYB104K16 |
| C 781 | (B,63,85) (UW5) | CKSRYB104K16 |
| C 782 | (B,59,85) (UW5) | CKSSYB102K50 |
| C 785 | (A,81,84) (UW5) | CKSQYB106K6R3 |
| C 786 | (A,81,87) (UW5) | CKSQYB106K6R3 |
| C 787 | (A,69,91) (UW5) | CKSQYB106K6R3 |
| C 901 | (A,66,28) | CKSSYB104K10 |
| C 902 | (B,68,51) | CCSSCH101J50 |
| C 903 | (A,75,33) | CKSSYB104K10 |
| C 952 | (A,23,107) | CKSSYB104K10 |
| C 1002 | (A,19,79) | CEVW470M6R3 |
| C 1003 | (B,19,70) | CKSSYB103K16 |
| C 1005 | (A,16,65) | CEAT102M16(P30) |
| C 1006 | (B,19,78) | CKSRYB103K50 |
| C 1007 | (B,30,80) | CKSRYB104K50 |
| C 1021 | (A,147,10) | CEVW101M16 |
| C 1022 | (B,134,9) | CKSRYB104K50 |
| C 1023 | (B,137,13) | CKSYB475K16 |
| C 1024 | (A,118,8) | CEAT102M10(P30) |
| C 1025 | (A,138,20) (UW5) | CEVW220M16 |
| C 1061 | (A,11,91) | CKSYB105K35 |
| C 1081 | (A,20,95) | CEVW101M10 |
| C 1082 | (A,148,20) | CEVW220M16 |
| C 1083 | (B,151,17) | CKSSYB103K16 |
| C 1084 | (B,150,23) | CKSQYB475K10 |
| C 1141 | (A,32,77) | CKSSYB104K16 |
| C 1142 | (B,42,62) | CKSSYB104K16 |
| C 1144 | (B,38,68) | CCSSCH271J25 |
| C 1145 | (B,29,65) 4.7 uF | CCG1222 |
| C 1146 | (B,41,65) | CKSSYB103K16 |
| C 1147 | (B,44,60) 4.7 uF | CCG1222 |
| C 1148 | (B,38,65) | CKSRYB104K16 |
| C 1201 | (A,19,37) | CEAT472M16(P30) |
| C 1202 | (A,55,42) | CEHAZL331M16(P30) |
| C 1203 | (A,55,33) | CEHAZL331M16(P30) |
| C 1207 | (B,44,52) | CCSSCH331J50 |
| C 1208 | (B,44,48) | CCSSCH151J50 |
| C 1209 | (B,46,49) | CKSRYB683K50 |
| C 1210 | (B,41,48) | CKSQYB335K10 |
| C 1211 | (B,39,48) | CKSRYB333K25 |
| C 1212 | (B,35,40) | CKSYB105K35 |
| C 1213 | (B,22,51) 10 uF | CCG1223 |
| C 1214 | (A,31,27) 10 uF | CCG1223 |
| C 1215 | (B,38,34) | CKSRYB333K25 |
| C 1216 | (A,30,51) 10 uF | CCG1223 |
| C 1217 | (B,50,35) | CKSSYB103K16 |
| C 1218 | (B,43,33) | CCSRCH101J50 |
| C 1219 | (B,47,34) | CKSRYB683K50 |
| C 1220 | (B,41,33) | CKSQYB335K10 |
| C 1221 | (B,46,35) | CCSSCH151J50 |
| C 1222 | (B,46,30) | CCSSCH151J50 |
| C 1226 | (A,57,56) 10 uF | CCG1236 |
| C 1227 | (A,57,54) | CKSSYB104K10 |
| C 1228 | (A,61,23) | CKSSYB104K10 |
| C 1229 | (A,60,24) 10 uF | CCG1236 |
| C 1230 | (B,22,48) | CKSYB105K35 |
| C 1231 | (B,47,49) | CKSSYB103K16 |
| C 1341 | (A,45,10) 100 uF/16 V | CCH1477 |
| C 1342 | (A,39,8) | CKSRYB105K10 |
| C 1343 | (A,34,14) | CKSRYB104K16 |
| C 1344 | (A,32,17) | CKSSYB102K50 |
| C 1402 | (B,54,69) | CKSRYB474K10 |
| C 1403 | (B,48,72) | CKSRYB105K10 |
| C 1500 | (A,63,23) | CKSSYB102K50 |
| C 2001 | (B,110,11) | CKSRYB104K50 |
| C 2002 | (B,154,27) | CKSRYB104K50 |
| C 2003 | (B,134,9) | CKSRYB104K50 |
| C 2004 | (B,127,13) | CKSRYB104K50 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| C 2005 | (B,22,22) | CKSRYB104K50 |

# E

## Unit Number : (UC,EW5)
## Unit Number : (UW5)
## Unit Name : Keyboard Unit

### MISCELLANEOUS

| | | |
|---|---|---|
| D 3002 | Chip LED | NSSM038A-6430 |
| D 3005 | Chip LED | NSSM038A-6430 |
| S 3001 | Switch(SOURCE) | VSG1020 |
| S 3002 | Switch(FORWARD) | VSG1020 |
| S 3003 | Switch(REVERSE) | VSG1020 |
| S 3004 | Switch(VOL-) | VSG1020 |
| S 3005 | Push Switch(RESET) | CSG1155 |
| S 3006 | Switch(EJECT) | VSG1020 |
| S 3007 | Switch(MUTE) | VSG1020 |
| S 3008 | Switch(DISP.OFF) | VSG1020 |
| S 3009 | Switch(VOL+) | VSG1020 |
| U 3001 | Remote Receiver Unit | RS-470 |

### RESISTORS

| | |
|---|---|
| R 3001 | RS1/16S470J |
| R 3005 | RS1/16S0R0J |
| R 3006 | RS1/16S182J |
| R 3007 | RS1/16S392J |
| R 3008 | RS1/16S392J |
| R 3009 | RS1/16S103J |
| R 3010 | RS1/16S182J |
| R 3011 | RS1/16S103J |

### CAPACITORS

| | |
|---|---|
| C 3005 | CKSRYB104K50 |
| C 3006 | CKSRYB104K16 |
| C 3007 | CKSRYB104K16 |
| C 3008 | CKSRYB104K16 |
| C 3012 | CKSRYB104K16 |
| C 3013 | CKSRYB104K16 |
| C 3014 | CKSRYB104K16 |

# F

## Unit Number : CWN3797(UC,EW5)
## Unit Number : CWN3796(UW5)
## Unit Name : Monitor Unit

### MISCELLANEOUS

| | | |
|---|---|---|
| IC 5001 | (A,118,22) IC | BH2227AFV |
| IC 5101 | (A,111,39) BLANK IC | PE5669A8 |
| IC 5102 | (B,119,34) IC | S-93C56BD0I-J8 |
| IC 5201 | (A,65,68) IC | PEH208A8 |
| IC 5301 | (A,33,57) SDRAM(128 M) | K4S281632K-UC75 |
| IC 5451 | (B,75,18) IC | NJM2505AF |
| IC 5501 | (B,109,61) IC | BD6171KV |
| IC 5601 | (A,83,34) IC(UW5) | AK5406XQ |
| IC 5701 | (B,44,36) Logic IC | TC7SHU04FUS1 |
| IC 5702 | (B,50,54) IC | MN103SE60PUB |
| IC 6005 | (B,63,13) Logic IC | TC74VHCT04AFTS1 |
| IC 6101 | (A,16,38) IC | TK11840L |
| IC 6151 | (A,18,22) IC | NJM082BV |
| Q 5001 | (B,116,19) Transistor | UMX1N |
| Q 5002 | (B,106,12) Transistor | 2SC4081 |
| Q 5003 | (B,116,27) Transistor | UMX1N |
| Q 5004 | (B,113,12) Transistor | 2SC4081 |
| Q 5401 | (A,104,20) Transistor | FMG12 |
| Q 5402 | (B,104,20) Transistor | UMF5N |
| Q 5403 | (B,101,20) Transistor | UMF5N |
| Q 5451 | (B,71,20) Transistor | 2SC4081 |
| Q 5452 | (B,68,30) Transistor | 2SA1576A |
| Q 5501 | (A,119,65) FET | RSQ035P03 |
| Q 5502 | (A,110,68) FET | RSQ035P03 |
| Q 5503 | (A,98,53) Transistor | 2SA1577 |
| Q 5504 | (A,98,56) Transistor | 2SC4097 |
| Q 5505 | (A,96,67) Transistor | IMZ4 |
| Q 5561 | (A,93,56) Transistor | UMX2N |
| Q 5562 | (A,97,50) Transistor | UMZ1N |
| Q 6001 | (B,18,28) Transistor | UMZ1N |
| Q 6002 | (B,24,31) Transistor | 2SC4097 |
| Q 6003 | (B,25,28) Transistor | 2SA1577 |
| Q 6101 | (A,17,34) Digital Transistor | DTC143EUA |
| Q 6102 | (A,16,43) FET | CPH6424 |
| Q 6103 | (A,7,21) Digital Transistor | DTC143EUA |
| Q 6151 | (B,21,22) FET | RUE003N02 |
| D 5401 | (A,98,21) Diode | MA111 |
| D 5402 | (A,113,15) Diode | UDZS5R6(B) |
| D 5403 | (A,110,21) Diode | UDZS5R6(B) |
| D 5404 | (A,98,12) Diode | UDZS5R6(B) |
| D 5405 | (A,97,16) Diode | UDZS5R6(B) |
| D 5501 | (A,121,55) Diode | RSX201L-30 |
| D 5502 | (A,107,64) Diode | RB160M-30 |
| D 5503 | (B,98,65) Diode | RB548W |
| D 5504 | (B,98,67) Diode | RB548W |
| D 5505 | (B,96,59) Diode | RB548W |
| D 5506 | (B,96,57) Diode | RB548W |
| D 5507 | (B,96,54) Diode | RB548W |
| D 6101 | (A,8,41) Diode | RB050L-60 |
| D 6102 | (A,8,44) Diode | UDZS36(B) |
| L 5101 | (A,102,26) Inductor | CTF1635 |
| L 5201 | (A,52,57) Inductor | CTF1473 |
| L 5301 | (A,48,57) Inductor | CTF1473 |
| L 5302 | (A,21,64) Inductor | CTF1382 |
| L 5401 | (A,98,27) Inductor | CTF1473 |
| L 5451 | (B,76,21) Inductor | CTF1379 |
| L 5452 | (B,68,23) Inductor | LCTAW220J2520 |
| L 5453 | (B,68,25) Chip Coil | LCTAW270J2520 |
| L 5454 | (A,68,25) Inductor | LCTAW101J2520 |
| L 5501 | (A,117,73) Choke Coil 18 uH | CTH1250 |
| L 5502 | (A,110,73) Choke Coil 10 uH | CTH1249 |
| L 5503 | (A,123,73) Choke Coil 10 uH | CTH1249 |
| L 5504 | (B,121,57) Inductor | CTF1635 |
| L 5505 | (A,125,61) Inductor | DTL1136 |
| L 5506 | (B,103,73) Inductor | CTF1488 |
| L 5507 | (A,102,71) Choke Coil 68 uH | CTH1318 |
| L 5508 | (B,94,63) Inductor | CTF1635 |
| L 5509 | (B,100,50) Inductor | CTF1635 |
| L 5510 | (B,96,72) Inductor | DTL1096 |
| L 5601 | (A,65,30) Inductor(UW5) | CTF1473 |
| L 5602 | (A,64,35) Inductor(UW5) | CTF1473 |

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| L 5603 | (A,68,43) | Inductor(UW5) | CTF1635 |
| L 5701 | (A,53,49) | Inductor | CTF1635 |
| L 5702 | (A,59,50) | Inductor | CTF1635 |
| L 5705 | (A,52,54) | Inductor | CTF1473 |
| L 5706 | (B,39,29) | Inductor | CTF1748 |
| L 5707 | (B,34,29) | Inductor | CTF1748 |
| L 5708 | (B,57,27) | Inductor | CTF1748 |
| L 5709 | (B,28,31) | Inductor | CTF1748 |
| L 5710 | (A,48,44) | Inductor | CTF1748 |
| L 5711 | (A,48,42) | Inductor | CTF1748 |
| L 5712 | (A,46,42) | Inductor | CTF1748 |
| L 5713 | (A,46,40) | Inductor | CTF1748 |
| L 5714 | (A,45,42) | Inductor | CTF1748 |
| L 5715 | (A,45,37) | Inductor | CTF1748 |
| L 5716 | (A,44,41) | Inductor | CTF1748 |
| L 5717 | (A,43,38) | Inductor | CTF1748 |
| L 5718 | (A,43,42) | Inductor | CTF1748 |
| L 5719 | (A,42,37) | Inductor | CTF1748 |
| L 5720 | (A,42,42) | Inductor | CTF1748 |
| L 5721 | (B,38,37) | Inductor | CTF1748 |
| L 5722 | (B,37,38) | Inductor | CTF1748 |
| L 5723 | (B,34,39) | Inductor | CTF1748 |
| L 5724 | (B,34,40) | Inductor | CTF1748 |
| L 5725 | (B,34,41) | Inductor | CTF1748 |
| L 5726 | (B,32,41) | Inductor | CTF1748 |
| L 5727 | (B,32,39) | Inductor | CTF1748 |
| L 5728 | (B,31,39) | Inductor | CTF1748 |
| L 6001 | (A,64,12) | Inductor | CTF1306 |
| L 6004 | (A,63,14) | Inductor | CTF1306 |
| L 6005 | (A,37,41) | Inductor | CTF1635 |
| L 6006 | (A,30,41) | Inductor | DTL1096 |
| L 6007 | (A,25,38) | Inductor | CTF1635 |
| L 6008 | (B,23,38) | Inductor | DTL1096 |
| L 6101 | (A,56,9) | Choke Coil 3.3 uH | CTH1419 |
| L 6102 | (A,8,35) | Choke Coil 3.3 uH | CTH1419 |
| X 5101 | (A,123,42) | Ceramic Resonator 20.000 MHz | VSS1186 |
| X 5701 | (B,44,30) | Oscillator 9.597 MHz | CSS1778 |
| X 5702 | (B,55,32) | Radiator 33.000 MHz | CSS1634 |
| P 6101 | (A,65,8) | Poly Switch | MINISMDC075F/24 |

## RESISTORS

| | | |
|---|---|---|
| R 5001 | (B,113,17) | RS1/16SS201J |
| R 5002 | (B,114,17) | RS1/16SS151J |
| R 5003 | (B,115,17) | RS1/16SS0R0J |
| R 5004 | (B,111,21) | RS1/16SS103J |
| R 5006 | (B,114,24) | RS1/16SS201J |
| R 5007 | (B,115,24) | RS1/16SS151J |
| R 5008 | (B,116,24) | RS1/16SS0R0J |
| R 5009 | (B,109,25) | RS1/16SS103J |
| R 5011 | (B,116,21) | RS1/16SS271J |
| R 5012 | (B,115,21) | RS1/16SS271J |
| R 5013 | (B,115,23) | RS1/16SS0R0J |
| R 5014 | (B,118,20) | RS1/16SS103J |
| R 5016 | (B,118,29) | RS1/16SS271J |
| R 5017 | (B,120,29) | RS1/16SS271J |
| R 5018 | (B,122,29) | RS1/16SS0R0J |
| R 5019 | (B,119,27) | RS1/16SS103J |
| R 5021 | (B,108,15) | RS1/16SS221J |
| R 5022 | (B,108,13) | RS1/16SS221J |
| R 5023 | (B,108,11) | RS1/16SS0R0J |
| R 5024 | (B,106,15) | RS1/16SS103J |
| R 5026 | (B,115,13) | RS1/16SS221J |
| R 5027 | (B,115,12) | RS1/16SS221J |
| R 5028 | (B,114,11) | RS1/16SS0R0J |
| R 5029 | (B,112,14) | RS1/16SS103J |
| R 5031 | (B,121,21) | RS1/16S0R0J |
| R 5033 | (A,67,15) | RS1/16S0R0J |
| R 5036 | (A,59,34) | RS1/16S0R0J |
| R 5037 | (A,61,34) | RS1/16S0R0J |
| R 5040 | (B,68,37) | RS1/16S0R0J |
| R 5101 | (A,97,37) | RS1/16SS473J |
| R 5102 | (A,98,34) | RS1/16SS471J |
| R 5103 | (A,98,33) | RS1/16SS471J |
| R 5104 | (A,99,40) | RS1/16SS0R0J |
| R 5105 | (A,99,39) | RS1/16SS0R0J |
| R 5106 | (A,99,37) | RS1/16SS471J |
| R 5107 | (A,97,36) | RS1/16S0R0J |
| R 5108 | (A,106,28) | RS1/16SS471J |
| R 5109 | (A,105,51) | RS1/16SS471J |
| R 5110 | (A,99,38) | RS1/16SS471J |
| R 5111 | (A,107,27) | RS1/16SS4701D |
| R 5112 | (B,107,44) | RS1/16SS473J |
| R 5113 | (A,110,25) | RS1/16SS472J |
| R 5114 | (A,110,27) | RS1/16SS472J |
| R 5115 | (A,108,28) | RS1/16SS471J |
| R 5116 | (A,111,27) | RS1/16SS471J |
| R 5117 | (B,109,45) | RS1/16SS473J |
| R 5118 | (B,110,45) | RS1/16SS473J |
| R 5119 | (B,116,46) | RS1/16SS471J |
| R 5120 | (A,111,51) | RS1/16SS0R0J |
| R 5121 | (B,112,45) | RS1/16SS473J |
| R 5122 | (A,112,51) | RS1/16SS471J |
| R 5123 | (A,113,51) | RS1/16SS471J |
| R 5124 | (A,113,28) | RS1/16SS471J |
| R 5125 | (A,99,42) (UW5) | RS1/16SS473J |
| R 5126 | (B,112,33) | RS1/16SS101J |
| R 5127 | (A,114,53) | RS1/16SS471J |
| R 5128 | (A,115,28) | RS1/16SS471J |
| R 5129 | (A,116,28) | RS1/16SS471J |
| R 5130 | (A,115,51) (UW5) | RS1/16SS471J |
| R 5131 | (A,118,28) | RS1/16SS471J |
| R 5132 | (A,117,51) (UW5) | RS1/16SS470J |
| R 5133 | (A,118,51) (UW5) | RS1/16SS470J |
| R 5134 | (B,108,48) | RS1/16SS471J |
| R 5135 | (A,108,52) | RS1/16SS471J |
| R 5136 | (B,114,39) | RS1/16SS473J |
| R 5137 | (B,115,38) | RS1/16SS473J |
| R 5138 | (A,109,52) | RS1/16SS471J |
| R 5139 | (B,107,42) (UC,EW5) | RS1/16SS473J |
| R 5140 | (A,123,35) | RAB4CQ102J |
| R 5142 | (A,120,51) | RS1/16SS104J |
| R 5144 | (B,122,31) | RS1/16SS473J |
| R 5145 | (B,121,46) | RS1/16SS102J |
| R 5146 | (A,122,38) | RS1/16SS103J |
| R 5147 | (A,122,37) | RS1/16SS103J |
| R 5148 | (B,122,45) | RS1/16SS104J |
| R 5150 | (B,122,38) | RS1/16S0R0J |
| R 5151 | (A,122,47) | RS1/16S0R0J |
| R 5152 | (B,109,32) | RS1/16SS473J |
| R 5153 | (A,123,28) | RS1/16SS473J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5154 | (A,99,41) | RS1/16SS473J |
| R 5201 | (A,52,76) | RS1/16SS0R0J |
| R 5202 | (A,49,75) | RS1/16SS0R0J |
| R 5203 | (A,52,74) | RS1/16SS0R0J |
| R 5204 | (A,50,74) | RS1/16SS0R0J |
| R 5205 | (A,52,73) | RS1/16SS0R0J |
| R 5206 | (A,50,72) | RS1/16SS0R0J |
| R 5207 | (A,52,72) | RS1/16SS0R0J |
| R 5208 | (A,50,71) | RS1/16SS0R0J |
| R 5209 | (A,52,70) | RS1/16SS0R0J |
| R 5210 | (A,50,70) | RS1/16SS0R0J |
| R 5211 | (A,54,76) | RS1/16SS0R0J |
| R 5212 | (A,53,60) | RS1/16SS220J |
| R 5213 | (A,52,69) | RS1/16SS0R0J |
| R 5214 | (A,50,60) | RS1/16SS102J |
| R 5215 | (A,52,68) | RS1/16SS0R0J |
| R 5216 | (A,50,67) | RS1/16SS0R0J |
| R 5217 | (A,48,67) | RS1/16SS0R0J |
| R 5218 | (A,50,66) | RS1/16SS0R0J |
| R 5219 | (A,52,65) | RS1/16SS0R0J |
| R 5220 | (A,52,64) | RS1/16SS0R0J |
| R 5221 | (A,52,63) | RS1/16SS0R0J |
| R 5222 | (A,52,62) | RS1/16SS0R0J |
| R 5223 | (A,50,61) | RS1/16SS0R0J |
| R 5224 | (A,78,75) | RS1/16SS0R0J |
| R 5225 | (A,72,76) | RS1/16SS0R0J |
| R 5226 | (A,78,73) | RS1/16SS0R0J |
| R 5227 | (A,72,78) | RS1/16SS0R0J |
| R 5228 | (A,78,72) | RS1/16SS0R0J |
| R 5229 | (A,71,76) | RS1/16SS0R0J |
| R 5230 | (A,78,71) | RS1/16SS0R0J |
| R 5231 | (A,70,78) | RS1/16SS0R0J |
| R 5232 | (A,78,70) | RS1/16SS0R0J |
| R 5233 | (A,70,76) | RS1/16SS0R0J |
| R 5234 | (A,78,66) | RS1/16SS0R0J |
| R 5235 | (A,69,78) | RS1/16SS0R0J |
| R 5236 | (A,78,65) | RS1/16SS0R0J |
| R 5237 | (A,68,76) | RS1/16SS0R0J |
| R 5238 | (A,78,64) | RS1/16SS0R0J |
| R 5239 | (A,66,76) | RS1/16SS0R0J |
| R 5240 | (A,70,61) | RS1/16SS0R0J |
| R 5241 | (A,77,63) | RS1/16SS0R0J |
| R 5242 | (A,74,60) | RS1/16SS0R0J |
| R 5243 | (A,75,59) | RS1/16SS0R0J |
| R 5244 | (A,78,74) | RS1/16SS102J |
| R 5245 | (A,79,68) | RS1/16S0R0J |
| R 5301 | (A,21,51) | RS1/16SS0R0J |
| R 5302 | (A,23,48) | RS1/16SS0R0J |
| R 5303 | (A,24,48) | RS1/16SS0R0J |
| R 5304 | (A,26,48) | RS1/16SS0R0J |
| R 5305 | (A,27,48) | RS1/16SS0R0J |
| R 5306 | (A,28,48) | RS1/16SS0R0J |
| R 5307 | (A,29,48) | RS1/16SS0R0J |
| R 5308 | (A,30,46) | RS1/16SS0R0J |
| R 5309 | (A,30,48) | RS1/16SS0R0J |
| R 5310 | (A,32,48) | RS1/16SS0R0J |
| R 5311 | (A,33,48) | RS1/16SS820J |
| R 5312 | (A,38,46) | RS1/16SS820J |
| R 5313 | (A,38,48) | RS1/16SS820J |
| R 5314 | (A,40,48) | RS1/16SS820J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5315 | (A,41,48) | RS1/16SS820J |
| R 5316 | (A,43,48) | RS1/16SS820J |
| R 5317 | (A,44,48) | RS1/16SS820J |
| R 5318 | (A,45,48) | RS1/16SS820J |
| R 5319 | (A,35,47) | RS1/16S0R0J |
| R 5320 | (A,43,45) | RS1/16S0R0J |
| R 5322 | (A,33,68) | RS1/16S0R0J |
| R 5323 | (A,36,68) | RS1/16S0R0J |
| R 5324 | (A,42,68) | RS1/16S0R0J |
| R 5325 | (A,46,59) | RS1/16S0R0J |
| R 5326 | (A,21,66) | RS1/16SS0R0J |
| R 5327 | (A,21,67) | RS1/16SS0R0J |
| R 5328 | (A,23,67) | RS1/16SS0R0J |
| R 5329 | (A,24,66) | RS1/16SS0R0J |
| R 5330 | (A,25,66) | RS1/16SS0R0J |
| R 5331 | (A,26,66) | RS1/16SS0R0J |
| R 5332 | (A,26,68) | RS1/16SS0R0J |
| R 5333 | (A,27,66) | RS1/16SS0R0J |
| R 5334 | (A,28,66) | RS1/16SS0R0J |
| R 5335 | (A,29,66) | RS1/16SS0R0J |
| R 5336 | (A,30,68) | RS1/16SS0R0J |
| R 5337 | (A,31,66) | RS1/16SS0R0J |
| R 5338 | (A,34,66) | RS1/16SS820J |
| R 5339 | (A,35,68) | RS1/16SS820J |
| R 5340 | (A,35,66) | RS1/16SS820J |
| R 5341 | (A,38,68) | RS1/16SS820J |
| R 5342 | (A,38,66) | RS1/16SS820J |
| R 5343 | (A,39,68) | RS1/16SS820J |
| R 5344 | (A,40,68) | RS1/16SS820J |
| R 5345 | (A,42,66) | RS1/16SS820J |
| R 5401 | (A,106,23) | RS1/16SS102J |
| R 5402 | (A,100,13) | RS1/16S0R0J |
| R 5403 | (A,99,16) | RS1/16S0R0J |
| R 5404 | (A,112,13) | RS1/16S0R0J |
| R 5405 | (A,109,19) | RS1/16S0R0J |
| R 5406 | (A,107,20) | RS1/16SS102J |
| R 5407 | (A,95,13) | RS1/16SS105J |
| R 5408 | (A,97,19) | RS1/16SS105J |
| R 5410 | (B,104,17) | RS1/16SS103J |
| R 5411 | (B,102,18) | RS1/16SS103J |
| R 5412 | (B,104,22) | RS1/16SS103J |
| R 5413 | (B,100,17) | RS1/16SS103J |
| R 5451 | (B,78,11) | RS1/16SS0R0J |
| R 5453 | (B,76,12) | RS1/16SS101J |
| R 5454 | (B,75,11) | RS1/16SS101J |
| R 5455 | (B,69,15) | RS1/16SS0R0J |
| R 5457 | (B,72,16) | RS1/16S4701D |
| R 5458 | (B,70,14) | RS1/16SS6801D |
| R 5459 | (B,72,20) | RS1/16SS153J |
| R 5460 | (B,69,16) | RS1/16SS333J |
| R 5461 | (B,73,18) | RS1/16SS0R0J |
| R 5462 | (B,69,17) | RS1/16SS681J |
| R 5463 | (B,68,18) | RS1/16SS471J |
| R 5466 | (B,66,28) | RS1/16SS272J |
| R 5467 | (B,69,28) | RS1/16SS391J |
| R 5469 | (B,65,28) | RS1/16SS0R0J |
| R 5501 | (A,104,59) | RS1/16S0R0J |
| R 5502 | (B,122,62) | RS1/16S6801D |
| R 5503 | (A,121,69) | RS1/16S0R0J |
| R 5504 | (B,121,70) | RS1/16S0R0J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5505 | (B,119,62) | RS1/16SS201J |
| R 5506 | (B,120,68) | RS1/16S1002D |
| R 5507 | (B,117,60) | RS1/16S1001D |
| R 5508 | (B,119,61) | RS1/16SS201J |
| R 5509 | (B,117,55) | RS1/16S5100D |
| R 5510 | (B,118,67) | RS1/16S1001D |
| R 5511 | (B,122,66) | RS1/16SS201J |
| R 5512 | (B,116,57) | RS1/16S2201D |
| R 5513 | (B,118,68) | RS1/16S3301D |
| R 5514 | (A,100,59) | RS1/16S0R0J |
| R 5515 | (A,99,65) | RS1/16SS103J |
| R 5516 | (B,120,65) | RS1/16SS302J |
| R 5517 | (B,117,61) | RS1/16SS512J |
| R 5518 | (B,113,68) | RS1/16SS223J |
| R 5519 | (A,117,67) | RS1/16SS150J |
| R 5520 | (A,109,65) | RS1/16SS150J |
| R 5521 | (B,106,70) | RS1/16SS563J |
| R 5522 | (A,102,58) | RS1/16S0R0J |
| R 5523 | (A,105,61) | RS1/16S6202D |
| R 5524 | (B,104,53) | RS1/16S1002D |
| R 5525 | (B,98,72) | RS1/16S3301D |
| R 5526 | (B,102,53) | RS1/16S4702D |
| R 5527 | (B,101,53) | RS1/16S7501D |
| R 5528 | (B,98,71) | RS1/16S1202D |
| R 5529 | (B,99,53) | RS1/16S0R0J |
| R 5530 | (B,101,68) | RS1/16S2203D |
| R 5532 | (B,98,69) | RS1/16S0R0J |
| R 5533 | (B,94,72) | RS1/16SS153J |
| R 5534 | (A,101,53) | RS1/16SS470J |
| R 5535 | (A,103,54) | RS1/16SS470J |
| R 5536 | (A,99,67) | RS1/16SS102J |
| R 5537 | (A,93,67) | RS1/16SS103J |
| R 5538 | (A,94,69) | RS1/16SS103J |
| R 5561 | (A,95,53) | RS1/16SS223J |
| R 5562 | (A,94,54) | RS1/16SS223J |
| R 5563 | (A,91,56) | RS1/16SS472J |
| R 5564 | (A,90,56) | RS1/16SS682J |
| R 5565 | (A,91,59) | RS1/16SS473J |
| R 5566 | (A,102,51) | RS1/16SS223J |
| R 5567 | (A,95,51) | RS1/16SS223J |
| R 5568 | (A,100,50) | RS1/16SS472J |
| R 5569 | (A,99,48) | RS1/16SS682J |
| R 5570 | (A,100,48) | RS1/16SS473J |
| R 5602 | (B,84,35) (UW5) | RS1/16SS473J |
| R 5604 | (A,77,23) (UW5) | RS1/16S0R0J |
| R 5605 | (A,79,23) (UW5) | RS1/16S0R0J |
| R 5606 | (A,84,23) (UW5) | RS1/16S0R0J |
| R 5607 | (A,88,23) (UW5) | RS1/16S0R0J |
| R 5608 | (A,72,29) (UW5) | RS1/16S0R0J |
| R 5609 | (A,73,31) (UW5) | RS1/16SS6801F |
| R 5610 | (A,73,33) (UW5) | RS1/16SS272J |
| R 5611 | (A,71,31) (UW5) | RS1/16S0R0J |
| R 5612 | (A,94,34) (UW5) | RS1/16S0R0J |
| R 5613 | (A,71,34) (UW5) | RS1/16SS0R0J |
| R 5614 | (A,73,35) (UW5) | RS1/16SS0R0J |
| R 5615 | (A,71,35) (UW5) | RS1/16SS0R0J |
| R 5616 | (A,71,37) (UW5) | RS1/16S0R0J |
| R 5617 | (A,73,38) (UW5) | RS1/16SS0R0J |
| R 5618 | (A,71,40) (UW5) | RS1/16S0R0J |
| R 5619 | (A,94,39) (UW5) | RS1/16S0R0J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5620 | (A,83,45) (UW5) | RS1/16S0R0J |
| R 5621 | (B,90,25) (UW5) | RS1/16SS222J |
| R 5622 | (B,92,25) (UW5) | RS1/16SS222J |
| R 5623 | (B,93,25) (UW5) | RS1/16SS222J |
| R 5701 | (B,42,32) | RS1/16SS105J |
| R 5702 | (B,45,37) | RS1/16SS220J |
| R 5703 | (B,44,32) | RS1/16SS332J |
| R 5704 | (B,46,34) | RS1/16S0R0J |
| R 5705 | (B,54,34) | RS1/16SS101J |
| R 5706 | (B,56,34) | RS1/16SS105J |
| R 5707 | (B,57,36) | RS1/16SS471J |
| R 5708 | (A,54,41) | RS1/16SS0R0J |
| R 5709 | (A,53,41) | RS1/16SS0R0J |
| R 5710 | (A,52,41) | RS1/16SS103J |
| R 5711 | (A,52,39) | RS1/16SS103J |
| R 5712 | (A,51,41) | RS1/16SS103J |
| R 5713 | (A,49,41) | RS1/16SS0R0J |
| R 5714 | (A,50,41) | RS1/16SS0R0J |
| R 5715 | (A,48,41) | RS1/16SS181J |
| R 5716 | (A,47,40) | RS1/16SS181J |
| R 5717 | (A,47,37) | RS1/16SS181J |
| R 5718 | (A,46,38) | RS1/16SS181J |
| R 5719 | (A,46,36) | RS1/16SS181J |
| R 5720 | (A,44,40) | RS1/16SS181J |
| R 5721 | (A,44,37) | RS1/16SS181J |
| R 5722 | (A,42,40) | RS1/16SS181J |
| R 5723 | (A,42,35) | RS1/16SS181J |
| R 5724 | (A,41,40) | RS1/16SS181J |
| R 5725 | (B,38,36) | RS1/16SS181J |
| R 5726 | (B,36,37) | RS1/16SS181J |
| R 5727 | (B,34,37) | RS1/16SS181J |
| R 5728 | (B,33,37) | RS1/16SS181J |
| R 5729 | (B,62,35) | RS1/16SS0R0J |
| R 5730 | (A,58,40) | RS1/16SS0R0J |
| R 5731 | (B,33,31) | RS1/16SS220J |
| R 5733 | (B,16,35) | RS1/16SS220J |
| R 5734 | (B,39,30) | RS1/16SS151J |
| R 5735 | (B,33,29) | RS1/16SS271J |
| R 5736 | (B,56,27) | RS1/16SS271J |
| R 5737 | (B,29,29) | RS1/16SS271J |
| R 5738 | (B,36,29) | RS1/16SS181J |
| R 5739 | (B,64,38) | RS1/16SS1202D |
| R 5740 | (B,57,37) | RS1/16SS471J |
| R 5741 | (B,60,36) | RS1/16SS752J |
| R 5742 | (B,60,32) | RS1/16SS272J |
| R 5743 | (B,60,33) | RS1/16SS622J |
| R 5744 | (B,51,32) | RS1/16S0R0J |
| R 5745 | (B,50,30) | RS1/16S0R0J |
| R 5746 | (B,49,30) | RS1/16S0R0J |
| R 5747 | (B,48,32) | RS1/16S0R0J |
| R 5748 | (B,40,35) | RS1/16S0R0J |
| R 5749 | (B,34,31) | RS1/16SS0R0J |
| R 5751 | (B,19,35) | RS1/16SS0R0J |
| R 5752 | (B,85,47) | RS1/16SS473J |
| R 5771 | (B,33,39) | RS1/16SS181J |
| R 5772 | (B,85,37) (UW5) | RS1/16SS151J |
| R 5774 | (B,32,37) | RS1/16SS181J |
| R 5775 | (B,86,35) (UW5) | RS1/16SS151J |
| R 5777 | (B,31,37) | RS1/16SS181J |
| R 5778 | (B,86,34) (UW5) | RS1/16SS221J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5780 | (B,30,37) | RS1/16SS181J |
| R 5781 | (B,82,40) (UW5) | RS1/16SS151J |
| R 5783 | (B,87,38) (UW5) | RS1/16SS151J |
| R 5784 | (B,71,44) | RS1/16S0R0J |
| R 5785 | (B,34,42) | RS1/16SS680J |
| R 5786 | (B,31,43) | RS1/16SS680J |
| R 5787 | (B,88,37) (UW5) | RS1/16SS151J |
| R 5788 | (B,34,44) | RS1/16SS680J |
| R 5789 | (B,89,35) (UW5) | RS1/16SS151J |
| R 5790 | (B,31,44) | RS1/16S0R0J |
| R 5791 | (B,90,35) (UW5) | RS1/16SS151J |
| R 5792 | (B,30,46) | RS1/16SS680J |
| R 5793 | (B,90,33) (UW5) | RS1/16SS151J |
| R 5794 | (B,34,47) | RS1/16SS680J |
| R 5795 | (A,85,44) (UW5) | RS1/16SS151J |
| R 5796 | (B,30,47) | RS1/16SS680J |
| R 5797 | (A,86,45) (UW5) | RS1/16SS151J |
| R 5798 | (B,32,47) | RS1/16SS680J |
| R 5799 | (A,87,44) (UW5) | RS1/16SS151J |
| R 5800 | (B,28,47) | RS1/16SS680J |
| R 5801 | (A,88,45) (UW5) | RS1/16SS151J |
| R 5802 | (B,27,47) | RS1/16SS151J |
| R 5803 | (A,90,44) (UW5) | RS1/16SS151J |
| R 5804 | (B,26,46) | RS1/16SS151J |
| R 5805 | (A,91,44) (UW5) | RS1/16SS151J |
| R 5806 | (B,34,49) | RS1/16SS680J |
| R 5807 | (B,73,51) | RS1/16S0R0J |
| R 5808 | (B,34,50) | RS1/16SS0R0J |
| R 5809 | (B,78,44) (UW5) | RS1/16SS151J |
| R 5810 | (B,29,49) | RS1/16SS151J |
| R 5811 | (B,80,45) (UW5) | RS1/16SS151J |
| R 5812 | (B,26,50) | RS1/16S0R0J |
| R 5813 | (B,80,47) (UW5) | RS1/16SS151J |
| R 5814 | (B,81,46) (UW5) | RS1/16SS151J |
| R 5815 | (B,26,51) | RS1/16S0R0J |
| R 5816 | (B,82,46) (UW5) | RS1/16SS151J |
| R 5817 | (B,29,52) | RS1/16SS151J |
| R 5818 | (B,83,46) (UW5) | RS1/16SS151J |
| R 5819 | (B,24,50) | RS1/16SS151J |
| R 5820 | (A,59,55) | RS1/16SS103J |
| R 5821 | (B,27,53) | RS1/16SS151J |
| R 5822 | (A,62,55) | RS1/16SS103J |
| R 5823 | (B,34,53) | RS1/16SS151J |
| R 5824 | (B,77,54) | RS1/16SS102J |
| R 5825 | (B,26,54) | RS1/16SS151J |
| R 5826 | (B,71,54) | RS1/16S0R0J |
| R 5827 | (B,24,54) | RS1/16SS151J |
| R 5828 | (B,34,55) | RS1/16SS151J |
| R 5829 | (B,71,56) | RS1/16S0R0J |
| R 5830 | (B,31,55) | RS1/16SS151J |
| R 5832 | (B,29,55) | RS1/16SS151J |
| R 5834 | (B,25,57) | RS1/16SS151J |
| R 5835 | (A,59,56) | RS1/16SS103J |
| R 5836 | (B,26,57) | RS1/16SS151J |
| R 5837 | (B,75,58) | RS1/16SS102J |
| R 5838 | (B,29,57) | RS1/16S0R0J |
| R 5839 | (B,73,58) | RS1/16SS102J |
| R 5841 | (B,75,59) | RS1/16SS103J |
| R 5842 | (B,29,59) | RS1/16S0R0J |
| R 5843 | (B,71,58) | RS1/16SS103J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5844 | (B,26,60) | RS1/16SS151J |
| R 5845 | (B,27,62) | RS1/16SS151J |
| R 5847 | (B,28,60) | RS1/16SS151J |
| R 5849 | (B,28,62) | RS1/16SS151J |
| R 5850 | (A,59,57) | RS1/16SS103J |
| R 5851 | (B,73,61) | RS1/16S0R0J |
| R 5852 | (B,30,61) | RS1/16SS151J |
| R 5853 | (B,32,61) | RS1/16SS820J |
| R 5855 | (B,34,61) | RS1/16SS151J |
| R 5857 | (B,30,63) | RS1/16SS680J |
| R 5859 | (B,32,62) | RS1/16SS680J |
| R 5861 | (B,34,63) | RS1/16SS680J |
| R 5862 | (B,71,66) | RS1/16SS102J |
| R 5863 | (B,32,66) | RS1/16S0R0J |
| R 5865 | (B,70,66) | RS1/16S0R0J |
| R 5866 | (B,33,66) | RS1/16SS680J |
| R 5867 | (B,34,66) | RS1/16SS680J |
| R 5868 | (B,35,67) | RS1/16SS680J |
| R 5869 | (B,69,69) | RS1/16S0R0J |
| R 5870 | (B,34,68) | RS1/16SS680J |
| R 5871 | (B,35,69) | RS1/16SS680J |
| R 5872 | (B,49,75) | RS1/16S0R0J |
| R 5873 | (B,63,75) | RS1/16S0R0J |
| R 5874 | (B,56,75) | RS1/16S0R0J |
| R 5875 | (B,54,75) | RS1/16S0R0J |
| R 5876 | (B,47,75) | RS1/16S0R0J |
| R 5877 | (B,39,72) | RS1/16S0R0J |
| R 5878 | (B,64,72) | RS1/16SS0R0J |
| R 5879 | (B,63,71) | RS1/16SS0R0J |
| R 5880 | (B,62,70) | RS1/16SS0R0J |
| R 5881 | (B,65,75) | RS1/16SS0R0J |
| R 5882 | (B,64,75) | RS1/16SS0R0J |
| R 5883 | (B,61,73) | RS1/16SS0R0J |
| R 5884 | (B,61,75) | RS1/16SS0R0J |
| R 5885 | (B,60,73) | RS1/16SS0R0J |
| R 5886 | (B,60,75) | RS1/16SS0R0J |
| R 5887 | (B,59,73) | RS1/16SS0R0J |
| R 5888 | (B,59,75) | RS1/16SS0R0J |
| R 5889 | (B,58,73) | RS1/16SS0R0J |
| R 5890 | (B,57,75) | RS1/16SS0R0J |
| R 5891 | (B,56,72) | RS1/16SS0R0J |
| R 5892 | (B,55,70) | RS1/16SS0R0J |
| R 5893 | (B,52,70) | RS1/16SS0R0J |
| R 5894 | (A,59,58) | RS1/16SS0R0J |
| R 5895 | (A,55,60) | RS1/16SS0R0J |
| R 5896 | (B,53,73) | RS1/16SS0R0J |
| R 5897 | (A,52,59) | RS1/16SS0R0J |
| R 5898 | (B,52,75) | RS1/16SS0R0J |
| R 5899 | (B,51,75) | RS1/16SS0R0J |
| R 5900 | (B,51,72) | RS1/16SS0R0J |
| R 5901 | (B,50,72) | RS1/16SS0R0J |
| R 5902 | (B,50,74) | RS1/16SS0R0J |
| R 5903 | (B,46,75) | RS1/16SS0R0J |
| R 5904 | (B,46,70) | RS1/16SS0R0J |
| R 5905 | (B,46,73) | RS1/16SS0R0J |
| R 5906 | (B,45,71) | RS1/16SS0R0J |
| R 5907 | (B,45,73) | RS1/16SS0R0J |
| R 5908 | (B,44,71) | RS1/16SS0R0J |
| R 5909 | (B,43,73) | RS1/16SS0R0J |
| R 5910 | (B,42,71) | RS1/16SS0R0J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 5911 | (B,42,73) | RS1/16SS0R0J |
| R 5912 | (B,41,71) | RS1/16SS0R0J |
| R 5913 | (B,41,73) | RS1/16SS0R0J |
| R 5914 | (B,40,75) | RS1/16SS0R0J |
| R 5915 | (B,38,73) | RS1/16SS0R0J |
| R 5916 | (B,37,71) | RS1/16SS0R0J |
| R 5917 | (B,37,73) | RS1/16SS0R0J |
| R 5918 | (B,36,71) | RS1/16SS0R0J |
| R 5919 | (B,67,41) (UC,EW5) | RS1/16SS103J |
| R 5920 | (A,65,41) (UC,EW5) | RS1/16SS103J |
| R 5921 | (A,66,41) (UC,EW5) | RS1/16SS103J |
| R 6001 | (B,59,10) | RS1/16SS681J |
| R 6008 | (B,61,26) | RS1/10S0R0J |
| R 6010 | (A,61,15) | RS1/16SS0R0J |
| R 6011 | (A,61,13) | RS1/16S10R0D |
| R 6012 | (A,61,21) | RS1/16SS18R0F |
| R 6013 | (A,61,24) | RS1/16S1600D |
| R 6014 | (A,61,17) | RS1/16SS15R0F |
| R 6015 | (A,61,19) | RS1/16SS82R0D |
| R 6016 | (A,62,21) | RS1/16SS12R0F |
| R 6017 | (A,63,23) | RS1/16S47R0D |
| R 6018 | (A,63,19) | RS1/16SS39R0D |
| R 6019 | (A,63,16) | RS1/16S56R0D |
| R 6020 | (A,62,27) | RS1/16SS0R0J |
| R 6021 | (A,62,29) | RS1/16SS15R0D |
| R 6022 | (A,64,21) | RS1/16SS0R0J |
| R 6025 | (B,21,24) | RS1/16SS101J |
| R 6026 | (B,37,29) | RS1/16SS102J |
| R 6027 | (B,20,27) | RS1/16SS333J |
| R 6028 | (B,19,32) | RS1/16SS103J |
| R 6029 | (B,23,27) | RS1/16SS0R0J |
| R 6030 | (B,21,32) | RS1/16SS0R0J |
| R 6031 | (B,26,31) | RS1/16SS100J |
| R 6032 | (A,64,16) | RS1/16SS82R0D |
| R 6037 | (B,37,31) | RS1/16SS0R0J |
| R 6039 | (B,34,26) | RS1/16S0R0J |
| R 6040 | (B,20,29) | RS1/16SS0R0J |
| R 6041 | (B,28,29) | RS1/16SS200J |
| R 6042 | (B,20,28) | RS1/16SS0R0J |
| R 6043 | (A,30,32) | RS1/16S4701D |
| R 6044 | (A,28,33) | RS1/16S5101D |
| R 6045 | (A,25,32) | RS1/16S5601D |
| R 6046 | (A,22,33) | RS1/16S4701D |
| R 6047 | (A,23,38) | RS1/16S2002D |
| R 6048 | (A,22,32) | RS1/16S1801D |
| R 6049 | (B,22,28) | RS1/16SS0R0J |
| R 6050 | (B,18,30) | RS1/16SS0R0J |
| R 6102 | (A,12,33) | RS1/16SS0R0J |
| R 6103 | (A,15,35) | RS1/16SS621J |
| R 6104 | (A,10,20) | RS1/16SS0R0J |
| R 6105 | (A,19,45) | RS1/16SS512J |
| R 6106 | (A,14,46) | RS1/16SS102J |
| R 6107 | (A,15,49) | RS1/16SS1203D |
| R 6108 | (A,16,48) | RS1/16SS1002D |
| R 6109 | (A,15,46) | RS1/16SS2R7J |
| R 6110 | (A,16,46) | RS1/16SS5R6J |
| R 6112 | (A,7,19) | RS1/16S3901D |
| R 6113 | (A,19,37) | RS1/16SS0R0J |
| R 6114 | (A,12,38) | RS1/16SS202J |
| R 6151 | (A,15,18) | RS1/16S3001D |
| R 6152 | (A,17,17) | RS1/16S3901D |
| R 6153 | (B,17,18) | RS1/16SS102J |
| R 6154 | (B,17,21) | RS1/16SS102J |
| R 6155 | (A,20,29) | RS1/16S1002D |
| R 6156 | (A,20,27) | RS1/16S1002D |
| R 6157 | (B,21,20) | RS1/16SS102J |
| R 6158 | (A,15,29) | RS1/10S0R0J |
| R 6160 | (A,21,17) | RS1/10S0R0J |
| R 6161 | (B,18,20) | RS1/16SS153J |

## CAPACITORS

| | | |
|---|---|---|
| C 5007 | (B,122,23) | CKSQYB225K10 |
| C 5012 | (B,82,35) (UW5) | CKSSYB102K50 |
| C 5015 | (B,73,24) (UW5) | CKSRYB104K50 |
| C 5016 | (A,12,62) | CKSRYB473K25 |
| C 5101 | (A,102,28) | CKSQYB106K6R3 |
| C 5102 | (A,100,30) | CKSSYB104K10 |
| C 5103 | (A,99,35) | CKSSYB104K10 |
| C 5104 | (A,100,32) | CKSSYB104K10 |
| C 5105 | (A,105,25) | CKSSYB104K10 |
| C 5106 | (A,122,45) | CKSSYB104K10 |
| C 5107 | (B,115,42) | CKSRYB474K10 |
| C 5108 | (B,119,46) | CKSSYB103K16 |
| C 5109 | (B,119,44) | CKSRYB105K10 |
| C 5110 | (B,120,39) | CKSSYB104K10 |
| C 5111 | (A,105,28) | CKSSYB104K10 |
| C 5202 | (A,56,56) | CKSQYB475K10 |
| C 5203 | (A,78,69) | CKSSYB104K10 |
| C 5301 | (A,36,48) | CKSSYB104K10 |
| C 5302 | (A,42,48) | CKSSYB104K10 |
| C 5303 | (A,48,53) | CKSQYB106K6R3 |
| C 5304 | (A,47,56) | CKSSYB104K10 |
| C 5305 | (A,21,61) | CKSSYB104K10 |
| C 5306 | (A,32,66) | CKSSYB104K10 |
| C 5307 | (A,37,65) | CKSSYB104K10 |
| C 5308 | (A,41,66) | CKSSYB104K10 |
| C 5309 | (A,46,62) | CKSSYB104K10 |
| C 5401 | (A,97,24) | CKSSYB473K10 |
| C 5402 | (A,102,17) | CKSSYB473K10 |
| C 5403 | (A,95,14) | CKSSYB102K50 |
| C 5404 | (A,96,19) | CKSSYB102K50 |
| C 5405 | (B,102,24) | CKSSYB104K10 |
| C 5406 | (A,96,16) | CKSSYB102K50 |
| C 5407 | (A,111,16) | CKSSYB102K50 |
| C 5408 | (A,112,19) | CKSSYB102K50 |
| C 5409 | (A,96,13) | CKSSYB102K50 |
| C 5451 | (B,76,14) | CKSQYB106K6R3 |
| C 5452 | (B,74,14) | CKSQYB106K6R3 |
| C 5453 | (B,70,16) | CKSQYB106K6R3 |
| C 5454 | (B,77,19) | CKSSYB104K10 |
| C 5455 | (B,68,19) | CCSSCH470J50 |
| C 5456 | (B,67,20) | CCSSCH680J50 |
| C 5457 | (B,69,27) | CCSSCH5R0C50 |
| C 5458 | (B,66,27) | CCSSCH470J50 |
| C 5459 | (B,71,22) | CKSSYB104K10 |
| C 5460 | (A,68,21) | CSZSR330M10 |
| C 5501 | (A,110,78) 10 uF | DCH1201 |
| C 5502 | (A,114,79) | CKSSYB104K10 |
| C 5503 | (A,117,78) | CSZSR330M10 |
| C 5504 | (A,111,78) | CKSRYB105K6R3 |

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| C 5505 | (A,125,78) | 10 uF | DCH1201 |
| C 5506 | (A,124,78) | | CKSRYB105K6R3 |
| C 5507 | (B,120,55) | | CKSSYB104K10 |
| C 5508 | (B,121,61) | | CKSSYB472K25 |
| C 5509 | (A,126,67) | 68 uF/6.3 V | CCH1440 |
| C 5510 | (A,125,69) | | CKSRYB104K50 |
| C 5511 | (B,122,65) | | CKSSYB682K25 |
| C 5512 | (B,117,58) | | CKSSYB104K16 |
| C 5513 | (B,119,57) | 10 uF | DCH1201 |
| C 5514 | (B,117,62) | | CKSSYB333K16 |
| C 5515 | (B,117,64) | | CCSSCH680J50 |
| C 5516 | (B,122,64) | | CKSRYB393K50 |
| C 5517 | (B,122,59) | | CKSRYB393K50 |
| C 5518 | (B,116,65) | | CKSRYB103K50 |
| C 5519 | (A,114,59) | | CKSRYB103K50 |
| C 5520 | (B,115,68) | | CKSRYB104K50 |
| C 5521 | (A,119,60) | 10 uF | CCG1223 |
| C 5522 | (A,116,60) | 10 uF | CCG1223 |
| C 5525 | (B,111,69) | | CKSRYB105K16 |
| C 5526 | (B,109,68) | | CKSSYB102K50 |
| C 5527 | (A,112,62) | 10 uF | CCG1223 |
| C 5528 | (A,112,64) | | CKSRYB103K50 |
| C 5529 | (A,108,57) | | CKSSYB102K50 |
| C 5530 | (B,108,69) | | CKSRYB104K50 |
| C 5531 | (B,105,52) | | CKSRYB105K16 |
| C 5532 | (B,105,69) | | CKSRYB105K16 |
| C 5533 | (B,104,69) | | CKSRYB103K50 |
| C 5534 | (B,101,58) | | CKSRYB104K50 |
| C 5535 | (B,101,65) | | CKSRYB472K50 |
| C 5536 | (B,101,66) | | CKSRYB472K50 |
| C 5537 | (B,99,60) | | CKSRYB103K50 |
| C 5538 | (B,99,61) | | CKSYB475K16 |
| C 5539 | (A,101,67) | | CKSRYB104K50 |
| C 5540 | (B,99,58) | | CKSRYB104K50 |
| C 5541 | (B,99,57) | | CKSRYB104K50 |
| C 5542 | (B,99,55) | | CKSRYB104K50 |
| C 5543 | (A,103,64) | 33 uF/10 V | CCH1586 |
| C 5544 | (B,95,67) | | CKSRYB104K50 |
| C 5546 | (B,94,60) | | CKSRYB105K16 |
| C 5547 | (B,94,69) | | CKSQYB105K25 |
| C 5548 | (B,94,57) | | CKSRYB105K16 |
| C 5549 | (B,94,55) | | CKSRYB105K16 |
| C 5550 | (B,96,52) | 4.7 uF | CCG1222 |
| C 5552 | (B,96,63) | | CKSRYB105K16 |
| C 5553 | (A,100,61) | | CKSRYB105K16 |
| C 5554 | (B,104,50) | | CKSQYB105K25 |
| C 5555 | (B,93,72) | | CKSQYB105K25 |
| C 5556 | (B,116,69) | | CKSSYB102K50 |
| C 5557 | (B,119,65) | | CKSSYB153K16 |
| C 5558 | (B,116,61) | | CCSSCH270J50 |
| C 5560 | (A,95,65) | | CKSSYB104K16 |
| C 5601 | (A,83,25) | (UW5) | CKSSYB102K50 |
| C 5602 | (A,79,25) | (UW5) | CKSSYB104K10 |
| C 5603 | (A,82,25) | (UW5) | CKSSYB104K10 |
| C 5604 | (A,86,24) | (UW5) | CKSSYB104K10 |
| C 5605 | (A,67,30) | (UW5) | CSZSR470M10 |
| C 5606 | (A,87,25) | (UW5) | CKSSYB104K10 |
| C 5607 | (A,77,25) | (UW5) | CKSSYB104K10 |
| C 5608 | (A,80,25) | (UW5) | CKSSYB104K10 |
| C 5609 | (A,84,25) | (UW5) | CKSSYB104K10 |

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| C 5610 | (A,88,25) | (UW5) | CKSSYB104K10 |
| C 5611 | (A,67,37) | (UW5) | CSZSR470M10 |
| C 5612 | (A,74,29) | (UW5) | CKSSYB104K10 |
| C 5613 | (A,71,32) | (UW5) | CKSSYB823K10 |
| C 5614 | (A,71,33) | (UW5) | CKSSYB822K16 |
| C 5615 | (A,73,32) | (UW5) | CKSSYB104K10 |
| C 5616 | (A,92,32) | (UW5) | CKSSYB104K10 |
| C 5617 | (A,74,37) | (UW5) | CKSSYB104K10 |
| C 5618 | (A,74,40) | (UW5) | CKSSYB104K10 |
| C 5619 | (A,92,38) | (UW5) | CKSSYB104K10 |
| C 5620 | (A,84,44) | (UW5) | CKSSYB104K10 |
| C 5621 | (A,72,43) | (UW5) | CKSQYB106K6R3 |
| C 5623 | (B,84,23) | (UW5) | CCSSCH101J50 |
| C 5701 | (B,42,27) | | CCSSCH120J50 |
| C 5702 | (A,53,47) | | CSZSR470M10 |
| C 5703 | (B,45,27) | | CCSSCH120J50 |
| C 5704 | (B,56,29) | | CCSSCH6R0D50 |
| C 5705 | (B,54,29) | | CCSSCH6R0D50 |
| C 5707 | (B,43,34) | | CKSSYB104K10 |
| C 5708 | (B,66,33) | | CKSQYB106K6R3 |
| C 5709 | (B,68,33) | | CKSQYB106K6R3 |
| C 5710 | (B,71,33) | | CKSRYB105K6R3 |
| C 5711 | (B,70,33) | | CKSRYB105K6R3 |
| C 5712 | (B,58,35) | | CCSSCH330J50 |
| C 5713 | (A,60,47) | | CSZSR470M10 |
| C 5714 | (B,58,37) | | CCSSCH680J50 |
| C 5715 | (B,63,36) | | CKSSYB104K10 |
| C 5716 | (B,62,36) | | CKSSYB104K10 |
| C 5717 | (B,56,37) | | CKSSYB103K16 |
| C 5718 | (B,63,38) | | CKSSYB104K10 |
| C 5719 | (B,62,38) | | CKSSYB104K10 |
| C 5720 | (B,53,37) | | CKSSYB105K6R3 |
| C 5721 | (B,52,36) | | CKSSYB105K6R3 |
| C 5722 | (B,48,38) | | CKSSYB105K6R3 |
| C 5723 | (B,48,35) | | CKSSYB105K6R3 |
| C 5724 | (B,40,37) | | CKSSYB105K6R3 |
| C 5725 | (A,56,41) | | CKSSYB104K10 |
| C 5726 | (B,61,35) | | CKSSYB104K10 |
| C 5727 | (B,53,38) | | CKSSYB104K10 |
| C 5728 | (B,51,35) | | CKSSYB104K10 |
| C 5729 | (B,48,37) | | CKSSYB104K10 |
| C 5730 | (B,48,36) | | CKSSYB104K10 |
| C 5731 | (B,40,38) | | CKSSYB104K10 |
| C 5732 | (B,69,45) | | CKSSYB105K6R3 |
| C 5733 | (B,67,45) | | CKSSYB104K10 |
| C 5734 | (B,33,45) | | CKSSYB105K6R3 |
| C 5735 | (B,34,45) | | CKSSYB104K10 |
| C 5736 | (B,69,51) | | CKSSYB105K6R3 |
| C 5737 | (B,71,51) | | CKSSYB104K10 |
| C 5738 | (B,28,51) | | CKSSYB105K6R3 |
| C 5739 | (B,29,51) | | CKSSYB104K10 |
| C 5740 | (B,31,51) | | CKSSYB105K6R3 |
| C 5741 | (B,32,51) | | CKSSYB104K10 |
| C 5742 | (B,68,54) | | CKSSYB105K6R3 |
| C 5743 | (B,66,54) | | CKSSYB104K10 |
| C 5744 | (B,69,56) | | CKSSYB105K6R3 |
| C 5745 | (B,67,56) | | CKSSYB104K10 |
| C 5746 | (B,33,57) | | CKSSYB105K6R3 |
| C 5747 | (B,34,57) | | CKSSYB104K10 |
| C 5748 | (B,32,58) | | CKSSYB105K6R3 |

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| C 5749 | (B,31,58) | | CKSSYB104K10 |
| C 5750 | (B,68,61) | | CKSSYB105K6R3 |
| C 5751 | (B,70,61) | | CKSSYB104K10 |
| C 5752 | (B,33,64) | | CKSSYB105K6R3 |
| C 5753 | (B,34,64) | | CKSSYB104K10 |
| C 5754 | (B,68,65) | | CKSQYB106K6R3 |
| C 5755 | (B,66,65) | | CKSQYB106K6R3 |
| C 5756 | (B,66,69) | | CKSQYB106K6R3 |
| C 5757 | (B,66,68) | | CKSSYB104K10 |
| C 5758 | (A,56,53) | | CSZSR470M10 |
| C 5759 | (B,61,70) | | CKSSYB105K6R3 |
| C 5760 | (B,55,72) | | CKSSYB105K6R3 |
| C 5761 | (B,53,70) | | CKSSYB105K6R3 |
| C 5762 | (B,48,72) | | CKSSYB105K6R3 |
| C 5763 | (B,47,72) | | CKSSYB105K6R3 |
| C 5764 | (B,40,70) | | CKSSYB105K6R3 |
| C 5765 | (B,60,70) | | CKSSYB104K10 |
| C 5766 | (B,54,70) | | CKSSYB104K10 |
| C 5767 | (B,54,72) | | CKSSYB104K10 |
| C 5768 | (B,49,70) | | CKSSYB104K10 |
| C 5769 | (B,48,70) | | CKSSYB104K10 |
| C 5770 | (B,39,70) | | CKSSYB104K10 |
| C 5771 | (B,77,55) | | CKSSYB102K50 |
| C 6010 | (B,64,19) | | CKSSYB104K10 |
| C 6012 | (B,61,24) | 10 uF | DCH1201 |
| C 6013 | (A,37,43) | | CKSSYB104K10 |
| C 6014 | (A,31,43) | | CKSSYB104K10 |
| C 6015 | (A,26,40) | | CKSRYB104K50 |
| C 6016 | (B,23,36) | | CKSRYB104K50 |
| C 6017 | (A,34,42) | | CSZSR220M16 |
| C 6018 | (A,32,41) | 10 uF | DCH1201 |
| C 6019 | (A,29,38) | | CKSQYB334K50 |
| C 6020 | (B,27,36) | 4.7 uF | CCG1222 |
| C 6022 | (A,38,31) | | CKSSYB104K10 |
| C 6023 | (A,35,31) | | CKSSYB104K10 |
| C 6024 | (A,33,31) | | CKSRYB104K50 |
| C 6025 | (B,27,38) | | CKSRYB104K50 |
| C 6026 | (A,28,35) | | CKSRYB105K16 |
| C 6027 | (A,24,36) | | CKSQYB105K25 |
| C 6101 | (A,61,7) | 10 uF | CCG1236 |
| C 6102 | (A,52,8) | 10 uF | CCG1236 |
| C 6104 | (A,9,30) | 10 uF | CCG1236 |
| C 6105 | (A,13,34) | | CKSSYB104K10 |
| C 6106 | (A,9,24) | | CCSSCH331J50 |
| C 6108 | (A,9,48) | 10 uF/50 V | CCH1922 |
| C 6109 | (A,13,56) | 10 uF/50 V | CCH1922 |
| C 6110 | (A,16,41) | | CKSRYB474K10 |
| C 6111 | (A,12,44) | | CKSRYB104K50 |
| C 6151 | (A,15,26) | | CKSRYB104K50 |
| C 6154 | (A,13,27) | 4.7 uF | CCG1222 |
| C 6155 | (A,23,19) | | CKSSYB104K10 |
| C 6156 | (A,22,23) | | CSZSR220M16 |
| C 6158 | (B,17,24) | | CKSQYB475K6R3 |

**C**

**Unit Number : YWX5007**

**Unit Name : DVD Core Unit**

**MISCELLANEOUS**

| Circuit Symbol and No. | | | Part No. |
|---|---|---|---|
| IC 1002 | (B,21,41) | Regulator IC | S-1133B50-U5 |
| IC 1003 | (B,35,23) | IC | S-1200B50-M5 |
| IC 1004 | (B,25,11) | IC | NJM2885DL1-33 |
| IC 1005 | (B,19,21) | IC | R1232D121B |
| IC 1201 | (A,15,29) | IC | BD8231EFV |
| *IC1401 | (B,63,36) | Flash ROM Unit | CWW1753 |
| *IC1402 | (B,50,36) | Flash ROM Unit | CWW1754 |
| IC 1480 | (B,59,13) | SDRAM(64M) | K4S641632N-LC75 |
| IC 1501 | (A,60,20) | IC | MN2DS0018MAUB |
| IC 1801 | (B,37,16) | D/A Converter | PCM1753DBQ |
| IC 1951 | (B,76,32) | Logic IC | TC7SZU04FU |
| Q 1101 | (A,35,39) | Transistor | 2SC4081 |
| Q 1102 | (A,46,42) | Transistor | 2SC4081 |
| Q 1103 | (A,38,45) | Transistor | 2SB1132 |
| Q 1104 | (A,45,49) | Transistor | 2SB1132 |
| L 1003 | (B,22,26) | Inductor | CTF1677 |
| L 1004 | (B,14,17) | Inductor | CTF1678 |
| L 1512 | (A,57,5) | Inductor | CTF1743 |
| L 1902 | (B,5,8) | Inductor | CTF1487 |
| L 1903 | (B,12,11) | Inductor | CTF1558 |
| L 1904 | (B,46,19) | Inductor | CTF1473 |
| X 1501 | (B,43,7) | Oscillator 27.000 MHz | CSS1768 |
| X 1950 | (B,76,35) | Oscillator 48.000 MHz | CSS1760 |
| EF1001 | (B,5,12) | Chip EMI Filter | DTF1106 |
| EF1002 | (B,11,13) | Chip EMI Filter | DTL1106 |

**RESISTORS**

| | | |
|---|---|---|
| R 1002 | (B,18,27) | RS1/16SS101J |
| R 1004 | (A,29,27) | RS1/16SS4702D |
| R 1007 | (A,29,26) | RS1/16SS6801D |
| R 1019 | (B,15,9) | RS1/16SS101J |
| R 1021 | (A,27,15) | RS1/16SS0R0J |
| R 1025 | (B,19,11) | RS1/16SS101J |
| R 1027 | (A,27,19) | RS1/16SS101J |
| R 1101 | (A,35,36) | RS1/16SS104J |
| R 1102 | (A,43,42) | RS1/16SS104J |
| R 1103 | (A,34,41) | RS1/16SS391J |
| R 1104 | (A,36,36) | RS1/16SS511J |
| R 1105 | (A,42,44) | RS1/16SS391J |
| R 1106 | (A,45,39) | RS1/16SS561J |
| R 1109 | (A,34,43) | RS1/16SS3R3J |
| R 1110 | (A,41,43) | RS1/16SS3R3J |
| R 1111 | (A,38,39) | RS1/10SR1R5J |
| R 1112 | (A,38,38) | RS1/10SR1R5J |
| R 1113 | (A,49,46) | RS1/10SR1R5J |
| R 1114 | (A,48,46) | RS1/10SR1R5J |
| R 1115 | (A,41,38) | RS1/10SR1R5J |
| R 1116 | (A,41,39) | RS1/10SR1R5J |
| R 1117 | (A,48,43) | RS1/10SR1R5J |
| R 1118 | (A,49,43) | RS1/10SR1R5J |
| R 1201 | (A,16,36) | RS1/16SS221J |
| R 1202 | (A,17,35) | RS1/16SS221J |
| R 1203 | (A,22,35) | RS1/16SS103J |
| R 1204 | (A,19,35) | RS1/16SS153J |
| R 1212 | (A,7,36) | RS1/16SS271J |
| R 1213 | (B,8,29) | RS1/16SS1R0J |
| R 1214 | (B,8,27) | RS1/16SS1R0J |
| R 1215 | (B,8,28) | RS1/16SS1R0J |
| R 1216 | (B,8,24) | RS1/16SS1R0J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 1217 | (B,8,25) | RS1/16SS1R0J |
| R 1218 | (B,8,26) | RS1/16SS1R0J |
| R 1222 | (B,26,39) | RS1/16SS271J |
| R 1300 | (B,39,24) | RS1/16SS0R0J |
| R 1401 | (B,63,49) | RS1/16SS221J |
| R 1402 | (B,70,27) | RS1/16SS104J |
| R 1405 | (B,56,24) | RS1/16SS104J |
| R 1406 | (B,54,25) | RS1/16SS104J |
| R 1480 | (B,52,21) | RAB4CQ560J |
| R 1481 | (B,56,21) | RAB4CQ560J |
| R 1482 | (B,61,21) | RAB4CQ560J |
| R 1483 | (B,64,21) | RAB4CQ560J |
| R 1484 | (B,67,21) | RAB4CQ560J |
| R 1485 | (B,50,5) | RAB4CQ560J |
| R 1486 | (B,55,5) | RAB4CQ560J |
| R 1487 | (B,64,5) | RAB4CQ560J |
| R 1488 | (B,68,5) | RAB4CQ560J |
| R 1489 | (B,59,5) | RS1/16SS560J |
| R 1490 | (B,50,21) | RS1/16SS560J |
| R 1501 | (B,46,7) | RS1/16SS122J |
| R 1503 | (B,45,8) | RS1/16SS105J |
| R 1504 | (B,45,13) | RS1/16SS120J |
| R 1505 | (A,43,13) | RS1/16SS101J |
| R 1506 | (A,37,14) | RS1/16SS101J |
| R 1507 | (A,44,14) | RS1/16SS101J |
| R 1508 | (A,43,15) | RS1/16SS221J |
| R 1509 | (A,63,35) | RS1/16SS102J |
| R 1510 | (A,64,35) | RS1/16SS102J |
| R 1511 | (B,46,13) | RS1/16S0R0J |
| R 1512 | (A,58,5) | RS1/16SS101J |
| R 1513 | (A,66,35) | RS1/16SS103J |
| R 1514 | (A,68,35) | RS1/16SS183J |
| R 1516 | (A,65,36) | RS1/16SS103J |
| R 1517 | (A,76,16) | RS1/16SS103J |
| R 1518 | (A,74,24) | RS1/16SS103J |
| R 1519 | (A,70,34) | RS1/16SS102J |
| R 1522 | (A,65,38) | RS1/16SS104J |
| R 1523 | (A,66,37) | RS1/16SS221J |
| R 1524 | (A,64,37) | RS1/16SS472J |
| R 1525 | (A,71,34) | RS1/16SS103J |
| R 1526 | (A,67,34) | RS1/16SS103J |
| R 1527 | (B,77,29) | RS1/16SS682J |
| R 1528 | (A,78,20) | RS1/16SS103J |
| R 1529 | (A,76,18) | RS1/16SS103J |
| R 1530 | (A,77,20) | RS1/16SS103J |
| R 1531 | (A,75,24) | RS1/16SS103J |
| R 1532 | (B,70,33) | RS1/16SS101J |
| R 1534 | (A,78,30) | RS1/16SS221J |
| R 1535 | (B,70,34) | RS1/16SS104J |
| R 1536 | (A,78,31) | RS1/16SS104J |
| R 1537 | (A,73,35) | RS1/16SS104J |
| R 1538 | (A,61,4) | RS1/16SS104J |
| R 1539 | (A,77,23) | RS1/16SS104J |
| R 1540 | (A,73,32) | RS1/16SS221J |
| R 1541 | (A,75,32) | RS1/16SS221J |
| R 1542 | (A,77,29) | RS1/16SS103J |
| R 1543 | (B,75,28) | RS1/16SS181J |
| R 1544 | (B,77,28) | RS1/16SS181J |
| R 1546 | (B,75,29) | RS1/16SS682J |
| R 1601 | (A,42,25) | RS1/16SS123J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 1602 | (A,44,25) | RS1/16SS123J |
| R 1603 | (A,43,30) | RN1/16SE1002D |
| R 1604 | (A,50,35) | RS1/16SS105J |
| R 1605 | (A,49,37) | RS1/16SS105J |
| R 1670 | (A,34,21) | RS1/16SS1002D |
| R 1671 | (A,36,21) | RS1/16SS2402D |
| R 1672 | (A,45,19) | RS1/16SS2000D |
| R 1674 | (A,45,20) | RS1/16SS3002D |
| R 1801 | (B,35,6) | RS1/16SS104J |
| R 1802 | (B,33,6) | RS1/16SS104J |
| R 1803 | (B,35,11) | RS1/16SS821J |
| R 1804 | (B,34,11) | RS1/16SS821J |
| R 1950 | (A,42,16) | RS1/16S24R0F |
| R 1951 | (A,42,18) | RS1/16S24R0F |
| R 1952 | (B,78,34) | RS1/16SS105J |
| R 1953 | (B,74,34) | RS1/16SS681J |
| R 1954 | (A,35,17) | RS1/16SS153J |
| R 1955 | (A,40,14) | RS1/16SS153J |
| R 1956 | (A,40,18) | RS1/16SS0R0J |
| R 1957 | (A,40,15) | RS1/16SS0R0J |

## CAPACITORS

| | | | |
|---|---|---|---|
| C 1001 | (B,36,21) | | CKSRYB105K10 |
| C 1003 | (B,18,44) | | CKSSYB104K16 |
| C 1004 | (B,24,40) | | CKSQYB475K10 |
| C 1005 | (B,32,23) | | CKSRYB105K16 |
| C 1008 | (B,20,31) | 10 uF | DCH1201 |
| C 1009 | (B,18,31) | 10 uF | DCH1201 |
| C 1010 | (B,26,18) | | CKSQYB225K10 |
| C 1011 | (B,22,18) | | CKSRYB105K10 |
| C 1013 | (B,15,25) | 10 uF | DCH1201 |
| C 1014 | (B,13,25) | 10 uF | DCH1201 |
| C 1015 | (B,7,8) | | CKSSYB102K50 |
| C 1016 | (B,12,10) | | CKSSYB102K50 |
| C 1018 | (A,28,28) | | CKSSYB104K10 |
| C 1019 | (A,10,17) | | CKSSYB104K10 |
| C 1021 | (B,34,4) | | CCSRCH681J50 |
| C 1022 | (A,23,21) | | CCSRCH681J50 |
| C 1101 | (B,31,40) | 10 uF | DCH1201 |
| C 1104 | (A,34,42) | | CKSSYB104K10 |
| C 1105 | (A,42,45) | | CKSSYB104K10 |
| C 1106 | (A,37,48) | | CKSSYB103K16 |
| C 1107 | (A,41,49) | | CKSSYB103K16 |
| C 1108 | (A,74,42) | | CKSSYB103K16 |
| C 1109 | (A,56,41) | | CKSRYB224K10 |
| C 1110 | (A,71,42) | | CKSSYB103K16 |
| C 1111 | (A,61,39) | | CKSRYB224K10 |
| C 1112 | (B,40,39) | 22 uF | CCG1178 |
| C 1113 | (B,36,38) | 22 uF | CCG1178 |
| C 1201 | (B,12,34) | | CEVW101M16 |
| C 1204 | (A,8,24) | | CKSSYB222K50 |
| C 1205 | (A,13,23) | | CKSSYB104K16 |
| C 1207 | (A,22,25) | | CKSSYB104K16 |
| C 1208 | (A,15,36) | | CKSSYB103K16 |
| C 1209 | (B,10,25) | | CKSSYB104K16 |
| C 1210 | (B,6,23) | | CKSSYB104K16 |
| C 1211 | (B,9,22) | | CKSYB475K16 |
| C 1401 | (B,63,48) | | CKSSYB103K16 |
| C 1403 | (B,69,23) | | CKSSYB104K10 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| C 1404 | (B,58,25) | CKSQYB475K6R3 |
| C 1408 | (B,47,25) | CKSSYB104K10 |
| C 1409 | (B,47,23) | CKSQYB475K6R3 |
| C 1480 | (B,47,21) | CKSSYB104K10 |
| C 1481 | (B,49,23) | CKSSYB104K10 |
| C 1482 | (B,54,21) | CKSSYB104K10 |
| C 1484 | (B,59,20) | CKSSYB104K10 |
| C 1485 | (B,69,21) | CKSSYB104K10 |
| C 1487 | (B,58,4) | CKSSYB104K10 |
| C 1488 | (B,52,5) | CKSSYB104K10 |
| C 1489 | (B,45,20) | CKSQYB106K6R3 |
| C 1490 | (B,45,23) | CKSSYB102K50 |
| C 1501 | (B,72,9) | CKSQYB106K6R3 |
| C 1502 | (A,35,32) | CKSQYB106K6R3 |
| C 1503 | (A,60,4) | CKSSYB104K10 |
| C 1504 | (A,51,5) | CKSSYB104K10 |
| C 1505 | (A,53,5) | CKSSYB104K10 |
| C 1506 | (A,55,5) | CKSSYB104K10 |
| C 1507 | (A,62,5) | CKSSYB104K10 |
| C 1508 | (A,66,5) | CKSSYB104K10 |
| C 1509 | (A,69,5) | CKSSYB104K10 |
| C 1510 | (B,46,5) | CCSSCH120J50 |
| C 1511 | (A,46,9) | CKSSYB104K10 |
| C 1512 | (B,43,10) | CCSSCH100D50 |
| C 1513 | (B,74,12) | CKSSYB104K10 |
| C 1514 | (A,46,13) | CKSSYB104K10 |
| C 1515 | (A,45,15) | CKSSYB104K10 |
| C 1516 | (A,75,15) | CKSSYB104K10 |
| C 1517 | (A,74,16) | CKSSYB104K10 |
| C 1518 | (A,75,22) | CKSSYB104K10 |
| C 1519 | (A,74,26) | CKSSYB104K10 |
| C 1520 | (A,75,30) | CKSSYB104K10 |
| C 1521 | (A,60,37) | CKSSYB104K10 |
| C 1522 | (A,65,34) | CKSSYB104K10 |
| C 1523 | (A,68,37) | CKSSYB104K10 |
| C 1524 | (A,69,37) | CKSSYB473K10 |
| C 1526 | (A,68,37) | CKSSYB103K16 |
| C 1528 | (A,78,29) | CCSSCH471J16 |
| C 1601 | (A,44,29) | CKSSYB103K16 |
| C 1602 | (A,42,24) | CCSSCH101J50 |
| C 1603 | (A,44,27) | CCSSCH101J50 |
| C 1604 | (A,41,27) | CCSSCH680J50 |
| C 1605 | (A,43,27) | CCSSCH680J50 |
| C 1606 | (A,41,23) | CKSSYB104K10 |
| C 1607 | (A,41,35) | CKSQYB106K6R3 |
| C 1608 | (A,43,36) | CKSRYB105K10 |
| C 1609 | (A,48,35) | CKSSYB104K10 |
| C 1610 | (A,50,37) | CKSSYB104K10 |
| C 1611 | (A,51,37) | CKSSYB104K10 |
| C 1612 | (A,52,34) | CKSSYB104K10 |
| C 1613 | (A,52,37) | CKSSYB104K10 |
| C 1614 | (A,53,34) | CKSSYB104K10 |
| C 1615 | (A,54,34) | CKSSYB104K10 |
| C 1616 | (A,54,37) | CKSSYB104K10 |
| C 1617 | (A,54,38) | CKSSYB104K10 |
| C 1618 | (A,56,34) | CCSSCH101J50 |
| C 1619 | (A,57,34) | CKSSYB562K25 |
| C 1620 | (A,58,34) | CKSSYB224K6R3 |
| C 1621 | (A,57,37) | CKSSYB224K6R3 |
| C 1622 | (A,59,35) | CKSSYB333K16 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| C 1623 | (A,45,35) | CKSRYB105K10 |
| C 1624 | (A,58,37) | CKSSYB104K10 |
| C 1625 | (A,56,37) | CKSSYB104K10 |
| C 1671 | (A,44,17) | CKSSYB104K10 |
| C 1672 | (A,45,18) | CKSSYB104K10 |
| C 1673 | (A,45,22) | CKSSYB104K10 |
| C 1674 | (A,43,21) | CKSSYB104K10 |
| C 1676 | (A,38,22) | CKSRYB105K10 |
| C 1801 | (B,34,8) | CKSQYB475K6R3 |
| C 1802 | (B,32,8) | CKSQYB475K6R3 |
| C 1803 | (B,36,8) | CCSRCH182J50 |
| C 1804 | (B,31,7) | CCSRCH182J50 |
| C 1805 | (B,32,19) | CKSSYB104K10 |
| C 1806 | (B,39,9) 10 uF | DCH1201 |
| C 1809 | (B,43,16) | CKSSYB104K10 |
| C 1934 | (B,42,29) | CCSRCH680J50 |
| C 1950 | (B,73,33) | CKSSYB104K10 |
| C 1951 | (B,74,36) | CCSSCH100D50 |
| C 1952 | (B,78,36) | CCSSCH100D50 |
| C 1954 | (B,43,49) | CCSRCH470J50 |

## D

**Unit Number :**
**Unit Name : Connect PCB**

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| S 101 | (B,51,37) | Switch(HOME) | CSN1068 |
| S 102 | (B,12,23) | Switch(DSCSNS) | CSN1068 |
| S 103 | (B,22,10) | Switch(8SNS) | CSN1068 |
| R 101 | (B,52,27) | | RS1/16S101J |
| R 102 | (B,15,29) | | RS1/16S101J |
| R 103 | (B,16,11) | | RS1/16S101J |
| C 101 | (B,51,23) | | CKSRYB104K50 |

## G

**Unit Number : EXX1058**
**Unit Name : Service PCB Assy**

| | | |
|---|---|---|
| IC 101 | IC | BA6288FS |
| IC 102 | IC | TC7W14FU |
| IC 103 | Photo Interruptor | GP1S94J |
| IC 104 | Photo Interruptor | GP1S94J |
| S 101 | Switch | CSN1067 |
| S 102 | Switch | CSN1068 |
| S 103 | Switch | CSN1067 |
| R 101 | | RS1/16S181J |
| R 102 | | RS1/16S181J |
| R 103 | | RS1/16S183J |
| R 104 | | RS1/16S183J |
| R 113 | | RS1/16S221J |
| R 118 | | RS1/10S0R0J |
| C 101 | | CEVW220M16 |
| C 102 | | CKSRYB104K16 |
| C 111 | | CKSRYB104K16 |

## Miscellaneous Parts List

| | | |
|---|---|---|
| | Pickup Unit(Service) | CXX2398 |
| M 1 | Motor Unit(LOAD/CRG) | CXC4026 |
| M 2 | Motor(SPINDLE) | EXM1050 |