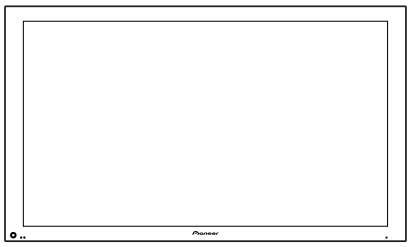
Pioneer sound.vision.soul

# Service Manual



PDP-507XD

ORDER NO.
**ARP3396**

## PLASMA TELEVISION

# PDP-507XD
# PDP-507XA

### THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model | Type | Power Requirement | Remarks |
|---|---|---|---|
| PDP-507XD | WYVIXK5 | AC 220 V to 240 V | |
| PDP-507XA | WYVIXK5 | AC 220 V to 240 V | |
| PDP-507XA | WYV5 | AC 220 V to 240 V | |

### This service manual should be used together with the following manual(s).

| Model No. | Order No. | Remarks |
|---|---|---|
| PDP-507XD | ARP3397 | SCHEMATIC DIAGRAM, PCB CONNECTION DIAGRAM |

For details, refer to "Important Check Points for good servicing".

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# 1. NOTES ON SERVICE VISIT

## 1.1 SAFETY INFORMATION

**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 safely 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 safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

**WARNING**
**This product contains lead in solder and 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**

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

### SAFETY PRECAUTIONS

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

The following precautions should be observed :

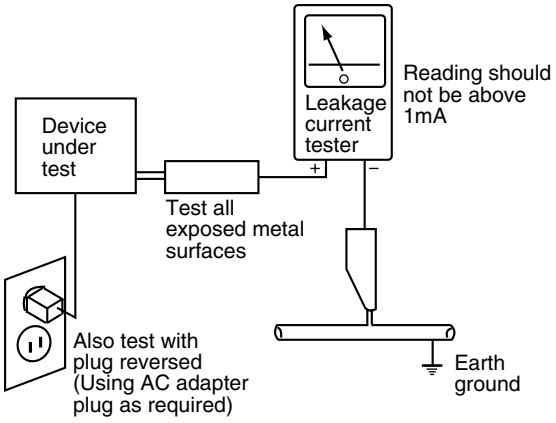
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

## Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4MΩ. The below 4MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

## Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1mA.




AC Leakage Test

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

## PRODUCT SAFETY NOTICE

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

## ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch (S1)
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

## ■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "10.3 POWER ON/OFF FUNC--TION FOR THE LARGE-SIGNAL SYSTEM" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT .....(205 V)
50 X MAIN DRIVE Assy.....(–180 V to 205 V)
50 X SUB DRIVE Assy.....(–180 V to 205 V)
50 Y MAIN DRIVE Assy.....(500 V)
50 Y SUB DRIVE Assy.....(350 V)
50 SCAN A Assy.....(500 V)
50 SCAN B Assy.....(500 V)

: Part is Charged Section.

: Part is the High Voltage Generating Points other than the Charged Section.

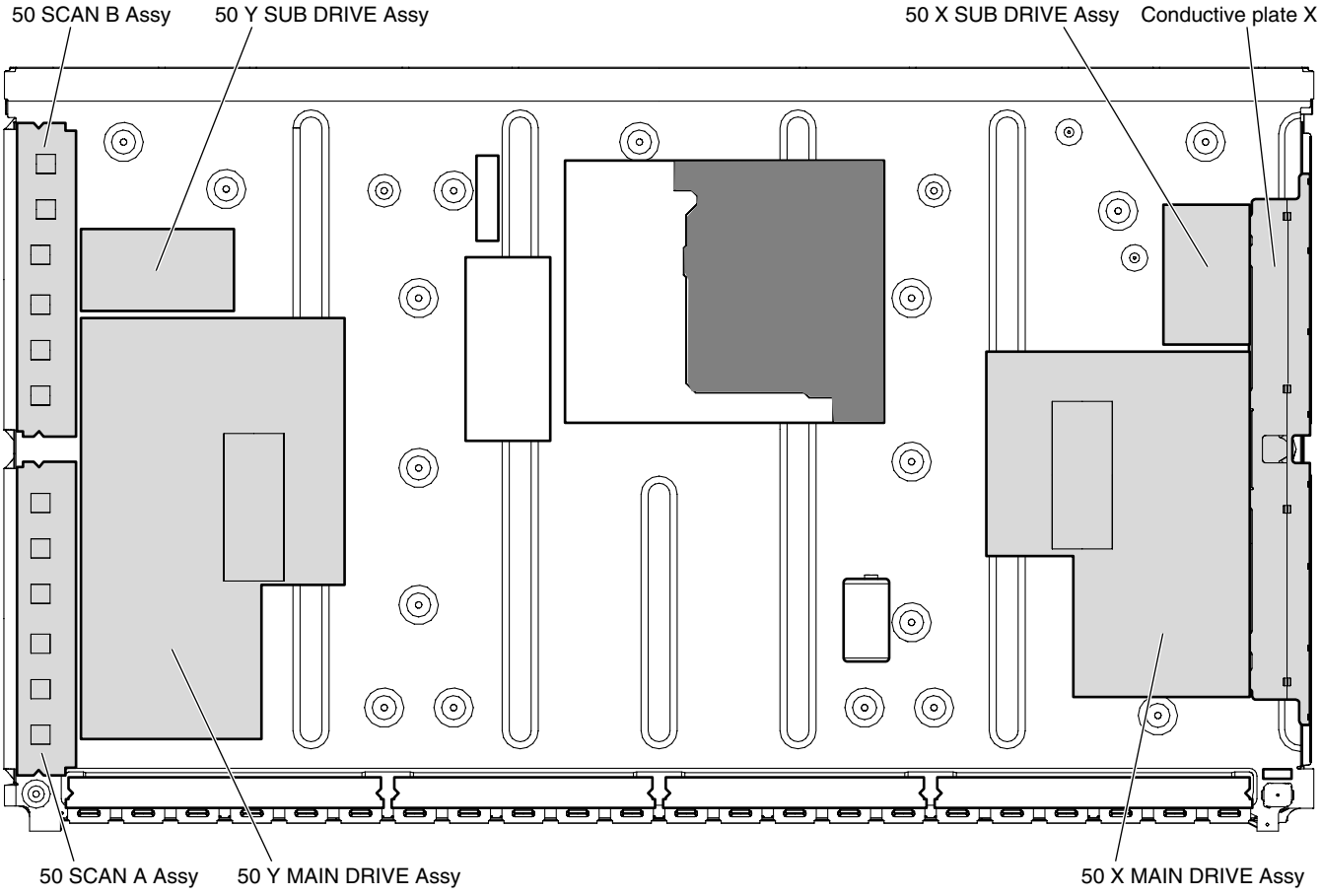



Fig.1 High Voltage Generating Point (Rear view)

## [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.

## Quick Reference upon Service Visit ①
## Notes, PD/SD diagnosis, and methods for various settings

### Notes when visiting for service

**1. Notes when disassembling/reassembling**

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "6. DISASSEMBLY"

② **Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

**2. On parts replacement**

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "10.3 Power ON/OFF Function for the Large-Signal System."

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "7. ADJUSTMENT"

**3. On various settings**

① **SR+**
After a repair using a PC, be sure to restore the setting for the RS-232C connector to SR+.

② **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

### PD/SD

| | Item | No. of LEDs flashing: Red | Blue |
|---|---|---|---|
| Panel section | Communication with the panel drive IC | | Blue 1 |
| | Communication with the module IIC | | Blue 2 |
| | DIGTAL-RST2 | | Blue 3 |
| | Panel high temperature | | Blue 4 |
| Main section | Audio | | Blue 5 |
| | Communication with the Module microcomputer | | Blue 6 |
| | Main 3-wire serial communication | | Blue 7 |
| | Main IIC communication | | Blue 8 |
| | Communication with the Main microcomputer | | Blue 9 |
| | FAN | | Blue 10 |
| | Unit high temperature | | Blue 11 |
| | Communication with the D-TUNER | | Blue 12 |
| | MTB-RST2/RST4 | | Blue 13 |
| POWER | | Red 2 | |
| SCAN | | Red 3 | |
| SCN-5V | | Red 4 | |
| Y-DRIVE | | Red 5 | |
| Y-DCDC | | Red 6 | |
| Y-SUS | | Red 7 | |
| ADRS | | Red 8 | |
| X-DRIVE | | Red 9 | |
| X-DCDC | | Red 10 | |
| X-SUS | | Red 11 | |
| UNKNOWN | | Red 15 | |

### Change of settings

**How to enter Factory mode using the supplied remote control unit**

In the same way as with the remote control unit supplied with the 6th-generation model

**How to enter Integrator mode using the supplied remote control unit**

① Enter the Standby mode.
② Press [MENU].
③ Press [TV ⏻ ].

**How to switch UART ① (Integrator)**

① Enter the Integrator mode.
② Display "OFF" using [➡].
③ Change the communication speed using [⬇], then [➡].

**How to switch UART ② (During Standby)**

① Enter the Standby mode.
② Hold [VOL +] or [VOL -] pressed for 3 seconds.
③ Hold [SPLIT] pressed for 3 seconds.
④-1 To set to 232C, press [ENTER].
⑤-2 To set to SR+, press [HOME MENU].

**Note:** If switching is completed successfully, the red LED will flash twice.
**Note 1**: Use a remote control unit supplied with the 6th-generation models or later.
**Note 2**: Do not hold a key pressed for more than 5 seconds.

### How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

**1. Confirmation of accumulated power-on time and power-on count**
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

**2. Confirmation of the Power-down and Shutdown histories**

① **Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] three times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] four times.)

② **Main Assy**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

**3. How to display the Mask indication**

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] 8 times.)
2. Press [ENTER], then select a Mask indication, using [⬆] or [⬇].

② **Mask (SG screen) indication in the Main Assy (MAIN VDEC)**
1. Select either Input 1 or 2, to which no signal is input (black screen).
2. Select {INITIALIZE} then {SG MODE}. Press [⬅]. (After entering Factory mode, press [MUTING] three times, then press [⬇] once.) Then, the indication at the lower right of the screen changes from "OFF" to "ANA AD YCBCR".
3. You can change Mask patterns by pressing [⬇] to select {SG PATTERN} then using [⬅] or [➡].

**Note:** When you switch "SG MODE" routes, some displays become monochrome, as they are in Y-signal only mode.

### Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

**1. Digital Video Assy: Transfer of backup data**
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, then press [ENTER].)
② Select {TRANSFER}, using [➡], then hold [SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

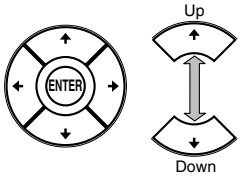
**2. MAIN Assy : Switching to SR+ from RS-232C**
① Enter the Integrator mode. (The way is described above.)
② As SR+ <=> is [OFF] state, switch to [ON] state by using [➡].
③ Turn the POWER switch of the main unit off by the remote control.

**3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value**
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.
After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

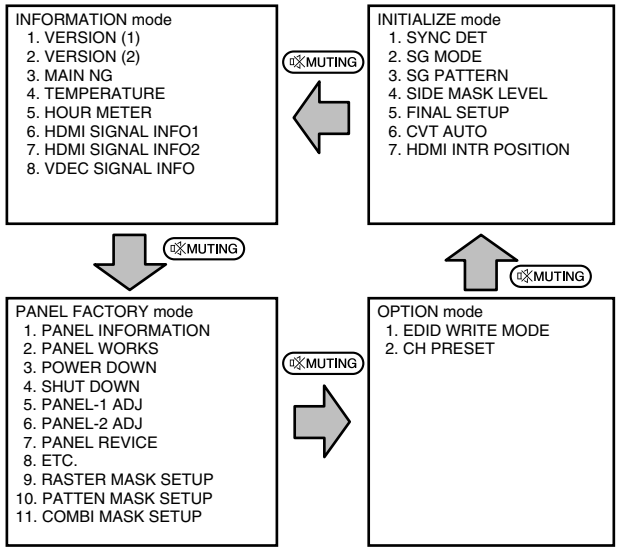
**4. Other Assys: Clearance of the maximum temperature value**
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.
After clearance is completed, "ETC" is automatically selected.

# Quick Reference upon Service Visit ②
# Mode transition and structure of layers in Service Factory mode

## Mode transition in Service Factory mode




- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER]. To return to the next nested layer above, also press [ENTER].




## Structure of Layers in Service Factory Mode

| | |
|---|---|
| INFORMATION mode | |
| ├ 1. VERSION (1) | Flash Versions for PANEL system and MAIN system |
| ├ 2. VERSION (2) | Flash Versions for DTV system |
| ├ 3. MAIN NG | SD histories for MAIN (Going Clear model by SET key) |
| │ └ 3-1. CLEAR | Select Yes by [➡] key ➡ pushing and hold [SET] key |
| ├ 4. TEMPERATURE | TEMP 1, TEMP2 and FAN mode are displayed |
| ├ 5. HOUR METER | Hour meter and number of Power ON are displayed |
| │ └ 5-1. CLEAR | Select Yes by [➡] key ➡ pushing and hold [SET] key |
| ├ 6. HDMI SIGNAL INFO 1 | For factory use |
| ├ 7. HDMI SIGNAL INFO 2 | Signal info of HDMI are displayed ( Detail are on SM ) |
| └ 8. VDEC SIGNAL INFO | For factory use |
| PANEL FACTORY mode | Refer to [PANEL FACTORY MODE] |
| OPTION | |
| ├ 1. EDID WRITE MODE | For factory use |
| └ 2. CH PRESET | For production line use |
| INITIALIZE | |
| ├ 1. SYNC DET (+) | For factory use |
| ├ 2. SG MODE | SG signal from MAIN VDEC (Composite signal is required) |
| ├ 3. SG PATTERN | For factory use |
| ├ 4. SIDE MASK LEVEL(+) | For factory use |
| │ ├ 4-1. R MASK LEVEL | |
| │ ├ 4-2. G MASK LEVEL | |
| │ └ 4-3. B MASK LEVEL | |
| ├ 5. FINAL SETUP | Set to Factory default settings (it should perform after |
| │ └ 5-1. DATA RESET | replacing a MAIN board ) |
| ├ 6. CVT AUTO | For factory use |
| └ 7. HDMI INTR POSITION(+) | For factory use |

## Structure of Layers in Panel Factory Mode 1

| | |
|---|---|
| 1. PANEL INFORMATION | Version indication of the panel |
| 2. PANEL WORKS | Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel |
| 3. POWER DOWN | Indication of the Power-down history |
| 4. SHUT DOWN | Indication of the Shutdown history |
| 5. PANEL-1 ADJ (+) | |
| ├ 1. X-SUS B | Modification not required because these items are basically for factory presetting |
| ├ 2. Y-SUS B | |
| ├ 3. Y-SUSTAIL T1 | |
| ├ 4. Y-SUSTAIL T2 | |
| ├ 5. Y-SUSTAIL W | |
| ├ 6. XY-RST W1 | |
| ├ 7. XY-RST W2 | |
| ├ 8. VOL SUS | Settings required after replacement of the panel |
| ├ 9. VOL OFFSET | |
| ├ 10. VOL RST P | |
| └ 11. SUS FREQ. | For AM noise prevention (Depending on the mode, brightness of the screen changes.) |
| 6. PANEL-2 ADJ (+) | |
| ├ 1. R-HIGH | Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement |
| ├ 2. G-HIGH | |
| ├ 3 .B-HIGH | |
| ├ 4. R-LOW | |
| ├ 5. G-LOW | |
| ├ 6. B-LOW | |
| └ 7. ABL | Setting of the power consumption. A setting table is available for each vertical signal. |

To "Structure of Layers in Panel Factory Mode 2"

## Structure of Layers in Panel Factory Mode 2

| | |
|---|---|
| 7. PANEL REVISE (+) | |
| ├ R-LEVEL | Items for use by engineers |
| ├ G-LEVEL | |
| └ B-LEVEL | |
| 8. ETC (+) | |
| ├ 1. BACKUP DATA | For transferring backup data (after replacement of the DIGITAL Assy) |
| ├ 2. DIGITAL EEPROM | To clear data of the digital video |
| ├ 3. PD INFO. | For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected. |
| ├ 4. SD INFO. | |
| ├ 5. HR-MTR INFO. | |
| ├ 6. PM/B1-B5 | |
| ├ 7. P COUNT INFO. | |
| └ 8. MAX TEMP. | |
| 9. RASTER MASK SETUP (+) | |
| ├ 1. MASK OFF | For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask. |
| ├ 2. RST MASK 01 | |
| ≈ • • • • • | |
| └ 25. RST MASK 24 | |
| 10. PATTEN MASK SETUP (+) | |
| ├ 1. MASK OFF | For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| ├ 2. PTN MASK 01 | |
| ≈ • • • • • | |
| └ 40. PTN MASK 39 | |
| 11. COMBI MASK SETUP (+) | |
| ├ 1. MASK OFF | For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| ├ 2. CMB MASK 01 | |
| ≈ • • • • • | |
| └ 11. CMB MASK 10 | |

## 1.3 JIGS LIST

### ■ Cleaning

| Name | Part No. | Remarks |
|---|---|---|
| Cleaning liquid | GEM1004 | Used to fan cleaning.<br>Refer to "2.4 CHASSIS SECTION (1/2). |
| Cleaning paper | GED-008 | |

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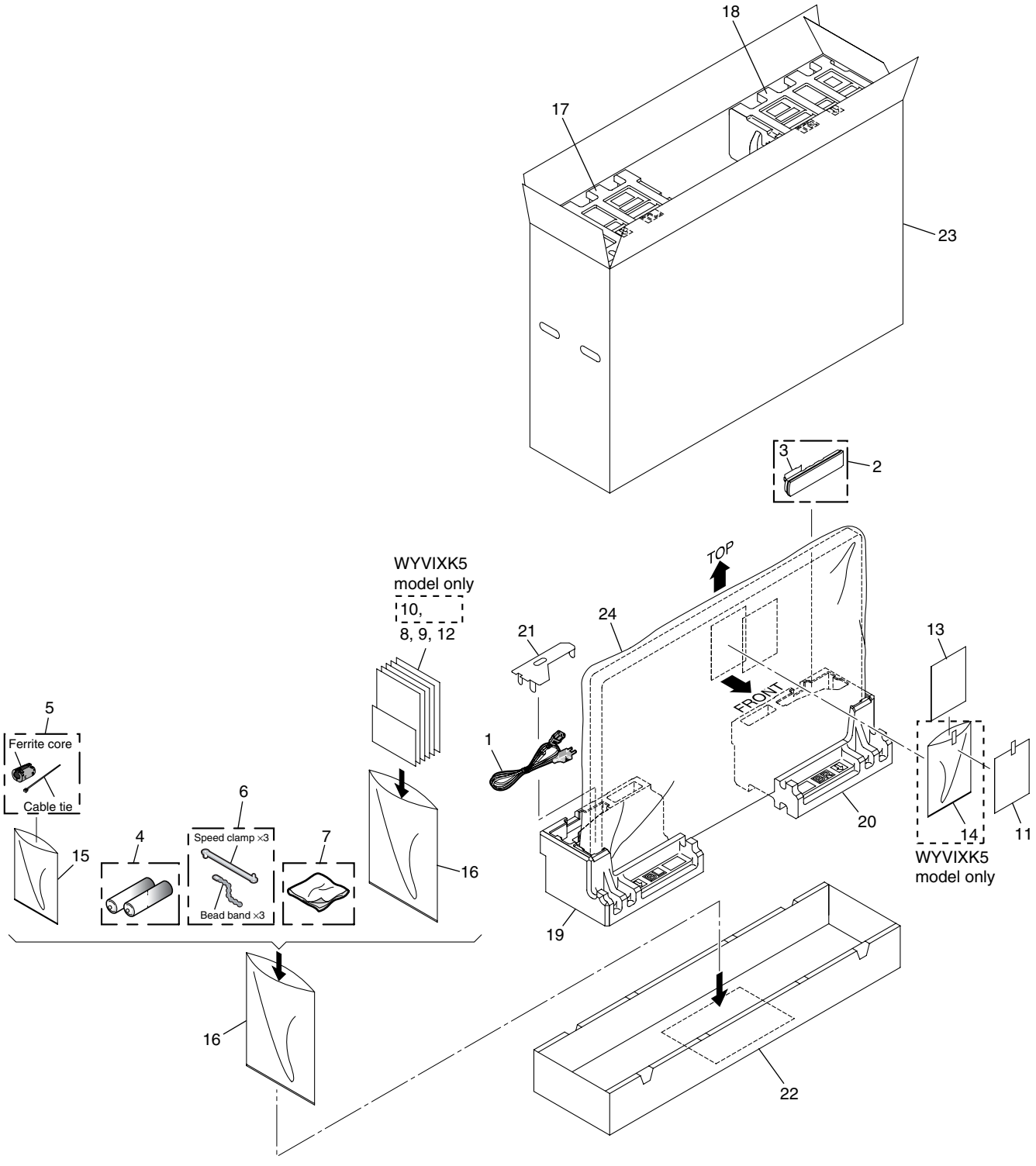
# 2. EXPLODED VIEWS AND PARTS LIST

*NOTES:*
- *Parts marked by "NSP" 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.*
- *Screws adjacent to ▼ mark on 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.)*

## 2.1 PACKING SECTION



## (1) PACKING PARTS LIST

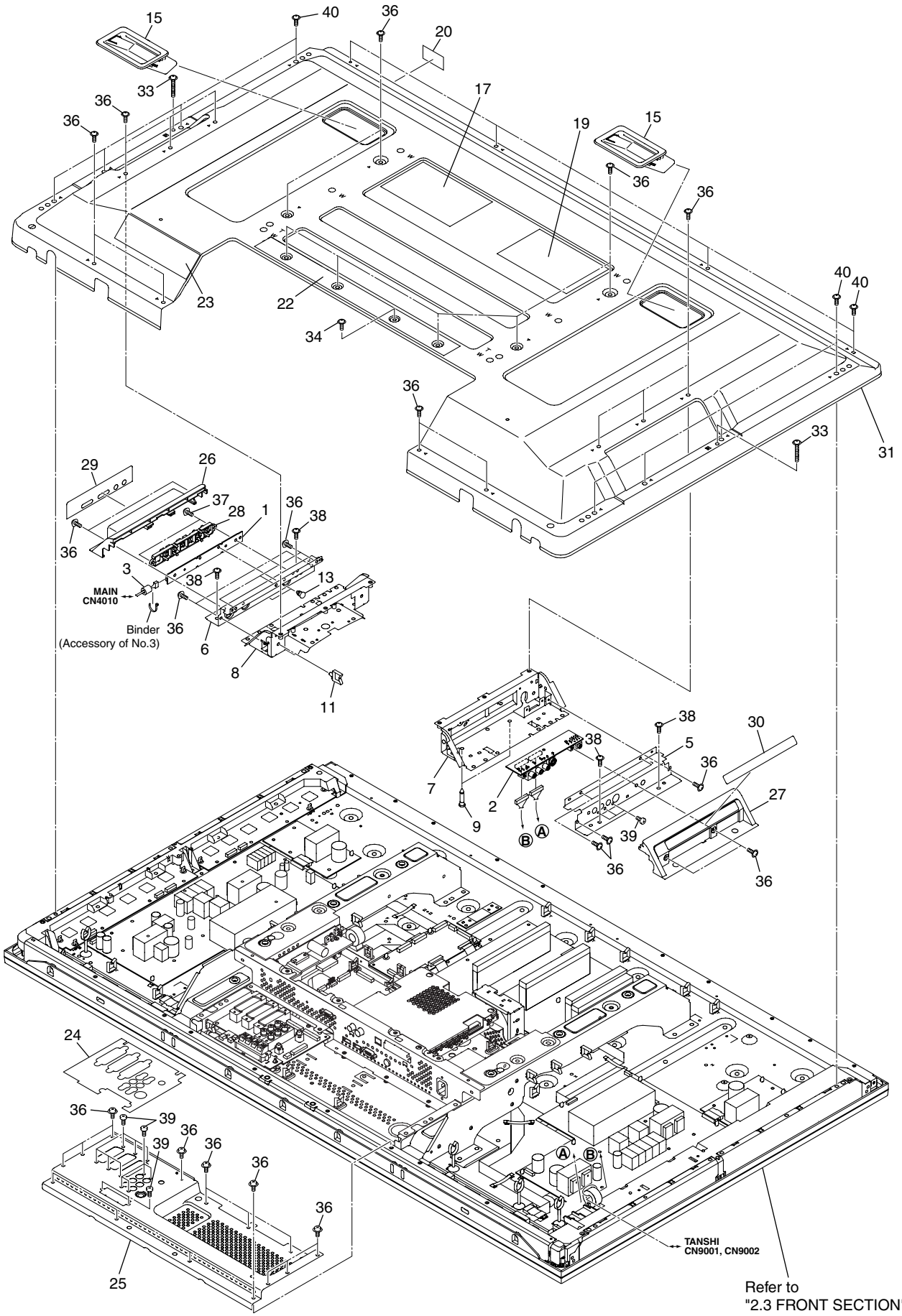
| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | Power Cord (2 m) | ADG1214 |
| | 2 | Remote Control Unit | See Contrast table (2) |
| | 3 | Battery Cover | AZN2626 |
| NSP | 4 | Dry Cell Battery (R06, AA) | VEM1031 |
| ⚠ | 5 | Ferrite Core | ATX1039 |
| | 6 | Binder Assy | AEC1908 |
| | 7 | Cleaning Cloth | AED1285 |
| | 8 | Operating Instructions (Italian, Spanish, Dutch) | See Contrast table (2) |
| | 9 | Operating Instructions (English, French, German) | See Contrast table (2) |
| | 10 | Block Diagram | See Contrast table (2) |
| | 11 | Caution Card | See Contrast table (2) |
| | 12 | Cleaning Caution | See Contrast table (2) |
| NSP | 13 | Warranty Card | ARY1114 |
| | 14 | Polyethlene Bag | See Contrast table (2) |
| | 15 | Vinyl Bag | AHG1337 |
| | 16 | Vinyl Bag | AHG1340 |
| | 17 | Pad (507 T-L) | See Contrast table (2) |
| | 18 | Pad (507 T-R) | See Contrast table (2) |
| | 19 | Pad (507 B-L) | See Contrast table (2) |
| | 20 | Pad (507 B-R) | See Contrast table (2) |
| | 21 | Power Cord Lid | See Contrast table (2) |
| | 22 | Under Carton (507) | See Contrast table (2) |
| | 23 | Upper Carton | See Contrast table (2) |
| | 24 | Mirror Mat | See Contrast table (2) |

## (2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-507XD /WYVIXK5 | PDP-507XA /WYVIXK5 | PDP-507XA /WYV5 |
|---|---|---|---|---|---|
| | 2 | Remote Control Unit | AXD1532 | AXD1540 | AXD1540 |
| | 8 | Operating Instructions (Italian, Spanish, Dutch) | ARC1562 | ARC1564 | ARC1563 |
| | 9 | Operating Instructions (English, French, German) | ARE1428 | ARE1430 | ARE1429 |
| | 10 | Block Diagram | ARY1189 | ARY1189 | Not used |
| | 11 | Caution Card | ARM1310 | ARM1310 | ARM1232 |
| | 12 | Cleaning Caution | ARM1311 | ARM1311 | ARM1283 |
| | 14 | Polyethylene Bag | AHG1326 | AHG1326 | Not used |
| | 17 | Pad (507 T-L) | AHA2558 | AHA2558 | AHA2538 |
| | 18 | Pad (507 T-R) | AHA2559 | AHA2559 | AHA2539 |
| | 19 | Pad (507 B-L) | AHA2560 | AHA2560 | AHA2540 |
| | 20 | Pad (507 B-R) | AHA2561 | AHA2561 | AHA2541 |
| | 21 | Power Cord Lid | AHC1087 | AHC1087 | AHC1085 |
| | 22 | Under Carton (507) | AHD3498 | AHD3498 | AHD3473 |
| | 23 | Upper Carton (507XD) | AHD3521 | Not used | Not used |
| | 23 | Upper Carton (507XA) | Not used | AHD3499 | AHD3522 |
| | 24 | Mirror Mat | AHG1327 | AHG1327 | AHG1284 |

## 2.2 REAR SECTION



## (1) REAR SECTION PARTS LIST

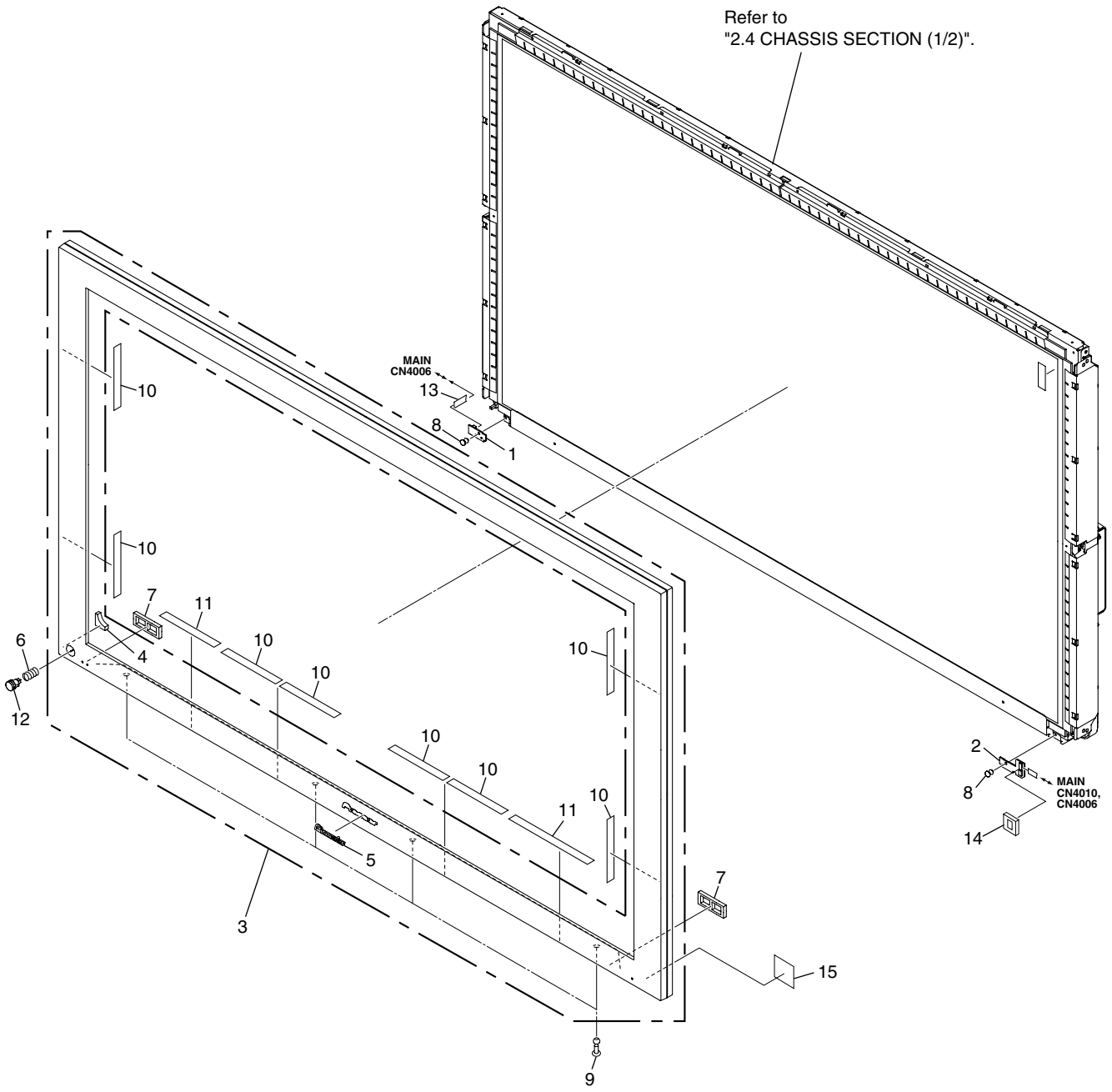
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | SIDE KEY Assy | AWW1133 |
| | 2 | SIDE Assy | AWW1162 |
| | 3 | Filter | CTX1054 |
| | 4 | ••••• | |
| | 5 | Side Input Panel (E) | ANC2418 |
| | 6 | Function Button Base | ANG2923 |
| | 7 | Side Input Shield | ANK1834 |
| | 8 | Function Button Shield | ANK1835 |
| NSP | 9 | PCB Support | AEC1288 |
| | 10 | ••••• | |
| | 11 | Wire Saddle | AEC1745 |
| | 12 | ••••• | |
| | 13 | Locking Card Spacer | AEC2019 |
| | 14 | ••••• | |
| | 15 | Inner Grip Assy | AMR3434 |
| | 16 | ••••• | |
| NSP | 17 | Name Label | See Contrast table (2) |
| | 18 | ••••• | |
| | 19 | Bolt Caution Label | See Contrast table (2) |
| | 20 | Serial Seal | AAX3143 |
| | 21 | ••••• | |
| | 22 | Terminal Label A (E/T) | See Contrast table (2) |
| | 23 | Terminal Label C (E/T) | AAX3339 |
| | 24 | Terminal Label B50 (E/HT) | AAX3418 |
| | 25 | Terminal Panel B (50E) | ANC2410 |
| | 26 | Function Button Panel | AMB2906 |
| | 27 | Side Input Cover | AMB2911 |
| | 28 | Function Button (E) | AAC1565 |
| | 29 | Function Button Sheet (E) | AAK2896 |
| | 30 | Input Cover Label E | See Contrast table (2) |
| | 31 | Rear Case (507) | ANE1656 |
| | 32 | ••••• | |
| | 33 | Screw (3 x 40P) | ABA1332 |
| | 34 | Screw | ABA1341 |
| | 35 | ••••• | |
| | 36 | Screw | AMZ30P060FTB |
| | 37 | Screw | AMZ30P080FTC |
| | 38 | Screw | APZ30P080FTB |
| | 39 | Screw | BPZ30P080FTB |
| | 40 | Screw | TBZ40P080FTB |

## (2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-507XD /WYVIXK5 | PDP-507XA /WYVIXK5 | PDP-507XA /WYV5 |
|---|---|---|---|---|---|
| NSP | 17 | Name Label (507XD) | AAL2813 | Not used | Not used |
| NSP | 17 | Name Label (507XA) | Not used | AAL2815 | AAL2814 |
| | 19 | Bolt Caution Label | AAX3005 | AAX3005 | AAX3117 |
| | 22 | Terminal Label A | AAX3337 | AAX3398 | AAX3332 |
| | 30 | Input Cover Label E | AAX3396 | AAX3396 | AAX3375 |

# 2.3 FRONT SECTION



## (1) FRONT SECTION PARTS LIST

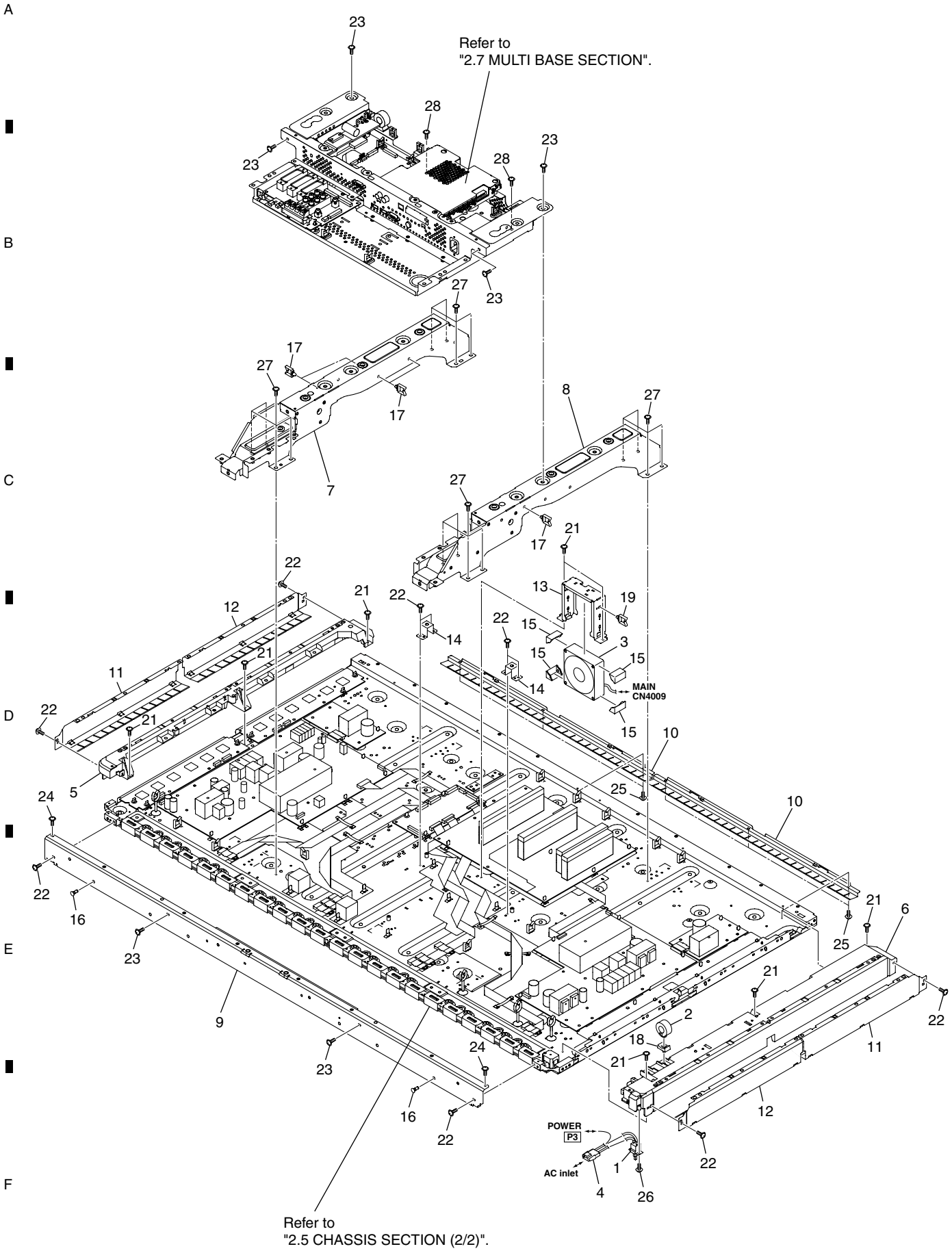
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | 50 LED Assy | AWW1135 |
| | 2 | LED IR Assy | AWW1136 |
| | 3 | Front Case Assy | See Contrast table (2) |
| | 4 | Corner Cushion | AEB1416 |
| | 5 | Pioneer Name Plate | AAM1098 |
| | 6 | Coil Spring | ABH1120 |
| | 7 | Blind Cushion | AEB1415 |
| | 8 | Nyron Rivet | AEC1671 |
| | 9 | Screw Rivet | AEC1877 |
| | 10 | Insulation Sheet A | AED1283 |
| | 11 | Insulation Sheet B | AED1284 |
| | 12 | Power Button | AAD4133 |
| | 13 | 3P Housing Wire (J130) | ADX3424 |
| | 14 | IR Block Cushion | AEB1465 |
| | 15 | IR Reducer | AAX3455 |

## (2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-507XD /WYVIXK5 | PDP-507XA /WYVIXK5 | PDP-507XA /WYV5 |
|---|---|---|---|---|---|
| | 3 | Front Case Assy (507PE/D) | AMB2945 | Not used | Not used |
| | 3 | Front Case Assy (507PE/A) | Not used | AMB2946 | AMB2946 |

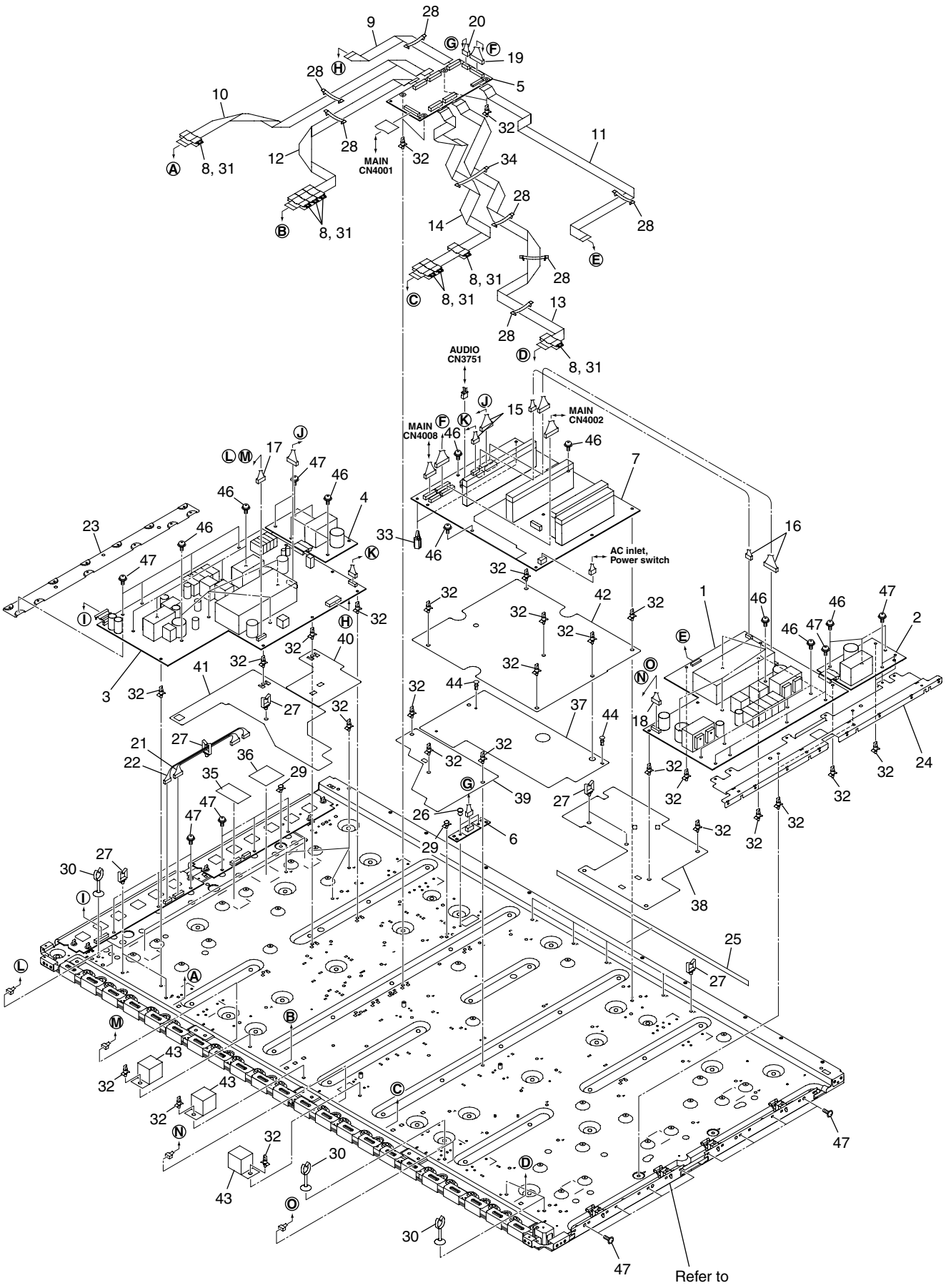
# 2.4 CHASSIS SECTION (1/2)



## CHASSIS SECTION (1/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | Power Switch (S1) | ASG1092 |
| | 2 | Ferrite Core | ATX1044 |
| ⚠ | 3 | Fan Motor 80 x 25L | AXM1059 |
| | 4 | Housing Wire (J103) | ADX3320 |
| | 5 | Front Chassis VL (50) | AMA1014 |
| | 6 | Front Chassis VR (507) | AMA1022 |
| | 7 | Sub Frame L Assy 507 | ANA1945 |
| | 8 | Sub Frame R Assy 507 | ANA1946 |
| | 9 | Front Chassis H Assy (507) | ANA2031 |
| | 10 | Panel Holder H (50) | ANG2769 |
| | 11 | Panel Holder V1 (50) | ANG2770 |
| | 12 | Panel Holder V2 (50) | ANG2771 |
| | 13 | Fan Holder | ANG2833 |
| | 14 | Multi Base Holder | ANG2937 |
| | 15 | Floating Rubber 80 | AEB1427 |
| | 16 | PCB Spacer | AEC1570 |
| | 17 | Wire Saddle | AEC1745 |
| | 18 | Ferrite Core Holder | AEC1818 |
| | 19 | Re-use Wire Saddle | AEC1945 |
| | 20 | ••••• | |
| | 21 | Screw | ABA1351 |
| | 22 | Screw | ABZ30P080FTC |
| | 23 | Screw | AMZ30P060FTB |
| | 24 | Screw | APZ30P080FTB |
| | 25 | Screw | BBZ30P060FTC |
| | 26 | Screw | BPZ30P080FTB |
| | 27 | Screw | TBZ40P080FTB |
| | 28 | Screw | ABA1364 |

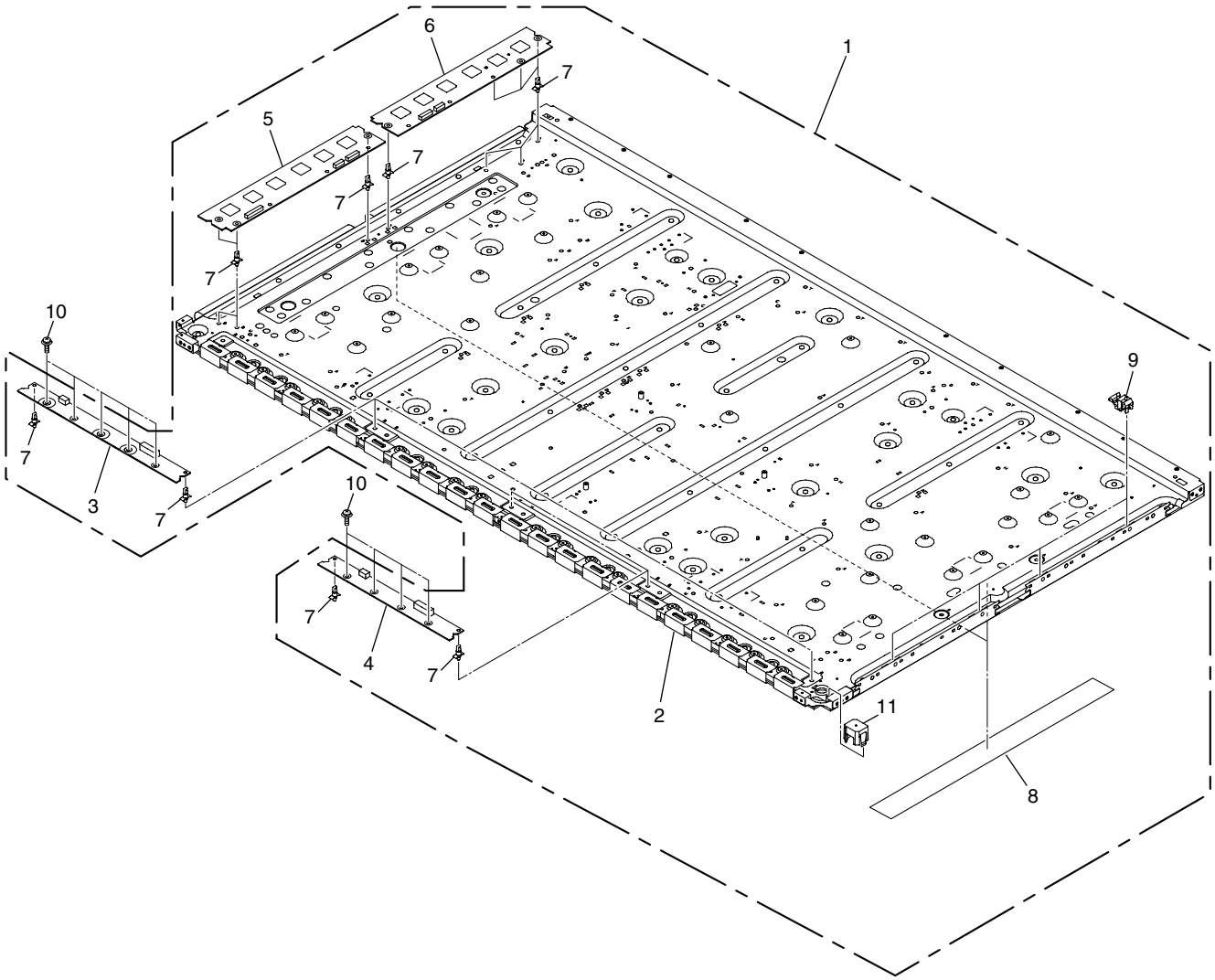
# 2.5 CHASSIS SECTION (2/2)



## CHASSIS SECTION (2/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | 50 X MAIN DRIVE Assy | AWW1143 |
| | 2 | 50 X SUB DRIVE Assy | AWW1144 |
| | 3 | 50 Y MAIN DRIVE Assy | AWW1145 |
| | 4 | 50 Y SUB DRIVE Assy | AWW1146 |
| | 5 | 50 DIGITAL Assy | AWW1139 |
| | 6 | SENSOR Assy | AWW1140 |
| ⚠ | 7 | POWER SUPPLY Unit | AXY1153 |
| | 8 | Ferrite Core | ATX1048 |
| | 9 | Flexible Cable (J201) | ADD1435 |
| | 10 | Flexible Cable (J202) | ADD1436 |
| | 11 | Flexible Cable (J206) | ADD1440 |
| | 12 | Flexible Cable (J203) | ADD1463 |
| | 13 | Flexible Cable (J205) | ADD1465 |
| | 14 | Flexible Cable (J204) | ADD1466 |
| | 15 | 9P&6/5P Housing Wire (J101) | ADX3368 |
| | 16 | 8P&5P Housing Wire (J102) | ADX3369 |
| | 17 | 8P/4P Housing Wire (J108) | ADX3370 |
| | 18 | 8P/4P Housing Wire (J109) | ADX3371 |
| | 19 | 14P Housing Wire (J105) | ADX3323 |
| | 20 | 5P Housing Wire (J110) | ADX3328 |
| | 21 | 10P Housing Wire (J120) | ADX3378 |
| | 22 | 4P Housing Wire (J119) | ADX3377 |
| | 23 | Conductive Plate Y | ANG2902 |
| | 24 | Conductive Plate X | ANG2905 |
| | 25 | Waterproof Cushion | AEB1424 |
| | 26 | Nyron Rivet | AEC1671 |
| | 27 | Wire Saddle | AEC1745 |
| | 28 | Flat Clamp | AEC1879 |
| | 29 | PCB Support | AEC1938 |
| | 30 | Harness Lifter 28 | AEC1982 |
| | 31 | Ferrite Clamp | AEC1986 |
| | 32 | Re-use PCB Spacer | AEC2087 |
| | 33 | Tapping Card Spacer | AEC2103 |
| | 34 | Flat Clamp 60 | AEC2104 |
| | 35 | Drive Silicone Sheet B | AEH1109 |
| | 36 | Drive Silicone Sheet C | AEH1110 |
| | 37 | Power Supply Sheet B (507) | AMR3555 |
| | 38 | Address Sheet A | AMR3628 |
| | 39 | Address Sheet B | AMR3629 |
| | 40 | Address Sheet C | AMR3630 |
| | 41 | Address Sheet D | AMR3631 |
| | 42 | Power Supply Sheet (507) | AMR3634 |
| | 43 | Gasket AV8 | ANK1881 |
| | 44 | Rivet A | BEC1158 |
| | 45 | ••••• | |
| | 46 | Screw | ABA1351 |
| | 47 | Screw | ABA1364 |

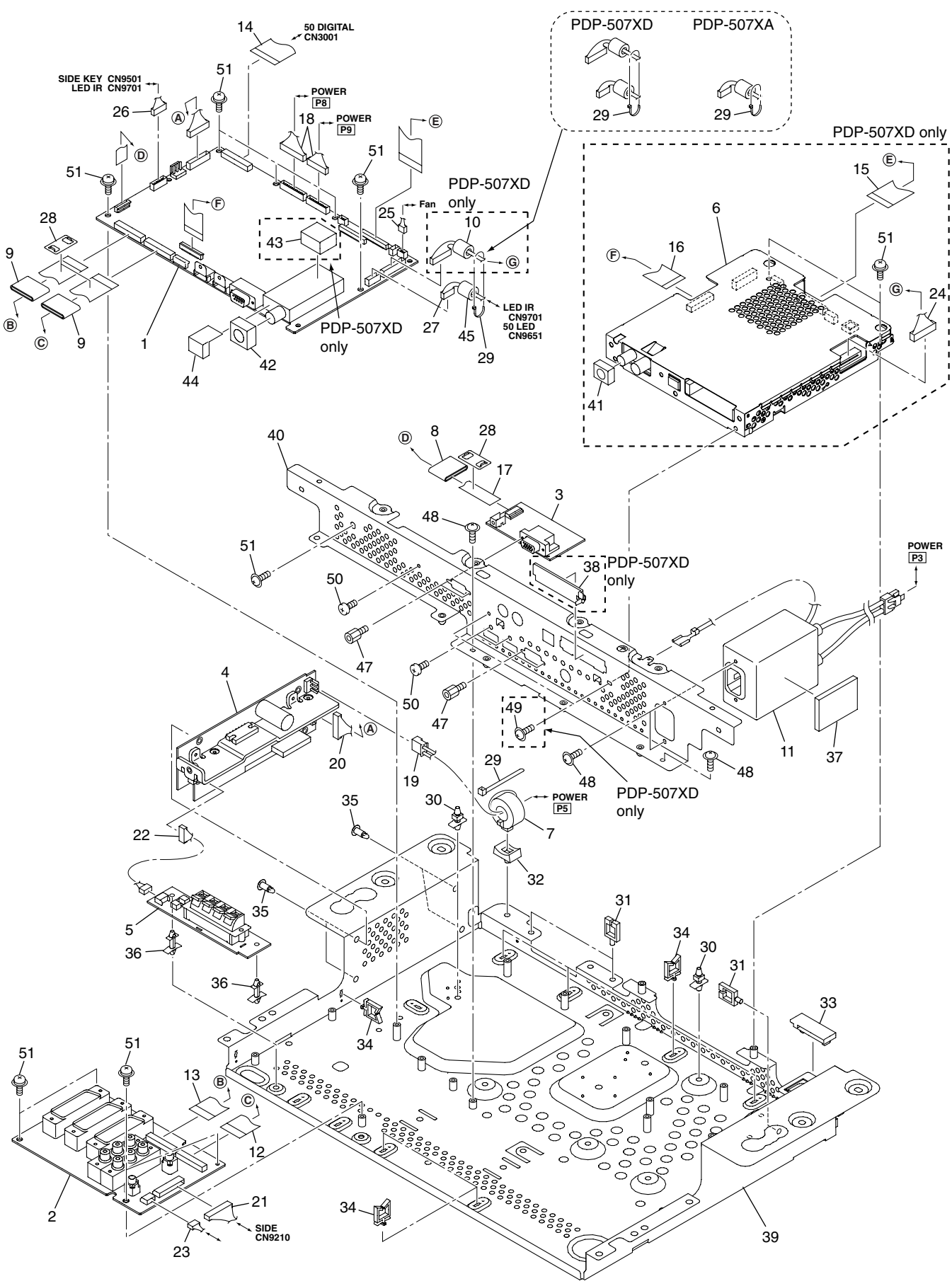
# 2.6 PANEL CHASSIS SECTION



## PANEL CHASSIS SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Panel Chassis (507) Assy | AWU1148 |
| NSP | 2 | Plasma Panel (50DC) Assy | AWU1162 |
| NSP | 3 | 50 ADDRESS L Assy | AWW1141 |
| NSP | 4 | 50 ADDRESS S Assy | AWW1142 |
| NSP | 5 | 50 SCAN A Assy | AWW1147 |
| NSP | 6 | 50 SCAN B Assy | AWW1148 |
| | 7 | Re-use PCB Spacer | AEC2088 |
| NSP | 8 | Adhesive Tape (50) | AEH1119 |
| | 9 | Conductive Plate Holder | AMR3446 |
| | 10 | Screw | ABA1351 |
| NSP | 11 | Tube Cover | AMR3445 |

# 2.7 MULTIBASE SECTION



## (1) MULTIBASE SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | MAIN Assy | AWV2308 |
| | 2 | TANSHI Assy | AWW1161 |
| | 3 | PC Assy | AWW1163 |
| | 4 | AUDIO Assy | AWW1131 |
| | 5 | SP TERMINAL Assy | AWW1132 |
| | 6 | R07 DT Assy | See Contrast table (2) |
| | 7 | Ferrite Core | ATX1044 |
| | 8 | Ferrite Core | ATX1063 |
| | 9 | Ferrite Core | ATX1064 |
| | 10 | Filter | See Contrast table (2) |
| ⚠ | 11 | AC Inlet (CN1) | AKP1301 |
| | 12 | Flexible Cable (J210) | ADD1441 |
| | 13 | Flexible Cable (J211) | ADD1441 |
| | 14 | Flexible Cable (J207) | ADD1445 |
| | 15 | Flexible Cable (J214) | See Contrast table (2) |
| | 16 | Flexible Cable (J215) | See Contrast table (2) |
| | 17 | Flexible Cable (J213) | See Contrast table (2) |
| | 18 | 13P&11P Housing Wire (J106) | ADX3324 |
| | 19 | 3P Housing Wire (J107) | ADX3325 |
| | 20 | 11P Housing Wire (J111) | ADX3329 |
| | 21 | 14P Housing Wire (J116) | ADX3374 |
| | 22 | 8/4P Housing Wire (J117) | ADX3376 |
| | 23 | 5P Housing Wire (J125) | ADX3389 |
| | 24 | 12P Housing Wire (J126) | See Contrast table (2) |
| | 25 | 3P Housing Wire (J127) | ADX3421 |
| | 26 | 7/6/4/3P Housing Wire (J128) | ADX3422 |
| | 27 | 6P/3P Housing Wire (J129) | ADX3423 |
| | 28 | Ferrite Stopper | AEC1981 |
| | 29 | Binder | AEC-093 |
| | 30 | Locking Card Spacer | AEC1429 |
| | 31 | Wire Saddle | AEC1745 |
| | 32 | Ferrite Core Holder | AEC1818 |
| | 33 | Clamp | AEC1884 |
| | 34 | Re-use Wire Saddle | AEC1945 |
| | 35 | Locking Card Spacer | AEC2019 |
| | 36 | Locking Card Spacer | AEC2093 |
| | 37 | Inlet Spacer | AEC2112 |
| | 38 | POD Cover | See Contrast table (2) |
| | 39 | Multi Base Assy | See Contrast table (2) |
| | 40 | Terminal Panel A | See Contrast table (2) |
| ⚠ | 41 | Gasket N | See Contrast table (2) |
| ⚠ | 42 | Gasket EA | ANK1855 |
| ⚠ | 43 | Gasket AD | See Contrast table (2) |
| ⚠ | 44 | Gasket EB | ANK1899 |
| | 45 | Filter | CTX1054 |
| | 46 | ••••• | |
| | 47 | Hex. Head Screw | BBA1051 |
| | 48 | Screw | AMZ30P060FTB |
| | 49 | Screw | See Contrast table (2) |
| | 50 | Screw | BMZ30P060FTB |
| | 51 | Screw | PMB30P080FNI |

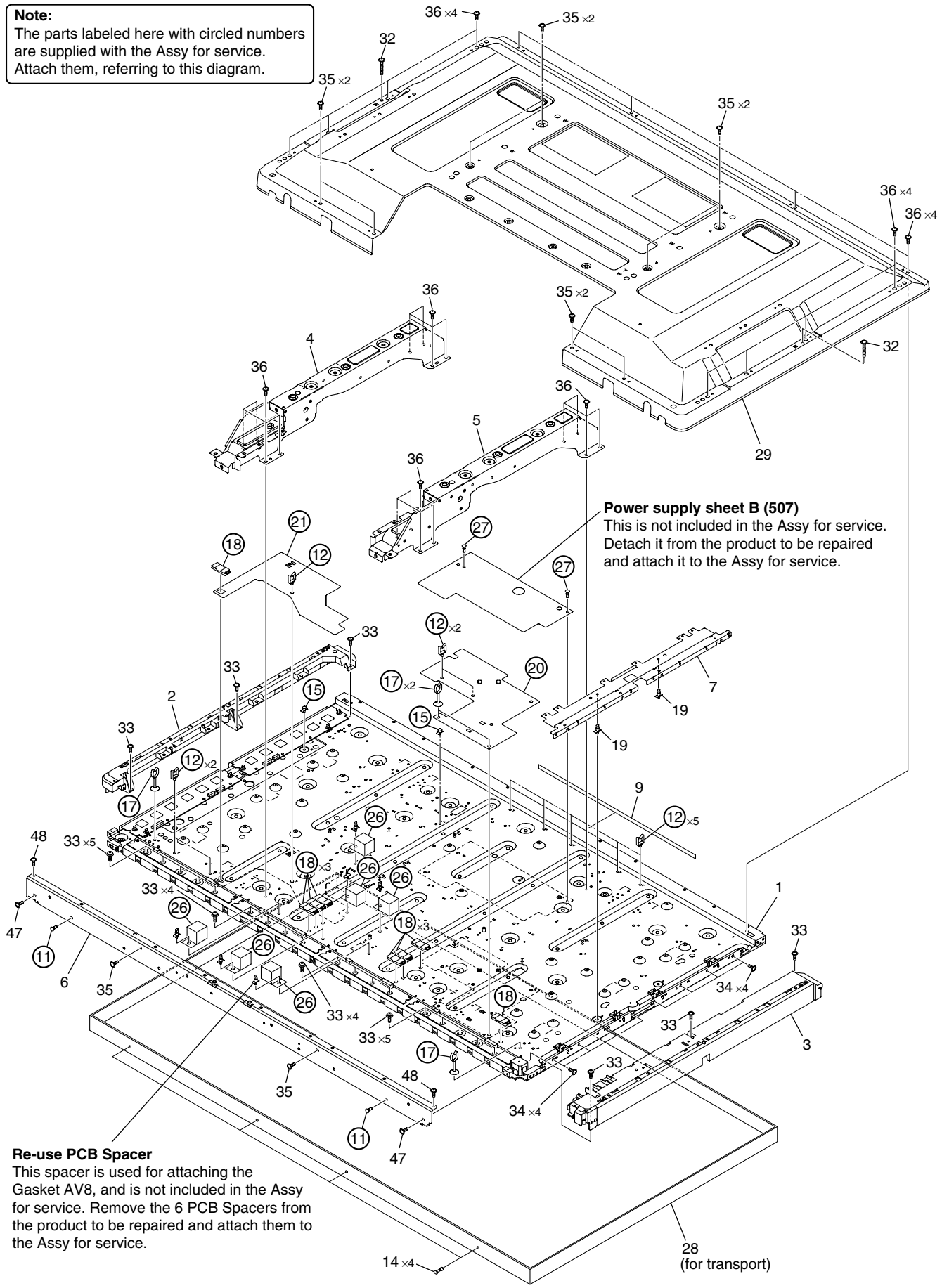
## (2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-507XD /WYVIXK5 | PDP-507XA /WYVIXK5 | PDP-507XA /WYV5 |
|---|---|---|---|---|---|
| | 6 | R07 DT Assy | AWE1131 | Not used | Not used |
| | 10 | Filter | CTX1054 | Not used | Not used |
| | 15 | Flexible Cable (J214) | ADD1450 | Not used | Not used |
| | 16 | Flexible Cable (J215) | ADD1451 | Not used | Not used |
| | 17 | Flexible Cable (J213) | ADD1452 | ADD1452 | ADD1444 |
| | 24 | 12P Housing Wire (J126) | ADX3390 | Not used | Not used |
| | 38 | POD Cover | AMR3542 | Not used | Not used |
| | 39 | Multi Base (E) Assy | ANA1952 | Not used | Not used |
| | 39 | Multi Base (G) Assy | Not used | ANA2019 | ANA2019 |
| | 40 | Terminal Panel A (E/H) | ANC2398 | Not used | Not used |
| | 40 | Terminal Panel A (E/T) | Not used | ANC2399 | ANC2399 |
| ⚠ | 41 | Gasket N | ANK1776 | Not used | Not used |
| ⚠ | 43 | Gasket AD | ANK1863 | Not used | Not used |
| | 49 | Screw | BZ30P060FTB | Not used | Not used |

# 2.8 PDP SERVICE ASSY 507 (AWU1212)

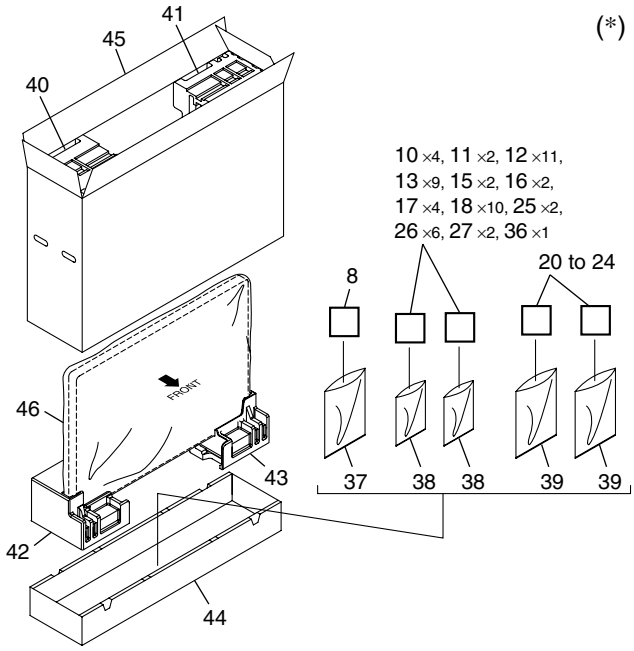
**Note:**
The parts labeled here with circled numbers are supplied with the Assy for service. Attach them, referring to this diagram.




**Power supply sheet B (507)**
This is not included in the Assy for service. Detach it from the product to be repaired and attach it to the Assy for service.

**Re-use PCB Spacer**
This spacer is used for attaching the Gasket AV8, and is not included in the Assy for service. Remove the 6 PCB Spacers from the product to be repaired and attach them to the Assy for service.

## ● Packing Section




(*)

| No. | Part Name | Part No. | No. of pcs | Remarks |
|---|---|---|---|---|
| 8 | Clamp base | ANG3030 | ×1 | Not used |
| 10 | PCB spacer | AEC1126 | ×4 | Not used |
| 12 | Wire saddle | AEC1745 | ×11 | Ten of the 11 wire saddles are to be used with this unit. Attach them to the places where T indications are engraved. |
| 13 | Wire saddle | AEC1751 | ×9 | Not used |
| 15 | PCB support | AEC1938 | ×2 | Attach them to the places where C indications are engraved. |
| 16 | PCB support | AEC1958 | ×2 | Not used |
| 17 | Harness lifter 28 | AEC1982 | ×4 | Attach them to the places where U indications are engraved. |
| 18 | Ferrite clamp | AEC1986 | ×10 | Eight of the 10 ferrite clamps are to be used with this unit. |
| 22 | DC sheet A | AMR3612 | ×1 | Not used |
| 23 | Address sheet E | AMR3621 | ×1 | Not used |
| 24 | Address sheet D | AMR3631 | ×1 | Not used |
| 25 | Gasket E | ANK1874 | ×2 | Not used |
| 36 | Screw | TBZ40P080FTB | ×13 | Twelve screws have been already secured to the Assy. The remaining one screw packed in a plastic bag is not used with this unit. |

## PDP SERVICE ASSY 507 (AWU1212) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Panel Chassis (507) Assy | AWU1148 |
| | 2 | Front Chassis VL (50) | AMA1014 |
| | 3 | Front Chassis VR (507) | AMA1022 |
| | 4 | Sub Frame L Assy 507 | ANA1945 |
| | 5 | Sub Frame R Assy 507 | ANA1946 |
| | 6 | Front Chassis H Assy (507) | ANA2031 |
| | 7 | Conductive Plate X | ANG2905 |
| | 8 | Clamp Base (*) | ANG3030 |
| | 9 | Cushion | AEB1424 |
| NSP | 10 | PCB Spacer (*) | AEC1126 |
| | 11 | PCB Spacer | AEC1570 |
| | 12 | Wire Saddle (*) | AEC1745 |
| | 13 | Wire Saddle (*) | AEC1751 |
| | 14 | Screw Rivet | AEC1877 |
| | 15 | PCB Support (*) | AEC1938 |
| | 16 | PCB Support (*) | AEC1958 |
| | 17 | Harness Lifter 28 (*) | AEC1982 |
| | 18 | Ferrite Clamp (*) | AEC1986 |
| | 19 | Re-use PCB Spacer | AEC2087 |
| | 20 | Address Sheet A | AMR3628 |
| | 21 | Address Sheet F | AMR3646 |
| | 22 | DC Sheet A (*) | AMR3612 |
| | 23 | Address Sheet E (*) | AMR3621 |
| | 24 | Address Sheet D (*) | AMR3631 |
| | 25 | Gasket E (*) | ANK1874 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 26 | Gasket AV8 | ANK1881 |
| | 27 | Rivet A | BEC1158 |
| NSP | 28 | Front Case Assy (507SV) | AMB2977 |
| | 29 | Rear Case (507) | ANE1656 |
| | 30 | Caution Label | AAX3031 |
| NSP | 31 | Drive Voltage Label | ARW1097 |
| | 32 | Screw (3 x 40P) | ABA1332 |
| | 33 | Screw | ABA1351 |
| | 34 | Screw | ABA1364 |
| | 35 | Screw | AMZ30P060FTB |
| | 36 | Screw (*) | TBZ40P080FTB |
| | 37 | Polyethylene Bag | AHG1337 |
| | 38 | Polyethylene Bag S | AHG1338 |
| | 39 | Polyethylene Bag | AHG1340 |
| | 40 | Pad (507 T-L) | AHA2538 |
| | 41 | Pad (507 T-R) | AHA2539 |
| | 42 | Pad (507 B-L) | AHA2540 |
| | 43 | Pad (507 B-R) | AHA2541 |
| | 44 | Under Carton (507) | AHD3473 |
| | 45 | Upper Carton (507SV) | AHD3550 |
| | 46 | Protect Sheet | AHG1331 |
| | 47 | Screw | ABZ30P080FTC |
| | 48 | Screw | APZ30P080FTB |

# 3. PCB PARTS LIST

*NOTES:* ● *Parts marked by "NSP" 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.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
*Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).*

*560 Ω → 56 x 10[1] → 561 ..... RD1/4PU[5][6][1]J*
*47k Ω → 47 x 10[3] → 473 ..... RD1/4PU[4][7][3]J*
*0.5 Ω → R50 ..... RN2H[R][5][0]K*
*1 Ω → 1R0 ..... RS1P[1][R][0]K*

*Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).*

*5.62k Ω → 562 x 10[1] → 5621 ..... RN1/4PC[5][6][2][1]F*

## LIST OF ASSEMBLIES

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | ..PANEL CHASSIS (507) ASSY | AWU1148 |
| NSP | 2 | ..50 ADDRESS ASSY | AWV2303 |
| NSP | 3 | ..50 ADDRESS L ASSY | AWW1141 |
| NSP | 3 | ..50 ADDRESS S ASSY | AWW1142 |
| NSP | 2 | ..50 SCAN ASSY | AWV2304 |
| NSP | 3 | ..50 SCAN A ASSY | AWW1147 |
| NSP | 3 | ..50 SCAN B ASSY | AWW1148 |
| NSP | 1 | ..50 X DRIVE ASSY | AWV2305 |
| | 2 | ..50 X MAIN DRIVE ASSY | AWW1143 |
| | 2 | ..50 X SUB DRIVE ASSY | AWW1144 |
| NSP | 1 | ..50 Y DRIVE ASSY | AWV2306 |
| | 2 | ..50 Y MAIN DRIVE ASSY | AWW1145 |
| | 2 | ..50 Y SUB DRIVE ASSY | AWW1146 |
| NSP | 1 | ..50 DIGITAL ASSY | AWV2302 |
| | 2 | ..50 DIGITAL ASSY | AWW1139 |
| | 2 | ..SENSOR ASSY | AWW1140 |
| | 1 | ..R07 DT ASSY (E) (507XD only) | AWE1311 |
| | 1 | ..MAIN ASSY (STEPUP) | AWV2318 |
| NSP | 1 | ..I/O ASSY (STEPUP) | AWV2319 |
| | 2 | ..TANSHI ASSY | AWW1161 |
| | 2 | ..SIDE ASSY | AWW1162 |
| | 2 | ..PC ASSY | AWW1163 |
| NSP | 1 | ..50 AUDIO FUKUGO ASSY | AWV2346 |
| | 2 | ..AUDIO ASSY | AWW1131 |
| | 2 | ..SP TERMINAL ASSY | AWW1132 |
| | 2 | ..SIDE KEY ASSY | AWW1133 |
| | 2 | ..50 LED ASSY | AWW1135 |
| | 2 | ..LED IR ASSY | AWW1136 |
| ⚠ | 1 | ..POWER SUPPLY UNIT | AXY1153 |

## R07 DT ASSY (E) (507XD only)

### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 9 | | XNG1002 |
| | 11 | | ANG2673 |
| | 12–15 | | PMZ20P100FNI |
| | 16-18 | | ABZ30P060FTC |

### [TUNER BLOCK]
### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 1000 | | UPC3221GV |
| IC | 1001 | | STV0361L |
| Q | 1001 | | 2SC2412K |
| Q | 1002 | | DTC124EUA |
| Q | 1003,1004 | | RK7002 |
| ⚠D | 1000 | | SM15T6V8A |
| D | 1001 | | 1SS355 |

### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| L | 1000 | | XTX1005 |
| L | 1002 | | LCYAR82J2520 |
| L | 1004 | | XTX1003 |
| L | 1200 | | XTX1001 |
| F | 1000 | | XTF1002 |
| F | 1001,1003–1010 | | VTF1091 |
| F | 1012–1014,1100,1101 | | VTF1091 |
| F | 1202–1204 | | VTF1091 |
| X | 1100 | | XSS1010 |
| ⚠FU | 1200 | | XEK1003 |
| ⚠M | 1000 | | XXF1008 |

### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 1001–1003,1017,1022 | | CKSRYB104K16 |
| C | 1004,1055 | | CEHVKW101M6R3 |
| C | 1010 | | CEHVKW2R2M50 |
| C | 1013,1021,1040,1041 | | CKSRYB103K50 |
| C | 1015 | | CKSRYB102K50 |
| C | 1018,1027,1029,1050 | | CEHVKW470M16 |
| C | 1019 | | CEHVKW100M50 |
| C | 1020 | | CEHVKW100M16 |
| C | 1025,1026,1030–1035 | | CKSRYB104K16 |
| C | 1028,1038,1042,1046 | | CCG1205 |
| C | 1036 | | CKSRYB105K10 |
| C | 1037,1039,1049,1053 | | CKSRYB104K16 |
| C | 1043,1044 | | CCSRCJ3R0C50 |
| C | 1045 | | CKSRYB103K50 |
| C | 1051 | | CCG1205 |
| C | 1054 | | BCG1050 |
| C | 1056,1057 | | CEHVKW470M16 |
| C | 1058–1062 | | CKSRYB104K16 |
| C | 1102 | | CEHVKW331M6R3 |

### [DEMUX BLOCK]
### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 2000 | | STI5517DWAL |
| IC | 2001 | | SN74LVU04APW |
| IC | 2002 | | TC74VHC08FTS1 |
| Q | 2000 | | 2SC4081 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| D | 2000 | | DA204U |
| D | 2001 | | UDZS8R2(B) |
| D | 2002 | | HVU307 |
| D | 2005,2009 | | RB501V-40 |
| VA | 2002 | | AVR-M1608C120MT2AB |
| **MISCELLANEOUS** | | | |
| L | 2000 | | XTX1003 |
| F | 2000–2003 | | VTF1091 |
| X | 2000 | | BSS1112 |
| X | 2001 | | ASS1172 |
| **RESISTORS** | | | |
| R | 2010,2018,2042 | | RAB4C103J |
| R | 2070,2071 | | RAB4CQ220J |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 2000,2026,2030 | | CCSRCH101J50 |
| C | 2001 | | CKSRYB471K50 |
| C | 2002,2003,2005,2006 | | CKSRYF104Z16 |
| C | 2004 | | CKSRYF474Z16 |
| C | 2007 | | CCSRCH471J50 |
| C | 2008,2017,2020,2021 | | CKSRYB102K50 |
| C | 2009 | | CCSRCH330J50 |
| C | 2011,2012 | | CCSRCH390J50 |
| C | 2013 | | CKSRYB105K10 |
| C | 2014,2016 | | CCSRCH100D50 |
| C | 2015 | | CKSRYF105Z10 |
| C | 2018,2019,2022–2025 | | CKSRYF104Z16 |
| C | 2027,2029,2042,2046 | | CKSRYF223Z50 |
| C | 2028,2035,2037–2041 | | CKSRYF104Z16 |
| C | 2032–2034,2036 | | CEHVKW470M16 |
| C | 2043–2045,2047,2048 | | CKSRYF104Z16 |
| **[MEMORY BLOCK]** | | | |
| **SEMICONDUCTORS** | | | |
| IC | 3000,3003 | | K4S281632I-UC75 |
| IC | 3002 | | XGC1003 |
| **MISCELLANEOUS** | | | |
| L | 3003 | | XTX1003 |
| L | 3005 | | XTX1001 |
| **RESISTORS** | | | |
| R | 3004–3014 | | RAB4CQ470J |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 3000,3003,3007,3008 | | CKSRYF104Z16 |
| C | 3001,3002,3004,3014 | | CKSRYF223Z50 |
| C | 3010 | | CEHVKW470M16 |
| C | 3012,3017,3020–3022 | | CKSRYF104Z16 |
| C | 3015,3018,3019,3023 | | CKSRYF223Z50 |
| C | 3024 | | CKSRYF223Z50 |
| **[AV BLOCK]** | | | |
| **SEMICONDUCTORS** | | | |
| IC | 4000 | | CS4334-KS |
| IC | 4001 | | SN74LVU04APW |
| IC | 4002 | | RC4558D |
| IC | 4003 | | CS8406CZZ |
| IC | 4100 | | PCM1803DB |
| Q | 4001,4002 | | 2SC4081 |
| **MISCELLANEOUS** | | | |
| F | 4000,4100 | | VTF1091 |
| JA | 4000 | | GP1FM513TZ |
| X | 4000 | | XSS1006 |
| CN | 4000 | | AKM1348 |
| **RESISTORS** | | | |
| R | 4042,4045,4046 | | RS1/16S2000F |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 4000,4002 | | CCG1205 |
| C | 4001,4014,4032,4033 | | CKSRYB103K50 |
| C | 4003,4005,4017,4018 | | CKSRYF104Z16 |
| C | 4004 | | CEHVKW2R2M50 |
| C | 4006 | | CKSRYB102K50 |
| C | 4007,4013 | | CCSRCH220J50 |
| C | 4008,4009 | | CCSRCH121J50 |
| C | 4010,4011,4042 | | CCSRCH101J50 |
| C | 4012,4022,4023,4029 | | CEHVKW470M16 |
| C | 4019,4102–4104 | | CEHVKW100M16 |
| C | 4021,4024,4043 | | CKSRYF104Z16 |
| C | 4038 | | CKSRYB103K50 |
| C | 4039 | | CEHVKW470M16 |
| C | 4040,4041 | | CKSRYB105K10 |
| C | 4105–4107 | | CKSRYF104Z16 |
| C | 4108–4113 | | CEHVKW100M16 |
| **[CI BLOCK]** | | | |
| **SEMICONDUCTORS** | | | |
| IC | 5000 | | ST890CDR |
| IC | 5001 | | CIMAXSP2L |
| IC | 5002 | | TC74LCX245FTS1 |
| IC | 5003,5004 | | TC74LCX373FT |
| Q | 5000 | | 2SC4081 |
| Q | 5001 | | DTA143EUA |
| Q | 5002 | | DTC124EUA |
| **MISCELLANEOUS** | | | |
| CN | 5000 | | XKP1003 |
| **RESISTORS** | | | |
| R | 5014,5019,5022,5024 | | RAB4CQ470J |
| R | 5030,5032,5036–5038 | | RAB4CQ470J |
| R | 5045–5050 | | RAB4CQ470J |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 5001 | | CKSRYB105K10 |
| C | 5003,5004,5006 | | CKSRYF104Z16 |
| C | 5005,5100 | | CEHVKW470M16 |
| C | 5008-5013 | | CKSRYF104Z16 |
| **[POWER BLOCK]** | | | |
| **SEMICONDUCTORS** | | | |
| IC | 6001 | | M5291FP |
| IC | 6002 | | BA05FP |
| IC | 6003 | | FPF2003 |
| IC | 6200 | | TC74LCX245FTS1 |
| IC | 6300 | | SN74LVC1G08DCK |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| Q | 6001,6009,6011,6200 | | DTC124EUA |
| Q | 6003,6005,6010 | | DTA143EUA |
| Q | 6006 | | 2SB1188 |
| Q | 6008 | | TPC8209 |
| Q | 6100 | | 2SC4081 |
| D | 6001 | | RSX201L-30 |
| D | 6003,6100–6102 | | 1SS355 |
| D | 6103 | | UDZS30(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| L | 6000 | | LCYAR82J2520 |
| L | 6001,6100,6101 | | XTH1001 |
| F | 6000 | | VTF1091 |
| CN | 6000 | | AKM1298 |
| CN | 6003 | | AKM1349 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 6012–6014 | | RAB4C2R2J |
| R | 6031 | | RAB4C221J |
| R | 6204,6205 | | RAB4CQ101J |
| Other Resistors | | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 6000,6026,6104–6106 | | CEHVKW331M6R3 |
| C | 6001,6011,6013–6015 | | CEHVKW470M16 |
| C | 6002,6035 | | CKSRYF223Z50 |
| C | 6003,6005,6006,6012 | | CKSRYF104Z16 |
| C | 6004 | | CEHVKW100M50 |
| C | 6008,6016 | | CKSRYF474Z16 |
| C | 6010 | | CCSRCH331J50 |
| C | 6017,6028,6036,6042 | | CEHVKW101M6R3 |
| C | 6018,6020,6021,6025 | | CKSRYF104Z16 |
| C | 6019,6023,6100 | | CEHVKW470M16 |
| C | 6022 | | CKSRYB103K50 |
| C | 6027 | | CCSRCH101J50 |
| C | 6029,6030,6033,6038 | | CKSRYF104Z16 |
| C | 6031 | | CEHVKW2R2M50 |
| C | 6044 | | CEHVKW101M6R3 |
| C | 6102 | | CCG1191 |
| C | 6200,6300 | | CKSRYF104Z16 |

## 50 DIGITAL ASSY

**[DIGITAL IF BLOCK]**

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| F | 3001 | | CCG1162 |
| CN | 3001 | | AKM1353 |
| CN | 3002 | | AKM1235 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 3007,3010-3016 | | RAB4C470J |
| R | 3020–3022 | | RAB4C103J |
| Other Resistors | | | RS1/16SS###J |

**[MODULE UCOM BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 3152,3153 | | SN74AHC541PW |
| IC | 3155 | | SN74AHC08PW |
| IC | 3156 | | BR24L04FJ-W |
| IC | 3157 | | M62334FP |
| IC | 3159 | | TC7W126FU |
| IC | 3160,3161 | | TC74VHC123AFTS1 |
| Q | 3151 | | 2SJ461A |
| D | 3151,3152,3154,3155 | | DAN202U |
| D | 3158,3159,3161–3163 | | 1SS355 |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| X | 3151 | | CSS1616 |
| CN | 3151 | | AKM1276 |
| CN | 3152 | | CKS4828 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 3155,3160,3170,3176 | | RAB4C101J |
| R | 3174 | | RAB4C103J |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 3151 | | CEHVKW470M6R3 |
| C | 3152,3153,3155–3158 | | CKSSYB104K10 |
| C | 3159,3171,3172,3182 | | CKSRYB105K6R3 |
| C | 3162,3163,3165,3166 | | CKSSYB104K10 |
| C | 3164 | | CCSSCH101J50 |
| C | 3167 | | CKSSYB103K16 |
| C | 3168,3170,3181 | | CKSSYB104K10 |

**[PANEL FLASH BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 3302,3305 | | PST3628UR |
| IC | 3303 | | SN74AHC08PW |
| IC | 3304 | | PST3610UR |
| Q | 3301 | | RN1901 |
| Q | 3302 | | HN1C01FU |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| X | 3302 | | ASS1188 |
| CN | 3301 | | CKS4835 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 3307,3308 | | RAB4C101J |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 3301–3303,3306,3308 | | CKSSYB104K10 |
| C | 3304,3307,3309 | | CKSSYB472K16 |
| C | 3305,3310 | | CKSSYB102K50 |
| C | 3311 | | CCSRCH470J50 |
| C | 3315,3316 | | CKSSYB104K10 |
| C | 3317 | | CCSRCH471J50 |

**[SQ ASIC BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 3401 | | PEG239A |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| L | 3401-3403 | | QTL1013 |
| F | 3401,3402 | | CCG1162 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 3402,3412 | | RAB4C101J |
| R | 3405–3407,3409,3410 | | RAB4C220J |
| R | 3416 | | RAB4C220J |
| R | 3425 | | RS1/16SS5601F |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 3401,3402,3419,3425 | | CEHVKW101M6R3 |
| C | 3403–3413,3417,3418 | | CKSSYB104K10 |
| C | 3420–3424,3426–3432 | | CKSSYB104K10 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 3445–3448 | | CKSSYB104K10 |
| | | **[ADDRESS CN BLOCK]** | |
| | | **SEMICONDUCTORS** | |
| Q | 3501,3502 | | RN1901 |
| D | 3501,3502 | | DAN202U |
| | | **MISCELLANEOUS** | |
| CN | 3501–3504,3506 | | AKM1348 |
| CN | 3505 | | VKN1310 |
| | | **RESISTORS** | |
| R | 3519,3520 | | RAB4C472J |
| R | 3521,3522,3525 | | RAB4C101J |
| R | 3524 | | RAB4C222J |
| Other Resistors | | | RS1/16SS###J |
| | | **[DIGITAL DD CON BLOCK]** | |
| | | **SEMICONDUCTORS** | |
| IC | 3601 | | BA80BC0WFP |
| | | **MISCELLANEOUS** | |
| U | 3601 | | AXY1137 |
| | | **RESISTORS** | |
| R | 3611 | | RAB4C101J |
| Other Resistors | | | RS1/16SS###J |
| | | **CAPACITORS** | |
| C | 3609 | | CKSSYB104K10 |
| C | 3611 | | CKSQYB105K16 |
| C | 3612 | | ACH1394 |
| C | 3613 | | CKSSYB103K16 |

## SENSOR ASSY

| | | | |
|---|---|---|---|
| | | **SEMICONDUCTORS** | |
| IC | 3651 | | MM1522XU |
| IC | 3652 | | BR24L02FJ-W |
| Q | 3651 | | HN1B04FU |
| | | **MISCELLANEOUS** | |
| CN | 3651 | | AKM1276 |
| All Resistors | | | RS1/16SS###J |
| | | **CAPACITORS** | |
| C | 3651,3653 | | CKSRYB105K6R3 |
| C | 3652,3654 | | CKSSYB103K16 |
| C | 3656,3657 | | CKSSYB104K10 |

## 50 X MAIN DRIVE ASSY

| | | | |
|---|---|---|---|
| | | **[50X LOGIC BLOCK]** | |
| | | **SEMICONDUCTORS** | |
| IC | 1001 | | TC74ACT541FT |
| IC | 1002 | | TC74VHC00FTS1 |
| D | 1001–1004 | | 1SS355 |
| | | **MISCELLANEOUS** | |
| K | 1004,1007 | | AKX1061 |
| CN | 1001 | | VKN1310 |
| | | **RESISTORS** | |
| R | 1001,1006 | | RAB4C470J |
| R | 1004 | | RAB4C472J |
| VR | 1001 | | CCP1390 |
| Other Resistors | | | RS1/16S###J |
| | | **CAPACITORS** | |
| C | 1001 | | CEHAT470M16 |
| C | 1002,1003 | | CKSRYB104K16 |
| C | 1004 | | CCSRCH331J50 |
| C | 1006 | | CCSRCH680J50 |
| | | **[50X RESONANCE BLCOK]** | |
| | | **SEMICONDUCTORS** | |
| IC | 1101,1105 | | TND307TD |
| IC | 1102 | | PS9117P |
| IC | 1104 | | AXF1163 |
| IC | 1107 | | PS2701A-1(L) |
| Q | 1101 | | 2SC2412K |
| Q | 1102,1103 | | QSZ2 |
| Q | 1104,1105 | | 2SC4081 |
| D | 1101,1103 | | UDZS5R6(B) |
| D | 1102 | | CRH01 |
| D | 1104 | | UDZS15(B) |
| | | **MISCELLANEOUS** | |
| L | 1101 | | ATH1217 |
| L | 1106 | | ATH1216 |
| F | 1101 | | CTF1449 |
| 1101 | | | ANH1653 |
| 1102A | | | EH1092 |
| 1103 | | | BMZ30P080FTC |
| | | **RESISTORS** | |
| R | 1107,1108 | | RS3LMF100J |
| R | 1109,1110 | | RS1/10S4702F |
| R | 1113 | | RS1/16S1002F |
| R | 1114 | | RS1/16S3302F |
| R | 1115 | | ACN1259 |
| R | 1119 | | ACN1258 |
| R | 1121 | | RS1/16S4701F |
| Other Resistors | | | RS1/16S###J |
| | | **CAPACITORS** | |
| C | 1101,1114 | | CEHAT470M25 |
| C | 1102,1115 | | CKSRYF104Z50 |
| C | 1103 | | CKSRYB104K16 |
| C | 1104,1117 | | CKSYB105K25 |
| C | 1107,1116 | | ACG1126 |
| C | 1113 | | ACH1450 |
| C | 1121–1124 | | ACE1178 |
| | | **[50X SUS BLOCK]** | |
| | | **SEMICONDUCTORS** | |
| IC | 1201,1204,1206,1208 | | TND307TD |
| IC | 1202,1205 | | PS9117P |
| IC | 1209 | | MM1565AF |
| Q | 1201,1208 | | 2SC2412K |
| Q | 1202,1204,1205,1207 | | H5N2512LS |
| Q | 1209,1212–1214 | | QSZ2 |
| Q | 1210,1211 | | FKP280AS |
| Q | 1215,1221 | | FKP300AS |
| Q | 1216 | | DTC143EK |
| Q | 1217 | | DTC123TKA |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| Q | 1220 | | R5009ANJ |
| D | 1201,1205 | | UDZS5R6(B) |
| D | 1202,1203,1206,1211 | | CRH01 |
| D | 1204 | | D1FL40 |
| D | 1208 | | 1SS302 |
| D | 1209 | | UDZS16(B) |
| D | 1210 | | 1SS355 |
| D | 1212 | | CRH01 |
| D | 1213 | | UDZS8R2(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| L | 1201,1203,1204 | | BTH1134 |
| L | 1202 | | ATH1186 |
| F | 1227 | | CTF1449 |
| K | 1202 | | AKX1061 |
| KN | 1201–1204,1210–1217 | | ANK1841 |
| CN | 1201 | | 14PL-FJ |
| CN | 1204 | | B8B-EH |
| 1202 | | | PMB30P080FNI |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 1208,1210,1213,1215 | | RS1/10S100J |
| R | 1211 | | ACN1254 |
| R | 1219,1228,1230,1231 | | RS1/10S0R0J |
| R | 1220,1224,1233,1256 | | RS1/10S2R2J |
| R | 1237 | | RS1/10S0R0J |
| R | 1239 | | ACN1258 |
| R | 1245 | | ACN1257 |
| R | 1247,1248 | | RS3LMF470J |
| Other Resistors | | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 1201,1212 | | ACG1126 |
| C | 1202,1209,1232,1236 | | CKSRYB104K16 |
| C | 1203,1208,1215,1229 | | CKSRYF104Z50 |
| C | 1205,1206,1217,1218 | | ACG1139 |
| C | 1207,1214,1220,1226 | | CEHAT470M25 |
| C | 1210,1211,1216,1241 | | CKSYB105K25 |
| C | 1213 | | CCSRCH221J50 |
| C | 1222,1223 | | ACH1423 |
| C | 1224,1225 | | ACE1178 |
| C | 1228 | | CEHAT2R2M2E |
| C | 1230 | | ACH1449 |
| C | 1231,1237 | | CEHAT101M10 |
| C | 1233 | | CKSRYB473K16 |
| C | 1234 | | CEHAT470M16 |
| C | 1235 | | CKSRYB105K6R3 |
| C | 1244 | | CKSRYB104K25 |

**[50X D-D CON BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 1301 | | PS2701A-1(L) |
| IC | 1302 | | TA76431FR |
| Q | 1301 | | 2SC2412K |
| Q | 1303,1306,1307 | | HN1C01FU |
| Q | 1304,1401 | | 2SD1898 |
| Q | 1305 | | 2SA1037K |
| Q | 1402 | | 2SC4081 |
| D | 1307 | | CRF03 |
| D | 1308,1403 | | UDZS5R1(B) |
| D | 1309,1311,1401,1405 | | CRH01 |
| D | 1312,1402 | | 1SS301 |
| D | 1313,1318,1404,1406 | | 1SS355 |
| D | 1315,1316 | | UDZS4R7(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| T | 1302 | | ATK1160 |
| T | 1401 | | ATK1159 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 1312–1314,1317 | | RS1/10S224J |
| R | 1328 | | RAB4C472J |
| VR | 1301 | | CCP1392 |
| Other Resistors | | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 1301,1302,1405,1406 | | CKSRYB104K16 |
| C | 1308,1401,1407 | | CEHAT101M25 |
| C | 1310,1313,1402 | | CKSYB105K25 |
| C | 1311 | | ACH1451 |
| C | 1312,1403 | | CKSRYB103K50 |
| C | 1314 | | CEHAT100M50 |
| C | 1404 | | ACG1105 |

## 50 X SUB DRIVE ASSY

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| Q | 1501 | | FKP280AS |
| Q | 1502 | | FKP300AS |
| Q | 1504,1505 | | H5N2512LS |
| Q | 1507 | | QSZ2 |
| D | 1501 | | CRH01 |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| K | 1501 | | AKX1061 |
| KN | 1501–1505 | | ANK1841 |
| CN | 1501 | | 14R-FJ |
| 1502 | | | PMB30P080FNI |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 1502,1503 | | RS1/10S2R2J |
| R | 1507,1508 | | RS1/10S100J |
| Other Resistors | | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 1501 | | ACE1178 |
| C | 1503,1504 | | ACG1139 |
| C | 1505 | | ACH1423 |
| C | 1506 | | CKSYB105K25 |

**[DRIVE HEATSINK M]**

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| 3001,3001 | | | ANH1656 |
| 3101,3101 | | | ANG2679 |

**RESISTORS**

| | | | |
|---|---|---|---|
| All Resistors | | | RS1/16S###J |

## 50 Y MAIN DRIVE ASSY

**[50Y LOGIC BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 2001,2003 | | TC74ACT541FT |
| IC | 2002 | | TC74ACT540FT |
| D | 2001,2006,2007,2011 | | 1SS355 |
| D | 2003–2005 | | 1SS301 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| D | 2012 | | 1SS355 |
| **MISCELLANEOUS** | | | |
| K | 2011,2014 | | AKX1061 |
| CN | 2001 | | AKM1348 |
| **RESISTORS** | | | |
| R | 2001,2003,2008,2020 | | RAB4C470J |
| R | 2002,2006 | | RAB4C101J |
| R | 2004,2005,2013,2025 | | RAB4C472J |
| VR | 2001,2002 | | CCP1390 |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 2001 | | CEHAT470M16 |
| C | 2002–2004 | | CKSRYB104K16 |
| C | 2005,2006 | | CCSRCH331J50 |
| C | 2007 | | CCSRCH680J50 |
| **[50Y RESONANCE BLCOK]** | | | |
| **SEMICONDUCTORS** | | | |
| IC | 2101,2104 | | TND307TD |
| IC | 2102 | | PS9117P |
| IC | 2106 | | PS2701A-1(L) |
| IC | 2107 | | AXF1163 |
| Q | 2101 | | 2SC2412K |
| Q | 2103,2106 | | QSZ2 |
| Q | 2110,2111 | | 2SC4081 |
| D | 2101,2112 | | UDZS5R6(B) |
| D | 2107 | | CRH01 |
| D | 2113 | | UDZS15(B) |
| **MISCELLANEOUS** | | | |
| L | 2101 | | ATH1217 |
| L | 2103 | | ATH1216 |
| F | 2101 | | CTF1449 |
| 2101 | | | ANH1653 |
| 2102 | | | AEH1092 |
| 2103 | | | BMZ30P080FTC |
| **RESISTORS** | | | |
| R | 2109 | | ACN1259 |
| R | 2112,2133 | | ACN1255 |
| R | 2113,2114 | | RS1/10S4702F |
| R | 2118 | | ACN1241 |
| R | 2120 | | RS1/16S1002F |
| R | 2121 | | RS1/16S3302F |
| R | 2126 | | RS1/16S4701F |
| R | 2129 | | ACN1258 |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 2101,2114 | | CEHAT470M25 |
| C | 2102,2115 | | CKSRYF104Z50 |
| C | 2103 | | CKSRYB104K16 |
| C | 2104,2116 | | CKSYB105K25 |
| C | 2107 | | ACG1139 |
| C | 2108–2111 | | ACE1178 |
| C | 2113 | | ACH1450 |
| C | 2117 | | ACG1138 |
| **[50Y SUS BLOCK]** | | | |
| **SEMICONDUCTORS** | | | |
| IC | 2201,2203,2205,2208 | | TND307TD |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 2204,2209 | | PS9117P |
| IC | 2210 | | TND307TD |
| IC | 2212 | | TND301S |
| IC | 2213 | | MM1565AF |
| Q | 2201 | | 2SA2142 |
| Q | 2202,2214 | | 2SC4081 |
| Q | 2203 | | R5009ANJ |
| Q | 2204,2206,2207,2209 | | H5N2512LS |
| Q | 2210,2216 | | FKP280AS |
| Q | 2211,2213,2217,2219 | | H5N2512LS |
| Q | 2215,2221,2222,2241 | | QSZ2 |
| Q | 2220,2223 | | FKP300AS |
| Q | 2236 | | 2SK3050 |
| Q | 2238 | | R6008ANJ |
| Q | 2261 | | DTC143EK |
| Q | 2262 | | DTC123TKA |
| D | 2201,2202,2204,2209 | | CRH01 |
| D | 2203,2225 | | 1SS355 |
| D | 2205,2206 | | 1SS302 |
| D | 2207 | | CRF03 |
| D | 2208,2212 | | UDZS5R6(B) |
| D | 2210,2213,2216 | | CRH01 |
| D | 2211 | | D1FL40 |
| D | 2219 | | 1SS301 |
| D | 2220–2222,2231,2301 | | CRH01 |
| D | 2223,2224 | | UDZS16(B) |
| D | 2241 | | UDZS8R2(B) |
| **MISCELLANEOUS** | | | |
| L | 2201,2203,2204 | | BTH1134 |
| L | 2202 | | ATH1186 |
| F | 2201–2214 | | ATX1062 |
| F | 2221 | | CTF1449 |
| K | 2202–2204 | | AKX1061 |
| KN | 2201–2204,2210–2217 | | ANK1841 |
| CN | 2202 | | 14PL-FJ |
| CN | 2204 | | B9B-EH |
| 2202 | | | PMB30P080FNI |
| **RESISTORS** | | | |
| R | 2201 | | RS3LMF821J |
| R | 2202,2204 | | RS1/10S151J |
| R | 2217,2219,2222,2224 | | RS1/10S100J |
| R | 2225 | | ACN1254 |
| R | 2226,2235,2243,2246 | | RS1/10S2R2J |
| R | 2228,2230,2236,2238 | | RS1/10S100J |
| R | 2234,2255,2372 | | RS1/10S0R0J |
| R | 2260 | | ACN1257 |
| R | 2264 | | ACN1258 |
| R | 2280 | | RS3LMF471J |
| R | 2281–2284 | | ACN1241 |
| R | 2341,2343 | | RS2LMF5R6J |
| Other Resistors | | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 2201,2209,2215,2222 | | CEHAT470M25 |
| C | 2202,2208,2210,2216 | | CKSRYF104Z50 |
| C | 2203 | | ACH1427 |
| C | 2204 | | CCSRCH102J50 |
| C | 2205,2256 | | ACG1126 |
| C | 2207,2217,2248,2253 | | CKSRYB104K16 |
| C | 2211,2212,2225,2226 | | ACG1139 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 2218,2219,2224,2261 | | CKSYB105K25 |
| C | 2221 | | CCSRCH221J50 |
| C | 2223,2232 | | CKSRYF104Z50 |
| C | 2227,2231 | | CEHAT470M25 |
| C | 2234,2240 | | CEHAT2R2M2E |
| C | 2237,2241 | | ACH1423 |
| C | 2238,2239 | | ACE1178 |
| C | 2244 | | ACH1449 |
| C | 2246 | | ACH1426 |
| C | 2247,2252 | | CEHAT101M10 |
| C | 2249 | | CKSRYB473K16 |
| C | 2250 | | CEHAT470M16 |
| C | 2251 | | CKSRYB105K6R3 |
| C | 2271,2276 | | CKSRYB104K25 |

**[50Y VH D-D CON BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 2401 | | BA10358F |
| IC | 2402 | | MIP2E3DMU |
| IC | 2403 | | PS2701A-1(L) |
| IC | 2405,2412 | | TA76431FR |
| Q | 2401 | | 2SC3425 |
| Q | 2402 | | 2SD2568 |
| Q | 2403 | | 2SC4081 |
| Q | 2404 | | HN1C01FU |
| D | 2402,2407 | | CRF03 |
| D | 2403 | | UDZS33(B) |
| D | 2404 | | 1SS355 |
| D | 2406,2410 | | UDZS4R7(B) |
| D | 2408,2409 | | CRH01 |
| D | 2411 | | UDZS12(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| L | 2401 | | BTH1136 |
| T | 2401 | | ATK1158 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 2401,2402 | | RS1/10S104J |
| R | 2403,2404,2406 | | RS1/10S2203F |
| R | 2407,2410 | | RS1/16S5601F |
| R | 2412 | | RS1/16S1003F |
| R | 2413 | | RS1/16S1802F |
| R | 2414,2415 | | RS1/16S4702F |
| R | 2416 | | RS1/10S0R0J |
| R | 2420,2421,2424 | | RS1/10S473J |
| R | 2426 | | RAB4C472J |
| VR | 2401 | | CCP1392 |
| VR | 2402 | | CCP1390 |
| Other Resistors | | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 2401 | | ACE1177 |
| C | 2402 | | ACH1425 |
| C | 2403,2404 | | CKSRYB104K25 |
| C | 2405,2407,2412 | | CKSRYB104K16 |
| C | 2408 | | CEHAT101M16 |
| C | 2409 | | CEHAT470M25 |
| C | 2410 | | CEHAT101M25 |
| C | 2411 | | ACH1450 |
| C | 2413 | | CEHAT221M16 |
| C | 2421 | | ACH1451 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

**[50Y D-D CON BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 2501,2502,2504 | | PS2701A-1(L) |
| IC | 2503 | | BA10358F |
| IC | 2506,2514 | | TA76431FR |
| Q | 2501,2506,2511 | | 2SD1898 |
| Q | 2502,2507 | | 2SA1576A |
| Q | 2503,2515 | | DTC143EUA |
| Q | 2504,2509,2513 | | HN1C01FU |
| Q | 2505 | | 2SC2713 |
| Q | 2508 | | 2SA2005 |
| Q | 2510 | | 2SA1163 |
| Q | 2512,2514 | | 2SC4081 |
| Q | 2520 | | 2SC2412K |
| D | 2501,2503,2510,2516 | | CRH01 |
| D | 2502,2512,2518 | | 1SS301 |
| D | 2504,2508 | | UDZS4R7(B) |
| D | 2505,2507,2513,2517 | | 1SS355 |
| D | 2509 | | D1FL40 |
| D | 2511 | | 1SS302 |
| D | 2515,2521 | | UDZS5R1(B) |
| D | 2519,2520,2523 | | 1SS355 |
| D | 2522 | | UDZS5R6(B) |
| D | 2524 | | UDZS15(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| T | 2501 | | ATK1156 |
| T | 2502 | | ATK1161 |
| T | 2503 | | ATK1159 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 2510,2514,2539,2543 | | RS1/16S4701F |
| R | 2513 | | RAB4C472J |
| R | 2523 | | RS1/16S4702F |
| R | 2524,2531 | | RS1/10S224J |
| R | 2530,2532 | | RS1/16S1501F |
| R | 2533 | | RS3LMF151J |
| R | 2536 | | RS1/16S1002F |
| R | 2544 | | RS1/16S4701F |
| R | 2550 | | RS1/16S5601F |
| R | 2554 | | RS1/16S6801F |
| VR | 2501 | | CCP1390 |
| Other Resistors | | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 2501,2502,2514 | | CEHAT101M25 |
| C | 2503,2515 | | ACG1105 |
| C | 2504 | | CKSRYB102K50 |
| C | 2505,2506,2512 | | CKSRYB104K16 |
| C | 2507 | | CEHAT221M6R3 |
| C | 2508 | | CEHAT221M25 |
| C | 2509,2510,2518 | | CKSRYB103K50 |
| C | 2511,2516 | | CKSRYB105K6R3 |
| C | 2513 | | CKSYB105K25 |
| C | 2517 | | CKSRYF104Z50 |
| C | 2519–2521,2525 | | CKSRYB104K16 |

**[50Y SCAN BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 2601–2603,2607 | | TLP116 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | IC | 2604–2606 | PS9117P |
| | IC | 2610,2611 | TC74AC540FT |
| **MISCELLANEOUS** | | | |
| | L | 2601,2611 | BTH1134 |
| | CN | 2601 | AKM1200 |
| **RESISTORS** | | | |
| | R | 2624 | RAB4C220J |
| | R | 2631 | RS1/10S0R0J |
| | Other Resistors | | RS1/16S###J |
| **CAPACITORS** | | | |
| | C | 2601,2623 | CEHAT101M10 |
| | C | 2602,2603,2611–2617 | CKSRYB104K16 |
| | C | 2621,2622 | ACH1450 |
| | C | 2631 | CKSRYB104K16 |

## 50 Y SUB DRIVE ASSY

| | | | |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | Q | 2701 | FKP280AS |
| | Q | 2711 | FKP300AS |
| | Q | 2721,2723,2725,2726 | H5N2512LS |
| | Q | 2731 | QSZ2 |
| | D | 2701 | CRH01 |
| **MISCELLANEOUS** | | | |
| | F | 2701–2706 | ATX1062 |
| | K | 2701 | AKX1061 |
| | KN | 2701,2702,2711–2713 | ANK1841 |
| | CN | 2701 | 14R-FJ |
| | 2702 | | PMB30P080FNI |
| **RESISTORS** | | | |
| | R | 2702,2712 | RS1/10S2R2J |
| | R | 2722,2724,2726,2727 | RS1/10S100J |
| | R | 2732 | RS1/10S0R0J |
| | Other Resistors | | RS1/16S###J |
| **CAPACITORS** | | | |
| | C | 2701 | ACE1178 |
| | C | 2702 | ACH1423 |
| | C | 2703 | ACG1088 |
| | C | 2711,2721 | ACG1139 |
| | C | 2731 | CKSYB105K25 |

**[DRIVE HEATSINK M]**

| | | | |
|---|---|---|---|
| **MISCELLANEOUS** | | | |
| | 3001,3001 | | ANH1656 |
| | 3101,3101 | | ANG2679 |
| **RESISTORS** | | | |
| | All Resistors | | RS1/16S###J |

## MAIN ASSY

**[BOARD IF BLOCK]**

| | | | |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC | 4001–4005 | TC74VCX541FT |
| | Q | 4001,4002,4005 | DTC124EUA |
| | Q | 4003,4004 | RN2902 |
| **MISCELLANEOUS** | | | |
| | L | 4001–4006 | BTX1042 |
| ⚠ | F | 4001–4010 | CTF1557 |
| | CN | 4001,4004,4005 | AKM1349 |
| | CN | 4006 | KM200NA6 |
| | CN | 4013 | AKM1353 |
| | CN | 4014 | AKM1354 |
| | CN | 4018 | AKM1233 |
| **RESISTORS** | | | |
| | R | 4001 | RAB4CQ470J |
| | R | 4021-4024 | BCN1067 |
| | R | 4030,4031,4035 | RS1/16S0R0J |
| | Other Resistors | | RS1/16SS###J |
| **CAPACITORS** | | | |
| | C | 4001–4003,4007,4009 | CKSSYF104Z16 |
| | C | 4004 | CCSSCH101J50 |
| | C | 4006,4036,4039 | DCH1201 |
| | C | 4008 | DCH1165 |
| | C | 4014 | CKSSYF104Z16 |
| | C | 4033,4051 | CKSRYF104Z50 |
| | C | 4048-4050 | CCSSCH470J50 |

**[REG 0 BLOCK]**

| | | | |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC | 4101,4114,4115 | S-1132B18-U5 |
| | IC | 4102 | LTC3414EFE |
| | IC | 4103 | LTC3412EFE |
| | IC | 4104,4111,4113 | NJM2846DL3-05 |
| | IC | 4105 | S-1170B25UC-OTK |
| | IC | 4106 | S-1170B15UC-OTA |
| | IC | 4107 | NJM2846DL3-33 |
| | IC | 4108 | NJM2846DL3-18 |
| | IC | 4109,4110 | PQ090DNA1ZPH |
| | Q | 4101,4103 | RN1902 |
| | Q | 4102 | HN1C01FU |
| | Q | 4104 | DTC124EUA |
| | Q | 4105,4106 | UPA1917TE |
| | Q | 4107–4109 | 2SC4116 |
| | Q | 4110 | 2SD2114K |
| | D | 4101–4110,4112–4118 | 1SS355 |
| | D | 4111,4120,4122 | 1SS357 |
| | D | 4121 | 1SS355 |
| **MISCELLANEOUS** | | | |
| | L | 4101,4103 | BTX1042 |
| | L | 4102,4105–4107 | BTX1039 |
| | L | 4108 | ATH1208 |
| | L | 4109 | ATH1194 |
| | F | 4101,4102 | VTF1080 |
| | J | 4101,4102 | ADX3513 |
| **RESISTORS** | | | |
| | R | 4113,4134–4136,4140 | RS1/10S0R0J |
| | R | 4119,4131,4146 | RS1/16SS3003F |
| | R | 4120 | RS1/16SS2003F |
| | R | 4123,4159 | RS1/16SS1502F |
| | R | 4124 | RS1/16SS6202F |
| | R | 4133 | RS1/16SS1503F |
| | R | 4148,4164–4170,4173 | RS1/10S0R0J |
| | R | 4157 | ACN1268 |
| | Other Resistors | | RS1/16SS###J |
| **CAPACITORS** | | | |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 4018,4101,4103,4106 | | CKSRYB105K10 |
| C | 4102,4104,4105,4107 | | DCH1201 |
| C | 4108 | | CKSRYB105K10 |
| C | 4109,4111–4113,4116 | | DCH1201 |
| C | 4110,4117 | | CCSSCH101J50 |
| C | 4114,4118 | | BCG1050 |
| C | 4119,4127,4131,4134 | | DCH1201 |
| C | 4121,4140,4153 | | CKSSYB104K10 |
| C | 4122,4129 | | CCSSCH220J50 |
| C | 4123,4124,4126,4130 | | DCH1165 |
| C | 4132 | | ACH1421 |
| C | 4135,4138,4143–4146 | | DCH1201 |
| C | 4136,4137,4141,4142 | | BCG1059 |
| C | 4139 | | CCSRCH471J50 |
| C | 4147 | | CCSRCH102J50 |
| C | 4150 | | ACH1429 |
| C | 4151 | | CKSSYB102K50 |
| C | 4154 | | CKSSYF104Z16 |
| C | 4155 | | CKSSYB103K16 |
| C | 4165 | | DCH1201 |

**[ATUNER BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 4501 | | MSP3417G |
| Q | 4501 | | DTC124EUA |
| Q | 4503 | | UMD2N |
| Q | 4504 | | HN1B04FU |
| Q | 4505 | | 2SC4116 |
| Q | 4506 | | 2SA1586 |
| Q | 4508 | | HN1C01FU |
| D | 4501 | | UDZS24(B) |
| D | 4502,4505 | | UDZS8R2(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| L | 4501–4503 | | BTH1119 |
| F | 4501–4503 | | VTF1080 |
| X | 4501 | | ASS1196 |
| ⚠U | 4501 | | AXF1172 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 4517 | | RS1/16S330J |
| R | 4522,4523 | | RS1/16S470J |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 4501–4503 | | CKSRYF104Z50 |
| C | 4504 | | CKSRYB682K50 |
| C | 4505,4512 | | CCSSCH5R0D50 |
| C | 4506 | | CKSSYB103K16 |
| C | 4507,4508,4513,4514 | | CCSSCH100D50 |
| C | 4509,4515,4518 | | CKSSYB102K50 |
| C | 4511 | | CCSSCH560J50 |
| C | 4520 | | CEHVKW101M6R3 |
| C | 4521,4523,4525,4528 | | DCH1201 |
| C | 4527,4529,4536,4537 | | CKSSYF104Z16 |
| C | 4530,4532–4534,4538 | | DCH1201 |
| C | 4539,4543 | | CKSSYF104Z16 |
| C | 4541 | | DCH1201 |

**[TEXT UCOM BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 4601 | | SDA6000 |
| IC | 4602 | | HY57V641620ETP-H |
| IC | 4603 | | AGC1020 |
| IC | 4606 | | TC74LCX125FT |
| IC | 4607 | | TC7SH04FUS1 |
| Q | 4601,4602 | | UMD2N |
| D | 4601 | | 1SS355 |
| D | 4602 | | UDZS12(B) |
| D | 4603 | | UDZS3R0(B) |
| D | 4604 | | UDZS3R9(B) |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| X | 4601 | | ASS1193 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 4601 | | ACN1251 |
| R | 4602–4606,4608,4625 | | BCN1067 |
| R | 4627,4650 | | RS1/16S0R0J |
| R | 4640 | | RAB4CQ470J |
| R | 4644,4646 | | RAB4CQ680J |
| R | 4645,4647,4648 | | RAB4CQ103J |
| R | 4649 | | RS1/10S0R0J |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 4603,4612,4646,4650 | | DCH1201 |
| C | 4604 | | CKSSYB103K16 |
| C | 4605,4606 | | CCSSCH220J50 |
| C | 4607 | | CKSSYB102K50 |
| C | 4610,4611,4613,4615 | | CKSSYF104Z16 |
| C | 4617,4619,4621,4623 | | CKSSYF104Z16 |
| C | 4625,4627,4629,4631 | | CKSSYF104Z16 |
| C | 4633,4635,4636,4639 | | CKSSYF104Z16 |
| C | 4642,4644,4648,4651 | | CKSSYF104Z16 |
| C | 4647 | | CKSSYB104K10 |
| C | 4652,4655,4657,4659 | | CKSSYF104Z16 |

**[AV SW BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 4701 | | R2S11002AFT |
| IC | 4702,4706 | | NJM12904V |
| IC | 4703 | | PCM1803DB |
| IC | 4704 | | NJU26901E2 |
| IC | 4705 | | PCM1754DBQ |
| Q | 4701,4702,4721 | | UMD2N |
| Q | 4703–4708,4715 | | 2SA1586 |
| Q | 4711,4712,4716,4717 | | 2SC4116 |
| Q | 4718 | | DTA124EUA |
| Q | 4719,4720 | | 2SC4116 |
| Q | 4722,4723 | | HN1B04FU |
| D | 4701,4702,4704,4705 | | 1SS301 |
| D | 4703 | | 1SS355 |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| X | 4701 | | ASS1204 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 4736,4737 | | RS1/16S5600F |
| R | 4739,4741 | | RS1/16S1800F |
| R | 4794,4795,4851,4852 | | RS1/16S182J |
| R | 4815–4817 | | RS1/10S0R0J |
| R | 4849 | | RS1/16S472J |
| R | 4853 | | RS1/16S222J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 4860,4861,4863,4865 | | RS1/16S102J |
| R | 4866 | | RAB4CQ470J |
| | Other Resistors | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 4701,4723,4725,4731 | | CKSSYF104Z16 |
| C | 4702–4708,4710–4717 | | CKSRYB105K10 |
| C | 4718,4719 | | CCSRCH181J50 |
| C | 4720,4721 | | CCSRCH681J50 |
| C | 4722,4724,4726,4733 | | DCH1201 |
| C | 4727,4730 | | CKSSYB104K10 |
| C | 4728,4729 | | CKSRYB221K50 |
| C | 4732,4744,4751,4752 | | CKSSYF104Z16 |
| C | 4734,4749,4750,4757 | | DCH1201 |
| C | 4735,4736,4739-4742 | | CKSRYB105K10 |
| C | 4737 | | ACG1122 |
| C | 4745,4767,4768 | | DCH1165 |
| C | 4753 | | ACH1394 |
| C | 4754,4755,4759,4760 | | CKSRYB105K10 |
| C | 4756,4761,4763,4764 | | CKSSYF104Z16 |
| C | 4758,4762,4765 | | DCH1201 |
| C | 4766,4772–4774 | | CKSSYF104Z16 |
| C | 4769-4771 | | DCH1201 |
| C | 4775,4776 | | CKSSYB681K50 |
| C | 4777,4779 | | CKSSYB152K50 |
| C | 4778 | | CCSSCH221J50 |
| C | 4780–4783 | | CKSRYB105K10 |
| C | 4784,4785 | | CCSRCH331J50 |

**[RGB SW BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 4901 | | R2S11001FT |
| Q | 4901–4903,4905 | | 2SA1586 |
| Q | 4904,4906 | | HN1B04FU |
| D | 4901–4903 | | UDZS4R7(B) |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 4913–4918 | | RS1/16SS3301F |
| R | 4919,4926,4930 | | RS1/16SS5600F |
| R | 4921,4928,4932 | | RS1/16SS75R0F |
| R | 4925 | | RAB4CQ102J |
| R | 4964–4966 | | RS1/16S75R0F |
| | Other Resistors | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 4901–4903,4922,4932 | | CKSRYB105K10 |
| C | 4904 | | CCSRCH331J50 |
| C | 4905 | | CCSRCH680J50 |
| C | 4906–4910,4912-4915 | | CKSSYB103K16 |
| C | 4911,4935 | | CKSRYB474K10 |
| C | 4916,4923,4924,4926 | | CKSSYF104Z16 |
| C | 4917–4921 | | CKSSYB103K16 |
| C | 4925,4927 | | DCH1201 |
| C | 4928–4931 | | CKSSYF104Z16 |
| C | 4933 | | CKSRYB105K10 |

**[VDEC BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 5101 | | UPD64015AGM-UEU |
| IC | 5102 | | EDS1616AGTA-75-E |
| IC | 5103 | | TVP5150AM1PBS |

| Mark | No. | Description | Part No. |
|---|---|---|---|

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| F | 5101 | | CCG1162 |
| X | 5101 | | ASS1189 |
| X | 5102 | | ASS1191 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 5101–5105 | | ACN1246 |
| R | 5106,5107 | | BCN1067 |
| R | 5108–5110 | | RS1/16S0R0J |
| R | 5127 | | RS1/16SS6200D |
| R | 5133–5135 | | RS1/16SS2000F |
| R | 5140 | | RS1/16S334J |
| R | 5141 | | RS1/16SS2201D |
| R | 5142 | | RS1/16SS1001D |
| R | 5147,5148 | | RAB4CQ220J |
| R | 5149–5151,5153,5155 | | RS1/10S0R0J |
| | Other Resistors | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 5101–5103 | | CKSRYB105K10 |
| C | 5104,5105 | | CCSSCH100D50 |
| C | 5106,5107,5136,5140 | | CKSSYB103K16 |
| C | 5108,5109 | | CCSSCH8R0D50 |
| C | 5113,5118,5119 | | DCH1201 |
| C | 5117,5120,5123,5125 | | CKSSYF104Z16 |
| C | 5121,5122,5124,5127 | | CKSSYB104K10 |
| C | 5126,5129,5131,5133 | | CKSSYF104Z16 |
| C | 5128,5130,5132,5134 | | CKSSYB104K10 |
| C | 5135,5137,5139 | | CKSSYB104K10 |
| C | 5138,5144,5155–5165 | | CKSSYF104Z16 |
| C | 5141–5143,5145,5151 | | CKSSYB104K10 |
| C | 5150 | | CKSSYB103K16 |
| C | 5153,5191 | | CKSSYB104K10 |

**[ADC BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 5301 | | AD9985KSTZ-110 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 5301–5303 | | BCN1067 |
| R | 5305 | | RS1/16SS2701F |
| R | 5307,5308,5312,5313 | | RS1/16SS470J |
| R | 5310,5311 | | RS1/10S0R0J |
| | Other Resistors | | RS1/16S###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 5301 | | CKSSYB823K10 |
| C | 5302 | | CKSSYB822K16 |
| C | 5303–5305 | | CKSSYB473K16 |
| C | 5307,5313 | | CKSSYB104K10 |
| C | 5308–5312,5314–5316 | | CKSSYF104Z16 |
| C | 5318,5319 | | CKSSYF104Z16 |

**[HDMI BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 5401 | | SII9023CTU |
| IC | 5402 | | PCM1754DBQ |
| IC | 5403,5404 | | BR24L02FJ-W |
| Q | 5401,5402 | | HN1K02FU |
| Q | 5407,5408 | | UMD2N |
| Q | 5413,5414 | | RN1902 |
| D | 5401,5402 | | 1SS301 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| D | 5407,5408 | | UDZS6R8(B) |
| | **MISCELLANEOUS** | | |
| JA | 5401,5402 | | AKP1278 |
| X | 5401 | | ASS1192 |
| | **RESISTORS** | | |
| R | 5401–5403 | | BCN1071 |
| R | 5413,5429 | | RS1/10S0R0J |
| R | 5450 | | RAB4CQ473J |
| R | 5451 | | RAB4CQ100J |
| R | 5452,5455 | | RAB4CQ103J |
| R | 5454 | | RAB4CQ470J |
| | Other Resistors | | RS1/16SS###J |
| | **CAPACITORS** | | |
| C | 5401,5402 | | CCSSCH120J50 |
| C | 5403,5404,5408,5410 | | CKSSYF104Z16 |
| C | 5405,5407,5452,5473 | | DCH1201 |
| C | 5406,5453 | | CCSSCH101J50 |
| C | 5412,5414,5416,5418 | | CKSSYF104Z16 |
| C | 5423,5426–5428,5430 | | CKSSYF104Z16 |
| C | 5432,5434,5436,5438 | | CKSSYF104Z16 |
| C | 5440,5442,5444,5445 | | CKSSYF104Z16 |
| C | 5447–5451,5455,5457 | | CKSSYF104Z16 |
| C | 5458,5460,5462,5464 | | CKSSYF104Z16 |
| C | 5466,5468,5469,5471 | | CKSSYF104Z16 |
| C | 5472 | | CKSSYF104Z16 |
| | **[DSEL BLOCK]** | | |
| | **SEMICONDUCTORS** | | |
| IC | 8001 | | PD6523A |
| IC | 8002 | | TC74LCX125FT |
| IC | 8003 | | TC74VCX574FT |
| | **MISCELLANEOUS** | | |
| L | 8001–8003 | | BTX1042 |
| ⚠F | 8004 | | ATX1058 |
| X | 8001 | | ASS1194 |
| | **RESISTORS** | | |
| R | 8001,8002 | | ACN1251 |
| R | 8003,8008 | | RAB4CQ680J |
| R | 8004–8006 | | BCN1071 |
| R | 8009–8011 | | BCN1067 |
| R | 8026,8027 | | RAB4CQ101J |
| | Other Resistors | | RS1/16SS###J |
| | **CAPACITORS** | | |
| C | 8002 | | CKSSYB102K50 |
| C | 8003,8005,8014–8020 | | CKSSYF104Z16 |
| C | 8025,8027 | | CKSSYF104Z16 |
| C | 8026 | | DCH1201 |
| | **[IP BLOCK]** | | |
| | **SEMICONDUCTORS** | | |
| IC | 8101 | | PE5504B |
| IC | 8102,8103 | | EDS6432AFTA-75-E |
| | **MISCELLANEOUS** | | |
| L | 8101–8104 | | BTX1042 |
| | **RESISTORS** | | |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 8101–8104,8106–8110 | | BCN1067 |
| R | 8105 | | BCN1071 |
| R | 8111,8116 | | ACN1246 |
| R | 8112–8115,8117 | | ACN1251 |
| R | 8123 | | RAB4CQ103J |
| R | 8135 | | RAB4CQ470J |
| R | 8136 | | RAB4CQ101J |
| | Other Resistors | | RS1/16SS###J |
| | **CAPACITORS** | | |
| C | 8101 | | CKSSYB102K50 |
| C | 8112–8115,8117–8120 | | CKSSYF104Z16 |
| C | 8134–8145 | | CKSSYF104Z16 |
| | **[MULTI BLOCK]** | | |
| | **SEMICONDUCTORS** | | |
| IC | 8201 | | PEG121B |
| IC | 8202 | | AGC1019 |
| IC | 8203 | | TC74VHC08FTS1 |
| | **MISCELLANEOUS** | | |
| L | 8201–8205 | | BTX1042 |
| | **RESISTORS** | | |
| R | 8201–8205 | | ACN1246 |
| R | 8206–8208,8255 | | ACN1251 |
| R | 8209 | | RS1/10S0R0J |
| R | 8214,8215,8248 | | RAB4CQ103J |
| R | 8225,8245 | | BCN1071 |
| R | 8246 | | BCN1073 |
| R | 8249 | | RAB4CQ680J |
| | Other Resistors | | RS1/16SS###J |
| | **CAPACITORS** | | |
| C | 8202 | | CKSSYB102K50 |
| C | 8203–8205 | | DCH1201 |
| C | 8221–8234,8239 | | CKSSYF104Z16 |
| | **[IF UCOM BLOCK]** | | |
| | **SEMICONDUCTORS** | | |
| IC | 8301 | | AGC1016 |
| IC | 8302 | | PST9230N |
| IC | 8303 | | TC74VHC08FTS1 |
| IC | 8304 | | TC7W126FU |
| IC | 8305,8308 | | TC74VHC00FTS1 |
| IC | 8306 | | MAX3232CPW |
| IC | 8307 | | TC74VHC125FTS1 |
| Q | 8301,8315 | | DTA124EUA |
| Q | 8302,8307,8312 | | 2SA1586 |
| Q | 8303,8304,8306,8308 | | DTC124EUA |
| Q | 8309,8313 | | 2SC4116 |
| Q | 8310,8314 | | HN1C01FU |
| Q | 8311 | | 2SJ461A |
| D | 8301–8305 | | 1SS355 |
| | **MISCELLANEOUS** | | |
| X | 8301 | | ASS1168 |
| X | 8302 | | ASS1172 |
| CN | 8301 | | AKP1213 |
| | **RESISTORS** | | |
| R | 8307 | | RAB4CQ473J |
| R | 8348,8351,8352 | | RAB4CQ103J |
| R | 8354,8356,8358 | | RS1/16S122J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 8357 | | RS1/16S220J |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 8301 | | CKSSYB472K25 |
| C | 8302,8303 | | CCSSCH220J50 |
| C | 8305,8312 | | CCSRCH471J50 |
| C | 8306–8311,8322,8323 | | CKSSYF104Z16 |
| C | 8313–8317,8320,8321 | | CKSSYB104K10 |
| C | 8319 | | DCH1201 |
| C | 8324 | | CKSSYB104K10 |

**[MAIN UCOM BLOCK]**

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 8401 | | MB91305PMC-G-BND |
| IC | 8402 | | AGC1018 |
| IC | 8403 | | PST3628UR |
| IC | 8407 | | PQ200WNA1ZPH |
| IC | 8409 | | BR24L64F-W |
| IC | 8410,8411 | | TC74VHC125FTS1 |
| Q | 8401 | | 2SJ461A |
| Q | 8402 | | DTC124EUA |
| Q | 8403,8405 | | HN1K02FU |
| D | 8401 | | 1SS355 |
| D | 8402 | | SML-311UT |
| D | 8403–8405 | | 1SS301 |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| X | 8401 | | CSS1616 |
| CN | 8401 | | AKM1353 |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 8401,8402 | | ACN1248 |
| R | 8408,8467 | | RAB4CQ101J |
| R | 8454,8455 | | RS1/16S0R0J |
| R | 8464 | | RS1/16S4701F |
| R | 8465 | | RS1/16S1801F |
| R | 8466 | | RS1/16S1001F |
| R | 8484 | | RS1/16SS5602F |
| R | 8485 | | RS1/16SS2002F |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 8402–8405,8408–8413 | | CCSSCH470J50 |
| C | 8414 | | CKSSYB102K50 |
| C | 8416,8426 | | CCSSCH120J50 |
| C | 8417 | | CKSSYB472K25 |
| C | 8418,8443 | | CKSSYB103K16 |
| C | 8421–8423,8425 | | CCSSCH470J50 |
| C | 8424,8460 | | DCH1165 |
| C | 8427–8434,8436–8442 | | CKSSYF104Z16 |
| C | 8445–8454,8459 | | CKSSYF104Z16 |

## TANSHI ASSY

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| IC | 9001 | | BH3544F |
| Q | 8801–8804,9012 | | HN1A01FU |
| Q | 8805–8808,9019,9020 | | 2SA1586 |
| Q | 8809–8811,9013 | | UMD2N |
| Q | 8812,8814,8821,8823 | | 2SC4116 |
| Q | 8813 | | HN1C01FU |
| Q | 8825–8829,8832 | | 2SC4116 |
| Q | 9001 | | HN1B04FU |
| Q | 9009–9011,9015 | | 2SC4116 |
| Q | 9016–9018 | | 2SD2114K |
| D | 9013 | | 1SS301 |
| D | 9014–9016 | | UDZS5R1(B) |
| TH | 9001 | | TH05-3H103F |

**MISCELLANEOUS**

| | | | |
|---|---|---|---|
| ⚠F | 9001–9007 | | CTF1557 |
| JA | 8801–8803 | | AKP1295 |
| JA | 9001 | | AKB1332 |
| JA | 9002 | | VKN1449 |
| JA | 9004 | | AKN1081 |
| JA | 9005 | | AKB1340 |
| CN | 8802,9003 | | AKM1349 |
| CN | 9002 | | KM200NA5L |

**RESISTORS**

| | | | |
|---|---|---|---|
| R | 8801,8803–8805,8807 | | RS1/10S151J |
| R | 8802,8806,8808 | | RS1/10S121J |
| R | 8809,8810 | | RS1/10S151J |
| R | 8812,8821,8870,8877 | | RS1/16S680J |
| R | 8839–8841,8866,8894 | | RS1/16S75R0F |
| R | 8885,8893 | | RS1/16S680J |
| R | 8898,8915–8917,8922 | | RS1/16S75R0F |
| R | 9008 | | RS1/16S4701F |
| R | 9037,9038,9040 | | RS1/16S75R0F |
| R | 9046–9048 | | RS1/16S75R0F |
| Other Resistors | | | RS1/16SS###J |

**CAPACITORS**

| | | | |
|---|---|---|---|
| C | 8801,8806,8812,8814 | | DCH1201 |
| C | 8802,8815,8819,9005 | | DCH1165 |
| C | 8803,8813,8818,9001 | | CKSSYF104Z16 |
| C | 8804,8805,8810,8811 | | CCG1205 |
| C | 8816,8817,9007,9014 | | DCH1201 |
| C | 8820,8821,9037,9045 | | CCG1205 |
| C | 8825–8836,8857,8858 | | CKSSYB102K50 |
| C | 8837–8839 | | ACH1454 |
| C | 8840–8848,8850,8851 | | CKSRYB105K10 |
| C | 8853–8856,9022,9025 | | CKSRYB105K10 |
| C | 9002,9039,9040 | | CKSSYB103K16 |
| C | 9006 | | DCH1165 |
| C | 9008,9009 | | CKSSYB104K10 |
| ⚠C | 9010–9012 | | CKSSYB471K50 |
| C | 9013,9044 | | CKSSYF104Z16 |
| C | 9017 | | CEHVKW470M6R3 |
| C | 9023,9026,9031,9032 | | CKSRYB102K50 |
| C | 9028–9030,9033–9035 | | CKSRYB105K10 |
| C | 9038 | | CKSSYB473K16 |
| C | 9041,9042 | | CKSRYB105K10 |
| C | 9043 | | CKSRYB224K10 |
| C | 9046 | | CCG1205 |

## SIDE ASSY

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| Q | 9201–9205 | | 2SC4116 |
| D | 9201–9207 | | UDZS9R1(B) |
| D | 9208,9209 | | UDZS5R6(B) |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | **MISCELLANEOUS** | |
| | JA | 9201 | AKB1303 |
| A | JA | 9202 | AKP1238 |
| | CN | 9201 | AKN1028 |
| | | 9203,9204 | VNE1949 |
| | | **RESISTORS** | |
| | R | 9245,9246 | ACN1260 |
| | | Other Resistors | RS1/16SS###J |
| | | **CAPACITORS** | |
| | C | 9201,9202 | ACH1454 |
| | C | 9204,9208,9209 | CKSSYF104Z16 |
| | C | 9213,9214 | CKSRYB105K10 |
| B | C | 9215,9216 | CKSRYB102K50 |

## PC ASSY

| | | | |
|---|---|---|---|
| | | **SEMICONDUCTORS** | |
| | IC | 9301 | TC74VHC08FTS1 |
| | IC | 9302 | TC7WH123FU |
| | IC | 9303 | BR24C21FJ |
| | Q | 9301 | UMD2N |
| | D | 9301,9302 | 1SS301 |
| | D | 9306-9309 | UDZS5R6(B) |
| C | | | |
| | | **MISCELLANEOUS** | |
| | CN | 9301 | CKS3826 |
| | CN | 9303 | AKP1214 |
| | | 9302 | VNE1949 |
| | | **RESISTORS** | |
| | R | 9330 | RAB4CQ101J |
| | | Other Resistors | RS1/16SS###J |
| | | **CAPACITORS** | |
| | C | 9304,9305 | CCSRCH220J50 |
| D | C | 9306 | CKSRYB105K10 |
| | C | 9307,9315,9316 | DCH1201 |
| | C | 9308,9313,9314,9317 | CKSSYF104Z16 |

## AUDIO ASSY

| | | | |
|---|---|---|---|
| | | **SEMICONDUCTORS** | |
| | IC | 3751 | LA4625 |
| | IC | 3752 | PQ120DNA1ZPH |
| | IC | 3753 | NJW1183GK1 |
| | Q | 3751,3754,3755,3757 | 2SA1586 |
| E | Q | 3756,3759 | 2SC4116 |
| | Q | 3758,3760 | DTC124EUA |
| | D | 3751 | 1SS355 |
| | | **MISCELLANEOUS** | |
| | KN | 3751,3752 | VNF1084 |
| | CN | 3751 | B3P-VH |
| | | 3772,3773 | PMB30P100FNI |
| | | 3774,3775 | VBB30P100FNI |
| | | **RESISTORS** | |
| | R | 3803 | RD1/2MMF2R2J |
| F | | Other Resistors | RS1/16S###J |
| | | **CAPACITORS** | |
| | C | 3752,3753 | CEHAT2R2M50 |
| | C | 3754,3805 | CFTLA103J50 |
| | C | 3755 | CEHAT472M25 |
| | C | 3757 | CEHAT471M25 |
| | C | 3758,3760,3796 | CKSRYB103K50 |
| | C | 3759 | CEHAT331M16 |
| | C | 3761,3764,3786,3798 | CEHAT101M16 |
| | C | 3762 | CEHAT220M50 |
| | C | 3763 | CEHATR47M50 |
| | C | 3766,3780,3783–3785 | CEHAT1R0M50 |
| | C | 3767,3770,3781,3782 | CFTLA104J50 |
| | C | 3769,3815 | CKSRYB222K50 |
| | C | 3771–3774,3787,3789 | CKSRYB224K16 |
| | C | 3775,3777,3788,3790 | CEHAT100M50 |
| | C | 3778 | CFTLA334J50 |
| | C | 3779 | CKSRYB822K50 |
| | C | 3791,3799 | CEHAT100M50 |
| | C | 3792–3795,3806,3807 | CFTLA104J50 |
| | C | 3797,3808,3812,3814 | CEHAT1R0M50 |
| | C | 3800,3801 | CKSRYB224K16 |
| | C | 3811 | CFTLA223J50 |
| | C | 3813 | CFTLA104J50 |
| | C | 3816,3817 | ACH1456 |
| | C | 3818–3821 | CCSRCH221J50 |
| | C | 3822–3825 | CKSRYB682K50 |
| | C | 3826–3829 | CKSRYF104Z50 |
| | ⚠C | 3831,3833,3835,3837 | CCSRCH101J5 |
| | C | 3838,3839 | CEHAT4R7M50 |

## SP TERMINAL ASSY

| | | | |
|---|---|---|---|
| | | **MISCELLANEOUS** | |
| | ⚠F | 3901,3902 | ATF122 |
| | JA | 3901 | AKE1061 |
| | | **RESISTORS** | |
| | ⚠ | All Resistors | RS1/16S### |
| | | **CAPACITORS** | |
| | C | 3903,3911,3917,3919 | CKSRYB682K50 |
| | C | 3904,3912,3918,3920 | CKSRYF104Z50 |
| | ⚠C | 3905,3907,3913,3915 | CCSRCH221J5 |
| | ⚠C | 3921–3924 | CCSRCH221J5 |

## SIDE KEY ASSY

| | | | |
|---|---|---|---|
| | | **MISCELLANEOUS** | |
| | ⚠L | 9501–9504 | QTL101 |
| | S | 9501–9507 | CSG1155 |
| | | **RESISTORS** | |
| | | All Resistors | RS1/16S###J |
| | | **CAPACITORS** | |
| | C | 9501 | CKSRYF104Z16 |
| | C | 9502,9503 | CCSRCH101J50 |

## 50 LED ASSY

| | | | |
|---|---|---|---|
| | | **SEMICONDUCTORS** | |
| | D | 9651 | TLRV1022 |
| | D | 9652 | SML512BC4T |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **RESISTORS** | | | |
| | All Resistors | | RS1/16S###J |
| **CAPACITORS** | | | |
| C | 9651,9652 | | CKSSYF103Z50 |

## LED IR ASSY

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| IC | 9702 | | SBX3050-01 |
| Q | 9701 | | 2SA1586 |
| D | 9701 | | 1SS302 |
| D | 9703 | | SML-521MDW |
| **MISCELLANEOUS** | | | |
| CN | 9701 | | AKP1303 |
| **RESISTORS** | | | |
| R | 9701,9702,9707,9712 | | RS1/16S0R0J |
| R | 9713 | | RS1/16S121J |
| R | 9714 | | RS1/16S331J |
| | Other Resistors | | RS1/16SS###J |
| **CAPACITORS** | | | |
| C | 9701 | | CKSSYB102K50 |
| C | 9702 | | CKSSYF104Z16 |
| C | 9703 | | ACG7046 |
| C | 9704 | | CKSSYF103Z50 |
| C | 9705 | | CKSRYF103Z50 |

## 50 ADDRESS L ASSY

**[50 ADR L LOGIC]**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC1601 | | PEE003B |
| **MISCELLANEOUS** | | | |
| | L1601 | | QTL1013 |
| | CN1601 | | AKM1290 |
| | CN1602 | | AKM1348 |
| **RESISTORS** | | | |
| | R1601–1605 | | RS1/16SS1000F |
| | Other Resistors | | RS1/16SS###J |
| **CAPACITORS** | | | |
| | C1601–1604, 1607 | | CKSSYF104Z16 |
| | C1605, 1606 | | CKSSYB102K50 |
| | C1608, 1609 | | CKSRYB105K6R3 |
| | C1651–1656 | | ACG1105 |
| | C1657–1662 | | CKSSYF104Z16 |
| | C1664, 1666, 1668 | | CCSSCH390J50 |

**[50 ADR L RESONANCE]**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC1720T | | ND307TD |
| | Q1710, 1711 | | QSZ2 |
| | Q1731, 1741, 1751, 1761 | | HAT3041R |
| | Q1771, 1781 | | HAT3041R |
| | Q1790 | | 2SA1163 |
| | Q1791 | | RN1901 |
| | D1710, 1737, 1747, 1757 | | 1SS302 |
| | D1731, 1741, 1751, 1761 | | UDZS15(B) |
| | D1734, 1744, 1754, 1764 | | EP05FA20 |
| | D1736, 1738, 1746, 1748 | | 1SS355 |
| | D1756, 1758, 1766, 1768 | | 1SS355 |
| | D1767, 1777, 1787 | | 1SS302 |
| | D1771, 1781 | | UDZS15(B) |
| | D1774, 1784 | | EP05FA20 |
| | D1776, 1778, 1786, 1788 | | 1SS355 |
| **MISCELLANEOUS** | | | |
| | L1730, 1740, 1750, 1760 | | ATH1199 |
| | L1770, 1780 | | ATH1199 |
| **RESISTORS** | | | |
| | R1710, 1711 | | RS1/16SS220J |
| | Other Resistors | | RS1/16S###J |
| **CAPACITORS** | | | |
| | C1710 | | CKSYB105K25 |
| | C1711 | | ACG1098 |
| | C1730, 1740, 1750, 1760 | | ACG1137 |
| | C1731, 1741, 1751, 1761 | | ACG1136 |
| | C1770, 1780 | | ACG1137 |
| | C1771, 1781 | | ACG1136 |

## 50 ADDRESS S ASSY

**[50 ADR S LOGIC]**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC1801 | | PEE003B |
| **MISCELLANEOUS** | | | |
| | L1801 | | QTL1013 |
| | CN1801 | | AKM1290 |
| | CN1802 | | AKM1348 |
| **RESISTORS** | | | |
| | R1801–1805 | | RS1/16SS1000F |
| | Other Resistors | | RS1/16SS###J |
| **CAPACITORS** | | | |
| | C1801–1804, 1807 | | CKSSYF104Z16 |
| | C1805, 1806 | | CKSSYB102K50 |
| | C1808, 1809 | | CKSRYB105K6R3 |
| | C1851–1855 | | ACG1105 |
| | C1857–1861 | | CKSSYF104Z16 |
| | C1864 | | CCSSCH390J50 |
| | C1866 | | CCSSCH101J50 |

**[50 ADR S RESONANCE]**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC1920 | | TND307TD |
| | Q1910, 1911 | | QSZ2 |
| | Q1931, 1941, 1951, 1961 | | HAT3041R |
| | Q1971 | | HAT3041R |
| | Q1990 | | 2SA1163 |
| | Q1991 | | RN1901 |
| | D1910, 1937, 1947, 1957 | | 1SS302 |
| | D1931, 1941, 1951, 1961 | | UDZS15(B) |
| | D1934, 1944, 1954, 1964 | | EP05FA20 |
| | D1936, 1938, 1946, 19481 | | SS355 |
| | D1956, 1958, 1966, 1968 | | 1SS355 |

| Mark No. | Description | Part No. |
|---|---|---|
| | D1967, 1977 | 1SS302 |
| | D1971 | UDZS15(B) |
| | D1974 | EP05FA20 |
| A | D1976, 1978 | 1SS355 |
| | **MISCELLANEOUS** | |
| | L1930, 1940, 1950, 1960 | ATH1199 |
| | L1970 | ATH1199 |
| | **RESISTORS** | |
| | R1910, 1911 | RS1/16SS220J |
| | Other Resistors | RS1/16S###J |
| | **CAPACITORS** | |
| | C1910 | CKSYB105K25 |
| B | C1911 | ACG1098 |
| | C1930, 1940, 1950, 1960 | ACG1137 |
| | C1931, 1941, 1951, 1961 | ACG1136 |
| | C1970 | ACG1137 |
| | C1971 | ACG1136 |

## 50 SCAN A ASSY

| Mark No. | Description | Part No. |
|---|---|---|
| | **SEMICONDUCTORS** | |
| | IC2801–2806 | SN755870KPZT-P |
| | D2801 | CRH01 |
| C | D2802–2807, 2809, 2811 | 1SS302 |
| | D2810 | 1SS355 |
| | **MISCELLANEOUS** | |
| | CN2801 | AKP1261 |
| | CN2802 | AKM1281 |
| | CN2803 | AKP1306 |
| | **RESISTORS** | |
| | R2805, 2810, 2813, 2816 | RAB4C221J |
| | R2819, 2822 | RAB4C221J |
| | Other Resistors | RS1/16S###J |
| D | **CAPACITORS** | |
| | C2801, 2802, 2811, 2812 | ACG1088 |
| | C2803, 2813, 2823, 2833 | CKSRYB105K6R3 |
| | C2805–2807, 2815–2817 | CCSRCH220J50 |
| | C2808–2810, 2818–2820 | CCSRCH151J50 |
| | C2821, 2822, 2831, 2832 | ACG1088 |
| | C2825–2827, 2835–2837 | CCSRCH220J50 |
| | C2828–2830, 2838–2840 | CCSRCH151J50 |
| | C2841, 2842, 2851, 2852 | ACG1088 |
| | C2843, 2853 | CKSRYB105K6R3 |
| | C2845–2847, 2855–2857 | CCSRCH220J50 |
| E | C2848–2850, 2858–2860 | CCSRCH151J50 |

## 50 SCAN B ASSY

| Mark No. | Description | Part No. |
|---|---|---|
| | **SEMICONDUCTORS** | |
| | IC2901–2906 | SN755870KPZT-P |
| | IC2907 | TC7SH08FUS1 |
| | D2902–2908 | 1SS302 |
| | D2909 | 1SS355 |
| F | **MISCELLANEOUS** | |
| | CN2901 | AKM1281 |
| | CN2902 | AKP1306 |

| Mark No. | Description | Part No. |
|---|---|---|
| | **RESISTORS** | |
| | R2903, 2908, 2911, 2914 | RAB4C221J |
| | R2917, 2920 | RAB4C221J |
| | Other Resistors | RS1/16S###J |
| | **CAPACITORS** | |
| | C2901, 2902, 2911, 2912 | ACG1088 |
| | C2903, 2913, 2923, 2933 | CKSRYB105K6R3 |
| | C2905–2907, 2915–2917 | CCSRCH220J50 |
| | C2908–2910, 2918–2920 | CCSRCH151J50 |
| | C2921, 2922, 2931, 2932 | ACG1088 |
| | C2925–2927, 2935–2937 | CCSRCH220J50 |
| | C2928–2930, 2938–2940 | CCSRCH151J50 |
| | C2941, 2942, 2951, 2952 | ACG1088 |
| | C2943, 2953, 2961 | CKSRYB105K6R3 |
| | C2945–2947, 2955–2957 | CCSRCH220J50 |
| | C2948–2950, 2958–2960 | CCSRCH151J50 |

## POWER SUPPLY UNIT

POWER SUPPLY UNIT has no service part.

A

B

C

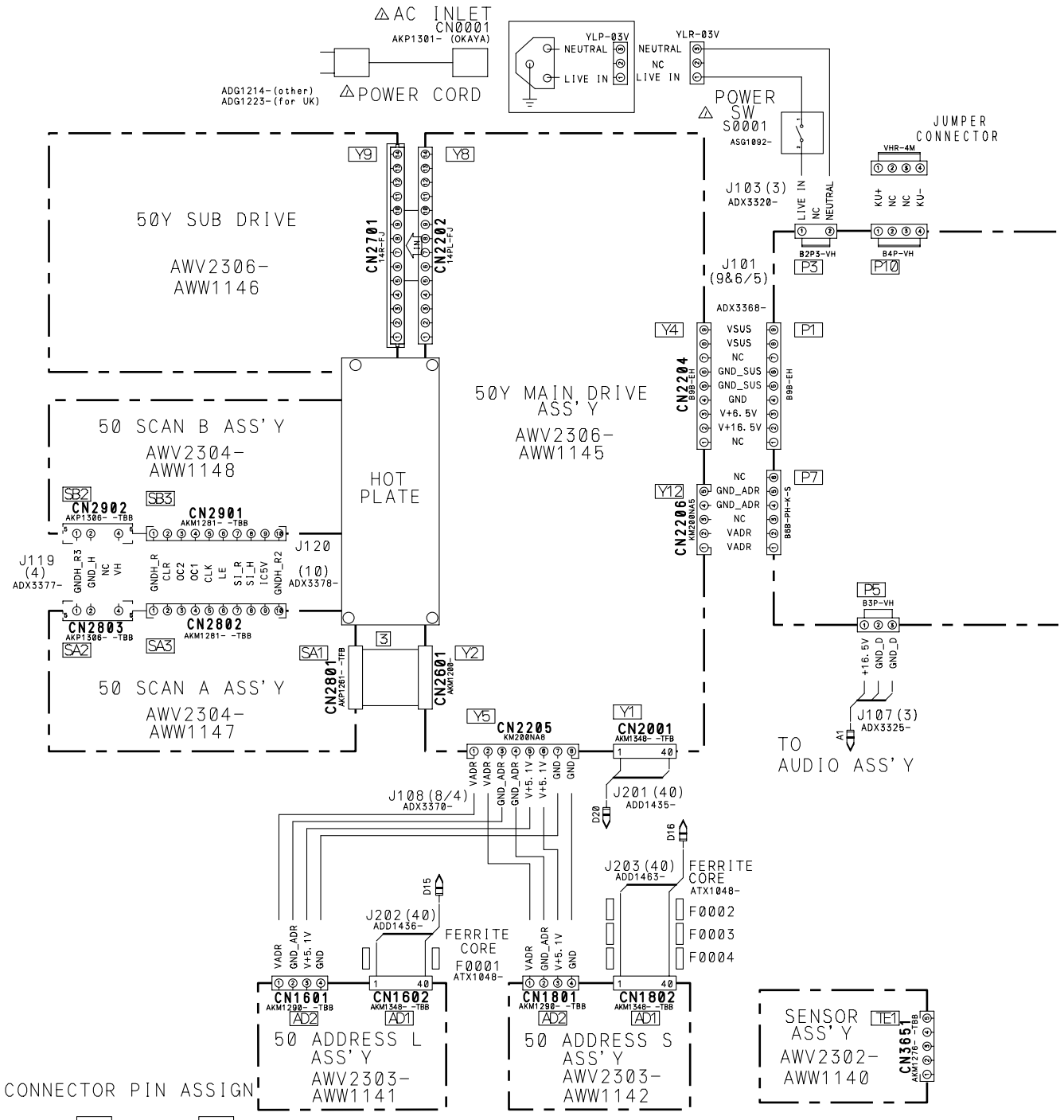
D

E

F

# 4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 4.1 OVERALL CONNECTION DIAGRAM (1/2)




CONNECTOR PIN ASSIGN

CN3501 D15 → CN1602 AD1
CN3502 D16 → CN1802 AD1
CN3503 D17 → CN1802 AD1
CN3504 D18 → CN1602 AD1

| | |
|---|---|
| 1→40. NC | 21→20. CP |
| 2→39. ADR_PD | 22→19. NC |
| 3→38. PSIZE | 23→18. GND_LVDS |
| 4→37. GND | 24→17. NC |
| 5→36. V+8V | 25→16. CLKN |
| 6→35. V+8V | 26→15. CLKP |
| 7→34. GND | 27→14. NC |
| 8→33. GND_LVDS | 28→13. GND_LVDS |
| 9→32. NC | 29→12. NC |
| 10→31. AN | 30→11. DN |
| 11→30. AP | 31→10. DP |
| 12→29. NC | 32→ 9. NC |
| 13→28. GND_LVDS | 33→ 8. GND_LVDS |
| 14→27. NC | 34→ 7. GND |
| 15→26. BN | 35→ 6. V+3.3V |
| 16→25. BP | 36→ 5. V+3.3V |
| 17→24. NC | 37→ 4. GND |
| 18→23. GND_LVDS | 38→ 3. DIV1 |
| 19→22. NC | 39→ 2. DIV0 |
| 20→21. CN | 40→ 1. GND |

CN3505 D19 → CN1001 X1

| | |
|---|---|
| 1→18. PSW2 | |
| 2→17. XSUS_PD | |
| 3→16. XDD_PD | |
| 4→15. XDRV_PD | |
| 5→14. GND | |
| 6→13. SUS_MUTE | |
| 7→12. XSUS_MSK | |
| 8→11. GND | |
| 9→10. XNR_D | |
| 10→ 9. GND | |
| 11→ 8. XSUS_G | |
| 12→ 7. GND | |
| 13→ 6. XSUS_D | |
| 14→ 5. GND | |
| 15→ 4. XSUS_U | |
| 16→ 3. GND | |
| 17→ 2. XSUS_B | |
| 18→ 1. XCN_PD | |

CN3506 D20 → CN2001 Y1

| | |
|---|---|
| 1→40. YCN_PD | 21→20. GND |
| 2→39. SCN5V_PD | 22→19. YSUS_MSK |
| 3→38. SI_L | 23→18. YNRST |
| 4→37. SI_H | 24→17. YRsv2 |
| 5→36. GND | 25→16. GND |
| 6→35. CLR | 26→15. YNOFS |
| 7→34. CLK1 | 27→14. YRsv3 |
| 8→33. GND | 28→13. YSOFT-D |
| 9→32. LE | 29→12. GND |
| 10→31. OC2 | 30→11. VOFS_ADJ |
| 11→30. OC1 | 31→10. VYPRST_ADJ |
| 12→29. GND | 32→ 9. GND |
| 13→28. YSUS_B | 33→ 8. GND |
| 14→27. YSUS_U | 34→ 7. GND |
| 15→26. GND | 35→ 6. GND |
| 16→25. YSUS_D | 36→ 5. YDD_PD |
| 17→24. YSUS_G | 37→ 4. YSUS_PD |
| 18→23. GND | 38→ 3. SCAN_PD |
| 19→22. YPR-U | 39→ 2. YDRV_PD |
| 20→21. SUS_MUTE | 40→ 1. PSW2 |

CN2601 Y2 → CN2801 SA1

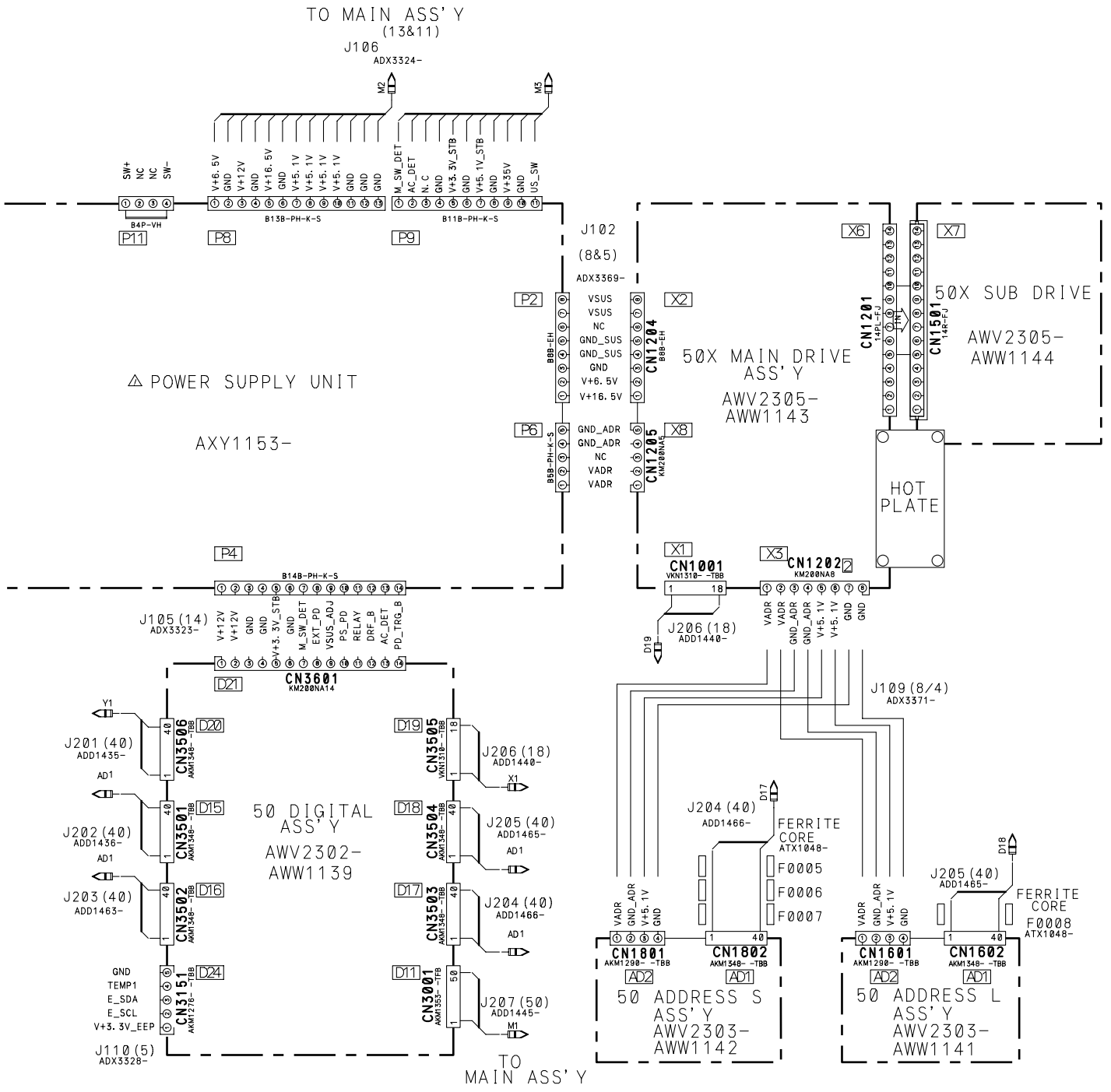
| |
|---|
| 1. VH |
| 2. VH |
| 3. NC |
| 4. NC |
| 5. GNDH |
| 6. SI_L |
| 7. SI_H |
| 8. CLR |
| 9. OC2 |
| 10. OC1 |
| 11. CLK |
| 12. LE |
| 13. GNDH |
| 14. GNDH_R |
| 15. IC5V |

CN2202 Y8 → CN2701 Y9

| |
|---|
| 1. MSK-G |
| 2. MSK-S |
| 3. NC |
| 4. GNDSUS |
| 5. SUS_G |
| 6. GND_CN |
| 7. NC |
| 8. SUSOUT |
| 9. SUS_B |
| 10. SUSOUT |
| 11. SUSOUT+15V |
| 12. NC |
| 13. VSUS |
| 14. VSUS |

CN1201 X6 → CN1501 X7

| |
|---|
| 1. MSK |
| 2. PSUS |
| 3. NC |
| 4. GNDSUS |
| 5. SUS_G |
| 6. GND_CN |
| 7. NC |
| 8. SUSOUT |
| 9. SUS_B |
| 10. SUSOUT |
| 11. SUSOUT+15V |
| 12. NC |
| 13. VSUS |
| 14. VSUS |

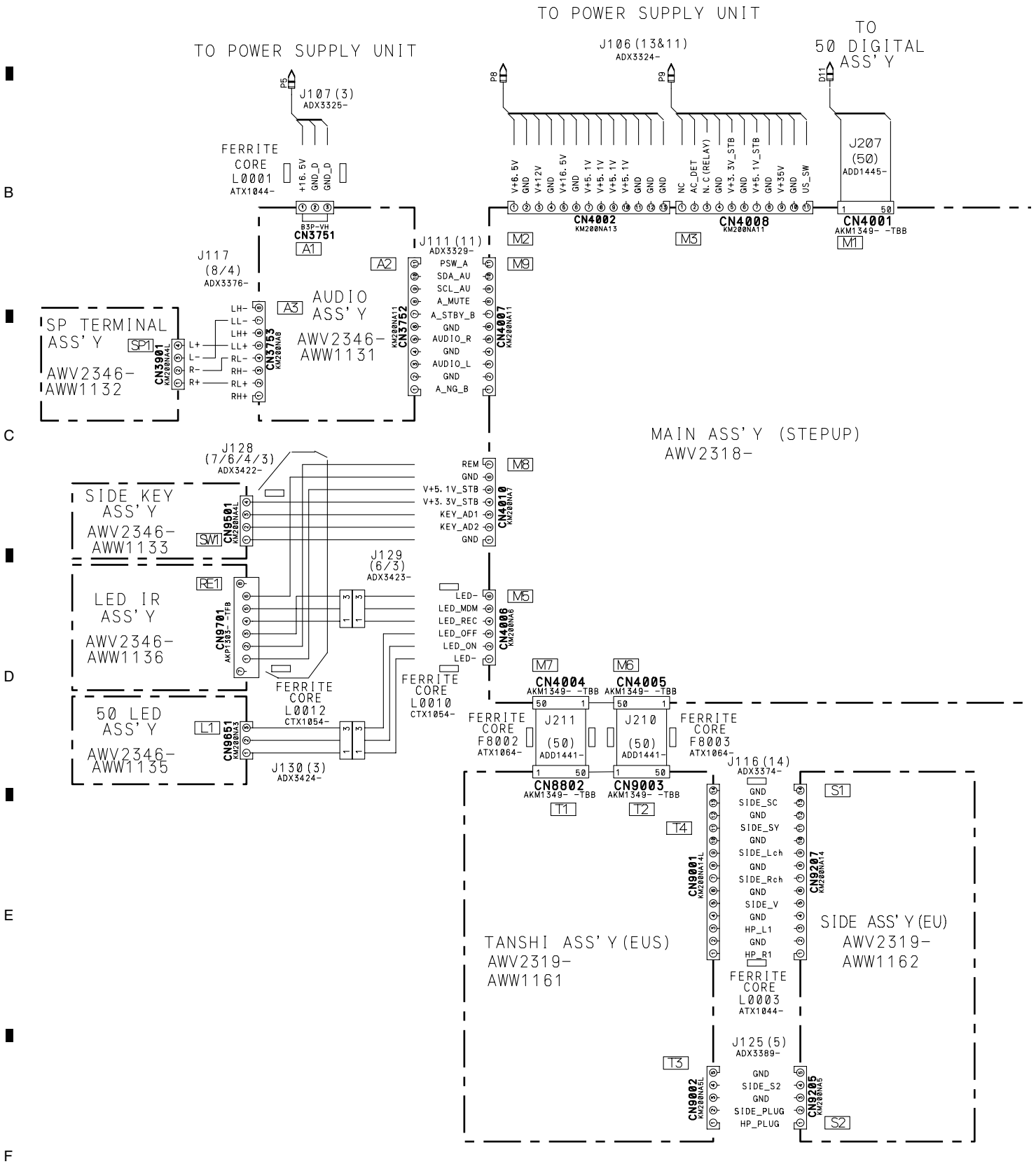


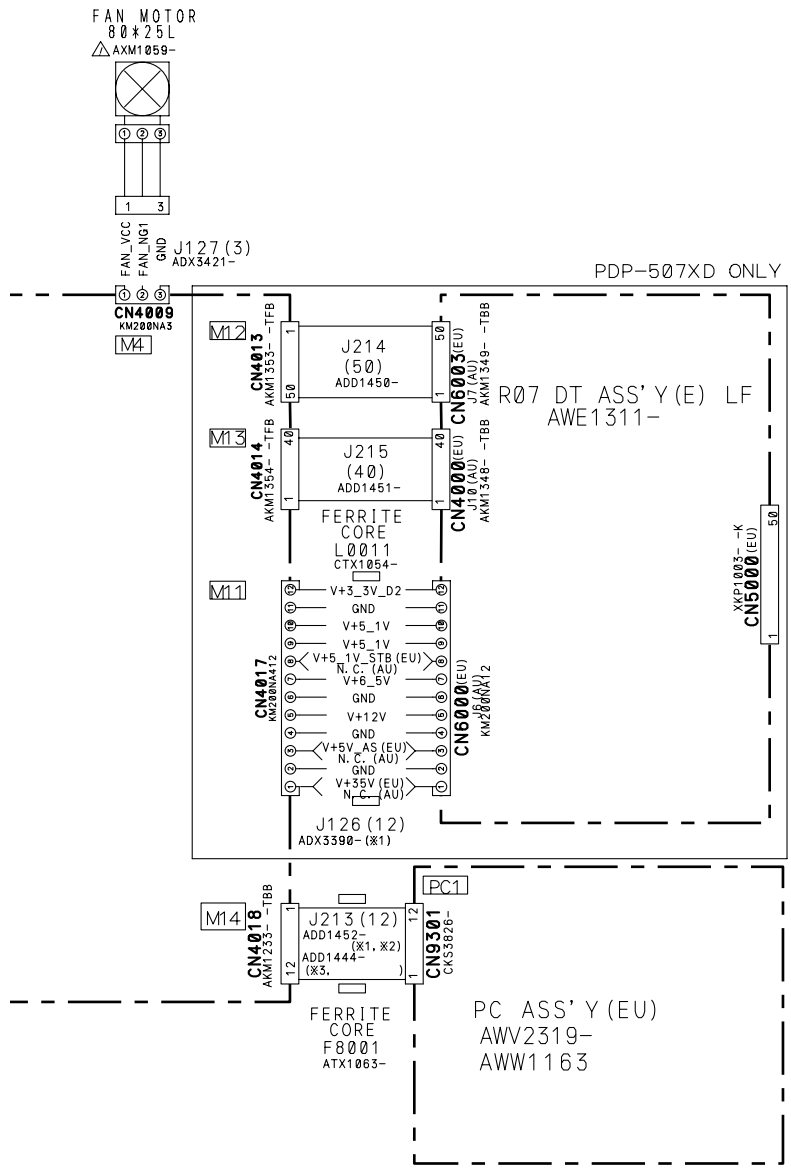

CN3001 D11 → CN4001 M1

| | |
|---|---|
| 1. GND | 26. VIDEO_G6 |
| 2. V+3.3V_UCOM | 27. VIDEO_G5 |
| 3. INP_MUTE | 28. VIDEO_G4 |
| 4. THEATER | 29. VIDEO_G3 |
| 5. VD | 30. VIDEO_G2 |
| 6. HD | 31. VIDEO_G1 |
| 7. DE | 32. VIDEO_G0 |
| 8. GND | 33. GND |
| 9. CLK | 34. VIDEO_B9 |
| 10. GND | 35. VIDEO_B8 |
| 11. GND | 36. VIDEO_B7 |
| 12. VIDEO_R9 | 37. VIDEO_B6 |
| 13. VIDEO_R8 | 38. VIDEO_B5 |
| 14. VIDEO_R7 | 39. VIDEO_B4 |
| 15. VIDEO_R6 | 40. VIDEO_B3 |
| 16. VIDEO_R5 | 41. VIDEO_B2 |
| 17. VIDEO_R4 | 42. VIDEO_B1 |
| 18. VIDEO_R3 | 43. VIDEO_B0 |
| 19. VIDEO_R2 | 44. GND |
| 20. VIDEO_R1 | 45. RESERVE(NC) |
| 21. VIDEO_R0 | 46. AC_OFF(NC) |
| 22. GND | 47. TXD_MD |
| 23. VIDEO_G9 | 48. RXD_MD |
| 24. VIDEO_G8 | 49. REQ_MD |
| 25. VIDEO_G7 | 50. MODE |

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB 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.
- The encircled numbers denote measuring point in the schematic diagram. Waveforms, refer to service manual (ARP3397).

# 4.2 OVERALL CONNECTION DIAGRAM (2/2)






## CONNECTOR PIN ASSIGN

CN4004 M7 → CN8802 T1

| | |
|---|---|
| 1→50. INPUT2_Rch | 30→21. SLOW_SW3 INPUT2_S2(GE/AU/CN) |
| 2→49. GND | 31→20. SLOW_SW2(EU) INPUT3_SPLUG(GE/AU/CN) |
| 3→48. INPUT2_Lch | 32→19. SLOW_SW1(EU) INPUT3_S2(GE/AU/CN) |
| 4→47. GND | 33→18. LINK_IO2(EU) INPUT1_SPLUG(GE/AU/CN) |
| 5→46. INPUT1_Rch | 34→17. GND |
| 6→45. GND | 35→16. LINK_IO3(EU) INPUT1_S2(GE/AU/CN) |
| 7→44. INPUT1_Lch | 36→15. GND |
| 8→43. GND | 37→14. RAPID_SW1(EU) INPUT1_PULG(GE/AU/CN) |
| 9→42. SCART_OUT_V(EU) MON_OUT_V(GE/AU/CN) | 38→13. RAPID_SW3(EU) INPUT2_PLUG(GE/AU/CN) |
| 10→41. GND | 39→12. GND |
| 11→40. AIR_OUT_V(EU) INPUR2_SY(GE/AU/CN) | 40→11. INPUT1_R(EU) INPUT2_Pr(GE/AU/CN) |
| 12→39. GND | 41→10. GND |
| 13→38. INPUT1_V(EU) INPUT3_SY(GE/AU/CN) | 42→ 9. INPUT1_B(EU) INPUT2_Pb(GE/AU/CN) |
| 14→37. GND | 43→ 8. GND |
| 15→36. INPUT2_SC | 44→ 7. INPUT1_G(EU) INPUT2_Y(GE/AU/CN) |
| 16→35. GND | 45→ 6. GND |
| 17→34. INPUT2_V | 46→ 5. INPUT3_R(EU) INPUT1_Pr(GE/AU/CN) |
| 18→33. GND | 47→ 4. GND |
| 19→32. INPUT3_SC | 48→ 3. INPUT3_B(EU) INPUT1_Pb(GE/AU/CN) |
| 20→31. GND | 49→ 2. GND |
| 21→30. INPUT3_V | 50→ 1. INPUT3_G(EU) INPUT1_Y(GE/AU/CN) |
| 22→29. GND | |
| 23→28. INPUT2_Pr(EU) INPUT1_SC(GE/AU/CN) | |
| 24→27. GND | |
| 25→26. INPUT2_Pb(EU) INPUT1_SY(GE/AU/CN) | |
| 26→25. GND | |
| 27→24. INPUT2_Y(EU) INPUT1_V(GE/AU/CN) | |
| 28→23. GND | |
| 29→22. IN2_CompY_PLUG(EU) INPUT2_SPLUG(GE/AU/CN) | |

CN4005 M6 → CN9003 T2

| | |
|---|---|
| 1→50. V+5V_A | 26→25. GND |
| 2→49. HP_PLUG | 27→24. HP_L |
| 3→48. AC_HP_MUTE | 28→23. V+3_3V_STB |
| 4→47. AC_AM_MUTE | 29→22. SCART_OUT_Rch(EU) MON_OUT_Rch(GE/AU/CN) |
| 5→46. AC_SC1_MUTE(EU) MON_MUTE(GE/AU/CN) | 30→21. GND |
| 6→45. AC_SC2_MUTE(EU) GND(GE/AU/CN) | 31→20. SCART_OUT_Lch(EU) MON_OUT_Lch(GE/AU/CN) |
| 7→44. AC_SC3_MUTE(EU) GND(GE/AU/CN) | 32→19. GND |
| 8→43. TEMP2 | 33→18. AIR_Rch(EU) GND(GE/AU/CN) |
| 9→42. SR_OUT | 34→17. GND |
| 10→41. TXD_SR | 35→16. AIR_Lch(EU) GND(GE/AU/CN) |
| 11→40. RXD_SR | 36→15. GND |
| 12→39. GND | 37→14. SIDE_Rch |
| 13→38. AUDIO_OUT_Rch(EU) GND(GE/AU/CN) | 38→13. GND |
| 14→37. GND | 39→12. SIDE_Lch |
| 15→36. AUDIO_OUT_Lch(EU) GND(GE/AU/CN) | 40→11. GND |
| 16→35. SIDE_SC | 41→10. PC_Rch |
| 17→34. GND | 42→ 9. GND |
| 18→33. SIDE_S2 | 43→ 8. PC_Lch |
| 19→32. GND | 44→ 7. GND |
| 20→31. SIDE_SY | 45→ 6. INPUT3_Rch |
| 21→30. GND | 46→ 5. GND |
| 22→29. SIDE_V | 47→ 4. INPUT3_Lch |
| 23→28. SIDE_PLUG | 48→ 3. GND |
| 24→27. GND | 49→ 2. V+9V_AS |
| 25→26. HP_R | 50→ 1. V+9V_A |

CN4013 M12 → CN6003(EU)/J7(AU)

| | |
|---|---|
| 01. GND | 26. GND |
| 02. TXD_DT | 27. CB3_DT |
| 03. RXD_DT | 28. CB2_DT |
| 04. GND | 29. GND |
| 05. DT_FNC | 30. CB1_DT |
| 06. GND | 31. CB0_DT |
| 07. CLK_DT | 32. GND |
| 08. GND | 33. CR7_DT |
| 09. Y7_DT | 34. CR6_DT |
| 10. Y6_DT | 35. GND |
| 11. GND | 36. CR5_DT |
| 12. Y5_DT | 37. CR4_DT |
| 13. Y4_DT | 38. GND |
| 14. GND | 39. CR3_DT |
| 15. Y3_DT | 40. CR2_DT |
| 16. Y2_DT | 41. GND |
| 17. GND | 42. CR1_DT |
| 18. Y1_DT | 43. CR0_DT |
| 19. Y0_DT | 44. GND |
| 20. GND | 45. DE_DT |
| 21. CB7_DT | 46. GND |
| 22. CB6_DT | 47. VD_DT |
| 23. GND | 48. GND |
| 24. CB5_DT | 49. HD_DT |
| 25. CB4_DT | 50. GND |

CN4014 M13 → CN4000(EU)/J10(AU)

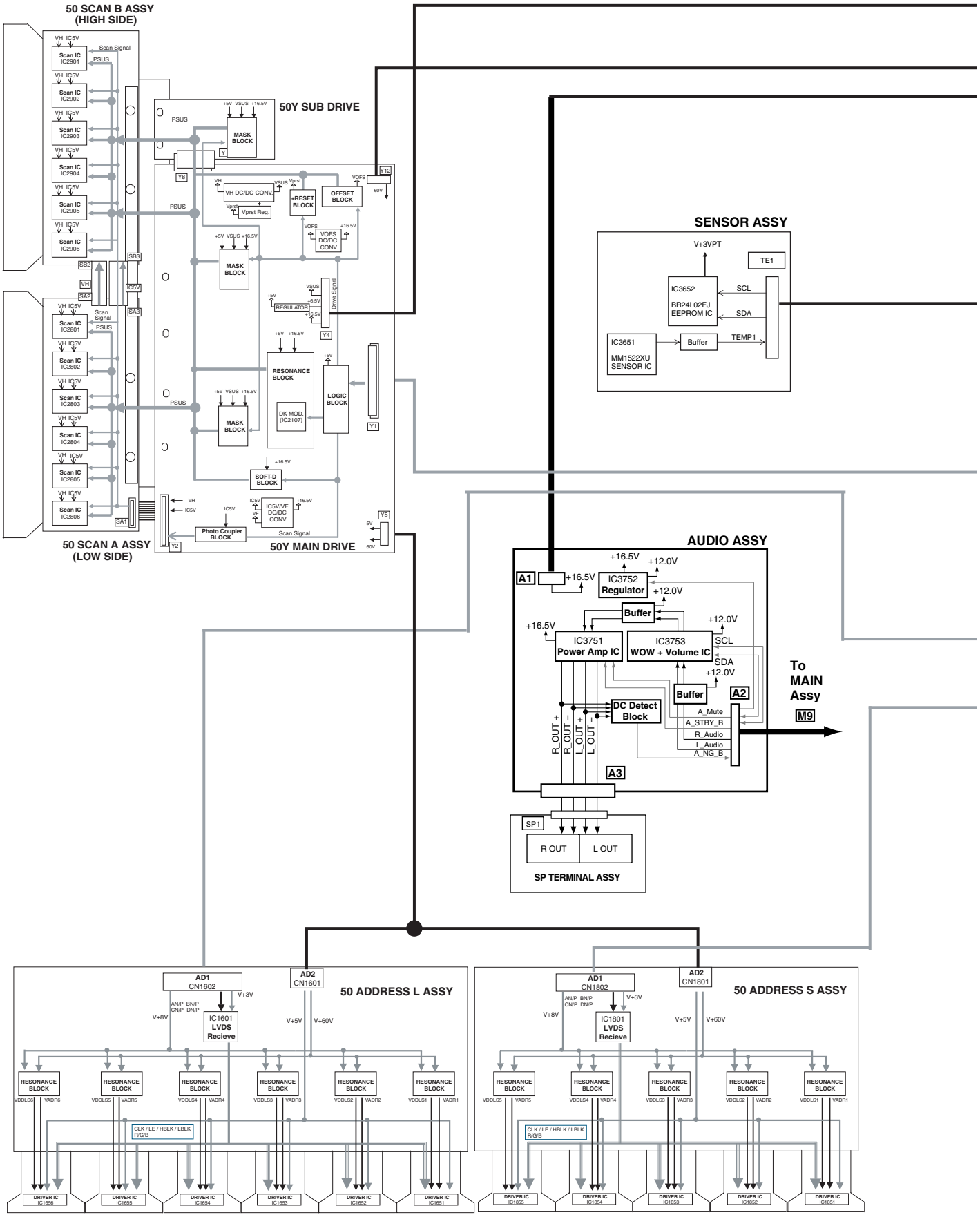
| | |
|---|---|
| 01→40. GND | 21→20. GND |
| 02→39. DT_DET | 22→19. GND |
| 03→38. RST_DT | 23→18. DT_MON_Y |
| 04→37. POW_SET | 24→17. GND |
| 05→36. ANT_POW_EU | 25→16. GND |
| 06→35. GND | 26→15. DT_MON_C |
| 07→34. GND | 27→14. GND |
| 08→33. NC | 28→13. OPT_L |
| 09→32. GND | 29→12. GND |
| 10→31. GND | 30→11. OPT_R |
| 11→30. NC | 31→10. GND |
| 12→29. GND | 32→09. DT_SP_L |
| 13→28. GND | 33→08. GND |
| 14→27. NC | 34→07. ST_SP_R |
| 15→26. GND | 35→06. GND |
| 16→25. GND | 36→05. GND |
| 17→24. GND | 37→04. GND |
| 18→23. GND | 38→03. GND |
| 19→22. GND | 39→02. DT_MON_V |
| 20→21. GND | 40→01. GND |

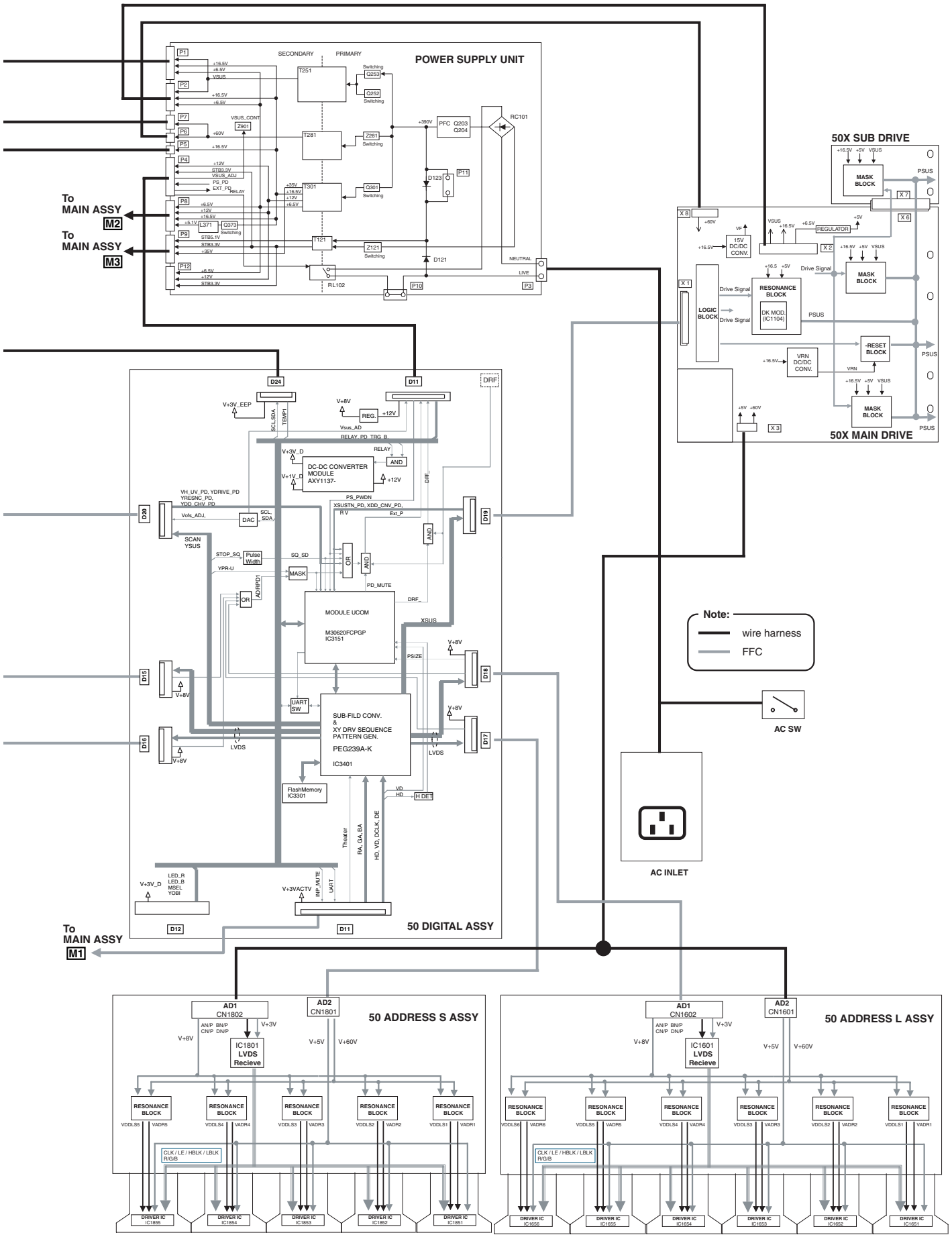
CN4018 M14 → CN9301 PC1

| | |
|---|---|
| 1→12. PC_R | |
| 2→11. GND | |
| 3→10. PC_B | |
| 4→ 9. GND | |
| 5→ 8. PC_G | |
| 6→ 7. V+9V_A | |
| 7→ 6. PC_H | |
| 8→ 5. PC_V | |
| 9→ 4. V+3.3V_UCOM | |
| 10→ 3. DSUB_DET | |
| 11→ 2. WE_ROM | |
| 12→ 1. V+5V_A | |

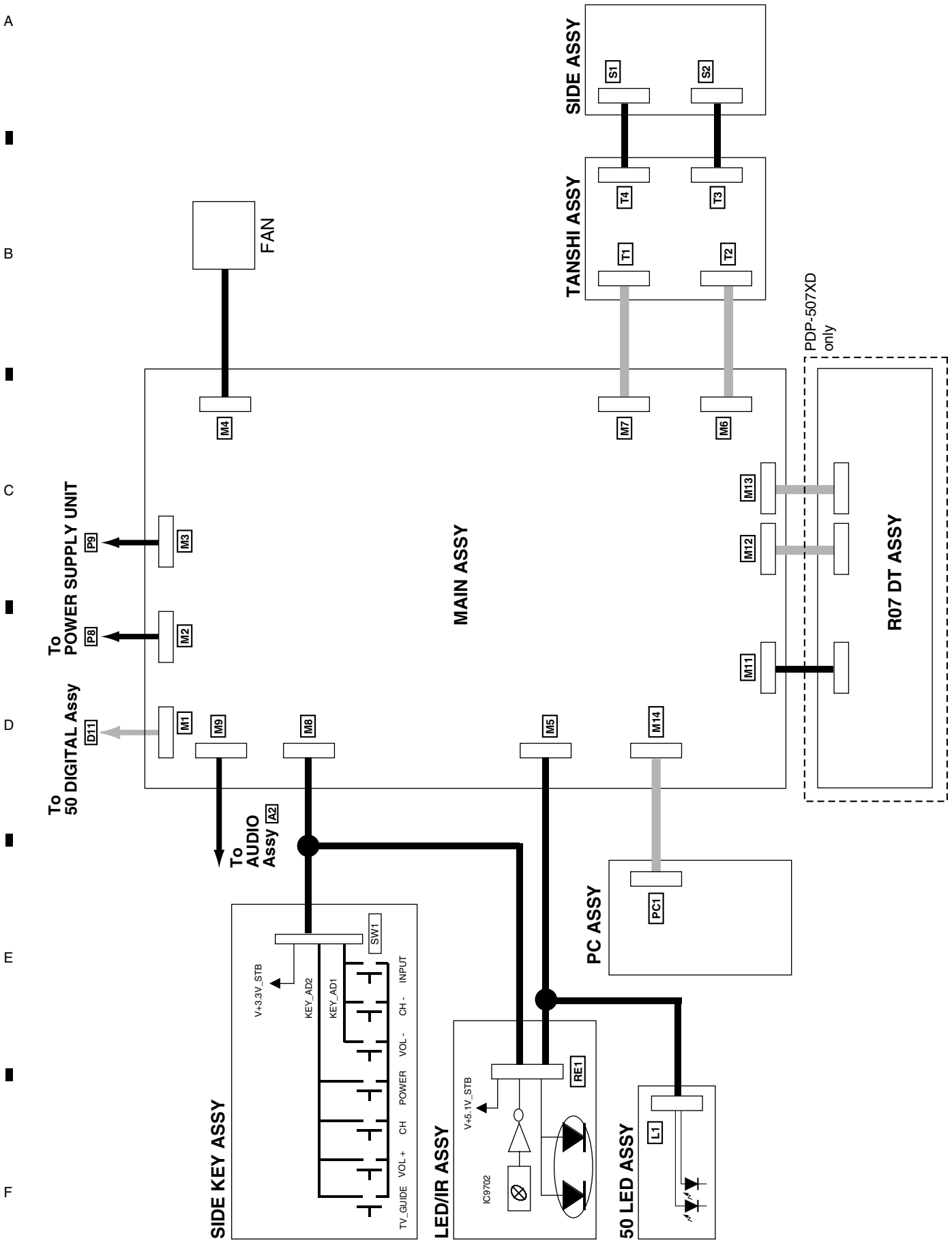
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.

# 4.3 OVERALL BLOCK DIAGRAM (1/2)



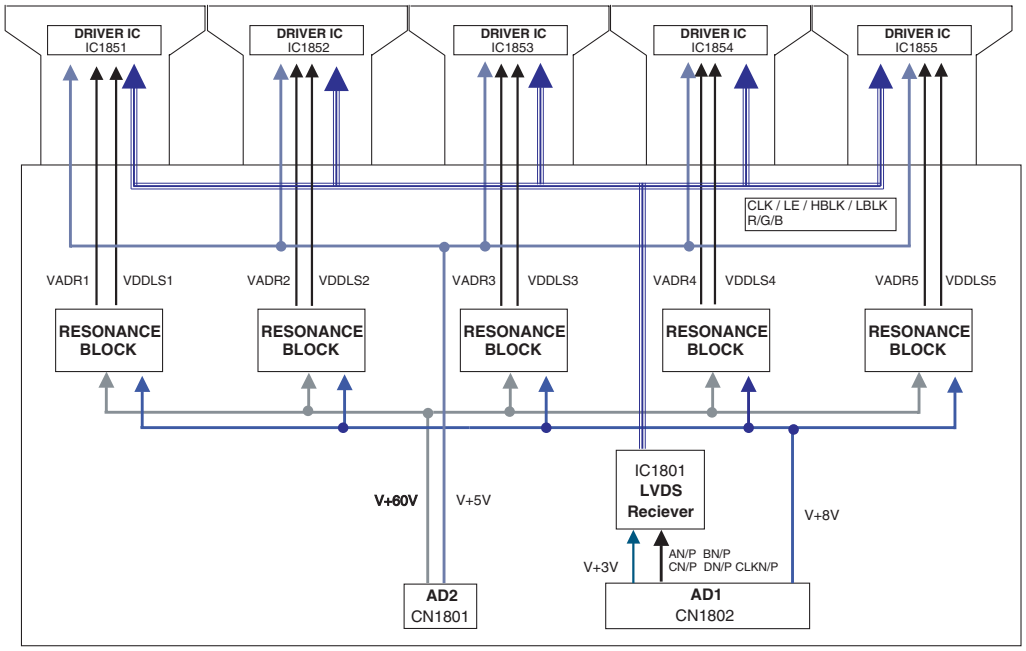

POWER SUPPLY UNIT
SECONDARY
PRIMARY
To MAIN ASSY M2
To MAIN ASSY M3
50X SUB DRIVE
50X MAIN DRIVE
50 DIGITAL ASSY
DC-DC CONVERTER MODULE AXY1137-
MODULE UCOM
M30620FCPGP
IC3151
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN.
PEG239A-K
IC3401
FlashMemory IC3301
LVDS
AC SW
AC INLET
Note:
wire harness
FFC
To MAIN ASSY M1
50 ADDRESS S ASSY
50 ADDRESS L ASSY
IC1801 LVDS Recieve
IC1601 LVDS Recieve
RESONANCE BLOCK
DRIVER IC

# 4.4 OVERALL BLOCK DIAGRAM (2/2)

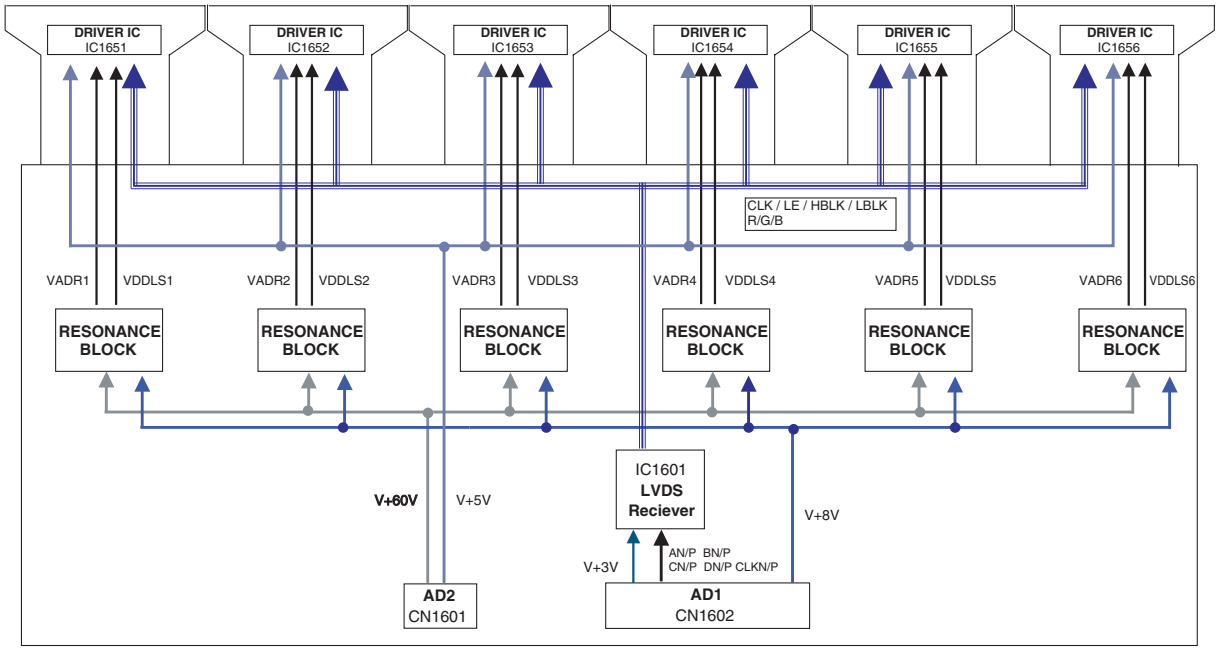


# 4.5 50 ADDRESS S and L ASSYS

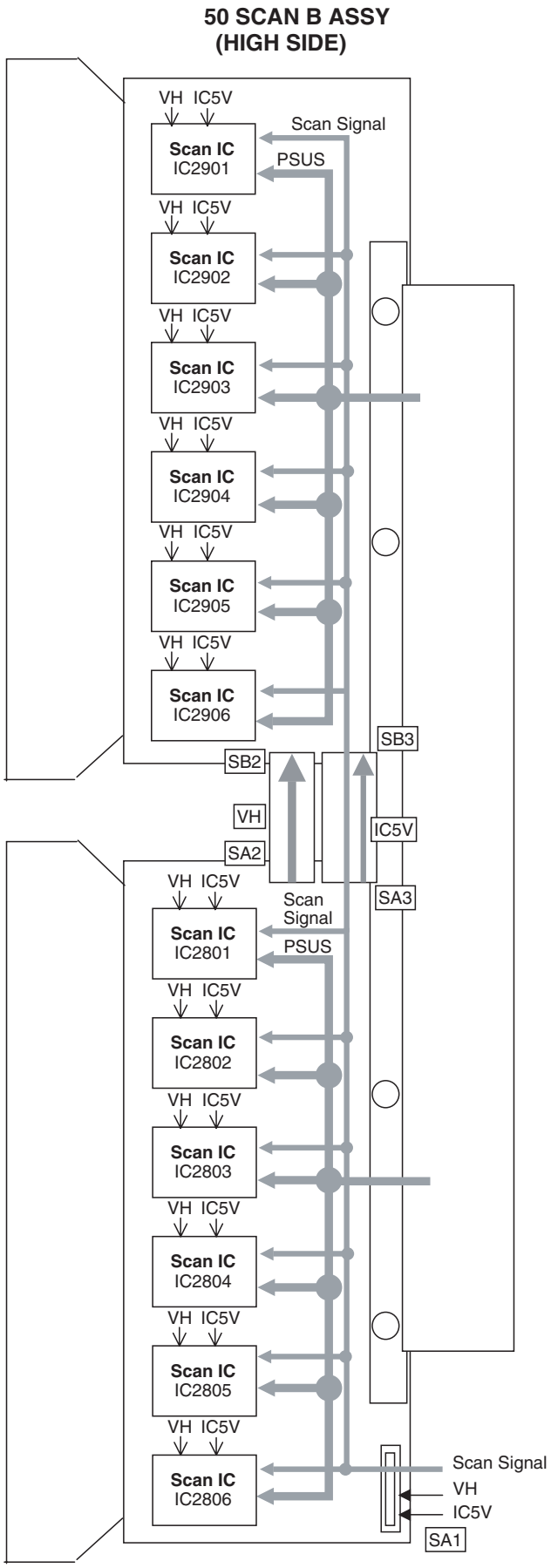
## 50 ADDRESS S ASS'Y



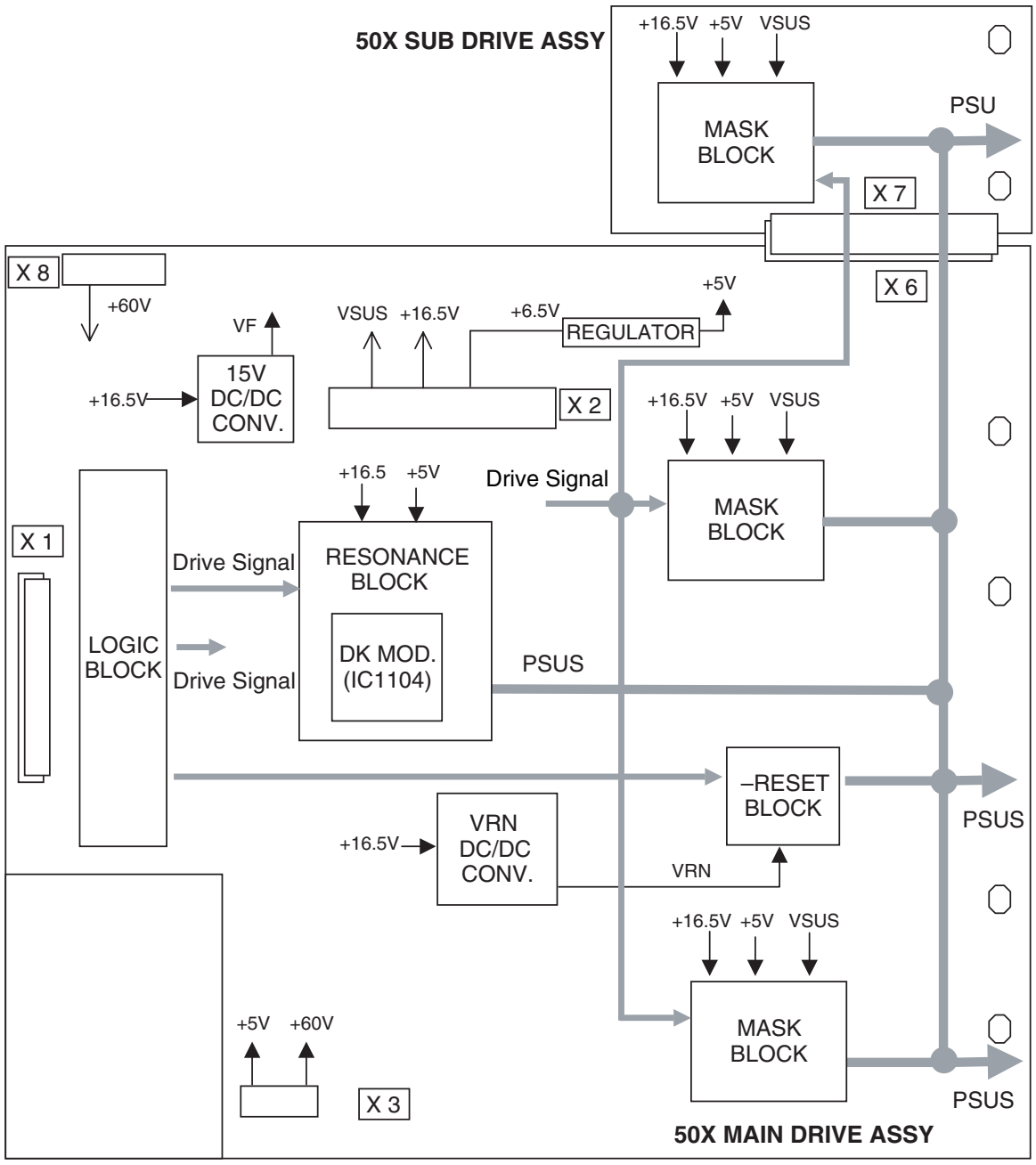

## 50 ADDRESS L ASS'Y



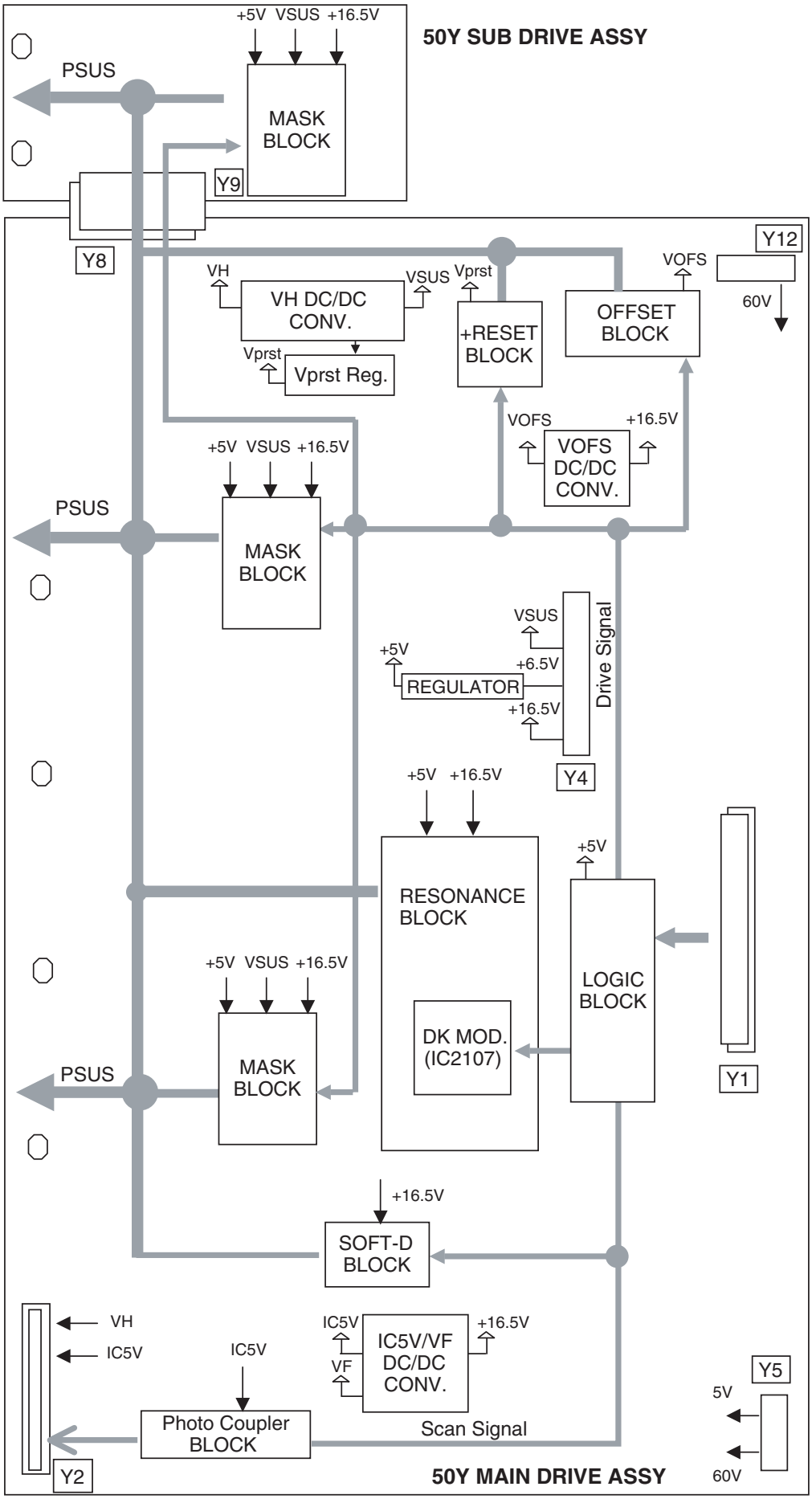
# 4.6 50 SCAN A and B ASSYS



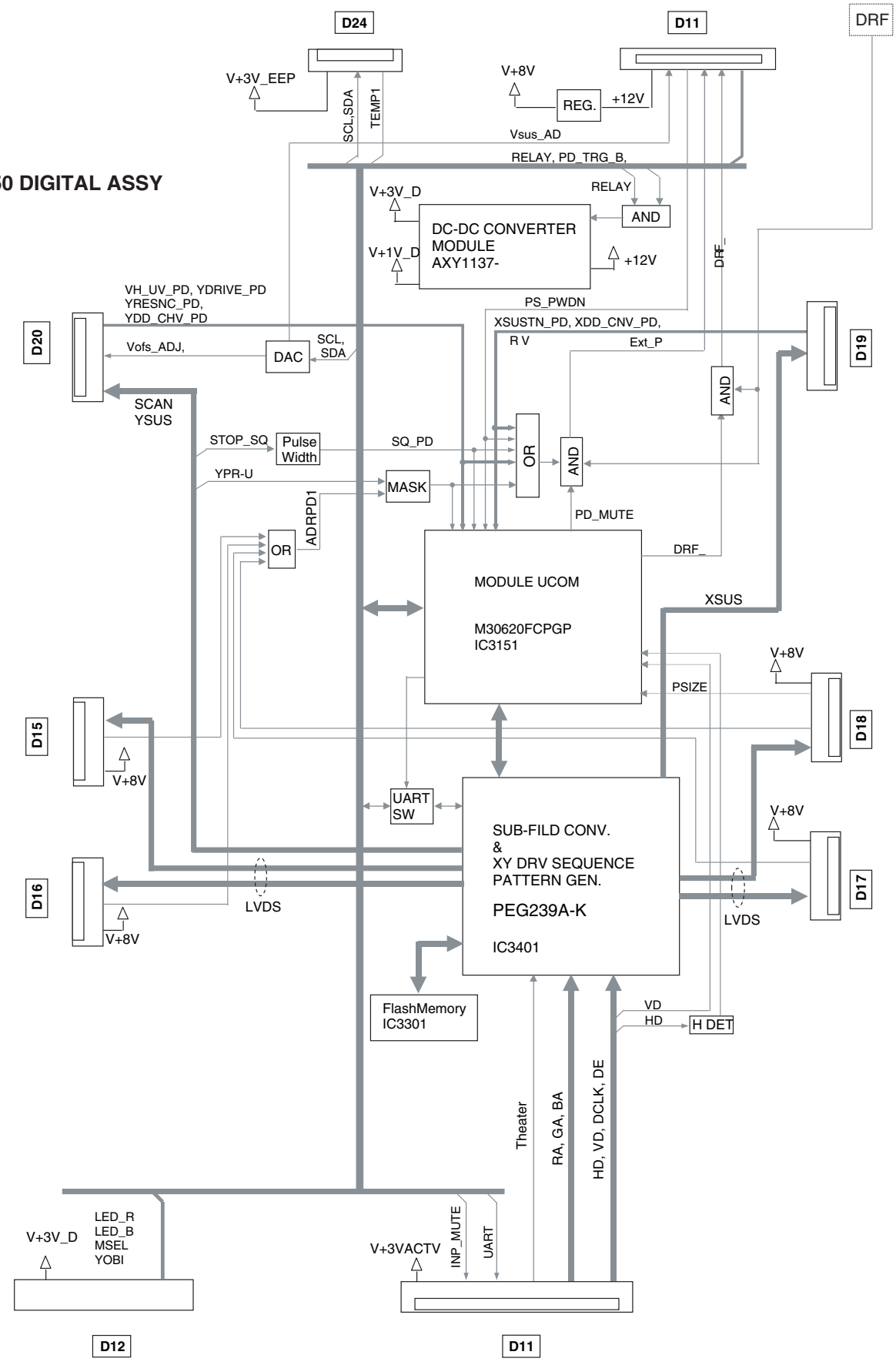
# 4.7 50X MAIN DRIVE and 50X SUB DRIVE ASSYS



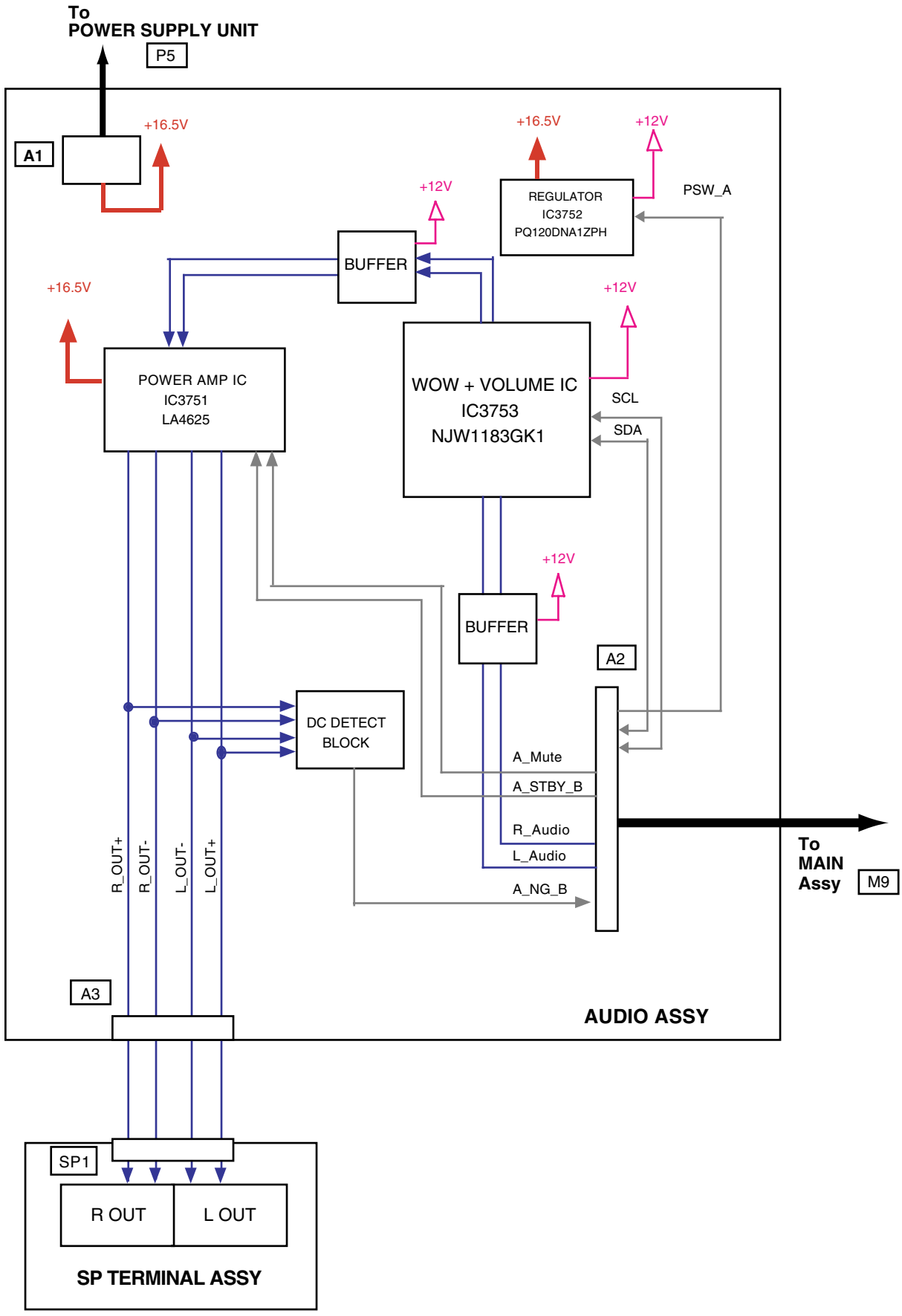
# 4.8 50Y MAIN DRIVE and 50Y SUB DRIVE ASSYS



# 4.9 50 DIGITAL ASSY



# 4.10 AUDIO ASSY



A

B

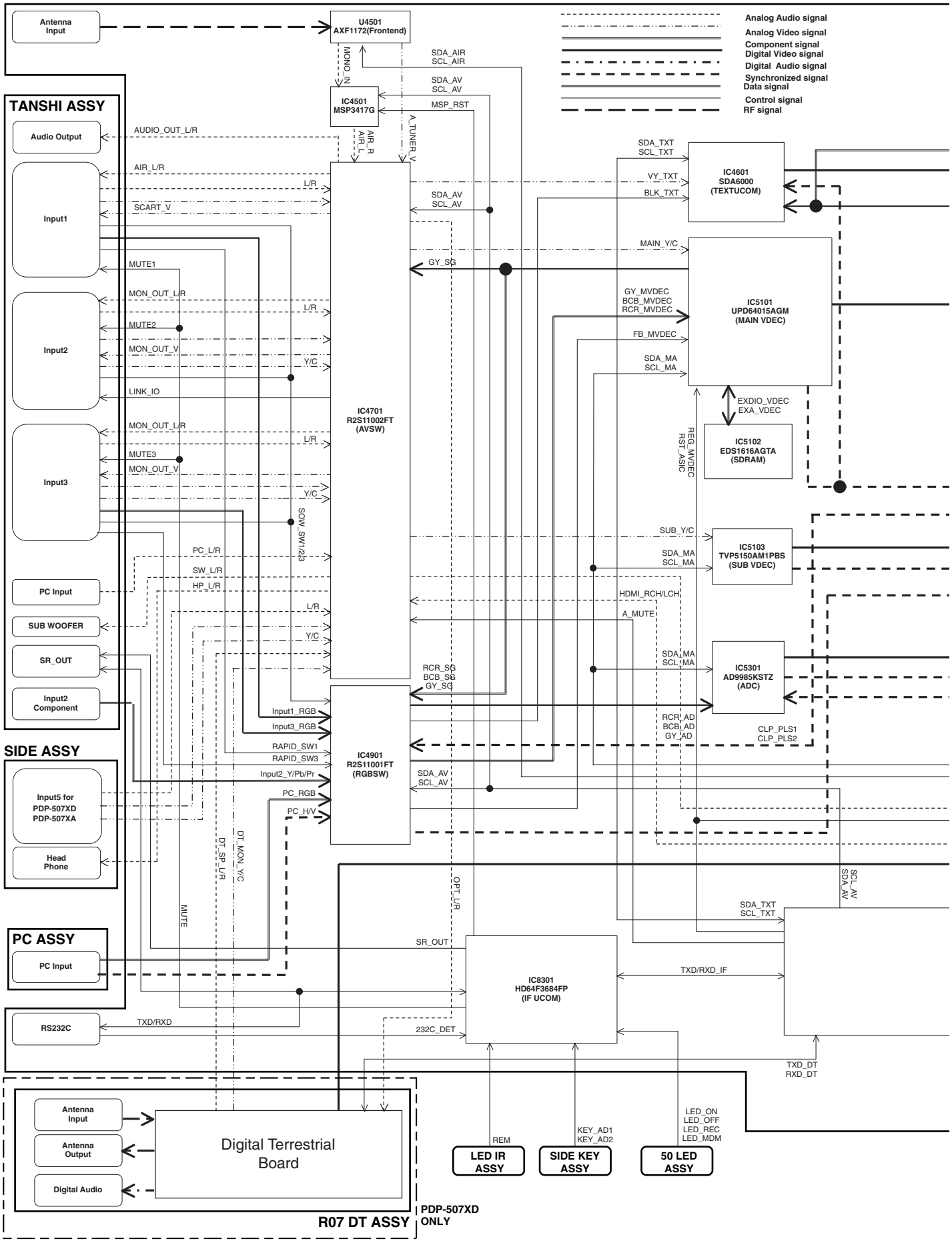
C

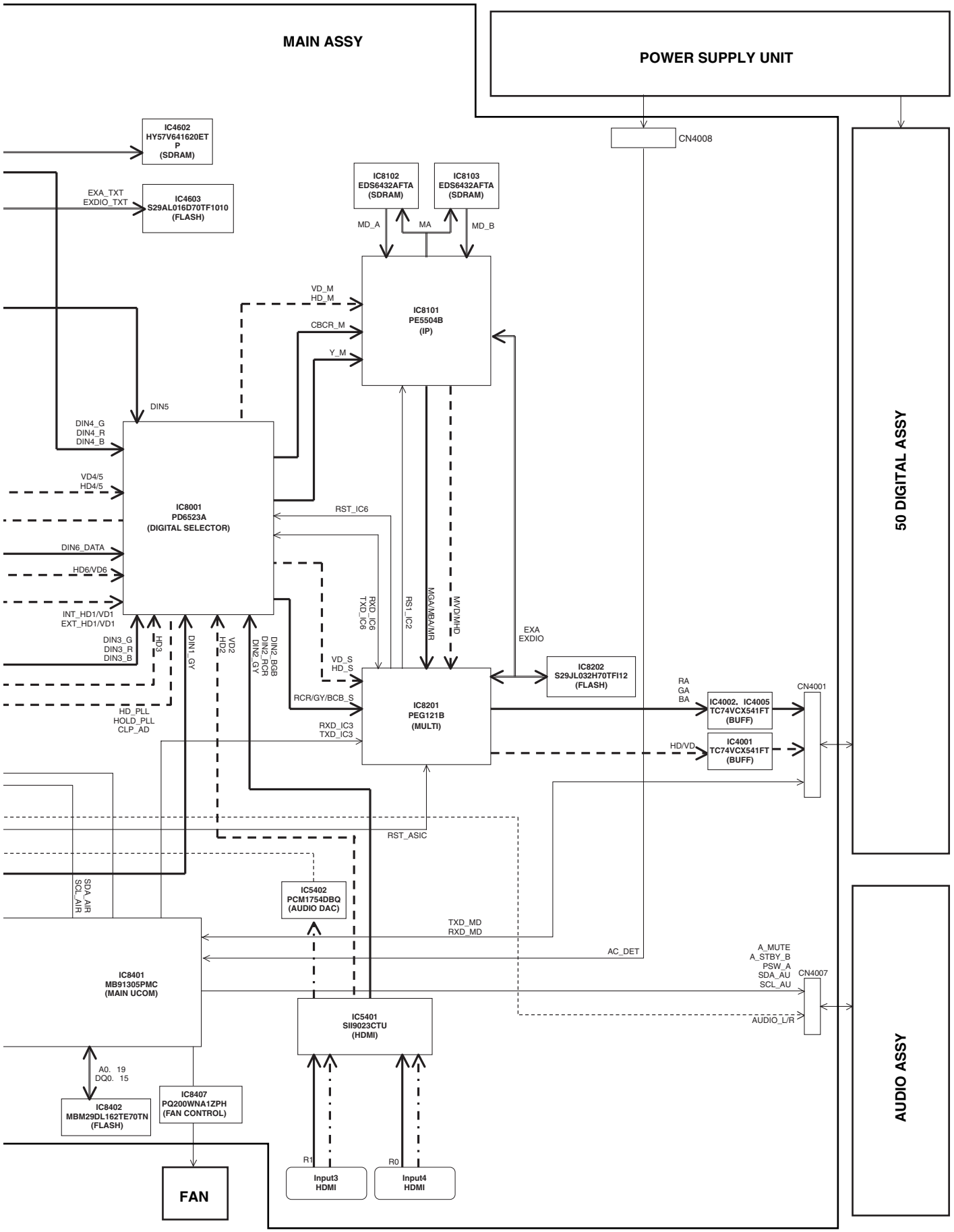
D

E

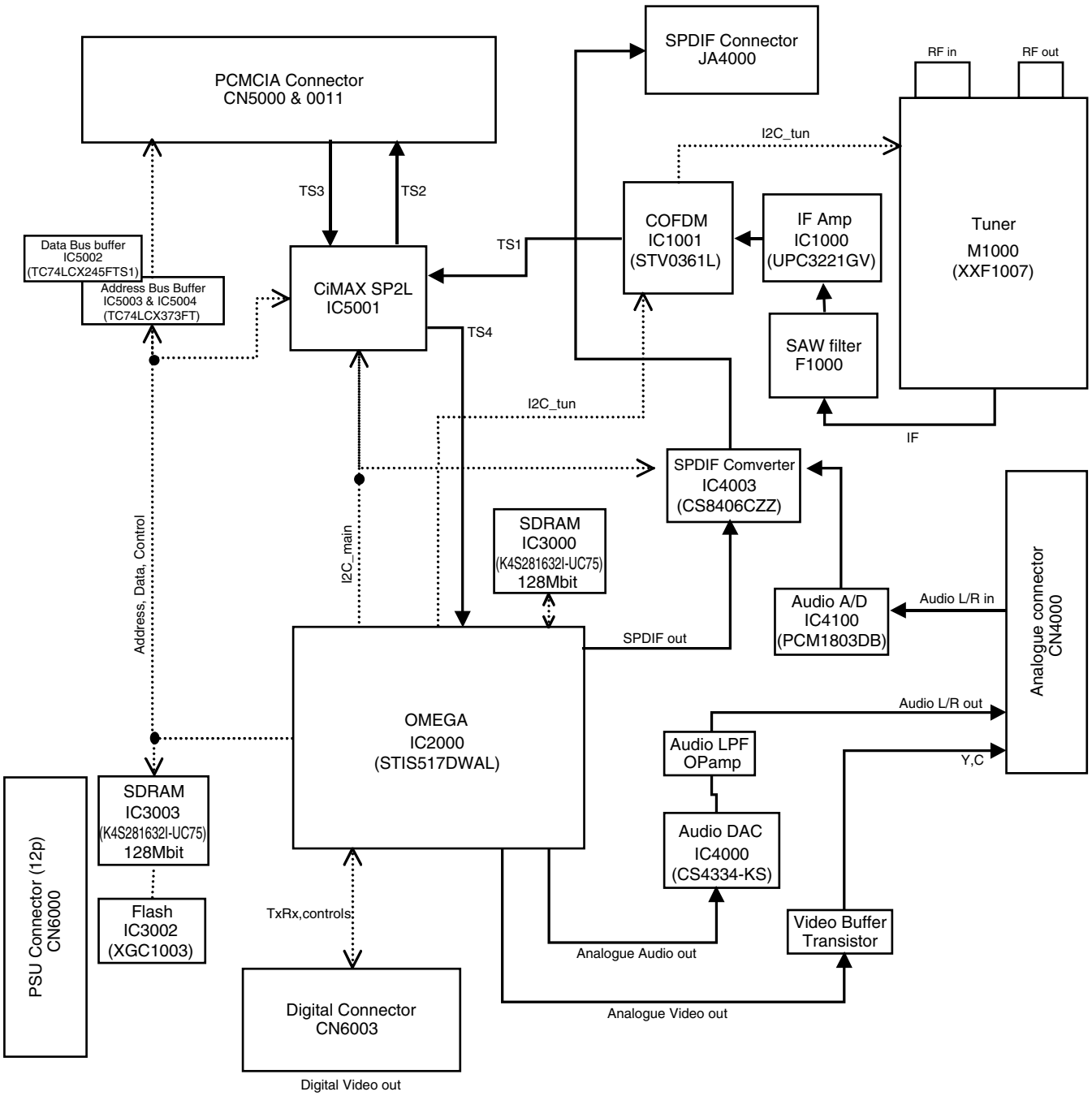
F

# 4.11 SIGNAL BLOCK DIAGRAM

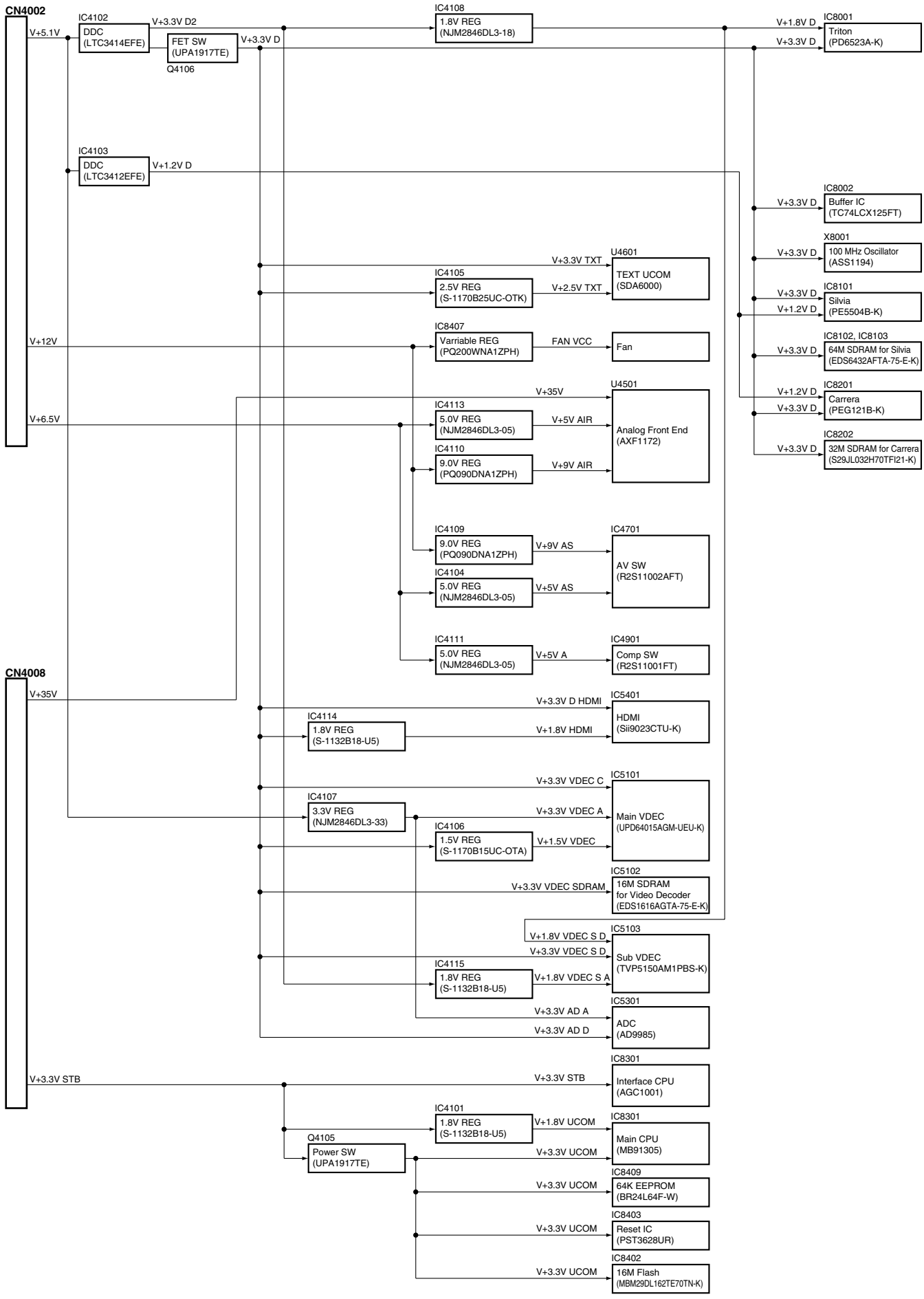



MAIN ASSY
POWER SUPPLY UNIT
CN4008
50 DIGITAL ASSY
IC4602
HY57V641620ET
P
(SDRAM)
EXA_TXT
EXDIO_TXT
IC4603
S29AL016D70TF1010
(FLASH)
IC8102
EDS6432AFTA
(SDRAM)
IC8103
EDS6432AFTA
(SDRAM)
MD_A
MA
MD_B
VD_M
HD_M
CBCR_M
Y_M
IC8101
PE5504B
(IP)
DIN5
DIN4_G
DIN4_R
DIN4_B
VD4/5
HD4/5
IC8001
PD6523A
(DIGITAL SELECTOR)
RST_IC6
DIN6_DATA
HD6/VD6
INT_HD1/VD1
EXT_HD1/VD1
DIN3_G
DIN3_R
DIN3_B
HD3
DIN1_GY
VD2
HD2
DIN2_BGB
DIN2_RCR
DIN2_GY
RXD_IC6
TXD_IC6
RS1_IC2
MGA/MBA/MR
MVD/MHD
EXA
EXDIO
IC8202
S29JL032H70TFI12
(FLASH)
VD_S
HD_S
RCR/GY/BCB_S
IC8201
PEG121B
(MULTI)
RXD_IC3
TXD_IC3
HD_PLL
HOLD_PLL
CLP_AD
RA
GA
BA
IC4002. IC4005
TC74VCX541FT
(BUFF)
CN4001
HD/VD
IC4001
TC74VCX541FT
(BUFF)
RST_ASIC
SDA_AIR
SCL_AIR
IC5402
PCM1754DBQ
(AUDIO DAC)
TXD_MD
RXD_MD
AC_DET
A_MUTE
A_STBY_B
PSW_A
SDA_AU
SCL_AU
CN4007
AUDIO_L/R
IC8401
MB91305PMC
(MAIN UCOM)
IC5401
SII9023CTU
(HDMI)
A0. 19
DQ0. 15
IC8402
MBM29DL162TE70TN
(FLASH)
IC8407
PQ200WNA1ZPH
(FAN CONTROL)
FAN
R1
R0
Input3
HDMI
Input4
HDMI
AUDIO ASSY

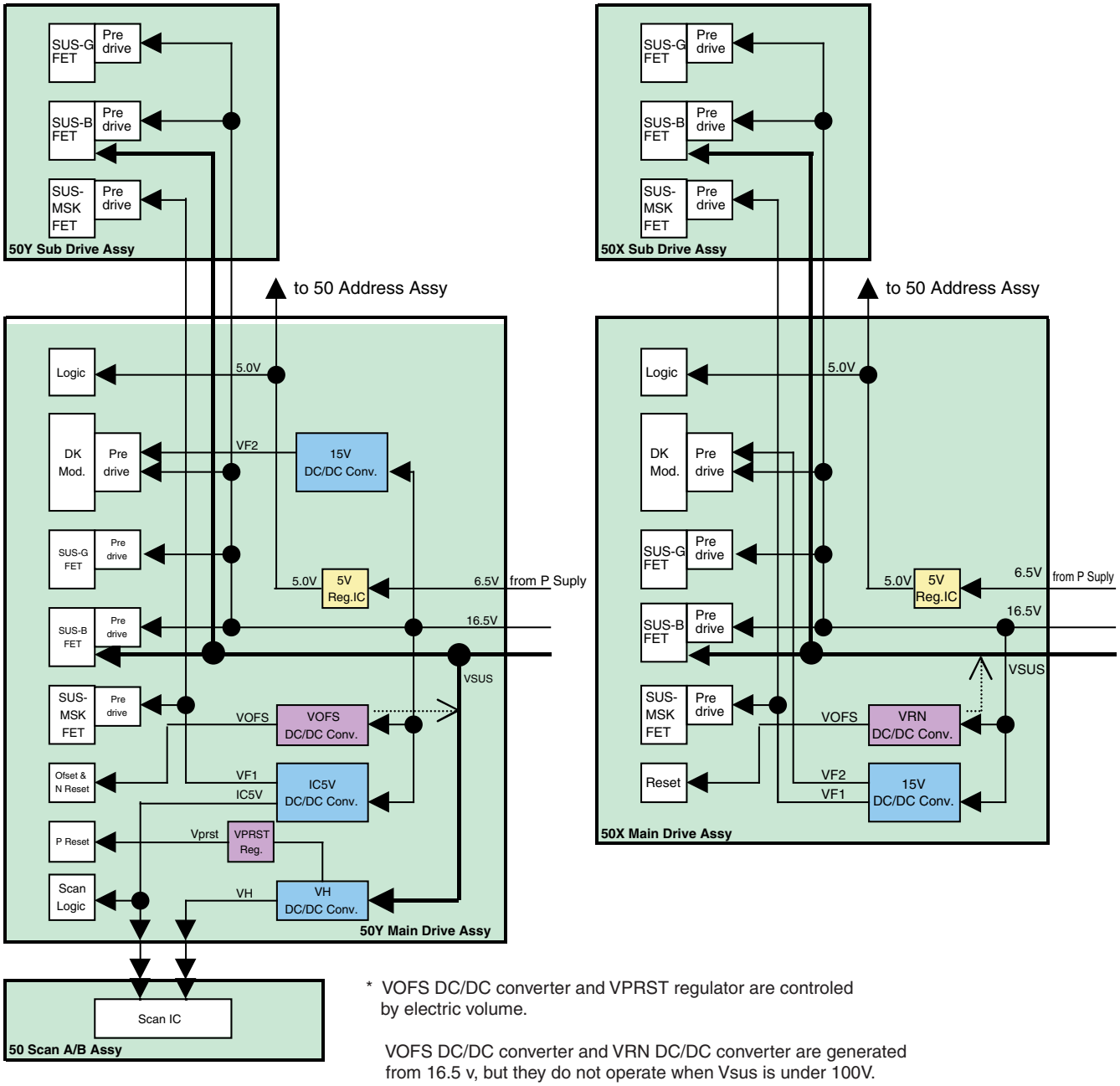
# 4.12 R07 DT ASSY (PDP-507XD ONLY)



# 4.13 MAIN ASSY POWER LINE BLOCK DIAGRAM



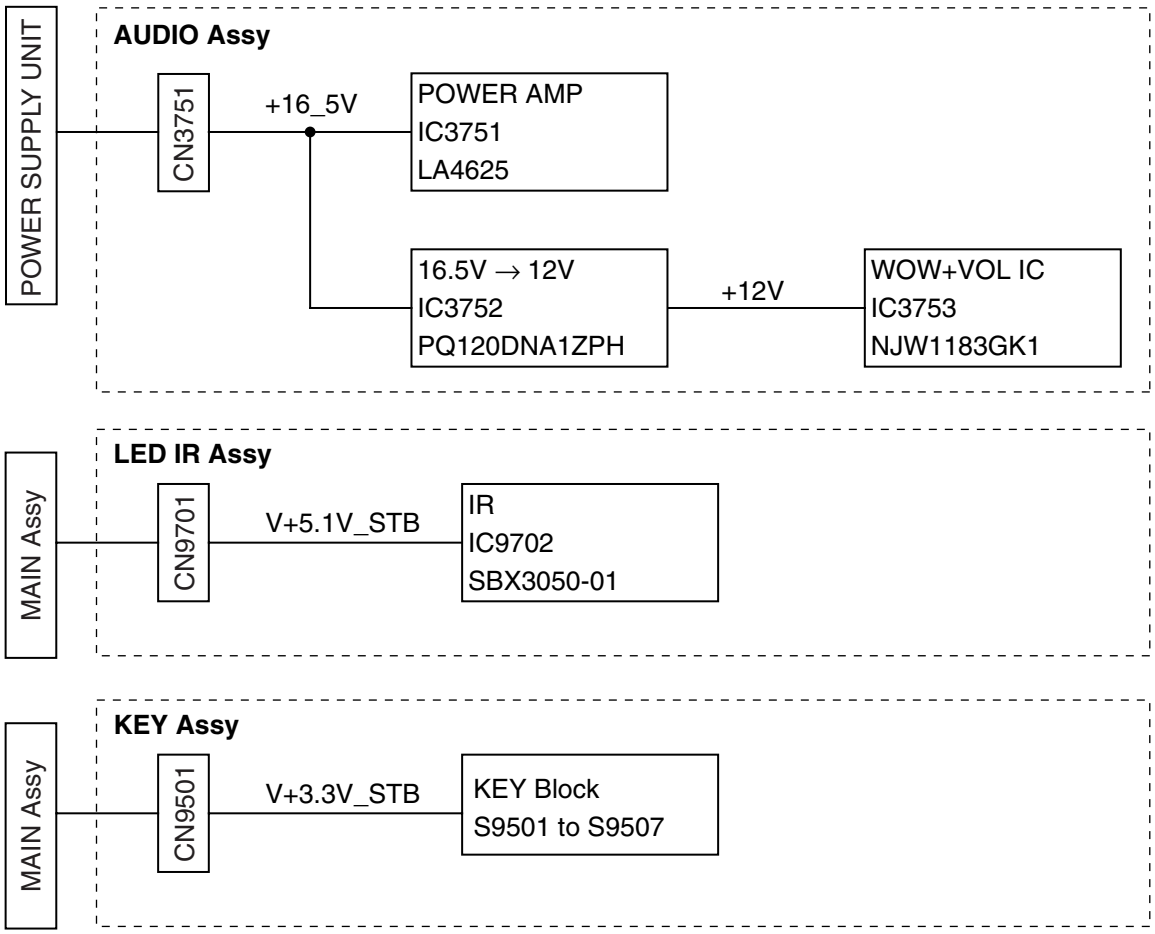
# 4.14 50 X/Y DRIVE POWER LINE BLOCK DIAGRAM



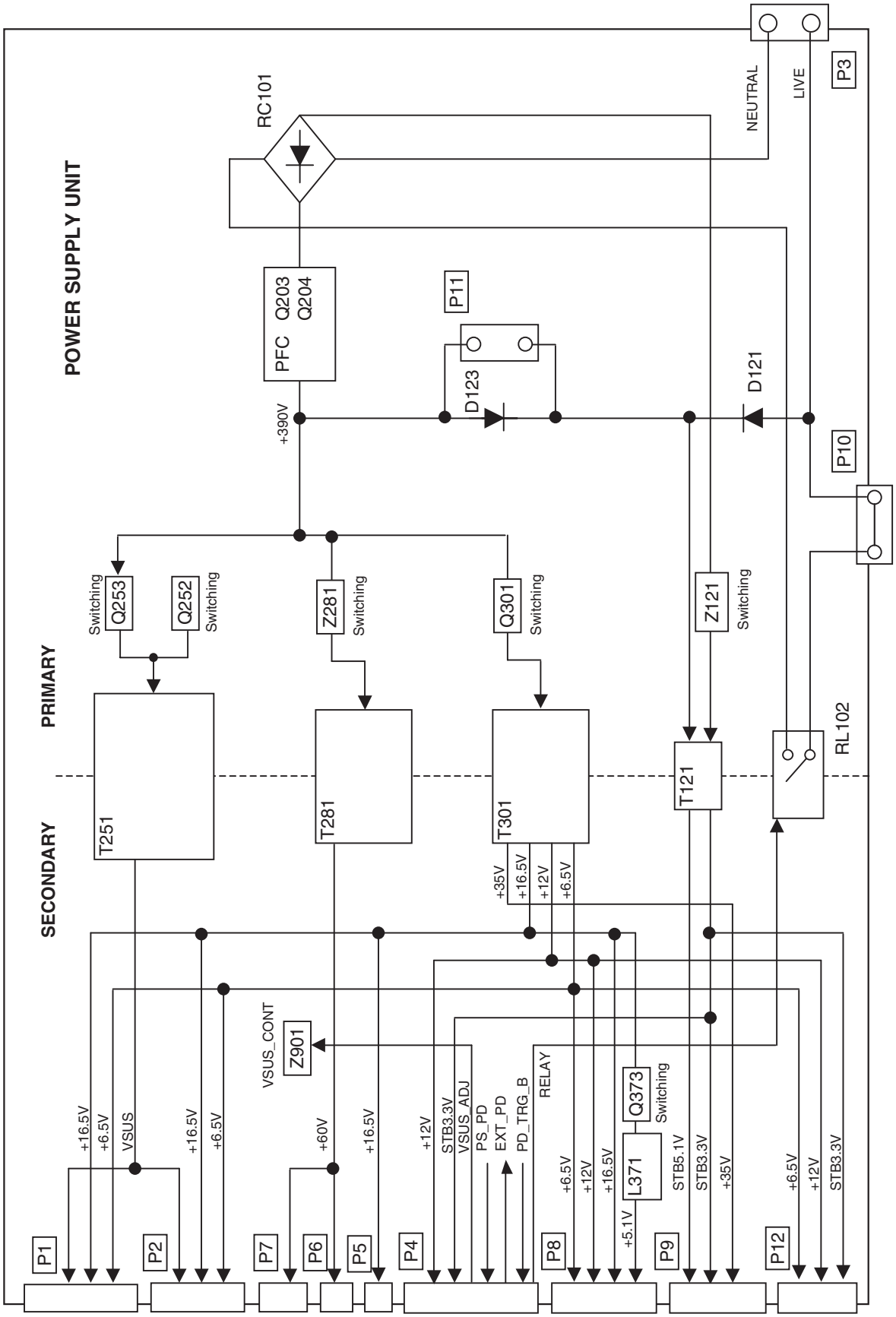

* VOFS DC/DC converter and VPRST regulator are controled by electric volume.

VOFS DC/DC converter and VRN DC/DC converter are generated from 16.5 v, but they do not operate when Vsus is under 100V.

# 4.15 FUKUGO BLOCK POWER LINE BLOCK DIAGRAM



# 4.16 POWER SUPPLY UNIT



# 4.17 VOLTAGES

**[Voltage of the Drive Connector]**

**50Y MAIN DRIVE ASSY — POWER SUPPLY UNIT**

| Y4 CN2204(B9B-EH) | | Voltage | P1 (B9B-EH) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | VSUS | 205 | 1 | VSUS |
| 2 | VSUS | 205 | 2 | VSUS |
| 3 | NC | - | 3 | N C |
| 4 | GND_SUS | 0 | 4 | GND_SUS |
| 5 | GND_SUS | 0 | 5 | GND_SUS |
| 6 | GND | 0 | 6 | GND |
| 7 | V+6.5V | 5 | 7 | V+6.5V |
| 8 | V+16.5V | 16.5 | 8 | V+16.5V |
| 9 | NC | - | 9 | N C |

**50Y MAIN DRIVE ASSY — 50 SCAN A ASSY**

| Y2 CN2601(AKM1200-) | | Voltage | SA1 CN2801(AKM1261- -TFB) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | V H | GNDH+130 | 1 | V H |
| 2 | V H | GNDH+130 | 2 | V H |
| 3 | NC | - | 3 | NC |
| 4 | NC | - | 4 | NC |
| 5 | GNDH | -60 to 350 | 5 | GNDH |
| 6 | SI_L | -60 to 350 | 6 | SI_L |
| 7 | SI_H | -60 to 350 | 7 | SI_H |
| 8 | CLR | -60 to 350 | 8 | CLR |
| 9 | OC2 | -60 to 350 | 9 | OC2 |
| 10 | OC1 | -60 to 350 | 10 | OC1 |
| 11 | CLK | -60 to 350 | 11 | CLK |
| 12 | LE | -60 to 350 | 12 | LE |
| 13 | GNDH | -60 to 350 | 13 | GNDH |
| 14 | GNDH_R | -60 to 350 | 14 | GNDH_R |
| 15 | IC5V | -60 to 350 | 15 | IC5V |

**50Y MAIN DRIVE ASSY — POWER SUPPLY UNIT**

| Y12 CN2206(KM200NA5) | | Voltage | P7 (B6B-PH-K-S) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | VADR | 60 | 1 | VADR |
| 2 | VADR | 60 | 2 | VADR |
| 3 | N C | - | 3 | N C |
| 4 | GND_ADR | 0 | 4 | GND_ADR |
| 5 | GND_ADR | 0 | 5 | GND_ADR |
| | | | 6 | NC |

**50Y SUB DRIVE ASSY — 50Y MAIN DRIVE ASSY**

| Y9 CN2701(14R-FJ) | | Voltage | Y8 CN2202(14PL-FJ) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | MSK-G | -60 to205 | 1 | MSK-G |
| 2 | MSK-S | -60 to205 | 2 | MSK-S |
| 3 | NC | - | 3 | NC |
| 4 | GND_SUS | 0 | 4 | GND_SUS |
| 5 | SUS_G | 0 | 5 | SUS_G |
| 6 | GND_CN | 0 | 6 | GND_CN |
| 7 | N C | - | 7 | N C |
| 8 | SUSOUT | 0 to 205 | 8 | SUSOUT |
| 9 | SUS_B | 0 to 205 | 9 | SUS_B |
| 10 | SUSOUT | 0 to 205 | 10 | SUSOUT |
| 11 | SUSOUT+15V | 0 to 205 | 11 | SUSOUT+15V |
| 12 | NC | - | 12 | NC |
| 13 | VSUS | 205 | 13 | VSUS |
| 14 | VSUS | 205 | 14 | VSUS |

**50X MAIN DRIVE ASSY — POWER SUPPLY UNIT**

| X2 CN1204(B8B-EH) | | Voltage | P2 (B8B-EH) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | VSUS | 205 | 1 | VSUS |
| 2 | VSUS | 205 | 2 | VSUS |
| 3 | NC | - | 3 | NC |
| 4 | GND_SUS | 0 | 4 | GND_SUS |
| 5 | GND_SUS | 0 | 5 | GND_SUS |
| 6 | GND | 0 | 6 | GND |
| 7 | V+6.5V | 5 | 7 | V+6.5V |
| 8 | V+16.5V | 16.5 | 8 | V+16.5V |

**50X MAIN DRIVE ASSY — 50X SUB DRIVE ASSY**

| X6 CN1201(14PL-FJ) | | Voltage | X7 CN1501(14R-FJ) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | MSK | -180 to 205 | 1 | MSK |
| 2 | PSUS | -180 to 205 | 2 | PSUS |
| 3 | NC | - | 3 | NC |
| 4 | GND_SUS | 0 | 4 | GND_SUS |
| 5 | SUS_G | 0 | 5 | SUS_G |
| 6 | GND_CN | 0 | 6 | GND_CN |
| 7 | NC | - | 7 | N C |
| 8 | SUSOUT | 0 to 205 | 8 | SUSOU |
| 9 | SUS_B | 0 to 205 | 9 | SUS_B |
| 10 | SUSOUT | 0 to 205 | 10 | SUSOUT |
| 11 | SUSOUT+15V | 0 to 205 | 11 | SUSOUT+15V |
| 12 | NC | - | 12 | N C |
| 13 | VSUS | 205 | 13 | VSUS |
| 14 | VSUS | 205 | 14 | VSUS |

**50X MAIN DRIVE ASSY — POWER SUPPLY UNIT**

| X8 CN1205(KM200NA5) | | Voltage | P6 (B5B-PH-K-S) | |
|---|---|---|---|---|
| No. | Name | (V) | No. | Name |
| 1 | VADR | 60 | 1 | VADR |
| 2 | VADR | 60 | 2 | VADR |
| 3 | NC | - | 3 | NC |
| 4 | GND_ADR | 0 | 4 | GND_ADR |
| 5 | GND_ADR | 0 | 5 | GND_ADR |

**50Y MAIN DRIVE ASSY — 50 ADDRESS L ASSY — 50 ADDRESS S ASSY**

| Y5 CN2205(KM200NA8) | | Voltage | AD1 CN1601(AKM1290- -TBB) | | AD1 CN1801(AKM1290- -TBB) | |
|---|---|---|---|---|---|---|
| No. | Name | (V) | No. | Name | No. | Name |
| 1 | VADR | 60 | 1 | VADR | | |
| 2 | VADR | 60 | | | 1 | VADR |
| 3 | GND_ADR | 0 | 2 | GND_ADR | | |
| 4 | GND_ADR | 0 | | | 2 | GND_ADR |
| 5 | V+5.1V | 5 | 3 | V+5.1V | | |
| 6 | V+5.1V | 5 | | | 3 | V+5.1V |
| 7 | GND | 0 | 4 | GND | | |
| 8 | GND | 0 | | | 4 | GND |

**50X MAIN DRIVE ASSY — 50 ADDRESS S ASSY — 50 ADDRESS L ASSY**

| X3 CN1202(KM200NA8) | | Voltage | AD1 CN1801(AKM1290- -TBB) | | AD1 CN1601(AKM1290- -TBB) | |
|---|---|---|---|---|---|---|
| No. | Name | (V) | No. | Name | No. | Name |
| 1 | VADR | 60 | 1 | VADR | | |
| 2 | VADR | 60 | | | 1 | VADR |
| 3 | GND_ADR | 0 | 2 | GND_ADR | | |
| 4 | GND_ADR | 0 | | | 2 | GND_ADR |
| 5 | V+5.1V | 5 | 3 | V+5.1V | | |
| 6 | V+5.1V | 5 | | | 3 | V+5.1V |
| 7 | GND | 0 | 4 | GND | | |
| 8 | GND | 0 | | | 4 | GND |

**50 DIGITAL Assy** — **MAIN Assy**

| CN3001 (AKM1353) | | Voltage (V) | CN4001 (AKM1349) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | GND | 0 | GND | 1 |
| 2 | V_3.3V_UCOM | 3.3 | V_3.3V_UCOM | 2 |
| 3 | INP_MUTE | 0 | INP_MUTE | 3 |
| 4 | THEATER | 0 | THEATER | 4 |
| 5 | VD | 0/3.3 | VD | 5 |
| 6 | HD | 0/3.3 | HD | 6 |
| 7 | DE | 0/3.3 | DE | 7 |
| 8 | GND | 0 | GND | 8 |
| 9 | CLK | 0/3.3 | CLK | 9 |
| 10 | GND | 0 | GND | 10 |
| 11 | GND | 0 | GND | 11 |
| 12 | VIDEO_R9 | 0 | VIDEO_R9 | 12 |
| 13 | VIDEO_R8 | 0 | VIDEO_R8 | 13 |
| 14 | VIDEO_R7 | 0 | VIDEO_R7 | 14 |
| 15 | VIDEO_R6 | 0 | VIDEO_R6 | 15 |
| 16 | VIDEO_R5 | 0 | VIDEO_R5 | 16 |
| 17 | VIDEO_R4 | 0 | VIDEO_R4 | 17 |
| 18 | VIDEO_R3 | 0 | VIDEO_R3 | 18 |
| 19 | VIDEO_R2 | 0 | VIDEO_R2 | 19 |
| 20 | VIDEO_R1 | 0 | VIDEO_R1 | 20 |
| 21 | VIDEO_R0 | 0 | VIDEO_R0 | 21 |
| 22 | GND | 0 | GND | 22 |
| 23 | VIDEO_G9 | 0 | VIDEO_G9 | 23 |
| 24 | VIDEO_G8 | 0 | VIDEO_G8 | 24 |
| 25 | VIDEO_G7 | 0 | VIDEO_G7 | 25 |
| 26 | VIDEO_G6 | 0 | VIDEO_G6 | 26 |
| 27 | VIDEO_G5 | 0 | VIDEO_G5 | 27 |
| 28 | VIDEO_G4 | 0 | VIDEO_G4 | 28 |
| 29 | VIDEO_G3 | 0 | VIDEO_G3 | 29 |
| 30 | VIDEO_G2 | 0 | VIDEO_G2 | 30 |
| 31 | VIDEO_G1 | 0 | VIDEO_G1 | 31 |
| 32 | VIDEO_G0 | 0 | VIDEO_G0 | 32 |
| 33 | GND | 0 | GND | 33 |
| 34 | VIDEO_B9 | 0 | VIDEO_B9 | 34 |
| 35 | VIDEO_B8 | 0 | VIDEO_B8 | 35 |
| 36 | VIDEO_B7 | 0 | VIDEO_B7 | 36 |
| 37 | VIDEO_B6 | 0 | VIDEO_B6 | 37 |
| 38 | VIDEO_B5 | 0 | VIDEO_B5 | 38 |
| 39 | VIDEO_B4 | 0 | VIDEO_B4 | 39 |
| 40 | VIDEO_B3 | 0 | VIDEO_B3 | 40 |
| 41 | VIDEO_B2 | 0 | VIDEO_B2 | 41 |
| 42 | VIDEO_B1 | 0 | VIDEO_B1 | 42 |
| 43 | VIDEO_B0 | 0 | VIDEO_B0 | 43 |
| 44 | GND | 0 | GND | 44 |
| 45 | Reserve | 0 | Reserve | 45 |
| 46 | AC_OFF | 0 | AC_OFF | 46 |
| 47 | TXD_MD | 3.3 | TXD_MD | 47 |
| 48 | RXD_MD | 3.3 | RXD_MD | 48 |
| 49 | REQ_MD | 0 | REQ_MD | 49 |
| 50 | MODE | 0 | MODE | 50 |

**TANSHI Assy** — **MAIN Assy**

| CN8802 (AKM1349) | | Voltage (V) | CN4004 (AKM1349) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | Input3_G | 2.4 | Input3_G | 50 |
| 2 | GND | 0 | GND | 49 |
| 3 | Input3_B | 2.4 | Input3_B | 48 |
| 4 | GND | 0 | GND | 47 |
| 5 | Input3_R | 2.4 | Input3_R | 46 |
| 6 | GND | 0 | GND | 45 |
| 7 | Input1_G | 2.4 | Input1_G | 44 |
| 8 | GND | 0 | GND | 43 |
| 9 | Input1_B | 2.4 | Input1_B | 42 |
| 10 | GND | 0 | GND | 41 |
| 11 | Input1_R | 2.4 | Input1_R | 40 |
| 12 | GND | 0 | GND | 39 |
| 13 | RAPID_SW3 | 0 | RAPID_SW3 | 38 |
| 14 | RAPID_SW1 | 0 | RAPID_SW1 | 37 |
| 15 | GND | 0 | GND | 36 |
| 16 | LINK_IO3 | 4.9 | LINK_IO3 | 35 |
| 17 | GND | 0 | GND | 34 |
| 18 | LINK_IO2 | 4.9 | LINK_IO2 | 33 |
| 19 | SLOW_SW1 | 0 | SLOW_SW1 | 32 |
| 20 | SLOW_SW2 | 0 | SLOW_SW2 | 31 |
| 21 | SLOW_SW3 | 0 | SLOW_SW3 | 30 |
| 22 | IN2_CompY_PLUG | 0 | IN2_CompY_PLUG | 29 |
| 23 | GND | 0 | GND | 28 |
| 24 | Input2_Y | 2.4 | Input2_Y | 27 |
| 25 | GND | 0 | GND | 26 |
| 26 | Input2_Pb | 2.4 | Input2_Pb | 25 |
| 27 | GND | 0 | GND | 24 |
| 28 | Input2_Pr | 2.4 | Input2_Pr | 23 |
| 29 | GND | 0 | GND | 22 |
| 30 | Input3_V | 0 | Input3_V | 21 |
| 31 | GND | 0 | GND | 20 |
| 32 | Input3_SC | 2.2 | Input3_SC | 19 |
| 33 | GND | 0 | GND | 18 |
| 34 | Input2_V | 0 | Input2_V | 17 |
| 35 | GND | 0 | GND | 16 |
| 36 | Input2_SC | 2.2 | Input2_SC | 15 |
| 37 | GND | 0 | GND | 14 |
| 38 | Input1_V | 2.6 | Input1_V | 13 |
| 39 | GND | 0 | GND | 12 |
| 40 | AIR_OUT_V | 3.4 | AIR_OUT_V | 11 |
| 41 | GND | 0 | GND | 10 |
| 42 | SCART_OUT_V | 3.6 | SCART_OUT_V | 9 |
| 43 | GND | 0 | GND | 8 |
| 44 | Input1_Lch | 4.5 | Input1_Lch | 7 |
| 45 | GND | 0 | GND | 6 |
| 46 | Input1_Rch | 4.5 | Input1_Rch | 5 |
| 47 | GND | 0 | GND | 4 |
| 48 | Input2_Lch | 4.5 | Input2_Lch | 3 |
| 49 | GND | 0 | GND | 2 |
| 50 | Input2_Rch | 4.5 | Input2_Rch | 1 |

**TANSHI Assy** **MAIN Assy**

| CN9003 (AKM1349) | | Voltage (V) | CN4005 (AKM1349) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | V+9V_A | 9.1 | V+9V_A | 50 |
| 2 | V+9V_AS | 9 | V+9V_AS | 49 |
| 3 | GND | 0 | GND | 48 |
| 4 | INPUT3_Lch | 4.5 | INPUT3_Lch | 47 |
| 5 | GND | 0 | GND | 46 |
| 6 | INPUT3_Rch | 4.5 | INPUT3_Rch | 45 |
| 7 | GND | 0 | GND | 44 |
| 8 | PC_Lch | 4.5 | PC_Lch | 43 |
| 9 | GND | 0 | GND | 42 |
| 10 | PC_Rch | 4.5 | PC_Rch | 41 |
| 11 | GND | 0 | GND | 40 |
| 12 | SIDE_Lch | 4.5 | SIDE_Lch | 39 |
| 13 | GND | 0 | GND | 38 |
| 14 | SIDE_Rch | 4.5 | SIDE_Rch | 37 |
| 15 | GND | 0 | GND | 36 |
| 16 | AIR_Lch | 3.8 | AIR_Lch | 35 |
| 17 | GND | 0 | GND | 34 |
| 18 | AIR_Rch | 3.8 | AIR_Rch | 33 |
| 19 | GND | 0 | GND | 32 |
| 20 | SCART_OUT_Lch | 4.5 | SCART_OUT_Lch | 31 |
| 21 | GND | 0 | GND | 30 |
| 22 | SCART_OUT_Rch | 4.5 | SCART_OUT_Rch | 29 |
| 23 | V+3_3V_STB | 3.3 | V+3_3V_STB | 28 |
| 24 | HP_L | 4.5 | HP_L | 27 |
| 25 | GND | 0 | GND | 26 |
| 26 | HP_R | 4.5 | HP_R | 25 |
| 27 | GND | 0 | GND | 24 |
| 28 | SIDE_PLUG | 4.9 | SIDE_PLUG | 23 |
| 29 | SIDE_V | 2.5 | SIDE_V | 22 |
| 30 | GND | 0 | GND | 21 |
| 31 | SIDE_SY | 2.5 | SIDE_SY | 20 |
| 32 | GND | 0 | GND | 19 |
| 33 | SIDE_S2 | 0.2 | SIDE_S2 | 18 |
| 34 | GND | 0 | GND | 17 |
| 35 | SIDE_SC | 0 | SIDE_SC | 16 |
| 36 | GND | 0 | GND | 15 |
| 37 | AUDIO_OUT_Lch | 4.6 | AUDIO_OUT_Lch | 14 |
| 38 | GND | 0 | GND | 13 |
| 39 | AUDIO_OUT_Rch | 4.6 | AUDIO_OUT_Rch | 12 |
| 40 | GND | 0 | GND | 11 |
| 41 | RXD_SR | 3.2 | RXD_SR | 10 |
| 42 | TXD_SR | 3.2 | TXD_SR | 9 |
| 43 | SR_OUT | 5.0 | SR_OUT | 8 |
| 44 | AC_SC3_MUTE | 0 | AC_SC3_MUTE | 7 |
| 45 | AC_SC2_MUTE | 0 | AC_SC2_MUTE | 6 |
| 46 | AC_SC1_MUTE | 0 | AC_SC1_MUTE | 5 |
| 47 | AC_AM_MUTE | 0 | AC_AM_MUTE | 4 |
| 48 | AC_HP_MUTE | 0 | AC_HP_MUTE | 3 |
| 49 | HP_PLUG | 2.9 | HP_PLUG | 2 |
| 50 | V+5V_A | 5.0 | V+5V_A | 1 |

**R07 DT Assy** **MAIN Assy**

| CN6003 (AKM1349) | | Voltage (V) | CN4013 (AKM1353) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | GND | 0 | GND | 50 |
| 2 | RXDA (TXD_DT) | 3.3 | TXD_DT (RXDA) | 49 |
| 3 | TXDA (RXD_DT) | 3.3 | RXD_DT (TXDA) | 48 |
| 4 | GND | 0 | GND | 47 |
| 5 | DT_FNC | 3.3 | DT_FNC | 46 |
| 6 | GND | 0 | GND | 45 |
| 7 | CLK_DT | 0 to 3.3 | CLK_DT | 44 |
| 8 | GND | 0 | GND | 43 |
| 9 | DVID_CrCb [7] (Y7_DT) | 0 to 3.3 | Y7_DT (DVID_CrCb [7]) | 42 |
| 10 | DVID_CrCb [6] (Y6_DT) | 0 to 3.3 | Y6_DT (DVID_CrCb [6]) | 41 |
| 11 | GND | 0 | GND | 40 |
| 12 | DVID_CrCb [5] (Y5_DT) | 0 to 3.3 | Y5_DT (DVID_CrCb [5]) | 39 |
| 13 | DVID_CrCb [4] (Y4_DT) | 0 to 3.3 | Y4_DT (DVID_CrCb [4]) | 38 |
| 14 | GND | 0 | GND | 37 |
| 15 | DVID_CrCb [3] (Y3_DT) | 0 to 3.3 | Y3_DT (DVID_CrCb [3]) | 36 |
| 16 | DVID_CrCb [2] (Y2_DT) | 0 to 3.3 | Y2_DT (DVID_CrCb [2]) | 35 |
| 17 | GND | 0 | GND | 34 |
| 18 | DVID_CrCb [1] (Y1_DT) | 0 to 3.3 | Y1_DT (DVID_CrCb [1]) | 33 |
| 19 | DVID_CrCb [0] (Y0_DT) | 0 to 3.3 | Y0_DT (DVID_CrCb [0]) | 32 |
| 20 | GND | 0 | GND | 31 |
| 21 | NC | 0 | CB7_DT | 30 |
| 22 | NC | 0 | CB6_DT | 29 |
| 23 | GND | 0 | GND | 28 |
| 24 | GND | 0 | CB5_DT | 27 |
| 25 | GND | 0 | CB4_DT | 26 |
| 26 | GND | 0 | GND | 25 |
| 27 | GND | 0 | CB3_DT | 24 |
| 28 | GND | 0 | CB2_DT | 23 |
| 29 | GND | 0 | GND | 22 |
| 30 | GND | 0 | CB1_DT | 21 |
| 31 | GND | 0 | CB0_DT | 20 |
| 32 | GND | 0 | GND | 19 |
| 33 | GND | 0 | CR7_DT | 18 |
| 34 | GND | 0 | CR6_DT | 17 |
| 35 | GND | 0 | GND | 16 |
| 36 | GND | 0 | CR5_DT | 15 |
| 37 | GND | 0 | CR4_DT | 14 |
| 38 | GND | 0 | GND | 13 |
| 39 | GND | 0 | CR3_DT | 12 |
| 40 | GND | 0 | CR2_DT | 11 |
| 41 | GND | 0 | GND | 10 |
| 42 | GND | 0 | CR1_DT | 9 |
| 43 | GND | 0 | CR0_DT | 8 |
| 44 | GND | 0 | GND | 7 |
| 45 | DE_DT | 0 | DE_DT | 6 |
| 46 | GND | 0 | GND | 5 |
| 47 | VD_DT | 3.3 | VD_DT | 4 |
| 48 | GND | 0 | GND | 3 |
| 49 | HD_DT | 3.3 | HD_DT | 2 |
| 50 | GND | 0 | GND | 1 |

**R07 DT Assy** — **MAIN Assy**

| CN4000 (AKM1348) | | Voltage (V) | CN4014 (AKM1354) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | GND | 0 | GND | 40 |
| 2 | GND | 0 | GND | 39 |
| 3 | GND | 0 | GND | 38 |
| 4 | GND | 0 | GND | 37 |
| 5 | GND | 0 | GND | 36 |
| 6 | GND | 0 | GND | 35 |
| 7 | DT_SP_R | 0 | DT_SP_R | 34 |
| 8 | GND | 0 | GND | 33 |
| 9 | DT_SP_L | 0 | DT_SP_L | 32 |
| 10 | GND | 0 | GND | 31 |
| 11 | OPT_R | 0 | OPT_R | 30 |
| 12 | GND | 0 | GND | 29 |
| 13 | OPT_L | 0 | OPT_L | 28 |
| 14 | GND | 0 | GND | 27 |
| 15 | DT_MON_C | 1.7 | DT_MON_C | 26 |
| 16 | GND | 0 | GND | 25 |
| 17 | GND | 0 | GND | 24 |
| 18 | DT_MON_Y | 1.7 | DT_MON_Y | 23 |
| 19 | GND | 0 | GND | 22 |
| 20 | GND | 0 | GND | 21 |
| 21 | GND | 0 | GND | 20 |
| 22 | GND | 0 | GND | 19 |
| 23 | GND | 0 | GND | 18 |
| 24 | GND | 0 | GND | 17 |
| 25 | GND | 0 | GND | 16 |
| 26 | GND | 0 | GND | 15 |
| 27 | NOT_USE | 0 | NC | 14 |
| 28 | GND | 0 | GND | 13 |
| 29 | GND | 0 | GND | 12 |
| 30 | NOT_USE | 0 | NC | 11 |
| 31 | GND | 0 | GND | 10 |
| 32 | GND | 0 | GND | 9 |
| 33 | NOT_USE | 0 | NC | 8 |
| 34 | GND | 0 | GND | 7 |
| 35 | GND | 0 | GND | 6 |
| 36 | ANT_POW_EU | 0 | ANT_POW_EU | 5 |
| 37 | POW_DET | 0 | POW_DET | 4 |
| 38 | RST_DT | 3.3 | RST_DT | 3 |
| 39 | DT_DET | 0 | DT_DET | 2 |
| 40 | GND | 0 | GND | 1 |

**AUDIO Assy** — **MAIN Assy**

| CN3752 (KM200NA11) | | Voltage (V) | CN4007 (KM200NA11) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 11 | PSW_A | 2.8 | PSW_A | 11 |
| 10 | SDA_AU | 3.4 | SDA_AU | 10 |
| 9 | SCL_AU | 3.4 | SCL_AU | 9 |
| 8 | A_MUTE | 0 | A_MUTE | 8 |
| 7 | A_STBY_B | 3.4 | A_STBY_B | 7 |
| 6 | GND | 0 | GND | 6 |
| 5 | AUDIO_R | 0 | AUDIO_R | 5 |
| 4 | GND | 0 | GND | 4 |
| 3 | AUDIO_L | 0 | AUDIO_L | 3 |
| 2 | GND | 0 | GND | 2 |
| 1 | A_NG_B | 2.8 | A_NG_B | 1 |

**AUDIO** — **MAIN Assy**

| | | Voltage (V) | CN4015 (B3P-VH) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| | | 17.2 | V+16_5V | 1 |
| | | 0 | GND | 2 |
| | | 0 | GND | 3 |

**DVI JIG** — **MAIN Assy**

| | | Voltage (V) | CN4011 (AKM1274) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| | | 0 | GND | 1 |
| | | 3.4 | V+3_3V_STB | 2 |
| | | 6.5 | V+6_5V | 3 |

**MAIN Assy**

| | | Voltage (V) | CN4010 (KM200NA7) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 2 | REM | 0 | REM | 7 |
| 6 | GND | 0 | GND | 6 |
| 1 | V+5_1V_STB | 5.0 | V+5_1V_STB | 5 |
| 4 | V+3_3V_STB | 3.4 | V+3_3V_STB | 4 |
| 3 | KEY_AD1 | 3.4 | KEY_AD1 | 3 |
| 2 | KEY_AD2 | 3.4 | KEY_AD2 | 2 |
| 1 | GND | 0 | GND | 1 |

LED IR Assy CN9701 (AKP1303)

SIDE KEY Assy CN9501 (KM200NA4L)

**R07 DT Assy** — **MAIN Assy**

| CN6000 (AKM1298) | | Voltage (V) | CN4017 (KM200NA12) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | V+35V | 37.0 | V+35V | 12 |
| 2 | GND | 0 | GND | 11 |
| 3 | NC | 0 | NC | 10 |
| 4 | GND | 0 | GND | 9 |
| 5 | V+12V | 11.8 | V+12V | 8 |
| 6 | GND | 0 | GND | 7 |
| 7 | V+6_5V | 6.7 | V+6_5V | 6 |
| 8 | V+5_1V_STB | 5.1 | V+5_1V_STB | 5 |
| 9 | V+5_1V | 5.0 | V+5_1V | 4 |
| 10 | V+5_1V | 5.0 | V+5_1V | 3 |
| 11 | GND | 0 | GND | 2 |
| 12 | V+3_3V_STB | 3.4 | V+3_3V_STB | 1 |

**POWER SUPPLY Unit** **MAIN Assy**

| P8 (B13B-PH-K-S) | | Voltage (V) | CN4002 (KM200NA13) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | V+6_5V | 6.6 | V+6_5V | 1 |
| 2 | GND | 0 | GND | 2 |
| 3 | V+12V | 12.1 | V+12V | 3 |
| 4 | GND | 0 | GND | 4 |
| 5 | +16.5V | 17.2 | V+16.5V | 5 |
| 6 | GND | 0 | GND | 6 |
| 7 | +5_1V | 4.9 | V+5_1V | 7 |
| 8 | +5_1V | 4.9 | V+5_1V | 8 |
| 9 | +5_1V | 4.9 | V+5_1V | 9 |
| 10 | +5_1V | 4.9 | V+5_1V | 10 |
| 11 | GND-D | 0 | GND | 11 |
| 12 | GND-D | 0 | GND | 12 |
| 13 | GND-D | 0 | GND | 13 |

**POWER SUPPLY Unit** **MAIN Assy**

| P9 (B11B-PH-K-S) | | Voltage (V) | CN4008 (KM200NA11) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | M-SW-DET | 3.4 | N.C. | 1 |
| 2 | AC-DET | 3.4 | AC_DET | 2 |
| 3 | N.C. | 3.4 | RELAY | 3 |
| 4 | GND-D | 0 | GND | 4 |
| 5 | STB3_3V | 3.4 | V+3_3V_STB | 5 |
| 6 | GND-D | 0 | GND | 6 |
| 7 | STBY5_1V | 5.0 | V+5_1V_STB | 7 |
| 8 | GND-D | 0 | GND | 8 |
| 9 | +35V | 35.0 | V+35V | 9 |
| 10 | GND-D | 0 | GND | 10 |
| 11 | US-SW | 0 | US_SW | 11 |

**Fan** **MAIN Assy**

| | | Voltage (V) | CN4009 (KM200NA3) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| | | 0 | FAN_VCC | 1 |
| | | 3.4 | FAN_NG1 | 2 |
| | | 0 | GND | 3 |

**PC Assy** **MAIN Assy**

| CN9301 (CKS3826) | | Voltage (V) | CN4018 (AKM1234) | |
|---|---|---|---|---|
| No. | Pin Name | | Pin Name | No. |
| 1 | V+5V_A | 5.0 | V+5V_A | 12 |
| 2 | WE ROM | 0 | WE ROM | 11 |
| 3 | D-sub DET | 0 | D-sub DET | 10 |
| 4 | V+3.3V_UCOM | 3.3 | V+3.3V_UCOM | 9 |
| 5 | PC_V | 0 | PC_V | 8 |
| 6 | PC_H | 0 | PC_H | 7 |
| 7 | V+9V_A | 9.0 | V+9V_A | 6 |
| 8 | PC_G | 2.4 | PC_G | 5 |
| 9 | GND | 0 | GND | 4 |
| 10 | PC_B | 2.4 | PC_B | 3 |
| 11 | GND | 0 | GND | 2 |
| 12 | PC_R | 2.4 | PC_R | 1 |

**LED IR Assy/KEY Assy** **MAIN Assy**

| CN9701/CN9501 | | | Voltage (V) | CN4010 (KM200NA7) | |
|---|---|---|---|---|---|
| No. | Connector | Pin Name | | Pin Name | No. |
| 2 | CN9701 | REM | 0 | REM | 7 |
| 6 | CN9701 | GND | 0 | GND | 6 |
| 1 | CN9701 | V+5.1V_STB | 5 | V+5.1V_STB | 5 |
| 4 | CN9501 | V+3.3V_STB | 3.4 | V+3.3V_STB | 4 |
| 3 | CN9501 | KEY_AD1 | 3.4 | KEY_AD1 | 3 |
| 2 | CN9501 | KEY_AD2 | 3.4 | KEY_AD2 | 2 |
| 1 | CN9501 | GND | 0 | GND | 1 |

**50LED Assy/KEY Assy** **MAIN Assy**

| CN9651/CN9701 | | | Voltage (V) | CN4006 (KM200NA6) | |
|---|---|---|---|---|---|
| No. | Connector | Pin Name | | Pin Name | No. |
| 1 | CN9651 | LED– | 0.2 | LED– | 1 |
| 2 | CN9651 | LED_ON | 3.4 | LED_ON | 2 |
| 3 | CN9651 | LED_OFF | 0 | LED_OFF | 3 |
| 4 | CN9701 | LED_REC | 0 | LED_REC | 4 |
| 5 | CN9701 | LED_MDM | 0 | LED_MDM | 5 |
| 3 | CN9701 | LED– | 0.2 | LED– | 6 |

## ■50 DIGITAL ASSY

**CN3001 (D11) ↔ MAIN ASSY CN4001 (M1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | GND | – | GND | – | – |
| 2 | V+3.3V_UCOM2 | I | Power supply for module microcomputer | 3.3 | – |
| 3 | INP_MUTE | O | Video signal input shut out control signal | 0 | – |
| 4 | THEATER | I | Control signal for pure cinema | 0 to 3.3 | – |
| 5 | VD | I | Vertical synchronized signal | 0 to 3.3 | – |
| 6 | HD | I | Horizontal synchronized signal | 0 to 3.3 | – |
| 7 | DE | I | Data enable signal | 0 to 3.3 | – |
| 8 | GND | – | GND | – | – |
| 9 | CLK | I | Data clock signal | 0 to 3.3 | – |
| 10 | GND | – | GND | – | – |
| 11 | GND | – | GND | – | – |
| 12 | VIDEO_R9 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 13 | VIDEO_R8 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 14 | VIDEO_R7 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 15 | VIDEO_R6 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 16 | VIDEO_R5 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 17 | VIDEO_R4 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 18 | VIDEO_R3 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 19 | VIDEO_R2 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 20 | VIDEO_R1 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 21 | VIDEO_R0 | I | 10 bit video signal input (RED) | 0 to 3.3 | – |
| 22 | GND | – | GND | – | – |
| 23 | VIDEO_G9 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 24 | VIDEO_G8 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 25 | VIDEO_G7 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 26 | VIDEO_G6 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 27 | VIDEO_G5 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 28 | VIDEO_G4 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 29 | VIDEO_G3 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 30 | VIDEO_G2 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 31 | VIDEO_G1 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 32 | VIDEO_G0 | I | 10 bit video signal input (GREEN) | 0 to 3.3 | – |
| 33 | GND | – | GND | – | – |
| 34 | VIDEO_B9 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 35 | VIDEO_B8 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 36 | VIDEO_B7 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 37 | VIDEO_B6 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 38 | VIDEO_B5 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 39 | VIDEO_B4 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 40 | VIDEO_B3 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 41 | VIDEO_B2 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 42 | VIDEO_B1 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 43 | VIDEO_B0 | I | 10 bit video signal input (BLUE) | 0 to 3.3 | – |
| 44 | GND | – | GND | – | – |
| 45 | RESERVE (N.C.) | – | Reserve | – | – |
| 46 | AC_OFF (N.C.) | O | AC state input | – | – |
| 47 | TXD_MD | O | UART communication | 3.3 | – |
| 48 | RXD_MD | I | UART communication | 3.3 | – |
| 49 | REQ_MD | O | Communication demand to main system | 0 | – |
| 50 | MODE | O | Model distinction | 0 | – |

**CN3002 (D12) ↔ Reserve (Non connection)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | V+3V_D | O | +3.3 V power supply output | 3.3 | – |
| 2 | V+3V_D | O | +3.3 V power supply output | 3.3 | – |
| 3 | V+3V_D | O | +3.3 V power supply output | 3.3 | – |
| 4 | GND_D | – | GND | – | – |
| 5 | GND_D | – | GND | – | – |
| 6 | GND_D | – | GND | – | – |
| 7 | LED_R | O | Red LED control output | 0 to 3.3 | – |
| 8 | LED_B | O | Blue LED control output | 0 to 3.3 | – |
| 9 | MSEL | I | Control select | 0 to 3.3 | – |
| 10 | PBF | I | Panel type judge | 0 to 3.3 | – |
| 11 | NC | I | Non connection | – | – |
| 12 | YOBI0 | I | Reserve input | – | – |
| 13 | YOBI1 | I | Reserve input | – | – |
| 14 | YOBI2 | I | Reserve input | – | – |
| 15 | YOBI3 | I | Reserve input | – | – |
| 16 | YOBI4 | I | Reserve input | – | – |
| 17 | NC | I | Non connection | – | – |
| 18 | NC | I | Non connection | – | – |
| 19 | V+3V_STB | O | STB 3.3 V power supply output | 3.3 | – |
| 20 | GND_D | – | GND | – | – |

**CN3151 (D24) ↔ SENSOR ASSY CN3651 (TE1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | V+3.3V_EEP | O | Power supply output for memory | 3.3 | – |
| 2 | E_SCL | O | IIC communication clock signal | 0 to 3.3 | – |
| 3 | E_SDA | O | IIC communication data signal | 0 to 3.3 | – |
| 4 | TEMP1 | I | Panel temperature sensor signal | 0 to 3.3 | – |
| 5 | GND | – | GND | – | – |

**CN3601 (D21) ↔ POWER SUPPLY UNIT (P4)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | V+12V | I | +12 V power supply input | 12 | – |
| 2 | V+12V | I | +12 V power supply input | 12 | – |
| 3 | GND | – | GND | – | – |
| 4 | GND | – | GND | – | – |
| 5 | V+3.3V_STB | I | STB3.3 V power supply input | 0 to 3.3 | – |
| 6 | GND | – | GND | – | – |
| 7 | M_SW_DET | I | Mechanism switch detection signal input | 0 to 3.3 | – |
| 8 | EXT_PD | O | Power down signal | 0 to 3.3 | – |
| 9 | VSUS_ADJ | O | VSUS power supply adjustment signal | 0 to 3.3 | – |
| 10 | PS_PD | I | Power supply PD signal | 0 to 3.3 | – |
| 11 | RELAY | O | Relay control | 0 to 3.3 | – |
| 12 | DRF_B | O | Large power supply ON/OFF control signal | 0 to 3.3 | – |
| 13 | AC_DET | I | AC power supply state input | 0 to 3.3 | – |
| 14 | PD_TRG_B | I | Power down trigger signal | 0 to 3.3 | – |

**CN3501 (D15) ↔ 50 ADDRESS L ASSY CN1602 (AD1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | NC | – | Non connection | – | – |
| 2 | ADR_PD | I | Address PD signal | 0 to 3.3 | – |
| 3 | PSIZE | I | Panel size judge signal | 0 | – |
| 4 | GND | – | GND | – | – |
| 5 | V+8V | O | +8 V power supply input | 8 | – |
| 6 | V+8V | O | +8 V power supply input | 8 | – |
| 7 | GND | – | GND | – | – |
| 8 | GND_LVDS | – | GND | – | – |
| 9 | NC | – | Non connection | – | – |
| 10 | TAN | O | LVDS data | 1 to 1.4 | – |
| 11 | TAP | O | LVDS data | 1 to 1.4 | – |
| 12 | NC | – | Non connection | – | – |
| 13 | GND_LVDS | – | GND | – | – |
| 14 | NC | – | Non connection | – | – |
| 15 | TBN | O | LVDS data | 1 to 1.4 | – |
| 16 | TBP | O | LVDS data | 1 to 1.4 | – |
| 17 | NC | – | Non connection | – | – |
| 18 | GND_LVDS | – | GND | – | – |
| 19 | NC | – | Non connection | – | – |
| 20 | TCN | O | LVDS data | 1 to 1.4 | – |
| 21 | TCP | O | LVDS data | 1 to 1.4 | – |
| 22 | NC | – | Non connection | – | – |
| 23 | GND_LVDS | – | GND | – | – |
| 24 | NC | – | Non connection | – | – |
| 25 | TCLKN | O | LVDS data | 1 to 1.4 | – |
| 26 | TCLKP | O | LVDS data | 1 to 1.4 | – |
| 27 | NC | – | Non connection | – | – |
| 28 | GND_LVDS | – | GND | – | – |
| 29 | NC | – | Non connection | – | – |
| 30 | TDN | O | LVDS data | 1 to 1.4 | – |
| 31 | TDP | O | LVDS data | 1 to 1.4 | – |
| 32 | NC | – | Non connection | – | – |
| 33 | GND_LVDS | – | GND | – | – |
| 34 | GND | – | GND | – | – |
| 35 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 36 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 37 | GND | – | GND | – | – |
| 38 | DIV1 | O | Data output timing control | 3.3 | – |
| 39 | DIV0 | O | Data output timing control | 3.3 | – |
| 40 | GND | – | GND | – | – |

**CN3502 (D16) ↔ 50 ADDRESS S ASSY CN1802 (AD1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | NC | – | Non connection | – | – |
| 2 | ADR_PD | I | Address PD signal | 0 to 3.3 | – |
| 3 | PSIZE | I | Panel size judge signal | 0 | – |
| 4 | GND | – | GND | – | – |
| 5 | V+8V | O | +8 V power supply input | 8 | – |
| 6 | V+8V | O | +8 V power supply input | 8 | – |
| 7 | GND | – | GND | – | – |
| 8 | GND_LVDS | – | GND | – | – |
| 9 | NC | – | Non connection | – | – |
| 10 | TAN | O | LVDS data | 1 to 1.4 | – |
| 11 | TAP | O | LVDS data | 1 to 1.4 | – |
| 12 | NC | – | Non connection | – | – |
| 13 | GND_LVDS | – | GND | – | – |
| 14 | NC | – | Non connection | – | – |
| 15 | TBN | O | LVDS data | 1 to 1.4 | – |
| 16 | TBP | O | LVDS data | 1 to 1.4 | – |
| 17 | NC | – | Non connection | – | – |
| 18 | GND_LVDS | – | GND | – | – |
| 19 | NC | – | Non connection | – | – |
| 20 | TCN | O | LVDS data | 1 to 1.4 | – |
| 21 | TCP | O | LVDS data | 1 to 1.4 | – |
| 22 | NC | – | Non connection | – | – |
| 23 | GND_LVDS | – | GND | – | – |
| 24 | NC | – | Non connection | – | – |
| 25 | TCLKN | O | LVDS data | 1 to 1.4 | – |
| 26 | TCLKP | O | LVDS data | 1 to 1.4 | – |
| 27 | NC | – | Non connection | – | – |
| 28 | GND_LVDS | – | GND | – | – |
| 29 | NC | – | Non connection | – | – |
| 30 | TDN | O | LVDS data | 1 to 1.4 | – |
| 31 | TDP | O | LVDS data | 1 to 1.4 | – |
| 32 | NC | – | Non connection | – | – |
| 33 | GND_LVDS | – | GND | – | – |
| 34 | GND | – | GND | – | – |
| 35 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 36 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 37 | GND | – | GND | – | – |
| 38 | DIV1 | O | Data output timing control | 0 | – |
| 39 | DIV0 | O | Data output timing control | 0 | – |
| 40 | GND | – | GND | – | – |

**CN3503 (D17) ↔ 50 ADDRESS S ASSY CN1802 (AD1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | NC | – | Non connection | – | – |
| 2 | ADR_PD | I | Address PD signal | 0 to 3.3 | – |
| 3 | PSIZE | I | Panel size judge signal | 0 | – |
| 4 | GND | – | GND | – | – |
| 5 | V+8V | O | +8 V power supply input | 8 | – |
| 6 | V+8V | O | +8 V power supply input | 8 | – |
| 7 | GND | – | GND | – | – |
| 8 | GND_LVDS | – | GND | – | – |
| 9 | NC | – | Non connection | – | – |
| 10 | TAN | O | LVDS data | 1 to 1.4 | – |
| 11 | TAP | O | LVDS data | 1 to 1.4 | – |
| 12 | NC | – | Non connection | – | – |
| 13 | GND_LVDS | – | GND | – | – |
| 14 | NC | – | Non connection | – | – |
| 15 | TBN | O | LVDS data | 1 to 1.4 | – |
| 16 | TBP | O | LVDS data | 1 to 1.4 | – |
| 17 | NC | – | Non connection | – | – |
| 18 | GND_LVDS | – | GND | – | – |
| 19 | NC | – | Non connection | – | – |
| 20 | TCN | O | LVDS data | 1 to 1.4 | – |
| 21 | TCP | O | LVDS data | 1 to 1.4 | – |
| 22 | NC | – | Non connection | – | – |
| 23 | GND_LVDS | – | GND | – | – |
| 24 | NC | – | Non connection | – | – |
| 25 | TCLKN | O | LVDS data | 1 to 1.4 | – |
| 26 | TCLKP | O | LVDS data | 1 to 1.4 | – |
| 27 | NC | – | Non connection | – | – |
| 28 | GND_LVDS | – | GND | – | – |
| 29 | NC | – | Non connection | – | – |
| 30 | TDN | O | LVDS data | 1 to 1.4 | – |
| 31 | TDP | O | LVDS data | 1 to 1.4 | – |
| 32 | NC | – | Non connection | – | – |
| 33 | GND_LVDS | – | GND | – | – |
| 34 | GND | – | GND | – | – |
| 35 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 36 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 37 | GND | – | GND | – | – |
| 38 | DIV1 | O | Data output timing control | 3.3 | – |
| 39 | DIV0 | O | Data output timing control | 0 | – |
| 40 | GND | – | GND | – | – |

**CN3504 (D18) ↔ 50 ADDRESS L ASSY CN1602 (AD1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | NC | – | Non connection | – | – |
| 2 | ADR_PD | I | Address PD signal | 0 to 3.3 | – |
| 3 | PSIZE | I | Panel size judge signal | 0 | – |
| 4 | GND | – | GND | – | – |
| 5 | V+8V | O | +8 V power supply input | 8 | – |
| 6 | V+8V | O | +8 V power supply input | 8 | – |
| 7 | GND | – | GND | – | – |
| 8 | GND_LVDS | – | GND | – | – |
| 9 | NC | – | Non connection | – | – |
| 10 | TAN | O | LVDS data | 1 to 1.4 | – |
| 11 | TAP | O | LVDS data | 1 to 1.4 | – |
| 12 | NC | – | Non connection | – | – |
| 13 | GND_LVDS | – | GND | – | – |
| 14 | NC | – | Non connection | – | – |
| 15 | TBN | O | LVDS data | 1 to 1.4 | – |
| 16 | TBP | O | LVDS data | 1 to 1.4 | – |
| 17 | NC | – | Non connection | – | – |
| 18 | GND_LVDS | – | GND | – | – |
| 19 | NC | – | Non connection | – | – |
| 20 | TCN | O | LVDS data | 1 to 1.4 | – |
| 21 | TCP | O | LVDS data | 1 to 1.4 | – |
| 22 | NC | – | Non connection | – | – |
| 23 | GND_LVDS | – | GND | – | – |
| 24 | NC | – | Non connection | – | – |
| 25 | TCLKN | O | LVDS data | 1 to 1.4 | – |
| 26 | TCLKP | O | LVDS data | 1 to 1.4 | – |
| 27 | NC | – | Non connection | – | – |
| 28 | GND_LVDS | – | GND | – | – |
| 29 | NC | – | Non connection | – | – |
| 30 | TDN | O | LVDS data | 1 to 1.4 | – |
| 31 | TDP | O | LVDS data | 1 to 1.4 | – |
| 32 | NC | – | Non connection | – | – |
| 33 | GND_LVDS | – | GND | – | – |
| 34 | GND | – | GND | – | – |
| 35 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 36 | V+3.3V | O | +3.3 V power supply output | 3.3 | – |
| 37 | GND | – | GND | – | – |
| 38 | DIV1 | O | Data output timing control | 0 | – |
| 39 | DIV0 | O | Data output timing control | 3.3 | – |
| 40 | GND | – | GND | – | – |

**CN3506 (D20) ↔ 50 Y MAIN DRIVE ASSY CN2001 (Y1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 40 | PSW2 | O | Function standby control signal | 0 to 3.3 | – |
| 39 | YDRV_PD | I | Y drive PD signal | 0 to 3.3 | – |
| 38 | SCAN_PD | I | Y drive PD signal | 0 to 3.3 | – |
| 37 | YSUS_PD | I | Y drive PD signal | 0 to 3.3 | – |
| 36 | YDD_PD | I | Y drive PD signal | 0 to 3.3 | – |
| 35 | GND | – | GND | – | – |
| 34 | GND | – | GND | – | – |
| 33 | GND | – | GND | – | – |
| 32 | GND | – | GND | – | – |
| 31 | VYPRST_ADJ | O | Y drive control signal | 0 to 3.3 | – |
| 30 | VOFS_ADJ | O | Y drive control signal | 0 to 3.3 | – |
| 29 | GND | – | GND | – | – |
| 28 | YSOFT-D | O | Y drive control signal | 0 to 3.3 | – |
| 27 | YRsv3 | O | Y drive control signal | 0 to 3.3 | – |
| 26 | YNOFS | O | Y drive control signal | 0 to 3.3 | – |
| 25 | GND | – | GND | – | – |
| 24 | YRsv2 | O | Y drive control signal | 0 to 3.3 | – |
| 23 | YNRST | O | Y drive control signal | 0 to 3.3 | – |
| 22 | YSUS_MSK | O | Y drive control signal | 0 to 3.3 | – |
| 21 | GND | – | GND | – | – |
| 20 | SUS_MUTE | O | Y drive control signal | 0 to 3.3 | – |
| 19 | YPR-U | O | Y drive control signal | 0 to 3.3 | – |
| 18 | GND | – | GND | – | – |
| 17 | YSUS_G | O | Y drive control signal | 0 to 3.3 | – |
| 16 | YSUS_D | O | Y drive control signal | 0 to 3.3 | – |
| 15 | GND | – | GND | – | – |
| 14 | YSUS_U | O | Y drive control signal | 0 to 3.3 | – |
| 13 | YSUS_B | O | Y drive control signal | 0 to 3.3 | – |
| 12 | GND | – | GND | – | – |
| 11 | OC1 (–1) | O | Scan control signal | 0 to 3.3 | – |
| 10 | OC2 | O | Scan control signal | 0 to 3.3 | – |
| 9 | LE | O | Scan control signal | 0 to 3.3 | – |
| 8 | GND | – | GND | – | – |
| 7 | CLK1 | O | Scan control signal | 0 to 3.3 | – |
| 6 | CLR | O | Scan control signal | 0 to 3.3 | – |
| 5 | GND | – | GND | – | – |
| 4 | SI_H | O | Scan control signal | 0 to 3.3 | – |
| 3 | SI_L | O | Scan control signal | 0 to 3.3 | – |
| 2 | SCN5V_PD | I | Scan 5 V PD signal | 0 to 3.3 | – |
| 1 | YCN_PD | O | Y drive PD signal | 0 to 3.3 | – |

**CN3505 (D19) ↔ 50 X MAIN DRIVE ASSY CN1001 (X1)**

| Pin No. | Pin Name | I/O | Function | Voltage (V) | TP |
|---|---|---|---|---|---|
| 1 | PSW2 | O | Function standby control signal | 0 to 3.3 | – |
| 2 | XSUS_PD | I | X drive PD signal | 0 to 3.3 | – |
| 3 | XDD_PD | I | X drive PD signal | 0 to 3.3 | – |
| 4 | XDRV_PD | I | X drive PD signal | 0 to 3.3 | – |
| 5 | GND | – | GND | – | – |
| 6 | SUS_MUTE | O | X drive control signal | 0 to 3.3 | – |
| 7 | XSUS_MSK | O | X drive control signal | 0 to 3.3 | – |
| 8 | GND | – | GND | – | – |
| 9 | XNR_D | O | X drive control signal | 0 to 3.3 | – |
| 10 | GND | – | GND | – | – |
| 11 | XSUS_G | O | X drive control signal | 0 to 3.3 | – |
| 12 | GND | – | GND | – | – |
| 13 | XSUS_D | O | X drive control signal | 0 to 3.3 | – |
| 14 | GND | – | GND | – | – |
| 15 | XSUS_U | O | X drive control signal | 0 to 3.3 | – |
| 16 | GND | – | GND | – | – |
| 17 | XSUS_B | O | X drive control signal | 0 to 3.3 | – |
| 18 | XCN_PD | O | X drive PD signal | 0 to 3.3 | – |

## ■ Pin Function

**AUDIO ASSY CN3752 (A2) ↔ MAIN ASSY CN4007 (M9)**

| Pin No. | Pin Name | I/O | Function | Remarks |
|---|---|---|---|---|
| 1 | A_NG_B | O | DC detection, disconnection of cable detection | L : Abnormal, H : Normal |
| 2 | GND | – | GND for small signal | – |
| 3 | AUDIO_L | I | Small signal L ch | – |
| 4 | GND | – | GND for small signal | – |
| 5 | AUDIO_R | I | Small signal R ch | – |
| 6 | GND | – | GND for small signal | – |
| 7 | A_STBY_B | I | MUTE ON/OFF signal for LA4625 IC internal circuit | L : Standby, H : ON |
| 8 | A_MUTE | I | MUTE ON/OFF signal for LA4625 IC external circuit | L : MUTE OFF, H : MUTE |
| 9 | SCL_AU | I | CLK of I2C for NJW1183GK1 IC | – |
| 10 | SDA_AU | I/O | DATA of I2C for NJW1183GK1 IC | – |
| 11 | PSW_A | I | ON/OFF switch for 12 V regulator IC | L : OFF, H : ON |

**AUDIO ASSY CN3751 (A1) ↔ POWER SUPPLY UNIT (P5)**

| Pin No. | Pin Name | I/O | Function | Remarks |
|---|---|---|---|---|
| 1 | +16.5V | – | Power supply (16.5 V) for LA4625 IC | – |
| 2 | GND_D | – | Return GND for LA4625 IC | – |
| 3 | GND_D | – | Return GND for LA4625 IC | – |

**AUDIO ASSY CN3753 (A3) ↔ SP TERMINAL ASSY CN3901 (SP1)**

| Pin No. | Pin Name | I/O | Function | Remarks |
|---|---|---|---|---|
| 1 | RH+ | O | Tweeter output R+ | – |
| 2 | RL+ | O | Woofer output R+ (Speaker output R+) | – |
| 3 | RH– | O | Tweeter output R– | – |
| 4 | RL– | O | Woofer output R– (Speaker output R–) | – |
| 5 | LL+ | O | Woofer output L+ (Speaker output L+) | – |
| 6 | LH+ | O | Tweeter output L+ | – |
| 7 | LL– | O | Woofer output L– (Speaker output L–) | – |
| 8 | LH– | O | Tweeter output L– | – |

**SIDE KEY ASSY CN9501 (SW1) ↔ MAIN ASSY CN4010 (M8)**

| Pin No. | Pin Name | I/O | Function | Remarks |
|---|---|---|---|---|
| 1 | GND | – | GND | – |
| 2 | KEY_AD2 | O | KEY voltage 2 | – |
| 3 | KEY_AD1 | O | KEY voltage 1 | – |
| 4 | V+3.3V_STB | – | Standby 3.3 V power supply | – |

**50 LED ASSY CN9651 (L1) ↔ MAIN ASSY CN4006 (M5)**

| Pin No. | Pin Name | I/O | Function | Remarks |
|---|---|---|---|---|
| 1 | LED– | – | LED signal return | – |
| 2 | LED_ON | I | LED control for power ON | H : LED_ON, L : LED_OFF |
| 3 | LED_OFF | I | LED control for standby | H : LED_ON, L : LED_OFF |

**LED IR ASSY CN9701 (RE1) ↔ MAIN ASSY CN4010 (M8)**

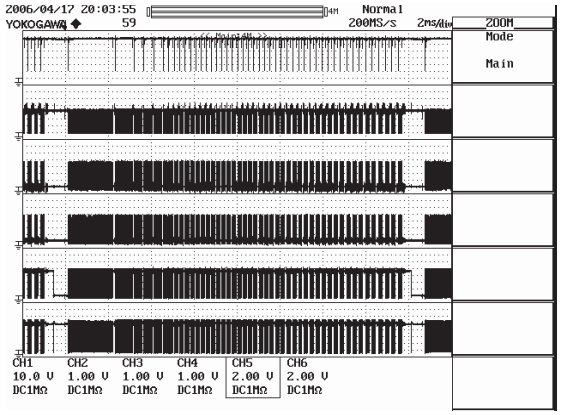
| Pin No. | Pin Name | I/O | Function | Remarks |
|---|---|---|---|---|
| 1 | V+5.1V_STB | – | Standby 5.1 V power supply | – |
| 2 | REM | O | Remote control signal | – |
| 3 | LED– | – | LED signal return | – |
| 4 | LED_REC | I | LED control for REC | H : LED_ON, L : LED_OFF |
| 5 | LED_MDM | I | – | – |
| 6 | GND | – | GND | – |

# 4.18 WAVEFORMS

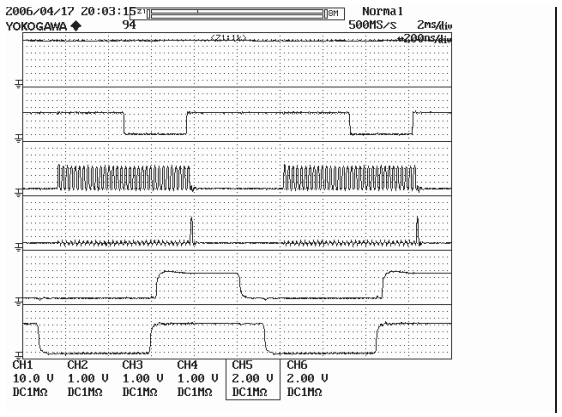
## 50 ADDRESS L Assy Waveform

| | Measuring CH | Waveform | Measuring Point | Waveform | Measuring Point | |
|---|---|---|---|---|---|---|
| ① | CH1 | Resonance waveform (V+ADR | L1730 | Resonance waveform (V+ADR | L1730 | |
| ② | CH2 | R ch signal | R1608 | R ch signal | R1608 | |
| ③ | CH3 | CLK | R1637 | CLK | R1637 | |
| ④ | CH4 | LE | R1621 | LE | R1621 | |
| ⑤ | CH5 | ADR-D | R1720 | HBLK | R1615 | ⑧ |
| ⑥ | CH6 | ADR-B | R1714 | – | – | |
| | CH7 | – | – | LBLK | R1616 | ⑦ |

Color-Bar (MKSS17)

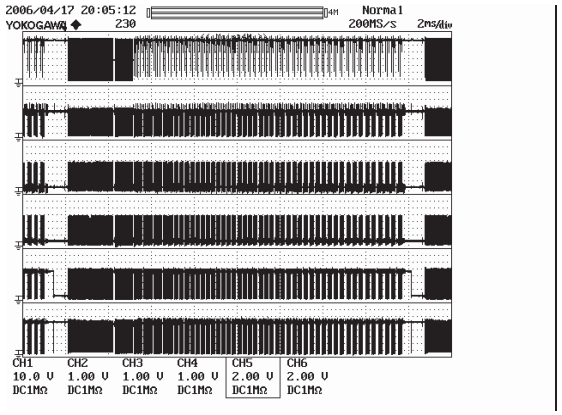



2ms/div



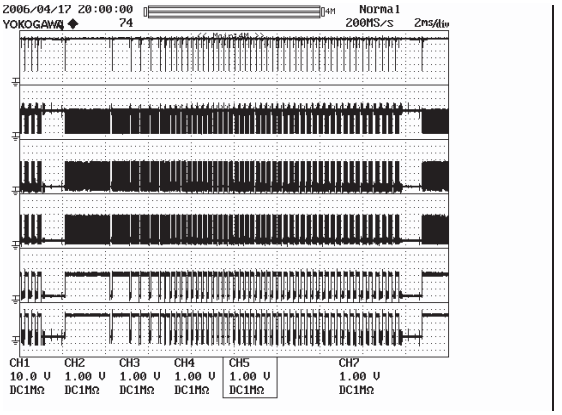

200ns/div

B/W Checkered pattern (MKSS14)

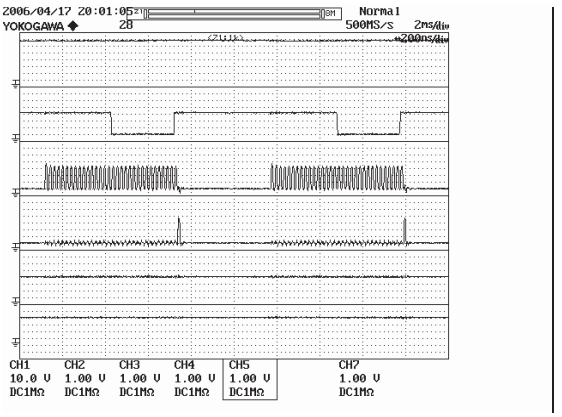



2ms/div

Color-Bar (MKSS17)

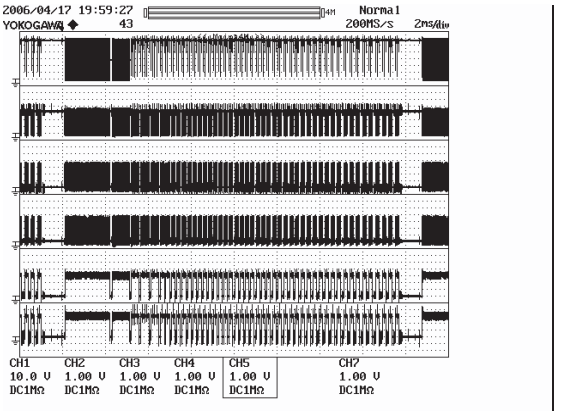



2ms/div

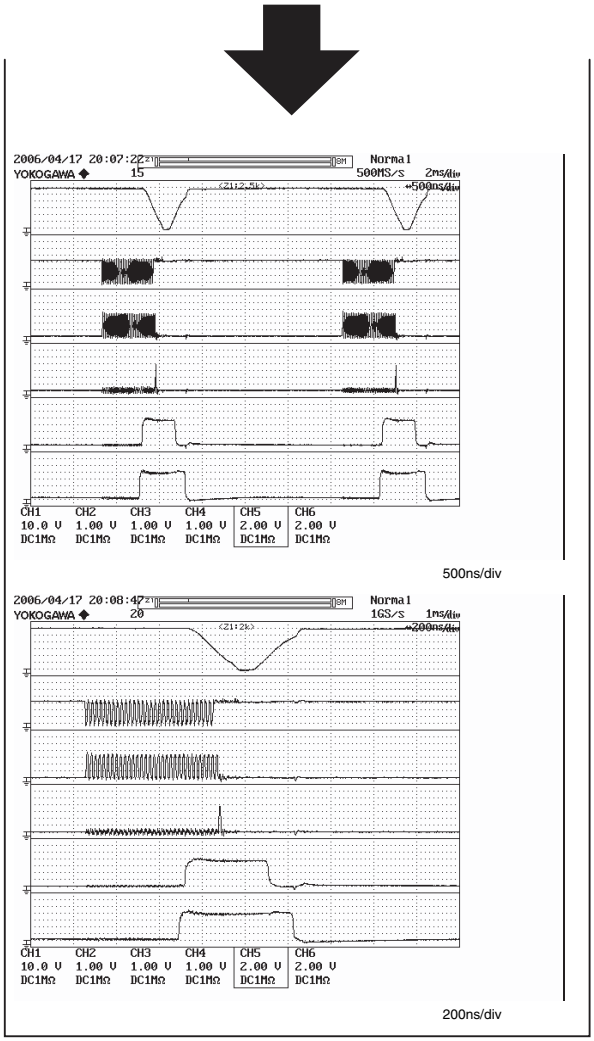


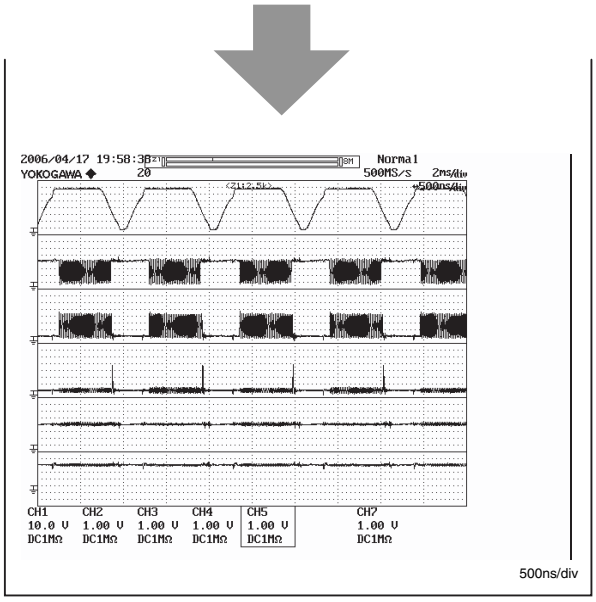

200ns/div

B/W Checkered pattern (MKSS14)

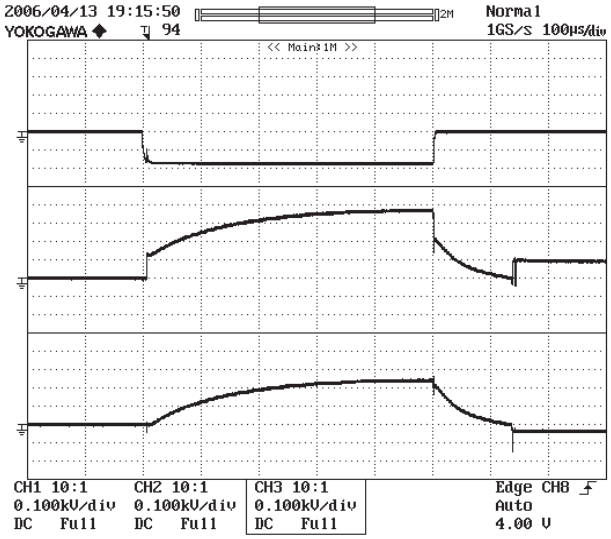



2ms/div

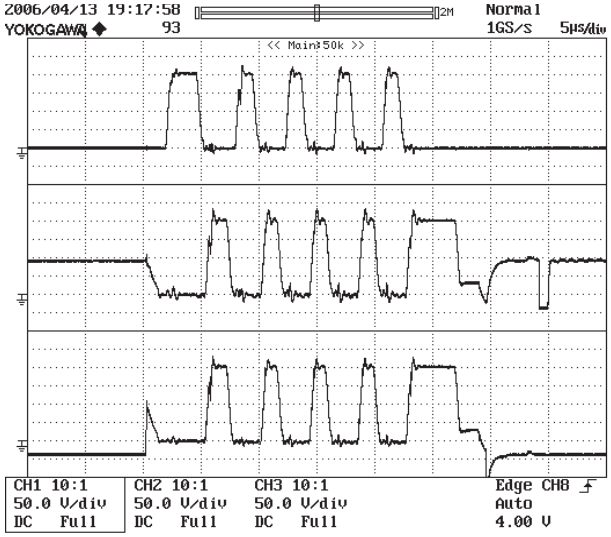

2006/04/17 20:07:22
YOKOGAWA
15
Normal
500MS/s
2ms/div
CH1 CH2 CH3 CH4 CH5 CH6
10.0 V 1.00 V 1.00 V 1.00 V 2.00 V 2.00 V
DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ
500ns/div
2006/04/17 20:08:47
YOKOGAWA
20
Normal
1GS/s
1ms/div
CH1 CH2 CH3 CH4 CH5 CH6
10.0 V 1.00 V 1.00 V 1.00 V 2.00 V 2.00 V
DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ
200ns/div


2006/04/17 19:58:3
YOKOGAWA
20
Normal
500MS/s
2ms/div
CH1 CH2 CH3 CH4 CH5 CH7
10.0 V 1.00 V 1.00 V 1.00 V 1.00 V 1.00 V
DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ
500ns/div

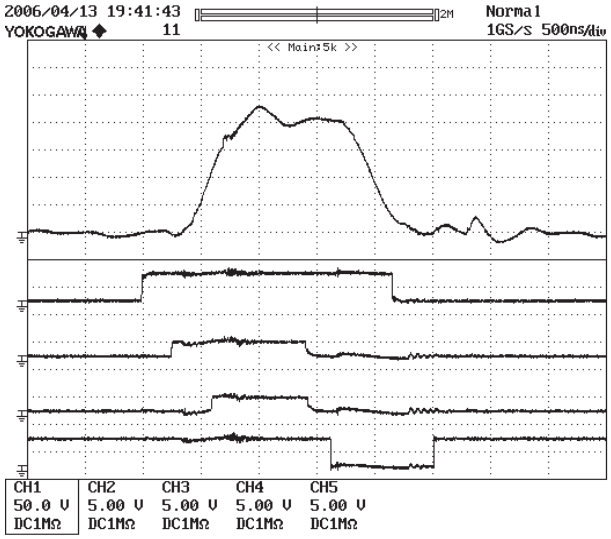
## 50 X/Y DRIVE Assy Waveform




| | | | |
|---|---|---|---|
| ⑨ | CH1 | R1248 (XPSUS)<br>V:100 V/div | -K1202(SUSGND)<br>H:100 uS/div<br>(X drive Assy) |
| ⑩ | CH2 | K2901 (ScanOUT)<br>V:100 V/div | -K2701(SUSGND)<br>H:100 uS/div<br>(Y drive Assy) |
| ⑪ | CH3 | F2207 (YPSUS)<br>V:100 V/div | -K2203(SUSGND)<br>H:100 uS/div<br>(Y drive Assy) |

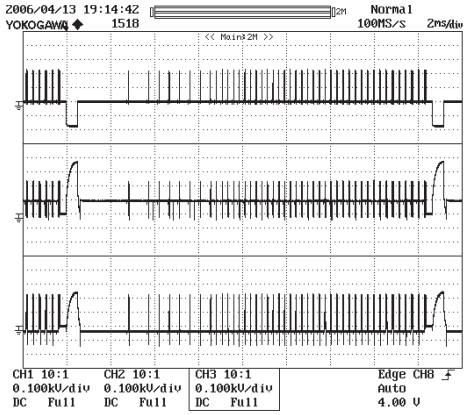



| | | | |
|---|---|---|---|
| ⑫ | CH1 | R1248 (XPSUS)<br>V:50 V/div | -K1202(SUSGND)<br>H:5 uS/div<br>(X drive Assy) |
| ⑬ | CH2 | K2901 (ScanOUT)<br>V:50 V/div | -K2701(SUSGND)<br>H:5 uS/div<br>(Y drive Assy) |
| ⑭ | CH3 | F2207 (YPSUS)<br>V:50 V/div | -K2203(SUSGND)<br>H:5 uS/div<br>(Y drive Assy) |




| | | | |
|---|---|---|---|
| ⑮ | CH1 | F2207 (YPSUS)<br>V:100 V/div | -K2203(SUSGND)<br>H:500 nS/div<br>(Y drive Assy) |
| ⑯ | CH2 | K2021 (YSUS_G)<br>V:5 V/div | -K2014(GND)<br>H:500 nS/div<br>(Y drive Assy) |
| ⑰ | CH3 | K2009 (YSUS_U)<br>V:5 V/div | -K2014(GND)<br>H:500 nS/div<br>(Y drive Assy) |
| ⑱ | CH4 | K2013 (YSUS_B)<br>V:5 V/div | -K2014(GND)<br>H:500 nS/div<br>(Y drive Assy) |
| ⑲ | CH5 | K2010 (YSUS_D)<br>V:5 V/div | -K2014(GND)<br>H:500 nS/div<br>(Y drive Assy) |

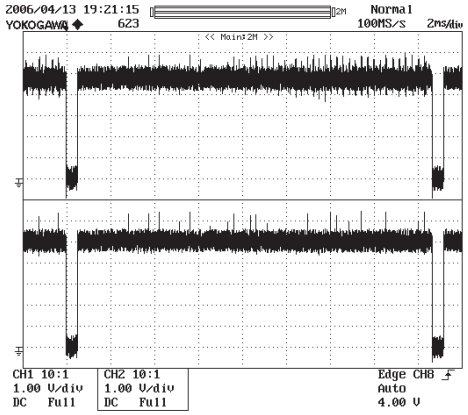
## 50 X/Y DRIVE Assy Waveform




⑳ CH1 R1248 (XPSUS) -K1202(SUSGND) V:100V/div H:2mS/div (X drive Assy)

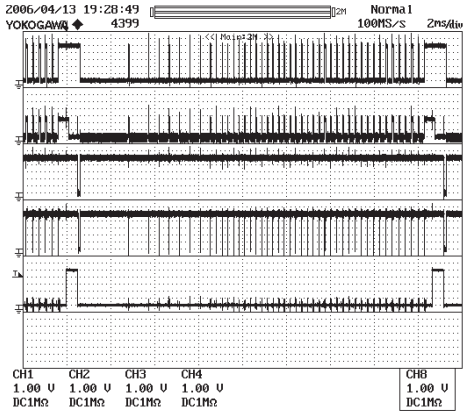
㉑ CH2 K2901 (ScanOUT) -K2701(SUSGND) V:100V/div H:2mS/div (Y drive Assy)

㉒ CH3 F2207 (YPSUS) -K2203(SUSGND) V:100V/div H:2mS/div (Y drive Assy)




㉓ CH1 K1013 (XSUS_MSK)-K1004(GND) V:1V/div H:2mS/div (X drive Assy)

㉔ CH2 K1007 (XNR-D) -K1004(GND) V:1V/div H:2mS/div (X drive Assy)



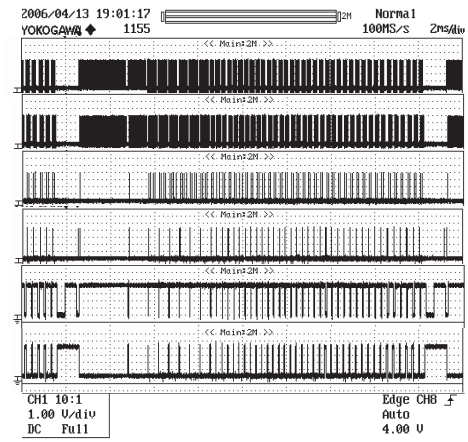

㉕ CH1 K2007 (YNOFS) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉖ CH2 K2007 (YSUS_MSK)-K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉗ CH3 K2008 (YNRST) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉘ CH4 K2006 (SOFT-D) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉙ CH5 K2011 (YPR-U) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)




㉚ CH1 IC2001 18(LE) -K2014GND) V:1V/div H:2mS/div (Y drive Assy)

㉛ CH2 IC2001 17 (CLK) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉜ CH3 IC2001 16 (SI_H) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉝ CH4 IC2001 15 (CLR) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉞ CH5 IC2001 14 (OC2) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

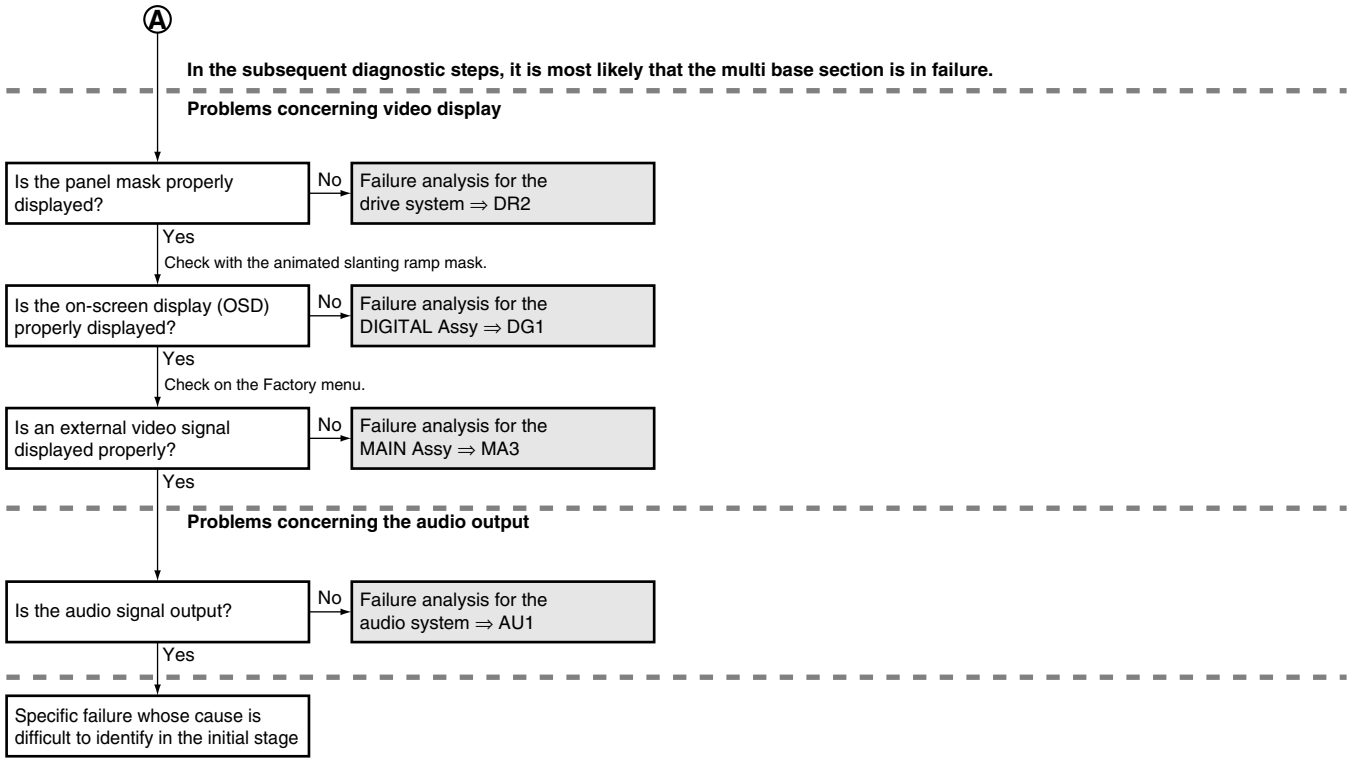
㉟ CH5 IC2001 13 (OC1) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

# 5. DIAGNOSIS INFORMATION

## 5.1 THE FLOW OF DIAGNOSIS

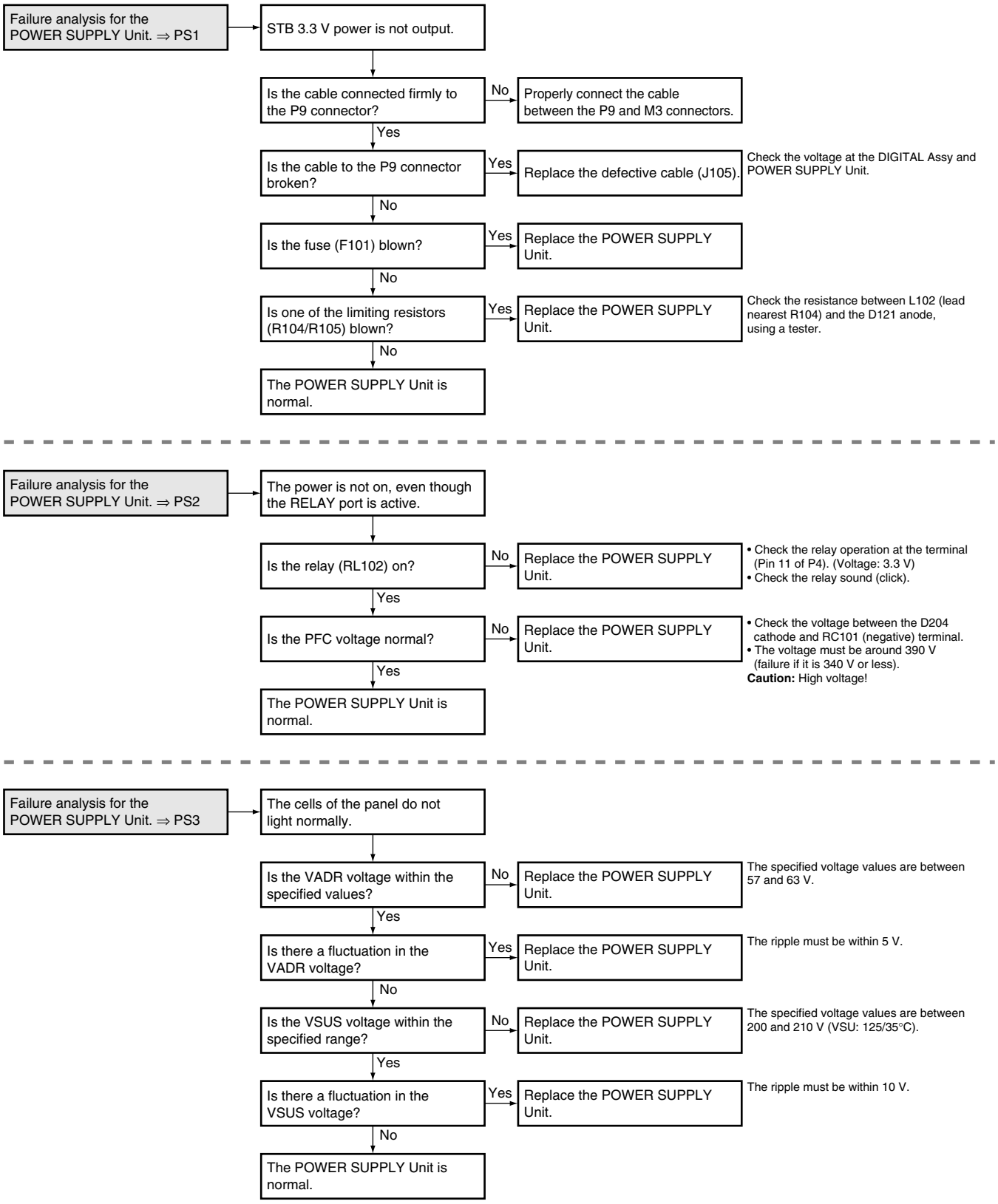
### 5.1.1 FLOWCHART OF FAILURE ANALYSIS FOR THE WHOLE UNIT

**Flowchart of Failure Analysis for The Whole Unit**


Ⓐ
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.
Problems concerning video display
Is the panel mask properly displayed?
No
Failure analysis for the drive system ⇒ DR2
Yes
Check with the animated slanting ramp mask.
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy ⇒ DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy ⇒ MA3
Yes
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system ⇒ AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

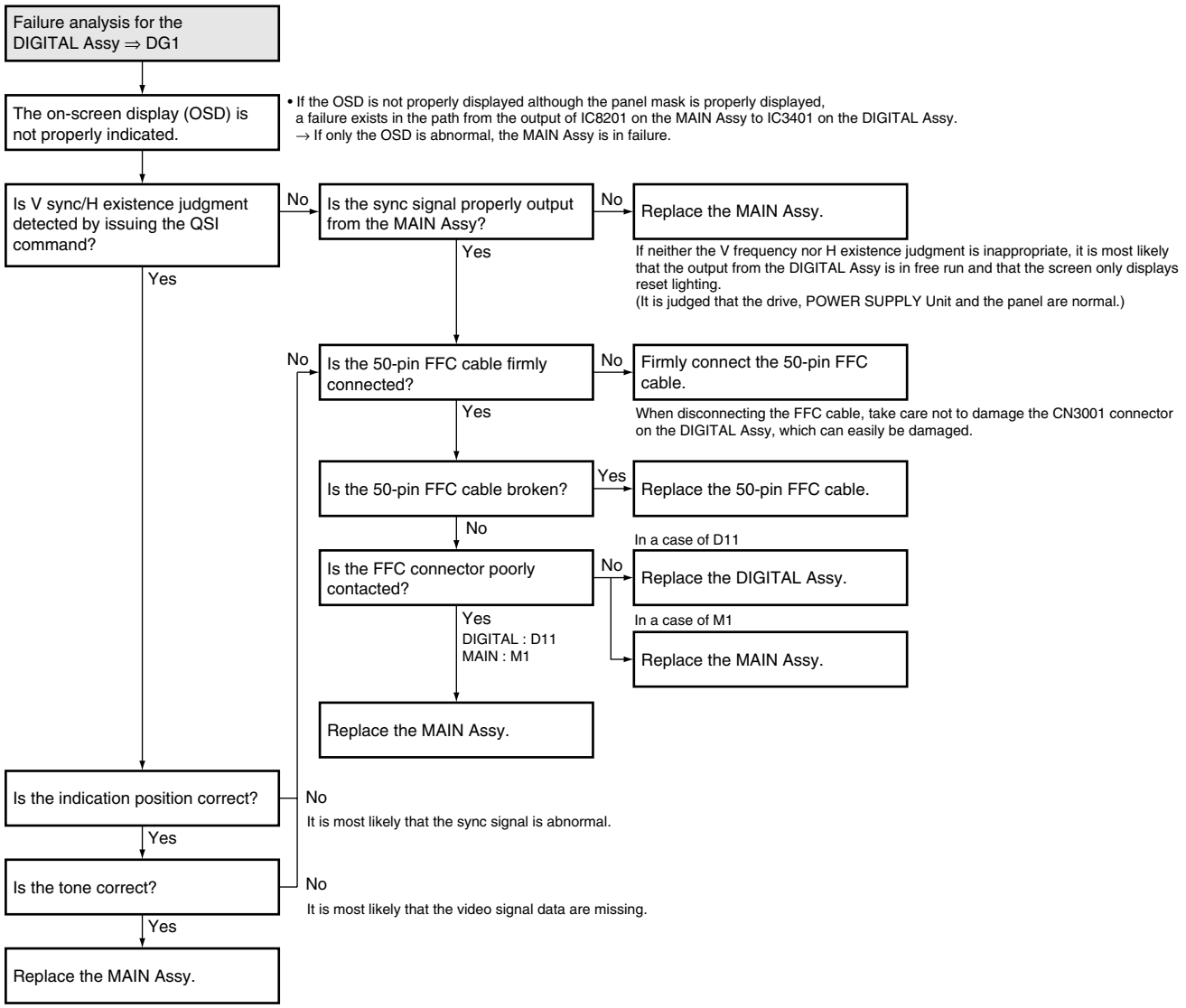
## 5.1.2 FLOWCHART OF FAILURE ANALYSIS FOR THE POWER SUPPLY UNIT

### Flowchart of Failure Analysis for The POWER SUPPLY Unit



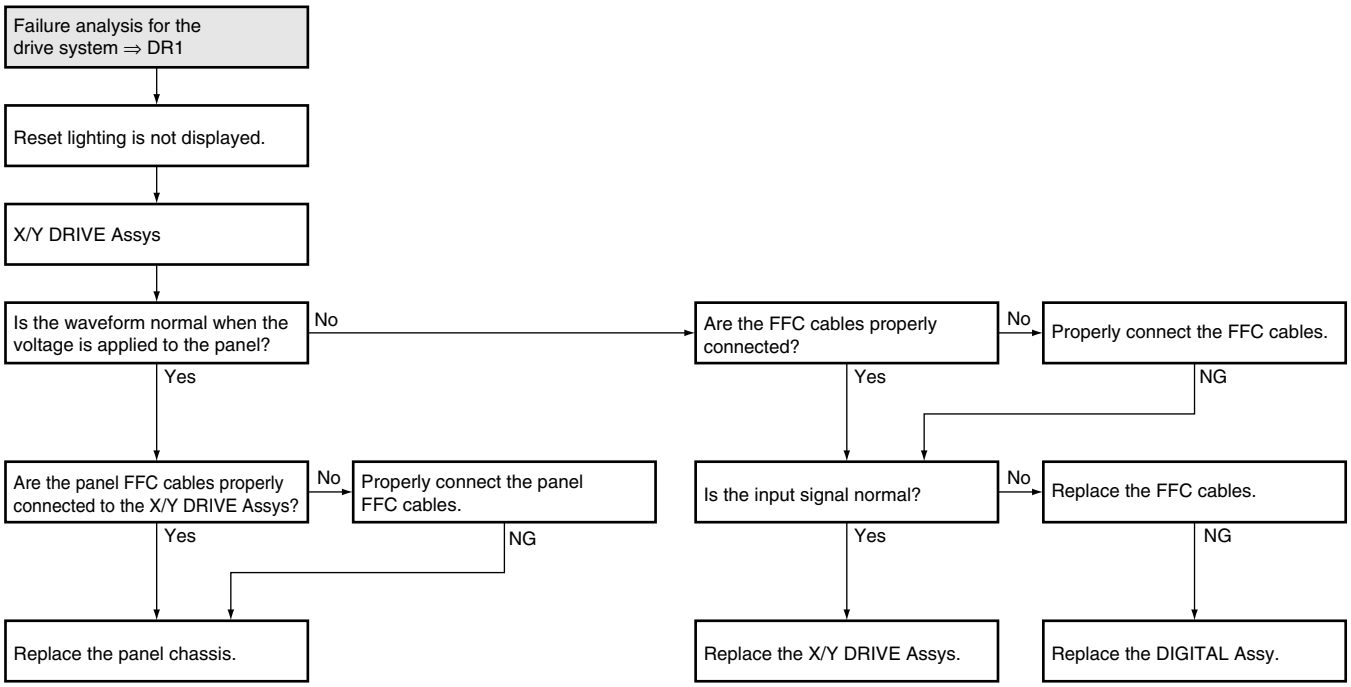
# 5.1.3 FLOWCHART OF FAILURE ANALYSIS FOR THE DIGITAL ASSY

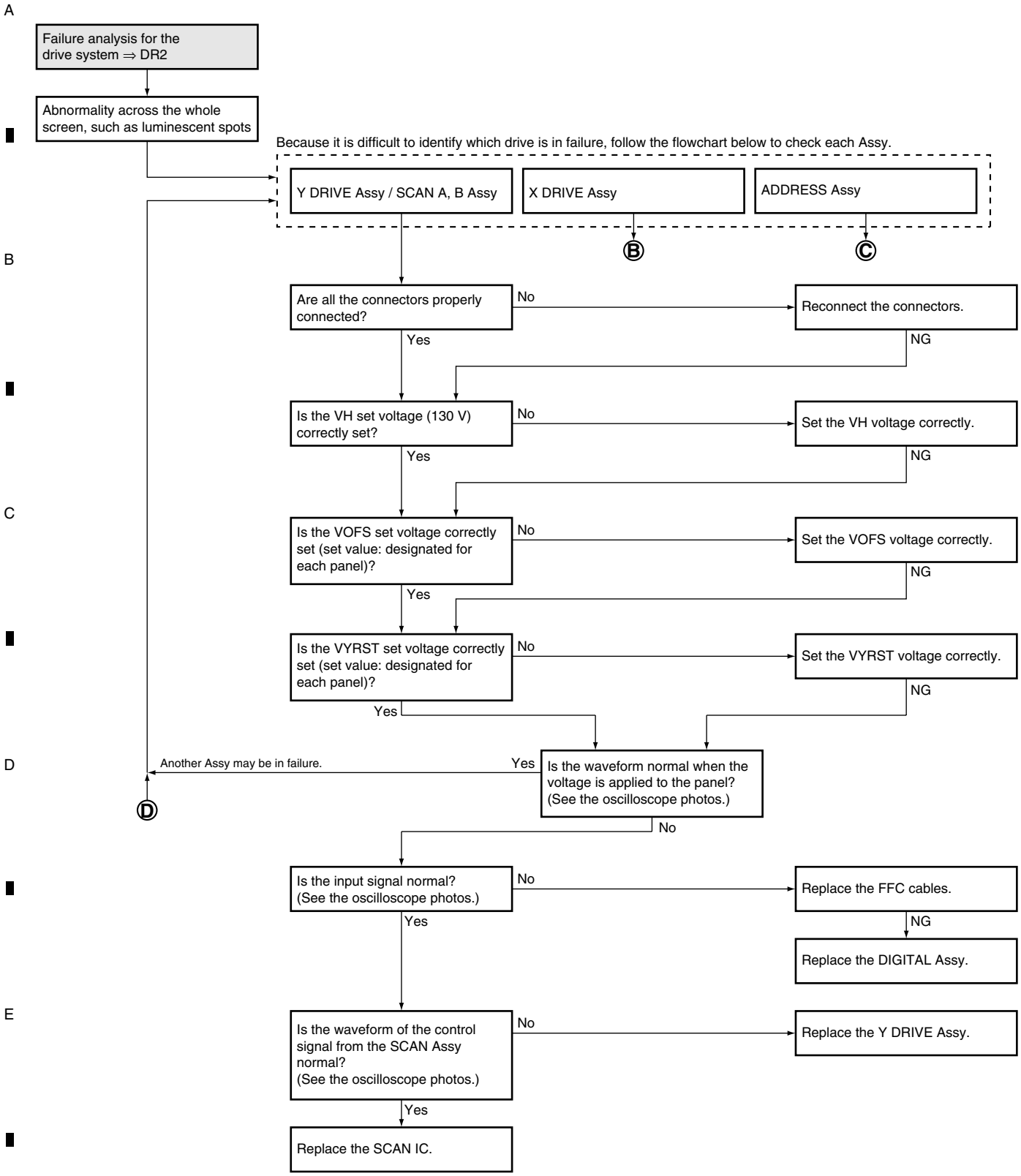
## Flowchart of Failure Analysis for The DIGITAL Assy

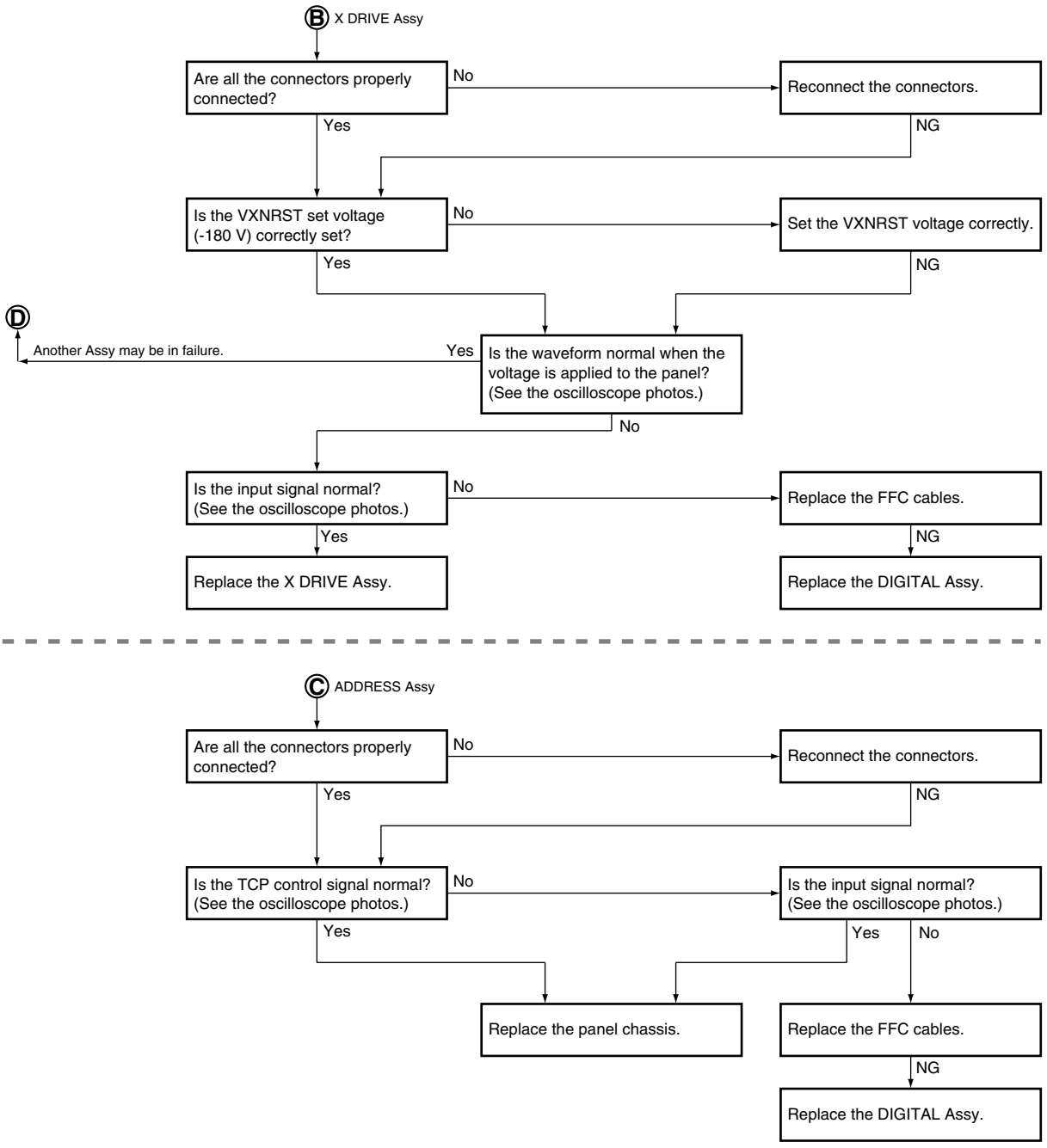


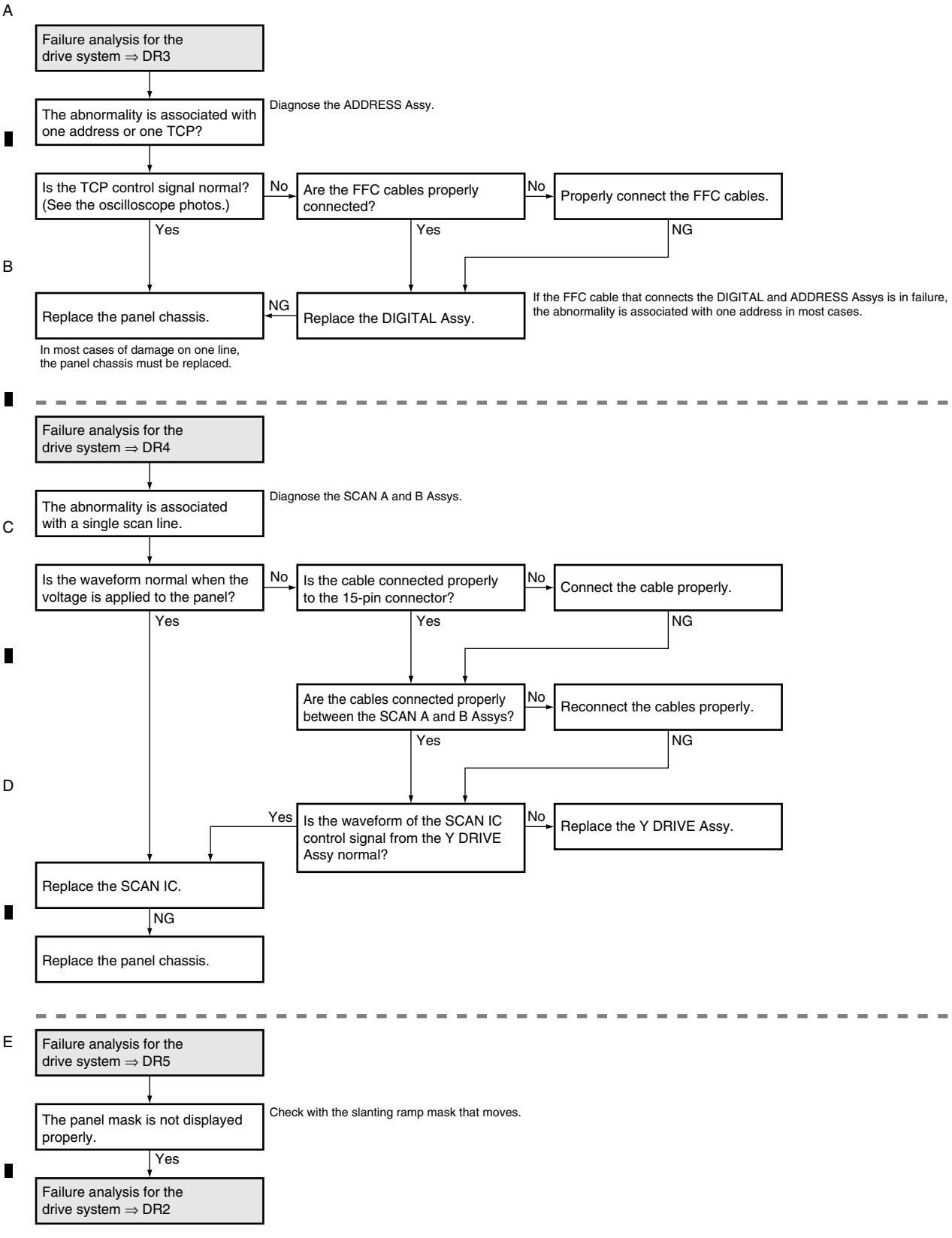
## 5.1.4 FLOWCHART OF FAILURE ANALYSIS FOR THE DRIVE ASSY

### Flowchart of Failure Analysis for The Drive Assy



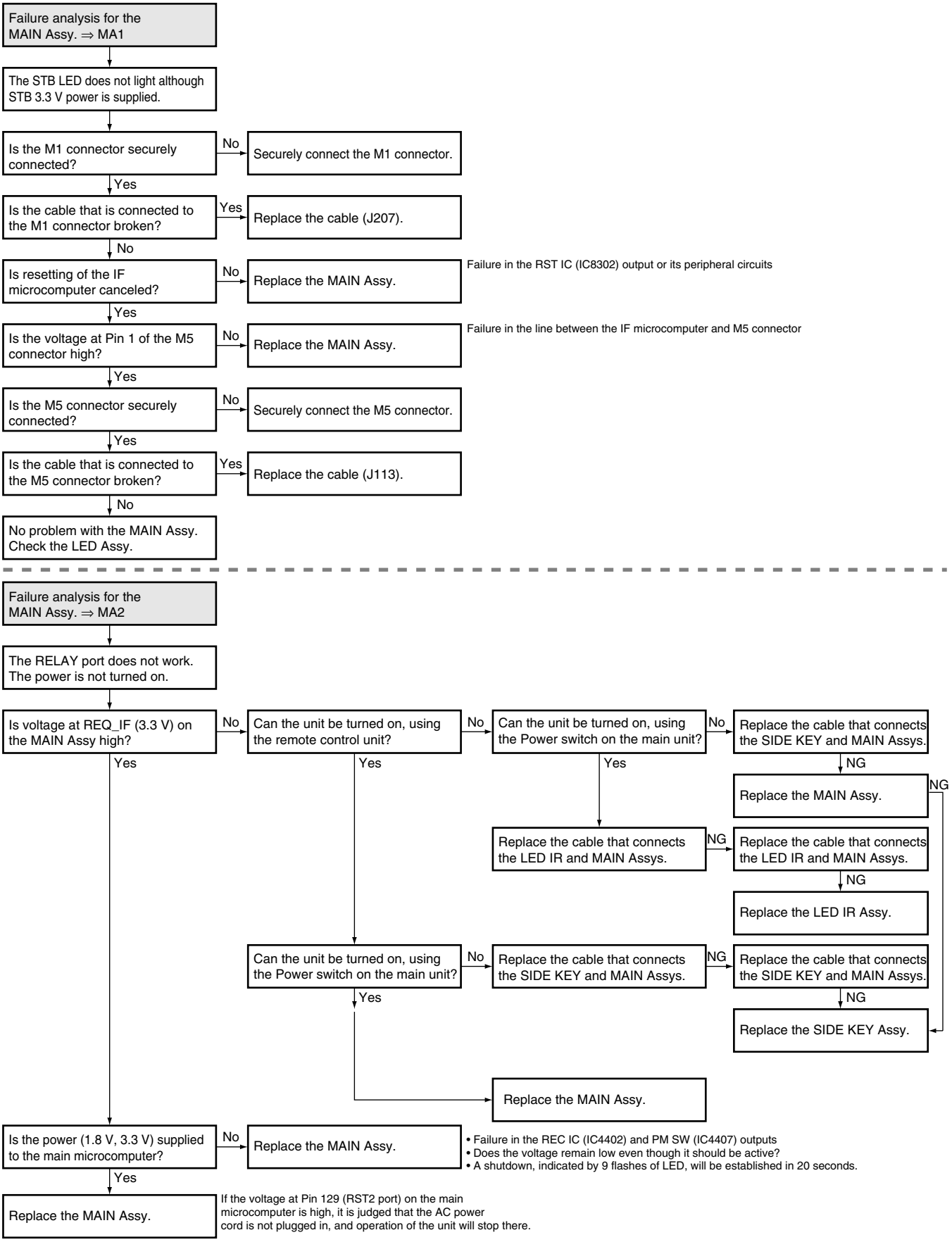

Failure analysis for the drive system ⇒ DR2
Abnormality across the whole screen, such as luminescent spots
Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.
Y DRIVE Assy / SCAN A, B Assy
X DRIVE Assy
ADDRESS Assy
Ⓑ
Ⓒ
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the VH set voltage (130 V) correctly set?
No
Set the VH voltage correctly.
NG
Yes
Is the VOFS set voltage correctly set (set value: designated for each panel)?
No
Set the VOFS voltage correctly.
NG
Yes
Is the VYRST set voltage correctly set (set value: designated for each panel)?
No
Set the VYRST voltage correctly.
NG
Yes
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
Ⓓ
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.


Ⓑ X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the VXNRST set voltage (-180 V) correctly set?
No
Set the VXNRST voltage correctly.
NG
Yes
Ⓓ
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Yes
Replace the X DRIVE Assy.
Replace the DIGITAL Assy.
Ⓒ ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
Replace the DIGITAL Assy.


Failure analysis for the drive system ⇒ DR3
The abnormality is associated with one address or one TCP?
Diagnose the ADDRESS Assy.
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.
If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.
In most cases of damage on one line, the panel chassis must be replaced.
Failure analysis for the drive system ⇒ DR4
The abnormality is associated with a single scan line.
Diagnose the SCAN A and B Assys.
Is the waveform normal when the voltage is applied to the panel?
No
Is the cable connected properly to the 15-pin connector?
No
Connect the cable properly.
Yes
Yes
NG
Are the cables connected properly between the SCAN A and B Assys?
No
Reconnect the cables properly.
Yes
NG
Yes
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Replace the SCAN IC.
NG
Replace the panel chassis.
Failure analysis for the drive system ⇒ DR5
The panel mask is not displayed properly.
Check with the slanting ramp mask that moves.
Yes
Failure analysis for the drive system ⇒ DR2

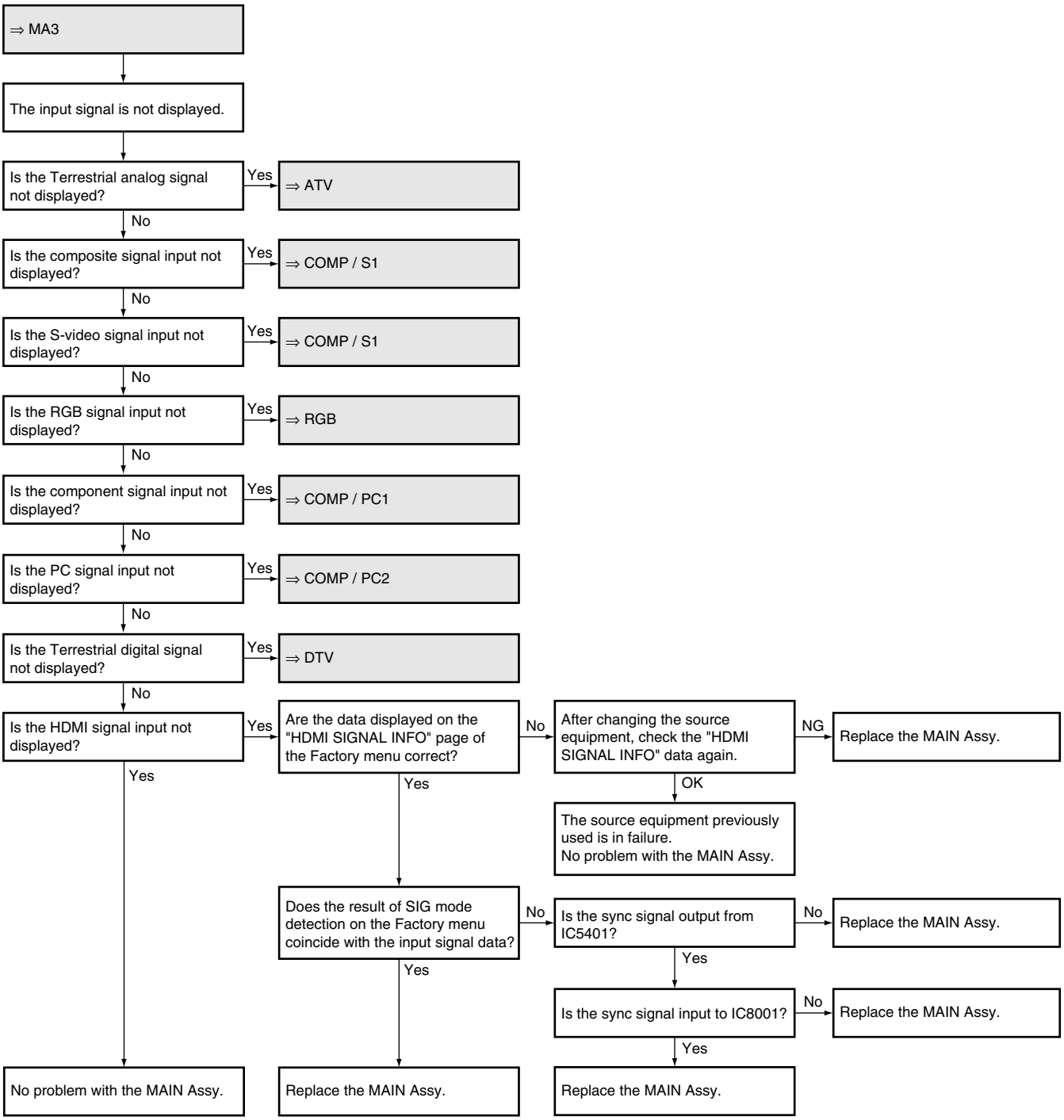
# 5.1.5 FLOWCHART OF FAILURE ANALYSIS FOR THE MAIN ASSY

## Flowchart of Failure Analysis for The MAIN Assy

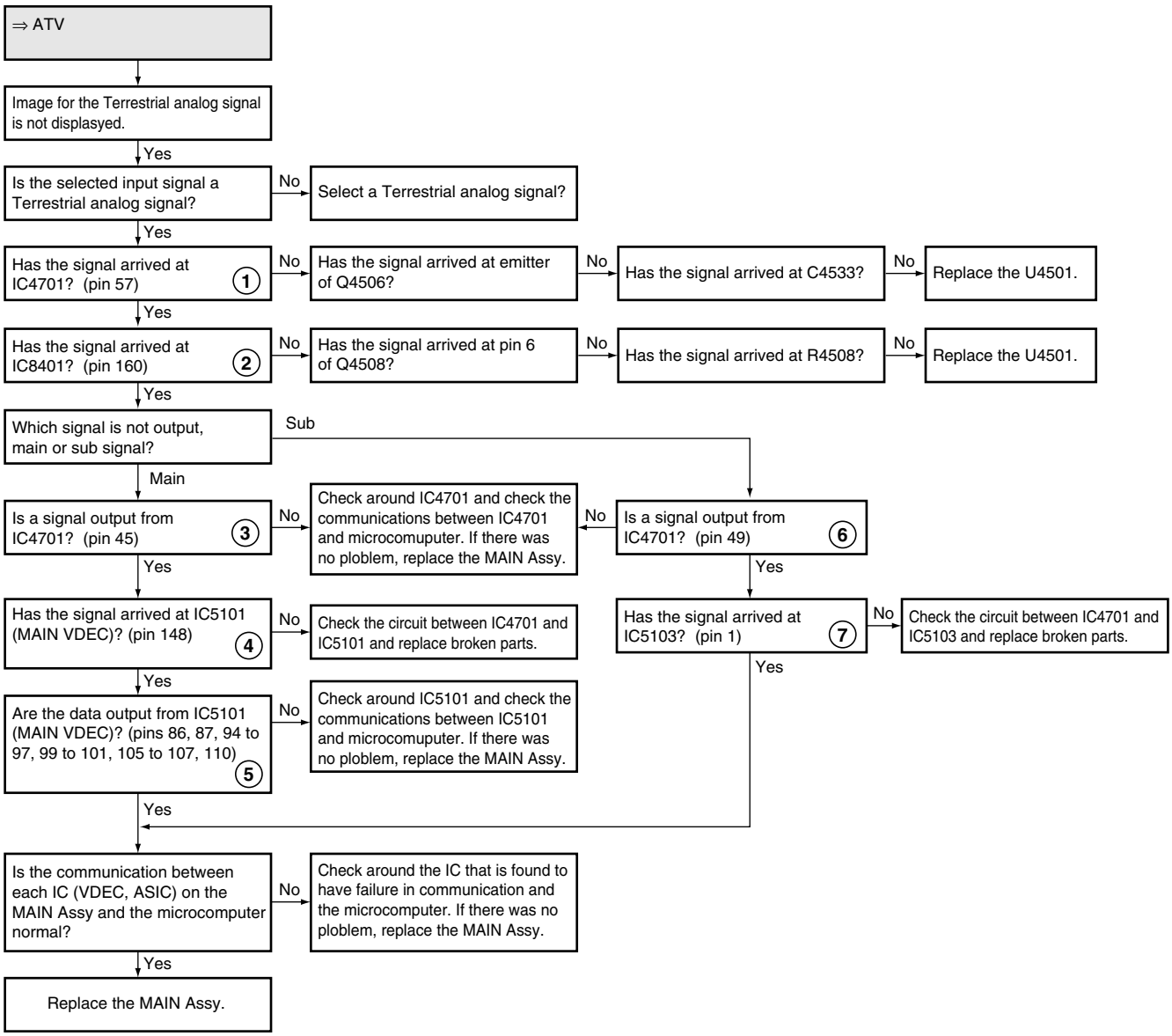


# 5.1.6 FLOWCHART OF FAILURE ANALYSIS FOR THE VIDEO SYSTEM

## Flowchart of Failure Analysis for The Video System



## Flowchart of Failure Analysis for The Video System




### ● Waveforms

Input signal: PAL Color-bar (Analog tuner)

| | | | |
|---|---|---|---|
| ① **IC4701 - pin 57**<br>V: 500 mV/div H: 10 µS/div | ② **IC8401 - pin 160**<br>V: 1 V/div H: 10 µS/div | ③ **IC4701 - pin 45**<br>V: 500 mV/div H: 10 µS/div | ④ **IC5101 - pin 148**<br>V: 500 mV/div H: 10 µS/div |
| ⑤ **IC5101 - pin 86, etc.**<br>V: 1 V/div H: 2 µS/div | ⑥ **IC7001 - pin 49**<br>V: 500 mV/div H: 10 µS/div | ⑦ **IC5103 - pin 1**<br>V: 500 mV/div H: 10 µS/div | |

## Flowchart of Failure Analysis for The Video System

⇒ COMP/S1

Image for the composite or S-video signal is not displasyed.

Yes

Is the function correspondeing to selected signal input selected?

No → Select the corresponding signal with the Input selector.

Yes

Has the signal arrived at IC4701?

No → Check the flexible cable between CN8802 and CN4004.
Check the flexible cable between CN9003 and CN4005.
Check the cable between CN9001 and CN9202.
Check the cable between CN9002 and CN9205.
Check around input terminals.

No → Replace the FFCs or cables.

Yes

Which signal is not output, main or sub signal?

Sub → Is the screen of main side Analog/Digital TV?

No → Specifications that does not display in the sub-side.

Yes

Main

Is a signal output from IC4701? (pins 42 and 45) ⑧ ⑨

No → Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.

Yes

Is a signal output from IC4701? (pins 47 and 49) ⑫ ⑬

No → Is a signal output from IC4701? (pins 47 and 49) ⑫ ⑬

Yes

Has the signal arrived at IC5101? (pins 148 and 158) ⑩ ⑪

No → Check the emitter-follower circuit between IC4701 and IC5101 and repair the failure points.

Yes

Has the signal arrived at IC5103? (pins 1 and 2) ⑭ ⑮

No → Check the circuit between IC4701 and IC5103 and repair the failure points.

Yes

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

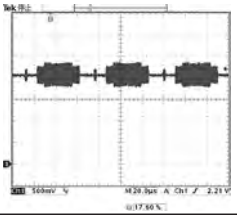
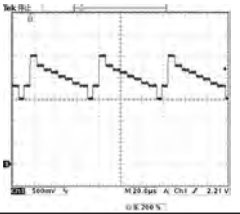
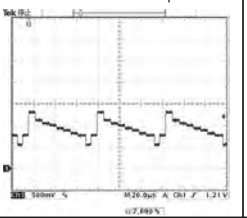
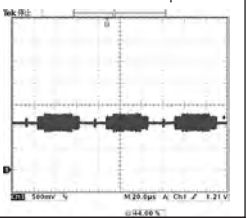
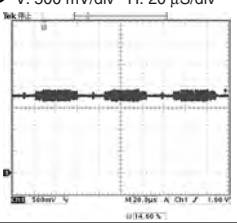
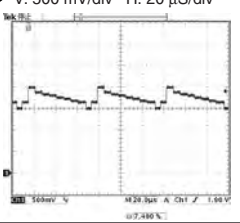
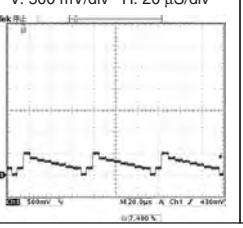
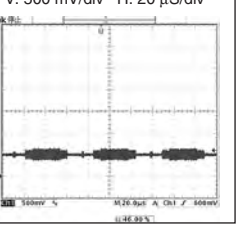
No → Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

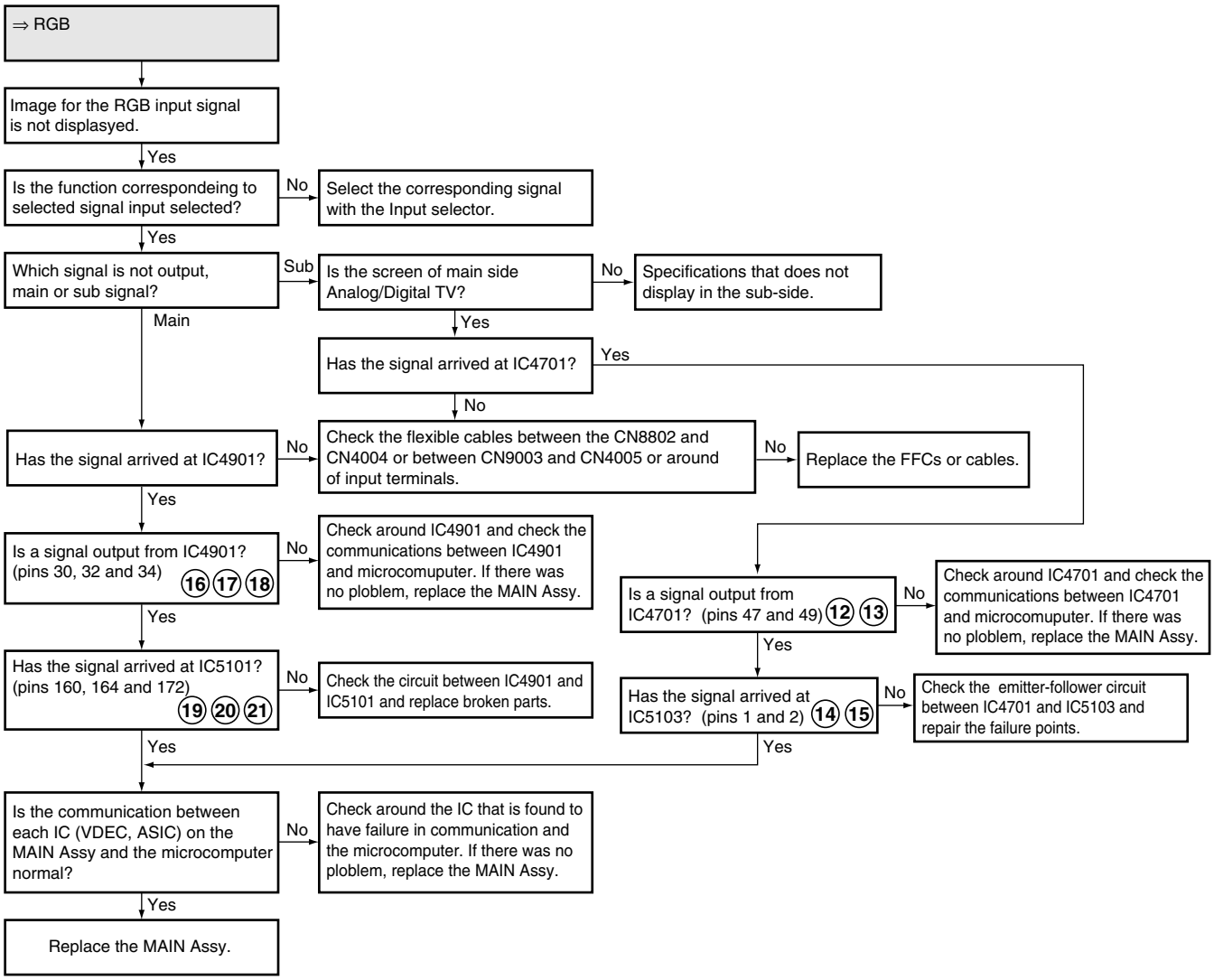
Replace the MAIN Assy.

### ● Waveforms

Input signal: PAL Color-bar (S terminal)

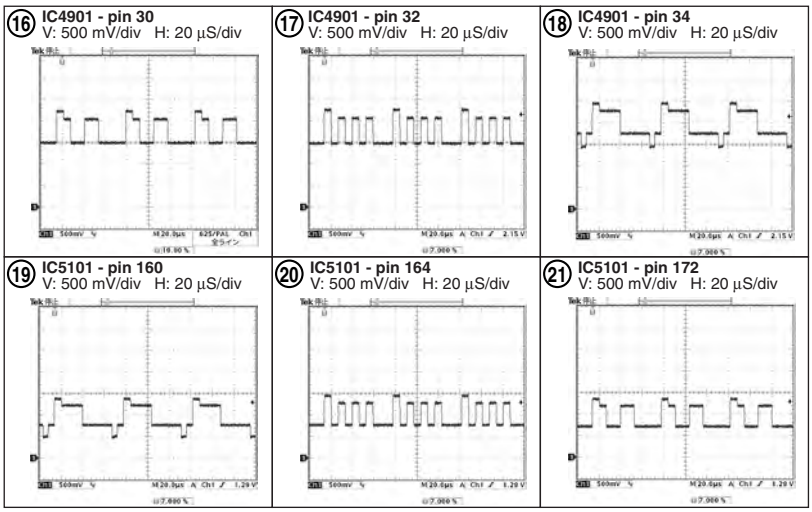
| | | | |
|---|---|---|---|
| ⑧ **IC4701 - pin 42** V: 500 mV/div H: 20 µS/div | ⑨ **IC4701 - pin 45** V: 500 mV/div H: 20 µS/div | ⑩ **IC5101 - pin 148** V: 500 mV/div H: 20 µS/div | ⑪ **IC5101 - pin 158** V: 500 mV/div H: 20 µS/div |
|  |  |  |  |
| ⑫ **IC4701 - pin 47** V: 500 mV/div H: 20 µS/div | ⑬ **IC4701 - pin 49** V: 500 mV/div H: 20 µS/div | ⑭ **IC5103 - pin 1** V: 500 mV/div H: 20 µS/div | ⑮ **IC5103 - pin 2** V: 500 mV/div H: 20 µS/div |
|  |  |  |  |

## Flowchart of Failure Analysis for The Video System



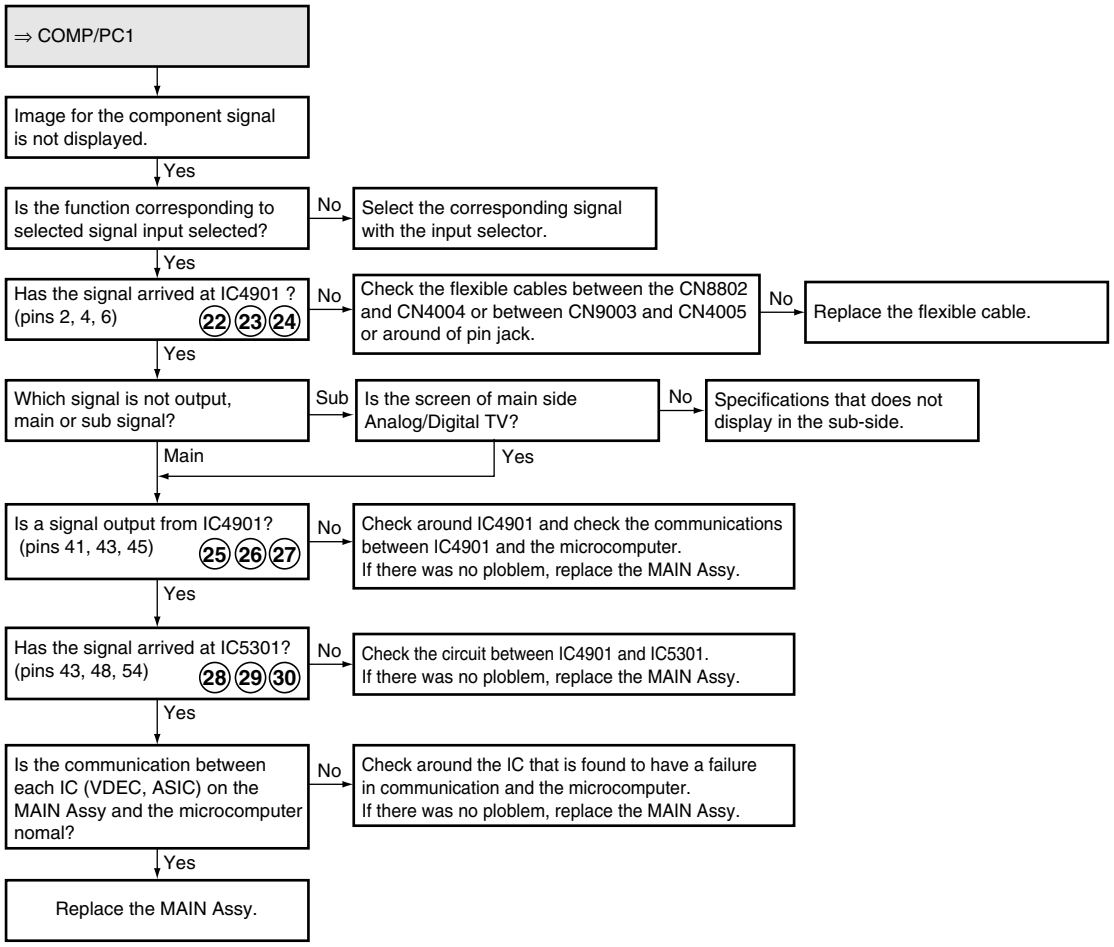

### ● Waveforms

Input signal: PAL Color-bar (S terminal)



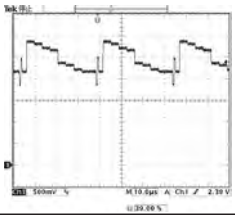
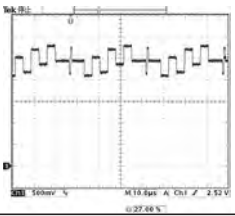
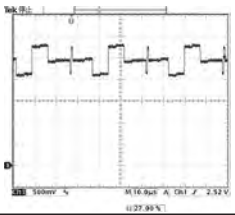
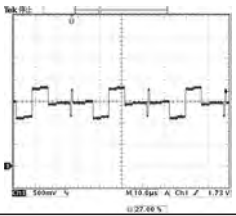
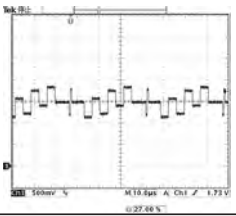
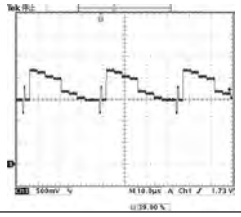
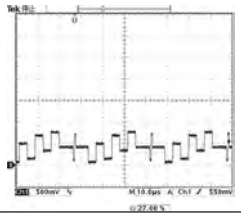
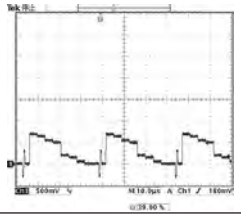
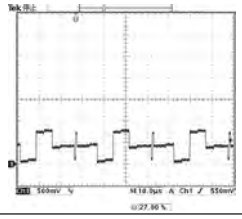
## Flowchart of Failure Analysis for The Video System

**No video from component**




### ● Waveforms

Input signal: Color-bar (Component 1080i)

| | | | | |
|---|---|---|---|---|
| 22 **IC4901 - pin 2** V: 500 mV/div H: 10 µS/div | 23 **IC4901 - pin 4** V: 500 mV/div H: 10 µS/div | 24 **IC4901 - pin 6** V: 500 mV/div H: 10 µS/div | 25 **IC4901 - pin 41** V: 500 mV/div H: 10 µS/div | 26 **IC4901 - pin 43** V: 500 mV/div H: 10 µS/div |
|  |  |  |  |  |
| 27 **IC4901 - pin 45** V: 500 mV/div H: 10 µS/div | 28 **IC5301 - pin 43** V: 500 mV/div H: 10 µS/div | 29 **IC5301 - pin 48** V: 500 mV/div H: 10 µS/div | 30 **IC5301 - pin 54** V: 500 mV/div H: 10 µS/div | |
|  |  |  |  | |

## Flowchart of Failure Analysis for The Video System

⇒ COMP/PC2

Image for the PC signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?
- No → Select the corresponding signal with the input selector.

Yes

Has the signal arrived at IC4901 ? (pins 61, 62, 64, 66, 68) (31) (32) (33) (34) (35)
- No → Check the flexible cable between the CN9301 and CN4018 or around of jack.
  - No → Replace the flexible cable.

Yes

Which signal is not output, main or sub signal?
- Sub → Is the screen of main side Analog/Digital TV?
  - No → Specifications that does not display in the sub-side.
  - Yes
- Main

Is a signal output from IC4901? (pins 41, 43, 45) (36) (37) (38)
- No → Check around IC4901 and check the communications between IC4901 and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

Has the signal arrived at IC5301? (pins 43, 48, 54) (39) (40) (41)
- No → Check the circuit between IC4901 and IC5301. If there was no ploblem, replace the MAIN Assy.

Yes

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer nomal?
- No → Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.

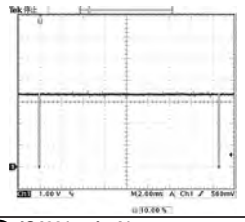
Yes

Replace the MAIN Assy.

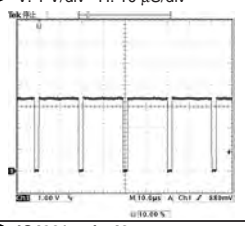
### ● Waveforms

Input signal: Color-bar (PC XGA/60 Hz)

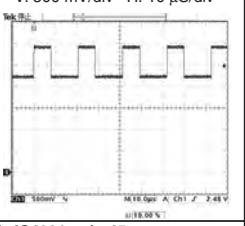
(31) **IC4901 - pin 61** V: 1 V/div H: 2 mS/div



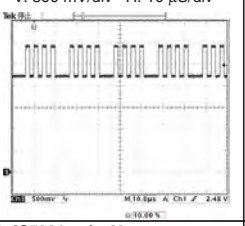
(32) **IC4901 - pin 62** V: 1 V/div H: 10 µS/div



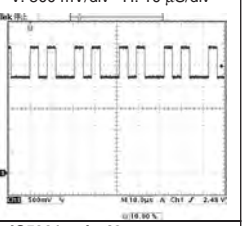
(33) **IC4901 - pin 64** V: 500 mV/div H: 10 µS/div



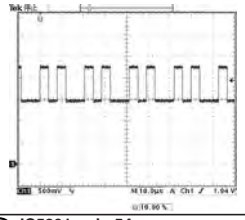
(34) **IC4901 - pin 66** V: 500 mV/div H: 10 µS/div



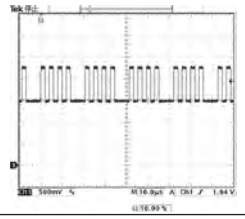
(35) **IC4901 - pin 68** V: 500 mV/div H: 10 µS/div



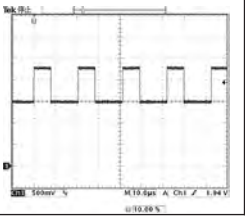
(36) **IC4901 - pin 41** V: 500 mV/div H: 10 µS/div



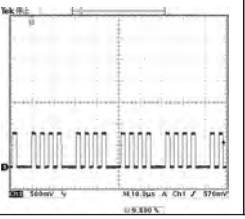
(37) **IC4901 - pin 43** V: 500 mV/div H: 10 µS/div



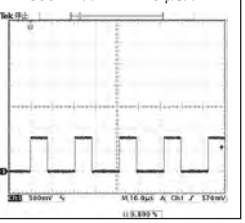
(38) **IC4901 - pin 45** V: 500 mV/div H: 10 µS/div



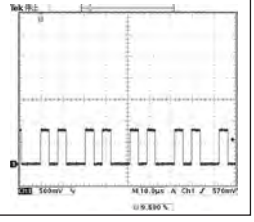
(39) **IC5301 - pin 43** V: 500 mV/div H: 10 µS/div



(40) **IC5301 - pin 48** V: 500 mV/div H: 10 µS/div

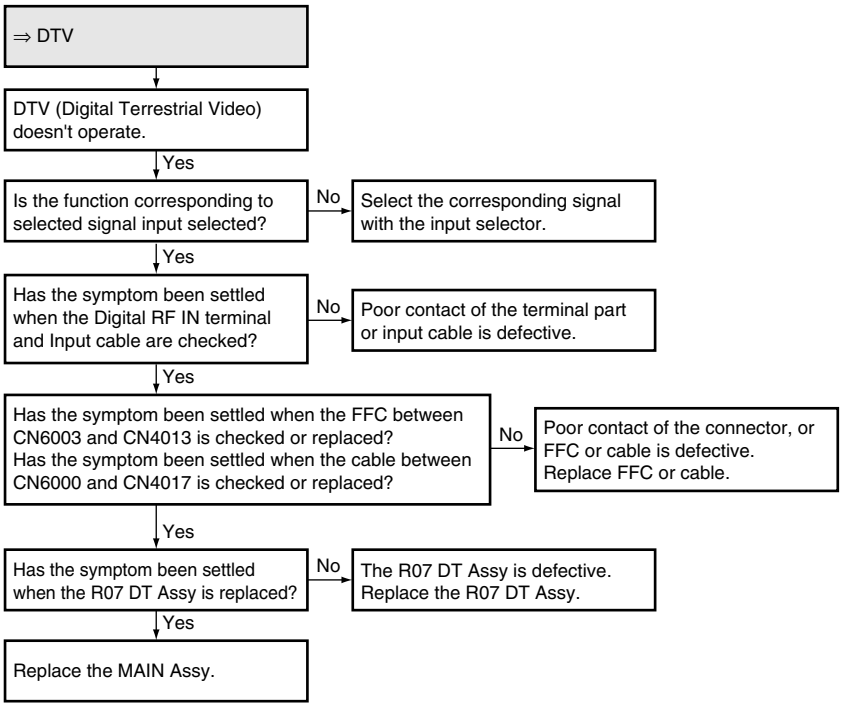


(41) **IC5301 - pin 54** V: 500 mV/div H: 10 µS/div



## Flowchart of Failure Analysis for The Video System

**DTV doesn't work**



# 5.1.7 FLOWCHART OF FAILURE ANALYSIS FOR THE AUDIO SYSTEM

## Flowchart of Failure Analysis for The Audio System

### No audio from monitor out

⇒ MONI_A

The sound is not emitted audio out.

Yes

Is a signal output from IC4701? (pin 33, 34) (30)
- No → Check the surrounding of IC4701 and each input signal. If there was no ploblem, replace the MAIN ASSY.

Yes

Has the signal arrived at CN4005?
- No → Check the communication between IC4701 and CN4005.
  - NG → Replace the MAIN Assy.

Yes

Is a signal output from CN8803?
- No → Check the Flexible cable between CN4005 and CN8803.
  - NG → Replace or reconnect flexible cable.

Yes

Has the signal come to TP8825 or TP8826?
- No → Check the contact between the CN8803 and R8886. Check the contact between the CN8803 and R8887.
  - NG → Replace the TANSHI Assy.

Yes

Is a signal output from jack?
- No → Check the communication between the CN8803 and Jack. If there was no ploblem, replace IO Assy.
  - NG → Replace the TANSHI Assy.

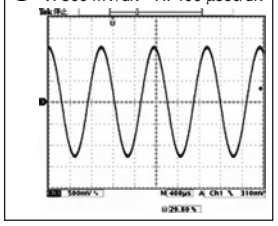
Yes

Finishing troubleshooting.

**● Waveforms**

Input signal: 1kHz
Sound volume is fixed to 25.

(30) IC4701 - pin 33, 34 (AC)
V: 500 mV/div H: 400 µsec/div



### No audio output from subwoofer

⇒ SUB-W

Has the sound been emitted from the Subwoofer?
- No → Cansel muting then check again.
  - No → Cansel muting then check again.
  - Yes → Is the volume set to 0?
    - No → Raise the volume then check again.

Yes

Is a signal output from IC4701? (pin 31, 32) (31)
- No → Check the around of IC4701 and each input signal. If there was no ploblem, replace the MAIN ASSY.

Yes

Is a signal output from IC4704? (pin 1, 7) (32)
- No → Check around IC4704.
  - NG → Replace the MAIN Assy.

Yes

Has the signal arrived at CN4005?
- No → Check the communication between IC4704 to CN4005.
  - NG → Replace the MAIN Assy.

Yes

Is a signal output from CN8803?
- No → Check the Flexible cable between CN4005 and CN8803.
  - NG → Replace or reconnect flexible cable.

Yes

Has the signal come to TP8843?
- No → Check the contact between the CN8803 and R8892.
  - NG → Replace the TANSHI Assy.

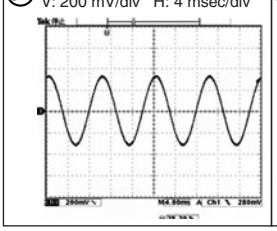
Yes

Check the around of pin Jack.

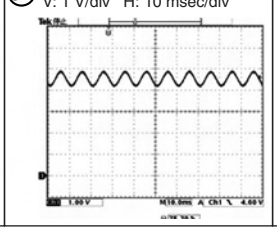
**● Waveforms**

Input signal: 100 Hz
Sound volume is fixed to 25.

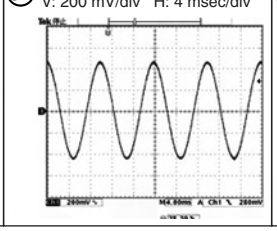
(31) IC4701 - pin 31, 32 (AC-SUBWOO)
V: 200 mV/div H: 4 msec/div



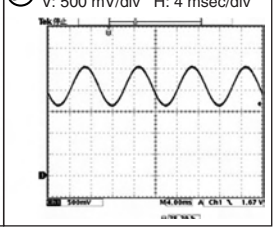
(31) IC4701 - pin 31, 32 (DC-SUBWOO)
V: 1 V/div H: 10 msec/div



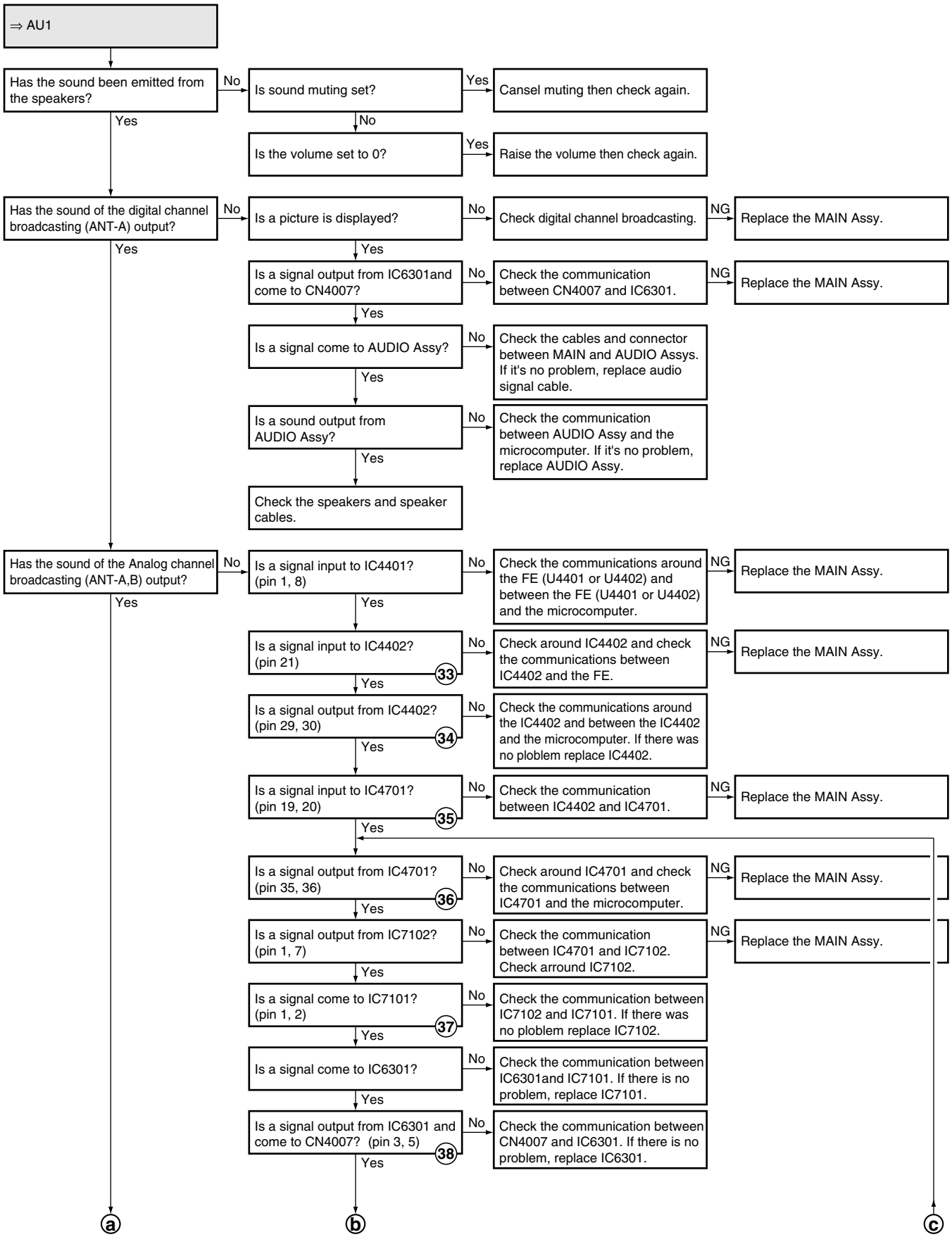
(32) IC4704 - pin 1, 7 (AC-SUBWOO)
V: 200 mV/div H: 4 msec/div

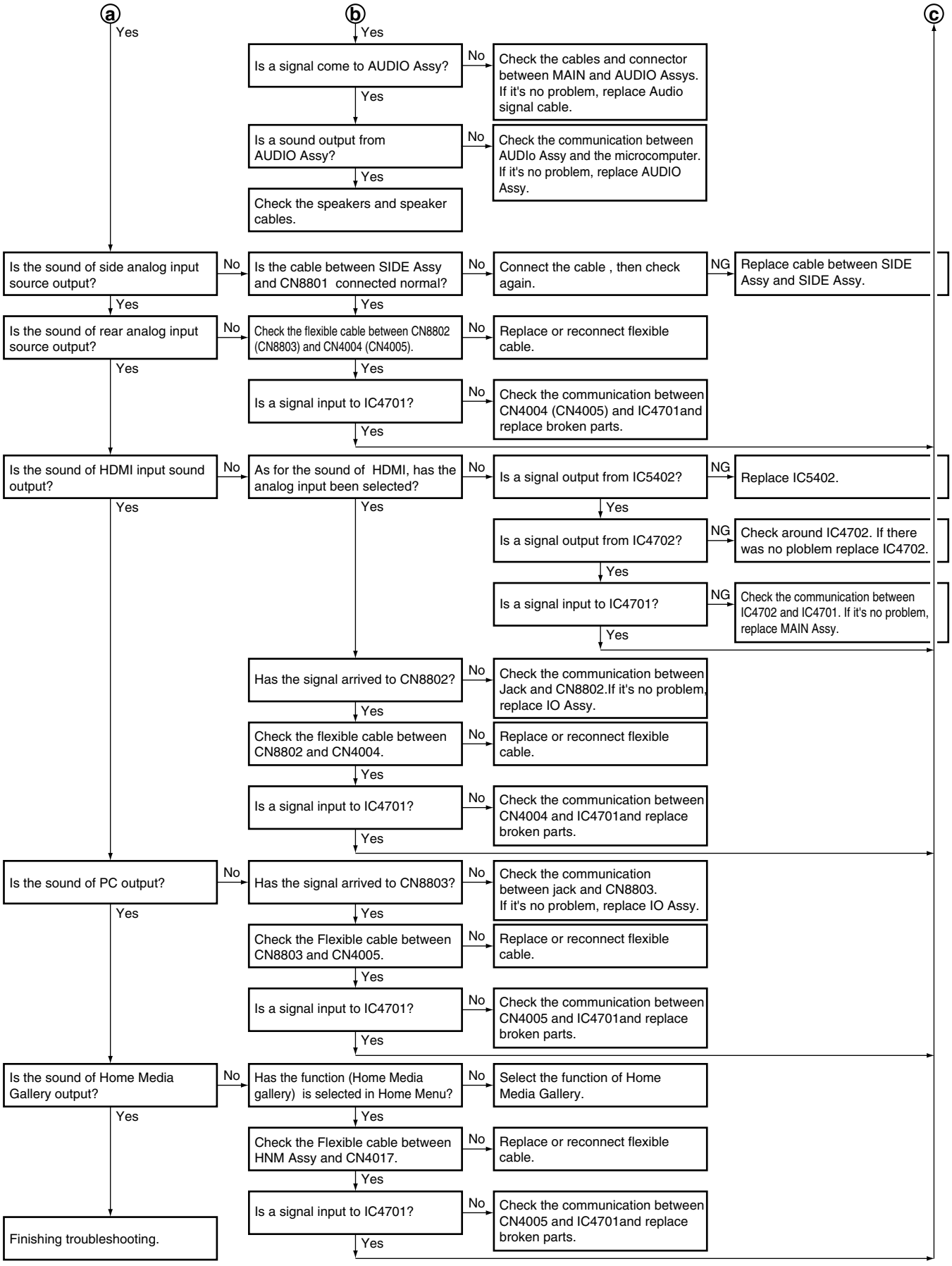


(32) IC4704 - pin 1, 7 (DC-SUBWOO)
V: 500 mV/div H: 4 msec/div



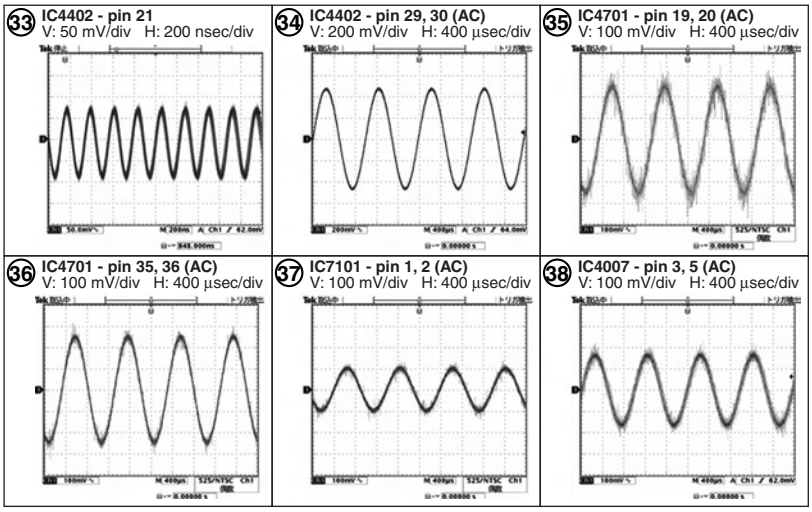
## No sound from panel



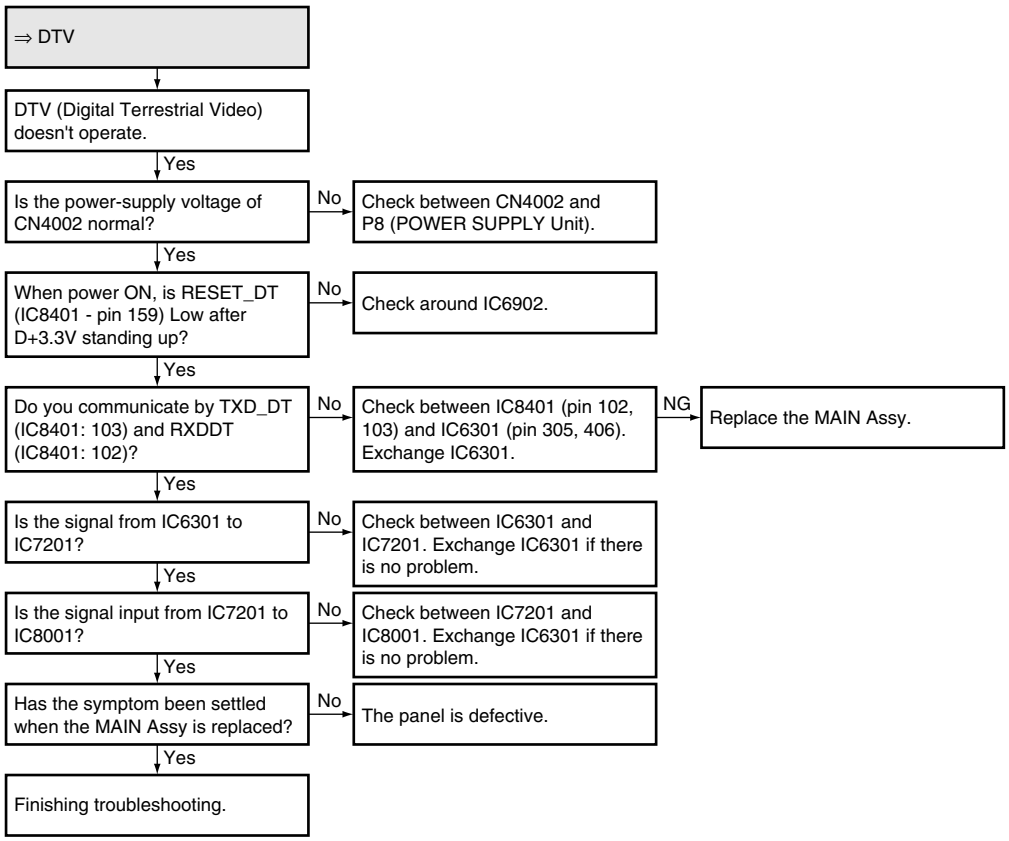

a
b
c
Yes
Is a signal come to AUDIO Assy?
No
Check the cables and connector between MAIN and AUDIO Assys. If it's no problem, replace Audio signal cable.
Is a sound output from AUDIO Assy?
Check the communication between AUDIo Assy and the microcomputer. If it's no problem, replace AUDIO Assy.
Check the speakers and speaker cables.
Is the sound of side analog input source output?
Is the cable between SIDE Assy and CN8801 connected normal?
Connect the cable , then check again.
NG
Replace cable between SIDE Assy and SIDE Assy.
Is the sound of rear analog input source output?
Check the flexible cable between CN8802 (CN8803) and CN4004 (CN4005).
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4004 (CN4005) and IC4701and replace broken parts.
Is the sound of HDMI input sound output?
As for the sound of HDMI, has the analog input been selected?
Is a signal output from IC5402?
Replace IC5402.
Is a signal output from IC4702?
Check around IC4702. If there was no ploblem replace IC4702.
Is a signal input to IC4701?
Check the communication between IC4702 and IC4701. If it's no problem, replace MAIN Assy.
Has the signal arrived to CN8802?
Check the communication between Jack and CN8802.If it's no problem, replace IO Assy.
Check the flexible cable between CN8802 and CN4004.
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4004 and IC4701and replace broken parts.
Is the sound of PC output?
Has the signal arrived to CN8803?
Check the communication between jack and CN8803. If it's no problem, replace IO Assy.
Check the Flexible cable between CN8803 and CN4005.
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4005 and IC4701and replace broken parts.
Is the sound of Home Media Gallery output?
Has the function (Home Media gallery) is selected in Home Menu?
Select the function of Home Media Gallery.
Check the Flexible cable between HNM Assy and CN4017.
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4005 and IC4701and replace broken parts.
Finishing troubleshooting.

## ● Waveforms

Input signal: 1kHz
Sound volume is fixed to 25.




**DTV doesn't work**

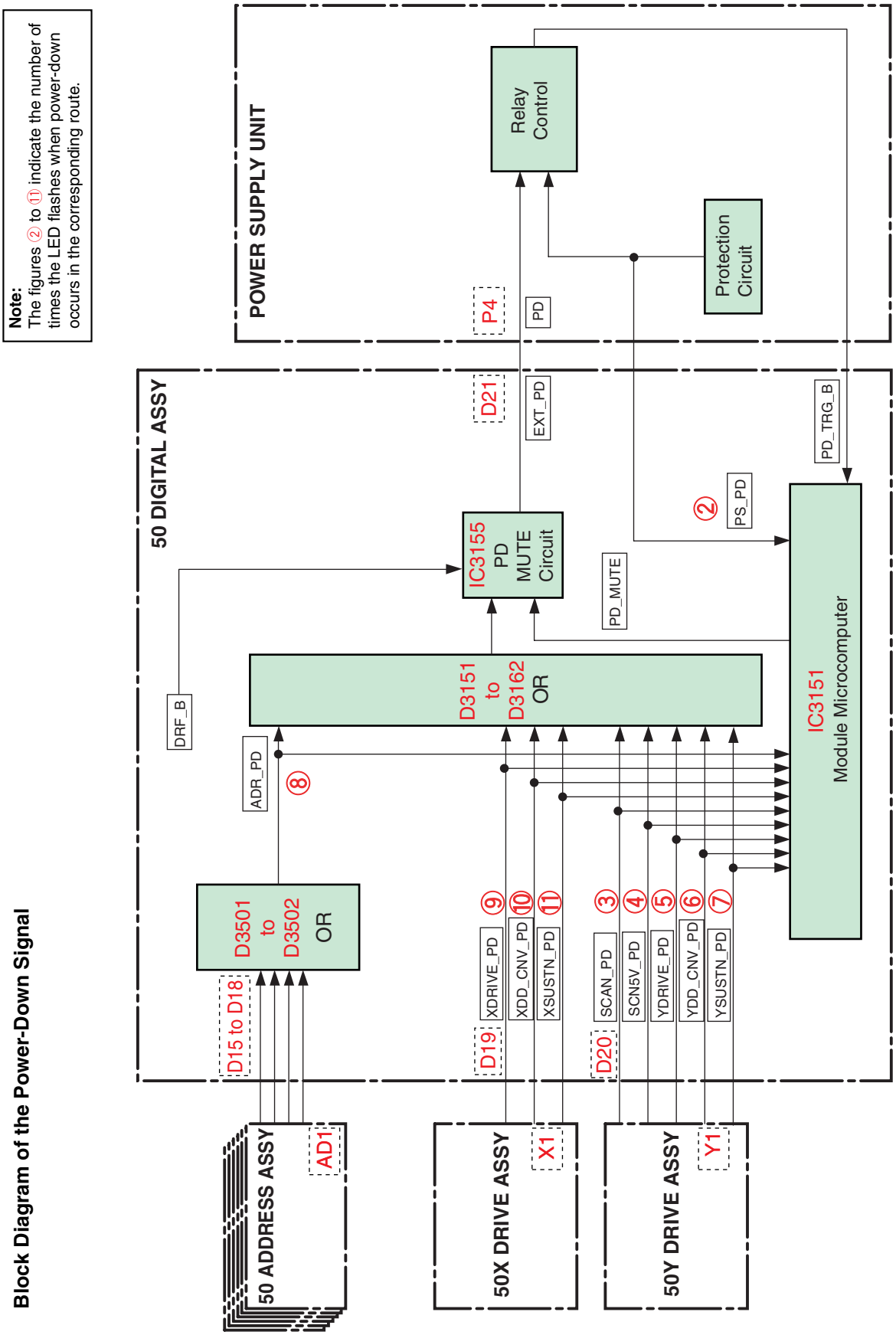


# 5.2 POWER DOWN

## 5.2.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

### ■ Block Diagram of the Power-Down Signal

**Note:**
The figures ② to ⑪ indicate the number of times the LED flashes when power-down occurs in the corresponding route.




Block Diagram of the Power-Down Signal

## 5.2.2 POWER DOWN OF FAILURE ANALYSIS

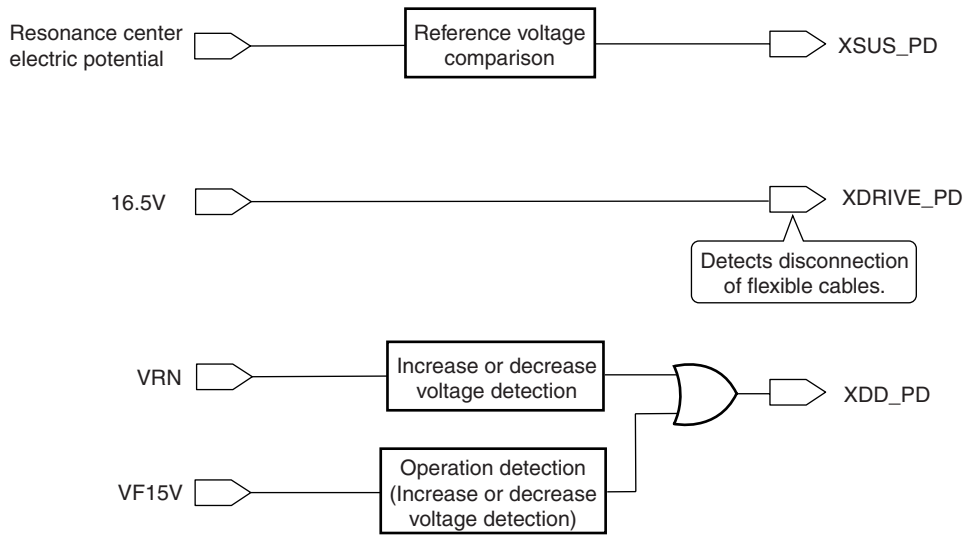
### ■ Prediction of failure symptoms when a PD (power-down) is generated

| LED Flashing Count | PD Circuit | Checkpoint | Main Cause |
|---|---|---|---|
| 2 | Power supply PD | POWER SUPPLY Unit | Failure in the POWER SUPPLY Unit |
| 3 | SCAN PD | 50 SCAN A, B Assy | SCAN IC is damaged (short-circuiting between VH and GNDH) |
| | | 50Y DRIVE Assy | Connectors disconnected between the POWER SUPPLY Unit and the Y DRIVE Assy<br>Connectors disconnected between the DIGITAL and the Y DRIVE Assys<br>Failure in the VH power |
| 4 | IC5V PD | 50SCAN A, B Assy | SCAN IC is damaged (short-circuiting between IC5V and GNDH) |
| | | | Disconnection of the scan-bridge (15-pin) connector |
| | | 50Y DRIVE Assy | Failure in the photo coupler |
| | | | Abnormality in the IC5V DC/DC converter |
| 5 | Y-DRIVE PD | 50Y DRIVE Assy | Abnormality in the 16.5 V power |
| 6 | Y DCDC PD | 50Y DRIVE Assy | Abnormality in the VOFS DC/DC converter |
| | | | Abnormality in the VPRST DC/DC converter |
| | | | Abnormality in VC_15V DC/DC converter |
| | | | |
| 7 | Y SUS PD | 50Y DRIVE Assy | Abnormality in the DK module |
| | | | Abnormality in the control signal line |
| 8 | Address PD | 50 ADDRESS Assy | Short-circuiting of Vadr<br>TCP damaged |
| 9 | X-DRIVE PD | 50X DRIVE Assy | Connectors disconnected between the DIGITAL and the X DRIVE Assys |
| | | | Abnormality in the 16.5 V power |
| 10 | X DCDC PD | 50X DRIVE Assy | Abnormality in VC_15V power |
| | | | Abnormality in VXNRST power |
| 11 | X SUS PD | 50X DRIVE Assy | Abnormality in the DK module |
| | | | Abnormality in the control signal line |
| | | | Connectors disconnected between the POWER SUPPLY Unit and the X DRIVE Assy |

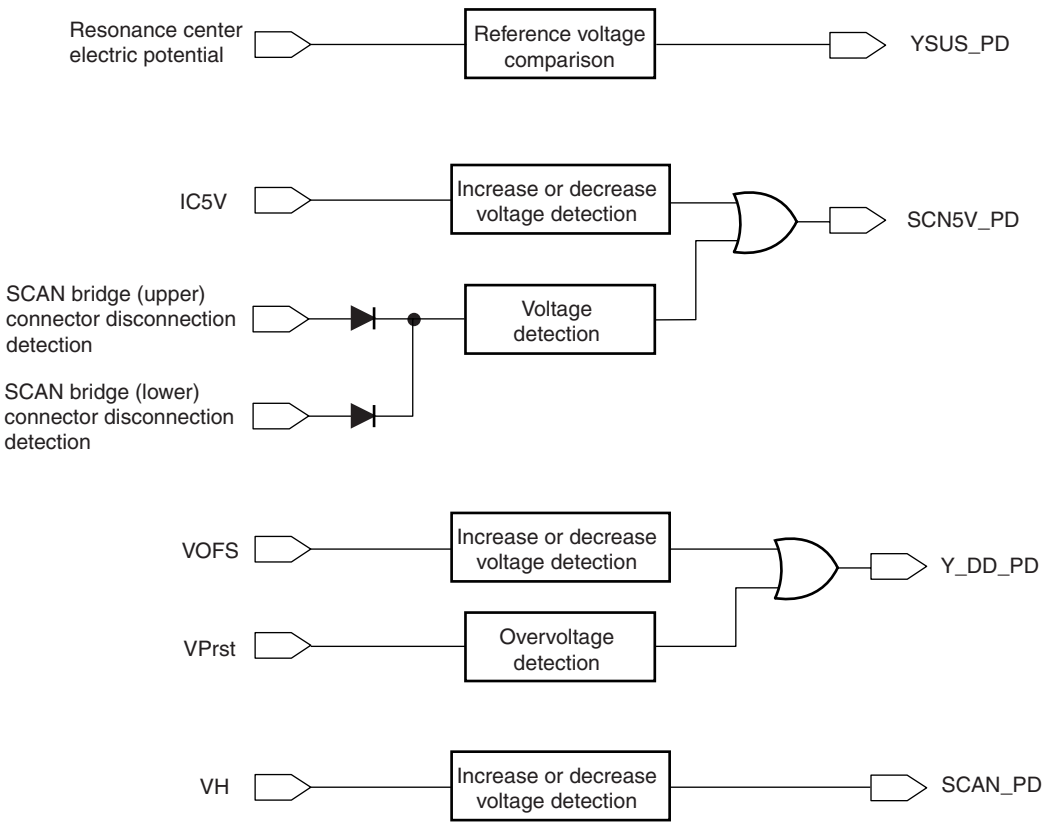
### ■ How to distinguish which connector is disconnected

| Assy | Connector | To which Assy the Connector is Connected | Frequency of LED Flashing | Screen Display |
|---|---|---|---|---|
| 50X DRIVE Assy | CN1001 | 50 DIGITAL Assy | 11 (XDRIVE) | – |
| | CN1205 | POWER SUPPLY Unit (ADR system power) | – | White (left half of the screen) |
| | CN1204 | POWER SUPPLY Unit (drive system power) | 12 (X-SUS) | – |
| | CN1206 | 50 ADDRESS Assy | 8 (ADR) | – |
| 50Y DRIVE Assy | CN2001 | 50 DIGITAL Assy | 3 (SCAN) | – |
| | CN2204 | POWER SUPPLY Unit (drive system power) | 3 (SCAN) | – |
| | CN2206 | POWER SUPPLY Unit (ADR system power) | – | White (right half of the screen) |
| | CN2205 | 50 ADDRESS Assy | 8 (ADR) | – |
| | CN2601 | 50 SCAN A, B Assy | 4 (SCN-5V) | – |
| 50 SCAN A, B Assy | CN2801 | 50Y DRIVE Assy | 4 (SCN-5V) | – |
| 50 ADDRESS Assy | CN1602, CN1802 | 50 DIGITAL Assy | 8 (ADRS) | – |
| | CN1601, CN1801 | 50X DRIVE Assy, 50Y DRIVE Assy | 8 (ADRS) | – |

## X Drive PD system



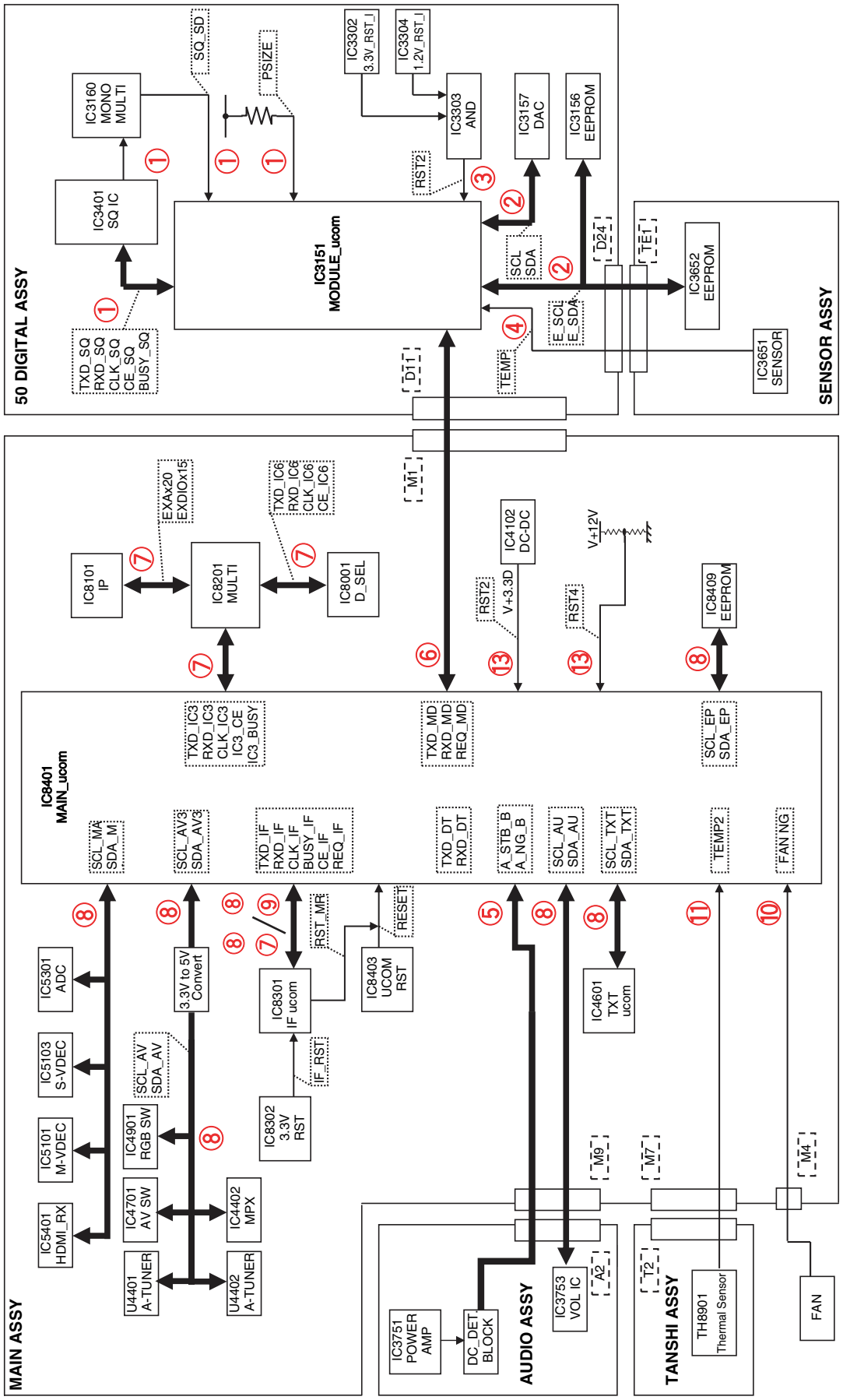

## Y Drive PD system



# 5.3 SHUT DOWN

## 5.3.1 BLOCK DIAGRAM OF THE SHUT-DOWN SIGNAL

### Block Diagram of the Shutdown Signal




**Block Diagram of the Shutdown Signal**

**Note :** The figures ① to ⑬ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.

| Frequency of LED Flashing | Major Type | Detailed Type | Log Indication in Factory Mode | | Checkpoint | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MAIN | SUB | | | |
| Blue 1 | Abnormality in the Sequence Processor | Communication error | SQ-IC | RTRY | CLK_SQ/TXD_SQ, etc. | IC3151, IC3401 | SQ_IC communication not established |
| | | Drive stop | | SQNO | Check if the video sync signal is input to IC3401. | CN3001, IC3401 | If the signal detection by the module microcomputer is properly performed, the unit operates on an external sync. |
| | | Busy | | BUSY | BUSY_SQ | IC3401 | If BUSY_SQ remains high, a shutdown is generated. |
| | | Incoherent version (hardware, software) | | VER-HS | Check the model number of the DIGITAL Assy and the destination of the sequence processor. | IC3301, IC3401 | The written SQ_PROG is incoherent with data on the DIGITAL Assy. |
| Blue 2 | Failure in IIC communication with the module microcomputer | DIGITAL Assy EEPROM | MD-IIC | EEPROM | IIC communication line of IC3156 | IC3151, IC3156 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | SENSOR Assy EEPROM | | BACKUP | IIC communication line of IC3652 | IC3151, IC3652 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC | | DAC | IIC communication line of IC3157 | IC3151, IC3157 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| Blue 3 | Abnormality in RST2 power decrease | – | RST2 | – | Is the output voltage of the DC-DC converter low? | AXY1135 | If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds. |
| | | | | | The 12 V power is not output. | POWER SUPPLY Unit | Check if V + 12 V is started. |
| Blue 4 | High temperature of the panel | – | TMP_NG | TEMP1 | Ambient temperature | – | If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated. |
| | | | | | Abnormality in the panel temperature sensor | IC3651 | Check the connection with the SENSOR Assy. |
| Blue 5 | Short-circuiting of the speakers | – | AUDIO | – | Speaker terminals | CN3753, CN3901, JA3901 | Check if any speaker cable is in contact with the chassis. |
| | | | | | AUDIO_AMP | IC3751 | Check if the AMP output is short-circuited. |
| | | | | | Periphery of the cable between A2 and M8 | CN3752, CN4007 | Check if cables are firmly connected. |
| Blue 6 | Failure in communication with the module microcomputer | – | MODULE | – | Communication line between MAIN and MOD | IC3151, IC8401 | Check the communication lines (RXD_MOD/RXD_MOD/REQ_MOD). |
| | | | | | Periphery of the cable between D11 and M2 | CN3001, CN4001 | Check if cables are firmly connected. |
| Blue 7 | Failure in main microcomputer 3-wire serial communication | IF microcomputer | MA-SRL | IF | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| | | MULTI | | MULTI | Communication line between MULTI_M and MAIN | IC8201, IC8401 | Check the communication lines (TXD_IC3/RXD_IC3/CLK_IC3/CE_IC3/IC3_BUSY). |
| | | | | I/P | Bus communication line between IP and MULTI_M | IC8101, IC8201 | Check the communication lines (EXA/EXDIO). |
| | | | | D_SEL | Communication line between D_SEL and MULTI_M | IC8001, IC8201 | Check the communication lines (TXD_IC6/RXD_IC6/CLK_IC6/CE_IC6). |
| Blue 8 | Failure in IIC communication with the main microcomputer | AV Switch | MA-IIC | AV-SW | IIC communication line between AV_SW and MAIN | IC4701, IC8401 | Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV). |
| | | RGB Switch | | RGB-SW | IIC communication line between RGB_SW and MAIN | IC4901, IC8401 | Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV). |
| | | Analog Tuner | | FE1 | IIC communication line between A_Tuner and MAIN | U4401, IC8401 | Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV). |
| | | Sub VDEC | | S-VDEC | IIC communication line between S_VDEC and MAIN | IC5103, IC8401 | Check the communication lines (SCL_MA/SDA_MA ). |
| | | MPX | | MPX | IIC communication line between MPX and MAIN | IC4402, IC8401 | Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV). |
| | | Main VDEC | | M-VDEC | IIC communication line between M_VDEC and MAIN | IC5101, IC8401 | Check the communication lines (SCL_MA/SDA_MA). |
| | | AD/PLL | | ADC | IIC communication line between ADC and MAIN | IC5301, IC8401 | Check the communication lines (SCL_MA/SDA_MA). |
| | | HDMI | | HDMI | IIC communication line between HDMI_RX and MAIN | IC5401, IC8401 | Check the communication lines (SCL_MA/SDA_MA). |
| | | TXT | | TXT | IIC communication line between TXT and MAIN | IC4601, IC8401 | Check the communication lines (SCL_TXT/SDA_TXT). |
| | | 64K EEPROM | | MA-EEP | IIC communication line between EEPROM and MAIN | IC4801, IC8401 | Check the communication lines (SCL_TXT/SDA_EP). |
| | | VOLUME IC | | AUDIO | IIC communication line between VOL_IC and MAIN | IC3753, IC8401 | Check the communication lines (SCL_AUDIO/SDA_AUDIO). |
| | | VOLUME IC | | AUDIO | Periphery of the cable between A2 and M9 | CN3752, CN4007 | Check if cables are firmly connected. |
| Blue 9 | Failure in communication with the main microcomputer and unknown | – | MAIN | – | Communication line between IF and MAIN | IC8301, IC8303, IC8304, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| Blue 10 | Failure in the fan | – | FAN | – | Dirt attached to the fan motor | – | Check the fan. |
| | | | | | Periphery of the cable between fan and M4 | CN4009 | Check if cables are firmly connected. |
| | | | | | Periphery of the fan control regulator | IC8407 | – |
| Blue 11 | High temperature of the unit | – | TEMP2 | – | Temperature sensor or its periphery | – | A shutdown is generated if TEMP2 becomes higher than 53°C |
| | | | | | Periphery of the temperature sensor | TH8801, Q8806 | TEMP2 |
| | | | | | Periphery of the cable between T1 and M6 | CN8804, CN4005 | Check if cables are firmly connected. |
| Blue 12 | Digital Tuner The unit will not be shut down. the log is recorded | – | DTUNER | | Failure in the system IC or its peripheral circuit | IC2000 | Check for short-circuited/open communication line (M12 TXD_DT/RXD_DT) |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Blue 13 | Failure in the POWER SUPPLY Unit | DC-DC converter power decrease | MA-PWR | M-DCDC | DC-DC converter or its periphery, RST2 | IC4102, Q4106 | Check if V + 3.3 V is started. |
| | | POWER SUPPLY | | RELAY | The 12 V power is not output, RST4 | – | Check if V + 12 V is started. |
| | | | | | Periphery of the cable between P8 and M2 | CN4002 | Check if cables are firmly connected. |

# 5.4 NON-FAILURE SYMPTOMS

## ■ Information on symptoms that do not constitute failure

| Symptom | Cause, item to check, information |
|---|---|
| **HDMI: Symptoms concerning the input format and settings** | |
| The picture color for an INPUT 3 or 4 signal is not correct. | The color setting for INPUT 3 or 4 is not compatible with that of the output equipment.<br>Check whether the color setting is YPbPr or RGB. |
| The video signal to INPUT 3 or 4 is not displayed, and a message is displayed. | A unsupported video signal is input.<br>Example: 1080p @ 60Hz |
| The audio signal input to the INPUT 3 or 4 pin jack is not output. | The audio setting for INPUT 3 or 4 is "AUTO," and a video signal is not input. If the audio setting is "AUTO," to output an analog audio signal, the DVI signal must be input via a DVI-HDMI conversion cable.<br>When the DVI equipment is connected, the analog signals are selected with the setting "AUTO." |
| No sound of signals to INPUT 3 or 4 is output. | The setting on the side of the HDMI output equipment is wrong.<br>Example: Dolby Digital |
| **MONITOR video output** | |
| The video output signal from the MONITOR connector is deteriorated. Or when the video output signal from the MONITOR connector is recorded, its playback picture is deteriorated. | The video signal output from the MONITOR connector is Macrovision protected. |
| The video signal is not output when the component signal is input to INPUT 2. | The video signal is not output from the MONITOR connector when the component signal is selected. |
| The video signal is not output when the video signal is input to INPUT 3 or 4. | The video signal is not output from the MONITOR connector when the HDMI signal is selected. |
| **MONITOR audio output** | |
| The image displayed on the PDP is not synchronized with the sound from the MONITOR audio output. | The audio signal from the MONITOR connector is synchronized with the video output signal from the MONITOR connector. |
| **DIGITAL audio output** | |
| Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible. | The video signal output from the DIGITAL connector is copy-protected. |
| The video output signal from the DIGITAL connector is not synchronized with that from the MONITOR video output. | The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the MONITOR video output. |
| **Miscellaneous** | |
| The no-signal off function is not activated. | The no-signal off function is effective only while a video signal is being input. |
| The no-operation off function is not activated. | The no-operation off function is effective only while a video signal is being input. |
| Power management does not function. | Power management is effective only while a signal is being input from a PC. |
| The AUTO SETUP function is not activated. | The AUTO SETUP function is effective only while a signal is being input from a PC. |
| Control via the SR connector is not possible. | A failure in wrong connection of the cable to the SR audio connector is suspected. |
| The audio signal from the PC is not output. | A failure in wrong connection of the cable to the PC connector is suspected. |
| The picture-quality setting (AV Selection) is not stored. | The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored. |
| The picture size changes arbitrary. | The Auto Size setting is set to ON (default is OFF). |
| The display position of the screen slightly changes every time the unit is turned on. | The orbiter function for minimizing the effects of phosphor burn is activated. As ON/OFF of this function can only be changed on the Integrator menu, turning off of this function by a user is not possible. |
| The video signal to the S video connector is not displayed. | Although S video input is selected on the menu, the cable is connected via a component video input connector whose function type is the same as S video input. |
| The video signal to the composite video connector is not displayed. | Although the composite video input is selected on the menu, the cable is connected via a component video connector or S video connector whose function type is the same as the composite video input. |

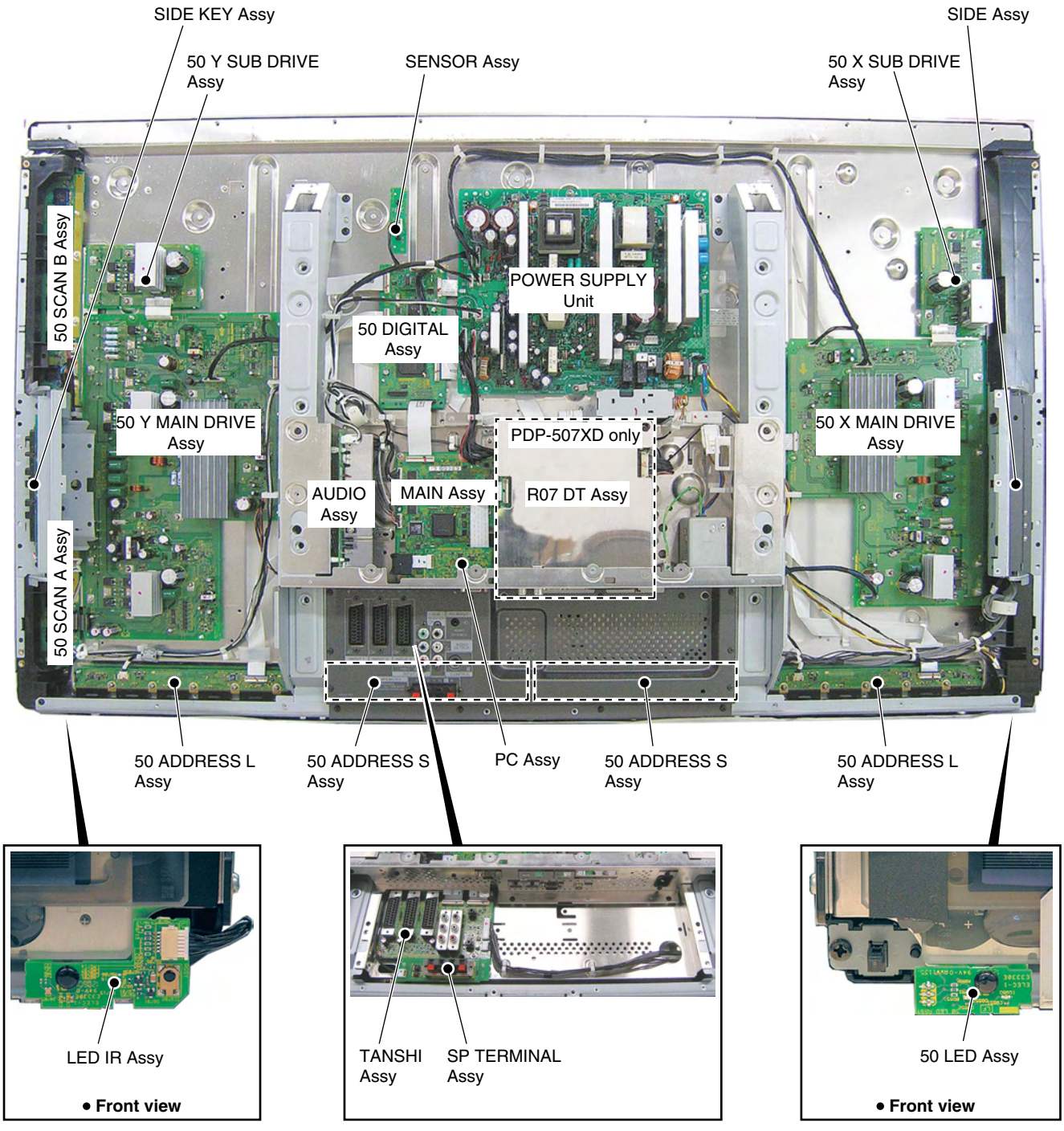
**SUPPLEMENT: On the video setting for HDMI**

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

# 6. DISASSEMBLY

## 6.1 PCB LOCATION

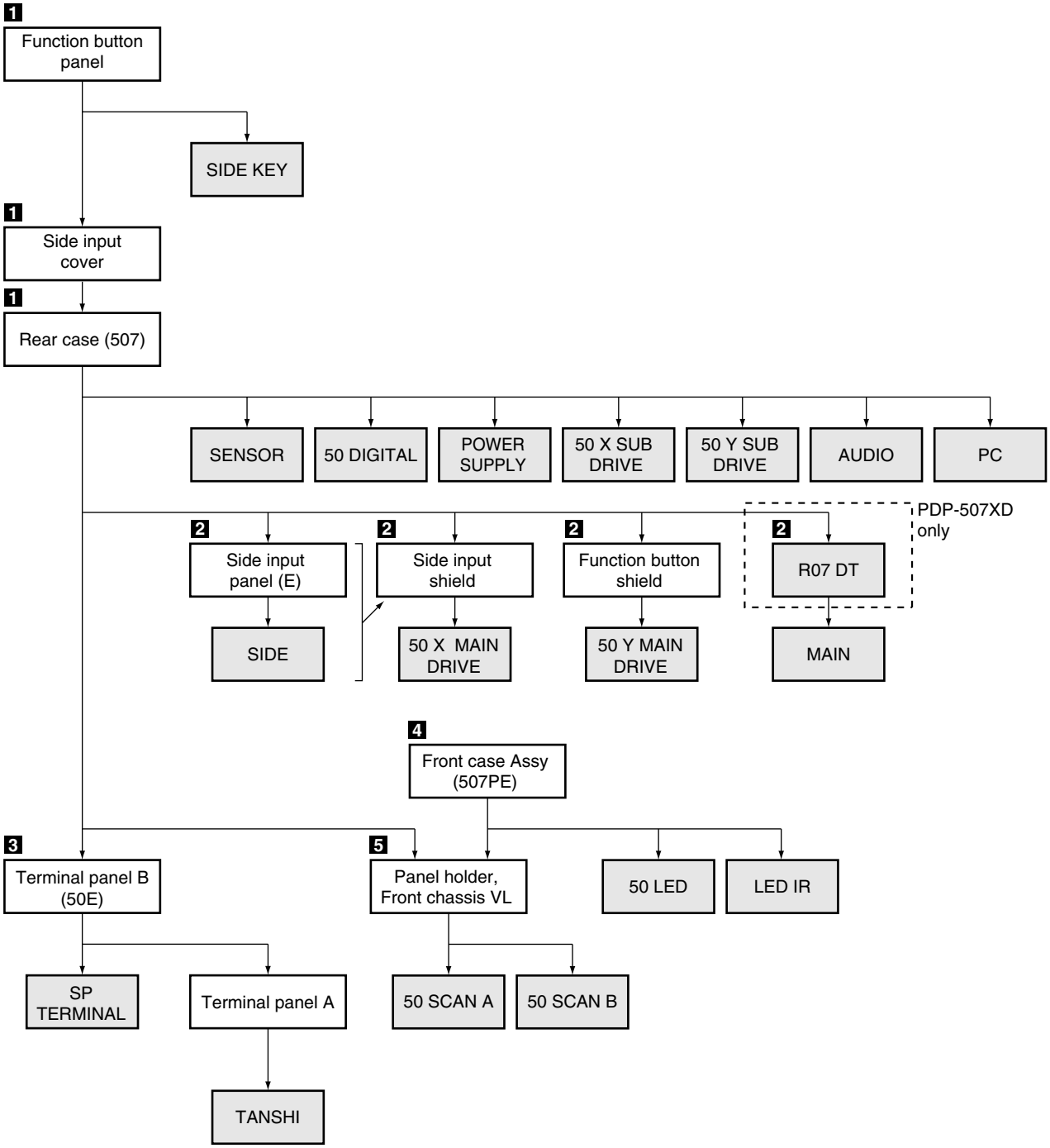


# 6.2 FLOWCHART OF THE MAIN PARTS AND PC BOARDS EXCHANGE

**Note:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

## Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



## Disassembly

### 1 Rear Case (507)

● **Function button panel**

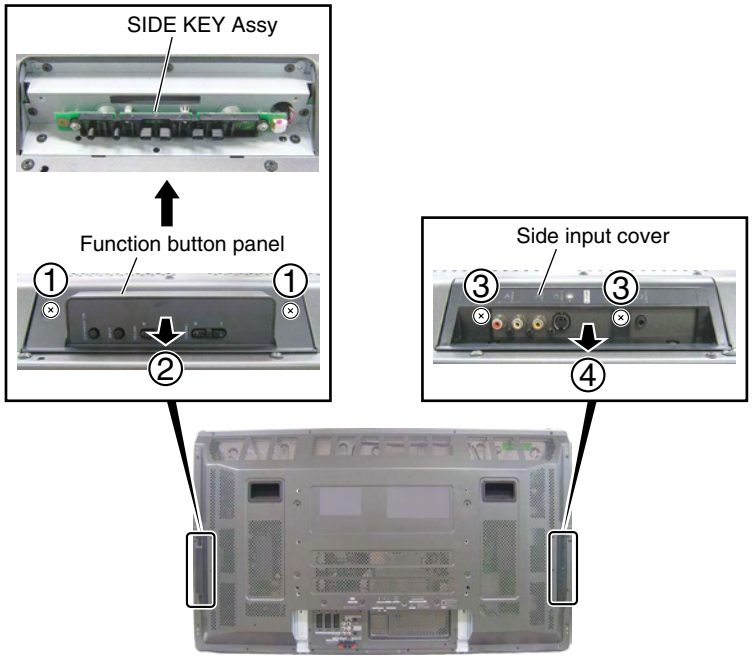
① Remove the two screws.

② Remove the function button panel.

● **Side input cover**

③ Remove the two screws.

④ Remove the side input cover.




● **Rear case (507)**

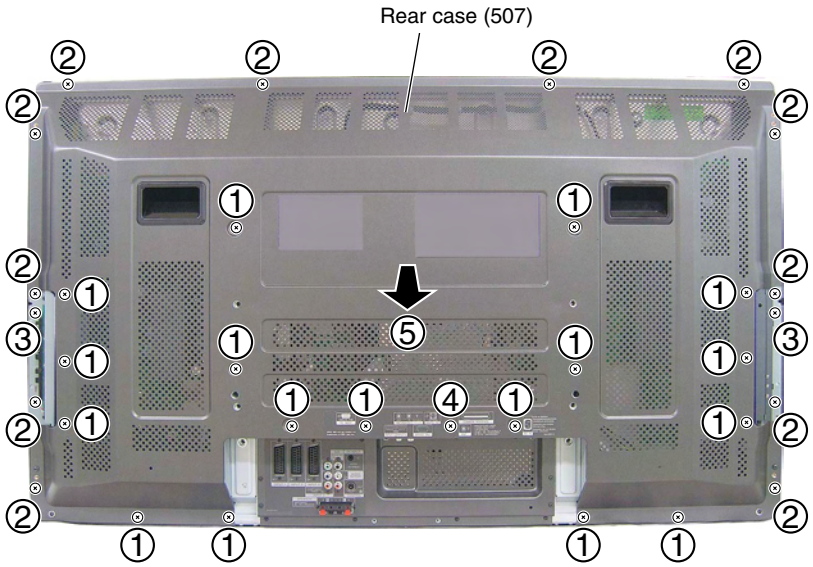
① Remove the 17 screws. (AMZ30P060FTB)

② Remove the 12 screws. (TBZ40P080FTB)

③ Remove the two screws. (ABA1332)

④ Remove the one screw. (ABA1341)

⑤ Remove the rear case (507).



## 2 Access to PCB Assys

● **SIDE Assy**

① Remove the four screws.
② Remove the two screws.
③ Remove the three screws.
④ Remove the side input panel (E).

● **50 X MAIN DRIVE Assy**

① Remove the two screws.
② Remove the side input shield with PCB.

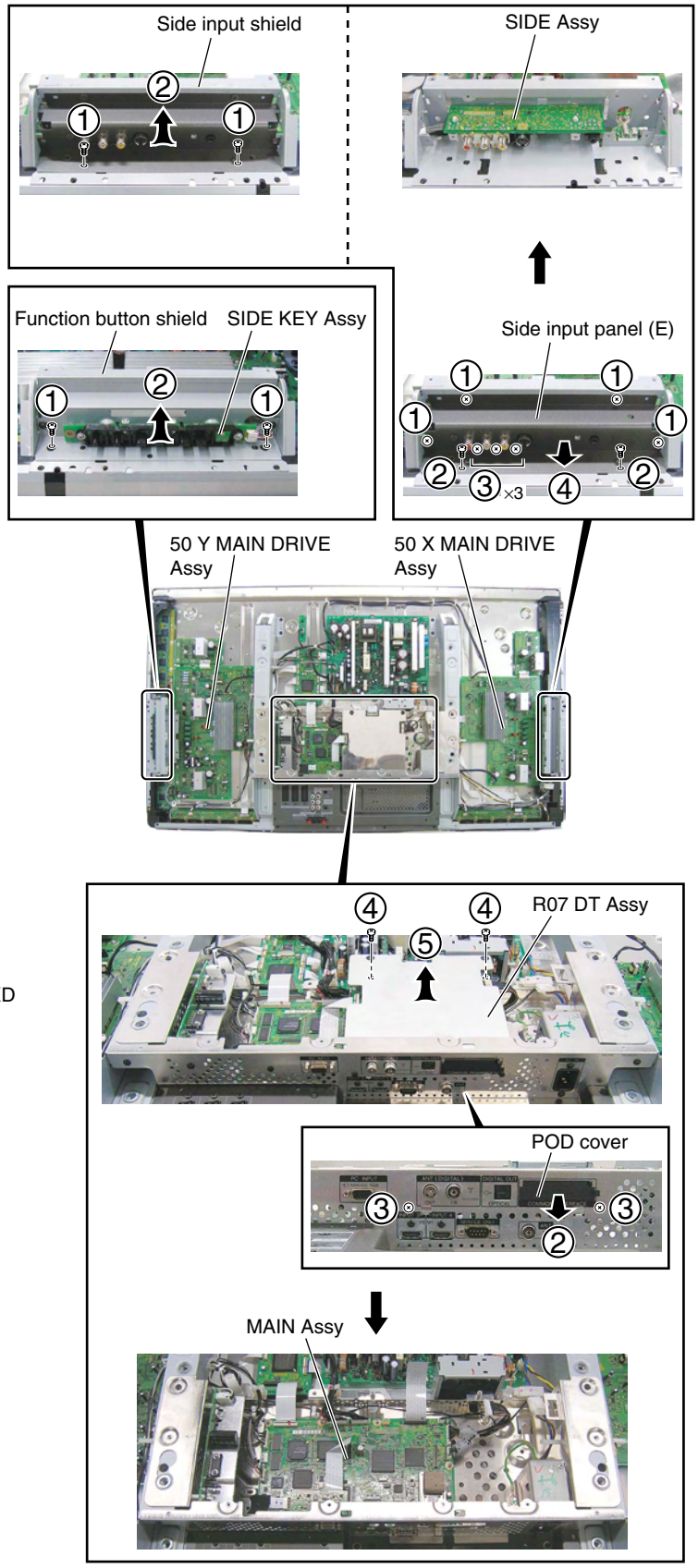
● **50 Y MAIN DRIVE Assy**

① Remove the two screws.
② Remove the function button shield with PCB.

● **MAIN Assy**

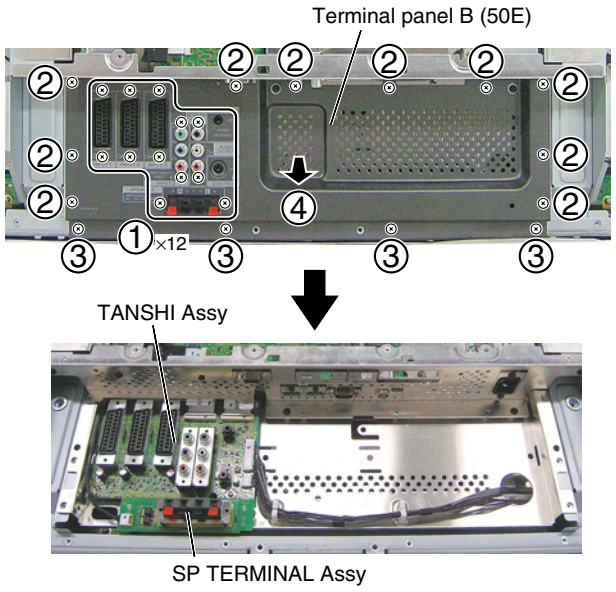
① Disconnect cables, connectors, as required.
② Remove the POD cover.
③ Remove the two screws.
④ Remove the two screws.
⑤ Remove the R07 DT Assy.

PDP-507XD only



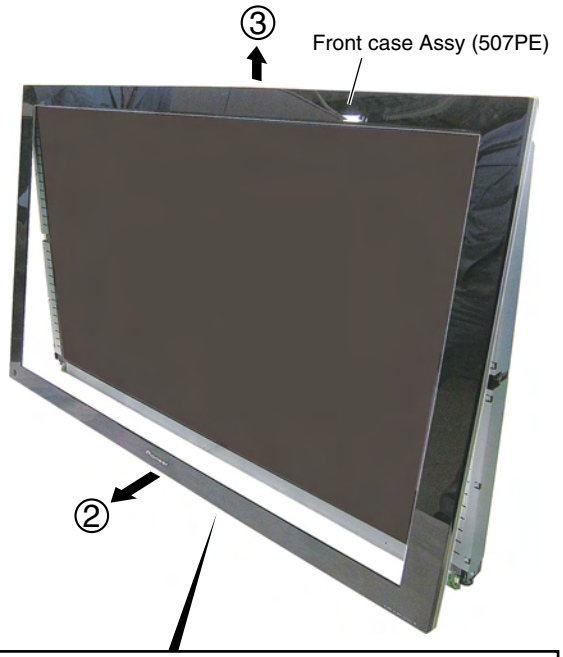
## 3 Terminal Panel B (50E)

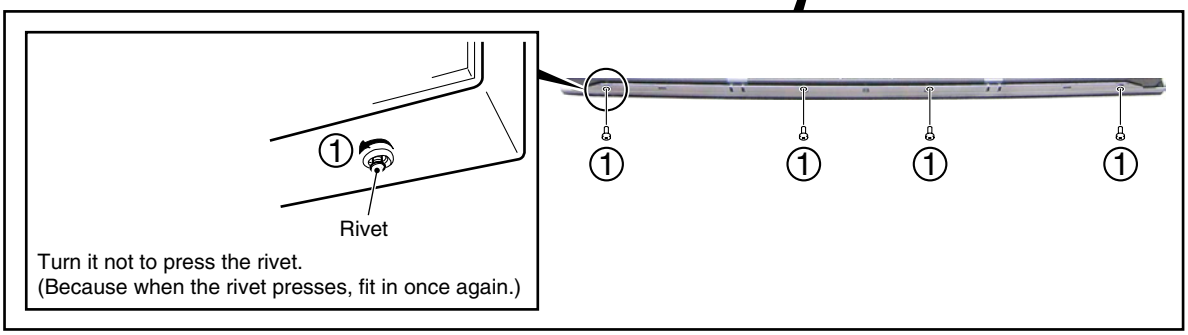
① Remove the 12 screws.
② Remove the 10 screws.
③ Remove the four screws.
④ Remove the terminal panel B (50E).




## 4 Front Case Assy (507PE)

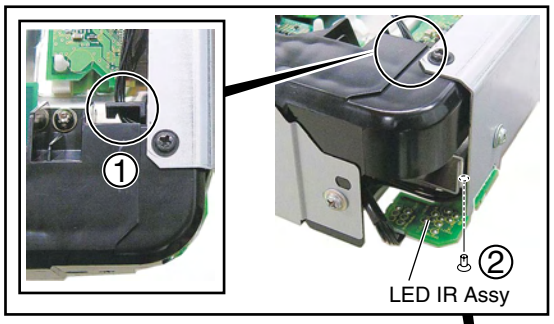
① Remove the four rivets.
② Pull the lower part of the Front case Assy (507PE) toward you and out.
③ Remove the Front case Assy (507PE), by pulling it upward.

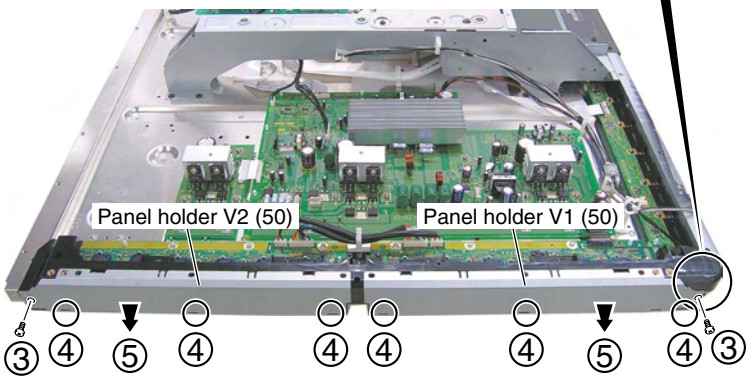


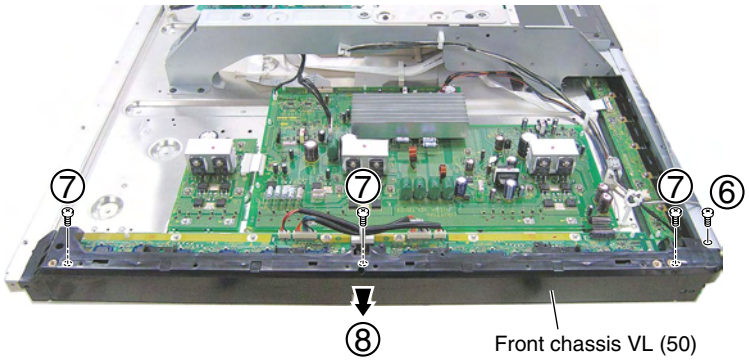
## 5 Exchange of SCAN IC

① Loosen the jumper wire.
② Remove the LED IR Assy by removing the one nyron rivet.
③ Remove the two screws.
④ Unhook the six hooks.
⑤ Remove the panel holders V1 (50) and V2 (50).

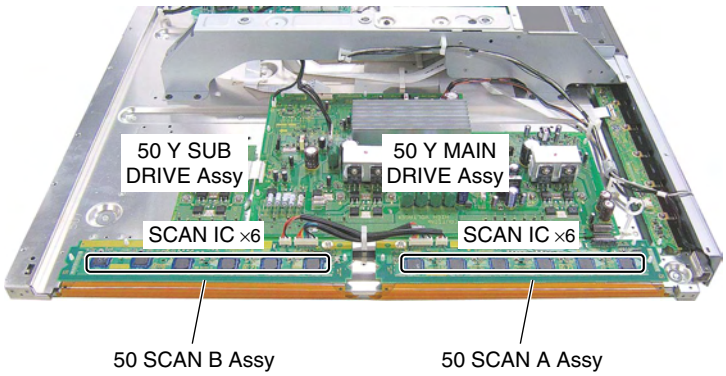



⑥ Remove the one screw.
⑦ Remove the three screws.
⑧ Remove the front chassis VL (50).




**Exchange**



# 7. ADJUSTMENT

## 7.1 PARTS CHANGE OF NOTES

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

## 7.2 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

### ■ When any of the following assemblies is replaced

| | | |
|---|---|---|
| POWER SUPPLY Unit | ➡ | Refer to "7.7 HOW TO CLEAR HISTORY DATA". |
| 50 DIGITAL Assy | ➡ | Writing of backup data is required.<br>Refer to the "7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. " |
| 50X MAIN DRIVE Assy | ➡ | No adjustment required |
| 50X SUB DRIVE Assy | ➡ | No adjustment required |
| 50Y MAIN DRIVE Assy | ➡ | No adjustment required |
| 50Y SUB DRIVE Assy | ➡ | No adjustment required |
| Service Panel Assy | ➡ | Refer to "7.5 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED" and "7.7 HOW TO CLEAR HISTORY DATA". |
| MAIN Assy | ➡ | Switching to SR+ from RS-232C |
| SENSOR Assy | ➡ | Writing of backup data is required.<br>Refer to the "7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. " |
| TANSHI Assy | ➡ | No adjustment required |
| R07 DT Assy (PDP-507XD only) | ➡ | No adjustment required |

# 7.3 ADJUSTMENT REQUIRED WHEN PART IS REPLACED

**Notes on replacing parts**

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

**Reason:** The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

| PCB Assy No. | Function Name | Parts that Require Whole-Assy Replacement | | |
|---|---|---|---|---|
| | | Ref No. | Function Name | Part No. |
| AWW1139 | 50 DIGITAL Assy | IC3151 | Module microcomputer | AGC1011 |
| | | IC3401 | Sequence IC | PEG239A |
| | | IC3301 | Flash memory | AGC1009 |
| | | IC3156 | EEPROM | BR24L04FJ-W |
| AWW1140 | SENSOR Assy | IC3652 | EEPROM | BR24L02FJ-W |
| AWV2318 | MAIN Assy | IC4603 | Flash ROM | AGC1020 |
| | | IC4701 | AV switch | R2S11002AFT |
| | | IC4901 | RGB switch | R2S11001FT |
| | | IC5101 | Main VDEC | UPD64015GM-UEU |
| | | IC5103 | Sub VDEC | TVP5150AM1PBS |
| | | IC5301 | A/D converter | AD9985KSTZ-110 |
| | | IC5403 | EEPROM | BR24L02FJ-W |
| | | IC5404 | EEPROM | BR24L02FJ-W |
| | | IC8202 | Flash ROM | AGC1019 |
| | | IC8301 | Flash UCOM | AGC1016 |
| | | IC8402 | Flash ROM | AGC1018 |
| | | | | |

| | |
|---|---|
| POWER SUPPLY Unit | The assembly must be replaced as a unit, and no part replacement is allowed. |
| MAIN Assy | No adjustment is required after replacement of parts other than those mentioned above. |
| 50 DIGITAL Assy | No adjustment is required after replacement of parts other than those mentioned above. |
| 50X MAIN DRIVE Assy | No adjustment is required after replacement of parts other than those shown in "7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED". |
| 50X SUB DRIVE Assy | No adjustment required |
| 50Y MAIN DRIVE Assy | No adjustment is required after replacement of parts other than those shown in "7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED". |
| 50Y SUB DRIVE Assy | No adjustment required |
| 50 ADDRESS Assy | No adjustment required |
| SENSOR Assy | No adjustment is required after replacement of parts other than those mentioned above. |
| TANSHI Assy | No adjustment required |
| R07 DT Assy (PDP-507XD only) | This assembly must be replaced as a unit, and no part replacement is allowed. |

# 7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED

## ■ Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

## ■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

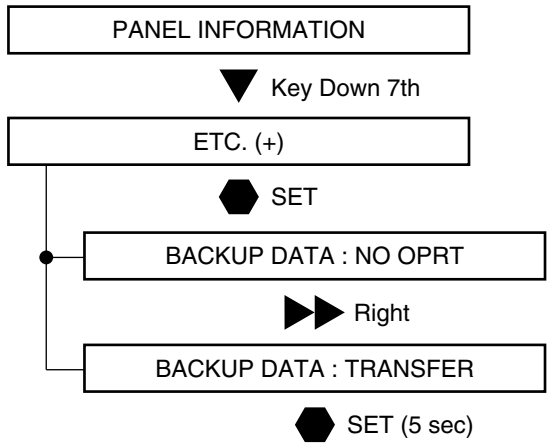
## ■ How to copy backup data

### 1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.
The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

**(1) Copying, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.




③ Turn the power off.

- After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
- If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
- If both the DIGITAL and SENSOR Assys are to be replaced, first replace the SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

**(2) Copying, using the RS-232C commands**

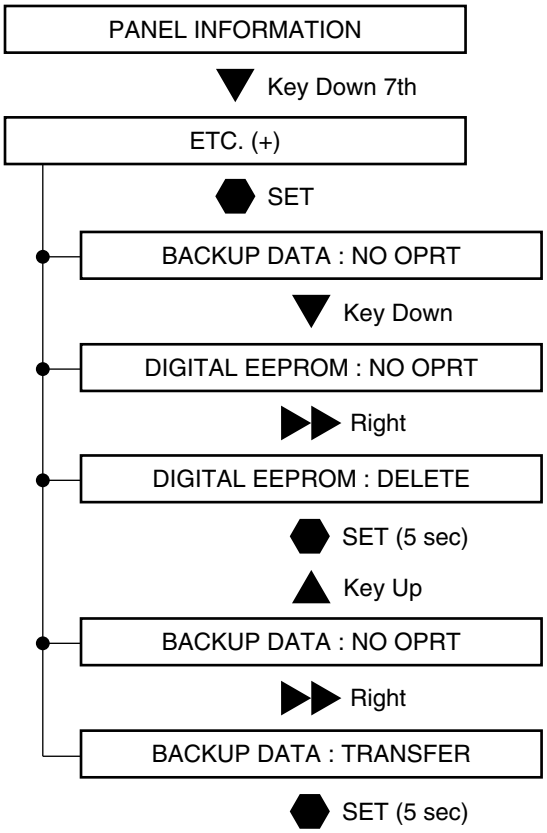
① Switch the RS-232C/SR+ setting to RS-232C so that RS-232C commands can be received.
② Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
④ Turn the power off.

## 2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

**(1) Copying, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.




③ Turn the power off.

**Note:**

If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

**(2) Copying, using the RS-232C commands**

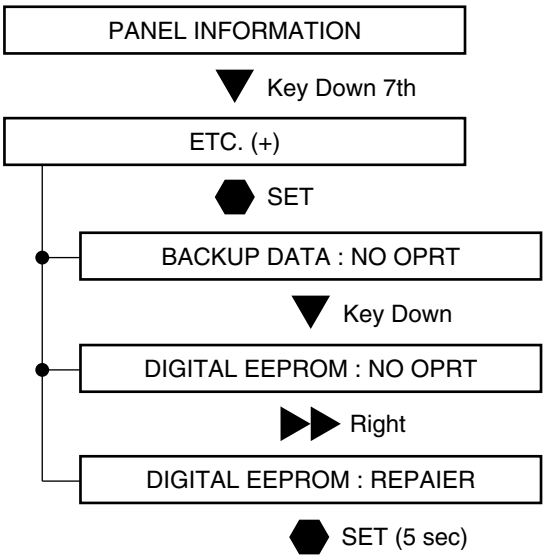
① Switch the RS-232C/SR+ setting to RS-232C so that RS-232C commands can be received.
② Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
③ Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
⑤ Turn the power off.

## 3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

**Note:** In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

**(1) Method using the Factory menu**

① Set various setting/adjustment values.
② Proceed in the following steps.




③ Turn the power off.

**Note:**
When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

**(2) Method using the RS-232C commands**

Issue the FAJ command.

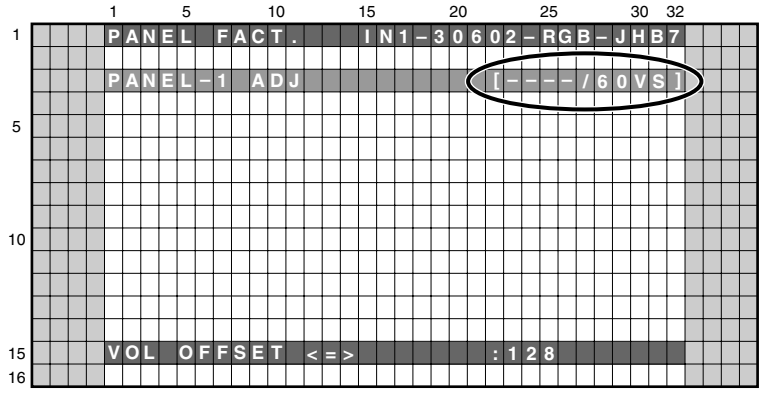
# 7.5 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED

## ■ Flowchart for panel replacement

After replacing the panel with one for service, readjustment of the Vofs voltage margin is required.

**[Preparations]**

- Basically, the Panel Factory menu is used for the voltage margin adjustment.
- The 60-Hz video sequence is used as the drive sequence.
- While adjusting the voltage margin using the Panel Factory menu, the current drive sequence is indicated on the screen, as shown below. Make sure that "60VS" is always indicated during adjustment.




Example of the OSD while the Panel Factory menu is displayed

**[Supplement]**

- When the raster mask for margin adjustment is displayed during Panel Factory mode, the Panel White Balance is set to default, and the Panel Gamma is set to Straight in the "PANEL-1 ADJ" layer.
  On the third line, the OSD reads "- - - - /****" (**** stands for the type of the drive sequence set).

- If you perform adjustment using RS-232C commands, use the commands shown below.
  These commands are different from those used during Factory Menu mode.

  PAV S00 : Used to set the Panel Drive mode to Factory.
  VFQ S03 : Used to set the Drive Sequence to Video 60 Hz.
  WBI S01 : Used to temporarily set the adjustment value of the Panel WB to default. (To return the value to its original value, use WBI S00.)
  PGM S00 : Used to set the gamma setting to Factory.

**Note:** If the power is shut off in the process of the adjustment procedures, send the above commands again.

# OUTLINE

**Mode switching**

Switch modes to start the voltage adjustment, as follows:

Enter Factory mode.
Display RST MASK 01 (white).

FAY
MKS S51

**Voltage setting**

Set Vsus and Vyprst, and tentatively set Vofs:

VOL SUS : Set to 137 (205[V]).
VOL RST P : Set to the voltage indicated on the panel label.
VOL OFFSET : Tentatively set to the voltage indicated on the panel label.

VSU137
VRP***
VOF***

**Aging**

Perform aging with the fully white screen for 30 minutes

To prevent an error caused by the temperature characteristics and to let the unit show its full properties after letting it sit, perform aging for 30 minutes to raise the panel temperature to a certain extent. This ensures the accuracy of inspection and adjustment.

**Actual Vofs adjustment (② to ④)**

Measuring the upper limit of Vofs

Signals to be measured: red 760, red 1023+, green 1023, and blue 1023

Vofs setting

In a case where the upper limit of Vofs is less than 49:
Vofs set voltage = Upper limit value of Vofs - 9 [V]

In a case where the upper limit of Vofs is 49 or more:
Vofs set voltage = 40 [V]

**CA check with black**

With the black mask displayed, check if there are stationary or horizontally moving lit cells.

**Confirmation of settings**

Check that each voltage value is correctly set.

**Command transfer**

After the voltage adjustment is finished, make the following settings:

Mask: OFF, Factory: OUT

**CA check**

Check that the picture is properly displayed.

Use DVD, LD, and broadcast signals for checking.

**Ranges of the adjustable voltages**
(Ranges of the adjustable voltage when the upper and lower limits of each voltage are to be checked in this flowchart)

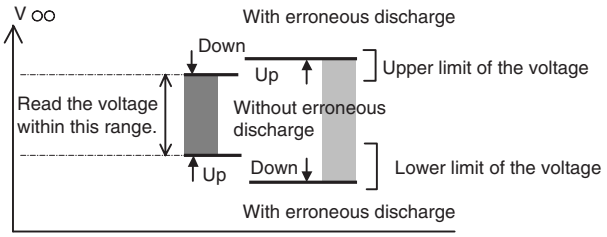
Vsus = 205 [137] [V]
Vofs = 15 [005] to 60 [246] [V]
Vyprst = 250 [013] to 300 [128] [V]
Vxnrst = 180 [V]
Vh = 130 [V]
Vadr = 60 [V]

**Ranges of the voltage settings**
(Ranges of voltage settings for this unit)

Vsus = 205 [137] [V]
Vofs = 28 [075] to 48 [182] [V]
Vyprst = 260 [036] to 300 [128] [V]
Vxnrst = 170 [V]
Vh = 130 [V]
Vadr = 60 [V]

When calculating the voltage, **round off the fractional part**.
(For circuit protection, it is desirable to set the voltage to a lower value.)

For margin measuring, be sure to read the value within the hysteresis (stricter value).




**The Definition of Abnormal Cells**
Abnormal bright cells: Within five cells on screen.
(fewer than 2 cells within a radius of 1 cm)

Abnormal dark cells: Under fifteen cells on screen.
(fewer than 2 cells within a radius of 1 cm)

Count abnormal cells at a distance of 1 m from panel.
If abnormal cells won't occur longer than one second, do not count the abnormal cells.
Do not count still dark cells and bright cells.

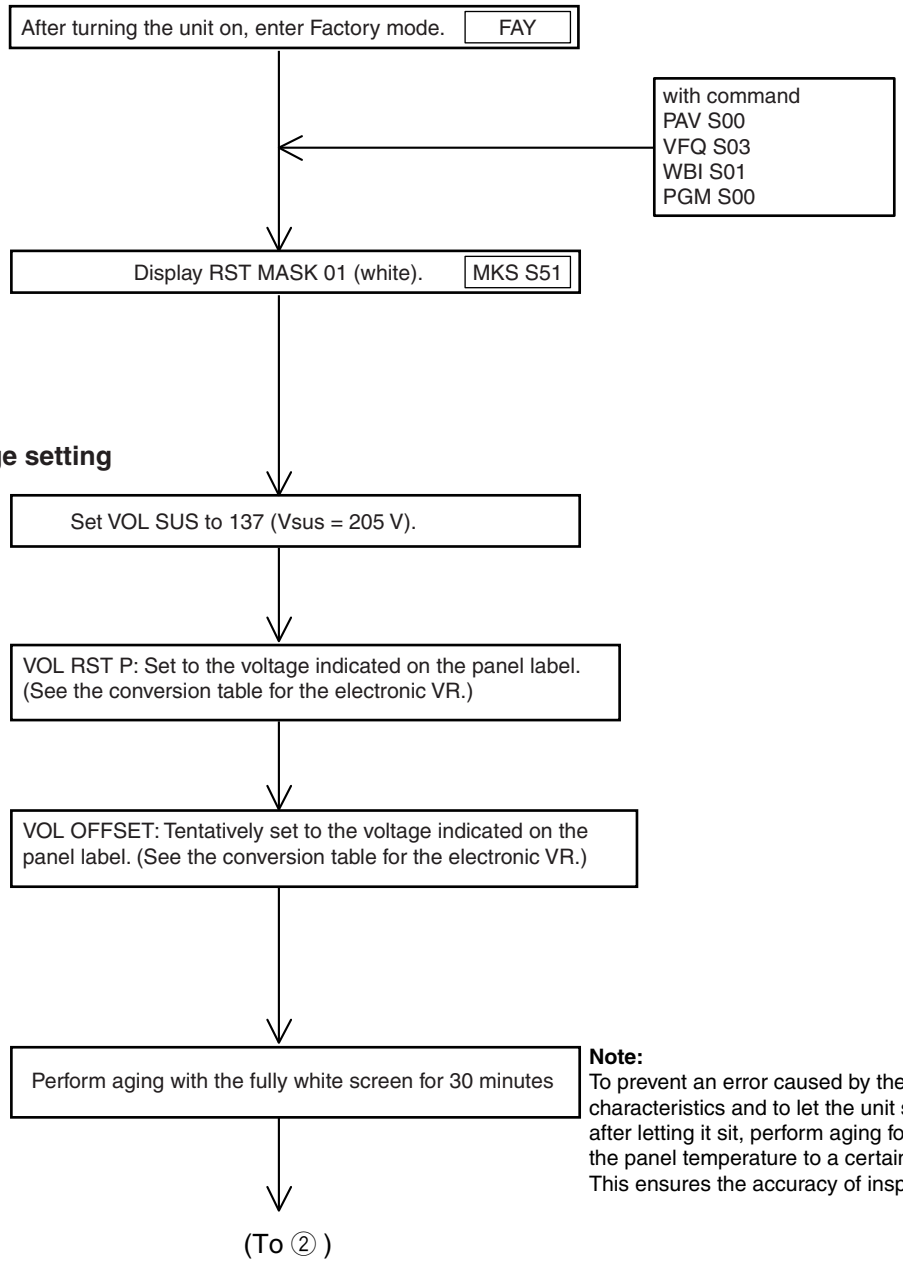
**Standard settings of the unit at shipment:**

Vsus setting = 205 [137] [V]
Vsus margin = 17 [V] or more
Vofs setting = 28 [075] to 48 [182] [V]
Vofs margin = 19 [V] or more
Vyprst setting = 260 [036] to 300 [128] [V]

**Note:** The voltages in the flowcharts are given in absolute values (without ±).

## ① Preparations

### Initial setting




### Voltage setting



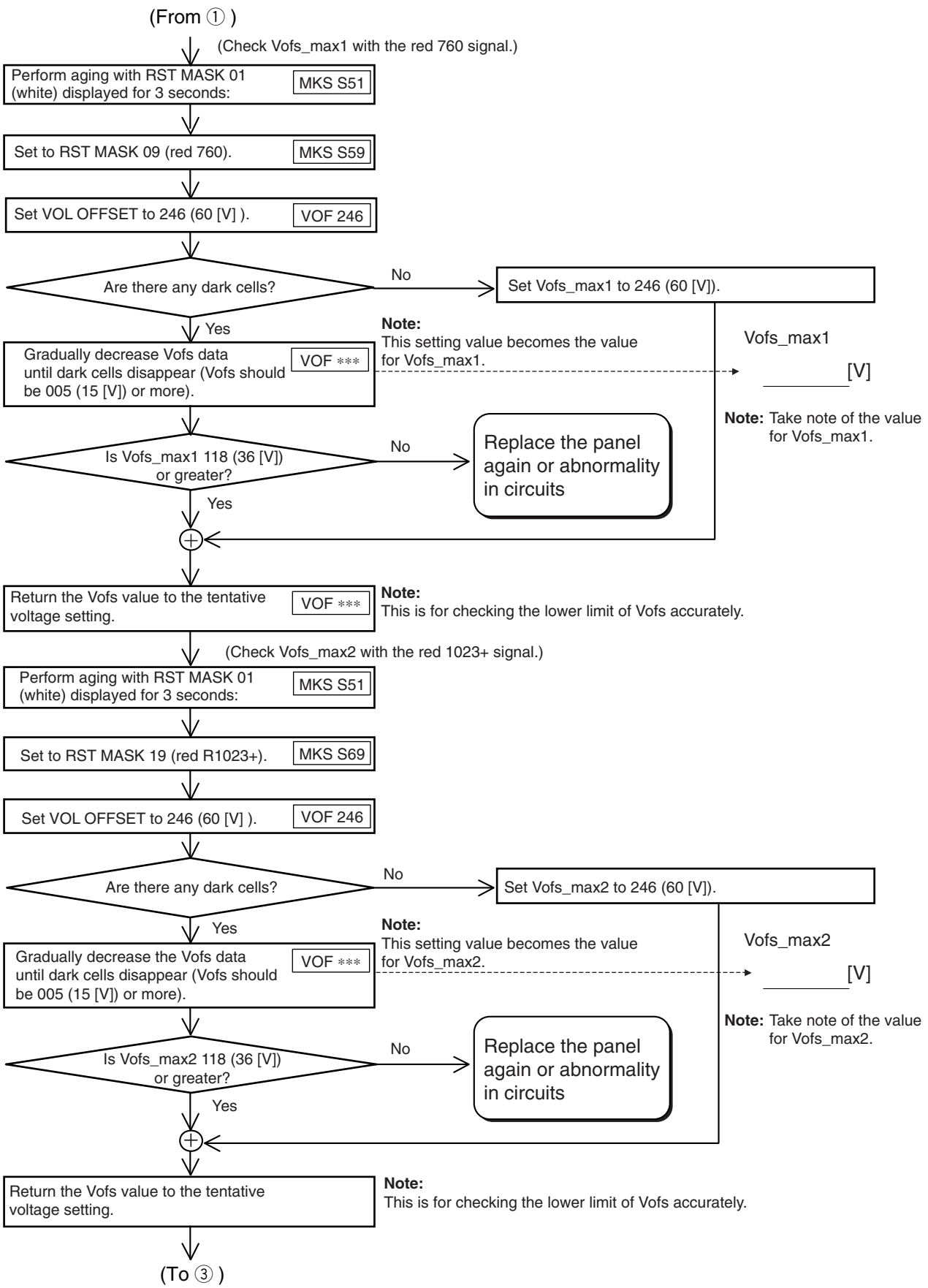

### Aging



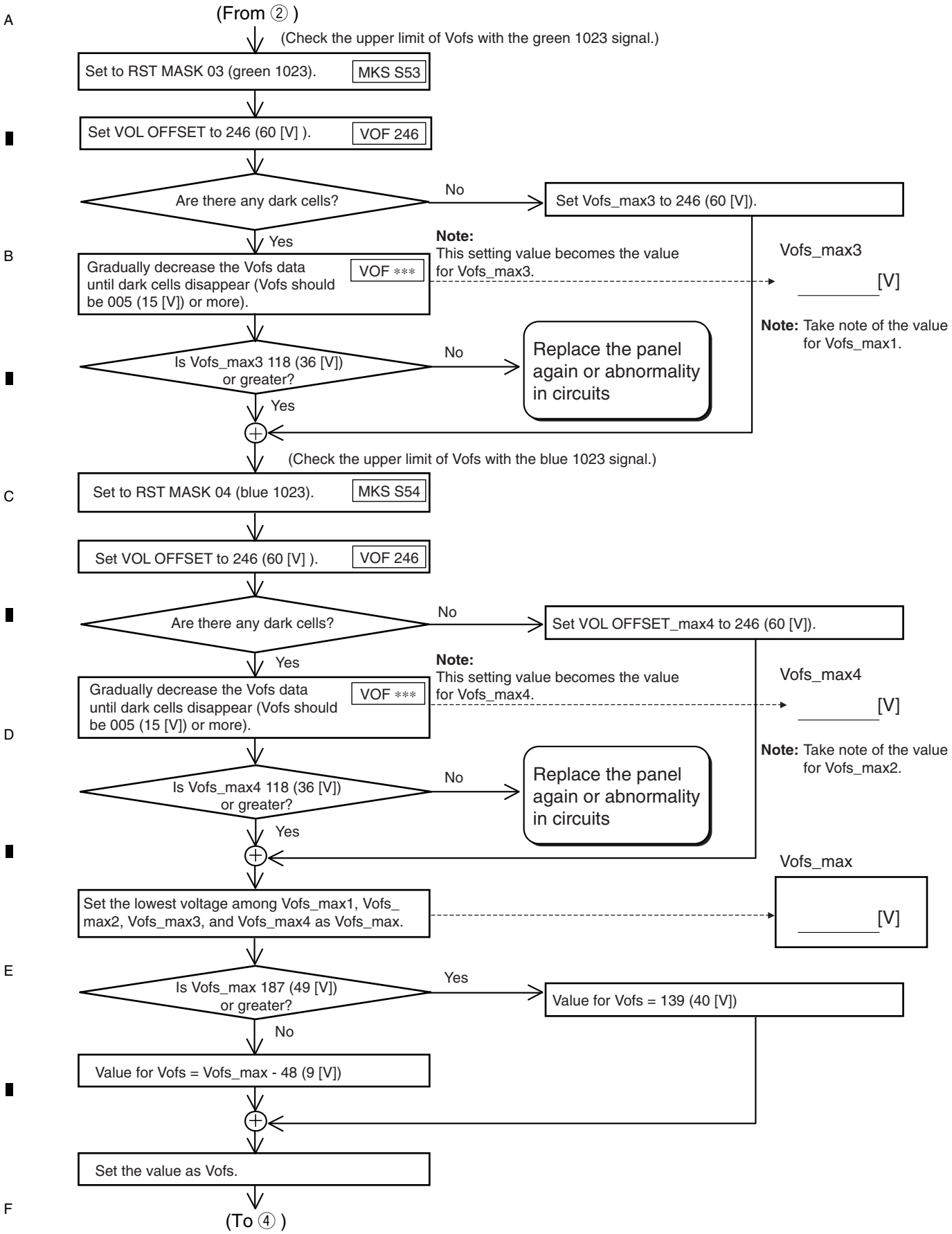

**Note:**
To prevent an error caused by the temperature characteristics and to let the unit show its full properties after letting it sit, perform aging for 30 minutes to raise the panel temperature to a certain extent.
This ensures the accuracy of inspection and adjustment.

(To ② )

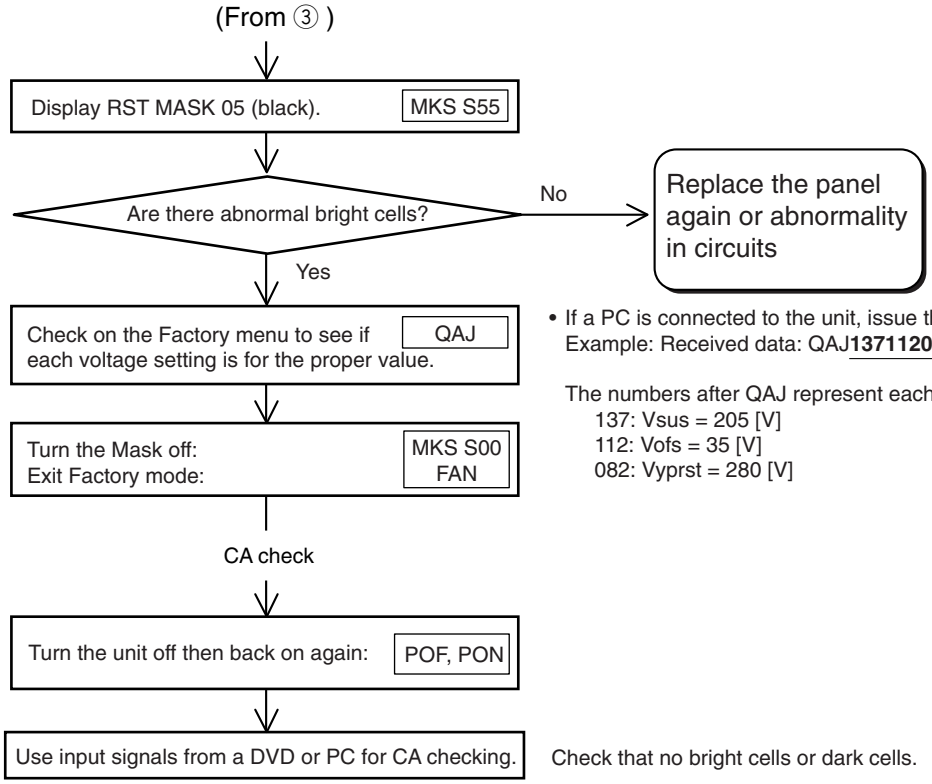
## ② Actual Vofs adjustment (1)



## ③ Actual Vofs adjustment (2)



## ④ Actual Vofs adjustment (3)




- If a PC is connected to the unit, issue the QAJ command to check each voltage.
  Example: Received data: QAJ**137112082**128128128128128304D

  The numbers after QAJ represent each voltage after adjustment, as follows:
  137: Vsus = 205 [V]
  112: Vofs = 35 [V]
  082: Vyprst = 280 [V]

Check that no bright cells or dark cells.

## ■ Conversion charts for electronic VRs (Vprst/Vofs)

| Vprst [V] | Setting value [STEP] |
|---|---|
| 250 | 013 |
| 251 | 015 |
| 252 | 018 |
| 253 | 020 |
| 254 | 022 |
| 255 | 024 |
| 256 | 027 |
| 257 | 029 |
| 258 | 031 |
| 259 | 034 |
| 260 | 036 |
| 261 | 038 |
| 262 | 040 |
| 263 | 043 |
| 264 | 045 |
| 265 | 047 |
| 266 | 050 |
| 267 | 052 |
| 268 | 054 |
| 269 | 056 |
| 270 | 059 |
| 271 | 061 |
| 272 | 063 |
| 273 | 066 |
| 274 | 068 |
| 275 | 070 |
| 276 | 073 |
| 277 | 075 |
| 278 | 077 |
| 279 | 079 |
| 280 | 082 |
| 281 | 084 |
| 282 | 086 |
| 283 | 089 |
| 284 | 091 |
| 285 | 093 |
| 286 | 096 |
| 287 | 098 |
| 288 | 100 |
| 289 | 102 |
| 290 | 105 |
| 291 | 107 |
| 292 | 109 |
| 293 | 112 |
| 294 | 114 |
| 295 | 116 |
| 296 | 119 |
| 297 | 121 |
| 298 | 123 |
| 299 | 126 |
| 300 | 128 |

| Vofs [V] | Setting value [STEP] |
|---|---|
| 15 | 005 |
| 16 | 011 |
| 17 | 016 |
| 18 | 021 |
| 19 | 027 |
| 20 | 032 |
| 21 | 037 |
| 22 | 043 |
| 23 | 048 |
| 24 | 054 |
| 25 | 059 |
| 26 | 064 |
| 27 | 070 |
| 28 | 075 |
| 29 | 080 |
| 30 | 086 |
| 31 | 091 |
| 32 | 096 |
| 33 | 101 |
| 34 | 107 |
| 35 | 112 |
| 36 | 118 |
| 37 | 123 |
| 38 | 128 |
| 39 | 134 |
| 40 | 139 |
| 41 | 144 |
| 42 | 150 |
| 43 | 155 |
| 44 | 160 |
| 45 | 166 |
| 46 | 171 |
| 47 | 176 |
| 48 | 182 |
| 49 | 187 |
| 50 | 192 |
| 51 | 198 |
| 52 | 203 |
| 53 | 208 |
| 54 | 214 |
| 55 | 219 |
| 56 | 224 |
| 57 | 230 |
| 58 | 235 |
| 59 | 240 |
| 60 | 246 |

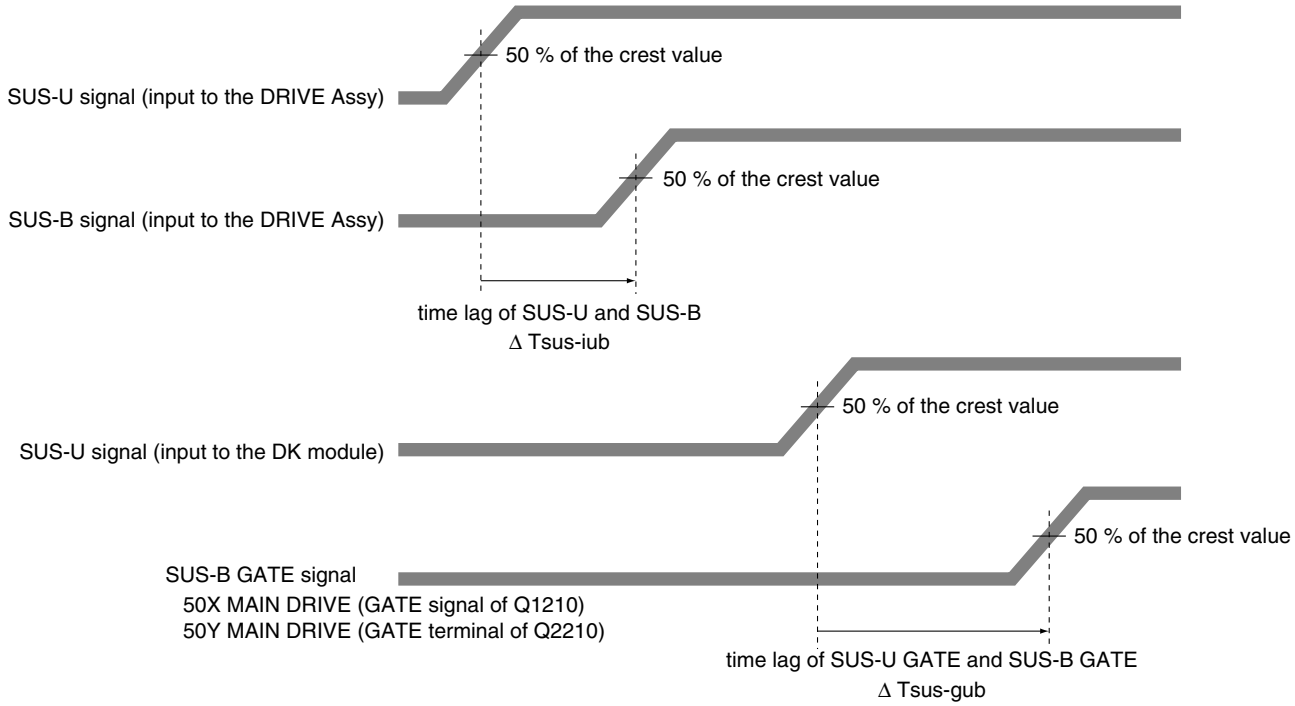
# 7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED

**■ Waveform adjustments required when replacing the following parts of the 50X MAIN DRIVE and 50Y MAIN DRIVE Assys.**

| Assy Name | Ref No. | Part Name | Part Category | Remarks |
|---|---|---|---|---|
| 50X MAIN DRIVE Assy | IC1205 | PS9117P | Photo Coupler | |
| | IC1204 | TND307TD | FET Driver | |
| 50Y MAIN DRIVE Assy | IC2104 | TND307TD | FET Driver | |
| | IC2209 | PS9117P | Photo Coupler | |
| | IC2208 | TND307TD | FET Driver | |

## ■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B GATE signal to the SUS-U GATE siganl.
Adjust the variable control so that the time lag of GATE becomes " time lag of input signal + α ± 5 nsec."
**Note:** For details on measuring points of waveform, see the figure below.



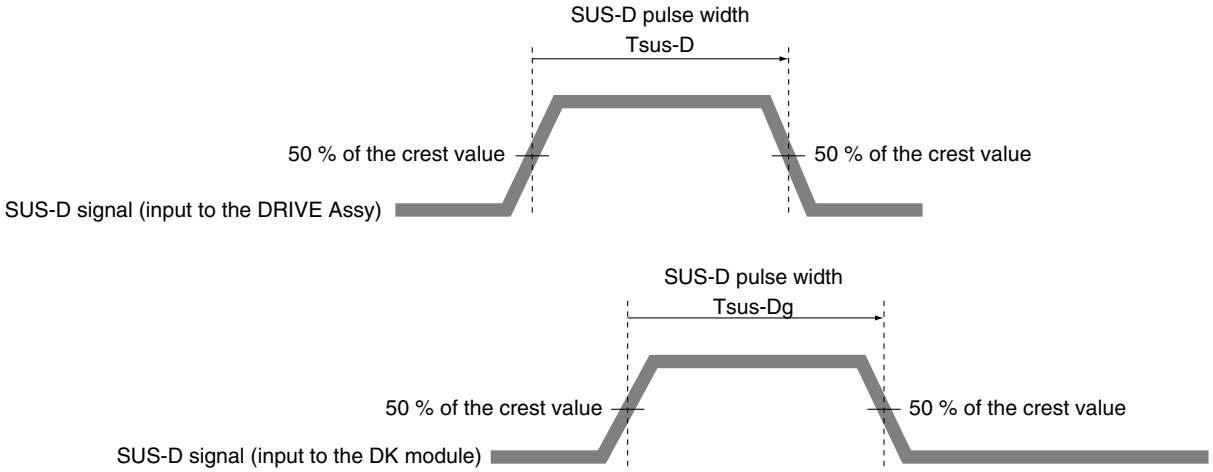

**time lag of SUS-U gate and SUS-B gate : Δ Tsus-gub**
Adjust so that "Δ Tsus-gub = Δ Tsus-iub + α ± 5 nsec," using the variable controls shown in the table below:

| Assy | VR | Value of α |
|---|---|---|
| 50X MAIN DRIVE ASSY | VR1001 | 70 nsec |
| 50Y MAIN DRIVE ASSY | VR2001 | 50 nsec |

## DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal for the DK module.
Adjust the variable control so that the pulse width of the SUS-D input signal for the DK module becomes the "pulse width of the SUS-D signal ± 5 nsec."

**Note:** For details on measuring points of waveform, see the figure below.

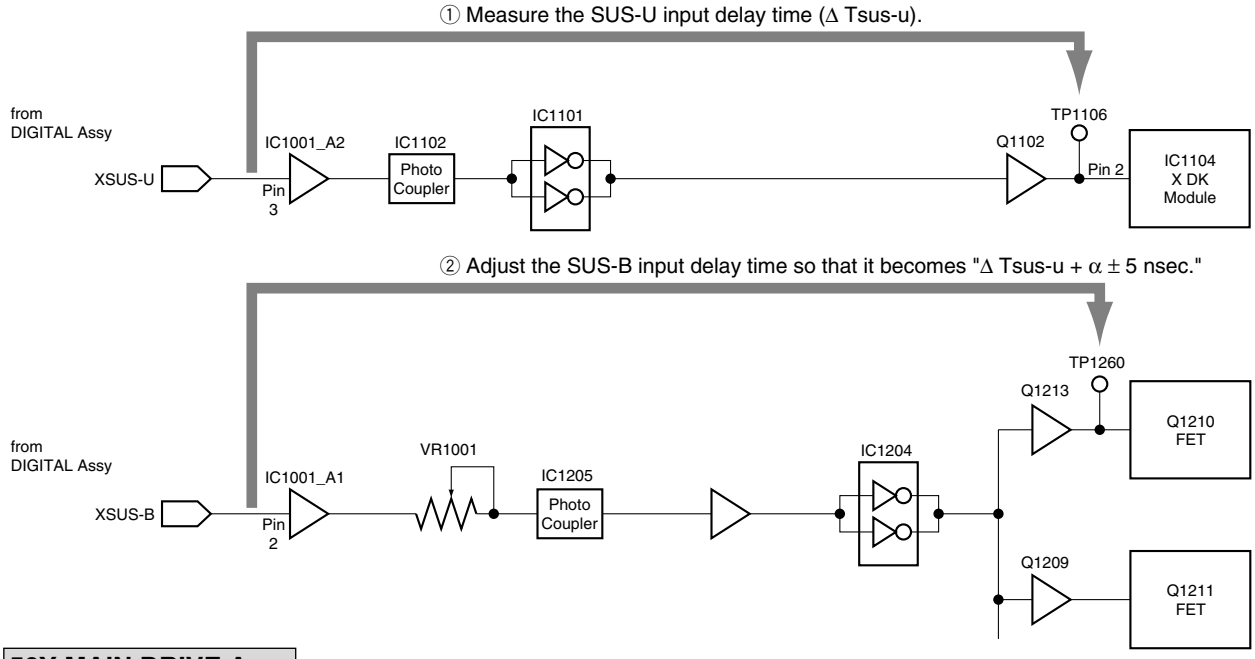



**SUS-D pulse width: Tsus-Dg**
Adjust so that "Tsus-Dg = Tsus-D ± 5 nsec," using the variable control shown in the table below:

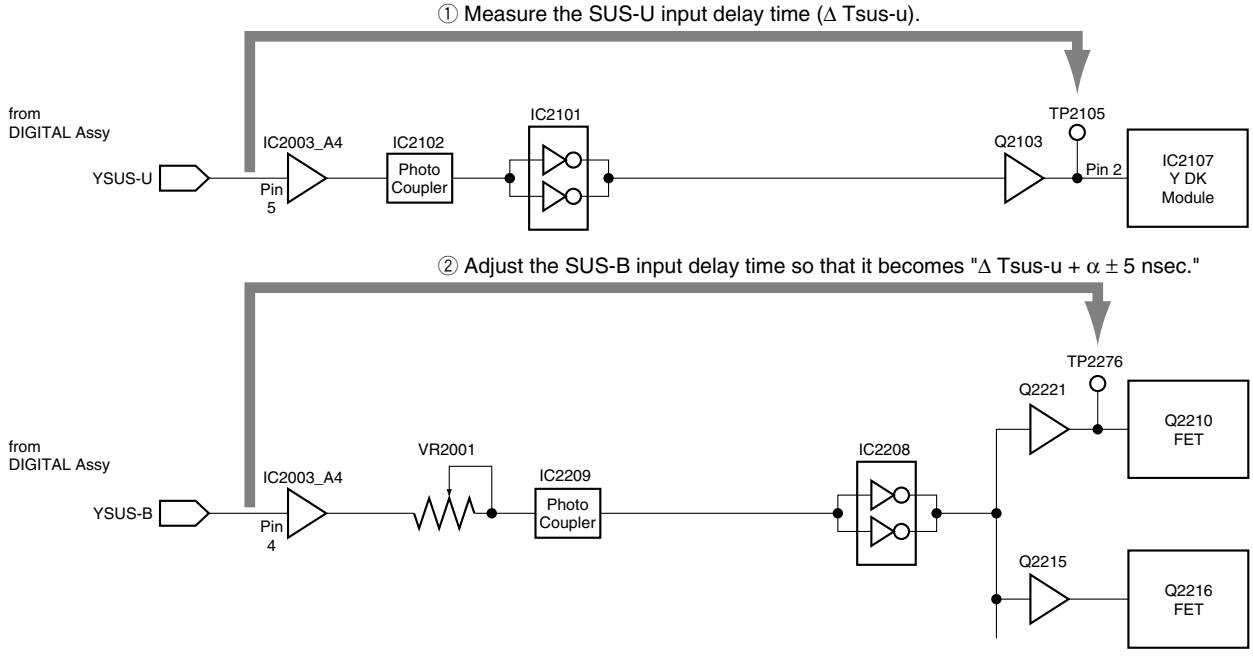
| Assy | VR |
|---|---|
| Y MAIN DRIVE | VR2002 |

## ■ SUS-B ADJUSTMENT

### 50X MAIN DRIVE Assy




### 50Y MAIN DRIVE Assy




## ■ SUS-D ADJUSTMENT

### 50Y MAIN DRIVE Assy

# 7.7 HOW TO CLEAR HISTORY DATA

## ■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

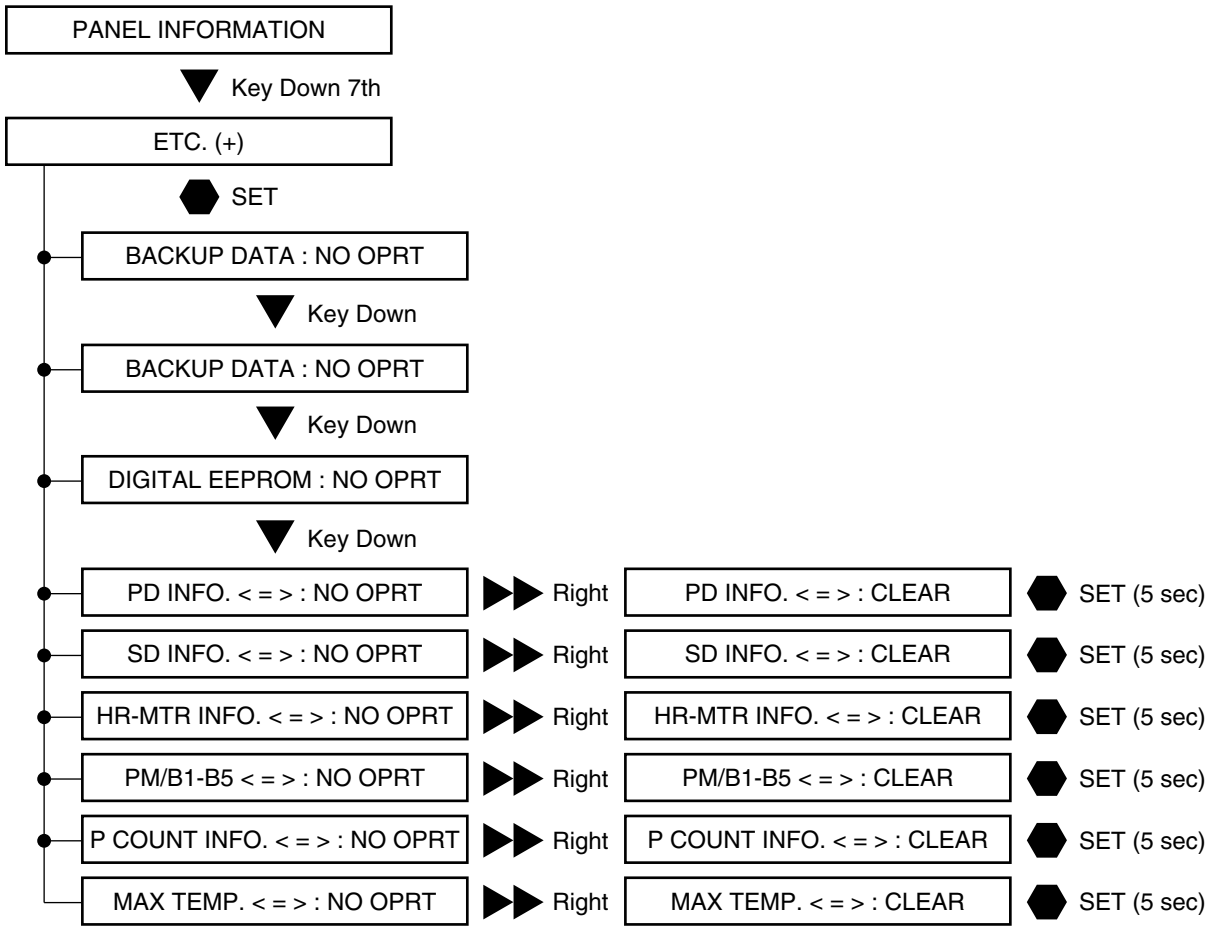
**(1) Clearance of logs, using the RS-232C commands**

| Item | Content | When the Panel is replaced | When the POWER SUPPLY Unit is replaced | When the Other parts is replaced | RS-232C Commands |
|---|---|---|---|---|---|
| Hour-meter | Accumulated power-on time | Must be cleared | No need to be cleared | No need to be cleared | CHM |
| Pulse-meter | Accumulated number of pulses emitted | Must be cleared (mandatory) | No need to be cleared | No need to be cleared | CPM |
| Shutdown history | Cause of an SD and hour-meter count | Must be cleared | No need to be cleared | No need to be cleared | CSD |
| Power-down history | Cause of an PD and hour-meter count | Must be cleared | No need to be cleared | No need to be cleared | CPD |
| Power-on counter | Relay-on count | No need to be cleared | Must be cleared (mandatory) | No need to be cleared | CPC |
| MAX TEMP | Historical max. temperature | Must be cleared | Must be cleared | Must be cleared | CMT |

**Notes:** • As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
• When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

**(2) Clearance of logs, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Delete various logs, as shown in the figure below.

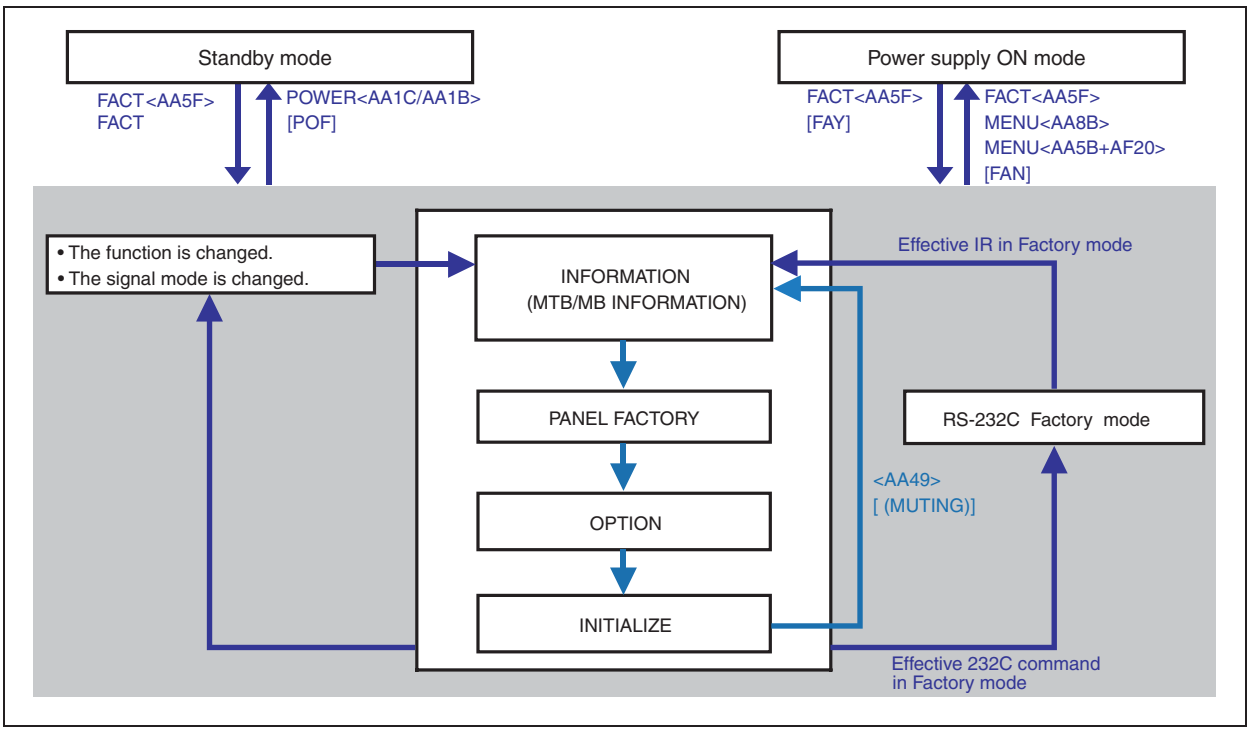



③ Turn the power off.

# 8. SERVICE FACTORY MODE

## 8.1 OUTLINE OF THE SERVICE FACTORY

### 8.1.1 SERVICE FACTORY MODE TRANSITION CHART




### 8.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE

**■ How to enter Service Factory Mode and do it go out.**

**■ How to enter Service Factory Mode.**

**By using a control unit for servicing)**

- Service remote control : press[FACTORY1]key.

**By using RS-232C commands)**

- Standby mode : Send [PON]+[FAY] .
- Power supply ON mode : Send[FAY] .

**■ How to come off Service Factory Mode.**

**By using a control unit for servicing)**

- Service remote control : press [ FACTORY1 ] key.
- Remote control : press [ HOME MENU ] key.

**By using RS-232C commands)**

- Send [FAN] .

## 8.1.3 OPERATION OF SERVICE FACTORY MODE

### ■ Fuctions whose setting are set to OFF

| No. | Function | Remarks |
|---|---|---|
| 1 | 2-Screen Operation | Input function set on the main side is selected |
| 2 | FREEZE | |
| 3 | Mask Control | MTB/MB is none. It becomes processing on the PANEL side. |
| 4 | ORBITER | Central value operation |

### ■ User data

User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- As to data on various settings, user data will be applied to the items that are associated with signal format change (screenize switching, etc).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained). Screen size will be retained.

## 8.1.4 REMOTE CONTROL CODE

| SR/R Keys | Basic Functions | Remarks |
|---|---|---|
| MUTING | Switching the main items. | Shifting to the next main item (top). |
| ⬇ (DOWN) (Note1) | Switching the subtitled items. | Shifting downward to the next subtitiled item. |
| ⬆ (UP) (Note1) | Switching the subtitled items. | Shifting upward to the next upper layer. |
| ⬅ (LEFT) (Note1) | Decreasing the adjustment value. | Decreasing the adjustment value. |
| ➡ (RIGHT) (Note1) | Increasing the adjustment value. | Increasing the adjustment value. |
| ENTER/SET (Note1) | Switching the layers. | Shifting downward or upward to the next lower or upper layer. |
| INPUT | Selecting INPUT. | Shifting the INPUT to the next function. |
| INPUTxx (Note1) | Selecting INPUT. | Switching the INPUT to xx. (xx=1 to 6 etc) |
| CH+/P+ | Increasing the channel number. | Advanving |
| CH-/P- | Decreasing the channel number. | |
| Numeric Keys | Function: TV | Function: TV (previously selected channel number is selected) |
| POWER | Power OFF. | Turning the power off. |
| FACTORY | Factory OFF (Factory mode) | In Factory mode, turning Factory mode off. |
| | Factory ON (Non-Factory mode). | In Non-Factory mode, turn Fuctory mode on. |
| HOME MENU (Note1) | Menu ON. | In Factory mode, turn Factory mode off. |
| VOLUME+ | Volume UP. | Increasing 10 the adjustment value. (PANEL FACTORY) |
| VOLUME- | Volume DOWN. | Decreasing 10 the adjustment value. (PANEL FACTORY) |
| DRIVE ON/OFF (Note2) | Drive Mode OFF. | Turning Drive mode off. |
| INTEGRATOR (Note1) | INTEGRATOR MENU ON. | Enter INTEGRATOR MODE. |

(Note 1) A pertinent key that exists in the service remote control becomes effective only in the factory mode and the integrator mode. Please use the remote control of the attachment when you normally operate it in the mode (home menu operation etc.).

(Note 2) When ten seconds have passed since the [DRIVE ON/OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE ON/OFF] key pressing within ten seconds when you do power supply ON while driven OFF.

Remote control unit for Servicing

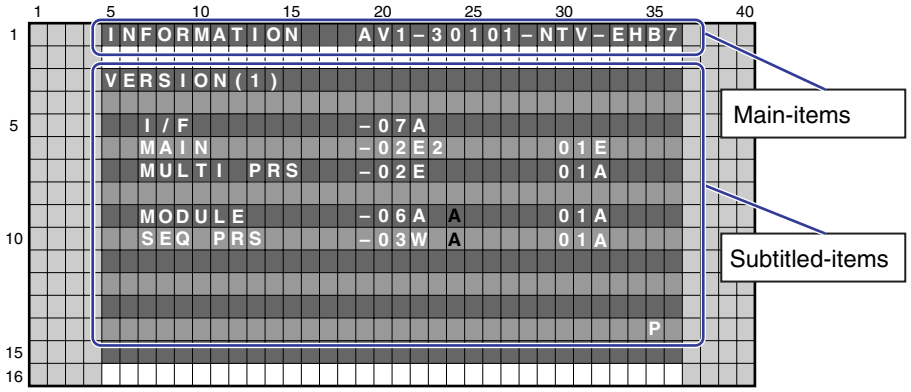
PDP-507XD

PDP-507XA

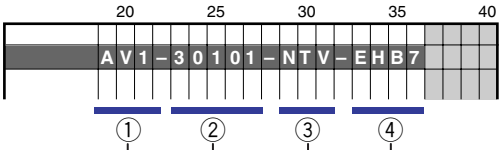
## 8.1.5 FACTORY HIERARCHICAL TABLE

| Large Item | Middle Item | Small Item | Variable / Adjustment Range | Remarks |
|---|---|---|---|---|
| **8.2.1 INFORMATION** | | | | |
| | 8.2.1.1 VERSION (1) | | | |
| | 8.2.1.2 VERSION (2) | | | |
| | 8.2.1.3 MAIN NG | CLEAR <=> | OFF <=> ON | |
| | 8.2.1.4 TEMPERATURE | | | |
| | 8.2.1.5 HOUR METER | | | |
| | 8.2.1.6 HDMI SIGNAL INFO 1 | | | |
| | 8.2.1.7 HDMI SIGNAL INFO 2 | | | |
| | 8.2.1.8 VDEC SIGNAL INFO | | | |
| **8.2.2 PANEL FACTORY (+)** | | | | |
| | 8.2.2.1 PANEL INFORMATION | | | |
| | 8.2.2.2 PANEL WORKS | | | |
| | 8.2.2.3 POWER DOWN | | | |
| | 8.2.2.4 SHUT DOWN | | | |
| | 8.2.2.5 PANEL-1 ADJ (+) | X-SUS B <=> | 120 to 136 | Equivalent to XSB |
| | | Y-SUS B <=> | 120 to 136 | Equivalent to YSB |
| | | Y-SUSTAIL T1 <=> | 120 to 136 | Equivalent to YTG |
| | | Y-SUSTAIL T2 <=> | 120 to 136 | Equivalent to YTB |
| | | Y-SUSTAIL W <=> | 120 to 136 | Equivalent to YTW |
| | | XY-RST W1 <=> | 120 to 136 | Equivalent to RSW |
| | | XY-RST W2 <=> | 120 to 136 | Equivalent to RYW |
| | | VOL SUS <=> | 000 to 255 | Equivalent to VSU |
| | | VOL OFFSET <=> | 000 to 255 | Equivalent to VOF |
| | | VOL RST P <=> | 000 to 255 | Equivalent to VRP |
| | | SUS FREQ. <=> | MODE 1 to MODE 8 | Equivalent to SFR |
| | 8.2.2.6 PANEL-2 ADJ (+) | R-HIGH <=> | 000 to 511 | Equivalent to PRH |
| | | G-HIGH <=> | 000 to 511 | Equivalent to PGH |
| | | B-HIGH <=> | 000 to 511 | Equivalent to PBH |
| | | R-LOW <=> | 000 to 999 | Equivalent to PRL |
| | | G-LOW <=> | 000 to 999 | Equivalent to PGL |
| | | B-LOW <=> | 000 to 999 | Equivalent to PBL |
| | | ABL <=> | 000 to 255 | Equivalent to ABL |
| | 8.2.2.7 PANEL REVISE (+) | R-LEVEL <=> | LV-0 to LV-7 | Equivalent to RRL |
| | | G-LEVEL <=> | LV-0 to LV-7 | Equivalent to RGL |
| | | B-LEVEL <=> | LV-0 to LV-7 | Equivalent to RBL |
| | 8.2.2.8 ETC. (+) | BACKUP DATA <=> | NO OPRT <=> TRANSFER or ERR | Equivalent to BCP |
| | | DIGITAL EEPROM <=> | NO OPRT <=> DELETE/REPAIR | Equivalent to FAJ/UAJ |
| | | PD INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CPD |
| | | SD INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CSD |
| | | HR-MTR INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CHM |
| | | PM/B1-B5 <=> | NO OPRT <=> CLEAR | Equivalent to CPM |
| | | P COUNT INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CPC |
| | | MAX TEMP. <=> | NO OPRT <=> CLEAR | Equivalent to CMT |
| | 8.2.2.9 RASTER MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=> | Equivalent to MKS+S00 |
| | | RST MASK 01 <=> | | Equivalent to MKS+S51 |
| | | • • • | | • • • |
| | | RST MASK 24 <=> | | Equivalent to MKS+S74 |
| | 8.2.2.10 PATTEN MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=> | Equivalent to MKS+S00 |
| | | PTN MASK 01 <=> | | Equivalent to MKS+S01 |
| | | • • • | | • • • |
| | | PTN MASK 39 <=> | | Equivalent to MKS+S39 |
| | 8.2.2.11 COMBI MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=> | Equivalent to MKC+S00 |
| | | CMB MASK 01 <=> | | Equivalent to MKC+S01 |
| | | • • • | | • • • |
| | | CMB MASK 10 <=> | | Equivalent to MKC+S10 |
| **8.2.3 OPTION** | | | | |
| | 8.2.3.1 EDID WRITE MODE <=> | | | Exclusively used for production line |
| | 8.2.3.2 CH PRESET <=> | | | |
| **8.2.4 INITIALIZE** | | | | |
| | 8.2.4.1 SYNC DET (+) | | | for the technical analysis |
| | 8.2.4.2 SG MODE <=> | | SG OFF <=> • • • | |
| | 8.2.4.3 SG PATTERN <=> | | SG PATTERN <=> COLOR BAR 1 • • • | |
| | 8.2.4.4 SIDE MASK LEVEL (+) | R MASK LEVEL <=> | 000 to 255 | |
| | | G MASK LEVEL <=> | 000 to 255 | |
| | | B MASK LEVEL <=> | 000 to 255 | |
| | | | | |
| | 8.2.4.5 FINAL SETUP (+) | DATA RESET <=> | OFF <=> ON | |
| | 8.2.4.6 CVT AUTO <=> | | | Exclusively used for technical analysis (details omitted) |
| | 8.2.4.7 HDMI INTR POSITION (+) | INTR-POS1 (0x75) <=> | 000 to 255 | |
| | | INTR-POS2 (0x76) <=> | 000 to 255 | |
| | | INTR-POS3 (0x77) <=> | 000 to 255 | |
| | | INTR-POS4 (0x78) <=> | 000 to 255 | |

## 8.1.6 INDICATIONS IN SERVICE FACTORY MODE




### ■ Main-item indications




**① Input function**

| Input Functions | OSD |
|---|---|
| AV 1 to 4 | AV 1 to 4 |
| AV 5 | AV5 |
| Terrestrial Analog Wave | AIR |
| Terrestrial Digital Wave | ARD |
| Cable | CBL |
| PC | PC |

**② SIG mode and Screen size**

Note: See SIG-Mode Tables. (See next page.)

**③ Color system and Signal type**

| Color System and Signal Type | OSD1 | OSD2 |
|---|---|---|
| NTSC | NTV | NTS |
| PAL | PLV | PLS |
| PAL M | PMV | PMS |
| PAL N | PNV | PNS |
| SECAM | SCV | SCS |
| 4.43 NTSC | 4NV | 4NS |
| BLACK/WHITE | BWV | BWS |
| Y/CB/CR | CBR | |
| Y/PB/PR | PBR | |
| RGB | RGB | |
| Digital Video signal | DIG | |

**Note:** OSD1 (Composite input), OSD2 (S-Connector input)

**④ Option (Destination, Panel Generation, etc.)**

| Options | OSD |
|---|---|
| Step-up D system | EHB7 |
| Step-up A system | ESB7 |

## ② SIG Mode and Screen size (by User is displayed)

**1st and 2nd characters :** Resolutin of the input signal
**3rd and 4th characters :** Refresh rate of the input signal
**5th character :** Selection of the screen size

### ■ Input signal mode table for video signals (resolutions and V frequencies)

| 1st to 4th Character | | Signal Type | Fv (Hz) | Fh (kHz) |
|---|---|---|---|---|
| 10 | 50 | SDTV*525i | 60.000 | 15.750 |
| | 60 | SDTV*525i | 60.000 | 15.750 |
| 20 | 50 | SDTV*625p | 60.000 | 31.500 |
| | 60 | SDTV*525p | 60.000 | 31.500 |
| 30 | 50 | HDTV*1125i | 60.000 | 33.750 |
| | 60 | HDTV*1125i | 60.000 | 33.750 |
| 40 | 50 | HDTV*750p | 60.000 | 45.000 |
| | 60 | HDTV*750p | 60.000 | 45.000 |
| 50 | 24 | HDTV*1125p | 24.000 | 27.000 |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Input signal mode table for PC signals (resolutions and V frequencies)

| 1st to 4th Character | | Signal Type | Fv (Hz) | Fh (kHz) |
|---|---|---|---|---|
| C1 | 70 | 720 x 400 | 70.087 | 31.469 |
| C2 | 60 | 640 x 480 | 59.940 | 31.469 |
| | 72 | | 72.809 | 37.861 |
| | 75 | | 75.000 | 37.500 |
| C4 | 56 | 800 x 600 | 56.250 | 35.1556 |
| | 60 | | 60.317 | 37.879 |
| | 72 | | 72.188 | 48.077 |
| | 75 | | 75.000 | 46.875 |
| C7 | 60 | 1024 x 768 | 60.004 | 48.363 |
| | 70 | | 70.069 | 56.476 |
| | 75 | | 75.029 | 60.023 |
| C9 | 60 | 1360 x 768 | 60.015 | 47.712 |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Current selection of the screen size

| 5th Character | GUI Notation | VIDEO | PC | Remarks |
|---|---|---|---|---|
| 0 | DOT BY DOT | – | ● | |
| 1 | 4:3 | ● | ● | |
| 2 | FULL (FULL1) | ● | ● | |
| 3 | ZOOM | ● | – | |
| 4 | CINEMA | ● | – | |
| 5 | WIDE | ● | – | |
| 6 | FULL 14:9 | ● | – | |
| 7 | CINEMA 14:9 | ● | – | |
| 8 | FULL2 | – | ● | |

●: supported, –: unsupported

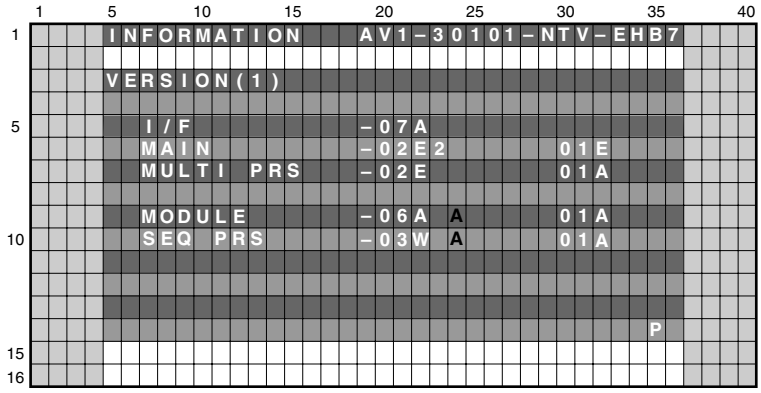
# 8.2 FACTORY MENU

## 8.2.1 INFORMATION

● **Operation items**

| No. | Function/Display | Context | RS-232C Command |
|---|---|---|---|
| 1 | VERSION (1) | The software versions for each microcomputer are displayed. (Common part) | QS1 |
| 2 | VERSION (2) | The Flash memory versions for each device are displayed. (Individual part) | QS6 |
| 3 | MAIN NG | The Shutdown Message ID/Event Times in Main Microcomputer are displayed. | QNG |
| 4 | TEMPERATURE | The Temperature/FAN rotating status in Main Microcomputer are displayed. | QMT |
| 5 | HOUR METER | The HOUR METER/P-COUNT information are displayed. | QIP |
| 6 | HDMI SIGNAL INFO 1 | The Information of HDMI information files are displayed. | – |
| 7 | HDMI SIGNAL INFO 2 | | |
| 8 | VDEC SIGNAL INFO | Display the Signal Information on VDEC. | – |

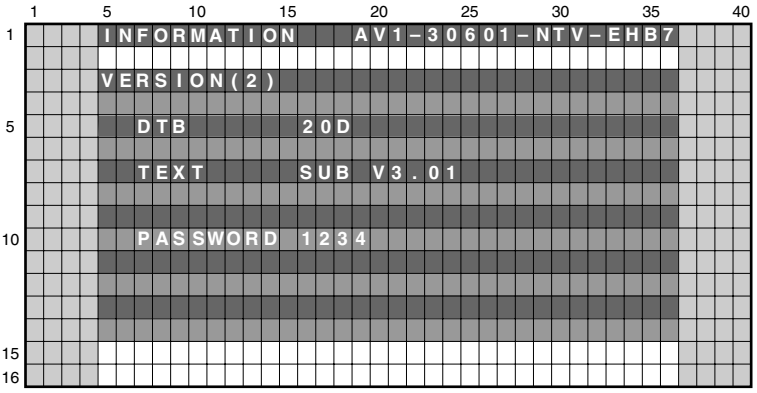
### 8.2.1.1 VERSION (1)




| Microcomputer | Item Name | Display Example (Execution program block) | Display Example (Boot block) |
|---|---|---|---|
| I/F microcomputer | I/F | -07A | – |
| Main microcomputer | MAIN | -02E2 | 01E |
| Multi processor | MULTI PRG | -02E2 | 01A |
| Module microcomputer | MODULE | -06A_A | 01A |
| Sequence processor | SEQ PRS | -03W_A | 01A |

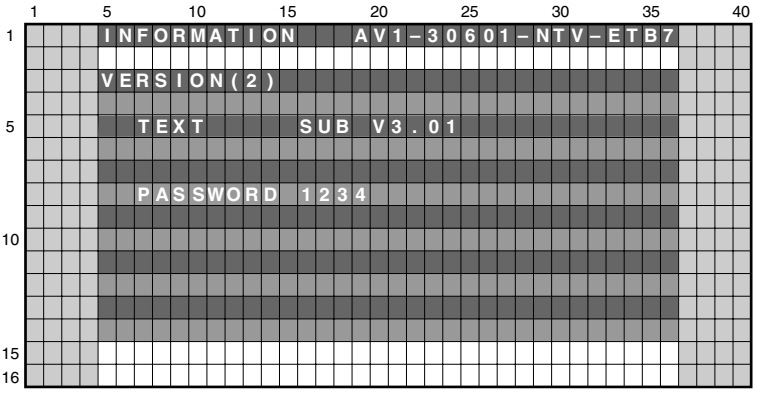
**Note:** In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.
At the position "14x35", The Past/Highly effective panel distinction information is displayed.

## 8.2.1.2 VERSION (2)




**Step-up D**

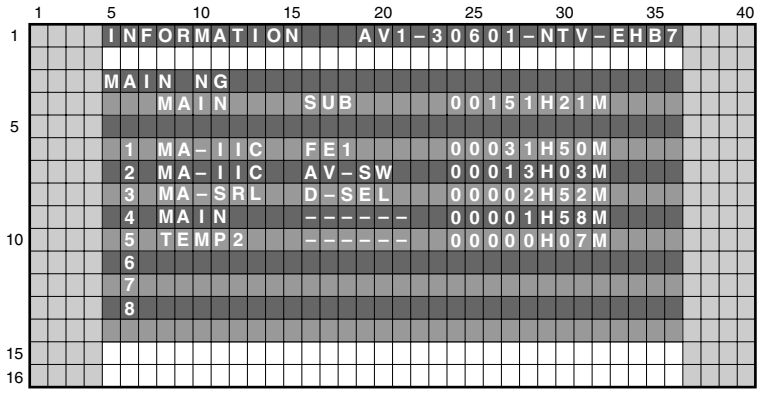
| Flash Device | Item Name | Display Example |
|---|---|---|
| Digital Tuner | DTB | 20D |
| TeleTEXT | TEXT | SUB V3.01 |
| User Password | PASSWORD | 1234 |




**Step-up A**

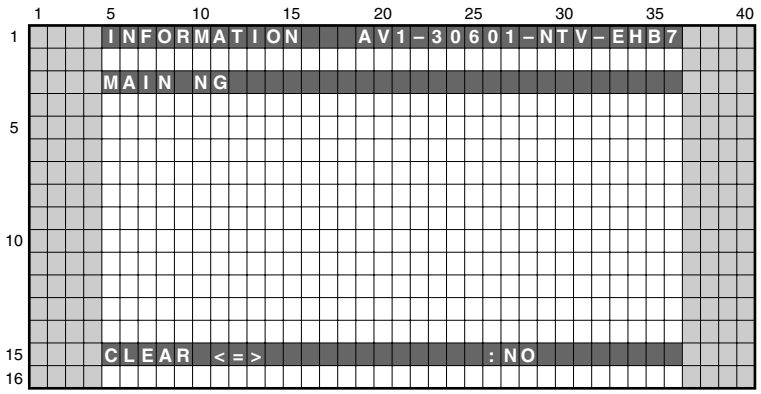
| Flash Device | Item Name | Display Example |
|---|---|---|
| TeleTEXT | TEXT | SUB V3.01 |
| User Password | PASSWORD | 1234 |

### 8.2.1.3 MAIN NG




**MTB side's Shutdown NG information**

| OSD: MAIN | OSD: SUB | Cause of Shutdown |
|---|---|---|
| AUDIO | ---- | |
| MODULE | ---- | Failure of communication to Module microcomputer. |
| MA-SRL | | 3-wire Serial Communication of Main microcomputer. |
| | IF | Communication failure of IF microcomputer |
| | MULTI1 | Multi Processor communication failure (MULIT1) |
| | I/P | Multi Processor communication failure (I/P) |
| | D-SEL | Multi Processor communication failure (D-SEL) |
| MA-IIC | | IIC Communication failure of Main microcomputer |
| | FE1 | Analog Tuner 1 (Front End 1) |
| | MPX | MPX |
| | AUDIO | |
| | AV-SW | AV Switch |
| | RGB-SW | RGB Switch |
| | M-VDEC | Main VDEC |
| | S-VDEC | Sub VDEC |
| | ADC | AD/PLL |
| | HDMI | HDMI |
| | TX-COM | TX communication failure |
| | TX-BSY | TX Busy |
| | MA-EEP | 64k EEPROM |
| MAIN | | Communication failure of Main microcomputer &Unknown Error |
| FAN | | Fan stopped |
| TEMP2 | | Abnormally high temperature at MTB. |
| DTUNER | | Failure of Digital Tuner |
| | PS/RST | Failure to DTB Starting |
| | RETRY | DTB communication failure. |
| MA-PWR | M-DCDC | Abnormally in RST2 of MTB. (power decrease of DC-DC converter) |
| | RELAY | Relay Power Supply |

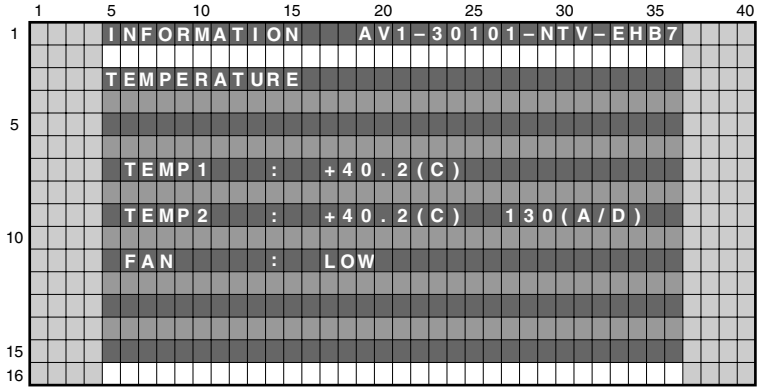



**Operation:**

Even if [⬅] key or [➡] key is pressed, "CLEAR ⇔ YES" ⇔ "CLEAR ⇔ NO" is repeated.
If the [ENTER] key is kept on pressing for 5 second when the status of this menu is <YES>, clear process will begin.

## 8.2.1.4 TEMPERATURE

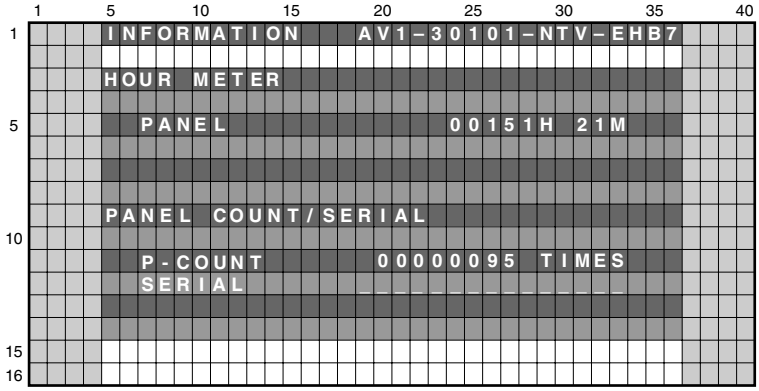
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.




**• Display/Meaning**

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.
TEMP2 : The temperature conversion display is done with 10bit the A/D input value of Main uCON 76 pin (AN0). It is displayed by both the centigrade (C) and 8bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)
FAN : The value of the Fan rotating state is displayed.
STOP : stopped, LOW: slow speed, HIGH: high speed.

## 8.2.1.5 HOUR METER

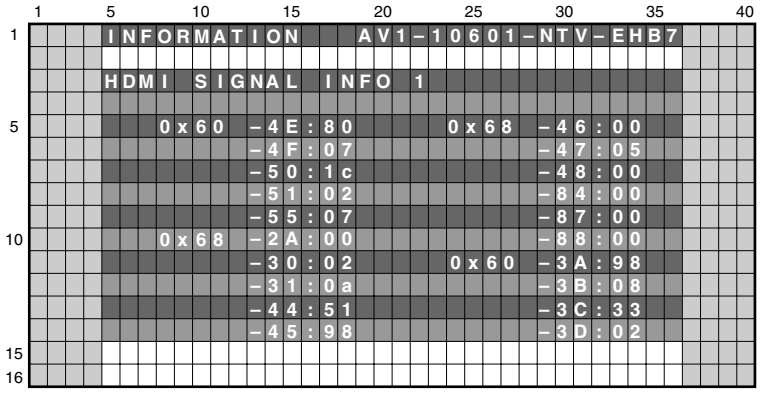



**• Display/Meaning**

| Meaning | Item Name | Display Example | Corresponding RS-232C Command |
|---|---|---|---|
| HOUR METER (PANEL) | PANEL | 00151H 21M | QIP |
| POWER ON COUNTER | P-COUNT | 00000095 TIMES | QIP |
| SYSTEM SERIAL | SERIAL | | QIP |

**Note 1:** The SYSTEM SERIAL displays only FHD. It corresponds by sticking the seal in G7 model.
**Note 2:** The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

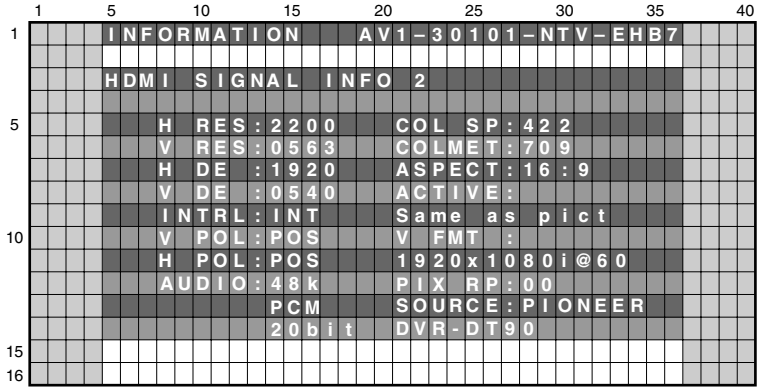
## 8.2.1.6 HDMI SIGNAL INFO (1)




**Displays the input signal information of HDMI terminal**

| Device | SA | Context |
|---|---|---|
| 0×60 | -4E: | Video information: valid horizontal pixel numbers (low order bit) |
| | -4F: | Video information: valid horizontal pixel numbers (high order bit) |
| | -50: | Video information: valid vertical line numbers (low order bit) |
| | -51: | Video information: valid vertical line numbers (high order bit) |
| | -55: | Video information: interlace/non-interlace, sink polarity |
| 0×68 | -2A: | Audio information: PCM/non PCM, copyright protected or not |
| | -30: | Audio information: sampling frequency |
| | -31: | Audio information: sampling bit rate |
| | -44: | Audio information: color space |
| | -45: | Video information: aspect ratio |
| | -46: | Video information: scaling |
| | -47: | Video information: video format |
| | -48: | Video information: pixel count |
| | -84: | Audio information: channel count |
| | -85: | Audio information: not used (zero at all times) |
| | -86: | Audio infromation: not used (zero at all times) |
| | -87: | Audio information: speaker allocation |
| | -88: | Audio information (down mix prohibit flag) |
| 0×60 | -3A: | Video information: valid horizontal pixel numbers (low order bit) |
| | -3B: | Video information: valid horizontal pixel numbers (high order bit) |
| | -3C: | Video information: valid vertical line numbers (low order bit) |
| | -3D: | Video information: valid vertical line numbers (high order bit) |

## 8.2.1.7 HDMI SIGNAL INFO (2)




**Displays input signal status of MVDEC terminal**

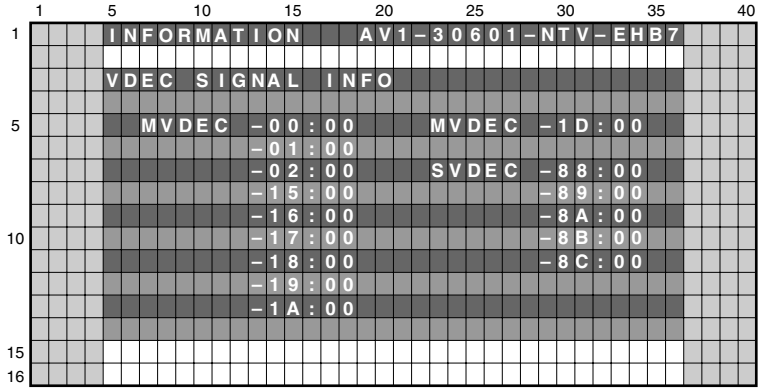
| Display Item | Meaning |
|---|---|
| H RES | Number of horizontal pixels (decimal) |
| V RES | Number of vertical lines (decimal) |
| H DE | Number of effectively horizontal pixels (decimal) |
| V DE | Number of effectively vertical lines (decimal) |
| INTRL | Intetlace (=INT) or progressive (=PRG) |
| V POL | VSYNC polarity |
| H POL | HSYNC polarity |
| AUDIO (first line) | Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1 |
| AUDIO (second line) | PCM (PCM) or No PCM (=no PCM) |
| AUDIO (third line) | Quantization bit |
| COL SP | Color space (AVI Info) (422 or 444 or RGB) *2 |
| COLMET | Colormetry (AVI Info) (SD: 601, HD:709) *2 |
| ASPECT | Aspect (AVI Info) |
| ACTIVE | Video active format (AVI Info) |
| V FMT | Video identification code (AVI Info) |
| PIX RP | Pixel repeat value for 2880 dot |
| SOURCE (first line) | Vendor name of the emission device |
| SOURCE (second line) | Model name of the emission device |

*1: Please confirm whether to be displayed here when the sound is not emitted.
*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

**Display of HDMI FACTORY and correspondence of resolution**
Please confirm the following 5 items when the picture doesn't come out.

| Input Signal | FACTORY Display | | | | |
|---|---|---|---|---|---|
| | H RES | V RES | H DE | V DE | V FMT |
| 480i (525i) | 858 | 262 or 263 | 720 | 240 | 720x480i @ 60 |
| 480p (525p) | 858 | 525 | 720 | 480 | 720x480p @60 |
| 1080i (1125i) | 2200 | 562 or 563 | 1920 | 540 | 1920x1080i @ 60 |
| 720p (750p) | 1650 | 750 | 1280 | 720 | 1280x720p @ 60 |

## 8.2.1.8 VDEC SIGNAL INFO




**Displays input signal status of VDEC terminal.**

| Device | SA | Context |
|---|---|---|
| MVDEC | 00h | Signal distinction result 1 |
| | 01h | Signal distinction result 2 |
| | 02h | Flag detection output |
| | 15h | Noise level distinction 1 |
| | 16h | Noise level distinction 2 |
| | 17h | Non-standard signal detection |
| | 18h | Subcarrier signal detection |
| | 19h | ACC data output |
| | 1Ah | ACC information output |
| | 1Dh | Input signal mode |
| SVDEC | 88h | Status register 1 (TV/VCR status) |
| | 89h | Status register 2 (Macrovision detection, etc.) |
| | 8Ah | Status register 3 (Front-end AGC gain value) |
| | 8Bh | Status register 4 (Subcarrier to horizontal (SCH) phase) |
| | 8Ch | Status register 5 (Signal distinction) |

## 8.2.2 PANEL FACTORY MODE

### ■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

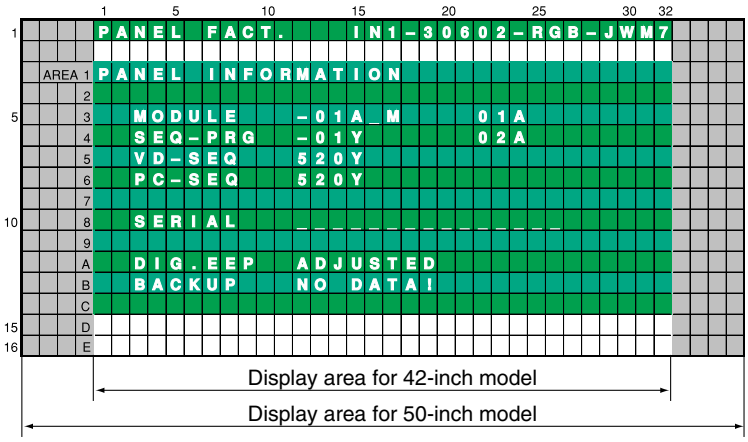
| No. | Indication | Description of functions |
|---|---|---|
| 8.2.2.1 | PANEL INFORMATION | Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. |
| 8.2.2.2 | PANEL WORKS | Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed. |
| 8.2.2.3 | POWER DOWN | The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred. |
| 8.2.2.4 | SHUT DOWN | The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred. |
| 8.2.2.5 | PANEL-1 ADJ (+) | Settings of the driving pulse timing and driving voltage can be performed. |
| 8.2.2.6 | PANEL-2 ADJ (+) | White balance and ABL (power consumption) for the panel can be set. |
| 8.2.2.7 | PANEL REVISE (+) | The level for correction of panel degradation can be set. |
| 8.2.2.8 | ETC. (+) | Copying of backup data and clearance of various data can be performed. |
| 8.2.2.9 | RASTER MASK SETUP (+) | The mask indication (RASTER) can be set and indicated. |
| 8.2.2.10 | PATTEN MASK SETUP (+) | The mask indication (PATTERN) can be set and indicated. |
| 8.2.2.11 | COMBI MASK SETUP (+) | The mask indication (COMBI) can be set and indicated. |

## ■ Details of indications in each layer

• In the following examples, GUI images for a 50-inch model are indicated. Although the display areas for the menu for 42-inch and 50-inch models are different, the items to be displayed are the same.

### 8.2.2.1 PANEL INFORMATION

• Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.




### ■ Key operation

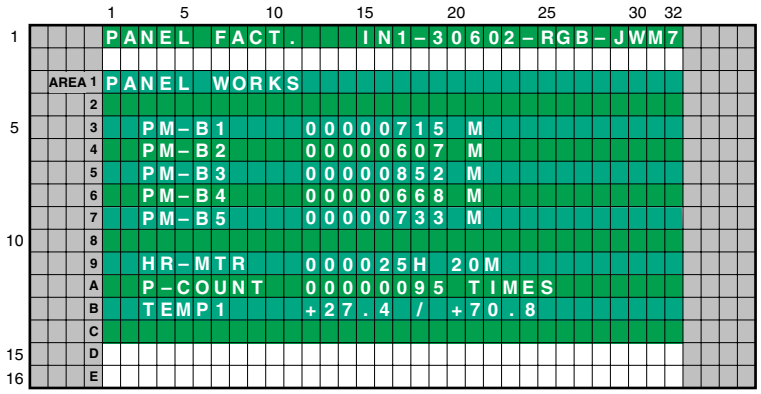
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

### ■ Display items:

MODULE : The version of data written in the Module microcomputer (IC3151) is indicated.
SEQ-PRG : The version of data written in the Sequence Program Storage Memory (IC3301) is indicated.
VD-SEQ : The Drive Sequence version for Video mode is indicated.
PC-SEQ : The Drive Sequence version for PC mode is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

### 8.2.2.2 PANEL WORKS

• Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.




### ■ Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

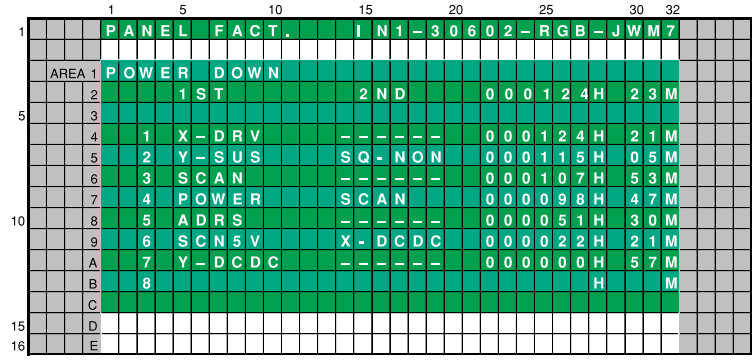
← Temperature unit is " °C (Centigrade) ".

### ■ Contents of the Display item

• PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
• HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
• P-COUNT: The accumulated power-on count is indicated.
• TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated.
The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

## 8.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.




### ■ Key operation

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

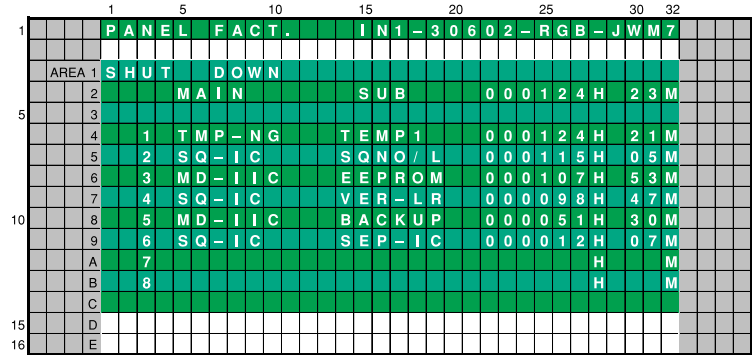
**<Causes of power-down and corresponding OSD indications>**

| Cause of power-down | OSD Indication | Cause of power-down | OSD Indication |
|---|---|---|---|
| POWER SUPPLY Unit | P-PWR | ADDRESS Assy | ADRS |
| SCAN Assy | SCAN | X DRIVE Assy | XDRV |
| 5V power for SCAN Assy | SCAN5V | DC/DC converter for X drive | X-DCDC |
| Y DRIVE Assy | YDRV | X-drive SUS circuit | X-SUS |
| DC/DC converter for Y drive | Y-DCDC | Specification inability | UNKNOWN |
| Y-drive SUS circuit | Y-SUS | | |

* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
* The power-down history is not recorded when the power-down occurred at the same place and same time.

## 8.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.




### ■ Key operation

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

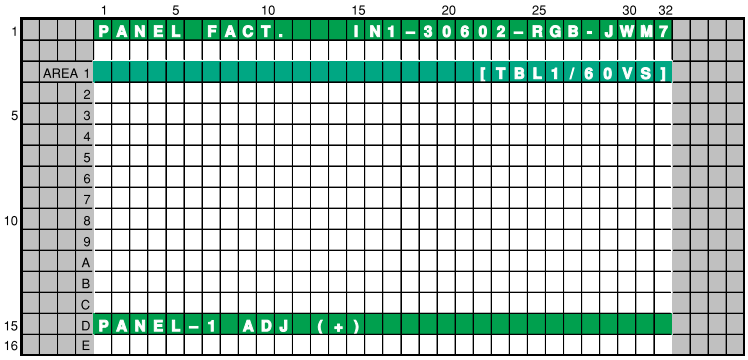
* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

**<Causes of shut-down and corresponding OSD indications>**

| Cause of shut-down (MAIN) | | Subcategory of Cause of shut-down (SUB) | |
|---|---|---|---|
| **Item** | **OSD Indication** | **Item** | **OSD Indication** |
| Drive Sequence Processing IC | SQ-IC | Communication Error | RTRY |
| | | Drive Sequence Stop | SQNO |
| | | Communication Busy | BUSY |
| | | Version Mismatching | VER-HS |
| MDU-IIC | MD-IIC | MAIN EEPROM Communication Error | EEPROM |
| | | BACKUP EEPROM Communication Error | BACKUP |
| | | DAC Communication Error | DAC |
| High temperature of the panel | TMP-NG | Temperature NG | TEMP |

## 8.2.2.5 PANEL-1 ADJ (+)

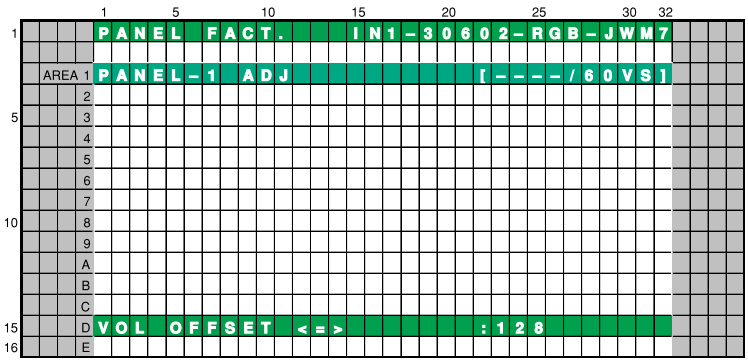
- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the SET key shifts the screen to the next nested layer below for item selection.




### ■ Key operation

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to SHUT DOWN
<SET> : Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.

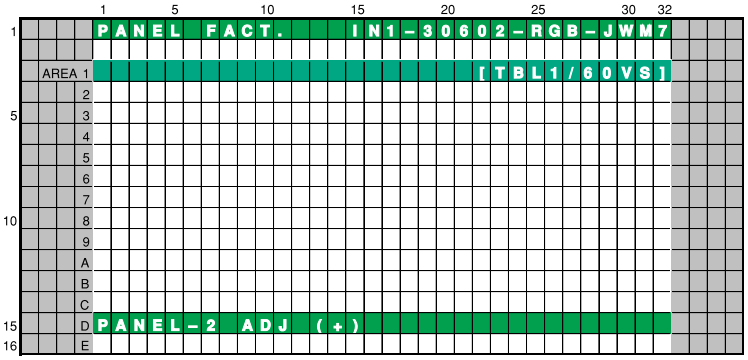



### ■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

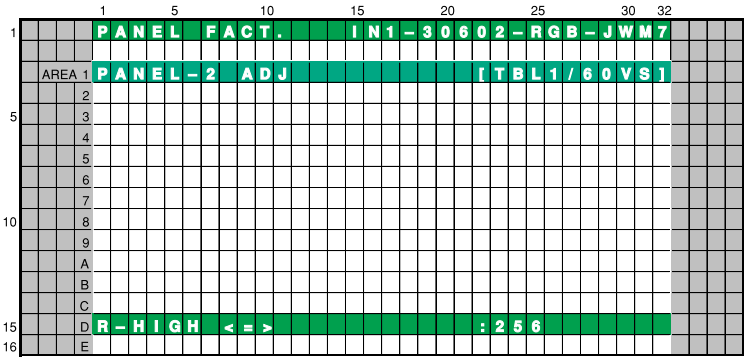
### 8.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the SET key shifts the screen to the next nested layer below for item selection.




**■ Key operation**

<DOWN> : Shifting to PANEL REVISE (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer

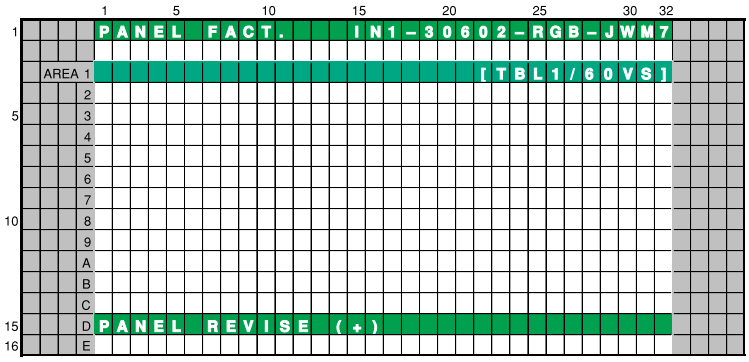



**■ Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

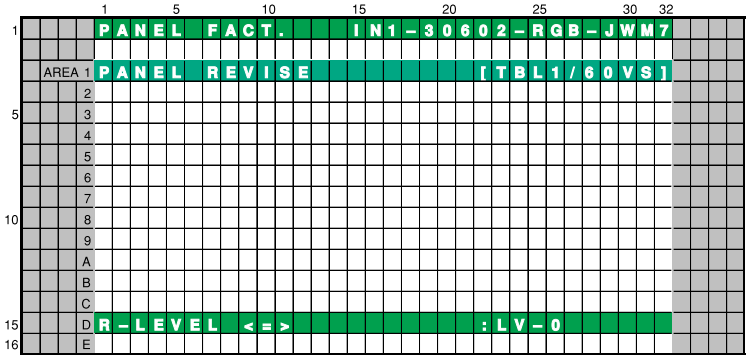
## 8.2.2.7 PANEL REVISE (+)

- A setting for panel degradation correction can be made. Pressing the SET key shifts the screen to the next nested layer below for item selection.




### ■ Key operation

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer

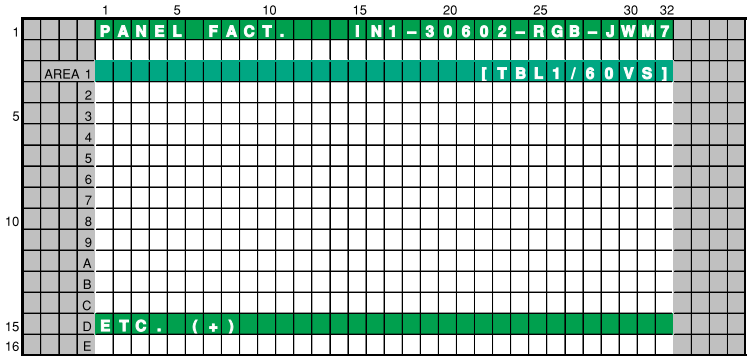



### ■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

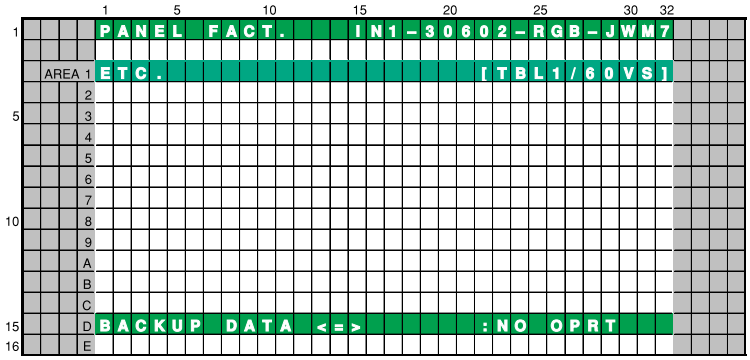
### 8.2.2.8 ETC. (+)

- The setting about the backup of panel adjusting value and various data on panel operational information can be cleared. Pressing the SET key shifts the screen to the next nested layer below for item selection.




■ **Key operation**

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL REVISE (+)
<SET> : Shifting to the next nested layer

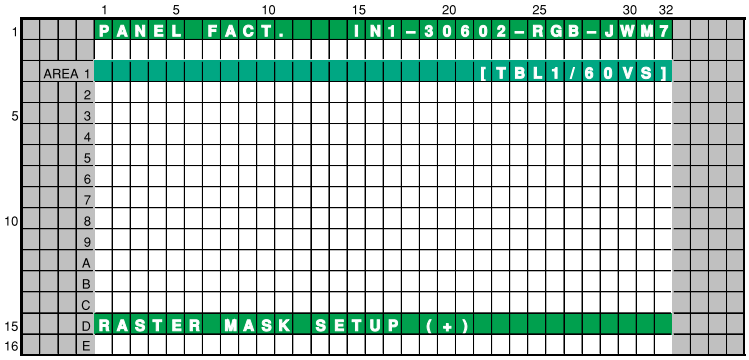



■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

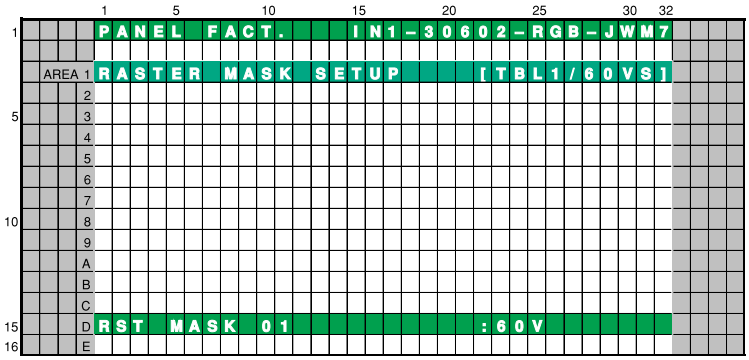
## 8.2.2.9 RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.




### ■ Key operation

<DOWN> : Shifting to PATTEN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



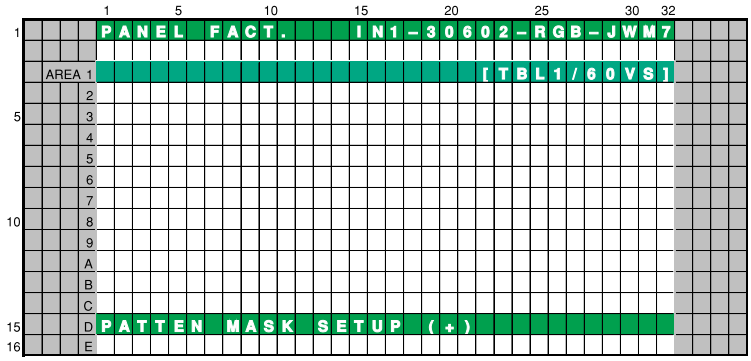

### ■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
- 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

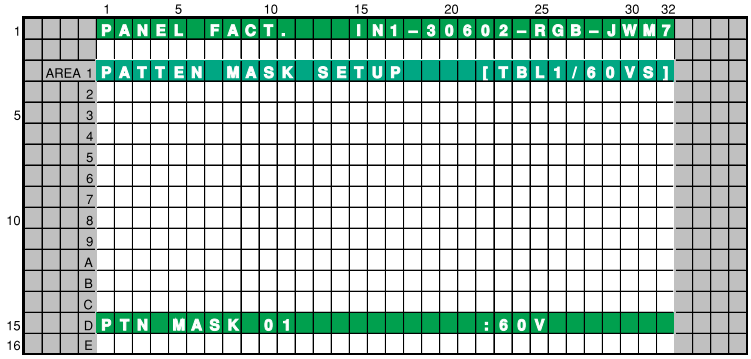
## 8.2.2.10 PATTEN MASK SETUP (+)

• This menu set the PATTEN MASK and the drive sequence at PATTEN MASK state.




### ■ Key operation

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



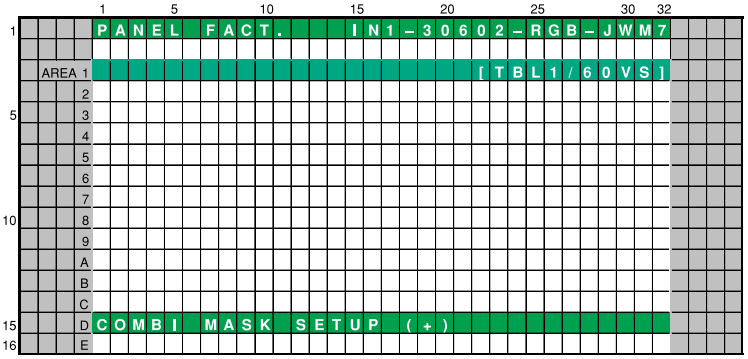

### ■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
• 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

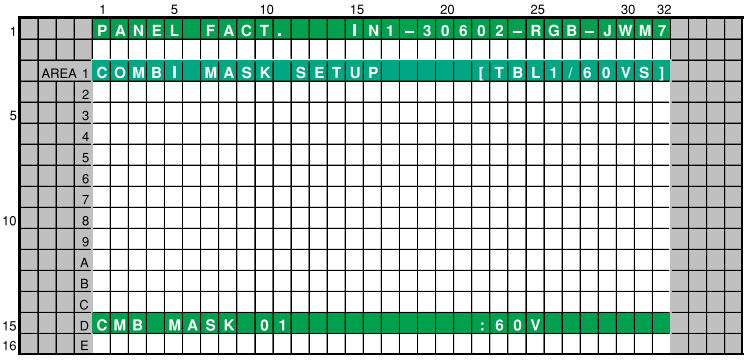
## 8.2.2.11 COMBI MASK SETUP (+)

• This menu set the COMBI MASK and the drive sequence at COMBI MASK state.




### ■ Key operation

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTEN MASK SETUP (+)
<SET> : Shifting to the next nested layer




### ■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
• 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

## 8.2.3 OPTION

**Operation item**

| No. | Function | Content | RS-232C |
|---|---|---|---|
| 1 | EDID WRITE MODE ⇔ | DISABLE ⇔ ENABLE | —— |
| 2 | CH PRESET ⇔ | USER ⇔ FACTORY | —— |

### 8.2.3.1 EDID WRITE MODE

Exclusively used for production line.

### 8.2.3.2 CH PRESET

Exclusively used for production line.

## 8.2.4 INITIALIZE

**Operation item**

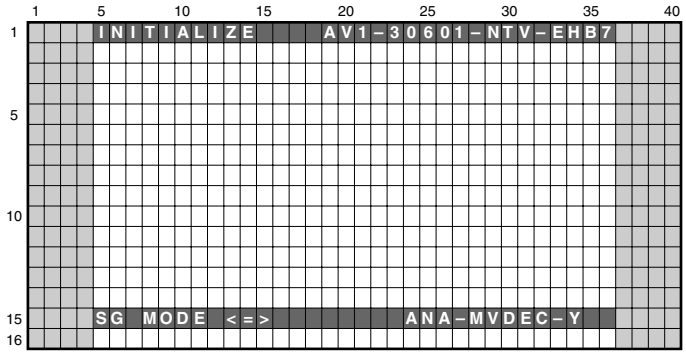
| No. | Function | Content | RS-232C |
|---|---|---|---|
| 1 | SYNC DET (+) | Exclusively used for technical analsyis. | —— |
| 2 | SG MODE ⇔ | Paired SG_MODE with SG_PATTERN. Select SG Route. | —— |
| 3 | SG PATTERN ⇔ | Paired SG_MODE with SG_PATTERN. Select SG Pattern. | —— |
| 4 | SIDE MASK LEVEL (+) | Configure the color of the side mask. | BSL, GSL, RSL |
| 5 | FINAL SETUP (+) | Initialize flash memorys on virgin product status | FST |
| 6 | CVT AUTO ⇔ | Exclusively used for technical analsyis. | —— |
| 7 | HDMI INTR POSITION (+) | Exclusively used for technical analsyis. | —— |

### 8.2.4.1 SYNC DET (+)

Exclusively used for technical analsyis (details omitted).

### 8.2.4.2 SG MODE

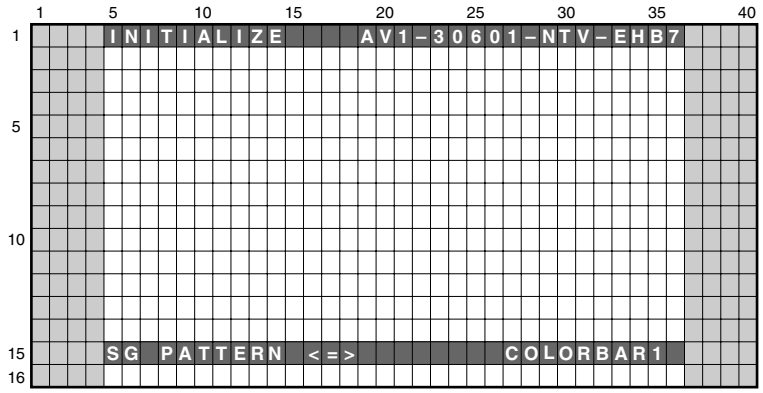
SG MODE (SG's route selection) / SG PATTERN (signal pattern selection) are used as pair.
In SG MODE, select the SG route and then select the SG pattern to be sent by the selected route.
In SG MODE, make sure to select the route first.




**Operation item**

| No. | Display | Content |
|---|---|---|
| 1 | SG OFF | SG Mode is OFF. |
| 2 | DIG MVDEC YCBCR | MAIN VDEC: YCbCr<br>(Digital output mode) |
| 3 | ANA MVDEC Y | MAIN VDEC: Y (Analog output mode: SG VDEC return setting) |
| 4 | ANA MVDEC RGB | MAIN VDEC:RGB |
| 5 | ANA SVDEC Y | SUB VDEC:Y |
| 6 | ANA AD YCBCR | AD: YcbCr<br>(Analog output to the RGB SW) |
| 7 | ANA AD RGB | AD: RGB<br>(Analog output to the RGB SW) |

### 8.2.4.3 SG PATTERN



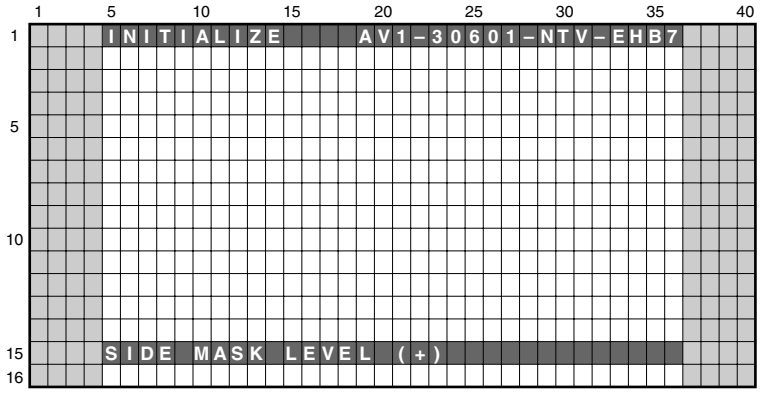

**Operation item**

| No. | Display | SG Pattern (Brightness IRE Level/Color) | No. | Display | SG Pattern (Brightness IRE Level/Color) |
|---|---|---|---|---|---|
| 1 | COLOR BAR1 | Colorbar (75%) | 11 | RASTER4 | Raster (75% Green) |
| 2 | COLOR BAR2 | Colorbar (100%) | 12 | RASTER5 | Raster (75% Magenta) |
| 3 | RAMP1 | Ramp (100% white) | 13 | RASTER6 | Raster (75% Red) |
| 4 | RAMP2 | Ramp (100% Yellow) | 14 | RASTER7 | Raster (75% Blue) |
| 5 | RAMP3 | Ramp (75% Green) | 15 | RASTER8 | Raster (– % Black) |
| 6 | RAMP4 | Ramp (75% Red) | 16 | 10STEP1 | 10STEP (100% white) |
| 7 | RAMP5 | Ramp (75% Blue) | 17 | 10STEP2 | 10STEP (100% Yellow) |
| 8 | RASTER1 | Raster (100% White) | 18 | 10STEP3 | 10STEP (75% Green) |
| 9 | RASTER2 | Raster (75% Yellow) | 19 | 10STEP4 | 10STEP (75% Red) |
| 10 | RASTER3 | Raster (75% Cyanide) | 20 | 10STEP5 | 10STEP (75% Blue) |

**■ Notes when using SG MODE/SG PATTERN**

- During factory mode, choose the correct route when changing.
- Basically, during VDEC SG output, make sure to connect SG output's Y or G to the AVI input terminal of VDEC.
- During SG MODE, turn off the blanking 50IRE setup function.
- During VDEC SG output, set the YC seperation setting to NTSC.
- It is possible to use ANALOG OUT MODE together during DIGITAL OUT MODE.
  The Main VDEC can output digital color difference, in which colors will appear.
  But the route to VDEC input cannot be analysed therefore care should be taken when using.
  Depending on the situation, please use the proper analog/digital output.
- The SG MODE outputs color difference and RGB only. Therefore, in the case of CVBS, only the Y input is used resulting in no color.
  This is not a damage result nor error.
- The SG MODE's ANA AD RGB (route to input 525i to AD by RGB) as a set's route, the setting does not exist. For this account the latter part from MVDEC does not have set values, resulting in having funny colors in colorbar, the brightness changes after switching, etc.
  This is not a damage result nor error.
- Depending on MVDEC's part version, ANA_MVDEC_YCBCR may not display colors.

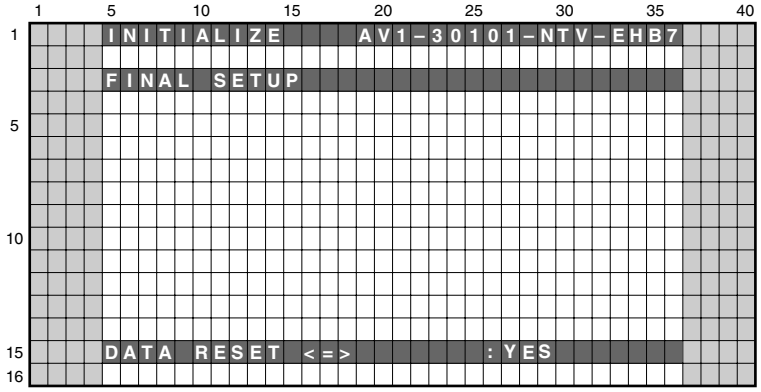
### 8.2.4.4 SIDE MASK LEVEL




To configure sidemask's R, G, B level (To adjust the values, input signal is required).

| No. | Display | Content | RS-232C |
|---|---|---|---|
| 1 | R MASK LEVEL ⇔ | Adjust Side Mask R (Adjustable range: 000 to 255) | RSL |
| 2 | G MASK LEVEL ⇔ | Adjust Side Mask G (Adjustable range: 000 to 255) | GSL |
| 3 | B MASK LEVEL ⇔ | Adjust Side Mask B (Adjustable range: 000 to 255) | BSL |

### 8.2.4.5 FINAL SETUP




- To reset each memory value sto factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [SET] key is pressed for 5 seconds, the reset action executes.

### 8.2.4.6 CVT AUTO

Exclusively used for technical analsyis (details omitted).

### 8.2.4.7 HDMI INTR POSITION (+)

Exclusively used for technical analsyis (details omitted).

# 9. LIST OF RS-232C COMMANDS

## 9.1 OUTLINE OF RS-232C COMMANDS

### 9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

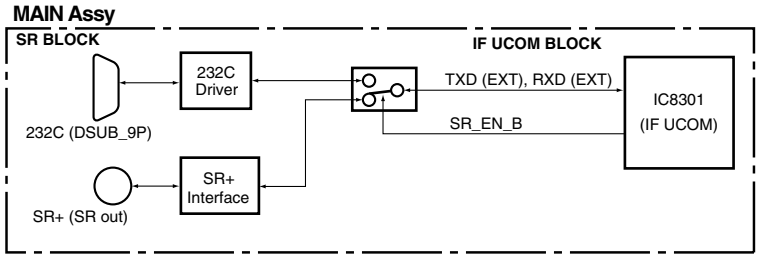
∗ It is likely not to move correctly in Win 98 faction/Me and Win for foreign countries.

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

### 9.1.2 USING RS-232C COMMANDS

For the PDP-507XD and PDP-507XA series Plasma Displays, the circuitry is structured as shown in the diagram below to support the SR+ system. Controlling with either the SR+ system or RS-232C commands can be selected.
As the SR+ system is selected at shipment, to control with RS-232C commands in servicing it is necessary to switch the paths. After servicing, be sure to return the setting to the SR+ system.

**■ Rough diagram of switching between SR+ and RS-232C**




**■ How to switch SR+/RS-232C ?**

There are "How to switch SR+/RS-232C by remote control in the Standby Mode" and "How to switch SR+/RS-232C by remote control in the INTEGRATOR MENU" as a Method

① To select SR+/RS-232C by remote control in Standby Mode.

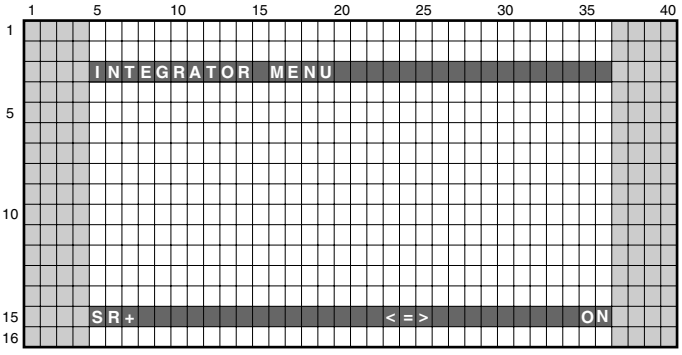
- During Standby mode, hold the keys other than the [POWER] key on the remote control, the following operation is done within 10 seconds.

To select from SR+ to RS-232C/To select from RS-232C to SR+.

- During standby mode, hold the [VOLUME+ (or -)] key on the remote control unit pressed for 3 to 10 seconds.
→Then within 3 seconds after the key is released, hold the [2-screen] key released, use the [SET (ENTER)] key on the remote control unit to set to RS-232C (the baud rate last selected is chosen) or the [HOME MENU] key to set to SR+.
- During IF Standby mode (once 10 seconds or more has passed after the LED goes dark during communication), the first keypress may not be accepted. In such a case, for a key operation, first press any key other than the [POWER] key and [CH] keys, then the desired key.
- At the switch SR+/RS-232C, the LED will be blinked on the fixed time.

② To select SR+/RS-232C in the INTEGRATOR MENU.

- How to enter INTEGRATOR MENU.
During standby mode, press the [Home Menu] key, and then press the [POWER] key within 3 seconds. During factory mode, hold the [INTEGRATOR] key.
- In INTEGRATOR MENU, there is a OSD where SR+ (or RS-232C) is turned on/off, and it switches on the screen.



## 9.1.3 COMMAND PROTOCOL

■ **Communication protocol : Asynchronous serial communication by RS-232C**

Start bit length : 1 bit
Data width : 8 bit (ASCII codes/There is no distinction between the capital letter and the small letter)
Parity : None
Stop bit length : 1 bit
Baud rate : 9600 bps (Fixed)

■ **Regulating function**

Direct numerical value effective: The adjustment value can be set directly by transmitting the figure to the mark of the command.

■ **Data format**

The control signal format sent from the user side controller is as follows. When the transmission data is completed STX (02 (Hex)), the command of ETX (03 (Hex)) is arranged when beginning to communicate. And, ID, the command, and the parameter are arranged between those. Data is assumed to be ASCII form alphanumeric character. Neither the capital letter nor the small letter are distinguished.

• Only for the command

| STX | ID | Command | ETX |
|---|---|---|---|
| 0x02 | ** | □□□ | 0x03 |

• When you accompany setting/adjustment data

| STX | ID | Command | Parameter | ETX |
|---|---|---|---|---|
| 0x02 | ** | □□□ | △△△ | 0x03 |

■ **Command processing**

When the command is input, the command processing begins processing.
ID is assumed to be 2 asterisk "**".

■ **Reception confirmation**

The module microcomputer judges right or wrong for the command received from the main side.
If it is an effective command, processing is executed. And, the reply of the received command is done when entering the following state of the command standby after processing is completed.
The replying data replies data that deletes the ID code from the reception command by the capital letter.

• When you accompany setting/adjustment data

Send data to PC

| STX | ID | Command | Parameter | ETX |
|---|---|---|---|---|
| 0x02 | ** | □□□ | △△△ | 0x03 |

→ Receive data

| STX | Command | Parameter | ETX |
|---|---|---|---|
| 0x02 | □□□ | △△△ | 0x03 |

• Only for the command

Send data to PC

| STX | ID | Command | ETX |
|---|---|---|---|
| 0x02 | ** | □□□ | 0x03 |

→ Receive data

| STX | Command | ETX |
|---|---|---|
| 0x02 | □□□ | 0x03 |

In this case, "ERR" replies if it is a command of the uncorrespondence.
The command replies "XXX" when processing on status cannot be executed even if it is effective.

• For an Invalid command

Send data to PDP system

| STX | ID | Command | ETX |
|---|---|---|---|
| 0x02 | ** | □□□ | 0x03 |

→ Receive data

| STX | Command | ETX |
|---|---|---|
| 0x02 | ERR | 0x03 |

• For the command that cannot be executed on status

Send data to PDP system

| STX | ID | Command | ETX |
|---|---|---|---|
| 0x02 | ** | □□□ | 0x03 |

→ Receive data

| STX | Command | ETX |
|---|---|---|
| 0x02 | XXX | 0x03 |

■ **Processing in the case of an error**

When the communication error occurs from STX between ETX, the processing of a pertinent command is discontinued, and the reception buffer is cleared. When STX is received, the command reception processing keeps storing the transmitted character string in the register.
And, the character string placed by the ETX reception between STX-ETX is interpreted as a command.

## 9.1.4 DEFINITION OF COMMAND

### ■ Single functional command

The command to which operation is concluded only by command. The command parts are 3 characters.

Send data to PC

| STX | ID | Command | ETX |
|---|---|---|---|
| 0x02 | ** | PON | 0x03 |

→

Receive data

| STX | Command | ETX |
|---|---|---|
| 0x02 | PON | 0x03 |

### ■ Adjustment command and adjustment value

- The command to which value of parameter is changed attended with adjustment value. The command parts are 3 characters.
- The adjustment value is the numeric character data of the decimal number 3 characters. It is made the range of 000-999. The range that can be adjusted is different according to the function to adjust (It is noted that then, it is not uniformly to 999).

Send data to PC

| STX | ID | Command | Parameter | ETX |
|---|---|---|---|---|
| 0x02 | ** | CNT | 128 | 0x03 |

→

Receive data

| STX | Command | Parameter | ETX |
|---|---|---|---|
| 0x02 | CNT | 128 | 0x03 |

* When the received command exceeds the range where the adjustment value can be adjusted, "XXX" is transmitted.
* When the same adjustment value is continuously transmitted two times or more, "XXX" doesn't reply, though it is an invalid command. It's overwrited, and ACK that deletes ID replies.

### ■ Set command and Set value

- The command to which set value of parameter is changed attended with set value. The command parts are 3 characters.
- Set values are three characters. The first character is fixed to "S". 2 remainder characters are assumed to be assumption S00-S99 as the decimal number.

Send data to PDP system

| STX | ID | Command | Parameter | ETX |
|---|---|---|---|---|
| 0x02 | ** | MKS | S02 | 0x03 |

→

Receive data

| STX | Command | Parameter | ETX |
|---|---|---|---|
| 0x02 | MKS | S02 | 0x03 |

* When the received command doesn't exist as a set value, "XXX" is transmitted.
* When the same set value is continuously transmitted two times or more, "XXX" doesn't reply, though it is an invalid command. It's overwrited, and ACK that deletes ID replies.

### ■ State acquisition command

- The command that reports on state of operation and set value, etc. to system side.
- The content that corresponds by the kind of the command is read from the memory, when the command is received from the system side and it replies.
- The command parts are three characters. The first character is fixed to "Q". It sets since the second character according to the content of information.
- The reply data is transmitted adding various data that converts the received command and ASCII code and the checksum of the data. Because the content of the reply changes according to the kind of the "QUEST command", the data length follows an individual, individual specification.

Send data to PDP system

| STX | ID | Command | ETX |
|---|---|---|---|
| 0x02 | ** | QS1 | 0x03 |

→

Receive data

| STX | Command | Parameter | ETX |
|---|---|---|---|
| 0x02 | QS1 | ••••••••• | 0x03 |

## Adjustment assistance command

The Adjustment Assistance Command is combined and used with the Adjustment Command.

- The Adjustment Command + Adjustment Assistance Command ⇒ It addition/subtracts it from a present adjustment value.
  **Note:** When the received command exceeds the range of the adjustment value, it changes to MAX/MIN.

- The adjustment command immediately before is made efficacy when only the adjustment command (addition/subtraction command) is received alone after the adjustment command receptions completed, and it makes it to the value addition/subtracted from a present adjustment value. However, it applies to the command when other commands are received.

- Kind of Adjustment Assistance Command (addition/subtraction command)
  UP1 to UP9, UP0, UPF: 1 to 10 is added to a setting value.
  UPF: It makes it to the maximum value ("VOL" command).
  DW1 to DW9, DW0, DWF: 1 to 10 is subtracted a setting value.
  DWF: It makes it to the minimum value ("VOL" command).
  FWD: One Priset CH is previously advanced ("CHN" command).
  REV: One Priset CH is returned in the front ("CHN" Command).

Send data to PDP system

| STX | ID | Command | Subcommand | ETX |
|---|---|---|---|---|
| 0x02 | ** | VOL | UP1 | 0x03 |

→

Receive data

| STX | Command | Subcommand | ETX |
|---|---|---|---|
| 0x02 | VOL | UP1 | 0x03 |

## 9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "9.1 OUTLINE OF RS-232C COMMANDS".

[Note ; If you want to see version infomation (ex. QS1, QS6, Factory, Menu), Please see 10 seconds after starting.]

### ■ RS-232C command list

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **A** | | | | | | | |
| ABL | *** | Adjusting the upper limit of the power | ● | | Mod | ● | |
| AMT | S00 | Audio mute : OFF | | ● | | | |
| | S01 | Audio mute : ON | | ● | | | |
| APW | S00 | WB correction interlocked with APL: OFF | ● | | | ● | |
| | S01 | WB correction interlocked with APL: ON | ● | | | ● | |
| **B** | | | **MDU** | **MTB** | | | |
| BCP | | Copying the backup data in the EEPROM | ● | | | ● | |
| BHI | *** | User white balance : BLUE highlight | ● | | | | |
| BLW | *** | User white balance : BLUE lowlight | ● | | | | |
| BRT | *** | User brightness | ● | | | | |
| BSM | S00 | After image/Burning safe mode: OFF | ● | | | | |
| | S01 | After image/Burning safe mode: ON | ● | | | | |
| BSL | | Adjusting Side Mask Level BLUE | | ● | | | |
| **C** | | | **MDU** | **MTB** | | | |
| CBU | | Clearing backup data of EEPROM | ● | | | ● | |
| CHM | | Clearing data of the hour meter | ● | | | ● | |
| CHN | FWD | Changing tuner preset channel (1 step forward) | | ● | | | |
| | REV | Changing tuner preset channel (1 step reverse) | | ● | | | |
| CNT | *** | User contrast | ● | | | | |
| CMT | | Clearing data of the maximum temperature | ● | | | ● | |
| CPC | | Clearing power-on count data | ● | | | ● | |
| CPD | | Clearing power-down histrory | ● | | | ● | |
| CPM | | Clearing data of the pulse meter | ● | | | ● | |
| CSD | | Clearing shutdown history | ● | | | ● | |
| **D** | | | **MDU** | **MTB** | | | |
| DRV | S00 | Main power off | ● | | | | |
| | S01 | Main power on | ● | | | | |
| DW* | | To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command) | | ● | | | |
| **E** | | | **MDU** | **MTB** | | | |
| ESV | S00 | Setting Power Consumption mode to normal sequence & normal curve | ● | | | | |
| | S01 | Setting Power Consumption mode to silent sequence & normal curve | ● | | | | |
| | S02 | Setting Power Consumption mode to silent sequence & power-saving curve | ● | | | | |
| **F** | | | **MDU** | **MTB** | | | |
| FAJ | | Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed" | ● | | | ● | |
| FAN | | Factory mode off | ● | ● | | ● | |
| FAY | | Factory mode on | ● | ● | | | |
| FST | | Set each memory setting of MTB side to the shipment state. | | ● | | | |
| **G** | | | **MDU** | **MTB** | | | |
| GHI | *** | User white balance : GREEN highlight | ● | | | | |
| GLW | *** | User white balance : GREEN lowlight | ● | | | | |
| GSL | | Green side mask level adjustment | | ● | | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **I** | | | | | | | |
| INA | *** | Switching the terrestrial analog signal | | ● | | | |
| INC | *** | Switching the terrestrial digital signal (EUC is Step-upD only) | | ● | | | |
| INP | S01 | Input switch: INPUT 1 | | ● | | | |
| | S02 | Input switch: INPUT 2 | | ● | | | |
| | S03 | Input switch: INPUT 3 | | ● | | | |
| | S04 | Input switch: INPUT 4 | | ● | | | |
| | S05 | Input switch: INPUT 5 | | ● | | | |
| | S06 | Input switch: INPUT 6 | | ● | | | |
| **M** | | | **MDU** | **MTB** | | | |
| MKC | S00 | MASK off | ● | | Mod | ● | |
| | S01 | H ramp (slant 1) M | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) M | ● | | Mod | ● | |
| | S03 | Slanting ramp M | ● | | Mod | ● | |
| | S04 | 30 for aging | ● | | Mod | ● | |
| | S05 | 05 for aging | ● | | Mod | ● | |
| | S06 | Erasing afterimage 1 | ● | | Mod | ● | |
| | S07 | Erasing afterimage 2 (RGB: zigzag, V: reverse) | ● | | Mod | ● | |
| | S08 | White (change in luminance level) | ● | | Mod | ● | |
| | S09 | PEAK SEEK RASTER | ● | | Mod | ● | |
| | S10 | For engineering use | ● | | Mod | ● | |
| MKS | S00 | MASK off | ● | | Mod | | |
| | S01 | H ramp (slant 1) | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) | ● | | Mod | ● | |
| | S03 | V ramp (slant 1) | ● | | Mod | ● | |
| | S04 | Slanting ramp | ● | | Mod | ● | |
| | S05 | Window (Hi= 870, Lo= 102) | ● | | Mod | ● | |
| | S06 | Window (Hi= 1023, Lo= 102) | ● | | Mod | ● | |
| | S07 | Window (Hi= 1023) | ● | | Mod | ● | |
| | S08 | Window (Hi= 1023) 4 % | ● | | Mod | ● | |
| | S09 | Window (Hi= 1023) 1.25 % | ● | | Mod | ● | |
| | S10 | Window (1/7 LINE) | ● | | Mod | ● | |
| | S11 | STRIPE (MGT/GRN) | ● | | Mod | ● | |
| | S12 | STRIPE (GRN/MGT) | ● | | Mod | ● | |
| | S13 | B & W, checker (1 line) | ● | | Mod | ● | |
| | S14 | B & W, checker (2 lines) | ● | | Mod | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **M** | | | | | | | |
| MKS | S15 | B & W, checker (4 lines) | ● | | Mod | ● | |
| | S16 | B & W, checker (8 lines) | ● | | Mod | ● | |
| | S17 | COLOR BAR | ● | | Mod | ● | |
| | S18 | Slanting lines | ● | | Mod | ● | |
| | S19 | Red & black, checker (1 line) | ● | | Mod | ● | |
| | S20 | Red & black, checker (2 lines) | ● | | Mod | ● | |
| | S21 | Red & black, checker (4 ines) | ● | | Mod | ● | |
| | S22 | Red & black, checker (8 lines) | ● | | Mod | ● | |
| | S23 | RGB zigzag, V reverse | ● | | Mod | ● | |
| | S24 | SUS 2000 pulses (black raster) | ● | | Mod | ● | |
| | S25 | Window (Hi= 870, Lo= 102) Pattern 3 | ● | | Mod | ● | |
| | S26 | Window (Hi= 1023, Lo= 102) Pattern 3 | ● | | Mod | ● | |
| | S27 | Window (Hi= 1023) Pattern 3 | ● | | Mod | ● | |
| | S28 | Window (Hi= 1023) 4 % Pattern 3 | ● | | Mod | ● | |
| | S29 | Window (Hi= 1023) 1.25 % Pattern 3 | ● | | Mod | ● | |
| | S30 | Window (1/7 LINE) Pattern 3 | ● | | Mod | ● | |
| | S31 | Noise ON - White | ● | | Mod | ● | |
| | S32 | Noise ON - Red | ● | | Mod | ● | |
| | S33 | Noise ON - Green | ● | | Mod | ● | |
| | S34 | Noise ON - Blue | ● | | Mod | ● | |
| | S35 | Noise ON - Black | ● | | Mod | ● | |
| | S36 | For engineering use | ● | | Mod | ● | |
| | S37 | For engineering use | ● | | Mod | ● | |
| | S38 | For engineering use | ● | | Mod | ● | |
| | S39 | For engineering use | ● | | Mod | ● | |
| | S51 | Raster - White | ● | | Mod | ● | |
| | S52 | Raster - Red | ● | | Mod | ● | |
| | S53 | Raster - Green | ● | | Mod | ● | |
| | S54 | Raster - Blue | ● | | Mod | ● | |
| | S55 | Raster - Black | ● | | Mod | ● | |
| | S56 | Raster - Cyan | ● | | Mod | ● | |
| | S57 | Raster - Magenta | ● | | Mod | ● | |
| | S58 | Raster - Yellow | ● | | Mod | ● | |
| | S59 | RASTER09: Red 760 | ● | | Mod | ● | |
| | S60 | RASTER10: Cyan 419 | ● | | Mod | ● | |
| | S61 | RASTER11: Green 856 | ● | | Mod | ● | |
| | S62 | RASTER12: Gray 313 | ● | | Mod | ● | |
| | S63 | RASTER13: Gray 908 | ● | | Mod | ● | |
| | S64 | RASTER14: Yellow egg color | ● | | Mod | ● | |
| | S65 | RASTER15: Beige | ● | | Mod | ● | |
| | S66 | RASTER16: Sky color | ● | | Mod | ● | |
| | S67 | RASTER17: Pale purple | ● | | Mod | ● | |
| | S68 | RASTER18: Magenta 54 | ● | | Mod | ● | |
| | S69 | RASTER19: Red 1023+ | ● | | Mod | ● | |
| | S70 | RASTER20: Green 1023+ | ● | | Mod | ● | |
| | S71 | RASTER21: Blue 1023+ | ● | | Mod | ● | |
| | S72 | RASTER22: Red 588+ | ● | | Mod | ● | |
| | S73 | RASTER23: Green 588+ | ● | | Mod | ● | |
| | S74 | RASTER24: Pale rose | ● | | Mod | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **M** | | | | | | | |
| MST | S00 | Display one screen | | ● | | | |
| | S01 | PsideP (Main size : normal) | | ● | | | |
| | S02 | PinP (Right_down) | | ● | | | |
| | S03 | PinP (Right_up) | | ● | | | |
| | S04 | PinP (Left_up) | | ● | | | |
| | S05 | PinP (Left_down) | | ● | | | |
| | S06 | PsideP (Main size : center) | | ● | | | |
| | S07 | PsideP (Main size : large) | | ● | | | |
| | S08 | SWAP (Exchanging sub-screen) | | ● | | | |
| **O** | | | **MDU** | **MTB** | | | |
| OSD | S00 | Turning OSD setting to off | | ● | | | |
| | S01 | Turning OSD setting to on | | ● | | | |
| **P** | | | **MDU** | **MTB** | | | |
| PAV | S** | Switching panel functions interlocked with the AV selection | ● | | | | |
| PBH | *** | Panel white balance adjustment - Blue highlight | ● | | Mod | ● | |
| PBL | *** | Panel white balance adjustment - Blue low light | ● | | Mod | ● | |
| PDM | S00 | Passing PD signals to the Power SUPPLY Unit => Power-down | ● | | | | |
| | S01 | Not passing PD signals to the Power SUPPLY Unit => No power-down | ● | | | | |
| PFN | | Factory mode: off | ● | | | ● | |
| PFS | | Setup at shipment | ● | | | ● | |
| PFY | | Factory mode: on | ● | | | ● | |
| PGH | *** | Panel white balance adjustment - Green highlight | ● | | Mod | ● | |
| PGL | *** | Panel white balance adjustment - Green low light | ● | | Mod | ● | |
| PGM | S** | Setting of the gamma table | ● | | | | |
| PMT | S00 | Canceling panel muting | ● | | | | |
| | S01 | Panel muting | ● | | | | |
| POF | | Power off | ● | ● | Main | | |
| PON | | Power on | ● | ● | Main | | |
| PPT | S00 | Panel protection: off | ● | | | ● | |
| | S01 | Panel protection: on | ● | | | ● | |
| PRH | *** | Panel white balance adjustment - Red highlight | ● | | Mod | ● | |
| PRL | *** | Panel white balance adjustment - Red low light | ● | | Mod | ● | |
| PUC | S00 | Pure cinema: off | ● | ● | | ● | |
| | S01 | Pure cinema: standard | ● | ● | | ● | |
| | S02 | Pure cinema: advanced | ● | ● | | ● | |
| **Q** | | | **MDU** | **MTB** | | | |
| QAJ | | Acquiring various adjustment values | ● | | | | |
| QIP | | Acquiring various input signal data | ● | | | | |
| QMT | | Acquiring temperature of MTB side and Fan speed | | ● | | | |
| QNG | | Acquiring shut-down information of MTB side | | ● | | | |
| QPD | | Acquiring logs of power-down points | ● | | | | |
| QPM | | Acquiring data of the pulse meter | ● | | | | |
| QPW | | Acquiring panel white balance adjustment values | ● | | | | |
| QS1 | | Acquiring unit data, such as the software version common to all models, regardless of destination | ● | ● | | | |
| QS2 | | Acquiring data on the status of the unit, such as temperature | ● | | | | |
| QS6 | | Acquiring unit data, such as the software version common to all models, regardless of destination | | ● | | | |
| QSD | | Acquiring data on shutdown | ● | | | | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **Q** | | | | | | | |
| QSI | | Acquiring data related with signals | ● | | | | |
| **R** | | | **MDU** | **MTB** | | | |
| RBL | S** | Setting of blue level for panel degradation correction | ● | | Mod | ● | |
| RGL | S** | Setting of green level for panel degradation correction | ● | | Mod | ● | |
| RHI | *** | User white balance - Red highlight | ● | | | | |
| RLW | *** | User white balance - Red low light | ● | | | | |
| RRL | S** | Setting of red level for panel degradation correction | ● | | Mod | ● | |
| RSL | *** | Adjustment of the Red side mask level | | ● | | ● | |
| RSW | *** | Adjustment of the width of XY reset pulse 1 | ● | | Mod | ● | |
| RYW | *** | Adjustment of the width of XY reset pulse 2 | ● | | Mod | ● | |
| **S** | | | **MDU** | **MTB** | | | |
| SDM | S00 | Shutdown enabled | ● | | | | |
| | S01 | Shutdown prohibited | ● | | | | |
| SFR | S01 | Measures against AM radio noise - Pattern 1 | ● | | Mod | ● | |
| | S02 | Measures against AM radio noise - Pattern 2 | ● | | Mod | ● | |
| | S03 | Measures against AM radio noise - Pattern 3 | ● | | Mod | ● | |
| | S04 | Measures against AM radio noise - Pattern 4 | ● | | Mod | ● | |
| | S05 | Measures against AM radio noise - Pattern 5 | ● | | Mod | ● | |
| | S06 | Measures against AM radio noise - Pattern 6 | ● | | Mod | ● | |
| | S07 | Measures against AM radio noise - Pattern 7 | ● | | Mod | ● | |
| | S08 | Measures against AM radio noise - Pattern 8 | ● | | Mod | ● | |
| SMM | S** | Setting of the effective area during streaking correction | ● | | | ● | |
| SN0 | *** | Setting of the serial No. 0 (panel) | ● | | Mod | ● | |
| SN1 | *** | Setting of the serial No. 1 (panel) | ● | | Mod | ● | |
| SN2 | *** | Setting of the serial No. 2 (panel) | ● | | Mod | ● | |
| SN3 | *** | Setting of the serial No. 3 (panel) | ● | | Mod | ● | |
| SN4 | *** | Setting of the serial No. 4 (panel) | ● | | Mod | ● | |
| SZM | S00 | Setting the screen size to Dot by Dot or PARTIAL | | ● | | | |
| | S01 | Setting the screen size to 4 :3 | | ● | | | |
| | S02 | Setting the screen size to FULL or FULL1080i | | ● | | | |
| | S03 | Setting the screen size to ZOOM | | ● | | | |
| | S04 | Setting the screen size to CINEMA | | ● | | | |
| | S05 | Setting the screen size to WIDE | | ● | | | |
| | S06 | Setting the screen size to FULL 14 : 9 | | ● | | | |
| | S07 | Setting the screen size to CINEMA 14 : 9 | | ● | | | |
| | S08 | Setting the screen size to FULL1035 | | ● | | | |
| **U** | | | **MDU** | **MTB** | | | |
| UAJ | | Determining the flag for the DIGITAL Assy adjustment in "not adjusted" | ● | | | | |
| UP* | | To add *** to the adjustment value (*** = 000 to 999, designated by a function command) | | ● | | | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **V** | | | | | | | |
| VFQ | S01 | Setting the frequency in Mask mode to VD-48 Hz | ● | | Mod | ● | |
| | S02 | Setting the frequency in Mask mode to VD-50 Hz | ● | | Mod | ● | |
| | S03 | Setting the frequency in Mask mode to VD-60 Hz | ● | | Mod | ● | |
| | S05 | Setting the frequency in Mask mode to VD-72 Hz | ● | | Mod | ● | |
| | S06 | Setting the frequency in Mask mode to VD-75 Hz | ● | | Mod | ● | |
| | S13 | Setting the frequency in Mask mode to PC-60 Hz | ● | | Mod | ● | |
| | S14 | Setting the frequency in Mask mode to PC-70 Hz | ● | | Mod | ● | |
| | S22 | Setting the frequency in Mask mode to VD-50 Hz (nonstandard) | ● | | Mod | ● | |
| | S23 | Setting the frequency in Mask mode to VD-60 Hz (nonstandard) | ● | | Mod | ● | |
| | S25 | Setting the frequency in Mask mode to VD-72 Hz (nonstandard) | ● | | Mod | ● | |
| | S26 | Setting the frequency in Mask mode to VD-75 Hz (nonstandard) | ● | | Mod | ● | |
| VOF | *** | Adjustment of the reference value of Vofs voltage | ● | | | ● | |
| VOL | UP*, DW*, *** | To adjust the volume (to be used in combination with UP*/DW*) | | ● | | | |
| VRP | *** | Adjustment of the reference value of Vrst-p voltage | ● | | | ● | |
| VSU | *** | Adjustment of the reference value of Vsus voltage | ● | | | ● | |
| **W** | | | | | | | |
| WBI | S00 | Panel WB standard output mode: off | ● | | | ● | |
| WBI | S01 | Panel WB standard output mode: on | ● | | | ● | |
| **X** | | | | | | | |
| XSB | *** | | ● | | Mod | ● | |
| **Y** | | | | | | | |
| YSB | *** | Y-SUS-B ADJ | ● | | Mod | ● | |
| YTB | *** | Y-SUSTAIL T2 ADJ | ● | | Mod | ● | |
| YTG | *** | Y-SUSTAIL T1 ADJ | ● | | Mod | ● | |
| YTW | *** | Y-SUSTAIL W ADJ | ● | | Mod | ● | |
| **Z** | | | | | | | |
| ZME | | Initializing the video EEPROM data | | ● | | ● | |
| ZPR | | Initializing the setting data to which no adjustment command is provided | ● | | | ● | |

# 9.3 OUTLINE OF COMMANDS

## 9.3.1 QS1

Model information and version information are returned.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS1] | Every Time | Output of status | Return data: 105 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS1 (Fixed) |
| 1 | Display information 1 (Resolution/inch size) | 1 byte | F |
| 2 | Display information 2 (Panel Generation) | 1 byte | 7: G7 |
| 3 | Display information 3 (Destination) | 1 byte | A: USA |
| 4 | Display information 4 (System Type) | 1 byte | * |
| 5 | Display information 5 (Panel Product Form) | 1 byte | B |
| 6 | MDUcom-Boot | 3 byte | 01A |
| 7 | MDUcom-Prg | 8 byte | |
| 8 | Seq Prs-Boot | 3 byte | 01A |
| 9 | Seq Prs-Prg | 8 byte | |
| 10 | SQ-VIDEO | 4 byte | |
| 11 | SQ-PC | 4 byte | |
| 12 | Panel Type | 1 byte | P/F |
| 13 | Reserved (*) | 7 byte | ******* |
| 14 | , (comma) | 1 byte | |
| 15 | MTB information 1 (Generation) | 1 byte | 7: G7 |
| 16 | MTB information 2 (Regional model) | 1 byte | A: USA |
| 17 | MTB information 3 (Grade) | 1 byte | H: Elite |
| 18 | MTB information 4 (System Type) | 1 byte | B |
| 19 | Common version for IF microcomputer | 4 byte | |
| 20 | Common version for Main microcomputer | 8 byte | |
| 21 | Boot version of Main microcomputer | 4 byte | |
| 22 | Common version for Multi-processor | 8 byte | |
| 23 | Boot version of Multi-processor | 4 byte | |
| 24 | Reserved (*) | 24 byte | |
| 25 | Check Sum | 2 byte | FF |

| 1: Resolution/Inch size | |
|---|---|
| 3 | 1024*768/42 |
| 4 | 1024*768/43 |
| 5 | 1280*768/50 |
| 6 | 1365*768/50 |
| 7 | 1365*768/60 |
| F | 1920*1080/50 |

| 2: Panel Generation | |
|---|---|
| 6 | G6 |
| 7 | G7 |
| 8 | G8 |
| 9 | G9 |
| 0 | G10 |

| 3: Destination | |
|---|---|
| * | Commonness |
| A | US (Reserved) |
| E | EU (Reserved) |
| J | Japan (Reserved) |

| 4: System Type | |
|---|---|
| * | Commonness |
| Z | Evaluation |

| 5: Panel Product Form | |
|---|---|
| S | System model |
| B | All-in-one design TV |
| M | Monitor |
| D | Standard module |
| E | Simple module |

| 12: Panel Type | |
|---|---|
| P | The past |
| F | High-effiective |

| 15: MTB/MB Generation | |
|---|---|
| 6 | G6 |
| 7 | G7 |
| 8 | G8 |
| 9 | G9 |
| 0 | G10 |

| 16: Regional Model | |
|---|---|
| J | JP |
| A | US |
| E | EU |
| G | GE |
| C | CH |
| U | AU |

| 17: MTB/MB Grade | |
|---|---|
| H | Elite/DXA/Step-upD |
| T | Step-upA/XG/TXC/Regular (US) |
| B | Not used (For Future) |
| S | RegularD |
| R | RegularA |

| 18: MTB/MB Product Form | |
|---|---|
| S | System model |
| B | One body model (SX) |
| M | Monitor (FHD) |

| 19 to 23: MTB/MB-side's information | |
|---|---|
| IF uCON | Common version of IF microcomputer |
| Main uCON | Common version of Main microcomputer |
| Main uCON-Boot | Boot version of Main microcomputer |
| Multi-prs | Common version of Multi-processor program |
| Multi Prs-Boot | Boot version of Multi-processor program |

## 9.3.2 QS2

The command QS2 is for acquiring data on the panel's operational information.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS2] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO)+23(DATA)+2(CS)= 28 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS2 |
| 1 | Notification of mode shifting to STB | 1 byte | 1 |
| 2 | Flag for adjustment of the main unit | 1 byte | 0 |
| 3 | Flag for adjustment-data backup | 1 byte | 0 |
| 4 | "1st PD" data | 1 byte | 0 |
| 5 | "2nd PD" data | 1 byte | 0 |
| 6 | Still picture detection | 1 byte | 0 |
| 7 | Reserved | 2 byte | ** |
| 8 | Temperature data (TEMP 1) | 3 byte | 128 (*1) |
| 9 | SD main data | 1 byte | 0 |
| 10 | SD sub data | 1 byte | 0 |
| 11 | Operation status induced by SD | 1 byte | 0 |
| 12 | Data from the hour meter | 8 byte | 00000259 (*2) |
| 13 | MASK indication | 1 byte | 0 |
| CS | | 2 byte | 4A |

**Note :** (*1) The unit scale is centigrade. The data is A/D value from the thermal sensor.
(*2) "00000259" of "Data from the hour meter" means 2 hours 59 minuts.

| 1: Notification of mode shifting to Standby | |
|---|---|
| 0 | Entering Standby mode failed |
| 1 | Entering Standby mode succeeded |

| 2: Adjustment of the main unit | |
|---|---|
| 0 | Adjustment completed |
| 1 | Adjustment not completed |

| 3: Adjustment-data backup | |
|---|---|
| 0 | With backup data |
| 1 | No data (default) |

| 4, 5: PD data | |
|---|---|
| 0 | No PD data |
| 1 | Not used |
| 2 | POWER |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRV |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | ADRS |
| 9 | X-DRV |
| A | X-DCDC |
| B | X-SUS |
| C | Not used |
| D | Not used |
| E | Not used |
| F | UNKNOWN |

| 6: Still picture detection | |
|---|---|
| 0 | Normal screen |
| 1 | Still picture |

| 9: SD main data | |
|---|---|
| 0 | No SD |
| 1 | SQ-IC |
| 2 | MDU-IIC |
| 3 | RST2 |
| 4 | TEMP |

| 10-1: SD-Sub (SQ-IC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | Communication error |
| 2 | Drive stop |
| 3 | BUSY |
| 6 | Version mismatching |

| 10-2: SD-Sub (IIC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | EEPROM |
| 2 | BACKUP |
| 3 | DAC |

| 10-3: SD-Sub (TEMP) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | TEMP1 |
| 2 | Reserved |

| 11: Operation status induced by SD | |
|---|---|
| 0 | Normal |
| 1 | Relay-off completed |
| 2 | During warning indication |

| 13: MASK indication | |
|---|---|
| 0 | MASK-OFF |
| 1 | MASK-ON |

### 9.3.3 QIP

The command QIP is for acquiring data on operational information of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QIP] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO)+58(DATA)+2(CS)= 63 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QIP |
| 1 | SERIAL | 15 byte | - - - - - - - - - - - - - - - |
| 2 | HOUR METER | 8 byte | 00000000 |
| 3 | TOTAL HOUR METER | 8 byte | 00000000 |
| 4 | PON COUNTER | 8 byte | 00000000 |
| 5 | TEMP1 acquisition (Temperature value) | 5 byte | +23.5 (*1) |
| 6 | TEMP0 acquisition (Temperature value) | 5 byte | +28.7 (*1) |
| 7 | MAX-TEMP1 acquisition (Temperature value) | 5 byte | +78.3 (*1) |
| 8 | Reserved | 4 byte | **** |
| CS | | 2 byte | 94 |

Note
(*1) : Centigrade scale

### 9.3.4 QAJ

The command QAJ is for acquiring the panel's factory-preset data.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QAJ] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO)+41(DATA)+2(CS)= 46 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QAJ |
| 1 | V-SUS adjustment value | 3 byte | 128 |
| 2 | V-OFT adjustment value | 3 byte | 128 |
| 3 | V-RST-P adjustment value | 3 byte | 128 |
| 4 | Reserved | 3 byte | *** |
| 5 | XSB adjustment value | 3 byte | 128 |
| 6 | YSB adjustment value | 3 byte | 128 |
| 7 | YTG adjustment value | 3 byte | 128 |
| 8 | YTW adjustment value | 3 byte | 128 |
| 9 | RSW adjustment value | 3 byte | 128 |
| 10 | YTB adjustment value | 3 byte | 128 |
| 11 | RYW adjustment value | 3 byte | 128 |
| 12 | R-REVICE setting value | 1 byte | 0 |
| 13 | G-REVICE setting value | 1 byte | 0 |
| 14 | B-REVICE setting value | 1 byte | 0 |
| CS | | 2 byte | B7 |

• For each REVISE setting value, the level set for RRL, RGL, or RBL is transmitted as one character.

## 9.3.5 QPW

The command QPW is for acquiring the factory-preset data about the video of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPW] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO)+35(DATA)+2(CS)= 40 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPW |
| 1 | Drive sequence | 3 byte | 60V |
| 2 | Standard/nonstandard | 1 byte | S |
| 3 | Type of ABL/WB tables | 2 byte | T2 |
| 4 | ABL adjustment value | 3 byte | 128 |
| 5 | R-HIGH adjustment value | 3 byte | 256 |
| 6 | G-HIGH adjustment value | 3 byte | 256 |
| 7 | B-HIGH adjustment value | 3 byte | 256 |
| 8 | R-LOW adjustment value | 3 byte | 512 |
| 9 | G-LOW adjustment value | 3 byte | 512 |
| 10 | B-LOW adjustment value | 3 byte | 512 |
| 11 | Gamma setting | 1 byte | A |
| 12 | Streaking correction | 1 byte | 1 |
| 13 | Peripheral luminance correction | 1 byte | 0 |
| 14 | Reserved | 1 byte | * |
| 15 | WB interlocked with APL | 1 byte | 0 |
| 16 | Transition of protective operations | 1 byte | 0 |
| 17 | Reserved | 2 byte | ** |
| CS | | 2 byte | 37 |

| 1: Drive sequence | |
|---|---|
| 48V | Video 48 Hz |
| 50V | Video 50 Hz |
| 60V | Video 60 Hz |
| 72V | Video 72 Hz |
| 75V | Video 75 Hz |
| 60P | PC 60 Hz |
| 70P | PC 70 Hz |

| 2: Standard/ nonstandard | |
|---|---|
| S | Standard |
| N | Nonstandard |

| 3: Type of ABL/WB tables | |
|---|---|
| Tn | n: 1 to 4 |

| 11: Gamma setting | |
|---|---|
| n | 0 to F |

| 12, 15: Setting for Items 12 and 15 | |
|---|---|
| 0 | OFF |
| 1 | ON |

| 13: Peripheral luminance correction | |
|---|---|
| 0 | OFF |
| 2 | ON (interlocked with APL) |

| 16: Transition of brightness by protective operations | |
|---|---|
| 0 | Upper limit state for brightness |
| 1 | Brightness being reduced |
| 2 | Lower limit state for brightness |
| 3 | Brightness being increased |

## 9.3.6 QPM

The command QPM is for acquiring the accumulated number of pulses of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPM] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO)+40(DATA)+2(CS)= 45 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPM |
| 1 | Pulse meter B 1 | 8 byte | 00000000 |
| 2 | Pulse meter B 2 | 8 byte | 00000000 |
| 3 | Pulse meter B 3 | 8 byte | 00000000 |
| 4 | Pulse meter B 4 | 8 byte | 00000000 |
| 5 | Pulse meter B 5 | 8 byte | 00000000 |
| CS | | 2 byte | E7 |

## 9.3.7 QPD

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPD] | All operations | To acquire data on the power-down logs | Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPD |
| 1 | Latest "1st PD" data | 1 byte | A |
| 2 | Latest "2nd PD" data | 1 byte | 2 |
| 3 | Data from the hour meter for the latest PD | 8 byte | 00010020 |
| 4 | Second latest "1st PD" data | 1 byte | E |
| 5 | Second latest "2nd PD" data | 1 byte | 9 |
| 6 | Data from the hour meter for the second latest PD | 8 byte | 00008523 |
| 7 | Third latest "1st PD" data | 1 byte | 4 |
| 8 | Third latest "2nd PD" data | 1 byte | 3 |
| 9 | Data from the hour meter for the third latest PD | 8 byte | 00004335 |
| 10 | Fourth latest "1st PD" data | 1 byte | 2 |
| 11 | Fourth latest "2nd PD" data | 1 byte | 0 |
| 12 | Data from the hour meter for the fourth latest PD | 8 byte | 00000945 |
| 13 | Fifth latest "1st PD" data | 1 byte | 4 |
| 14 | Fifth latest "2nd PD" data | 1 byte | 0 |
| 15 | Data from the hour meter for the fifth latest PD | 8 byte | 00000715 |
| 16 | Sixth latest "1st PD" data | 1 byte | A |
| 17 | Sixth latest "2nd PD" data | 1 byte | 2 |
| 18 | Data from the hour meter for the sixth latest PD | 8 byte | 00000552 |
| 19 | Seventh latest "1st PD" data | 1 byte | A |
| 20 | Seventh latest "2nd PD" data | 1 byte | 0 |
| 21 | Data from the hour meter for the seventh latest PD | 8 byte | 00000213 |
| 22 | Eighth latest "1st PD" data | 1 byte | D |
| 23 | Eighth latest "2nd PD" data | 1 byte | 0 |
| 24 | Data from the hour meter for the eighth latest PD | 8 byte | 000001A7 |
| CS | | 2 byte | 27 |

| 1, 2, 4, 5: PD data | |
|---|---|
| 0 | No PD |
| 1 | Not used |
| 2 | P-POWER |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRIVE |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | Address |
| 9 | X-DRIVE |
| A | X-DCDC |
| B | X-SUS |
| C | Not used |
| D | Not used |
| E | Not used |
| F | UNKNOWN |

## 9.3.8 QSD

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSD] | All operations | To acquire data on the shutdown logs | Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QSD |
| 1 | Latest SD data | 1 byte | 1 |
| 2 | Latest SD subcategory data | 1 byte | 0 |
| 3 | Data from the hour meter for the latest SD | 8 byte | 00752013 |
| 4 | Second latest SD data | 1 byte | 5 |
| 5 | Second latest SD subcategory data | 1 byte | 0 |
| 6 | Data from the hour meter for the second latest SD | 8 byte | 00495204 |
| 7 | Third latest SD data | 1 byte | 2 |
| 8 | Third latest SD subcategory data | 1 byte | 3 |
| 9 | Data from the hour meter for the third latest SD | 8 byte | 00100355 |
| 10 | Fourth latest SD data | 1 byte | 2 |
| 11 | Fourth latest SD subcategory data | 1 byte | 5 |
| 12 | Data from the hour meter for the fourth latest SD | 8 byte | 00075620 |
| 13 | Fifth latest SD data | 1 byte | 1 |
| 14 | Fifth latest SD subcategory data | 1 byte | 0 |
| 15 | Data from the hour meter for the fifth latest SD | 8 byte | 00000852 |
| 16 | Sixth latest SD data | 1 byte | 2 |
| 17 | Sixth latest SD subcategory data | 1 byte | 5 |
| 18 | Data from the hour meter for the sixth latest SD | 8 byte | 000000451 |
| 19 | Seventh latest SD data | 1 byte | 0 |
| 20 | Seventh latest SD subcategory data | 1 byte | 0 |
| 21 | Data from the hour meter for the seventh latest SD | 8 byte | 00000000 |
| 22 | Eighth latest SD data | 1 byte | 0 |
| 23 | Eighth latest SD subcategory data | 1 byte | 0 |
| 24 | Data from the hour meter for the eighth latest SD | 8 byte | 00000000 |
| CS | | 2 Byte | 7D |

| ● SD data | |
|---|---|
| 0 | No SD |
| 1 | SQ-IC |
| 2 | MDU-IIC |
| 3 | RST2 |
| 4 | TEMP |

| ● SD subcategory (SQ-IC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | Communication error |
| 2 | Drive stop |
| 3 | BUSY |
| 6 | Version mismatching |

| ● SD subcategory (MDU-IIC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | EEPROM |
| 2 | BACKUP |
| 3 | DAC |

| ● SD subcategory (TEMP) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | TEMP1 |
| 2 | Reserved |

### 9.3.9 QS6

Induce it peculiar, individual information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS6] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Remarks |
|---|---|---|---|---|
| 00 | – | Received Command name | 3 byte | QS6 |
| 01 | | DTB version | 4 byte | |
| 02 | | Reserved | 8 byte | |
| 03 | | TELE-TEXT version | 60 byte | |
| 04 | | USER PASSWORD | 4 byte | |
| 05 | – | Check Sum | 2 byte | |

### 9.3.10 QMT

Temperature information (TEMP2) / FAN rotation state information on the MTB side is returned.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QMT] | Every time | Output of status | MTB-side's temperature/FAN rotating status |

| Order | Part | Data Arrangement | Data Length | Remarks |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QMT |
| 01 | MTB | MTB-side Temperature (TEMP2) | 3 byte | |
| 02 | | MTB-side FAN rotating speed | 1 byte | 0: STOP 1: LOW, 5: HIGH, 3: MIDDLE (FHD only) |

## 9.3.11 QNG

MTB/MB side's shutdown information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QNG] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Remarks |
|---|---|---|---|---|
| 00 | – | Received Command name | 3 byte | QNG |
| 01 | MTB | 1st latest NG No. | 1 byte | |
| 02 | | Subcategory No. for the 1st latest NG. | 1 byte | |
| 03 | | MTB hour meter for the 1st latest NG. | 7 byte | |
| 04 | | Temperature for the 1st latest NG. | 3 byte | |
| 05 | | 2nd latest NG No. | 1 byte | |
| 06 | | Subcategory No. for the 2nd latest NG. | 1 byte | |
| 07 | | MTB hour meter for the 2nd latest NG. | 7 byte | |
| 08 | | Temperature for the 2nd latest NG. | 3 byte | |
| 09 | | 3rd latest NG No. | 1 byte | |
| 10 | | Subcategory No. for the 3rd latest NG. | 1 byte | |
| 11 | | MTB hour meter for the 3rd latest NG. | 7 byte | |
| 12 | | Temperature for the 3rd latest NG. | 3 byte | |
| : | | : | : | |
| 29 | | 8th latest NG No. | 1 byte | |
| 30 | | Subcategory No. for the 8th latest NG. | 1 byte | |
| 31 | | MTB hour meter for the 8th latest NG. | 7 byte | |
| 32 | | Temperature for the 8th latest NG. | 3 byte | |
| 33 | – | Check Sum | 2 byte | |

**< SD Information No. >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 0 | Normal | |
| 1 | Failure of communication to Module microcomputer | MODULE (immediately Shutdown) |
| 2 | 3-wire serial communication of Main microcomputer | Go to No. 1 Subcategory Information |
| 3 | IIC communication failure of Main microcomputer and Unknown error | Go to No. 2 Subcategory Information |
| 4 | Communication failure of Main microcomputer | MAIN (immediately Power Supply OFF) |
| 5 | FAN stopped | FAN (immediately Power Supply OFF) |
| 6 | Abnormally high temperature at MTB | TEMP2 (After 30 seconds warning, turn the power supply off) |
| 7 | Failure of Digital Tuner | Go to No. 3 Subcategory Information |
| 8 | Failure of Power Supply | Go to No. 4 Subcategory Information |
| B | Speaker short-circuit | |

**< No. 1 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 0 | Non subcategory | |
| 1 | IF microcomputer communication failure | IF (immediately Power Supply OFF) |
| 2 | MANTA communication failure (MULTI) | MULTI1 (immediately Power Supply OFF) |
| 4 | MANTA communication | I/P |
| 5 | MANTA communication | D-SEL |

**< No. 2 Subcategory Information on "Failure in IIC communication of Main microcomputer" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 0 | Non subcategory | |
| 1 | Analog tuner1 (Front end 1) | FE1 (immediately Power Supply OFF) |
| 3 | MPX | MPX (After 3 times reset action, turn Power Supply off (except for us)) |
| 4 | AV switch | AV-SW (immediately Power Supply OFF) |
| 5 | RGB switch | RGB-SW (immediately Power Supply OFF) |
| 8 | Main VDEC | M-VDEC (immediately Power Supply OFF) |
| 9 | Sub VDEC | S-VDEC (immediately Power Supply OFF) |
| A | AD/PLL | ADC (immediately Power Supply OFF) |
| B | HDMI | HDMI (immediately Power Supply OFF) |
| E | M2 communication | TX-COM (After 3 times reset action, turn Power Supply off) |
| F | M2 busy | TX-BSY (After 3 times reset action, turn Power Supply off) |
| G | 64k EEPROM | MA-EEP (immediately Power Supply OFF) |
| H | AUDIO IC | |

**< No. 3 Subcategory Information on "Digital tuner" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 0 | Non subcategory | |
| 1 | DTV starting failure | PS/RST (The history is left, and intercepts it the communication) |
| 2 | DTV communication failure | RETRY (The history is left, and intercepts it the communication) |

**< No. 4 Subcategory Information on "POWER" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | DCDC Converter heden | M-DCDC (immediately Power Supply OFF) |
| 2 | Relay Power supply heden | RELAY (immediately Power Supply OFF) |

## 9.3.12 DRV

Drive ON/OFF: ON/OFF control for only the large-power system

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [DRV+S00] | Every time | DRIVE OFF | At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid. |
| [DRV+S01] | Every time | DRIVE ON | |

## 9.3.13 OTHER COMMANDS

### ■ Setting for Factory mode permission/prohibition • • • [FAY/FAN]

The commands FAY/FAN are for prohibiting/permitting panel-adjustment commands.

| Command Format | Operation | | Remarks |
|---|---|---|---|
| | Effective Operation Modes | Control | |
| [FAY] | Normal operation mode while the power is on | Adjust command is valid. | Mask indications will be forcibly turned off. |
| [FAN] | During FAY | Adjust command is invalid. | |

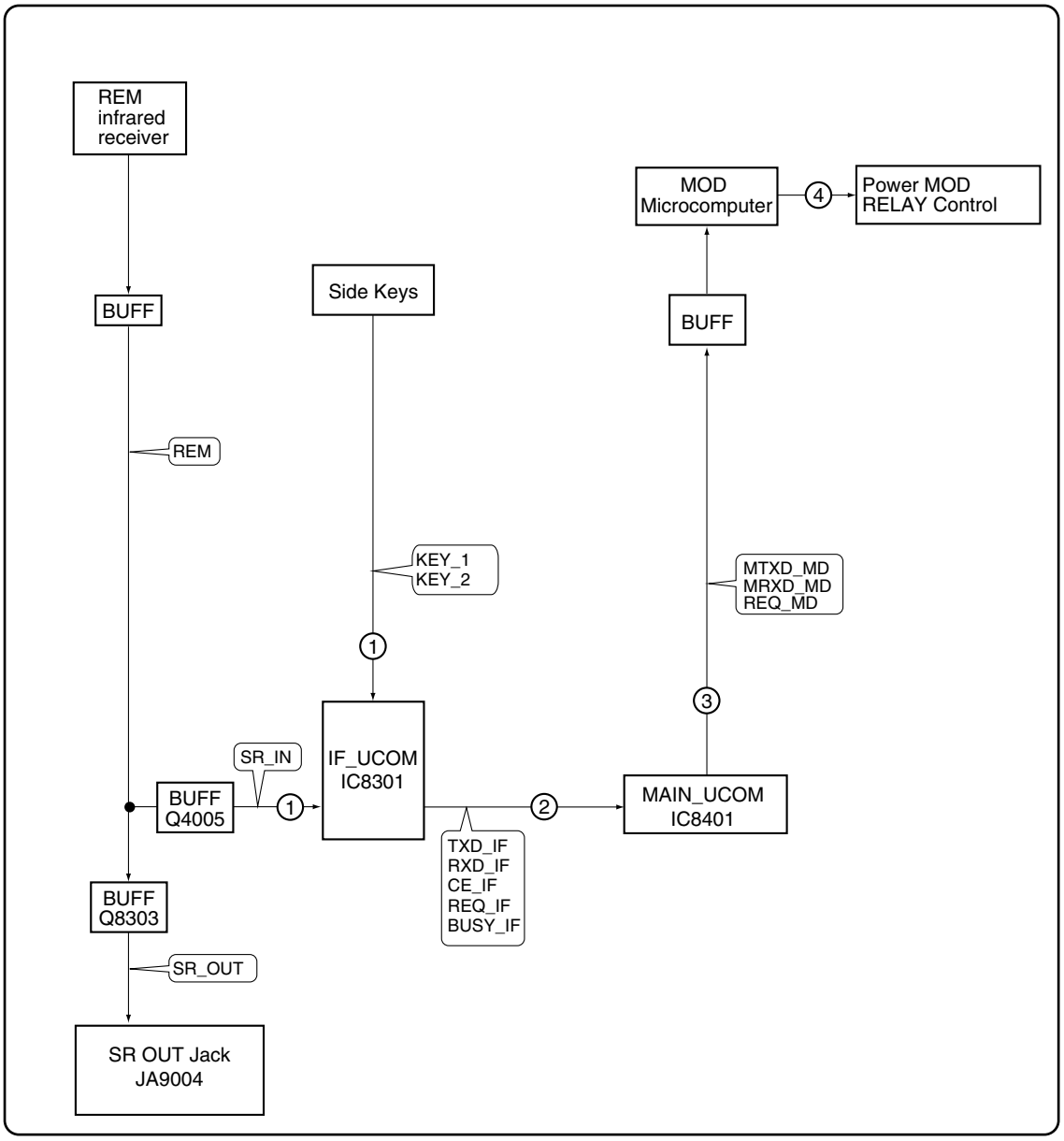
### ■ Backup function for adjustment values for the main unit • • • [FAJ/UAJ/CBU/BCP]

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

| Command Format | Operation | | | Remarks |
|---|---|---|---|---|
| | Effective Operation Modes | Control | | |
| [FAJ] | During FAY | To make the flag setting that indicating that adjustment of the panel unit has been completed | Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM | This takes at least 350 ms. |
| [UAJ] | | To make the flag setting that indicating that adjustment of the main unit has not been completed | Writing F0 to the 4 k byte ROM | |
| [CBU] | | To make the flag setting that indicating that backup data have not been copied | Writing F0 to the 2 k byte ROM | The backup ROM is initialized. |
| [BCP] | | To copy Digital backup data to EEPROM | Copying backup data | |

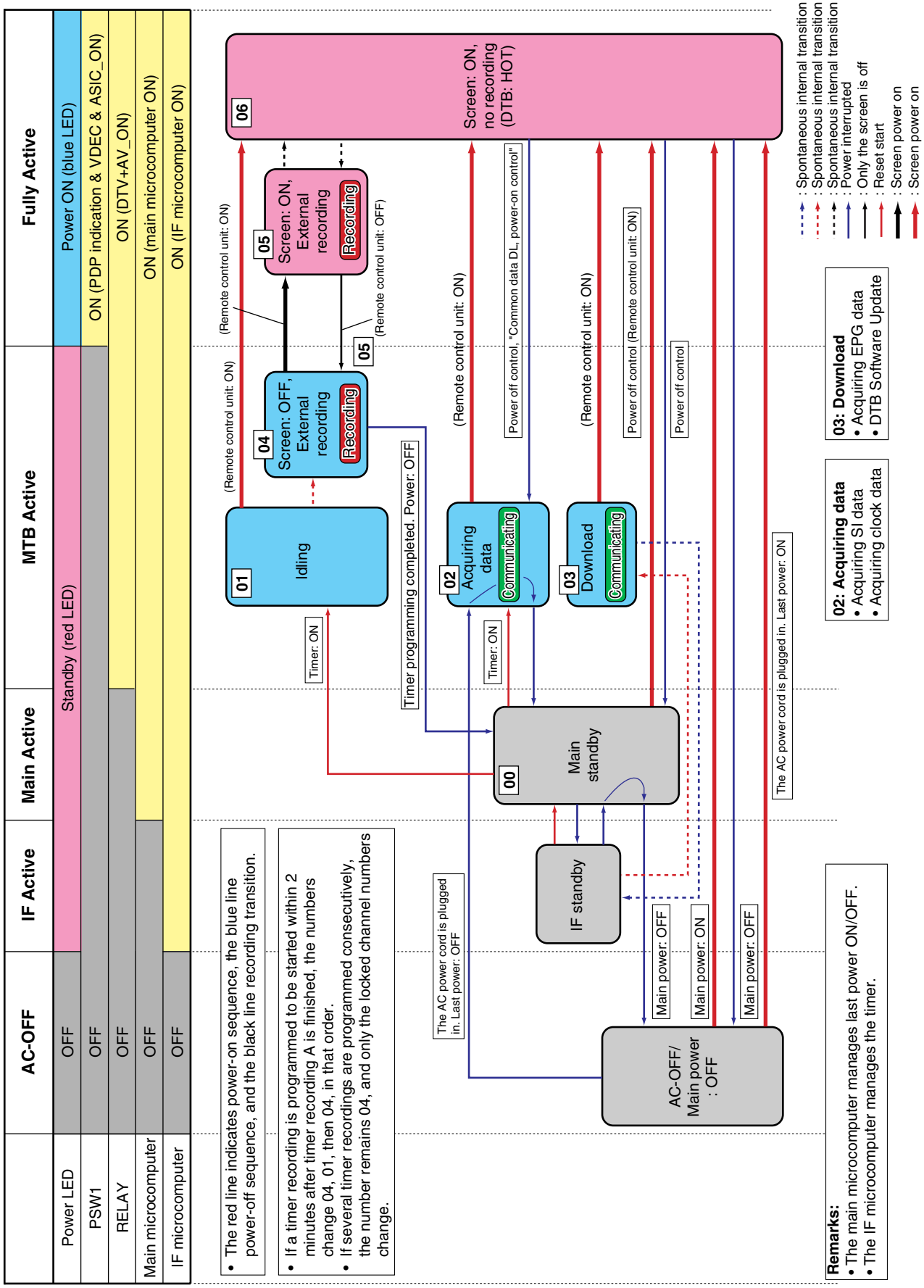
# 10. GENERAL INFORMATION

## 10.1 POWER ON SEQUENCE

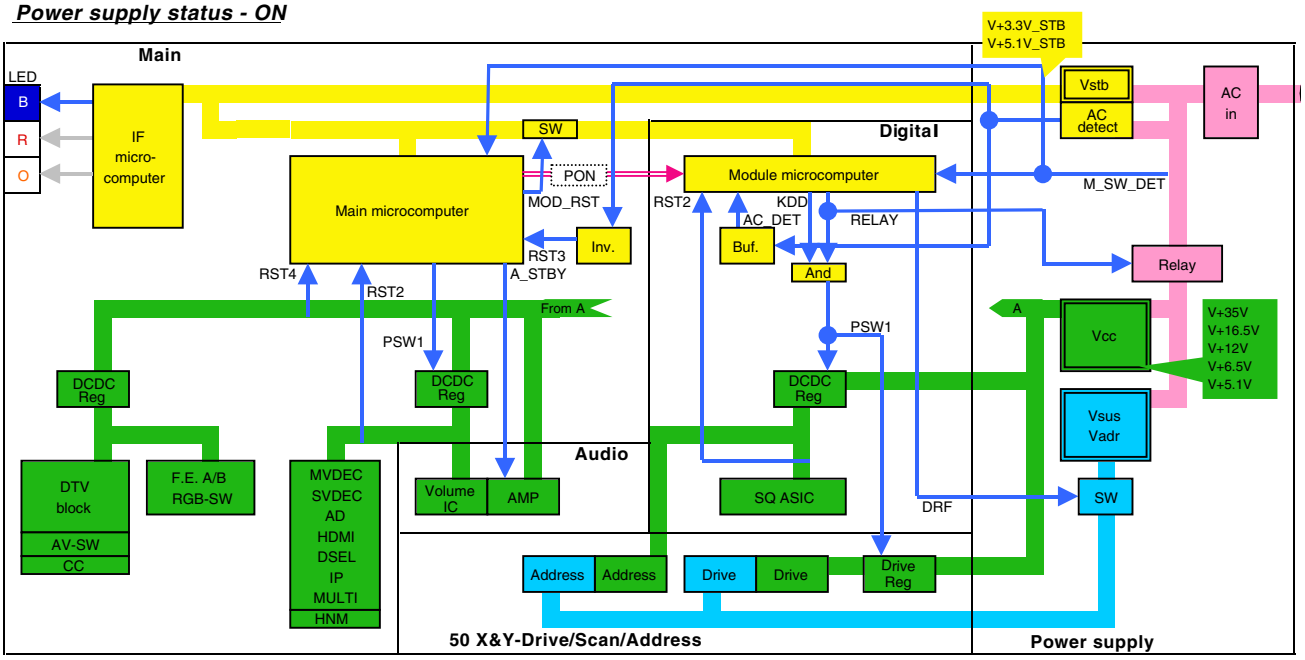



① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data to the main microcomputer.
③ : The main microcomputer issues a startup command to the MOD microcomputer.
④ : The MOD microcomputer controls the relay of the power MOD of the PDP to startup the power of the PDP.

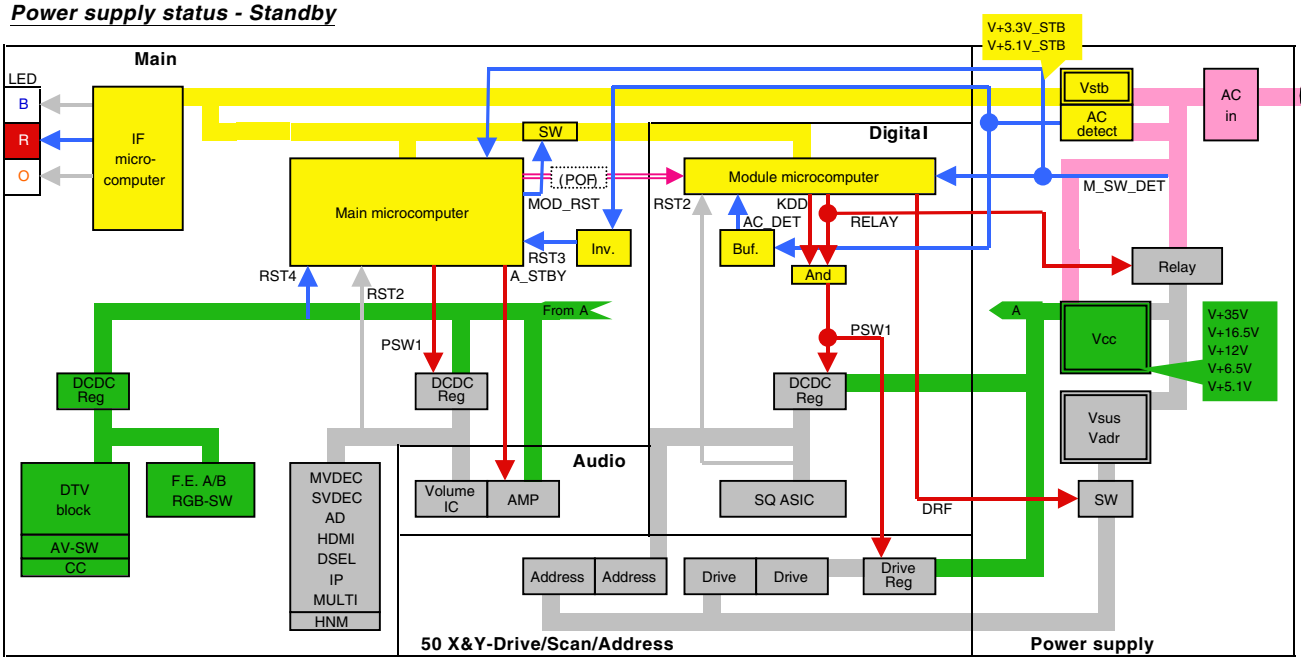
# 10.2 POWER SUPPLY TRANSITION STATUS



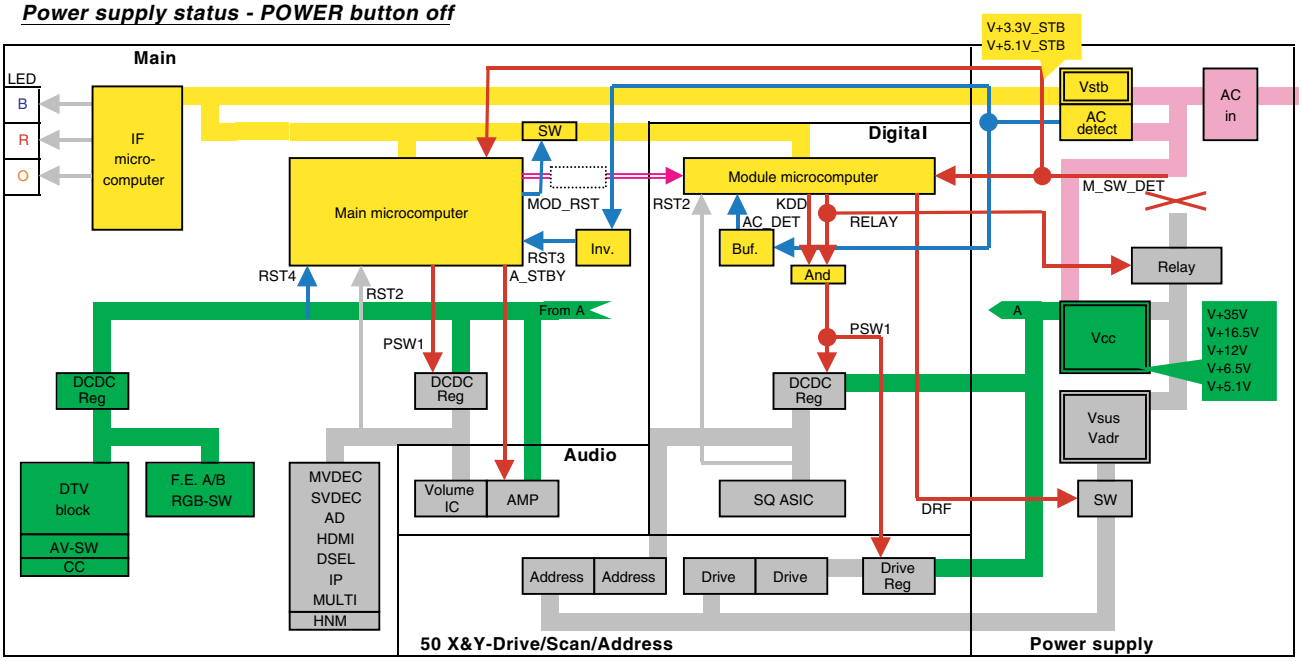
***Power supply status - ON***




***Power supply status - Standby***

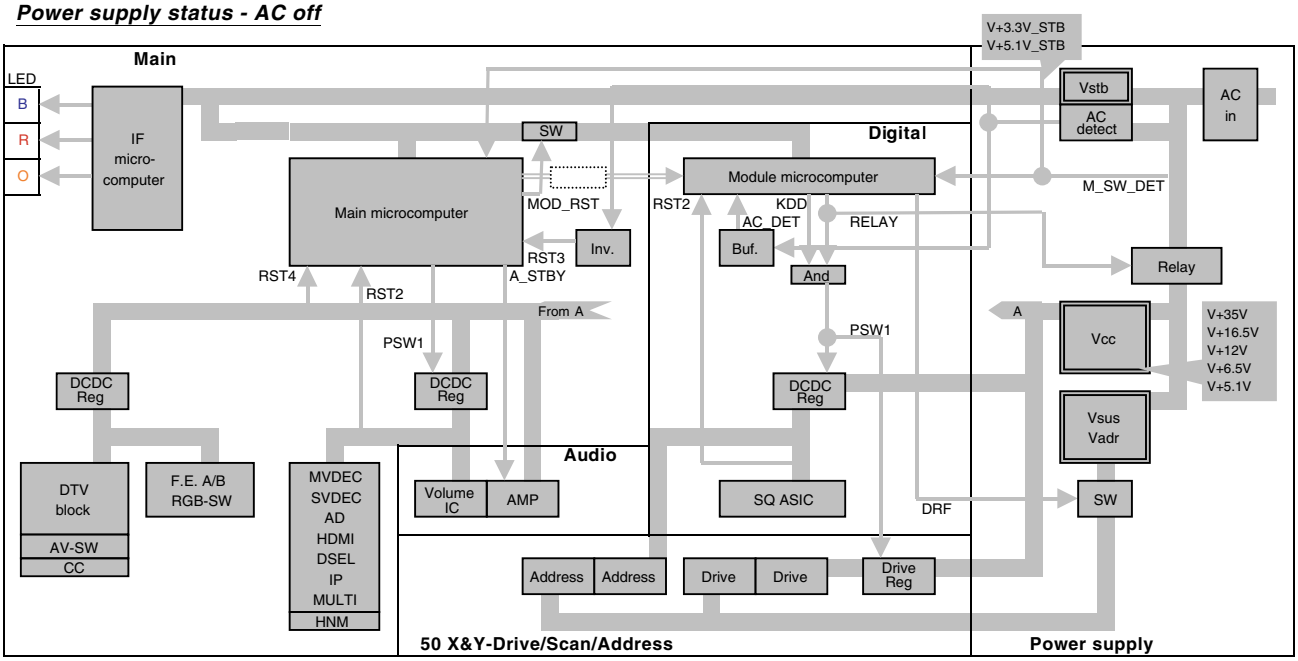


### *Power supply status - POWER button off*




This state of the power supply is the same as the Standby mode.
However, all LED is turned off, and the operation by the user is not effective.

### *Power supply status - AC off*



## 10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

**Function:** It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (large signal system) in order to avoid a power down.

**Application:**

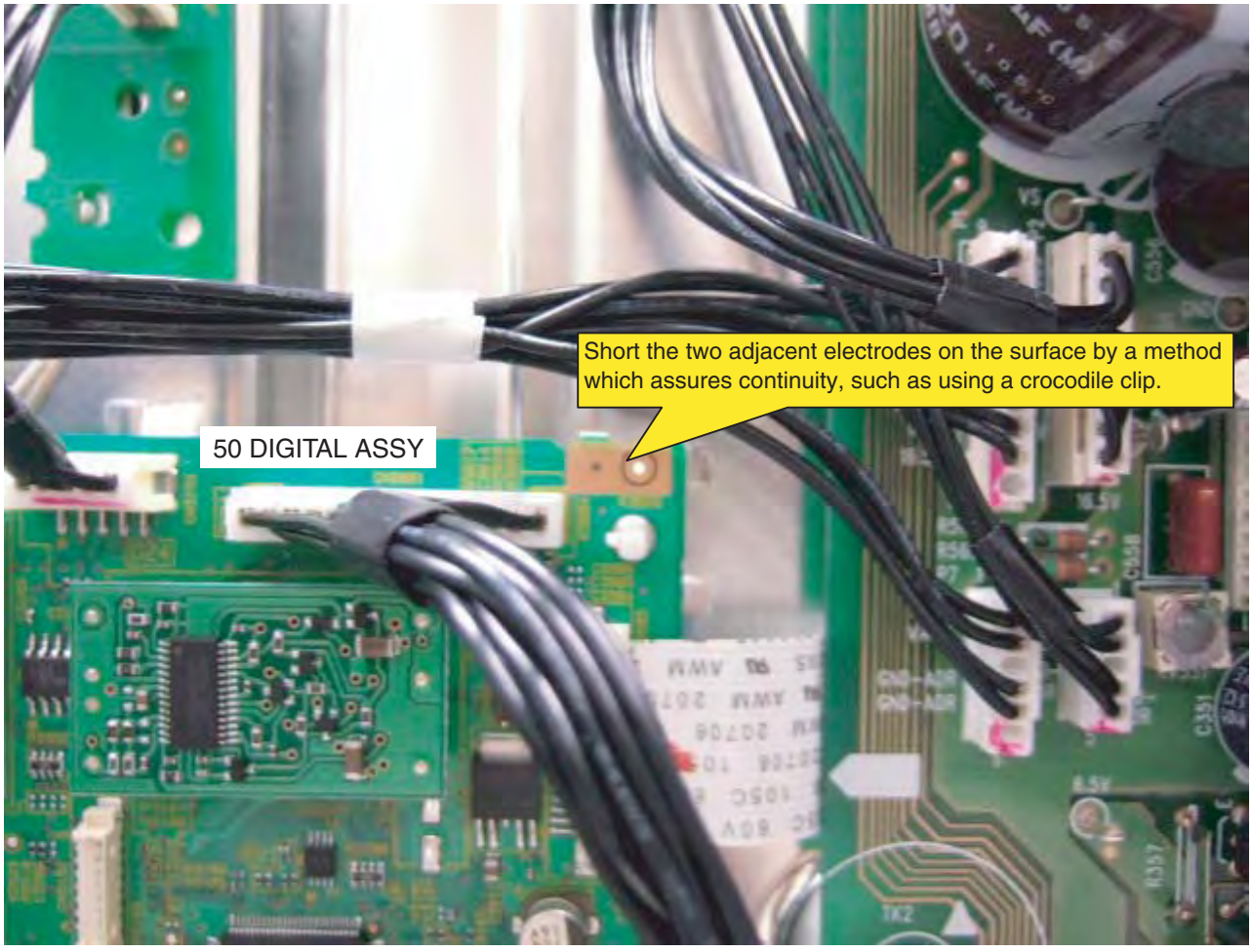
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the large signal system power supply or with the small signal system power supply.

**Method:**

1. Make shorting between the specified location (refer to the illustration below) of the PCB surface of the 50 DIGITAL ASSY and the nearby pattern.
2. Execute [DRV S00] by RS232C command. ([DRV S01] for release)

**Supplemental explanation:**

- When the large signal system power supply is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the large signal system power supply, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS232C command control, [DRVS01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRVS00/S01] is effective even during standby. When the main power is turned OFF, however, [DRVS01] (release) will be effective.



# 10.4 LED INFORMATION

## ■ LED Pattern

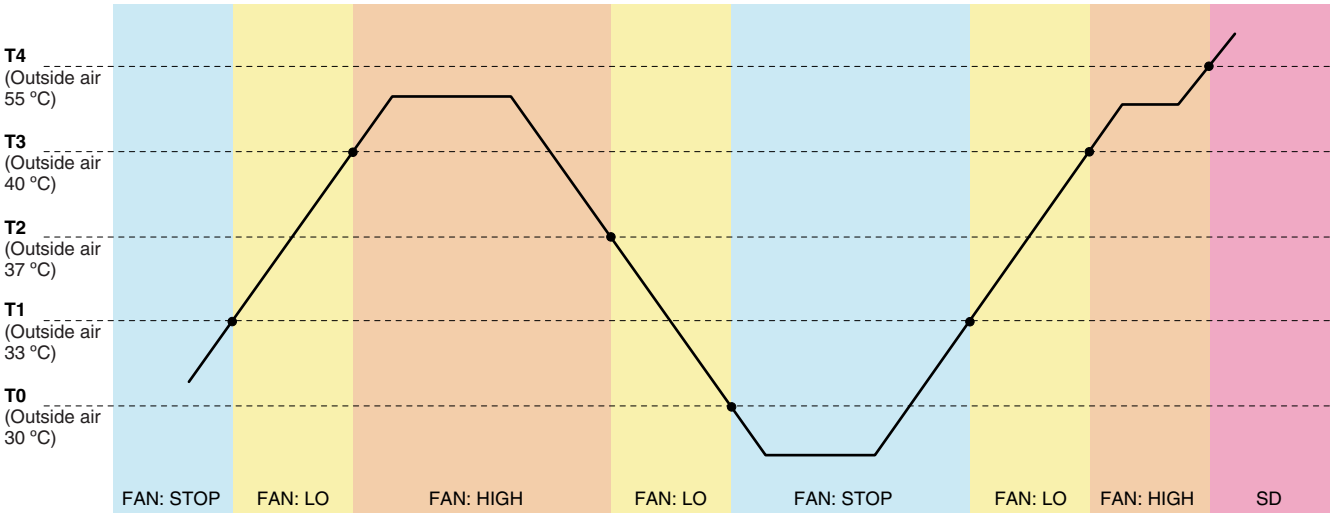
| State | LED Pattern | |
|---|---|---|
| AC OFF or<br>Main power switch OFF | Blue<br>Red<br>Orange | |
| Standby power management | Blue<br>Red<br>Orange | |
| Power ON | Blue<br>Red<br>Orange | |
| Power-down | Blue<br>Red<br>Orange<br>Once 500 msec Twice n times 2.5 sec Once | |
| Shutdown | Blue<br>Red<br>Orange<br>Once 500 msec Twice n times 2.5 sec Once | |
| No digital adjustment data copied for backup | 200 msec<br>Blue<br>Red<br>Orange | |
| In the process of rewriting the program of the microcomputer | 100 msec<br>Blue<br>Red<br>Orange<br>100 msec | |
| During reservation video recordings (Unit: Standby) | Blue<br>Red<br>Orange | PDP- 507XD only |
| During factory operation<br>During reservation video recordings (Unit: ON) ∗1<br>During sleep timer operation (∗2) | Blue<br>Red<br>Orange | |
| RS-232C <=> SR+ switch | Blue<br>Red<br>200 msec<br>Orange | |

∗1: PDP-507XD types
∗2: PDP-507XA types

# 10.5 SPECIFICATION ABOUT THE THERMAL PROTECTION

* The change of HI / LO have hysterisis curve below.

## ■ Reading Value of the Sensor and FAN Drive



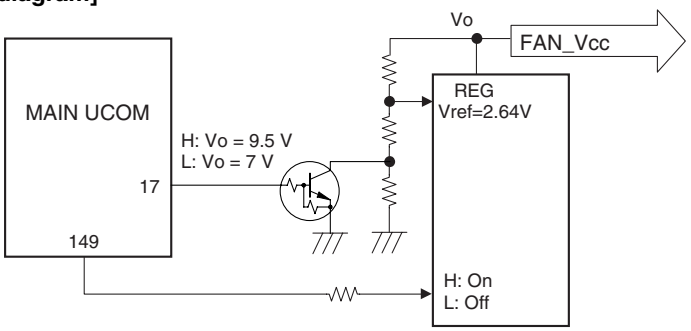

| Assign | | | AD Value 10 bit | Aims (Sensor Position) | Aims (Outside Air) |
|---|---|---|---|---|---|
| Pin 76 | TEMP2 | T4 setting | 440 | 55 °C | 55 °C |
| | | T3 setting | 568 | 40 °C | 40 °C |
| | | T2 setting | 592 | 37 °C | 37 °C |
| | | T1 setting | 627 | 33 °C | 33 °C |
| | | T0 setting | 653 | 30 °C | 30 °C |

| Assign | FAN: HIGH | FAN: LO | STOP |
|---|---|---|---|
| Pin 149 (FAN_CONT) | H | H | L |
| Pin 17 (FAN_CONT_POW) | H | L | – |

## ■ Unit State and Fan Drive

| POWER | PSW1 | State | Control | FAN Operation |
|---|---|---|---|---|
| ON | ON | ON | According to the reading value of above table sensor. | HIGH or LO |
| ON | ON | DT_REC | According to the reading value of above table sensor. | HIGH or LO |
| OFF | – | STB | FAN_CONT: "L" | OFF |

**[System block diagram]**



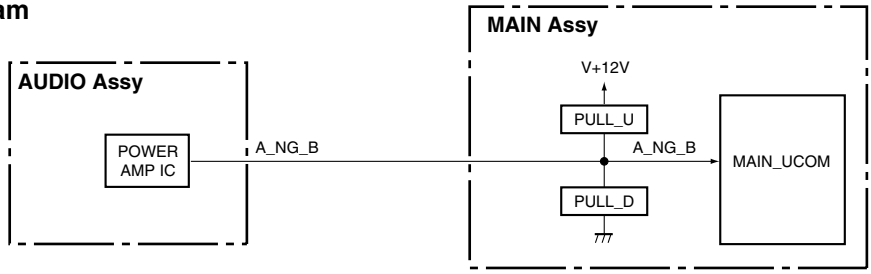

## ■ Operation when executing FAN control command

When executing [FCNS00], [FCNS01], [FCNS02] command, detect the FAN_NG signal. When NG is detected, it becomes shutdown.
When [FCNS03] command is executed, FAN_NG detection is not operated.

# 10.6 PROCESSING IN ABNORMALITY

## Speaker short-circuit

● **Circuit diagram**

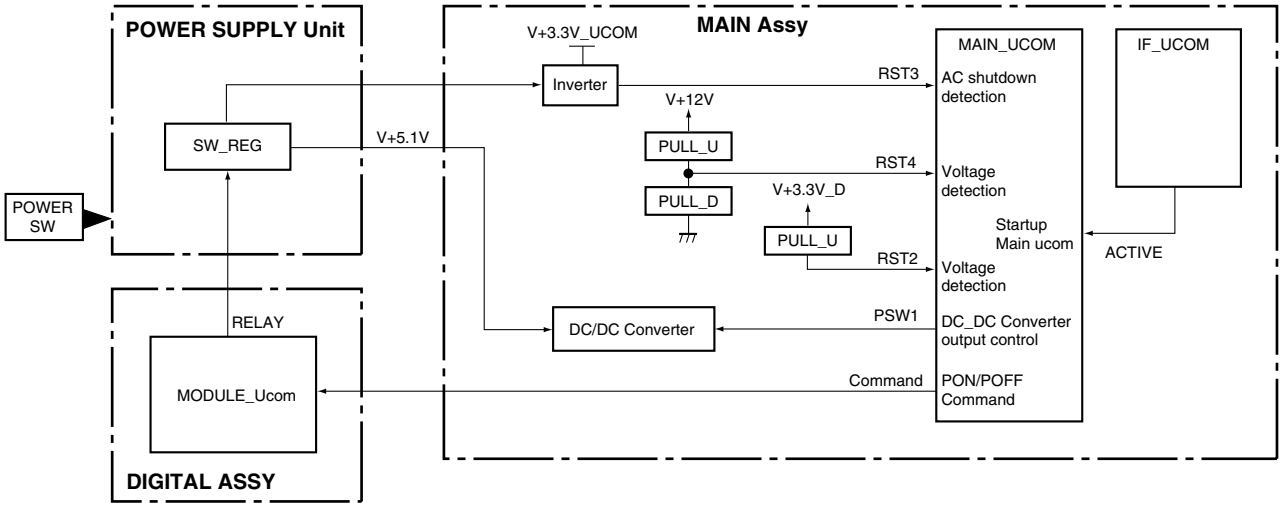



● **Specifications for port monitoring**

| Port Name | SD/PD Indication | Assigned Pin | Active |
|---|---|---|---|
| A_NG_B | AUDIO | | Shutdown with L |

## Power supply and DC-DC converter

● **Circuit diagram**

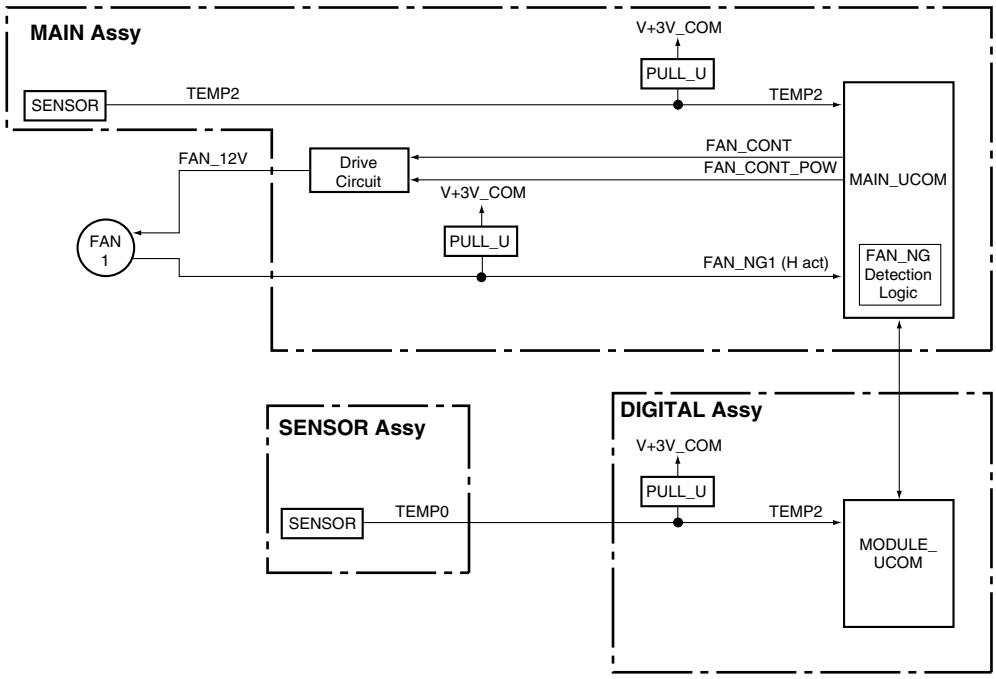



● **Specifications for port monitoring**

| Port Name | SD/PD Indication | Assigned Pin | Active |
|---|---|---|---|
| RST2 | ASIC power | | Shutdown with L |
| RST3 | AC power | | AC_OFF with H |
| RST4 | MAIN power | | Shutdown with L |

## Fan and temperature sensor

### ● Circuit diagram

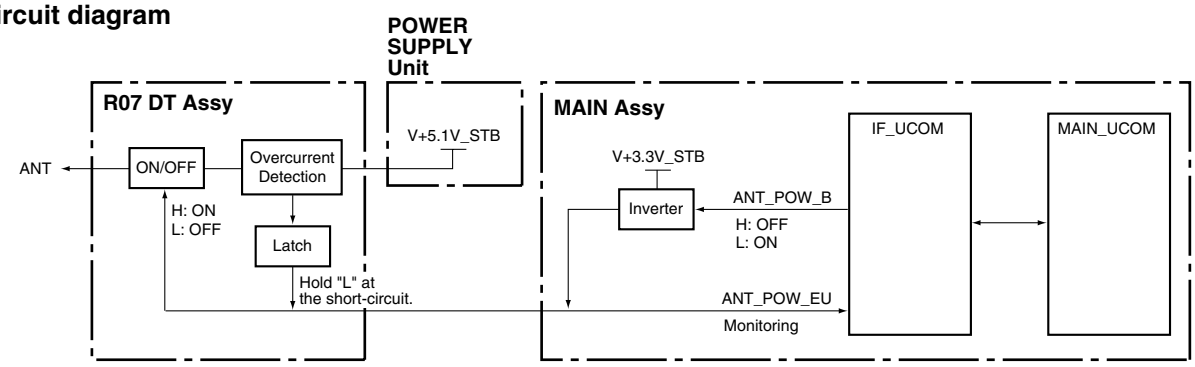



### ● Specifications for port monitoring

| Port Name | SD/PD Indication | Assigned Pin | Active |
|---|---|---|---|
| FAN_NG 1 | FAN | | Shutdown with H |
| TEMP2 | Abnormally high temperature in the MR | | Shutdown when the value exceeds the predetermined value |
| TEMP0 | Abnormally high temperature in the Drive circuit | | Shutdown when the value exceeds the predetermined value |

## DTB antenna power supply

### ● Circuit diagram




### ● Specifications for port monitoring

| Port Name | SD/PD Indication | Assigned Pin | Active |
|---|---|---|---|
| ANT_POW_EU | DTB antenna short | IF_37 | Warning with L |

# 11. SPECIFICATIONS

## 11.1 MAIN SPECIFICATIONS

| Item | | | 50" Plasma Television, Model: PDP-507XD | Model: PDP-507XA |
|---|---|---|---|---|
| Number of Pixels | | | 1365 x 768 pixels | 1365 x 768 pixels |
| Audio Amplifier | | | 13 W + 13 W (1 kHz, 10 %, 8 ) | 13 W + 13 W (1 kHz, 10 %, 8 ) |
| Speakers | | | – | – |
| Surround System | | | SRS/FOCUS/TruBass | SRS/FOCUS/TruBass |
| Power Requirement | | | 220 V to 240 V AC, 50 Hz/60 Hz, 348 W (0.7 W Standby) | 220 V to 240 V AC, 50 Hz/60 Hz, 341 W (0.3 W Standby) |
| Dimensions | | | 1224 mm (W) x 717 mm (H) x 115 mm (D) | 1224 mm (W) x 717 mm (H) x 115 mm (D) |
| Weight | | | 34.7 kg (76.5 lbs.) | 34.1 kg (75.2 lbs.) |
| Colour System | | Analogue | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| | | Digital | PAL/SECAM | |
| TV Function (Analogue) | Receiving System | | B/G, D/K, I, L/Lí | |
| | Tuner | VHF/UHF | E2–E69ch, F2–F10ch, I21–I69ch, IR A–IR Jch | |
| | | CATV | Hyper-band, S1ñS41ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| TV Function (Digital) (*) | Receiving System | | DVB-T (2K/8K COFDM) | |
| | Tuner | VHF/UHF | VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz) | |
| | Auto Channel Preset | | 999 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | MPEG layer I/II, Dolby Digital | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out) | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link *1) Component Video | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link *1), HDMI in*2 | |
| | | INPUT 4 | HDMI in*2 | |
| | | CONTROL OUT | 1 | |
| | | SPEAKER | 8 to 16 | |
| | | Antenna | 75 Din Type for VHF/UHF in (Analogue) | |
| | | | 75 Din Type for VHF/UHF in (Digital) (*) | |
| | | | 75 Din Type for VHF/UHF out (Digital) (*) | |
| | | PC | Analogue RGB in PC INPUT (AUDIO) | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| AUDIO OUTPUT Terminal | | (Rear) | AUDIO out (Fixed) | |
| SUB WOOFER OUTPUT Terminal | | (Rear) | Variable | |
| PHONES OUTPUT Terminal | | (Side) | 16 to 32 recommended | |
| DIGITAL OUT Terminal (*) | | (Rear) | Digital audio output (Optical) | |
| COMMON INTERFACE (*) | | (Rear) | CA Module | |

*1 Selectable from the menu

(*) : PDP-507XD Only

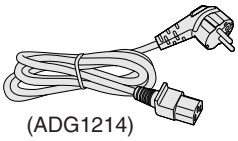
*2 This conforms to HDMI1.1 and HDCP1.1.
HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.
HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Design and specifications are subject to change without notice.

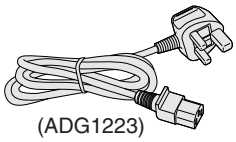
# 11.2 ACCESSORIES

## Supplied Accessories

Power cord (2 m)

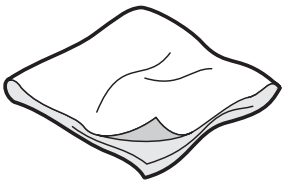


(ADG1214)
(For Europe, except UK and Eire)

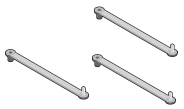


(ADG1223)
(For UK and Eire)

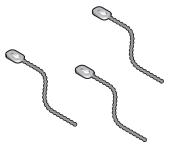
Only the power cord that is appropriate in your country or region is supplied.



Cleaning cloth
(AED1285)

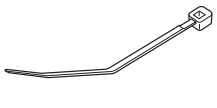


Speed clamp x 3

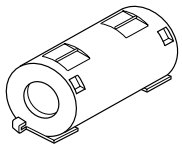


Bead band x 3

Binder Assy
(AED1908)

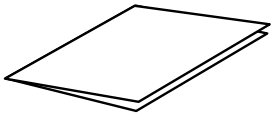


Cable tie

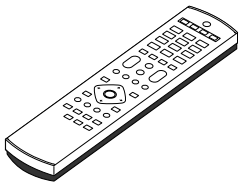


Ferrite core

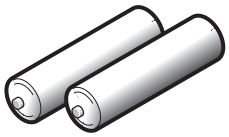
Ferrite core
(ATX1039)



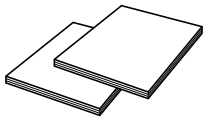
Warranty card



Remote control unit
(AXD1532 : PDP-507XD)
(AXD1540 : PDP-507XA)



AA size battery x 2

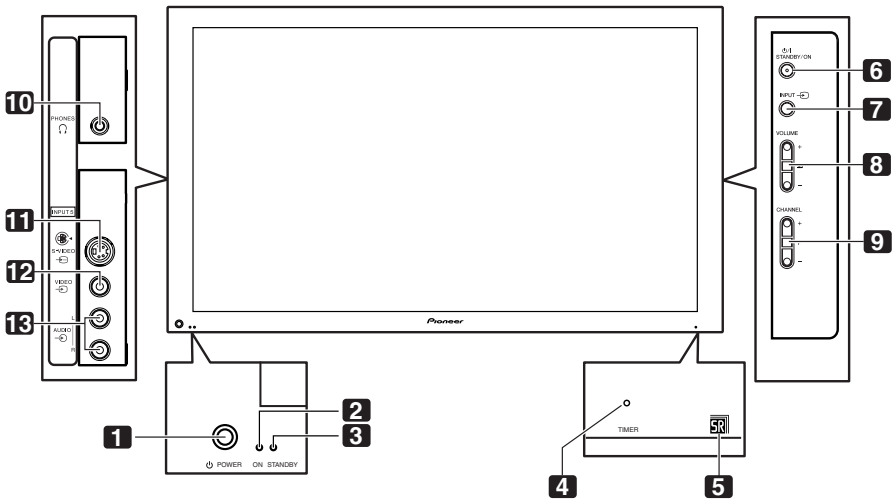


Two operating instructions

# 11.3 PANEL FACILITIES

## Plasma Television

**Front view**

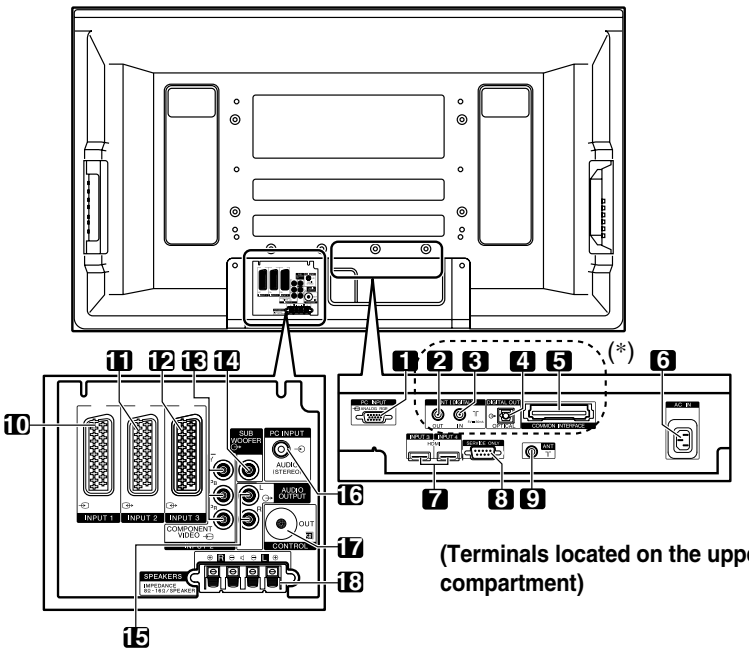



**1** **POWER** button
**2** POWER ON indicator
**3** STANDBY indicator
**4** TIMER indicator
**5** Remote control sensor

**(Side view)**
**6** **STANDBY/ON** button
**7** **INPUT** button
**8** **VOLUME +/–** buttons
**9** **CHANNEL +/–** buttons

**10** PHONES output terminal
**11** INPUT 5 terminal (S-VIDEO)
**12** INPUT 5 terminal (VIDEO)
**13** INPUT 5 terminals (AUDIO)

**Rear view**




**(Terminals located on the upper edge of the compartment)**

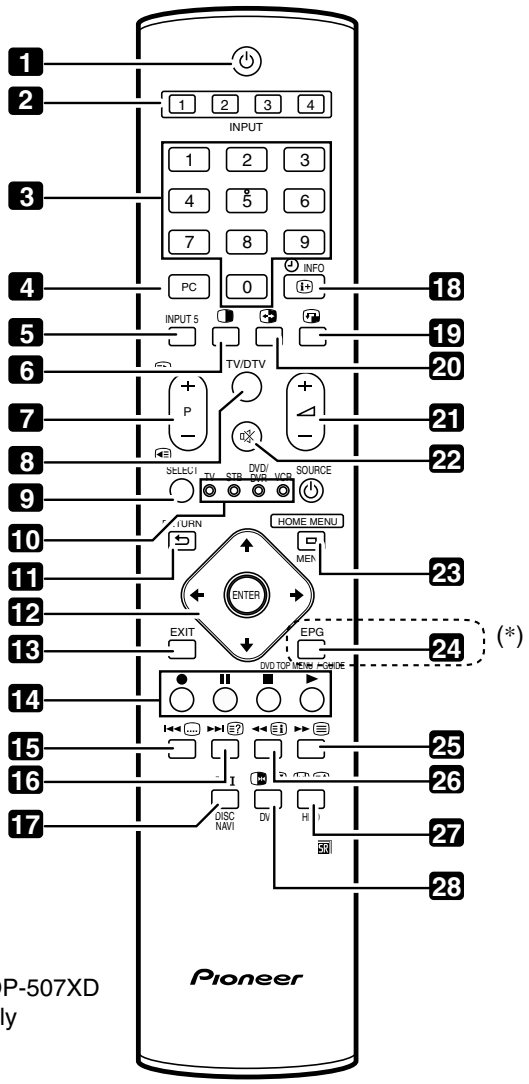
(*) : PDP-507XD Only

**1** PC INPUT terminal (ANALOG RGB)
**2** ANT OUT terminal (Antenna through out) (*)
**3** ANT IN terminal (Antenna in for DTV)
• Power can be supplied through this terminal
**4** DIGITAL OUT terminal (OPTICAL)
**5** COMMON INTERFACE slot
• For a CA Module with a smart card
**6** AC IN terminal
**7** INPUT 3/INPUT 4 terminals (HDMI)
**8** RS-232C terminal (used for factory setup)
**9** ANT (Antenna) input terminal

**10** INPUT 1 terminal (SCART)
**11** INPUT 2 terminal (SCART)
**12** INPUT 3 terminal (SCART)
**13** INPUT 2 terminal (COMPONENT VIDEO: Y, $P_B$, $P_R$)
**14** SUB WOOFER OUTPUT terminal
**15** AUDIO OUTPUT terminals
**16** PC INPUT terminal (AUDIO)
**17** CONTROL OUT terminal
**18** SPEAKER (right/left) terminals

# Remote control unit

This section describes the functions of the buttons available when the TV mode has been selected using the **SELECT** button. For the buttons for controlling other equipment, see "Controlling other equipment using the supplied remote control unit".




(*) : PDP-507XD Only

**1** ⏻
Turns on the power to the Plasma Television or places it into the standby mode.

**2 INPUT**
Selects an input source of the Plasma Television. (INPUT 1, INPUT 2, INPUT 3, INPUT 4)

**3 0–9**
TV/External input mode: Selects a channel.
TELETEXT mode: Selects a page.

**4 PC**
Selects the PC terminal as an input source.

**5 INPUT 5**
Selects INPUT 5 as the input source of the Plasma Television.

**6**
Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

**7 P+/P–**
TV/External input mode: Selects a channel.
/
TELETEXT mode: Selects a page.

**8 TV/DTV**
Switches between the TV and DTV input modes.

**9 SELECT**
Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other equipment in connection, using the supplied remote control unit.

**10 TV**, **STB**, **DVD/DVR**, **VCR**
These indicators show the current selection and status when you control other equipment in connection using the supplied remote control unit.

**11 RETURN**
Restores the previous menu screen.

**12** ↑/↓/←/→
Selects a desired item on the setting screen.
**ENTER**
Executes a command.

**13 EXIT**
Returns to the normal screen in one step.

**14 Colour (RED/GREEN/YELLOW/BLUE)**
TELETEXT mode: Selects a page.

**15**
TV/External input mode: Jumps to the Teletext subtitle page.
DTV input mode: Turns subtitle on and off.

**16**
TELETEXT mode: Displays hidden characters.

**17** I-II
Sets the sound multiplex mode.

**18 INFO**
TV/External input mode: Displays the channel information.
DTV input mode: Displays the banner information.

**19**
Moves the location of the small screen when in the picture-in-picture mode.

**20**
Switches between the two screens when in the 2-screen or picture-in-picture mode.

**21** +/–
Sets the volume.

**22**
Mutes the sound.

**23 HOME MENU**
TV/External Input mode: Displays the Menu screen.

**24 EPG** (*)
Display the Electronic Programme Guide.

**25**
Selects the TELETEXT mode.
(all TV image, all TEXT image, TV/TEXT image)

**26**
TELETEXT mode: Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

**27**
TV/External input mode: Selects the screen size.

TELETEXT mode: Switches Teletext images. (full/upper half/lower half)

**28**
TV/External input mode: Free zes a frame from a moving image. Press again to cancel the function.

TELETEXT mode: Stops updating Teletext pages. Press again to release the hold mode.

**NOTE**

When using the remote control unit, point it at the Plasma Television.

# 12. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

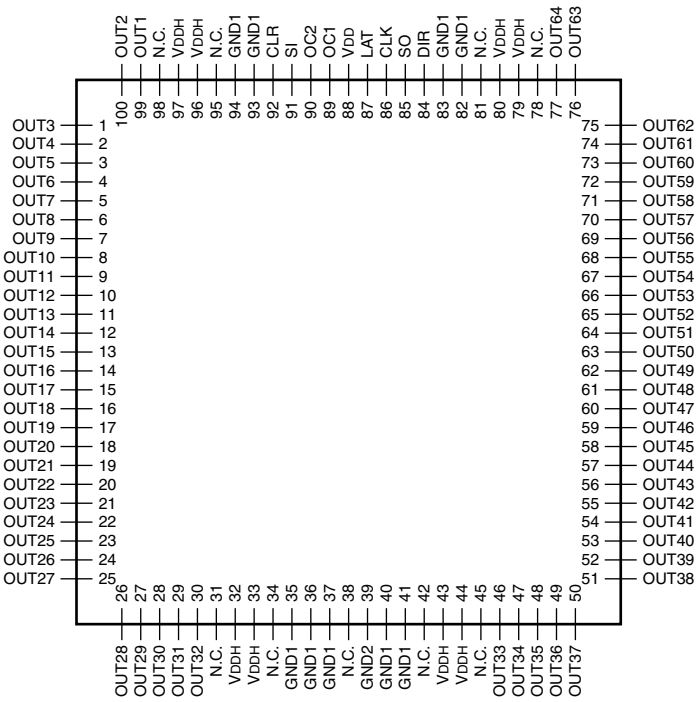
● **List of IC**

SN755870KPZT, R2S11002AFT, R2S11001FT, UPD64015AGM-UEU,AD9985KSTZ-110, SII9023CTU, LTC3414EFE, LTC3412EFE, S1170B25UC-OTA, S1170B15UC-OTA, NJU26901E2

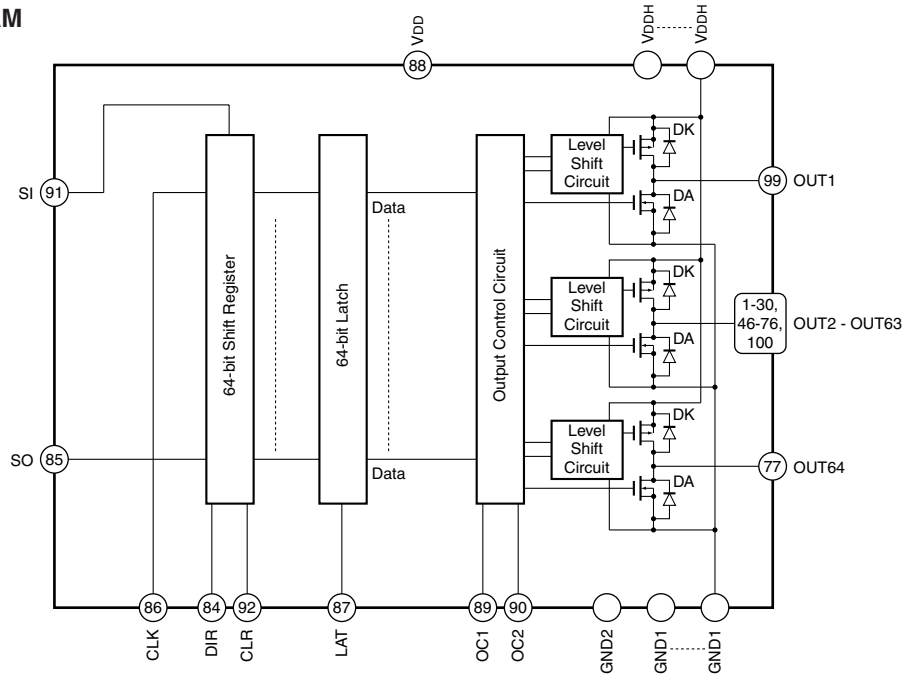
## ■ SN755870KPZT (50 SCAN A ASSY : IC2801 - IC2806) (50 SCAN B ASSY : IC2901 - IC2906)

• PLASMA DISPLAY PANEL IC

### ● PIN LAYOUT (Top View)




### ● BLOCK DIAGRAM



## ● PIN FUNNCTION

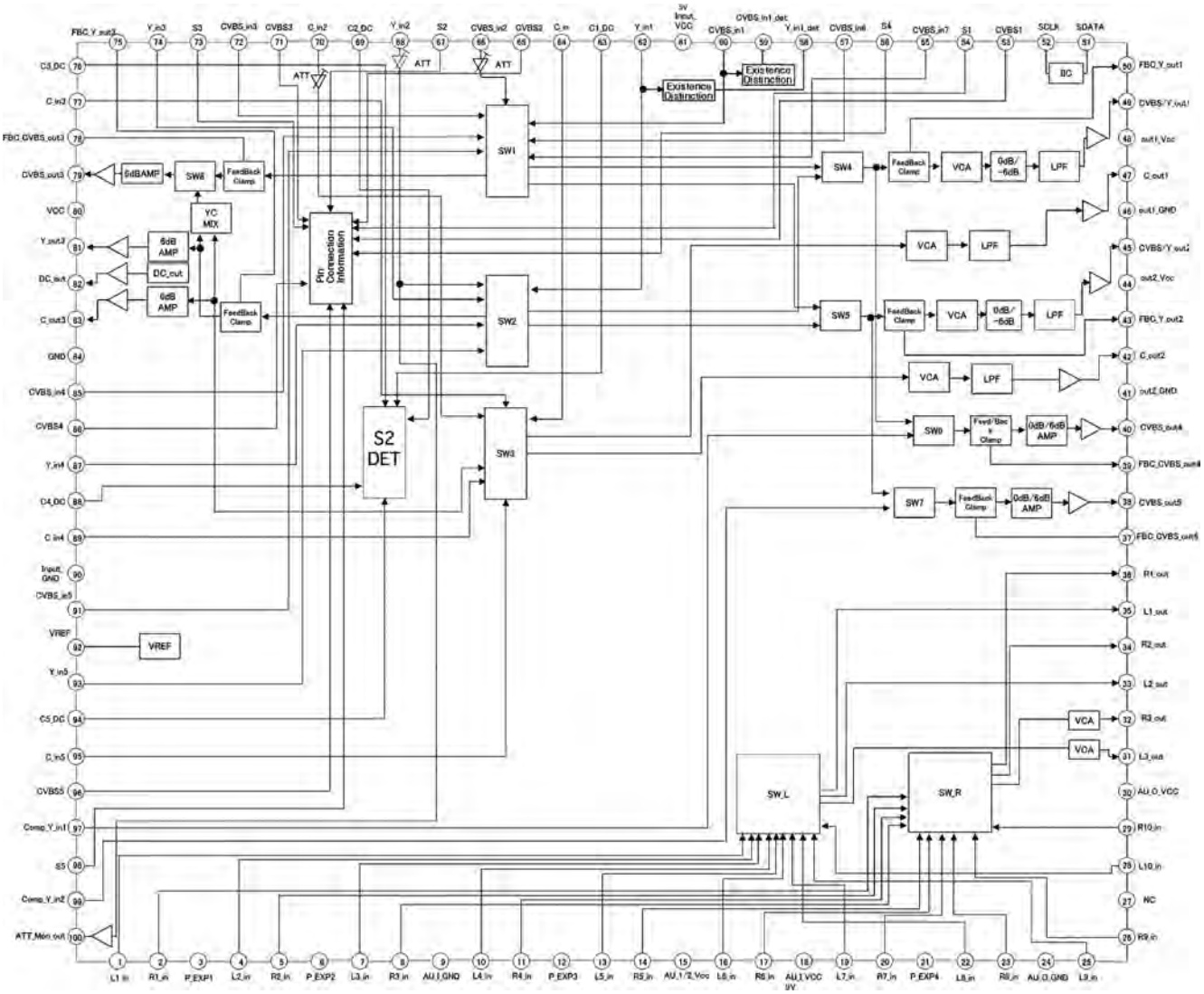
| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 - 30 | OUT3 - OUT32 | O | High-voltage push-pull output |
| 31 | N.C. | – | Not used |
| 32 - 33 | $V_{DDH}$ | – | Power for High-voltage circuit |
| 34 | N.C. | – | Not used |
| 35 - 37 | GND1 | – | GND |
| 38 | N.C. | – | Not used |
| 39 | GND2 | – | GND |
| 40 - 41 | GND1 | – | GND |
| 42 | N.C. | – | Not used |
| 43 - 44 | $V_{DDH}$ | – | Power for High-voltage circuit |
| 45 | N.C. | – | Not used |
| 46 - 77 | OUT33 - OUT64 | O | High-voltage push-pull output |
| 78 | N.C. | – | Not used |
| 79 - 80 | $V_{DDH}$ | – | Power for High-voltage circuit |
| 81 | N.C. | – | Not used |
| 82 - 83 | GND1 | – | GND |
| 84 | DIR | I | Setting the shift direction of shift-register<br>L : reverse side shift (SO→SI), H : forward side shift (SI→SO) |
| 85 | SO | I/O | Serial data In/Out |
| 86 | CLK | I | Serial clock Input  Down-side edge trigger |
| 87 | LAT | I | LAT data Input<br>L : The data of shiftregister is transferred to ouput latch.<br>H : The ouput data of latch is holded. |
| 88 | $V_{DD}$ | – | Power for Logic circuit |
| 89 | OC1 | I | Output control<br>Output is controlled by truth table right side. |
| 90 | OC2 | I | |
| 91 | SI | I/O | Serial data In/Out |
| 92 | CLR | I | All output reset  CLR terminal : L → normal operation, CLR terminal : H→ All output "H" |
| 93 - 94 | GND1 | – | GND |
| 95 | N.C. | – | Not used |
| 96 - 97 | $V_{DDH}$ | – | Power for High-voltage circuit |
| 98 | N.C. | – | Not used |
| 99 - 100 | OUT1 - OUT2 | O | High-voltage push-pull output |

| OC1 | OC2 | OUT |
|---|---|---|
| L | L | ALL Hi-Z |
| L | H | DATA |
| H | L | ALL L |
| H | H | ALL H |

## ■ R2S11002AFT (MAIN ASSY: IC4701)

• AV SW

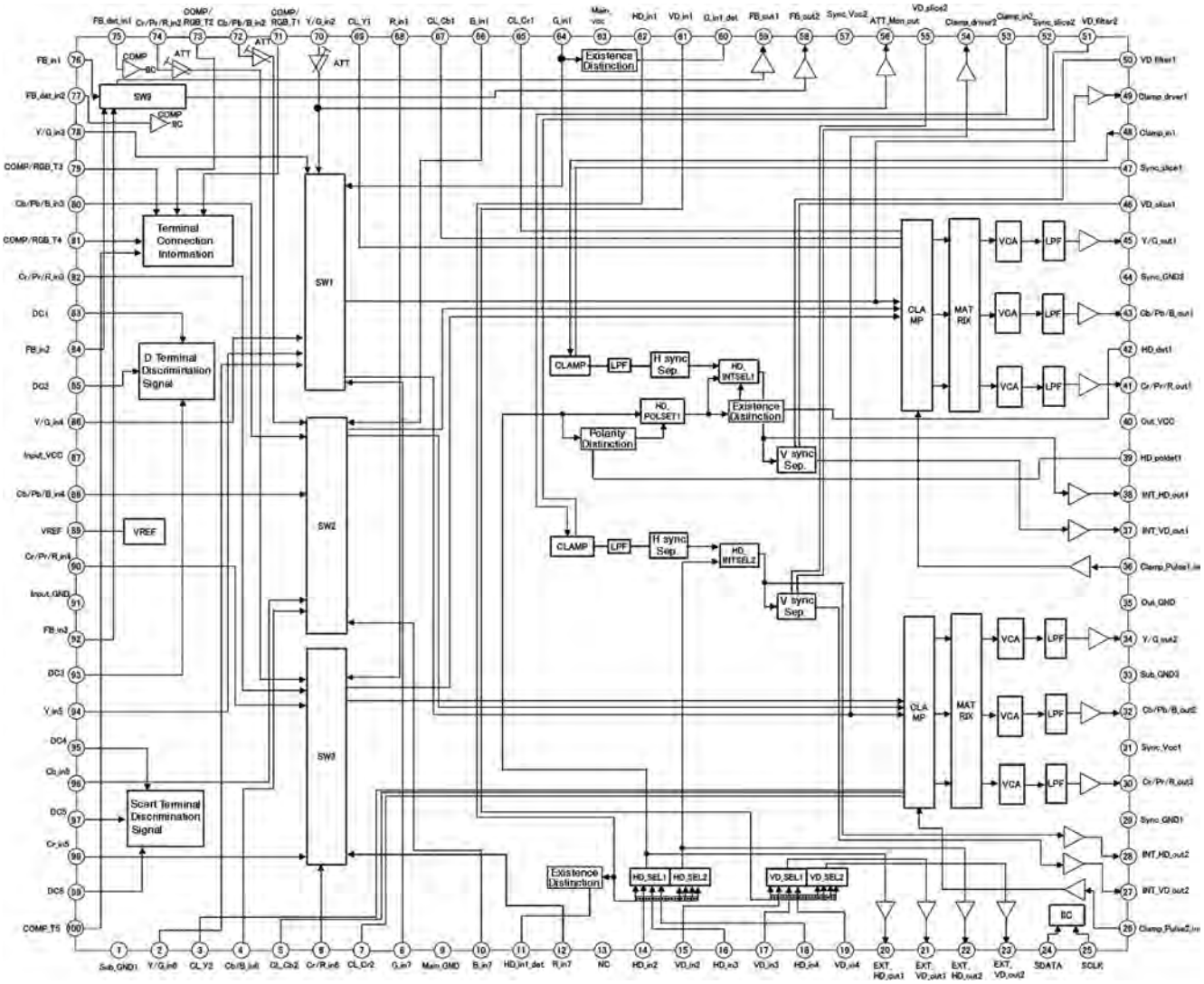
### ● Block Diagram



## ■ R2S11001FT (MAIN ASSY: IC4901)

• Component SW IC

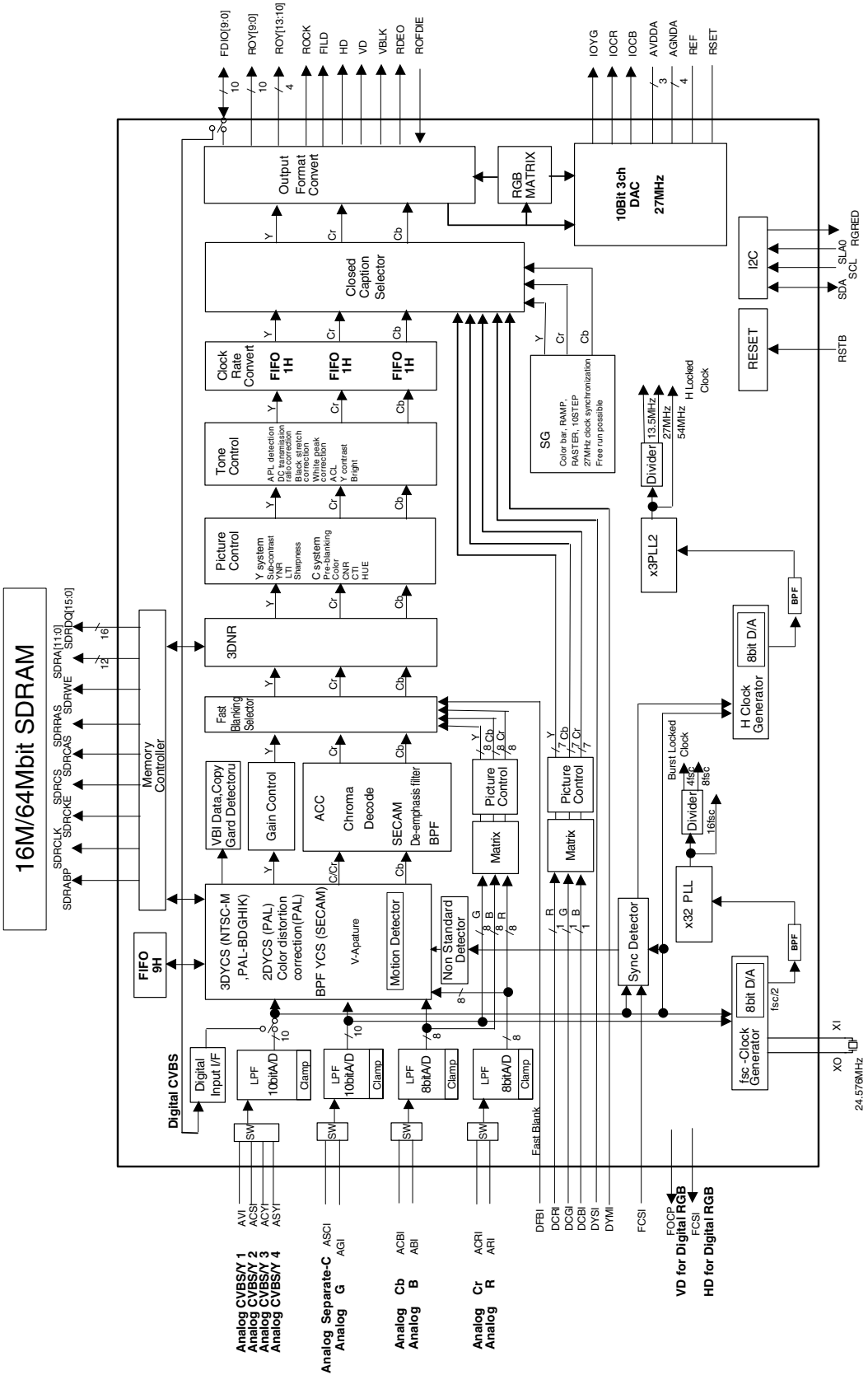
### ● Block Diagram



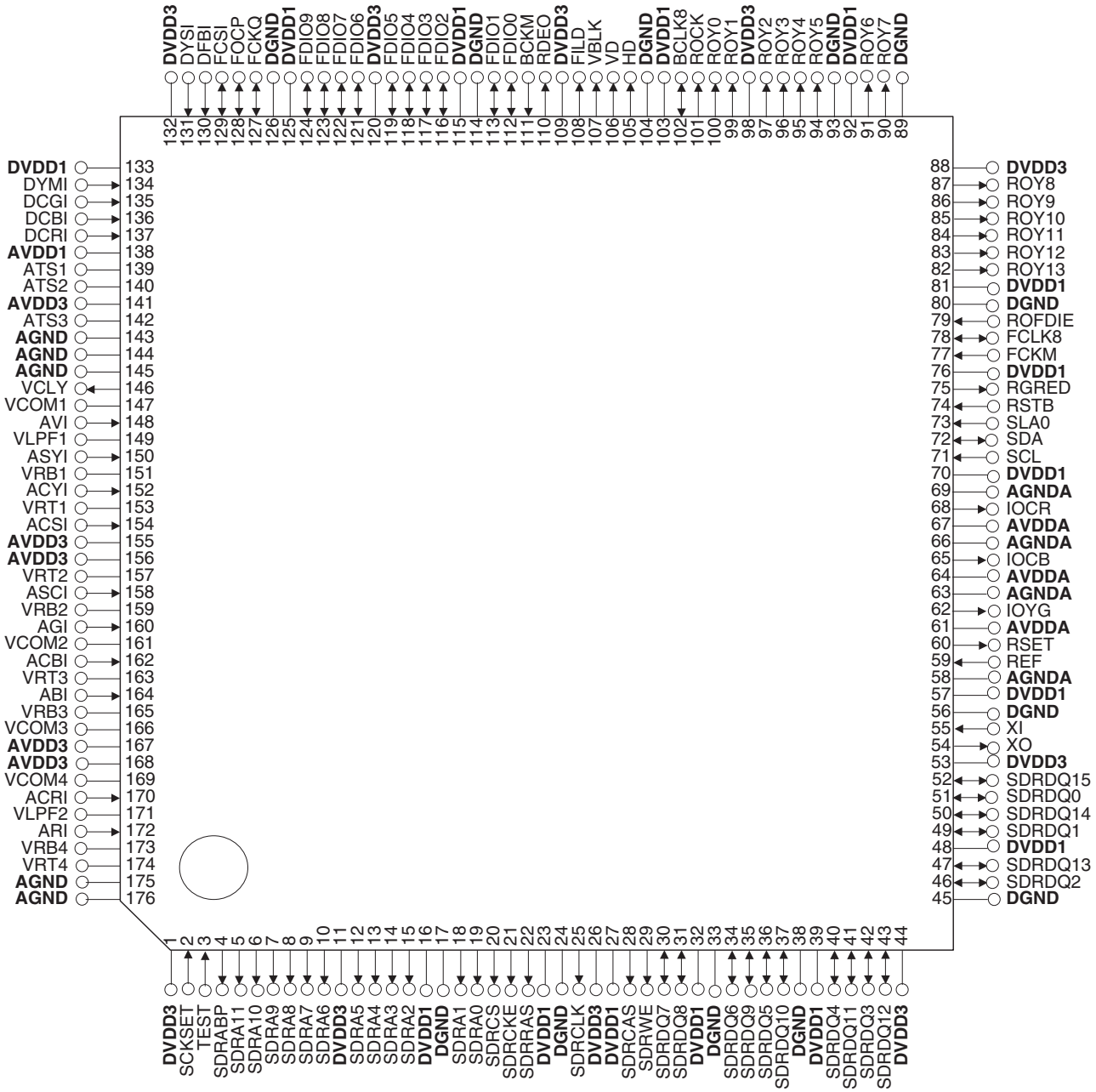
## ■UPD64015AGM-UEU (MAIN ASSY : IC5101)

**• Video decoder (for main screen)**

### ● Block Diagram



## ● Pin Arrangement (Top View)



● **Pin Function**

**2.1 Power supply/ground terminal**

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| AVDD1 | 138 | – | – | – | Analog 1.5V power supply<br>Connect to the 1.5V power supply. Separate it from the other terminals via a filter. |
| AVDD3 | 141 | – | – | – | Analog 3.3V power supply<br>Connect to the 3.3V power supply. Separate it from the other terminals via a filter. |
| | 155,156,167,168 | – | – | – | Analog 3.3V power supply for ADC.<br>Connect to the 3.3V power supply. Separate it from the other power lines via a filter. |
| AVDDA | 61,64,67 | – | – | – | Analog 3.3V power supply for DAC.<br>Connect to the 3.3V power supply. Separate it from the other power lines via a filter. |
| AGND | 143,144,145,175,176 | – | – | – | Analog ground |
| AGNDA | 58,63,66,69 | – | – | – | Analog ground (for DAC) |
| DVDD1 | 16,23,27,32,39,48, 57,70,76,81,92,103, 115,125,133 | – | – | – | Digital 1.5V power supply<br>Connect to the 1.5V power supply. |
| DVDD3 | 1,11,26,44,53,88,98, 109,120,132 | – | – | – | Digital 3.3V power supply<br>Connect to the 3.3V power supply. |
| DGND | 17,24,33,38,45,56, 80,89,93,104,114, 126 | – | – | – | Digital ground |

**2.2 System reset terminal**

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| RSTB | 74 | I | Schmitt | – | System reset input (Active-Low) |

● **Pin Function**

### 2.3 I2C bus interface terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| RGRED | 75 | O | LVTTL N-ch open drain | 6 mA | $I^2C$ register lead flag output (Active-Low) |
| SCL | 71 | I | LVTTL | Fail-safe | $I^2C$ bus clock input<br>Connect to the SCL line of the system. |
| SDA | 72 | I/O | LVTTL N-ch open drain | Fail-safe 6 mA | $I^2C$ bus data input/output<br>Connect to the SDA line of the system. |
| SLA0 | 73 | I | LVTTL | – | $I^2C$ bus slave address selection input<br>(L : B8h/B9h, H : BAh/BBh )<br>Connect to GND when set to low level and to DVDD3 (3.3V) when set to high level. |

### 2.4 Terminal for test

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| SCKSET | 2 | I | LVTTL | – | Test mode selection (L: normal, H: test mode) |
| TEST | 3 | I | LVTTL | – | Test setting (L: normal, H: test mode) |
| FCKM | 77 | I | LVTTL | – | FCLK8 test mode selection<br>(L: normal, H: test mode) |
| BCKM | 111 | I | LVTTL | – | Test mode selection of BCLK8 terminal.<br>(L: normal, H: test mode) |
| ATS1 | 139 | I | Analog | – | Analog test input<br>Connect to GND normally. |
| ATS2 | 140 | I | Analog | – | Analog test input<br>Connect to GND normally. |
| ATS3 | 142 | I | Analog | – | Analog test input<br>Connect to GND normally. |
| VLPF1 | 149 | O | Analog | – | Analog test output<br>Connect to GND via a 0.1μF capacitor. |
| VLPF2 | 171 | O | Analog | – | Analog test output<br>Connect to GND via a 0.1μF capacitor. |

**Caution: Connect these terminals for test to GND unless otherwise instructed.**

● **Pin Function**

### 2.5 Clock generator terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| XI | 55 | I | Analog | – | Reference clock input<br>Connect 24.576MHz crystal oscillator. |
| XO | 54 | O | Analog | – | Reference clock output<br>Connect 24.576MHz crystal oscillator. |
| BCLK8 | 102 | I/O | LVTTL<br>3-state | 6 mA | Subsequent stage line lock clock monitor input/output<br>It will become Hi-Z when BCK8OUT (SA1Fh, D5)=0.<br>Normally, set to BCK8OUT=0 and leave it open. |

### 2.6 Terminal for μPD64031A and μPD64032 digital connection

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| FCLK8 | 78 | I/O | LVTTL<br>3-state | 6 mA | Front stage burst lock clock input/output<br>It will become Hi-Z when FCK8S[2:0] (SA21h, D6-D4)=000b.<br>Normally, set to FCK8S[2:0]=0 and leave it open. |
| FCKQ | 127 | I/O | LVTTL<br>3-state | 3 mA | Sampling clock output for μPD64031A and μPD64032 digital connection.<br>It will become Hi-Z when FCKQS[2:0] (SA21h, D2-D0)=000b.<br>Normally, set to FCKQS[2:0]=0 and leave it open. |
| FOCP | 128 | I/O | LVTTL<br>3-state | 3 mA | Clamp pulse output for μPD64031A and μPD64032 digital connection/timing output (VD) for digital RGB input.<br>It will become Hi-Z when FOCPS[2:0] (SA23h, D2-D0)=000b.<br>Normally, set to FOCPS[2:0]=0 and leave it open. |

### 2.7 Terminal for RGB input

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| DFBI | 130 | I | LVTTL | – | Fast Blanking signal input for analog RGB input. |
| DYSI | 131 | I | LVTTL | – | YS signal input for digital RGB input. |
| DYMI | 134 | I | LVTTL | – | YM signal input for digital RGB input. |
| DCGI | 135 | I | LVTTL | – | Digital RGB/G signal input |
| DCBI | 136 | I | LVTTL | – | Digital RGB/B signal input |
| DCRI | 137 | I | LVTTL | – | Digital RGB/R signal input |
| FCSI | 129 | I/O | LVTTL<br>3-state | 3 mA | Sync separation signal input/timing output (HD) for RGB input.<br>It will become Hi-Z when FCSIS[2:0] (SA22h, D2-D0)=000b.<br>Normally, set to FCSIS[2:0]=0 and leave it open. |

● **Pin Function**

### 2.8 ADC1 section terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| AVI | 148 | I | Analog | – | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| ASYI | 150 | I | Analog | – | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| ACYI | 152 | I | Analog | – | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| ACSI | 154 | I | Analog | – | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| VCLY | 146 | O | Analog | – | ADC1 clamp electric potential<br>Connect to GND via 0.1μF and 10μF capacitors. |
| VCOM1 | 147 | I | Analog | – | ADC1 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VRB1 | 151 | I | Analog | – | ADC1 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VRT1 | 153 | I | Analog | – | ADC1 top reference voltage<br>Connect to GND via a 0.1μF capacitor. |

### 2.9 ADC2 section terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| ASCI | 158 | I | Analog | – | ADC2 separate C signal input<br>Input the image signal by cutting the capacity. |
| AGI | 160 | I | Analog | – | ADC2 RGB component G signal input<br>Input the image signal by cutting the capacity. |
| VRT2 | 157 | I | Analog | – | ADC2 top reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VRB2 | 159 | I | Analog | – | ADC2 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VCOM2 | 161 | I | Analog | – | ADC2 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor. |

● **Pin Function**

### 2.10 ACD3 section terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| ACBI | 162 | I | Analog | – | ADC3 color difference component Cb signal input<br>Input the image signal by cutting the capacity. |
| ABI | 164 | I | Analog | – | ADC3 RGB component B signal input<br>Input the image signal by cutting the capacity. |
| VRT3 | 163 | I | Analog | – | ADC3 top reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VRB3 | 165 | I | Analog | – | ADC3 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VCOM3 | 166 | I | Analog | – | ADC3 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor. |

### 2.11 ACD4 section terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| ACRI | 170 | I | Analog | – | ADC4 color difference component Cr signal input<br>Input the image signal by cutting the capacity. |
| ARI | 172 | I | Analog | – | ADC3 RGB component R signal input<br>Input the image signal by cutting the capacity. |
| VCOM4 | 169 | I | Analog | – | ADC4 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VRB4 | 173 | I | Analog | – | ADC4 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor. |
| VRT4 | 174 | I | Analog | – | ADC4 top reference voltage<br>Connect to GND via a 0.1μF capacitor. |

### 2.12 DAC section terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| IO-YG | 62 | O | Analog | – | Color difference component Y/RGB component G output signal.<br>Connect to AGNDA via a 200Ω load resistance. |
| IO-CR | 68 | O | Analog | – | Color difference component Cr/RGB component R output signal.<br>Connect to AGNDA via a 200Ω load resistance. |
| IO-CB | 65 | O | Analog | – | Color difference component Cb/RGB component B output signal.<br>Connect to AGNDA via a 200Ω load resistance. |
| REF | 59 | I | Analog | – | External reference input pin. Supply 1.0V.<br>And, connect to AGNDA via a 0.1μF capacitor. |
| RSET | 60 | O | Analog | – | Connect to AGNDA via a 620Ω resistor for external adjustment. |

● **Pin Function**

### 2.13 Digital image input/output terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| FDIO0-FDIO9 | 112,113,116, 117,118,119, 121,122,123, 124 | I/O | LVTTL 3-state | 6 mA | Digital 8/10 bit Cb, Cr output/input at the time of μPD64031A digital connection. It will become Hi-Z when FDIOS[2:0] (SA22h, D6-D4)=000b. Leave it open when not in use. |
| ROCK | 101 | O | LVTTL 3-state | 6 mA | Clock for digital ITU-R BT.656/component output. |
| ROY0-ROY13 | 100,99,97,96, 95,94,91,90, 87,86,85,84, 83,82 | O | LVTTL 3-state | 6 mA | Digital ITU-R BT.656/component output. Digital RGB component (8 bit) output |
| ROFDIE | 79 | I | LVTTL | – | Image input/output terminal output enable. The state of ROY[13:0], ROCK, HD, VD, VBLK, FILD and RDEO terminals is controlled. L: Output terminal Hi-Z, H: Output enable Normally, pull up to 3.3V. |

### 2.14 timing output terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| HD | 105 | O | LVTTL 3-state | 3 mA | Horizontal sync signal output |
| VD | 106 | O | LVTTL 3-state | 3 mA | Vertical sync signal output |
| VBLK | 107 | O | LVTTL 3-state | 3 mA | V blanking output |
| FILD | 108 | O | LVTTL 3-state | 3 mA | Field output |
| RDEO | 110 | O | LVTTL 3-state | 3 mA | Effective pixel range output |

● **Pin Function**

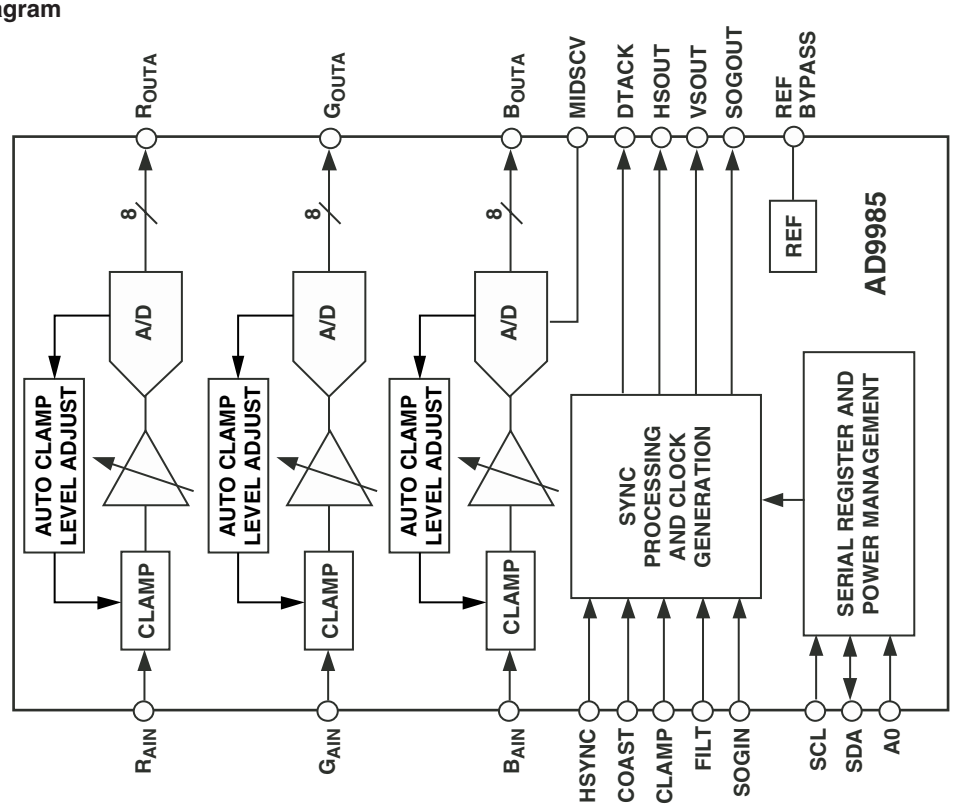
### 2.15 Memory interface terminal

| Acronyms | Terminal number | I/O | Level | Buffer type PU/PD [kΩ] | Functions |
|---|---|---|---|---|---|
| SDRABP | 4 | O | LVTTL 3-state | 3 mA | All bank pre-charge output for external memory (Active-High) |
| SDRCLK | 25 | O | LVTTL 3-state | 9 mA | Clock output for external memory |
| SDRCKE | 21 | O | LVTTL 3-state | 3 mA | Clock enable output for external memory (Active-High) |
| SDRCS | 20 | O | LVTTL 3-state | 3 mA | Chip select output for external memory (Active-Low) |
| SDRCAS | 28 | O | LVTTL 3-state | 3 mA | Column address strobe output for external memory (Active-Low) |
| SDRRAS | 22 | O | LVTTL 3-state | 3 mA | Low address strobe output for external memory (Active-Low) |
| SDRWE | 29 | O | LVTTL 3-state | 3 mA | Write enable output for external memory (Active-Low) |
| SDRA0 -SDRA11 | 19,18,15,14, 13,12,10,9,8, 7,6,5 | O | LVTTL 3-state | 3 mA | Address output for external memory Insert a damping resistor of approximately 100Ω, and connect to the SDRAM address terminal. |
| SDRDQ0 -SDRDQ15 | 51,49,46,42, 40,36,34,30, 31,35,37,41, 43,47,50,52 | I/O | LVTTL 3-state | 6 mA | Data input/output for external memory. |

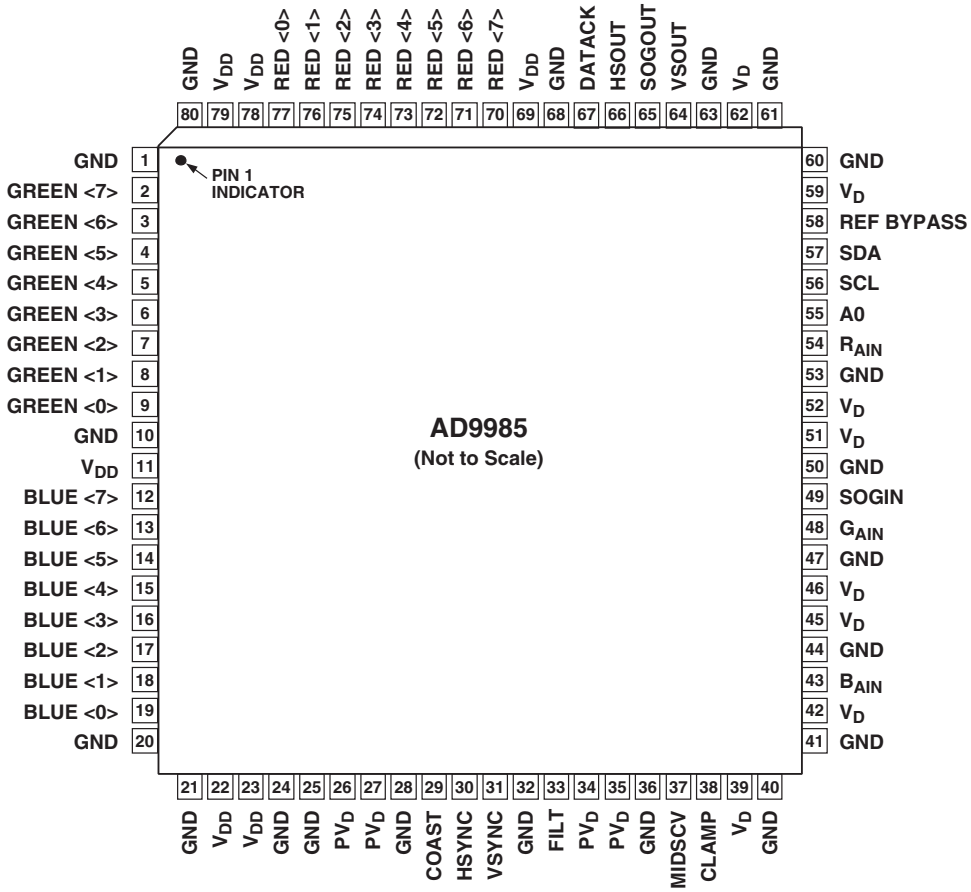
## ■ AD9985KSTZ-110 (MAIN ASSY : IC5301)

• ADC

● Block Diagram




● Pin Arrangement (Top View)



## ● Pin Function

| Pin Type | Mnemonic | Function | Value | Pin No. |
|---|---|---|---|---|
| Inputs | $R_{AIN}$ | Analog Input for Converter R | 0.0 V to 1.0V | 54 |
| | $G_{AIN}$ | Analog Input for Converter G | 0.0 V to 1.0V | 48 |
| | $B_{AIN}$ | Analog Input for Converter B | 0.0 V to 1.0V | 43 |
| | HSYNC | Horizontal SYNC Input | 3.3 V CMOS | 30 |
| | VSYNC | Vertical SYNC Input | 3.3 V CMOS | 31 |
| | SOGIN | Input for Sync-on-Green | 0.0 V to 1.0 V | 49 |
| | CLAMP | Clamp Input (External CLAMP Signal) | 3.3 V CMOS | 38 |
| | COAST | PLL COAST Signal Input | 3.3 V CMOS | 29 |
| Outputs | Red [7:0] | Outputs of Converter Red, Bit 7 is the MSB | 3.3 V CMOS | 70–77 |
| | Green [7:0] | Outputs of Converter Green, Bit 7 is the BSB | 3.3 V CMOS | 2–9 |
| | Blue [7:0] | Outputs of Converter Blue, Bit 7 is the BSB | 3.3 V CMOS | 12–19 |
| | DATACK | Data Output Clock | 3.3 V CMOS | 67 |
| | HSOUT | HSYNC Output (Phase-Aligned with DATACK) | 3.3 V CMOS | 66 |
| | VSOUT | VSYNC Output (Phase-Aligned with DATACK) | 3.3 V CMOS | 64 |
| | SOGOUT | Sync-on-Green Slicer Output | 3.3 V CMOS | 65 |
| References | REF BYPASS | Internal Reference Bypass | 1.25 V | 58 |
| | MIDSCV | Internal Midscale Voltage Bypass | | 37 |
| | FILT | Connection for External Filter Components for Internal PLL | | 33 |
| Power Supply | $V_D$ | Analog Power Supply | 3.3 V | 39, 42, 45, 46, 51, 52, 59, 62 |
| | $V_{DD}$ | Output Power Supply | 3.3 V | 11, 22, 23, 69, 78, 79 |
| | $PV_D$ | PLL Power Supply | 3.3 V | 26, 27, 34, 35 |
| | GND | Ground | 0 V | 1, 10, 20, 21, 24, 25, 28, 32, 36, 40, 41, 44, 47, 50, 53, 60, 61, 63, 68, 80 |
| Control | SDA | Serial Port Data I/O | 3.3 V CMOS | 57 |
| | SCL | Serial Port Data Clock (100 kHz Maximum) | 3.3 V CMOS | 56 |
| | A0 | Serial Port Address Input 1 | 3.3 V CMOS | 55 |

## ● Pin Function

| Pin Name | Function |
|---|---|
| OUTPUTS | |
| HSOUT | Horizontal Sync Output<br>A reconstructed and phase-aligned version of the Hsync input. Both the polarity and duration of this output can be programmed via serial bus registers. By maintaining alignment with DATACK and Data, data timing with respect to horizontal sync can always be determined. |
| VSOUT | Vertical Sync Output<br>A reconstructed and phase-aligned version of the video Vsync. The polarity of this output can be controlled via a serial bus bit. The placement and duration in all modes is set by the graphics transmitter. |
| SOGOUT | Sync-On-Green Slicer Output<br>This pin outputs either the signal from the Sync-on-Green slicer comparator or an unprocessed but delayed version of the Hsync input. See the Sync Processing Block Diagram to view how this pin is connected. (Note: Besides slicing off SOG, the output from this pin gets no other additional processing on the AD9985. Vsync separation is performed via the sync separator.) |
| SERIAL PORT (2-Wire) | |
| SDA | Serial Port Data I/O |
| SCL | Serial Port Data Clock |
| A0 | Serial Port Address Input 1<br>For a full description of the 2-wire serial register and how it works, refer to the 2-wire serial control port section. |
| DATA OUTPUTS | |
| RED | Data Output, Red Channel |
| GREEN | Data Output, Green Channel |
| BLUE | Data Output, Blue Channel<br>The main data outputs. Bit 7 is the MSB. The delay from pixel sampling time to output is fixed. When the sampling time is changed by adjusting the PHASE register, the output timing is shifted as well. The DATACK and HSOUT outputs are also moved, so the timing relationship among the signals is maintained. For exact timing information. |
| DATA CLOCK OUTPUT | |
| DATACK | Data Output Clock<br>The main clock output signal used to strobe the output data and HSOUT into external logic. It is produced by the internal clock generator and is synchronous with the internal pixel sampling clock. When the sampling time is changed by adjusting the PHASE register, the output timing is shifted as well. The Data, DATACK, and HSOUT outputs are all moved, so the timing relationship among the signals is maintained. |
| INPUTS | |
| $R_{AIN}$ | Analog Input for Red Channel |
| $G_{AIN}$ | Analog Input for Green Channel |
| $B_{AIN}$ | Analog Input for Blue Channel<br>High impedance inputs that accept the Red, Green, and Blue channel graphics signals, respectively. (The three channels are identical, and can be used for any colors, but colors are assigned for convenient reference.) They accommodate input signals ranging from 0.5 V to 1.0 V full scale. Signals should be ac-coupled to these pins to support clamp operation. |
| HSYNC | Horizontal Sync Input<br>This input receives a logic signal that establishes the horizontal timing reference and provides the frequency reference for pixel clock generation. The logic sense of this pin is controlled by serial Register 0EH Bit 6 (Hsync Polarity). Only the leading edge of Hsync is active; the trailing edge is ignored. When Hsync Polarity = 0, the falling edge of Hsync is used. When Hsync Polarity = 1, the rising edge is active. The input includes a Schmitt trigger for noise immunity, with a nominal input threshold of 1.5 V. |
| VSYNC | Vertical Sync Input<br>The input for vertical sync. |

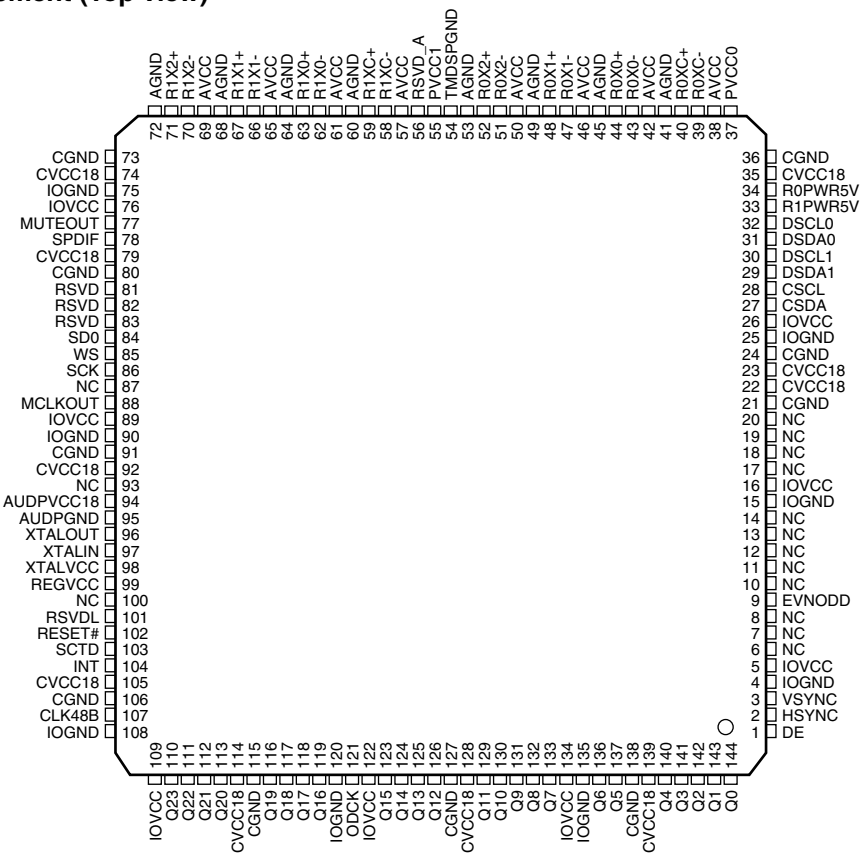
● **Pin Function**

| Pin Name | Function |
|---|---|
| SOGIN | Sync-on-Green Input<br>This input is provided to assist with processing signals with embedded sync, typically on the Green channel. The pin is connected to a high speed comparator with an internally generated threshold. The threshold level can be programmed in 10 mV steps to any voltage between 10 mV and 330 mV above the negative peak of the input signal. The default voltage threshold is 150 mV. When connected to an ac-coupled graphics signal with embedded sync, it will produce a noninverting digital output on SOGOUT. (This is usually a composite sync signal, containing both vertical and horizontal sync information that must be separated before passing the horizontal sync signal to Hsync.) When not used, this input should be left unconnected. For more details on this function and how it should be configured, refer to the Sync-on-Green section. |
| CLAMP | External Clamp Input<br>This logic input may be used to define the time during which the input signal is clamped to ground. It should be exercised when the reference dc level is known to be present on the analog input channels, typically during the back porch of the graphics signal. The CLAMP pin is enabled by setting control bit Clamp Function to 1 (Register 0FH, Bit 7, default is 0). When disabled, this pin is ignored and the clamp timing is determined internally by counting a delay and duration from the trailing edge of the Hsync input. The logic sense of this pin is controlled by Clamp Polarity Register 0FH, Bit 6. When not used, this pin must be grounded and Clamp Function programmed to 0. |
| COAST | Clock Generator Coast Input (Optional)<br>This input may be used to cause the pixel clock generator to stop synchronizing with Hsync and continue producing a clock at its current frequency and phase. This is useful when processing signals from sources that fail to produce horizontal sync pulses during the vertical interval. The COAST signal is generally not required for PC-generated signals. The logic sense of this pin is controlled by Coast Polarity (Register 0FH, Bit 3). When not used, this pin may be grounded and Coast Polarity programmed to 1, or tied HIGH (to $V_D$ through a 10 k resistor) and Coast Polarity programmed to 0. Coast Polarity defaults to 1 at power-up. |
| REF BYPASS | Internal Reference BYPASS<br>Bypass for the internal 1.25 V band gap reference. It should be connected to ground through a 0.1 µF capacitor. The absolute accuracy of this reference is ±4%, and the temperature coefficient is ±50 ppm, which is adequate for most AD9985 applications. If higher accuracy is required, an external reference may be employed instead. |
| MIDSCV | Midscale Voltage Reference BYPASS<br>Bypass for the internal midscale voltage reference. It should be connected to ground through a 0.1 µF capacitor. The exact voltage varies with the gain setting of the Blue channel. |
| FILT | External Filter Connection<br>For proper operation, the pixel clock generator PLL requires an external filter. Connect the filter shown in Figure to this pin. For optimal performance, minimize noise and parasitics on this node. |
| POWER SUPPLY | |
| $V_D$ | Main Power Supply<br>These pins supply power to the main elements of the circuit. They should be filtered and as quiet as possible. |
| $V_{DD}$ | Digital Output Power Supply<br>A large number of output pins (up to 25) switching at high speed (up to 110 MHz) generates a lot of power supply transients (noise). These supply pins are identified separately from the $V_D$ pins so special care can be taken to minimize output noise transferred into the sensitive analog circuitry. If the AD9985 is interfacing with lower voltage logic, $V_{DD}$ may be connected to a lower supply voltage (as low as 2.5 V) for compatibility. |
| $PV_D$ | Clock Generator Power Supply<br>The most sensitive portion of the AD9985 is the clock generation circuitry. These pins provide power to the clock PLL and help the user design for optimal performance. The designer should provide quiet, noise-free power to these pins. |
| GND | Ground<br>The ground return for all circuitry on-chip. It is recommended that the AD9985 be assembled on a single solid ground plane, with careful attention given to ground current paths. |

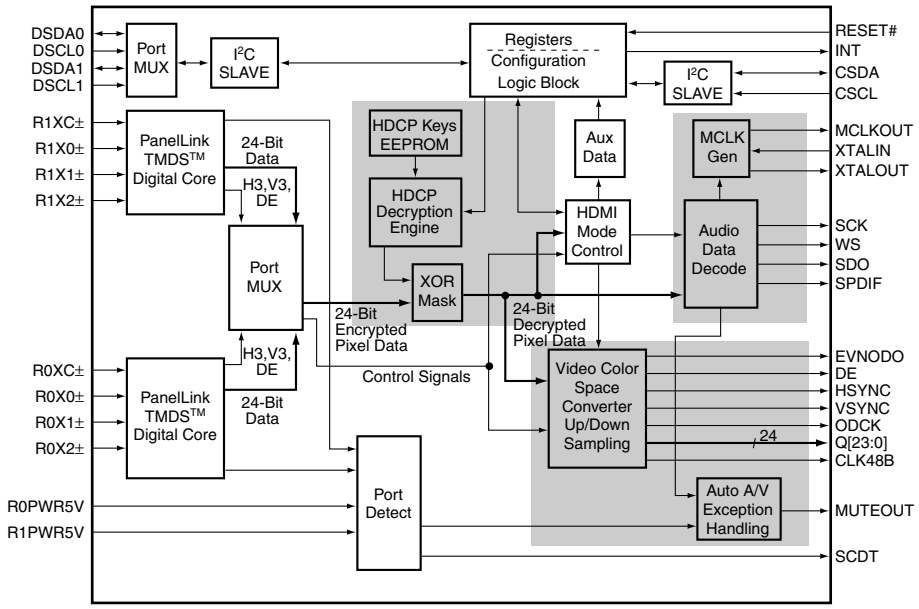
# Sil9023CTU (MAIN ASSY: IC5401)

• HDMI Rx

## ● Pin Arrangement (Top view)




## ● Block Diagram



## ● Pin Function

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 | DE | O | Data enable |
| 2 | HSYNC | O | H. sync. output control |
| 3 | VSYNC | O | V. sync. output control |
| 4 | IOGND | – | I/O GND |
| 5 | IOVCC | – | I/O VCC |
| 6 | NC | – | Non connection |
| 7 | NC | – | Non connection |
| 8 | NC | – | Non connection |
| 9 | EVNODD | O | EVEN/ODD field indicator |
| 10 | NC | – | Non connection |
| 11 | NC | – | Non connection |
| 12 | NC | – | Non connection |
| 13 | NC | – | Non connection |
| 14 | NC | – | Non connection |
| 15 | IOGND | – | I/O GND |
| 16 | IOVCC | – | I/O VCC |
| 17 | NC | – | Non connection |
| 18 | NC | – | Non connection |
| 19 | NC | – | Non connection |
| 20 | NC | – | Non connection |
| 21 | CGND | – | Digital logic GND |
| 22 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 23 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 24 | CGND | – | Digital logic GND |
| 25 | IOGND | – | I/O GND |
| 26 | IOVCC | – | I/O VCC |
| 27 | CSDA | I/O | Configuration I2C data |
| 28 | CSCL | I | Configuration I2C clock |
| 29 | DSDA1 | I/O | DDC I2C data for port 1 |
| 30 | DSCL1 | I | DDC I2C clock for port 1 |
| 31 | DSDA0 | I/O | DDC I2C data for port 0 |
| 32 | DSCL0 | I | DDC I2C clock for port 0 |
| 33 | R1PWR5V | I | Port 1 transfer detection |
| 34 | R0PWR5V | I | Port 0 transfer detection |
| 35 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 36 | CGND | – | Digital logic GND |
| 37 | PVCC0 | – | TMDS port 0 PLL VCC |
| 38 | AVCC | – | TMDS analog VCC |
| 39 | R0XC- | I | TMDS input clock |
| 40 | R0XC+ | I | TMDS input clock |
| 41 | AGND | – | TMDS analog GND |
| 42 | AVCC | – | TMDS analog VCC |
| 43 | R0X0- | I | TMDS input data |
| 44 | R0X0+ | I | TMDS input data |
| 45 | AGND | – | TMDS analog GND |
| 46 | AVCC | – | TMDS analog VCC |
| 47 | R0X1- | I | TMDS input data |
| 48 | R0X1+ | I | TMDS input data |
| 49 | AGND | – | TMDS analog GND |
| 50 | AVCC | – | TMDS analog VCC |

● **Pin Function**

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 51 | R0X2- | I | TMDS input data |
| 52 | R0X2+ | I | TMDS input data |
| 53 | AGND | – | TMDS analog GND |
| 54 | TMDSPGND | – | TMDS PLL GND |
| 55 | PVCC1 | – | TMDS port 1 PLL VCC |
| 56 | RSVD_A | – | Reserved |
| 57 | AVCC | – | TMDS analog VCC |
| 58 | R1XC- | I | TMDS input clock |
| 59 | R1XC+ | I | TMDS input clock |
| 60 | AGND | – | TMDS analog GND |
| 61 | AVCC | – | TMDS analog VCC |
| 62 | R1X0- | I | TMDS input data |
| 63 | R1X0+ | I | TMDS input data |
| 64 | AGND | – | TMDS analog GND |
| 65 | AVCC | – | TMDS analog VCC |
| 66 | R1X1- | I | TMDS input data |
| 67 | R1X1+ | I | TMDS input data |
| 68 | AGND | – | TMDS analog GND |
| 69 | AVCC | – | TMDS analog VCC |
| 70 | R1X2- | I | TMDS input data |
| 71 | R1X2+ | I | TMDS input data |
| 72 | AGND | – | TMDS analog GND |
| 73 | CGND | – | Digital logic GND |
| 74 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 75 | IOGND | – | I/O GND |
| 76 | IOVCC | – | I/O VCC |
| 77 | MUTEOUT | O | Audio output mute |
| 78 | SPDIF | O | S/PDIF audio output |
| 79 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 80 | CGND | – | Digital logic GND |
| 81 | RSVD | O | – |
| 82 | RSVD | O | – |
| 83 | RSVD | O | – |
| 84 | SD0 | O | I2C serial data output |
| 85 | WS | O | I2C word select output |
| 86 | SCK | O | I2C serial clock output |
| 87 | NC | – | Non connection |
| 88 | MCLKOUT | O | Audio master clock output |
| 89 | IOVCC | – | I/O VCC |
| 90 | IOGND | – | I/O GND |
| 91 | CGND | – | Digital logic GND |
| 92 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 93 | NC | – | Non connection |
| 94 | AUDPVCC18 | – | ACR PLL VCC |
| 95 | AUDPGND | – | ACR PLL GND |
| 96 | XTALOUT | O | Crystal clock output |
| 97 | XTALIN | I | Crystal clock input |
| 98 | XTALVCC | – | ACR PLL crystal input VCC |
| 99 | REGVCC | – | ACR PLL regulator VCC |
| 100 | NC | – | Non connection |

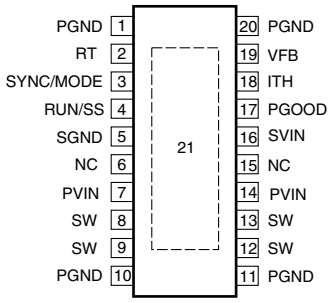
● **Pin Function**

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 101 | RSVDL | I | Reserved, Low fixing |
| 102 | RESET# | I | Reset, active Low |
| 103 | SCTD | O | Display active video with the HDMI input port |
| 104 | INT | O | Interruption output |
| 105 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 106 | CGND | – | Digital logic GND |
| 107 | CLK48B | I/O | Data bus latch enable |
| 108 | IOGND | – | I/O GND |
| 109 | IOVCC | – | I/O VCC |
| 110 | Q23 | O | 24-bit output, pixel data bus |
| 111 | Q22 | O | 24-bit output, pixel data bus |
| 112 | Q21 | O | 24-bit output, pixel data bus |
| 113 | Q20 | O | 24-bit output, pixel data bus |
| 114 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 115 | CGND | – | Digital logic GND |
| 116 | Q19 | O | 24-bit output, pixel data bus |
| 117 | Q18 | O | 24-bit output, pixel data bus |
| 118 | Q17 | O | 24-bit output, pixel data bus |
| 119 | Q16 | O | 24-bit output, pixel data bus |
| 120 | IOGND | – | I/O GND |
| 121 | ODCK | O | Output data clock |
| 122 | IOVCC | – | I/O VCC |
| 123 | Q15 | O | 24-bit output, pixel data bus |
| 124 | Q14 | O | 24-bit output, pixel data bus |
| 125 | Q13 | O | 24-bit output, pixel data bus |
| 126 | Q12 | O | 24-bit output, pixel data bus |
| 127 | CGND | – | Digital logic GND |
| 128 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 129 | Q11 | O | 24-bit output, pixel data bus |
| 130 | Q10 | O | 24-bit output, pixel data bus |
| 131 | Q9 | O | 24-bit output, pixel data bus |
| 132 | Q8 | O | 24-bit output, pixel data bus |
| 133 | Q7 | O | 24-bit output, pixel data bus |
| 134 | IOVCC | – | I/O VCC |
| 135 | IOGND | – | I/O GND |
| 136 | Q6 | O | 24-bit output, pixel data bus |
| 137 | Q5 | O | 24-bit output, pixel data bus |
| 138 | CGND | – | Digital logic GND |
| 139 | CVCC18 | – | Digital logic VCC (1.8 V) |
| 140 | Q4 | O | 24-bit output, pixel data bus |
| 141 | Q3 | O | 24-bit output, pixel data bus |
| 142 | Q2 | O | 24-bit output, pixel data bus |
| 143 | Q1 | O | 24-bit output, pixel data bus |
| 144 | Q0 | O | 24-bit output, pixel data bus |

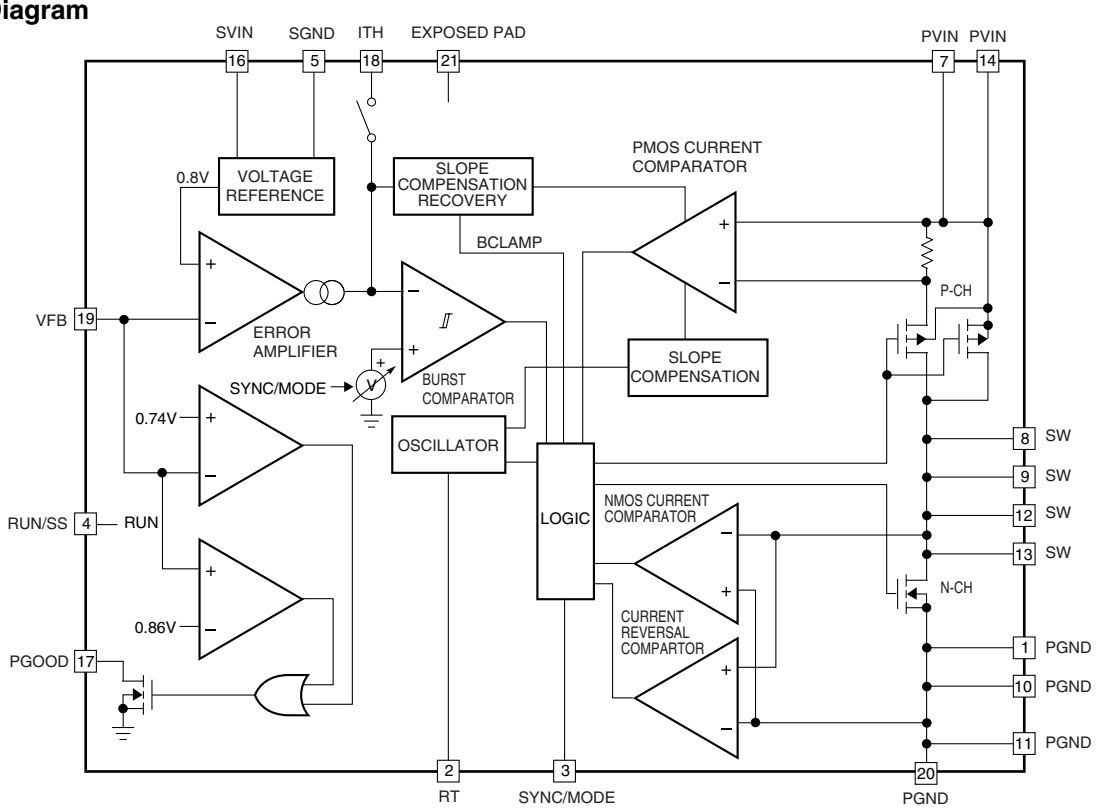
## LTC3414EFE (MAIN ASSY: IC4102)

• Regulator IC

### ● Pin Arrangement (Top view)




### ● Block Diagram



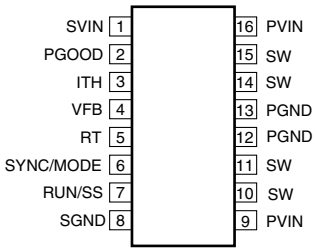

### ● Pin Function

| No. | Pin Name | I/O | Pin Function | No. | Pin Name | I/O | Pin Function |
|---|---|---|---|---|---|---|---|
| 1 | PGND | – | Power Ground. | 12 | SW | – | Switch Node Connection to Inductor. |
| 2 | RT | I | Oscillator Resistor Input. | 13 | SW | – | Switch Node Connection to Inductor. |
| 3 | SYNC/MODE | I | Mode Select and External Clock Synchronization Input. | 14 | PVIN | – | Power Input Supply. |
| 4 | RUN/SS | I | Run Control and Soft-Start Input. | 15 | NC | – | Open. No internal connection. |
| 5 | SGND | – | Signal Ground. | 16 | SVIN | I | Signal Input Supply. |
| 6 | NC | – | Open. No internal connection. | 17 | PGOOD | O | Power Good Output. |
| 7 | PVIN | – | Power Input Supply | 18 | ITH | – | Error Amplifier Compensation Point. |
| 8 | SW | – | Switch Node Connection to Inductor. | 19 | VFB | I | Feedback Pin. |
| 9 | SW | – | Switch Node Connection to Inductor. | 20 | PGND | – | Power Ground. |
| 10 | PGND | – | Power Ground. | 21 | Exposed Pad | – | Should be connected to SGND and soldered to the PCB. |
| 11 | PGND | – | Power Ground. | | | | |

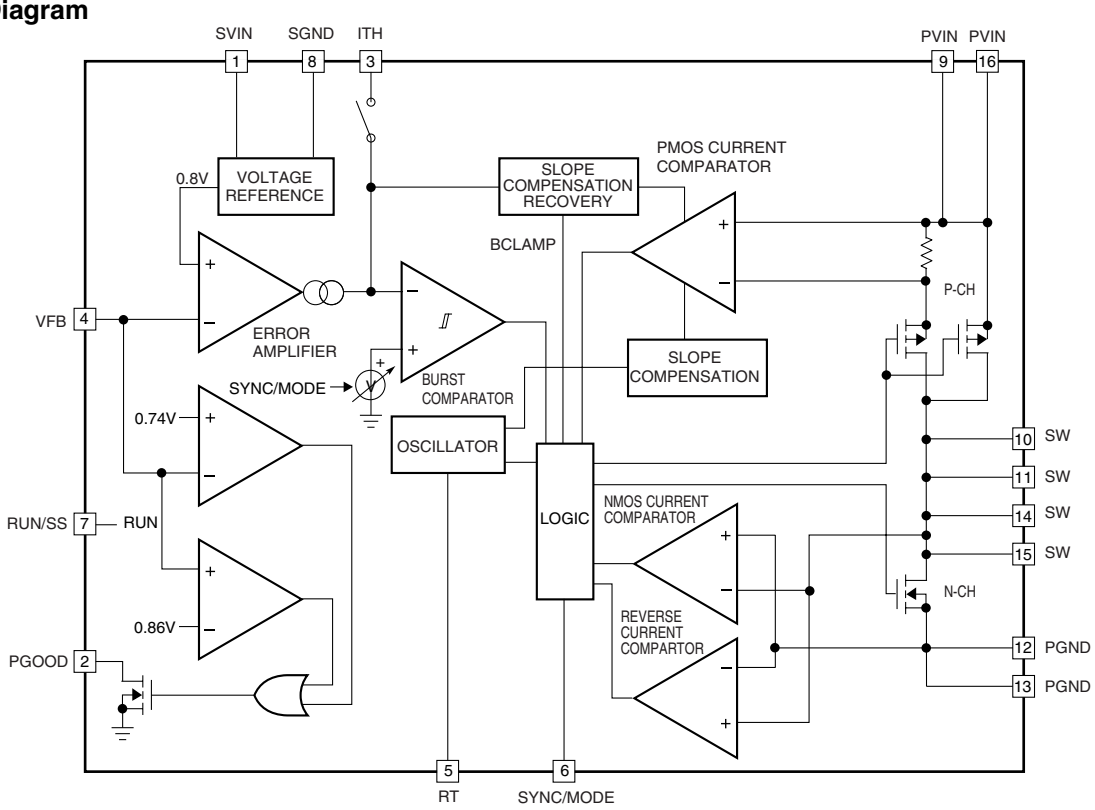
## ■ LTC3412EFE (MAIN ASSY: IC4103)

• Regulator IC

### ● Pin Arrangement (Top view)




### ● Block Diagram



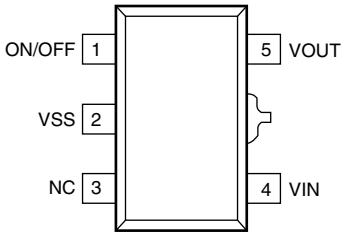

### ● Pin Function

| No. | Pin Name | I/O | Pin Function | No. | Pin Name | I/O | Pin Function |
|---|---|---|---|---|---|---|---|
| 1 | SVIN | I | Signal Input Supply. | 9 | PVIN | I | Power Input Supply |
| 2 | PGOOD | O | Power Good Output. | 10 | SW | – | Switch Node Connection to the Inductor. |
| 3 | ITH | – | Error Amplifier Compensation Point. | 11 | SW | – | Switch Node Connection to the Inductor. |
| 4 | VFB | I | Feedback Pin. | 12 | PGND | – | Power Ground |
| 5 | RT | I | Oscillator Resistor Input. | 13 | PGND | – | Power Ground |
| 6 | SYNC/MODE | I | Mode Select and External Clock Synchronization Input. | 14 | SW: | – | Switch Node Connection to the Inductor. |
| 7 | RUN/SS | I | Run Control and Soft-Start Input. | 15 | SW | – | Switch Node Connection to the Inductor. |
| 8 | SGND | – | Signal Ground. | 16 | PVIN | I | Power Input Supply |

## S1170B25UC-OTA (MAIN ASSY : IC4105)
## S1170B15UC-OTA (MAIN ASSY : IC4106)

• Regulator IC

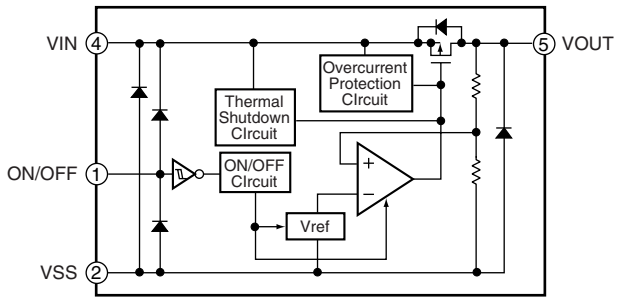
### ● Pin Arrangement (Top view)




### ● Pin Function

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 | ON/OFF | I | Power OFF pin |
| 2 | VSS | – | Ground |
| 3 | NC | – | Non connection |
| 4 | VIN | I | Voltage input |
| 5 | VOUT | O | Voltage output |

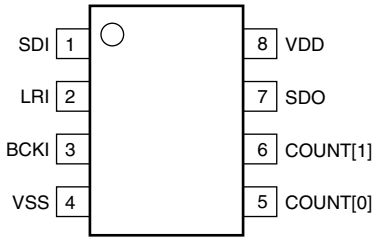
### ● Block Diagram



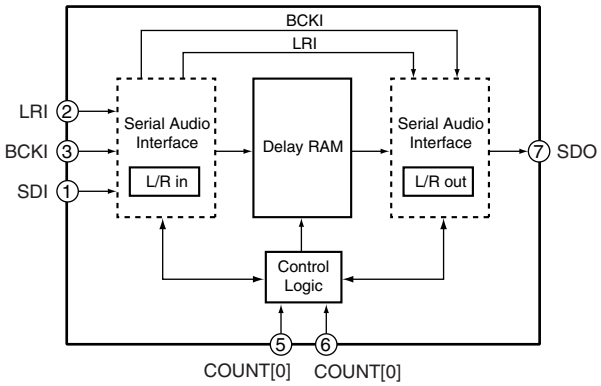

## NJU26901E2 (MAIN ASSY : IC4704)

• Audio Delay IC

### ● Pin Arrangement (Top view)




### ● Pin Function

| No. | Pin Name | I/O | Pin Function |
|---|---|---|---|
| 1 | SDI | I | Serial audio data input |
| 2 | LRI | I | LR clock input |
| 3 | BCKI | I | Serial clock input |
| 4 | VSS | – | Ground |
| 5 | COUNT[0] | I | Delay time setting 0 |
| 6 | COUNT[1] | I | Delay time setting 1 |
| 7 | SDO | O | Serial audio data output |
| 8 | VDD | – | Power supply (+2.5V) |

### ● Block Diagram