HITACHI

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PA | No. 0224

Service Manual

P50H401 / DW3
P50T501 / DW3
P50T4011 / DW3

Revision History

Change Number	Date of Change	Page numbers changed	Description of change
1	03.08.07	70, 109	Main Digital PWB part number revised
2	07.11.07	115 - 123	Frame removal procedure added
3	09.03.07	124	Panel test mode procedure added
4	09.07.07	110	Part numbers broken out into X480xxx numbers

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SERVICE MANUAL

PA

No. 0224

P50H401/DW3-U
P50T501/DW3-U
P50H4011/DW3-U

NTSC
ATSC

DW3-U
Chassis

R/C: CLU-4371UG2 P50H401
R/C: CLU-4371A P50T501
R/C: CLU-4372UG2 P50H4011

TO GO TO A CHAPTER, CLICK ON ITS HEADING BELOW

CONTENTS

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Before servicing this chassis, it is important that the service technician read the “IMPORTANT SAFETY INSTRUCTIONS” in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the “Important Safety Instructions” in this Service Manual.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PLASMA DISPLAY PANEL

FEBRUARY 2007 **HHEA-MANUFACTURING DIVISION**

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety-related notes located on or inside the cover case and on the chassis or plasma module.

WARNING: Since the chassis of this receiver is connected to one side of the AC power supply during operation, whenever the receiver is plugged in service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

1. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on a “HOT” chassis receiver.

2. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, non-metallic knobs, insulating cover-shields, and isolation resistors, capacitors, etc.

3. When service is required, observe the original lead dress.

4. Always use manufacturer’s replacement components. Critical components as indicated on the circuit diagram should not be replaced by another manufacturer’s. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of over heating.

5. Before returning a serviced receiver 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 receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

Therefore, the following checks should be performed for the continued protection of the customer and service technician.

Leakage Current Cold Check

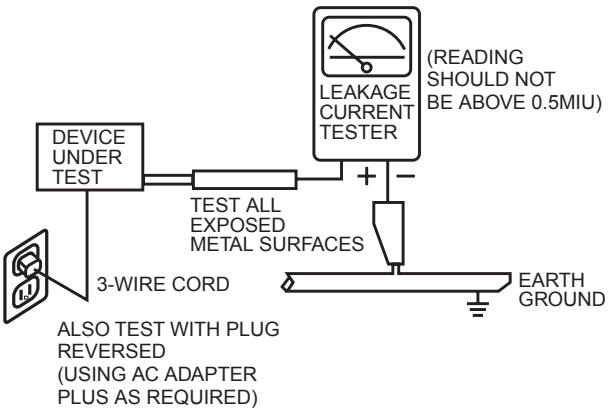
With the AC plug removed from the 120V AC 60Hz source, place a jumper across Line 1 and Line 2 of the three plug prongs, do not connect with the third prong, which is physical ground.

Using an insulation tester (DC500V), connect one of its leads to the AC plug jumper and touch with the other lead each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a resistor reading over 4MΩ. Any resistance value below this range indicates an abnormality which requires corrective action. An exposed metal part not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with the American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances. In the case of the PDP monitor set the AC switch first in the ON position and then in the OFF position, measure from across Line 1 and Line 2 of the three plug prongs, do not connect with the third prong, which is physical ground, to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 MIU. Reverse the instrument power cord plug in the outlet and repeat test.

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 RECEIVER TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receivers have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for 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 with a ⚠ mark in the schematics and parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI-recommended replacement component, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of HITACHI Service Manuals may be obtained at a nominal charge from HITACHI Sales Corporation.

1. Follow the general caution recommendations from “Safety precautions” section.

P50H401/P50T501/P50H4011 - Plasma Monitor Unit

1. Follow the general caution recommendations from “Safety precautions” section.
2. Since the Panel module and front filter are made of glass, sufficient care shall be taken when handling the broken module and filter in order to avoid injury.
3. If necessary to replace Panel module, this work must be started after the panel module and the AC/DC Power supply becomes sufficiently cool.
4. Special care must be taken with the display area to avoid damaging its surface.
5. The Panel Module shall not be touched with bare hands to protect its surface from stains.
6. It is recommended to use clean soft gloves during the replacing work of the Panel module in order to protect, not only the display area of the panel module but also the serviceman.
7. The Chip Tube of the panel module (located upper left of the back of the panel module) and flexible cables connecting Panel glasses to the drive circuitry Printed Wiring Boards (P.W.B.) are very weak, so sufficient care must be taken to prevent breaking or cutting any of these. If the Chip Tube breaks the panel module will never work, replacement for a new plasma panel module will be needed.
8. AV Digital Block, power supply and PDP driving circuit P.W.B.’s are assembled on the rear side of the PDP module, take special care with this fragile circuitry; particularly, Flexible Printed Circuits bonded to surrounding edges of the glass panel. They are not strong enough to withstand harsh outer mechanical forces. Avoid touching the flexible printed circuits by not only your hands, but also tools, chassis, or any other object. Extreme bending of the connectors must be avoided too. In case the flexible printed circuits are damaged, the corresponding addressed portions of the screen will not be lit and exchange of a glass panel will be required.

PDP Module Handling

When there is need to replace a broken PDP module which is the displaying device from the Plasma monitor unit, consider the following:

1. When carrying the PDP module, two persons should stand at both shorter-edge sides of the glass-panel and transport it with their palms. Avoid touching the Flexible Printed Circuits or the chip tube on the corner of the glass-panel. Handle only by the surface of the glass panel. In case of some PDP modules, electrode repair is done by connecting between regular terminal with Cu tape and Cu wire. Please do not hook and/or damage this repair line. If it is damaged, the module will not function unless the glass-panel is exchanged with a new glass-panel.
2. When carrying PDP module, watch surrounding objects, such as tables, and also do not carry it alone since it may be dangerous and it will be damaged due to excessive stress to the module (glass-panel).
3. Please do not stand the module with the edge of the glass-panel on the table since this might result in damage to the glass-panel and/or flexible printed circuits due to excessive stress to the module (glass-panel).

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering make sure you are in a well ventilated area in order to avoid inhalation of any smoke or fumes released.

SAFETY NOTICE
USE ISOLATION TRANSFORMER
WHEN SERVICING

POWER SOURCE

This plasma television is designed to operate on 120 Volts 60Hz, AC house current. Insert the power cord into a 120 Volts 60Hz outlet.

NEVER CONNECT THE PLASMA TELEVISION TO OTHER THAN THE SPECIFIED VOLTAGE OR TO DIRECT CURRENT AND TO 50HZ. TO PREVENT ELECTRIC SHOCK, DO NOT USE THE PLASMA TELEVISION’S (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE, OR THE OUTLETS UNLESS THE BLADES AND GROUND TERMINAL CAN BE FULLY UNSERTED TO PREVENT BLADE EXPOSURE.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addenda, read and follow the "Important Safety Instructions" on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
   a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.

   b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.

   c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

   CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Do not spray chemicals on or near this instrument or any of its assemblies.

3. Unless specified otherwise in these service data, clean electrical contacts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).
   CAUTION: This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.

4. Do not defeat any plug/socket of voltage interlocks with which instruments covered by this service data might be equipped.

5. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat-sinks are correctly installed.

6. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

7. Use with this instrument only the test fixtures specified in this service data.
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or desolder ES devices.

4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES device.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.

2. Use an appropriate lead free solder (see page 8). Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

3. Keep the soldering iron tip clean and well-tinned.

4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.

5. Use the following desoldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

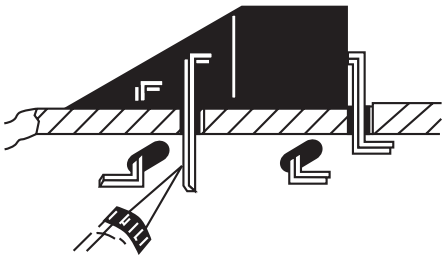
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
      CAUTION: Work quickly to avoid overheating the circuit board printed foil.

6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
      CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.

   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Soldering Iron to Pry Leads

IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.

2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.

2. Carefully bend each IC lead against the circuit foil pad and solder it.

3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

"Small-signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.

2. Bend into a "U" shape the end of each of the three leads remaining on the circuit board.

3. Bend into a "U" shape the replacement transistor leads.

4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact, then solder each connection.

Power Output Transistor Devices Removal/Replacements

1. Heat and remove all solder from around the transistor leads.

2. Remove the heatsink mounting screw (if so equipped).

3. Carefully remove the transistor from the circuit board.

4. Insert new transistor in circuit board.

5. Solder each transistor lead, and clip off excess lead.

6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.

2. Bend the two remaining leads perpendicularly to the circuit board.

3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.

4. Securely crimp each connection and solder it.

5. Inspect (on the circuit board copper side) the solder joints of the two "original leads". If they are not shiny, reheat them and, if necessary, apply additional solder.

Fuses and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.

2. Securely crimp leads of replacement component around stake 1/8 inch from top.

3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off," the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

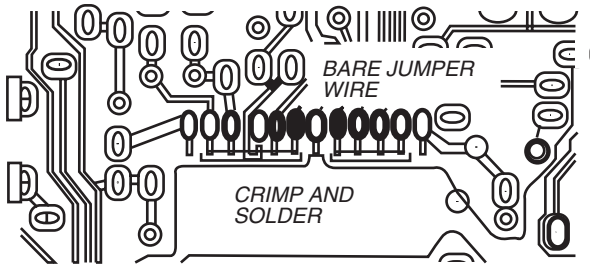
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)

2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.



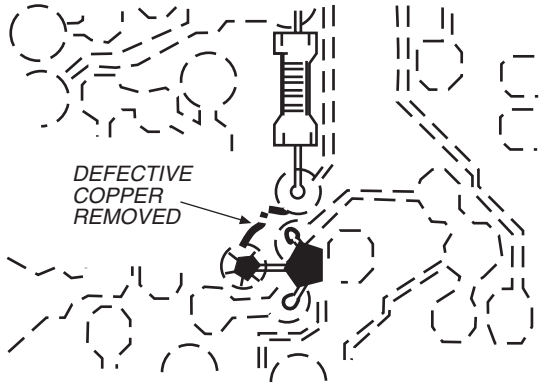
Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.

4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.

3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used. .

Chip resistors have a three digit numerical resistance code -1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6KΩ resistor, 0 = 0Ω (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either

common anode or common cathode. Check the parts list for correct diode number.

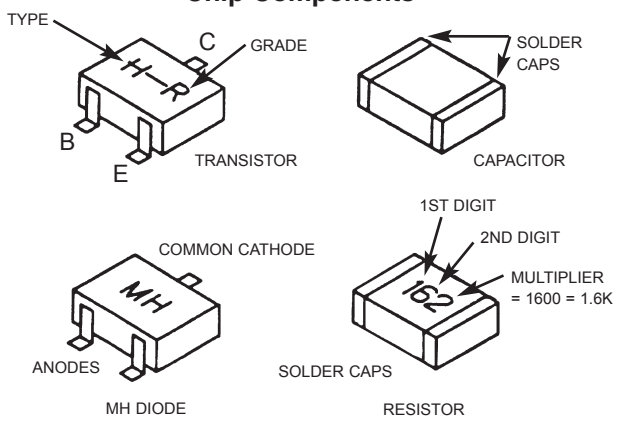
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal .

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds

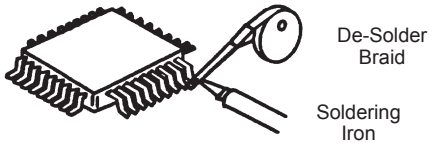
Chip Components



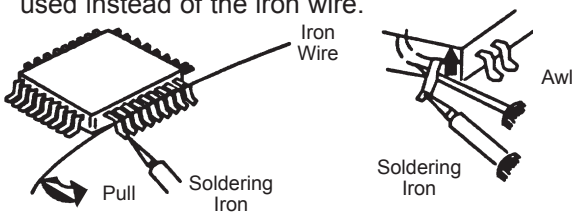
How to Replace Flat-IC —Required Tools—

- Soldering iron
- iron wire or small awl
- De-solder braids
- Magnifier

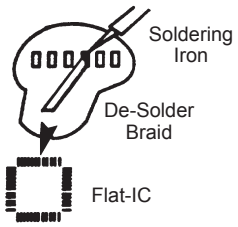
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



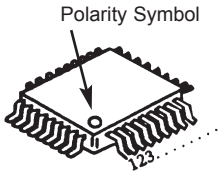
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



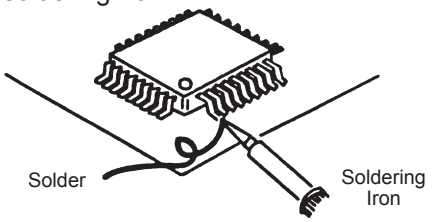
3. Remove the solder from all of the pads of the Fiat-IC by using a de-solder braid.



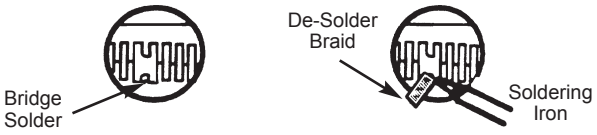
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



5. Solder all pins to the soldering pads using a fine tipped soldering iron.



6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.



Information for service about lead-free solder introduction

Hitachi introduced lead-free solder to conserve the "Earth Environment".
Please refer to the following before servicing.

(1) Characteristic of lead-free solder

Melting point of lead free solder is 40-50°C higher than solder containing lead.

(2) Solder for service

Following composition is recommended.

" Sn - 3.0Ag - 0.5Cu " , or " Sn - 0.7 Cu "

Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

Caution when using solder containing lead.

Please remove previous solder as much as possible from the soldering point.

When soldering, please perfectly melt the lead-free solder to mix well with the previous solder.

(3) Soldering iron for lead-free solder.

Melting point of lead-free solder is higher than solder containing lead.
Use of a soldering tool "with temperature control" and "with much thermal capacitance" is recommended.
(Recommended temperature control : 320°C - 450°C)

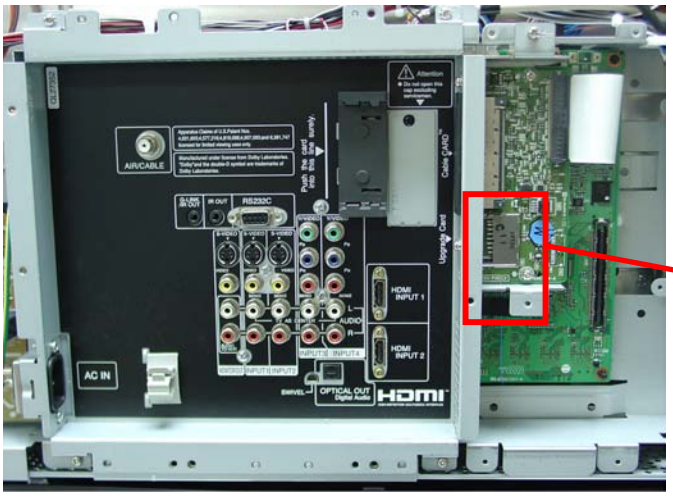
Recommended temperature

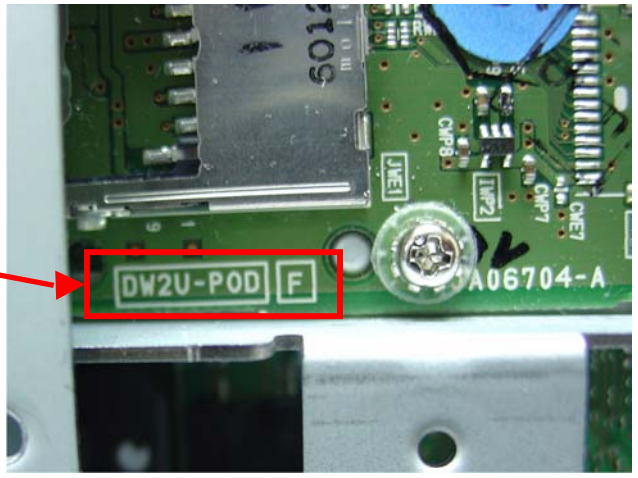
PWB with chip parts	320°C +/- 30°C
PWB without chip parts	380°C +/- 30°C
Chassis, metal, shield etc.	420°C +/- 30°C

(4) Identification of lead-free PWB

2004 models	>> lead-free solder is introduced
2007 models	>> lead-free solder apply

On lead-free PWB, "F" is added at the beginning of stamp on PWB. (e.g. DW2-POD F)





AGENCY REGULATORY INFORMATION

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

FCC Information

This device complies with part15 of the FCC Rules.Operation is subject to the following two conditions : (1) This decide may not cause harmful interference and (2) This decide must accept any interference received, including interference that may cause undesired operation.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hitachi America ,Ltd. Home Electronics Division may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

Any cables that are supplied with the system must be replaced with identical cables in order to assure compliance with FCC rules. Order Hitachi spares as replacement cables.

Note

This Plasma Television receiver will display television closed captioning, (CC or), in accordance with paragraph 15.119 and 15.122 of the FCC rules.

INDUSTRY CANADA AGENCY REGULATORY INFORMATION

Cable Compatible Television Apparatus- Tèlèvision câblocompatible, Canada.

ACKNOWLEDGMENTS AND TRADEMARKS

This Plasma Television complies with VESA DDC2B specifications, Plug & Play is a system with computer, peripherals (including monitors) and operating system. It works when the monitor is connected to a DDC ready computer that is running an operating system software that is capable for the plug & play.

When a Plug and Play PC is powered on, it sends a command to the Monitor requesting identification. The Monitor sends back a string of data including its characteristics.

TRADEMARK ACKNOWLEDGMENT

DDC™ is a trademark of Video Electronics Standard Association.
IBM PC/AT and VGA are registered trademarkds of International Business Machines Corporation of the U.S.A.
Apple and Macintosh are registered trademarks of Apple Computer, Inc.
VESA is a trademark of a nonprofit organization, Video Electronics Standard Association.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Cable Compatible Television Apparatus- Tèlèvision câblocompatible, Canada.

Notes on Closed Caption:
This Plasma Television receiver will display television closed captioning, (CC or), in accordance with paragraph 15.119 of the FCC rules.

DOLBY DIGITAL

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

INTRODUCTION

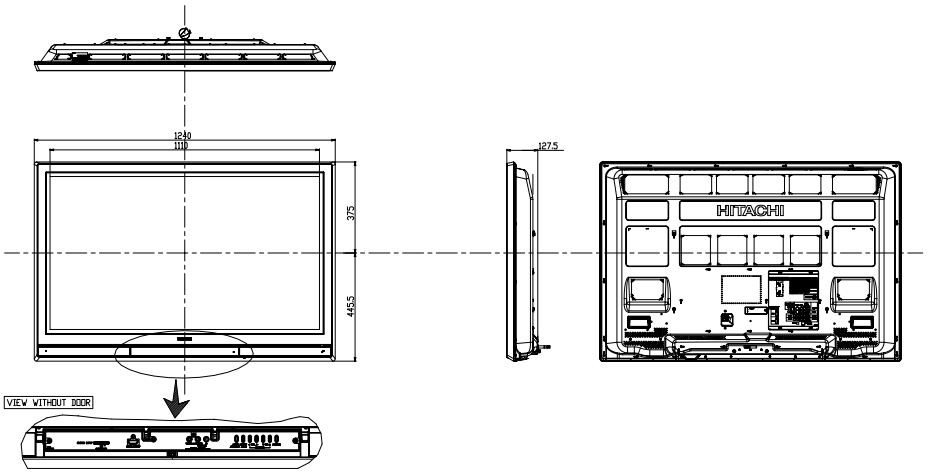
The Digital AV Block is inside of the Panel assembly controls most of the user functions of the complete TV set and conditions the signal to the plasma panel.

The 50” monitor contains the displaying device, which is the plasma display panel module, and the driving circuitry, which receives the signal from the Digital AV Block and after processing, delivers the image to the display module.

This HITACHI Service Manual is intended for the qualified service personnel and it contains the necessary information for troubleshooting the Plasma television set in case of malfunction.

DIMENSIONS:

P50H401/P50T501/P50H4011



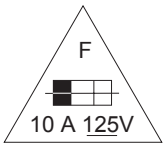
POWER RATINGS:

No.	Model Name	Indicated Value			PST(W)		Chassis
		Max Rating		Average Rating (W)	Without POD. less than 1W	With POD. less than 14W	
		(W)	(A)				
1	P50H401/T501 P50H4011	460W	3.9A	282W	0.6W	-------	DW3A

CIRCUIT PROTECTION

CAUTION: Below is an EXAMPLE only. See Replacement Parts List for details. The following symbol near the fuse indicates fast operation fuse (to be replaced). Fuse ratings appear within the symbol.

Example:



“RISK OF FIRE - REPLACE FUSE AS MARKED”

10 A/125 V

The rating of fuse F9A1 is 10 A - 125V.
Replace with the same type fuse for continued protection against fire.

SPECIFICATIONS

FEATURES

2007 50" Plasma models

Model			P50H401/P50T501/P50H4011	
Dimension	Size	1	1240mm x 880.85mm x 422mm	
	Weight	2	53 Kg	
A/C Input Voltage	Input AC Voltage	3	AC108V~132V (with 3 Plug AC Power Cord inlet type ,1.8m length)	
	Input AC Frequency	4	60Hz	
	Power Consumption	5	460W, SBY less than 1W	
Front End	Front End(NTSC & ATSC)	6	ENGD6305 NTSC/ATSC(8VSB),64QAM,256QAM)	
	Available Channel	7	2~13	VHP
		8	14 ~ 69	UHF
		9	A-5~A-1,A~W,W+1~W+94	CATV
Input Signal	Video Signal	10	N T S C	
	Component Signal	11	480i, 480p, 720p,1080i	
	HDMI Signal	12	480i, 480p, 720p, 1080i, 1080p (EIA-861B)	*1)
Picture	Y/C Separation	13	3D Y/C (ON fix)	
	Line Correction	14	No	
	I-P Conversion	15	Motion Adaptive & Multi Angle Interpolation	
	Picture Mode	16	Day(Dynamic), Day(Normal),Night	
Sound Enhancement		17	BassBoost (On,Off) & Surround (Normal, Wide, Off)	
Adjustment	Settings for Video Signal	18	Picture Mode, Contrast, Brightness, Color, Tint, Sharpness Color Temperature, Black Enhancement, Contrast Mode, Noise Reduction, MPEG-NR, Auto Movie Mode, Aspect, Black Side Panel.	
	Settings for Sound	19	Volume, Balance, Bass, Treble, Audio Source, Internal Speakers, Auto Noise Cancel, Perfect Volume, Mute, Soft Mute, Loudness, DRC.	
General Function	PinP Mode — Split	20	With(ANT/CABLE DIGITAL CHANNEL & Video 480i ,720p, 1080i)	Only P50T501 model
	PinP Mode — Freeze	21	With(3Pix:only ANT/CABLE DIGITAL CHANNEL, Video, 480i).	
	Wide Mode	22	7 Mode	
	Aspect Video Selection	23	4:3 Standard/16:9 Standard1 /16:9 Standard 2 4:3 Expanded/Zoom1/Zoom 2/16:9 Zoom	
	Film Theater	24	With(Auto Movie Mode:On/Off)	
	Color Temperature	25	3 Mode (High/Medium/Standard)	
	Input Signal Selection	26	Input1/2/3/Front, Cable/ Air,HDMI1/2/Front,Photo Input	Photo Input only P50T501

*1) When HDMI input a 1080p signal, the length of the cable should be less than 5 meters.

TABLE OF CONTENTS

SPECIFICATIONS

FEATURES (continued)

Model			P50H401/P50T501/P50H4011	
General Function	Gamma Correction	27	Only for Service Menu	
	Picture Enhancer	28	-	
	Input Signal Identification	29	yes	
	Audio Special Mode	30	No	
	Power Save Mode	31	With (On/Off) (Video In)	LED Normal: Blue Power Save: Orange Stand by: Red
		32		
	Burning Protection	33	With (Raster Shift:3 option.All White Pattern)	
	OSD Language (VIDEO)	34	ENGLISH, FRANCAIS, ESPAÑOL	
	Swivel	35	H401: Fix, T501 : Manual Swivel	
R/C Handset		36	CLU-4371UG2 (P50H401)/CLU-4372UG2 (P50H4011)/CLU-4371A (P50T501)	HOSHIDEN/PANASONIC
In/Out Terminal	Composite Video Input (Input 1~3, Front)	37	4 Input: RCA pin* 5 (1 Input Front Panel)	
	S-In(S2 Terminal) (Video/S are common selector, priority is S-In) .	38	1 Input: Mini Din-4P x 2	
	Component Signal Input (Input 2, Input 3)	39	3 Input:RCA pin x 9(Y of input 1/2/5 is common input for Composit e-In)	
	Digital Input(HDM I-HDCP)	40	3 Input:HDMI(19P)X3	
	Audio In (L/R) (Lch:mono)	41	4 Input:RCApinx8	
	Auto Link	42	1 Input (Input 3 LINK)	Auto Link Function
	Video Control Terminal (BS)	43	No	
	U/V Ant Input	44	CABLE / AIR	
	BS-I/F Input	45	No	
	Video Monitor Out Terminal	46	1 Output: RCA pin x 1	
	Audio Output Terminal	47	1 Output L/R:RCA pinx 2	
	Audio Monitor Out Terminal	48	1 Output L/R:RCA pinx 2 (common input for No.60)	
	RS-232C Terminal	49	1 (Female type)	
	Photo Input	50	1 (On Front panel)	P50T501 model only
	Audio Optical Output	51	1 (Square type)	
Front Key	Main Power Switch	52	Yes , below panel	
	Power On/off Switch	53	Yes, on Front panel	
	IR Receiving Unit	54	Yes, on Front panel	
	Power Indicator LED	55	Yes, on Front panel	
	Menu Control Key	56	Yes, on Front panel (Channel U/D, Vol U/D, A/V Input Select , Menu Select)	
Option	POP TV Stand	57	With	
	Wall Mount Unit	58	With	

FEATURES & DIFFERENCES BETWEEN 50" MODELS

Model Name	Class	Chassis	Series Name	Cabinet Design	Aspect	ATSC	ATSC/NTSC 1Tuner	QAM Basic Digital Cable	POD	MPEG Decoder	EPG Gemstar	M/C
P50H401	H401	DW3A	UltraVision	Bottom Speaker Silver	16x9	X	X	X	-	X	-	SD
P50T501	T501	DW3A	Cineform	WW Bottom Speaker Black/Silver	16x9	X	X	X	-	X	-	SD
P50H4011	H4011	DW3A	UltraVision	Slim Spkr Black/Metallic Black Bezel	16x9	X	X	X	-	X	-	SD

Model Name	Class	DTV NTSC FORMAT	Seine	3/2 Pulldown	Fill Mode	Memory by inputs	Shield	Comb Filter	Resolution	OSD	Color Temp
P50H401	H401	1080i	Seine2	Auto/off	7modes	X	36% mesh	3DYC	1280x1080	07 OSD B	3Mode(High, Med,Std)
P50T501	T501	1080i	Seine2	Auto/off	7modes	X	31% mesh	3DYC	1280x1080	07 OSD C	3Mode(High, Med,Std)
P50H4011	H4011	1080i	Seine2	Auto/off	7modes	X	36% mesh	3DYC	1280x1080	07 OSD B	3Mode(High, Med,Std)

Model Name	Class	PIP	AV NET	Remote			IR Pass Thru	Discrete Code	Dolby	Sound function		
				Type	Source Color	Simple UEI				Perfect Volume	Surround	BassBoost
P50H401	H401	----	-	TVU	Hoshiden/Silver	-	-	X	AC3 Downmix	×	×	×
P50T501	T501	Digital Tuner/Ext SPLIT	-	TVU	PANA/Black	-	-	X	AC3 Downmix	×	×	×
P50H4011	H4011	----	-	TVU	Hoshiden/Black	-	-	X	AC3 Downmix	×	×	×

Model Name	Class	TV Center	Output Watt	Speaker	Rear Jacks											
					Digital I/F		RS232C	IR-Out	YPbPr	S IN	AV IN	S OUT	V OUT	AUDIO OUT	Y As Composite	6CH OUT	RF
					IEEE1394	HDMI											
P50H401	H401	L/mono	20	2FR	-	2	1	-	2(1H,2H,2.14H)	1	3	1	1	1	X	OPT	1
P50T501	T501	L/mono	20	2FR	-	2	1	-	2(1H,2H,2.14H)	1	3	1	1	1	X	OPT	1
P50H4011	H4011	L/mono	20	2FR	-	2	1	-	2(1H,2H,2.14H)	1	3	1	1	1	X	OPT	1

Model Name	Class	Front Jacks			
		Composite	L/R	HDMI	Y,Pb,Pr
P50H401	H401	1	1	1	-
P50T501	T501	1	1	1	-
P50H4011	H4011	1	1	1	-

Model Name	Class	Power LED	Downloadable V Chip	Energy Star	PLC	Option Wall mount	Swivel	Table Top Stand	Hotel Mode	Adjust Color Decoder	Color Manage	Contrast Mode
P50H401	H401	Blue	X	X	X	X	Fixed	× BLK(9000)	×	-	-	X
P50T501	T501	Blue	X	X	X	X	Manual	× SIL(9000)	×	-	-	X
P50H4011	H4011	Blue	X	X	X	X	Fixed	× BLK(9000)	×	-	-	X

General Specifications

Model Specifications

Model Name Item		P50H401/P50T501/P50H4011
Destination		U.S.A. / CANADA
Exterior	Cabinet Dimensions (Main Body) (Speaker & stand inclusive)	1240mm x 880.85mm x 422mm
	Frame Color Screen	Metallic Black (T501/H4011) Brightness Silver (H401)
	Stand	Inclusive
	Weight (Main Body) (Speaker & stand inclusive) (Main Body: Packed)	46.8 kg (53 kg) 60 kg typ. 64.0 kg
	Screen Size	921x523.8mm
Display Panel	Resolution	1280x1080 pixels
	Dot Pitch (H)	0.864mm
	Dot Pitch (V)	0.580mm
Front Filter	Surface Finishing	0.4ohm Mesh
Brightness	Peak Brightness (1% window)	326 (280) cd/m^2 or more (When VIDEO, Day Dynamic mode, Color temperature 'HIGH',Input Signal Amplitude 100 % is set)
	All White Pattern	56 (48) cd/m^2 or more
Contrast	Contrast ratio	800 : 1 (typ)
Audio Output	Audio Output	10W+ 10W(5ohm>,10%Distortion)
Panel Operation	Main Power Switch	PUSH (LOCK) 1 switch
	Power Switch	PUSH (NON-LOCK) 1 switch
Input Terminal	Video/Audio Input	RCA, HDMI, S
Output Terminal	Audio Line Output	RCA
Power Supply Source	Connector	3 Polarity Receptacle
	Input Voltage	Single Phase AC108-132V, 60 Hz

Environment Specifications

NO	Item	Specification
1	Operating Temp.	+5℃~+35℃
2	Stock Temp.	-15℃~+60℃
3	Operating Humidity	20%~80%RH
4	Stock Humidity	20%~90%RH
5	Operating Atmosphere Pressure	700~1114h Pa (1888m~-757m)
6	Stock Atmosphere Pressure	300~1114h P a (4727m~-757m)
7	Warranty Gravity Vertical	0.85 G
8	Warranty Drop High	30cm
9	Tilt Angle	12° Over

9. Display Specification

9.1 Picture Format for Each Input Source
Aspect, Vertical Position, Black Side Panel, PIP Mode

9.1.1 Aspect

Yes : Selectable — : Un-selectable

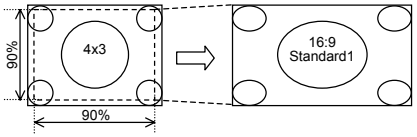
Input Signal			Auto Aspect	Aspect Video ID	Aspect 16:9 Standard 1	16:9 Standard 2	16:9 Zoom	4:3 Standard	4:3 Expanded	4:3 Zoom 1	4:3 Zoom 2
ANT Analog	Video	NTSC	—	4x3	Yes	—	Yes	Yes	Yes	Yes	Yes
ANT Digital	YC_BC_R	480p	—	16x9	Yes	—	Yes	—	Yes	—	—
		480i	—	4x3	—	—	—	Yes	Yes	Yes	Yes
	YP_BP_R	1080i/720p	—	16x9	Yes	Yes	Yes	—	Yes	—	—
Input 1	Video S-Video	NTSC	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No ID	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—	Yes	—	Yes	Yes	Yes	Yes	Yes
Input 2	YP_BP_R	1080i/720p	—	16x9	Yes	Yes	Yes	—	Yes	—	—
		480p 480i	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No ID	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							
		No Signal	—	—							
	Video	NTSC	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No ID	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—	Yes	—	Yes	Yes	Yes	Yes	Yes
Input 3	YP_BP_R	1080i/720p	—	16x9	Yes	Yes	Yes	—	Yes	—	—
		480p 480i	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No ID	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							
		No Signal	—	—							
	Video	NTSC	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No ID	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							
Input Front	Video	NTSC	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No ID	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							

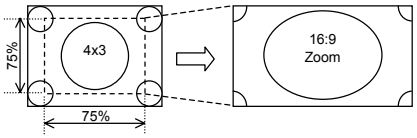
(Continuation)

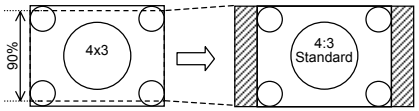
Input Signal			Auto Aspect	Aspect Video ID	Aspect 16:9 Standard 1	16:9 Standard 2	16:9 Zoom	4:3 Standard	4:3 Expanded	4:3 Zoom 1	4:3 Zoom 2
HDMI1 (Input1 -DVI)	HDMI (DVI)	1080p/ 1080i/720p	—	16x9	Yes	Yes	Yes	—	Yes	—	—
		480p 480i	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No Info	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							
HDMI2 (Input2 -DVI)	HDMI (DVI)	1080p/ 1080i/720p	—	16x9	Yes	Yes	Yes	—	Yes	—	—
		480p 480i	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No Info	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							
HDMI Front (InputFront -DVI)	HDMI (DVI)	1080p/ 1080i/720p	—	16x9	Yes	Yes	Yes	—	Yes	—	—
		480p 480i	Auto ON	16x9	Yes Initial	—	Yes	—	—	—	—
				Letter	—	—	—	Yes	Yes	Yes Initial	Yes
				4x3	—	—	—	Yes	Yes Initial	Yes	Yes
				No Info	Yes	—	Yes	Yes	Yes	Yes	Yes
			Auto OFF	—							
Horizontal Expansion				16x9	105%	100%	133%	—	133%	—	—
				4x3	105%	100%	133%	75%	100%	100%	133%
Vertical Expansion					105%	100%	133%	110%	110%	133%	176%

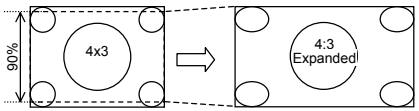
[Expansion]

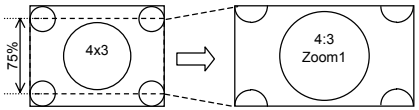
<4x3 Format>

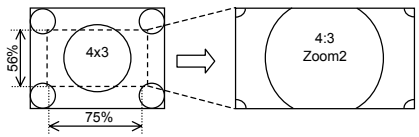












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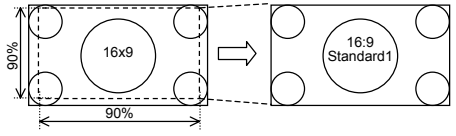
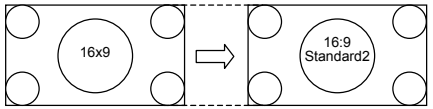
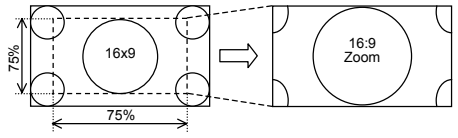
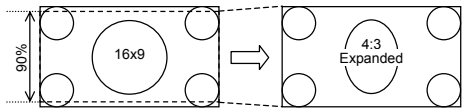
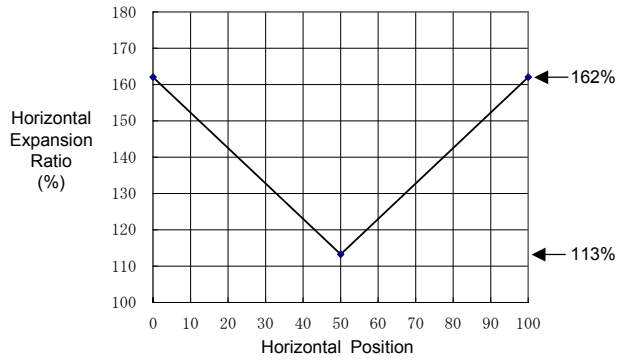


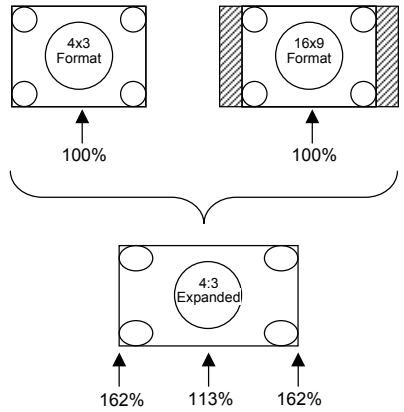






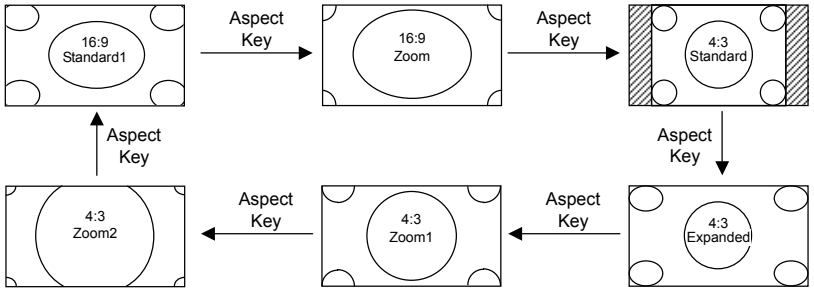
4:3 Expanded Mode





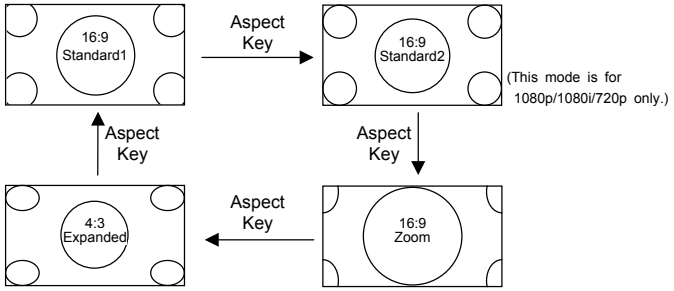
9.1.2 Aspect Key Operation

(1) ANT Analog Channel

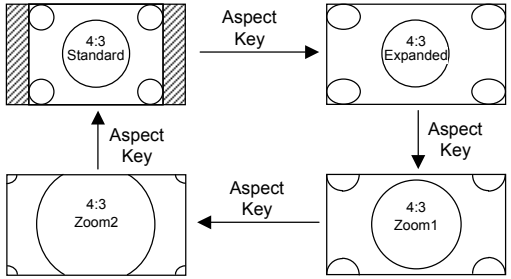


(2) ANT Digital Channel

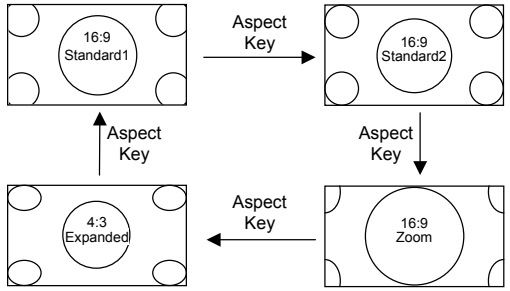
(a) Aspect: 16x9



(b) Aspect: 4x3

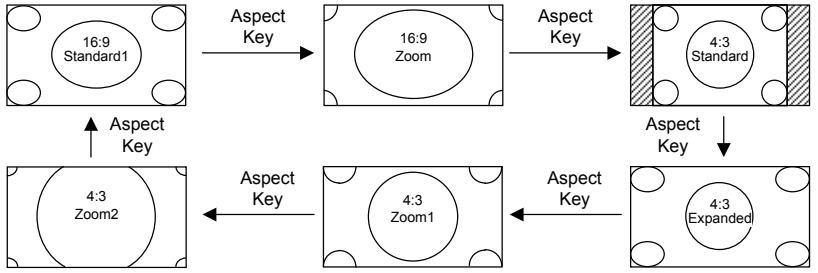


(3) HDMI/YPBPR: 1080p/1080i/720p



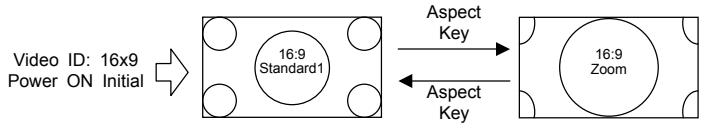
(4) HDMI/YPBPR: 480p/480i, Video/S-Video

(4-1) Auto Aspect OFF

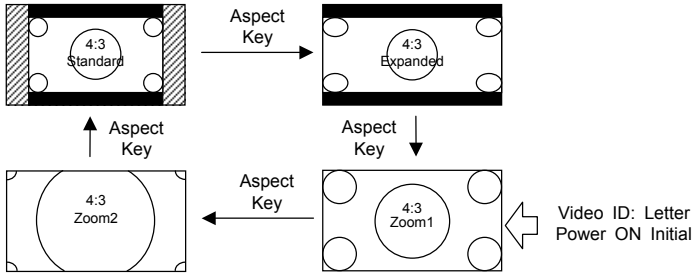


(4-2) Auto Aspect ON

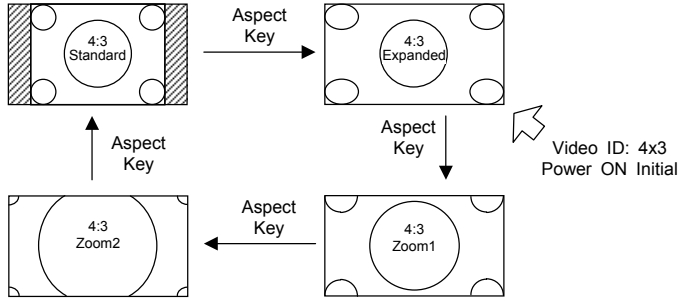
(a) Video ID/HDMI Info: 16x9



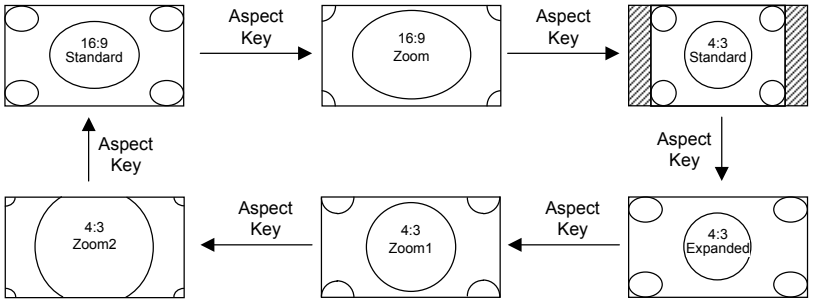
(b) Video ID/HDMI Info: Letter



(c) Video ID/HDMI Info: 4x3



(d) No Video ID, No HDMI Info

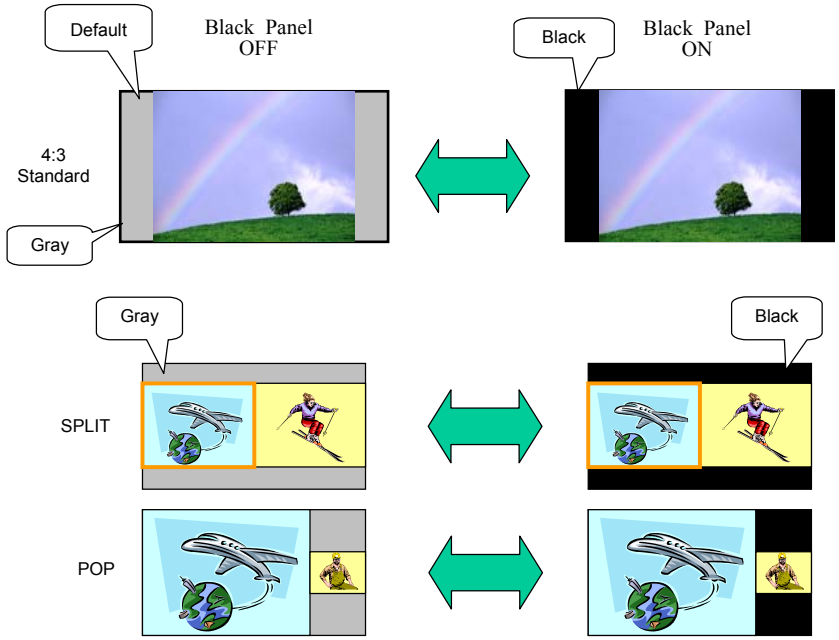


9.1.3 Vertical Position Operation

Input				Vertical Position					
				16:9 Standard1/2	16:9 Zoom	4:3 Standard	4:3 Expanded	4:3 Zoom 1	4:3 Zoom 2
ANT Analog	Video	NTSC	4x3	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
ANT Digital	YPBPR	1080i 720p 480p	16x9	±0 step Gray out	±10 step (±30 lines)	–	±10 step (±10 lines)	–	–
			4x3	–	–	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
		480i	16x9	±0 step Gray out	±10 step (±30 lines)	–	±10 step (±10 lines)	–	–
			4x3	–	–	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
Input 1	Video S-Video	NTSC	–	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
Input 2 - 3	YPBPR	1080i 720p	16x9	±0 step Gray out	±10 step (±30 lines)	–	±10 step (±10 lines)	–	–
		480p 480i	16x9 4x3	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
	Video	NTSC	–	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
Input Front	Video	NTSC	–	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
HDMI1	HDMI	1080p 1080i 720p	16x9	±0 step Gray out	±10 step (±30 lines)	–	±10 step (±10 lines)	–	–
		480p 480i	16x9 4x3	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
HDMI2	HDMI	1080p 1080i 720p	16x9	±0 step Gray out	±10 step (±30 lines)	–	±10 step (±10 lines)	–	–
		480p 480i	16x9 4x3	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
HDMI Front	HDMI	1080p 1080i 720p	16x9	±0 step Gray out	±10 step (±30 lines)	–	±10 step (±10 lines)	–	–
		480p 480i	16x9 4x3	±0 step Gray out	±10 step (±30 lines)	±0 step Gray out	±10 step (±10 lines)	±10 step (±30 lines)	±10 step (±50 lines)
PIP Mode	SPLIT/POP/ PIP/STROBE			±0 step Gray out					

9.1.4 Black Side Panel Operation

Model	Input	Aspect			POP/SPLIT/ FREEZE		PIP/STOROBE
		16:9 Standard1 16:9 Standard2 16:9 Standard 16:9 Zoom 4:3 Expanded 4:3 Zoom1 4:3 Zoom2 Full	4:3 Standard Normal Real Black Side Panel "Off"	Black Side Panel "On"	Black Side Panel "Off"	Black Side Panel "On"	-
ALL	480p 1080i/720p	-	Gray	Black	Gray	Black	Gray
	ANT_Analog S-Video/Video 480i	-	Gray	Black	Gray	Black	Gray



9.1.5 PIP Mode

<Available Function on Each Model>

Model		PIP/POP	SPLIT	Freeze
PDP	T Series	-	X	X
	H Series	-	-	-

X: Available, -: Not available

<The Restriction of Main/Sub Source>

Main	Sub	Available or Not	
Digital (Air)	Digital (Air)	-	
Digital (Cable)	Digital (Cable)	-	
Analog (Air)	Analog (Air)	-	
Analog (Cable)	Analog (Cable)	-	
Digital (Air)	Analog (Cable)	-	
Digital (Cable)	Analog (Cable)	-	
Digital (Air)	Analog (Air)	-	
Digital (Cable)	Analog (Air)	-	
Analog (Air)	Analog (Cable)	-	
Analog (Cable)	Analog (Air)	-	
Analog (Air)	Digital (Air)	-	
Analog (Cable)	Digital (Cable)	-	
Analog (Air)	Digital (Cable)	-	
Analog (Cable)	Digital (Air)	-	
Input or HDMI	Input or HDMI	-	
Input or HDMI	Digital (Air)	X	
Input or HDMI	Digital (Cable)	X	
Input or HDMI	Analog (Air)	-	
Input or HDMI	Analog (Cable)	-	
Digital (Air)	Input or HDMI	X	
Digital (Cable)	Input or HDMI	X	
Analog (Air)	Input or HDMI	-	
Analog (Cable)	Input or HDMI	-	

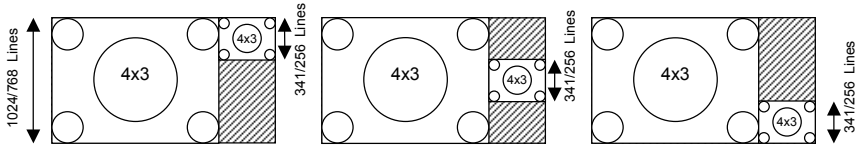
X: Available, -: Not available

PIP Mode	Main		Sub	Digital						Component/Composite/S-IN/HDMI					
				1080i	720p	480p	480p	480i	480i	1080i/p	720p	480p	480p	480i	480i
				16x9	16x9	16x9	4x3	16x9	4x3	16x9	16x9	16x9	4x3	16x9	4x3
POP	Digital (Air or Cable)	1080i	16x9	–	–	–	–	–	–	–	–	–	–	–	–
		720p	16x9	–	–	–	–	–	–	–	–	–	–	–	–
		480p	16x9	–	–	–	–	–	–	–	–	–	–	–	–
		480p	4x3	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
		480i	16x9	–	–	–	–	–	–	–	–	–	–	–	–
		480i	4x3	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
	Component Composite S-IN HDMI	1080i/p	16x9	–	–	–	–	–	–	–	–	–	–	–	–
		720p	16x9	–	–	–	–	–	–	–	–	–	–	–	–
		480p	16x9	Yes*1	Yes*1	Yes*1	Yes*1	Yes*1	Yes*1	–	–	–	–	–	–
		480p	4x3	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
		480i	16x9	Yes*1	Yes*1	Yes*1	Yes*1	Yes*1	Yes*1	–	–	–	–	–	–
		480i	4x3	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
PIP 16x9	Digital (Air or Cable)	1080i	16x9	–	–	–	–	–	–	Yes	Yes	Yes*2	–	Yes*2	–
		720p	16x9	–	–	–	–	–	–	Yes	Yes	Yes*2	–	Yes*2	–
		480p	16x9	–	–	–	–	–	–	Yes	Yes	Yes*2	–	Yes*2	–
		480p	4x3	–	–	–	–	–	–	–	–	–	–	–	–
		480i	16x9	–	–	–	–	–	–	Yes	Yes	Yes*2	–	Yes*2	–
		480i	4x3	–	–	–	–	–	–	–	–	–	–	–	–
	Component Composite S-IN HDMI	1080i/p	16x9	Yes	Yes	Yes	–	Yes	–	–	–	–	–	–	–
		720p	16x9	Yes	Yes	Yes	–	Yes	–	–	–	–	–	–	–
		480p	16x9	Yes*2	Yes*2	Yes*2	–	Yes*2	–	–	–	–	–	–	–
		480p	4x3	–	–	–	–	–	–	–	–	–	–	–	–
		480i	16x9	Yes*2	Yes*2	Yes*2	–	Yes*2	–	–	–	–	–	–	–
		480i	4x3	–	–	–	–	–	–	–	–	–	–	–	–
PIP 4x3	Digital (Air or Cable)	1080i	16x9	–	–	–	–	–	–	–	–	Yes*1	Yes	Yes*1	Yes
		720p	16x9	–	–	–	–	–	–	–	–	Yes*1	Yes	Yes*1	Yes
		480p	16x9	–	–	–	–	–	–	–	–	Yes*1	Yes	Yes*1	Yes
		480p	4x3	–	–	–	–	–	–	–	–	–	–	–	–
		480i	16x9	–	–	–	–	–	–	–	–	Yes*1	Yes	Yes*1	Yes
		480i	4x3	–	–	–	–	–	–	–	–	–	–	–	–
	Component Composite S-IN HDMI	1080i/p	16x9	–	–	–	Yes	–	Yes	–	–	–	–	–	–
		720p	16x9	–	–	–	Yes	–	Yes	–	–	–	–	–	–
		480p	16x9	–	–	–	Yes*2	–	Yes*2	–	–	–	–	–	–
		480p	4x3	–	–	–	–	–	–	–	–	–	–	–	–
		480i	16x9	–	–	–	Yes*2	–	Yes*2	–	–	–	–	–	–
		480i	4x3	–	–	–	–	–	–	–	–	–	–	–	–
SPLIT	Digital (Air or Cable)	1080i	16x9	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
		720p	16x9	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
		480p	16x9	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
		480p	4x3	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
		480i	16x9	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
		480i	4x3	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
	Component Composite S-IN HDMI	1080i/p	16x9	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
		720p	16x9	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
		480p	16x9	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
		480p	4x3	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
		480i	16x9	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
		480i	4x3	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	–
STROBE (4pix)	Digital (Air or Cable)	1080i	16x9	Yes	–	–	–	–	–	–	–	–	–	–	–
		720p	16x9	–	Yes	–	–	–	–	–	–	–	–	–	–
		480p	16x9	–	–	Yes	–	–	–	–	–	–	–	–	–
		480p	4x3	–	–	–	Yes	–	–	–	–	–	–	–	–
		480i	16x9	–	–	–	–	Yes	–	–	–	–	–	–	–
		480i	4x3	–	–	–	–	–	Yes	–	–	–	–	–	–
	Component Composite S-IN HDMI	1080i/p	16x9	–	–	–	–	–	–	Yes	–	–	–	–	–
		720p	16x9	–	–	–	–	–	–	–	Yes	–	–	–	–
		480p	16x9	–	–	–	–	–	–	–	–	Yes	–	–	–
		480p	4x3	–	–	–	–	–	–	–	–	–	Yes	–	–
		480i	16x9	–	–	–	–	–	–	–	–	–	–	Yes	–
		480i	4x3	–	–	–	–	–	–	–	–	–	–	–	Yes

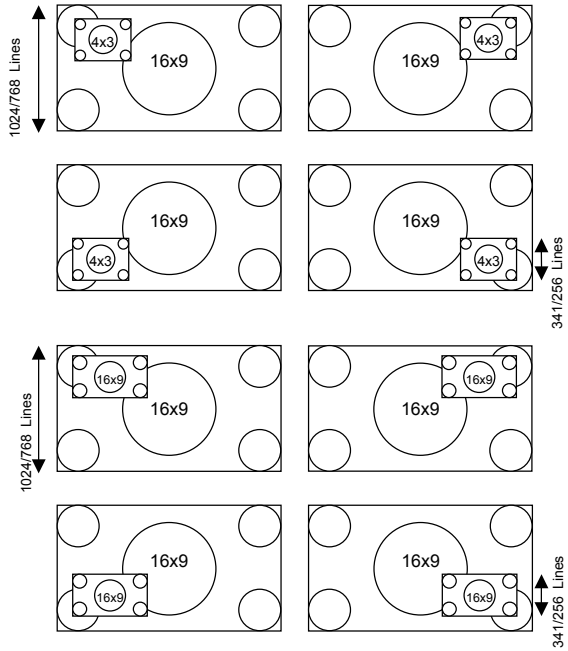
Yes*1: Auto Aspect OFF

Yes*2: Auto Aspect ON

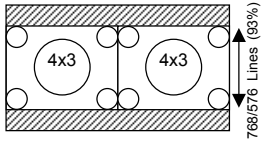
POP Mode:



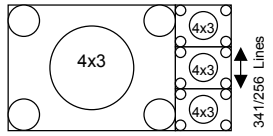
PIP Mode:



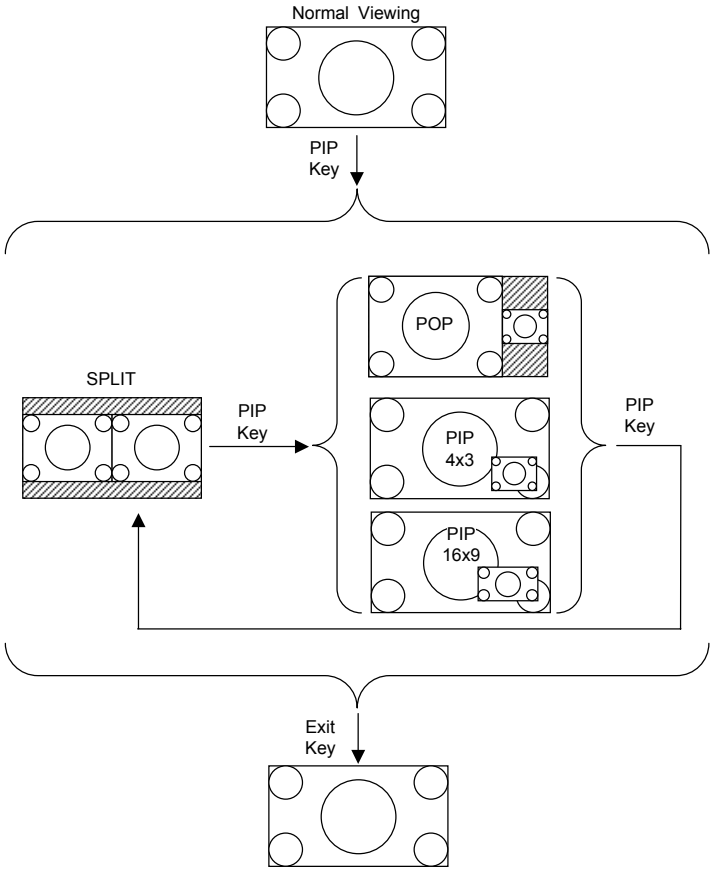
SPLIT Mode:



STROBE Mode:

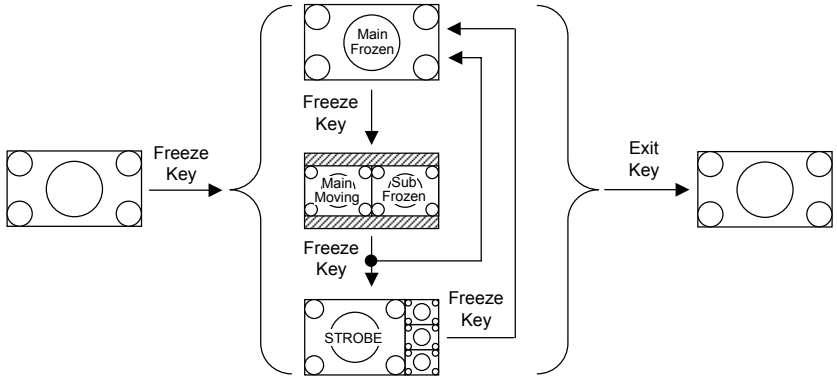


(1) PIP Key Operation

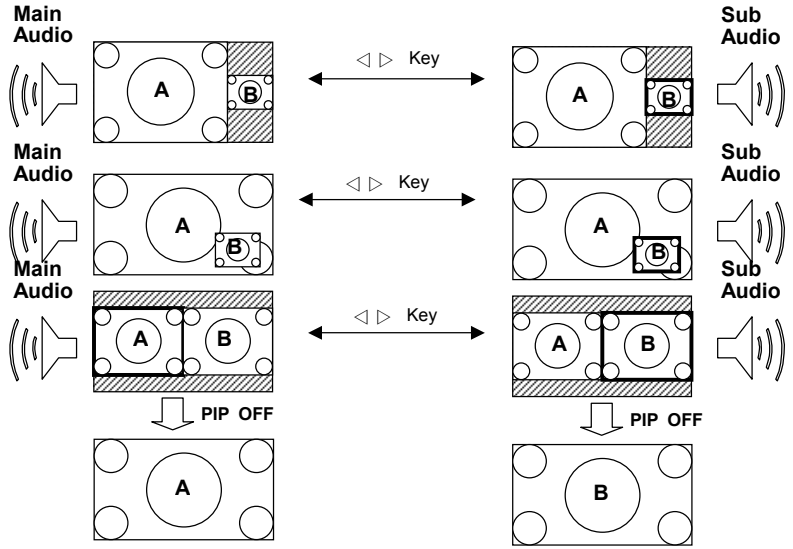


(Note)
If PIP Key is pushed from a Normal screen, PIP of Last Mode will be displayed.
A shipment setup of PIP Mode is SPLIT Mode.
POP/PIP Mode cannot display 720p/480p signals. Therefore, it displays by SPLIT Mode.
・When Last mode is POP/PIP Mode and a Main signal is 1080i, PIP Mode is set to PIP.
・When Last mode is POP/PIP Mode and a Main signal is 480i/NTSC, PIP Mode is set to PIP.
・SURF Mode is not displayed at a V-Chip setup. SPLIT Mode is displayed at this time.
When EXIT Key is pushed, PIP turns off.
When PIP is turns off, PIP Mode of a display turns into Last Mode.

(2) Freeze Operation

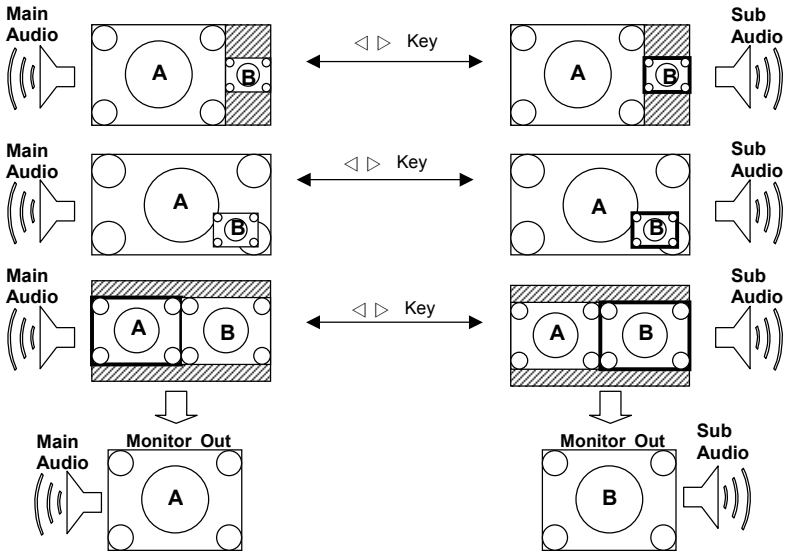


(3) SWAP Operation



(Note)
When right and left Key are pushed, the sound of Main and Sub interchanges.
A Channel/Input change can do the screen out of which the sound has come.
When PIP OFF [EXIT Key], the screen where sound is sounding turns into a normal screen.

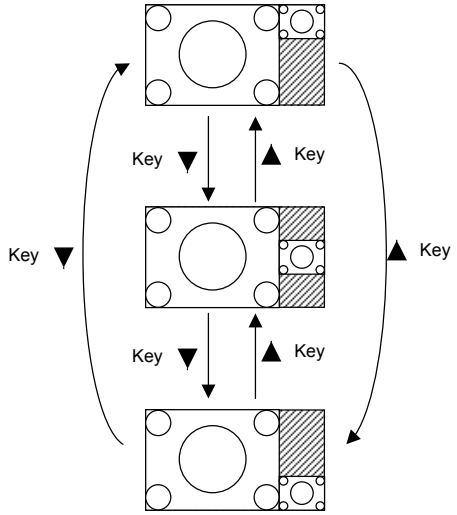
(4) Monitor Out

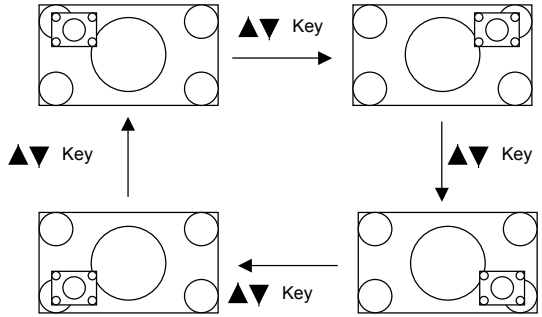


(Note)
When right and left Key are pushed, the sound of Main and Sub interchanges.
The picture and sound of the selected picture are outputted from Monitor out.
When the selected picture is Component or HDMI signal and audio out is monitor, monitor out is no picture and no audio.
When the selected picture is Component or HDMI signal and audio out is HiFi out, monitor out is no picture but audio is output.
When the selected picture is Composite Video signal, S-Video of monitor out is no picture.
When Macrovision signal is included in the ANT Digital channel, monitor out is no picture and no audio.

Input Mode		Monitor Out		
		S-Video	Video	L/R
ANT (AIR or CABLE)	Digital Channel	YES	YES	YES
	Analog Channel	–	YES	YES
Input 1	S-Video_1	YES	YES	YES
	Video_1	–	YES	YES
Input 2	YP_BP_R_2	–	–	–
	Video_2	–	YES	YES
Input 3	YP_BP_R_3	–	–	–
	Video_3	–	YES	YES
Input-Front	Video_Front	–	YES	YES
HDMI 1	HDMI_1	–	–	–
	DVI_1	–	–	–
HDMI 2	HDMI_2	–	–	–
	DVI_2	–	–	–
HDMI-Front	HDMI_Front	–	–	–
	DVI_Front	–	–	–
Photo Input		–	–	–

(4) PIP Position Operation





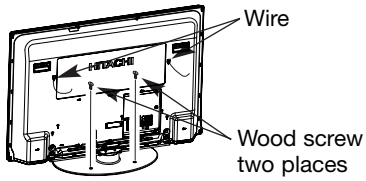
(Note)
The Sub screen position of POP Mode moves up and down by the upper and lower sides Key.
A Sub screen position of PIP Mode moves clockwise by the upper and lower sides Key.

How to set up your new HITACHI Plasma Television

To take measures to prevent the Plasma Television from tipping over and prevent possible injury it is important to mount the unit in a stable and flat surface.

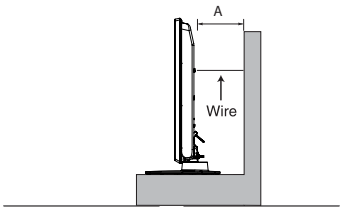
Securing to a table-top

1. Using wood screws (two) fasten the set to the clamping screw holes on the rear of the Plasma TV stand as shown below.
2. Using commercially available wood screws, secure the set firmly in position.



Securing to a Wall

1. Keep the Plasma television 4 inches away from the wall except when mounted using the wall mount bracket.
2. Secure the television to the wall as shown.



	A
50"	4 in.
	10 cm

* Please adjust the wire length to avoid touching the wall when turning the TV.

NOTES: *1. Do not block the ventilation holes of the Plasma Television. Blocking the ventilation holes might cause fire or defect.*

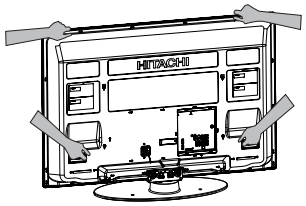
2. In case of an abnormal symptom, unplug the AC cord.

3. If you purchased the wall mount bracket option, please ask for professional installer. Do not install by yourself.

4. Install the unit at a proper area where it does not expose anyone to any danger of hitting themselves (for example their hands, head or face, etc.) against the edge of the unit and cause personal injury.

Caution when moving the main unit

As this product is heavy, whenever it is moved, two people arerequired to transport it safely. Whenever the unit is moved it should be lifted forward using the top and base on both sides of the Television for stability. When moving the Television, lift the handles , then support the top frame as shown below.



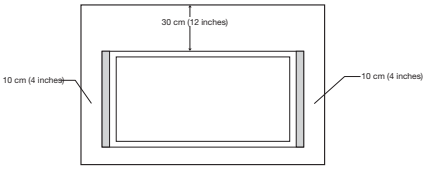
50”

ANTENNA

Unless your Plasma Television is connected to a cable TV system or to a centralized antenna system, a good outdoor color TV antenna is recommended for best performance. However, if you are located in an exceptionally good signal area that is free from interference and multiple image ghosts, an indoor antenna may be sufficient.

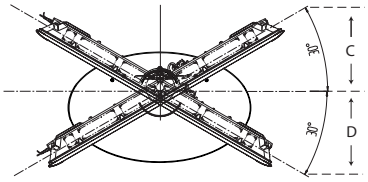
LOCATION

Select an area where sunlight or bright indoor illumination will not fall directly on the picture screen. Also, be sure that the location selected allows a free flow of air to and from the perforated back cover of the set. In order to prevent an internal temperature increase, maintain a space of 10 cm (4 inches) from the sides/back of the Television, and 30 cm (12 inches) from the top of the television to the wall. To avoid cabinet warping, cabinet color changes, and increased chance of set failure, do not place the TV where temperatures can become excessively hot, for example, in direct sunlight or near a heating appliance, etc.



TURNING RADIUS

The maximum turning radius is 30˚ (left and right). Do not place any objects on the path of the monitor when using the swivel feature.



	C	D
50"	15 in.	16.85 in.
	38.1 cm	42.8 cm

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How to set up your new HITACHI Plasma Television

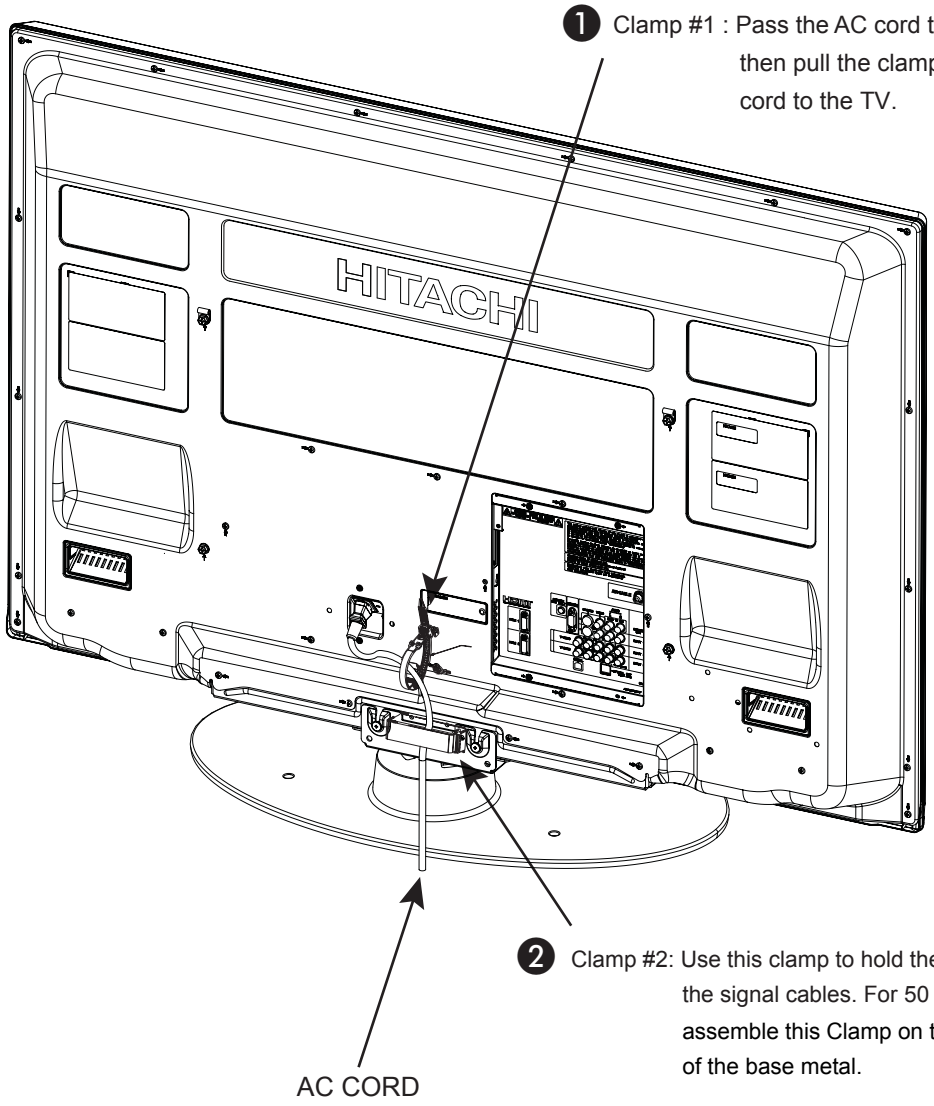
AC CORD INSTALLATION INSTRUCTION

The AC cord provided with your new Plasma Television needs to be installed correctly to avoid the AC cord from disconnecting when rotating the TV on its Table top stand. Located on the back of the TV are 2 plastic clamps to hold the AC cord. Please follow the instructions below.

❶ Pass the AC cord through Clamp #1 and connect AC cord to the TV.

❷ The AC cord and the signal cables can all be held together with Clamp #2.

❸ Depend on the model size 42", 50" or 55", the clamp may be different shapes. Only for 50" models the clamp #2 will be included on the accessories bag.



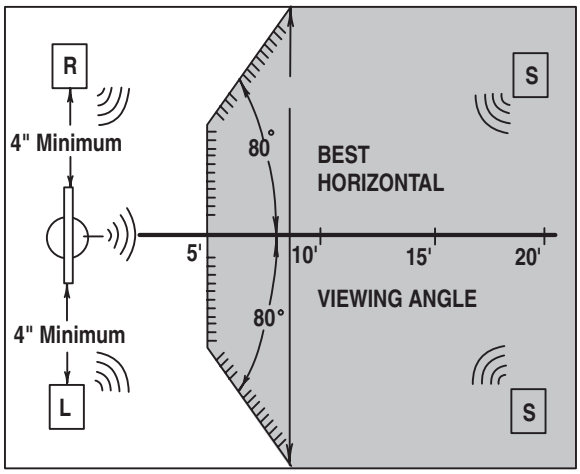
How to set up your new HITACHI Plasma Television

VIEWING

The best picture is seen by sitting directly in front of the TV and about 10 to 18 feet from the screen.

During daylight hours, reflections from outside light may appear on the screen. If so, drapes or screens can be used to reduce the reflection or the TV can be located in a different section of the room.

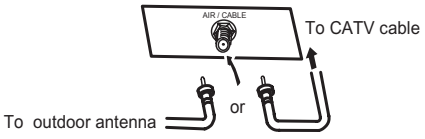
If the TV's audio output will be connected to a Hi-Fi system's external speakers, the best audio performance will be obtained by placing the speakers equidistant from each side of the receiver cabinet and as close as possible to the height of the picture screen center. For best stereo separation, place the external speakers at least four feet from the side of the TV, place the surround speakers to the side or behind the viewing area. Differences in room sizes and acoustical environments will require some experimentation with speaker placement for best performance.



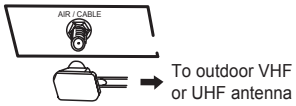
ANTENNA CONNECTIONS TO REAR JACK PANEL

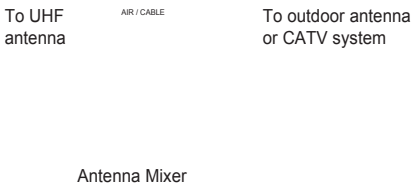
VHF (75-Ohm) antenna/CATV (Cable TV)
When using a 75-Ohm coaxial cable system, connect **CATV** coaxial cable to the AIR/CABLE (75-Ohm) terminal. Or if you have an antenna, connect the coaxial cable to the same AIR/CABLE terminal.

VHF (300-Ohm) antenna/UHF antenna
When using a 300-Ohm twin lead from an outdoor antenna, connect the **VHF** or **UHF** antenna leads to screws of the **VHF** or **UHF** adapter. Plug the adapter into the antenna terminal on the TV.



When both VHF and UHF antennas are connected
Attach an optional antenna cable mixer to the TV antenna terminal, and connect the cables to the antenna mixer. Consult your dealer or service store for the antenna mixer.



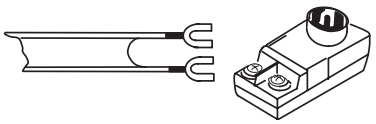


NOTE: *Connecting a 300-Ohm twin lead connector may cause interference. Using a 75-Ohm coaxial cable is recommended.*

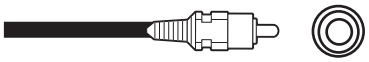
Hook-up Cables and Connectors

Most video/audio connections between components can be made with shielded video and audio cables that have phono connectors. For best performance, video cables should use 75-Ohm coaxial shielded wire. Cables can be purchased from most stores that sell audio/video products. Below are illustrations and names of common connectors. Before purchasing any cables, be sure of the output and input connector types required by the various components and the length of each cable.

300-Ohm Twin Lead Cable
This outdoor antenna cable must be connected to an antenna adapter (300-Ohm to 75-Ohm).

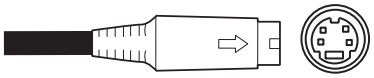


Phono Cable
Used on all standard video and audio cables which connect to inputs and outputs located on the television's rear jack panel and front control panel.

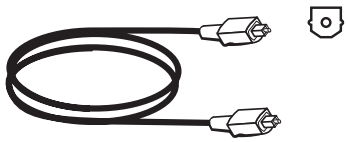


"F" Type 75-Ohm Coaxial Antenna
For connecting RF signals (antenna or cable TV) to the antenna jack on the television.

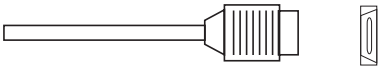
S-Video (Super Video) Cable
This connector is used on camcorders, VCRs and laser-disc players with an S-Video feature in place of the standard video cable to produce a high quality picture.



Optical Cable
This cable is used to connect to an audio amplifier with an Optical Audio In jack. Use this cable for the best sound quality.



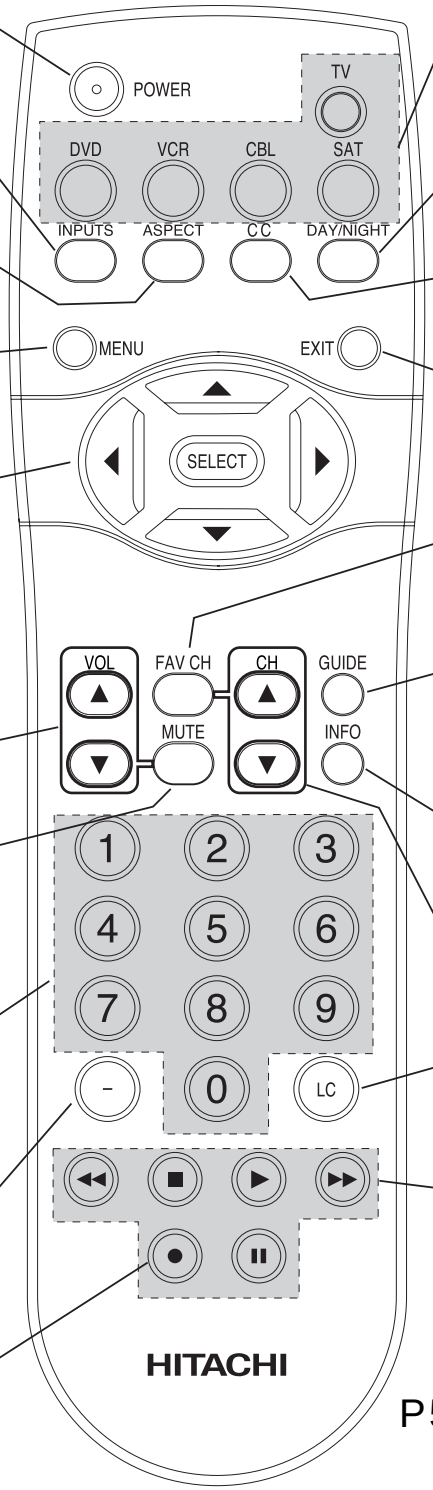
HDMI Cable
This cable is used to connect your external devices such as Set-Top-Boxes or DVD players equipped with an **HDMI** output connection to the TV's **HDMI** input.



Stereo Cable (3.8mm plug to 3.5mm plug)
Used on all standard video and audio cable which connect to inputs and outputs located on the rear jack panel and front control panel.

Quick Reference Remote Control Buttons and Functions

In addition to controlling all of the functions on your HITACHI Plasma TV, the new remote control is designed to operate different types of devices, such as, DVD Players, CBL (Cable Boxes), set-top-boxes, satellite receivers, and VCRs. The remote control must be programmed to control the chosen device.



POWER BUTTON (TV, CBL, VCR, DVD, SAT)
Turns the selected device on and off.

INPUTS BUTTON (TV)
Accesses the INPUTS menu system.

ASPECT BUTTON (TV)
Changes the aspect ratio while watching TV.

MENU BUTTON (CBL, DVD, SAT, TV)
Accesses the OSD menu system.

CURSOR/SELECT BUTTONS (TV, DVD, CBL, SAT)
The CURSOR buttons are used to navigate the cursor through the OSD and INPUTS menu systems, and the SELECT button is used to Select/Activate the highlighted menu item.

VOLUME BUTTONS (TV)
Adjusts the audio level of your TV.

MUTE BUTTON (TV)
Reduces the audio level to 50% if pressed once, and to complete mute if pressed twice. Press it a third time to restore audio level.

NUMERIC BUTTONS (TV, DVD, CBL, SAT, VCR)
Used to manually enter the TV channel, and used for numeric entry when navigating through the OSD menu system.

(-) BUTTON (TV, SAT)
The (-) button is used when the remote is in Set-Top-Box (STB) mode or when the TV uses a digital input.

RECORD BUTTON (VCR)
Press twice (2 times) to record programs.

SOURCE ACCESS BUTTONS (TV, DVD, VCR, CBL, SAT)
Changes the mode of the Universal Remote Control to control the device selected.

DAY/NIGHT BUTTON (TV)
Select picture mode settings between DAY normal, DAY dynamic and NIGHT mode.

CC BUTTON (TV)
Press to show and change the Closed Caption mode.

EXIT BUTTON (TV, CBL, SAT)
Exits out of the OSD or INPUTS menu systems if their menu is displayed.

FAVORITE CHANNEL (FAV CH) button (TV)
Press to enter/access Favorite Channel (FAV) mode.

GUIDE BUTTON (SAT/STB, CBL)
Accesses the program guide of other devices.

INFO BUTTON (TV, CBL, SAT)
Displays various information on the screen.

CHANNEL BUTTONS (TV, CBL, SAT, VCR)
Changes the channel.

LAST CHANNEL (LC) BUTTON (TV, CBL, SAT)
Switches between the current and last channel viewed.

DVD/VCR CONTROL BUTTONS (DVD, VCR)
Controls the precode functions of your VCR and DVD.

P50H401/P50H4011 Models

LEGEND

TV — Television
CBL — Cable Box
VCR — Video Cassette Recorder/Player
DVD — Digital Video Disc Player
SAT — Satellite Receiver

NOTES: *1. The TV's remote control sensor is located on the right bottom portion of the TV screen. To control TV functions, please point the remote control directly at the remote control sensor for best results.*

Quick Reference Remote Control Buttons and Functions

In addition to controlling all of the functions on your HITACHI Plasma TV, the new remote control is designed to operate different types of devices, such as, DVD Players, CBL (Cable Boxes), set-top-boxes, satellite receivers, and VCRs. The remote control must be programmed to control the chosen device.

POWER BUTTON
(TV, DVD, SAT/CBL,PVR/VCR)
Turns the selected device on and off.

MODE INDICATOR
Turns on or blinks to show remote control mode when the SOURCE ACCESS buttons are pressed.

DAY/NIGHT BUTTON
(TV)
Toggles picture mode settings between DAY normal, DAY dynamic and NIGHT mode.

MENU BUTTON
(TV,DVD,SAT/CBL,PVR/VCR)
Accesses the OSD menu system.

INPUTS BUTTON
(TV)
Accesses the INPUTS menu system.

CURSOR PAD/SELECT BUTTON
(TV, DVD, SAT/CBL,PVR/VCR)
The Cursor Pad is used as a cursor to navigate through the OSD and INPUT menu systems. The Select button is used to Select/Activate highlighted menu items.

Closed Caption (CC) BUTTON
(TV)
Press to show and change the Closed Caption mode.

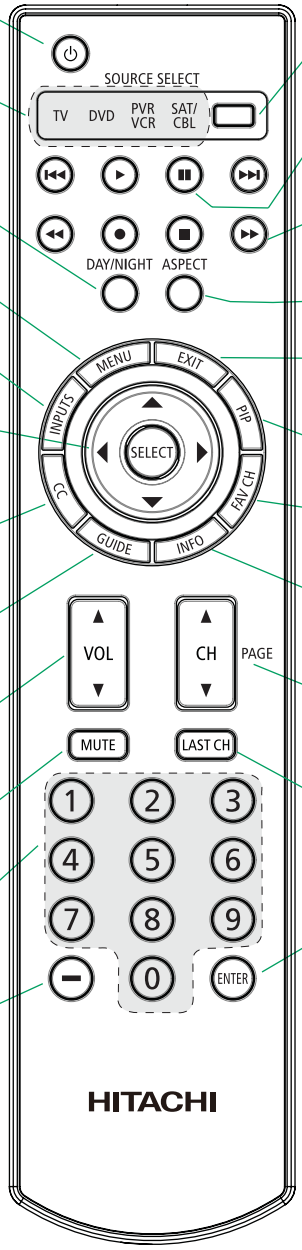
GUIDE BUTTON
(SAT/CBL, PVR)
Accesses the program guide of other devices.

VOLUME BUTTONS
(TV)
Increase up and decrease down to adjust the audio level of your TV.

MUTE BUTTON (TV)
Reduces the audio level to 50% if pressed once, and to complete mute if pressed twice. Press it a third time to restore audio level.

NUMERIC BUTTONS
(TV, DVD, SAT/CBL, PVR/VCR)
Used to manually enter the TV channel, and used for numeric entry when navigating through the the OSD, INPUTS.

(-) BUTTON
(TV,STB)
The (-) button is used when the remote is in Set-Top-Box (STB) mode or when the TV uses a digital input.



SOURCE SELECT BUTTON
(TV, DVD, PVR/VCR, SAT/CBL)
Changes the mode of the Universal Remote Control to control the device selected.

PAUSE BUTTON
(TV,PVR/VCR, DVD)
Press to show and change the Freeze mode of the TV. Also used to pause other devices when the remote is in DVD, PVR/VCR.

DVD/VCR CONTROL BUTTONS
(DVD, PVR/VCR)
Controls the functions of your VCR, DVD and audio devices.

ASPECT BUTTON
(TV)
Changes the aspect ratio of the TV.

EXIT BUTTON
(TV, SAT/CBL, PVR/VCR)
Exits out of the OSD, INPUTS systems if their menu is displayed.

PIP CONTROL BUTTON
(TV)
Press to show and change the Picture-in-Picture mode.

FAVORITE CHANNEL
(FAV CH) button (TV)
Press to enter/access Favorite Channel (FAV CH) mode. (Favorite channel is only available for TV mode.)

INFO BUTTON
(TV, STB, CBL, PVR)
Displays various information on the screen, such as channel information.

CHANNEL UP & DOWN BUTTONS
(TV, CBL, STB, PVR/VCR)
Changes up or down the channel.

LAST CHANNEL BUTTON
(TV, SAT/CBL, PVR)
Switches between the current and last channel viewed.

ENTER BUTTON
Press to use as SELECT feature. Can only be used on TV mode.

P50T501 Model

LEGEND

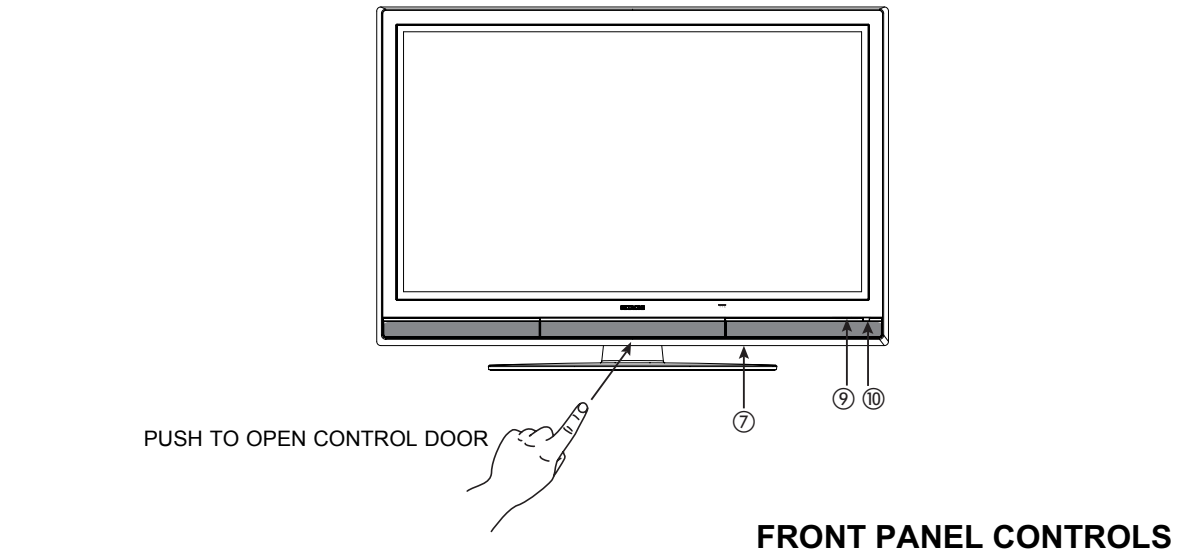
TV – Television
CBL – Cable Box
SAT – Satellite
PVR – Video Recorder/Player
DVD – Digital Video Disc Player
VCR – Videocassete Recorder/Player

NOTES:

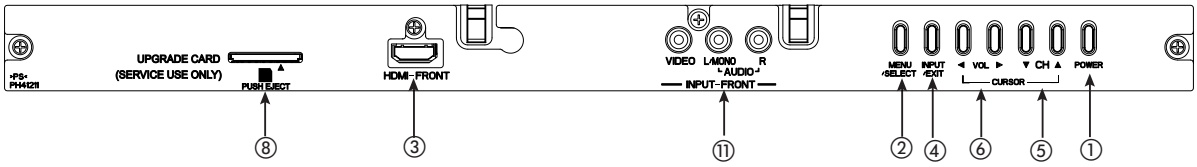
1. **The TV's remote control sensor is located on the right bottom portion of the TV screen. To control TV functions, please point the remote control directly at the remote control sensor for best results.**
2. **VCR precode is included in the PVR mode.**

Front Panel Controls

FRONT VIEW



FRONT PANEL CONTROLS



① FRONT POWER button
Press this button to turn the Plasma Television ON/OFF. It can also be turned ON/OFF by remote control. The "MAIN POWER" button must be at stand-by mode.

② **MENU/SELECT button**
This button allows you to enter the MENU, making it possible to set TV features to your preference without using the remote. This button also serves as the SELECT button when in MENU mode.

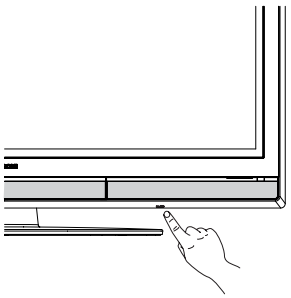
③ HDMI-FRONT
Use the front HDMI input for extrenal devices such as Set-Top-Boxes or DVD players equipped with an HDMI output connection (see page 33 for reference).

④ **INPUT/EXIT button**
Press this button to access the INPUT menu. Press again to exit the MENU mode.

⑤ **CHANNEL selector**
Press these buttons until the desired channel appears in the top right corner of the TV screen. These buttons also serve as the cursor down (▼) and up (▲) buttons when in MENU mode.

⑥ **VOLUME level**
Press these buttons to adjust the sound level. The volume level will be displayed on the TV screen. These buttons also serve as the cursor left (◀) and right (▶) buttons when in MENU mode.

⑦ **POWER button**
Television MAIN POWER button
This power button is for the complete system, and must be turned ON/OFF manually. It is recommended to leave the "MAIN POWER" to ON condition (lights red) for stand-by mode.



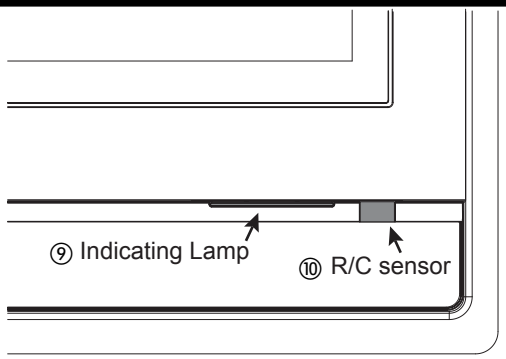
The Main Power button is located on the broadside bottom, under the mark "⏻".

NOTE: *When the "MAIN POWER" button is set to OFF or the TV is unplugged, the clock will stop and may eventually reset itself.*

⑧ Upgrade Card
This card slot is for future software upgrades. Hitachi will notify you if a software upgrade is required for your TV. In order to receive written notification, please complete and return your warranty card.

Front Panel Controls

⑨ **POWER light indicator**
To turn the TV ON, press the main power switch located on the lower right side of the TV. A red stand-by indicator lamp located on the lower right corner of the front bezel will illuminate. The Plasma TV is now ready for remote ON/OFF operation.



Indicating Lamp	Power Status	Operating
Off	OFF.	When the main power switch is set to Off.
Lights Red	OFF. (Stand-by)	When the main power switch on the TV is ON.
Lights Blue	On	TV MAIN POWER is ON ; picture is shown.
Lights Orange	Off (Power Saving)	TV MAIN POWER is ON with no signal input except antenna (no sync. signal).
Blinking Blue 3 times	On	When TV receive the IR signal once from R/C.

⑩ **REMOTE CONTROL sensor**
Point your remote at this area when selecting channels, adjusting volume, etc.

⑪ **INPUT- FRONT JACKS**
INPUT- FRONT provide composite Video jacks for connecting equipment with this capability, such as a DVD player or Camcorders.

NOTES: *1. Your HITACHI Plasma TV will appear to be turned OFF (lights orange) if there is no video input when INPUT : 1, 2, 3, Front and HDMI 1, 2 , Front. Check the Power Light to make sure the TV is turned off or in Stand-by mode (lights red) when not in use.*
2. Remote Control can not turn ON/OFF the "MAIN POWER" of the TV.

Rear Panel Connections

① **Antenna Input**
To switch between Cable and Air input, go to the Channel Manager option to change the signal source CABLE or AIR.

② **Audio/Video Inputs 1, 2 and 3**
By using the INPUTS button, the CURSOR PAD (▲ and ▼), and the SELECT button or CURSOR PAD ► of the remote control, you can select each video source. Use the audio and video inputs to connect external devices, such as VCRs, camcorders, laserdisc players, DVD players etc. (if you have mono sound, insert the audio cable into the left audio jack).

③ **MONITOR OUT & AUDIO OUT**
These jacks provide fixed audio and video signals (CABLE/AIR or INPUTS) which are used for recording. Use the S-VIDEO output for high quality video output. Component signal to Input 2 and 3, and HDMI inputs will not have monitor output.

④ **Optical Out (Digital Audio)**
This jack provides Digital Audio Output for your audio device that is Dolby® Digital and PCM compatible, such as an audio amplifier.

NOTE: **Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.*

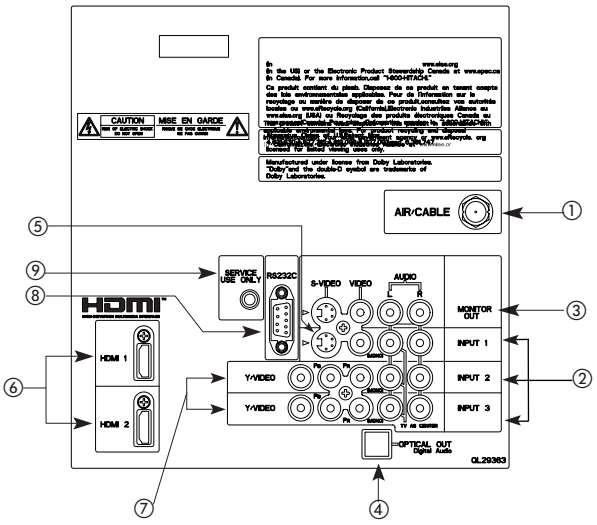
⑤ **S-VIDEO Input 1**
Input 1 provide S-VIDEO (Super Video) jacks for connecting equipment with S-VIDEO output capability.

NOTE: *1. You may use VIDEO or S-VIDEO inputs to connect to INPUT 1 , but only one of these inputs may be used at a time.*
2. S-VIDEO output may be used for recording, only when the input is of S-VIDEO type.

⑥ **HDMI 1, 2 (High Definition Multimedia Interface)**
ABOUT HDMI – HDMI is the next-generation all digital interface for consumer electronics. **HDMI** enables the secure distribution of uncompressed high-definition video and multi-channel audio in a single cable. Because digital television (DTV) signals remain in digital format, **HDMI** assures that pristine high-definition images retain the highest video quality from the source all the way to your television screen.

Use the **HDMI** input for your external devices such as Set-Top-Boxes or DVD players equipped with an **HDMI** output connection.

***HDMI**, the **HDMI** logo and High-Definition Multimedia Interface are trademarks or registered trademarks of **HDMI** Licensing LLC.*



NOTE: *1. The HDMI input is not intended for use with personal computers.*
2. Only DTV formats such as 1080p, 1080i, 720p, 480i and 480p are available for HDMI input.

⑦ **Component: Y-PBPR Inputs**
INPUTS 2 and **3** provide Y-PBPR jacks for connecting equipment with this capability, such as a DVD player or Set Top Box. You may use composite video signal for both inputs.

NOTE: *1. Do not connect composite VIDEO and S-VIDEO to INPUT 1 at the same time. S-VIDEO has priority over VIDEO input.*
2. Your component outputs may be labeled Y, B-Y, and R-Y. In this case, connect the components B-Y output to the TV's P_B input and the components R-Y output to the TV's P_R input.
3. Your component outputs may be labeled Y-CBCR. In this case, connect the component CB output to the TV's P_B input and the component CR output to the TV's PR input.
4. It may be necessary to adjust TINT to obtain optimum picture quality when using the Y-P_BP_R inputs.
5. To ensure no copyright infringement, the MONITOR OUT output will be abnormal, when using the Y-P_BP_R jacks and HDMI Input.
6. INPUT 2 , and 3 (Y/VIDEO) can be used for composite video and component video input.

⑧ **For Special AV control use only.**

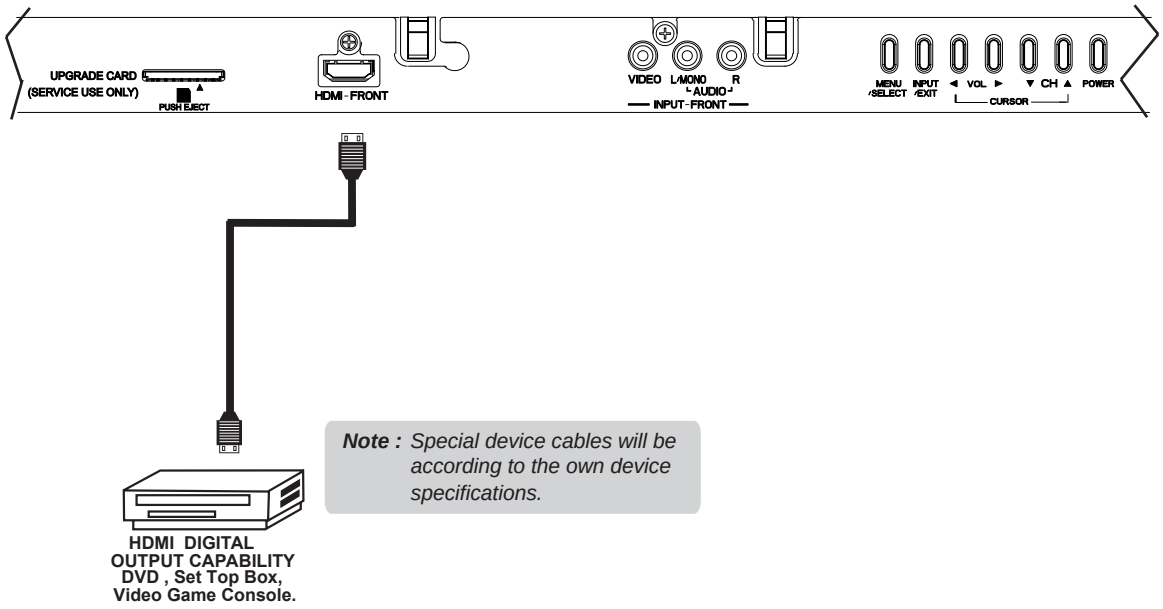
⑨ **For Factory use only.**

Connecting External Video Sources

The FRONT panel jacks are provided as a convenience to allow you to easily connect HDMI or DVI signals from a DVD, Set Top Box , Video Game as shown in the following examples (When connecting DVI signal it will need to connect the audio output into the Front Audio Input jacks) :

A) Connecting HDMI signal.

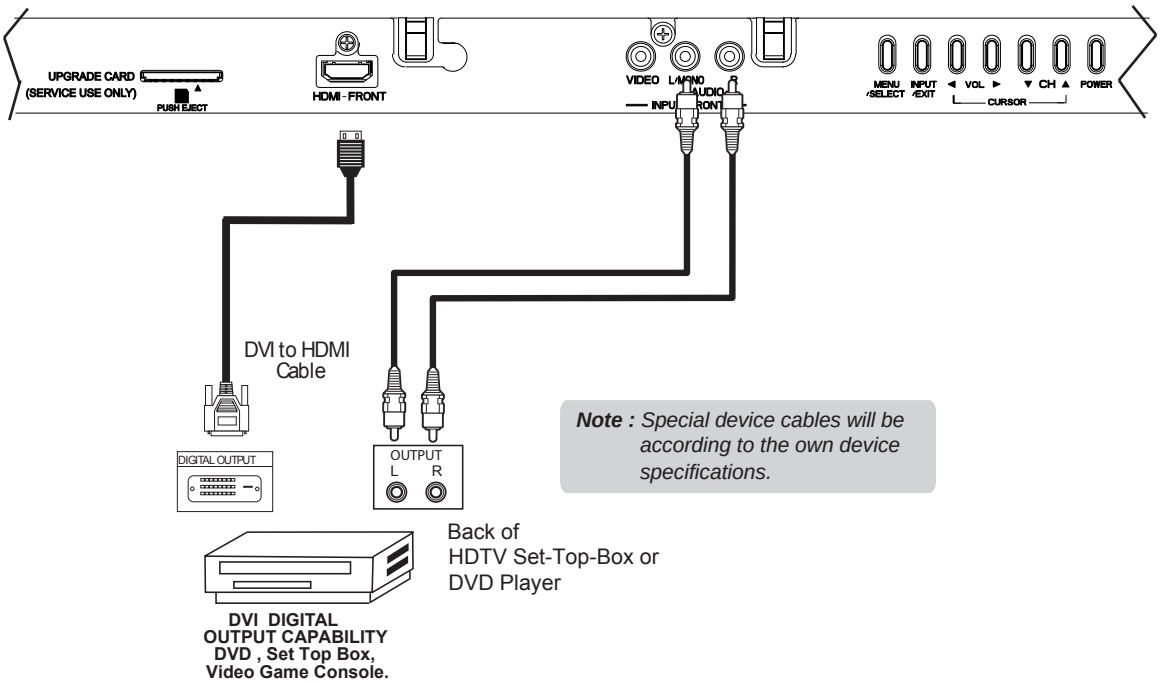
FRONT INPUT PANEL



Note : *Special device cables will be according to the own device specifications.*

B) Connecting DVI signal.

FRONT INPUT PANEL

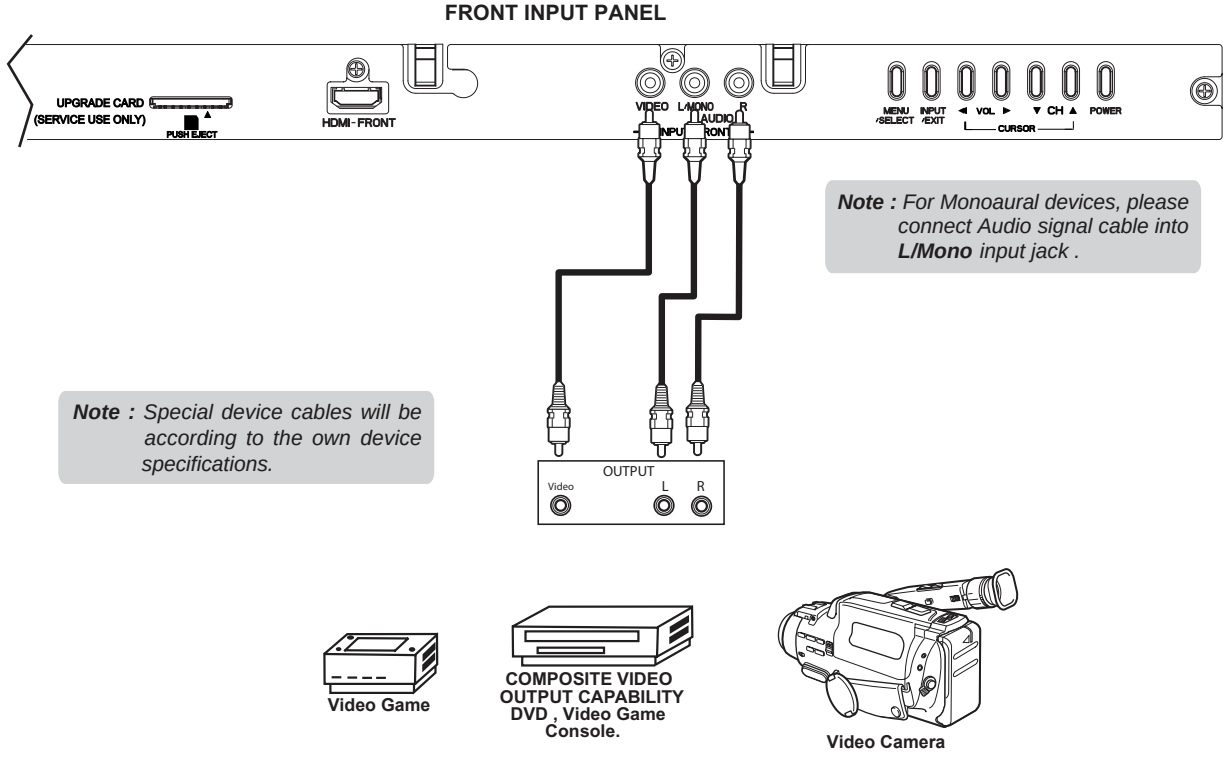


Note : *Special device cables will be according to the own device specifications.*

NOTE: *1. Completely insert connection cord plugs when connecting to front panel jacks. If you do not, the played back picture may be abnormal.*

Connecting External Video Sources

The FRONT panel jacks are provided as a convenience to allow you to easily connect a camcorder , DVD, Video Game and a VCR as shown in the following examples:



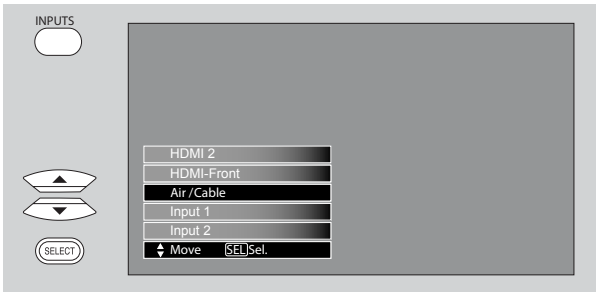
NOTE:1. Completely insert connection cord plugs when connecting to front panel jacks. If you do not, the played back picture may be abnormal.

The exact arrangement you use to connect the VCR, camcorder, laserdisc player, DVD player, or HDTV Set Top Box to your Plasma TV is dependent on the model and features of each component. Check the owner's manual of each component for the location of video and audio inputs and outputs.

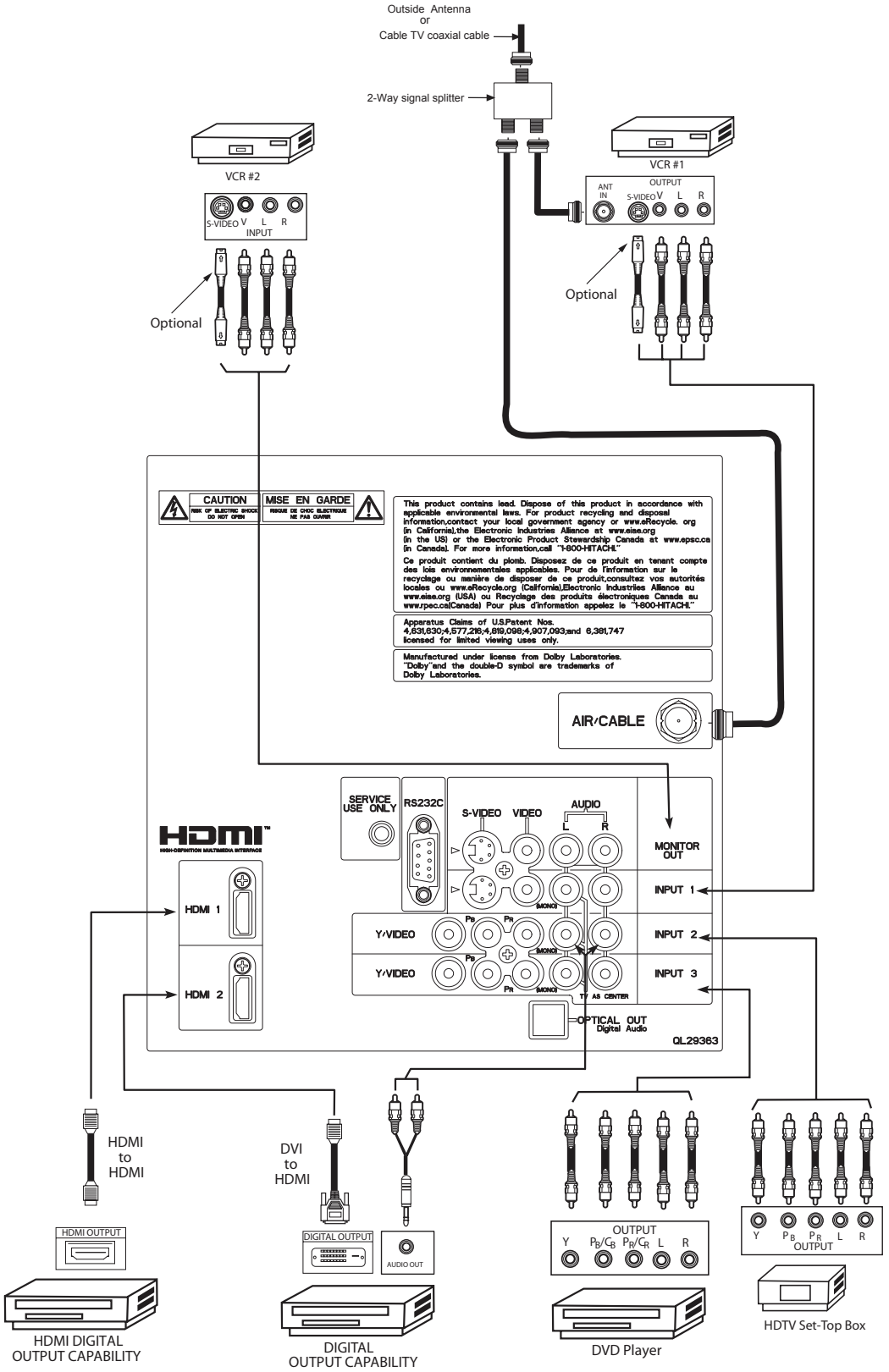
The following connection diagrams are offered as suggestions. However, you may need to modify them to accommodate your particular assortment of components and features. For best performance, video and audio cables should be made from coaxial shielded wire.

Before Operating External Video Source

Connect an external source to one of the INPUT terminals, then press the INPUTS button to show the INPUTS menu. Use the CURSOR PAD (▲ and ▼) to select the Input of your choice. Then press the SELECT button or the CURSOR PAD ► to confirm your choice.



Rear Panel Connections



NOTE: *Cables are optional, except when specified.*

Tips on Rear Panel Connections

- S-VIDEO, Y-PBPR, or HDMI connections are provided for high performance laserdisc players, VCRs etc. that have this feature. Use these connections in place of the standard video connection if your device has this feature.
- If your device has only one audio output (mono sound), connect it to the left audio jack on (L/(MONO)) the Rear Panel.
- Refer to the operating guide of your other electronic equipment for additional information on connecting your hook-up cables.
- A single VCR can be used for VCR #1 and VCR #2, but note that a VCR cannot record its own video or line output (INPUT: 1 in the example on page 35). Refer to your VCR operating guide for more information on line input-output connections.
- Connect only 1 component (VCR, DVD player, camcorder, etc.) to each input jack.
- COMPONENT: Y-P_BP_R (Input 2 & 3) connections are provided for high performance components, such as DVD players and set-top-boxes. Use these connections in place of the standard video connection if your device has this feature.
- Your component outputs may be labeled Y, B-Y, and R-Y. In this case, connect the components B-Y output to the TV's P_B input and the components R-Y output to the TV's P_R input.
- Your component outputs may be labeled Y-C_BC_R. In this case, connect the components C_B output to the TV's P_B input and the components C_R output to the TV's P_R input.
- It may be necessary to adjust TINT to obtain optimum picture quality when using the Y-P_BP_R inputs.
- To ensure no copyright infringement, the MONITOR OUT output will be abnormal, when using the Y-PBPR and HDMI input jacks.
- Input HDMI 1, HDMI 2 or HDMI FRONT can accept HDMI signal.
- S-VIDEO monitor output may be used for recording only when the input is of S-VIDEO type.
- When using a HDMI input from a Set-Top-Box, it is recommended to use a 1080p, 1080i or 720p input signal.
- When HDMI input a 1080p signal, the length of the cable should be less than 5 meters.

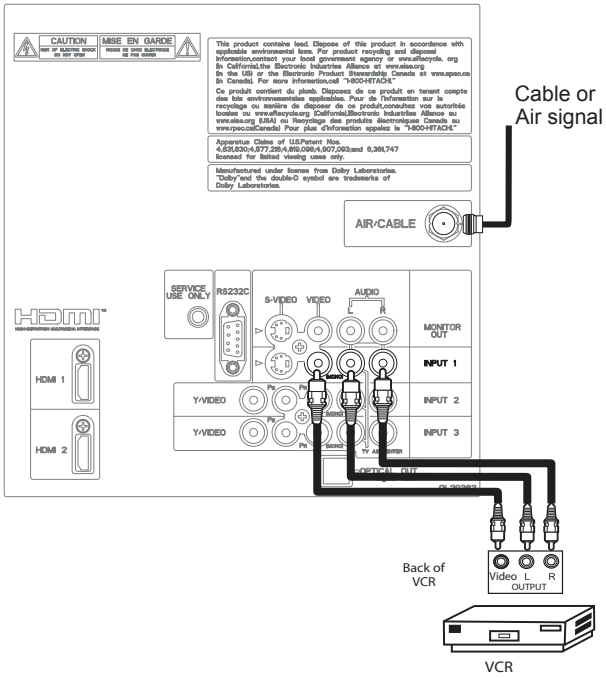
INSTALLATION RECOMMENDATION:

1. ***Video signals fed through a VCR may be affected by copyright protection systems and the picture will be distorted on the television.***
2. ***Connecting the television directly to the Audio /Video output of a Set-Top-Box will assure a more normal picture.***

Connecting External Video Sources

CONNECTING A VIDEO AND STEREO AUDIO SOURCE TO INPUT1 ~ INPUT-FRONT

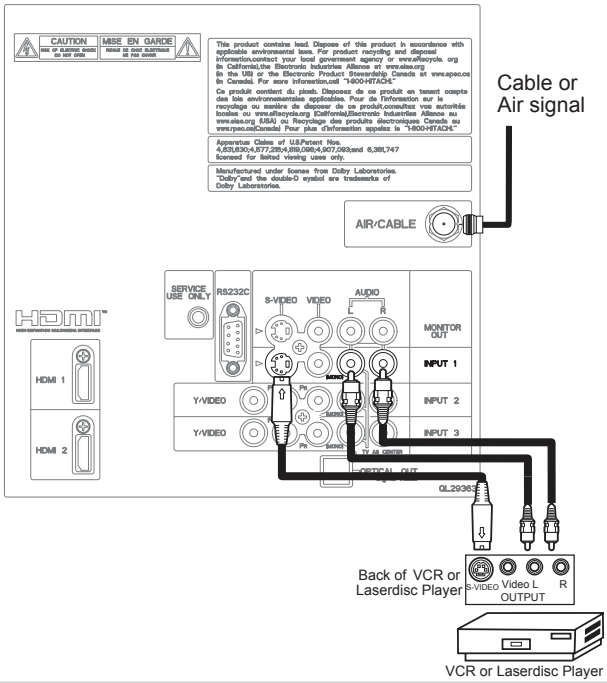
1. Connect the cable from the VIDEO OUT of the VCR or the laserdisc player to the INPUT (VIDEO) jack, as shown on the Rear Panel to the right.
2. Connect the cable from the AUDIO OUT R of the VCR or the laserdisc player to the INPUT (AUDIO/R) jack.
3. Connect the cable from the AUDIO OUT L of the VCR or the laserdisc player to the INPUT (AUDIO/L) jack.
4. Press the INPUTS button, then select INPUT 1 2,3 or Front from the INPUTS menu to view the program from the VCR or laserdisc player.
5. Select CABLE or AIR from the INPUTS menu to return to the last channel tuned.



NOTE: *1. Completely insert the connection cord plugs when connecting to rear panel jacks. The picture and sound that is played back will be abnormal if the connection is loose.*
2. A single VCR can be used for VCR #1 and VCR #2 (see page 35) but note that a VCR cannot record its own video or line output. Refer to your VCR operating guide for more information on line input-output connections.
3. When INPUT 2 or 3 are used, it is necessary to connect the video output of the device to the Y/VIDEO input jack of the TV .

CONNECTING AN S-VIDEO AND STEREO AUDIO SOURCE TO INPUT 1

1. Connect the cable from the S-VIDEO OUT of the S-VHS VCR or the laserdisc player to the INPUT (S-VIDEO) jack, as shown on the Rear Panel to the right.
2. Connect the cable from the AUDIO OUT R of the VCR or the laserdisc player to the INPUT (AUDIO/R) jack.
3. Connect the cable from the AUDIO OUT L of the VCR or the laserdisc player to the INPUT (AUDIO/L) jack.
4. Press the INPUTS button, then select INPUT 1 from the INPUTS menu to view the program from the VCR or laserdisc player.
5. Select CABLE or AIR from the INPUTS menu to return to the last channel tuned.



NOTE: *1. Completely insert the connection cord plugs when connecting to rear panel jacks. The picture and sound that is played back will be abnormal if the connection is loose.*
2. A single VCR can be used for VCR #1 and VCR #2 (see page 35), but note that a VCR cannot record its own video or line output. Refer to your VCR operating guide for more information on line input-output connections.

Connecting External Video Sources

CONNECTING A COMPONENT SOURCE WITH HDMI OR DVI CAPABILITY TO HDMI 1, HDMI 2 OR HDMI FRONT

1. Connect the HDMI or DVI to HDMI connection cable from the output of the HDTV set top box or DVD player to the HDMI input as shown on the Rear panel below.
2. With DVI output, connect the cable from the AUDIO OUT R of the HDTV set top box or DVD player to the INPUT (AUDIO/R) jack as shown on the Rear Panel below.
3. With DVI output, connect the cable from the AUDIO OUT L of the HDTV set top box or DVD player to the INPUT (AUDIO/L) jack as shown on the Rear Panel below.
4. Press the INPUTS button, then select HDMI 1, 2 or FRONT to view the program from the HDTV SET TOP BOX or DVD player.
5. Select CABLE or AIR from the INPUTS menu to return to the last channel viewed.

NOTE: *1. Completely insert the connection cord plugs when connecting to rear panel jacks. The picture and sound that is played back will be abnormal if the connection is loose.*

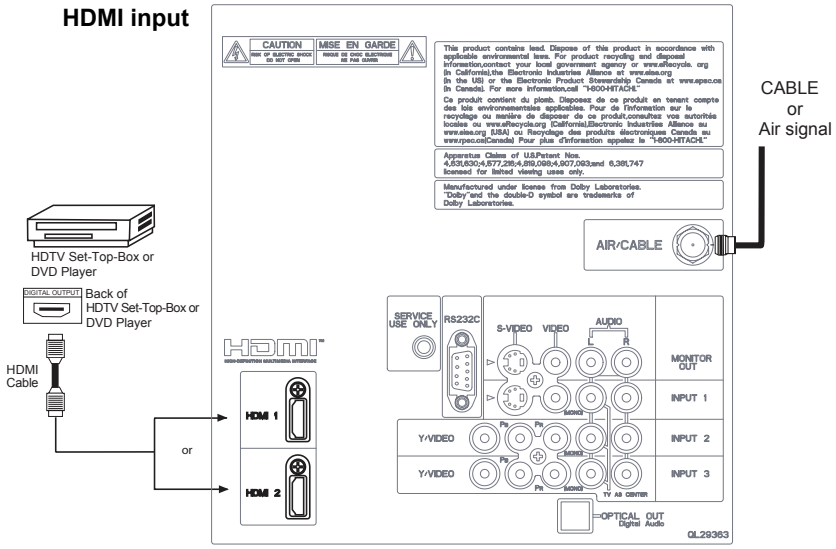
2. The HDMI input on HDMI 1 , 2 and FRONT contains the copy protection system called High-bandwidth Digital Content Protection (HDCP). HDCP is a cryptographic system that encrypts video signals when using HDMI connections to prevent illegal copying of video contents.

3. HDMI is not a "NETWORK" technology. It establishes a one-way point-to-point connection for delivery of uncompressed video to a display.

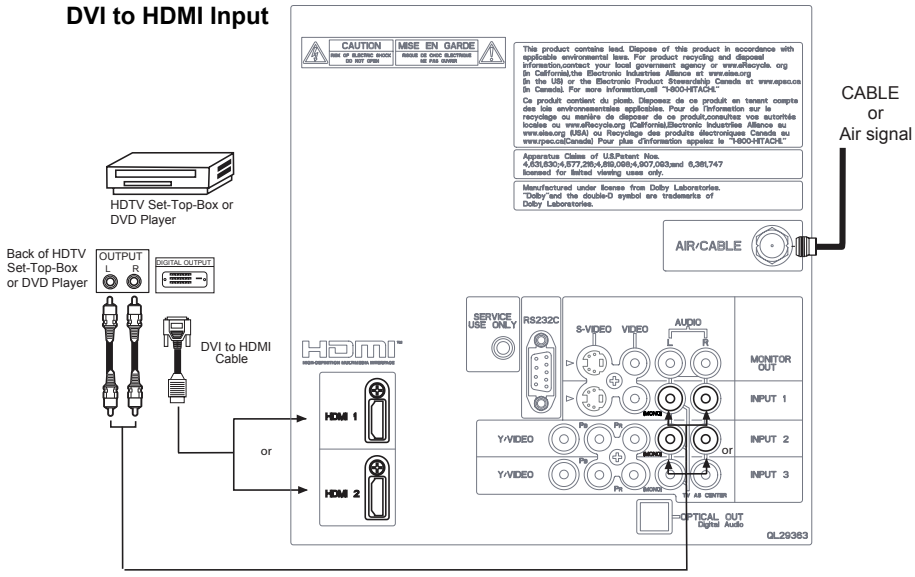
4. The connected digital output device controls the HDMI interface so proper set-up of device user settings determines final video appearance.

5. When using a DVI to HDMI cable, connect the Audio Out L and R cables at the same INPUT (1 , 2 or Front) as your HDMI INPUT(1 , 2 or Front). (For FRONT INPUT see page 33 for reference).

HDMI input



DVI to HDMI Input



Connecting External Audio/Video Devices

CONNECTING A COMPONENT AND STEREO AUDIO SOURCE TO INPUT 2 or 3 : Y-PBPR.

1. Connect the cable from the Y OUT of the Laserdisc/DVD player or HDTV set top box to the INPUT (Y) jack, as shown on the Rear panel below.

2. Connect the cable from the P_B/C_B OUT or B-Y OUT of the Laserdisc/DVD player or HDTV set top box to the INPUT ($P_{B)}$ jack.

3. Connect the cable from the P_R/C_R OUT or R-Y OUT of the Laserdisc/DVD player or HDTV set top box to the INPUT (P_R) jack.

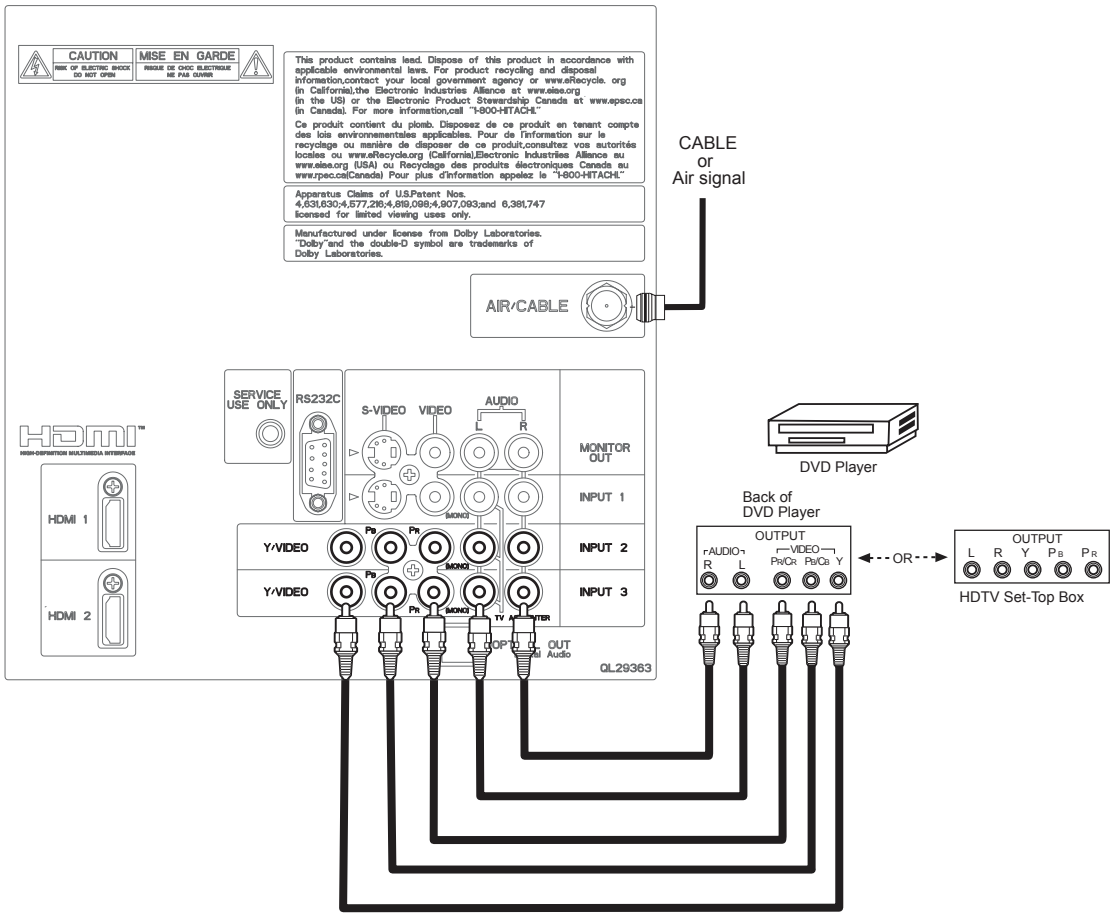
4. Connect the cable from the AUDIO OUT R of the Laserdisc/DVD player or HDTV set top box to the INPUT (AUDIO/R) jack.

5. Connect the cable from the AUDIO OUT L of the Laserdisc/DVD player or HDTV set top box to the INPUT (AUDIO/L) jack.

6. Press the INPUTS button, then select INPUT 2 or 3 from the INPUTS menu to view the program from the Laserdisc/DVD player or HDTV set top box.

7. Select CABLE or AIR to return to the last channel tuned.

NOTE: *1. Completely insert the connection cord plugs when connecting to rear panel jacks. The picture and sound that is played back will be abnormal if the connection is loose.*
2. See page 36 for tips on REAR PANEL CONNECTIONS.



Connecting External Audio/Video Devices

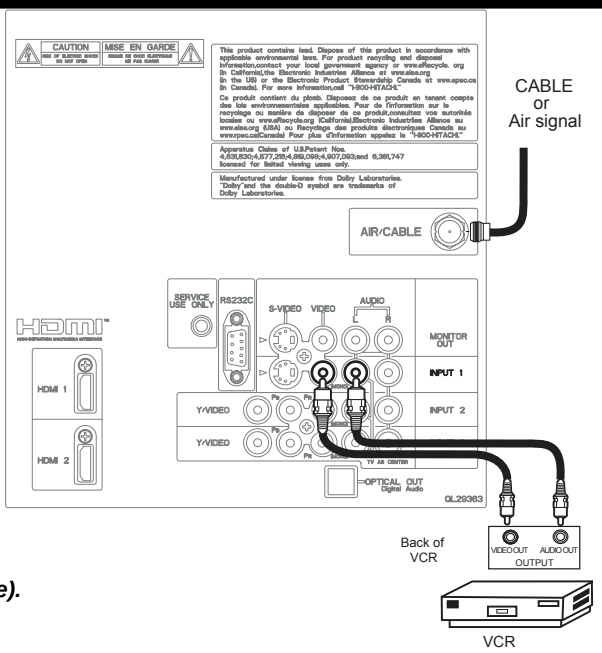
CONNECTING A VIDEO AND MONAURAL AUDIO SOURCE TO INPUT 1 ~ FRONT INPUT

1. Connect the cable from the VIDEO OUT of the VCR or the laserdisc player to the INPUT (VIDEO) jack, as shown on the Rear Panel on the right.

2. Connect the cable from the AUDIO OUT of the VCR or the laserdisc player to the INPUT (MONO)/L(AUDIO) jack.

3. Press the INPUTS button, then select INPUT 1 2,3 or Front from the INPUTS menu to view the program from the VCR or the laserdisc player.

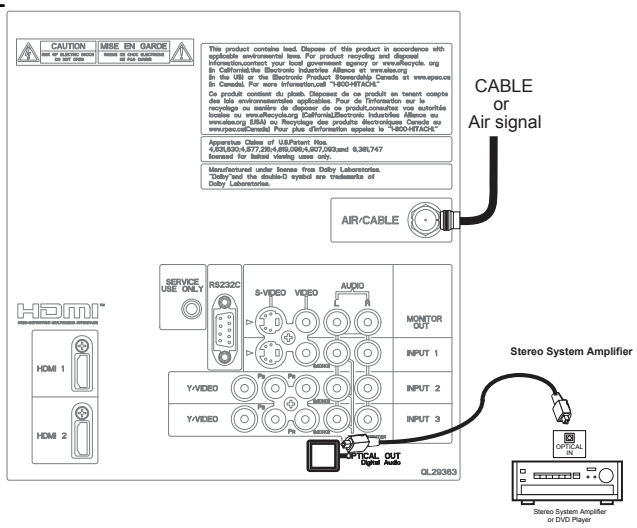
4. Select CABLE or AIR from the INPUTS menu to return to the previous channel.
   (For INPUT FRONT please see page 34 for reference).



CONNECTING AN EXTERNAL AUDIO AMPLIFIER

To monitor the audio level of the Plasma TV to an external audio amplifier, connect the system as shown on the right. The “OPTICAL OUT” from the Rear Panel is a fixed output. The Volume of the amplifier is controlled by the amplifier, not by the Plasma Television. The OPTICAL OUT terminal outputs all audio sources with Optical IN capability.

1. Connect an optical cable from the Optical out to the Optical input of a separate Stereo System Amplifier as shown on the Rear Panel on the right.



CONNECTING MONITOR OUT

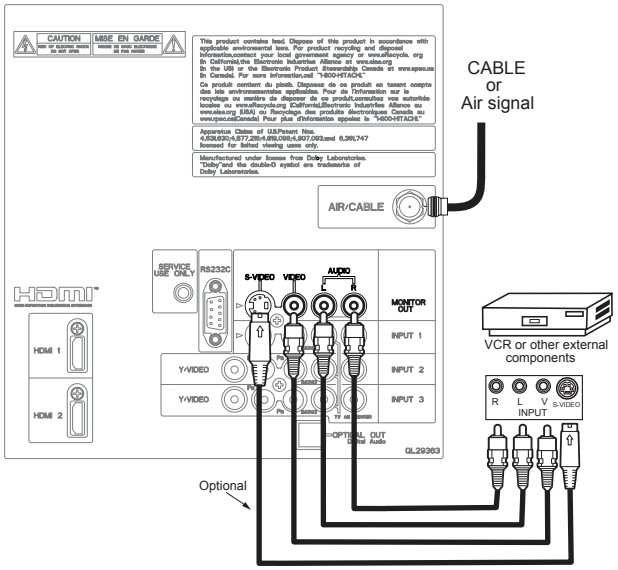
The MONITOR OUT terminal outputs video and audio of CABLE/AIR and INPUTS 1, 2, 3 and Front. It does not output component and HDMI video.

1. Connecting S-Video:
   Connect the cable from the S-VIDEO OUT of the Rear Panel to the INPUT (S-VIDEO) jack, of the VCR or Laserdisk player.

   Connecting Video:
   Connect the cable from the VIDEO INPUT of the VCR or the laserdisc player to the VIDEO out jack on the TV Rear Panel.

2. Connect the cable from the AUDIO IN R of the VCR or the laserdisc player to the OUTPUT (AUDIO/R) jack on the TV Rear Panel.

3. Connect the cable from the AUDIO IN L of the VCR or the laserdisc player to the OUTPUT (AUDIO/L) jack on the TV Rear Panel.



NOTE: *When making video connections, connect S-Video only or Video only. If both are connected, S-Video takes priority.*

IMPORTANT NOTES

No.	Items	Notes
1	Arcing sound from plasma display monitor's panel.	A buzzing sound might be heard when the plasma display monitor is turned on in a very quiet room. This is due to the plasma panel drive circuit when it is functioning. This arcing sound is normal and it is not a malfunction.
2	Interference for infrared equipment.	Some infrared rays are emitted from the plasma display monitor's panel that might affect other infrared controlling equipment.
3	Bright and dark spots	High-precision technology is used to manufacture the plasma display panel; But in some cases, there are minor defects in some parts of the screen. Points that do not light, points with brightness different from that of the periphery, points with color different from that of the periphery, etc. Some pixels will always be on or always off. Please note that this is not a malfunction.
4	Picture Image (Spectrum)	When receving still picture signals, (e.g. channel number indication or clock indication) for a while, you can see image-like when the picture varied. This is not a defect.
5	Display panel surface temperature is too high	The plasma display panel is lighting the phosphors by the discharge of internal radiation. In some cases, this may cause the temperature of the panel surface to increase. Please note that this is not a malfunction. The Plasma TV surface temperature is higher than a Cathode-ray-tube.
6	Plasma Surface	The plasma panel is made from glass. Heavy shock on the front panel might damage it.
7	Transportation	When the PDP monitor is transported horizontally, the glass panel has the possibility of being broken or increasing the picture defects. At the time of transportation, horizontal style is prohibited. More-over, please treat the plasma panel with great care because of a precision apparatus. Please instruct transporters so that it should be put into the packing box at the time of shipment.(There is a possibility that breakage of the panel or defects will increase.) Rough transportation might cause damage to the panel and pixel failure.
8	Image retention	The plasma monitor illuminates phosphor to display images. The phosphor has a finite illumination life. After extended periods of illumination, the brightness of the phosphor will be degraded to such extent that stationary images would burn-in that part of the screen as grayed-out images. Tips to prevent such image retention are: - Do not display images having sharp brightness differences or hi-contrast images, such as monochrome characters and graphic patterns, for long. - Do not leave stationary images appearing for long, but try to refresh them at appropriate intervals of time, or try to move them using screen saver function. - Turn down the contrast and brightness controls.
9	Luminosity and contrast	PDP television has luminosity and low contrast compared with CRT television.
10	Granular spots	When a screen is seen at point-blank range, a random fine grain may be visible to a dark part.
11	Disturbance to video apparatus	If an apparatus (VCR, etc.) antenna line is arranged near the monitor, the image may shake, or disturbance may be received.
12	Lip Sync	There is some time lag betweeen the picture and the sound. You can see lip motion that is delayed compared to the sound.
13	About the use environment of PDP television (temperature)	Electric discharge/luminescence characteristic of the PDP panel also changes with peripheral temperature. Moreover, since there is also high power consumption value, a specified temperature environment is required.
14	Caution on prolonged storage	Storing the plasma television for a period of more than 2 to 3 months without use might cause an unstable picture when the set is turned on.
15	Operating	Operating altitude: 700 to 1114hPa (9,676ft to -2,484ft). Operating temperature: 41˚F to 95˚F.
16	Storage	Storage Altitude: 300 to 1114hPa (31,912 to -2,484ft). Storage temperature: 5˚F to 140˚F.
17	Power ON or OFF	Frequent use of the Power ON or OFF might trigger the power protection circuit. If the TV does not turn ON, please wait a little before turning ON again.

ADJUSTMENTS TABLE OF CONTENTS

TO GO TO A SECTION, CLICK ON ITS HEADING BELOW

1 ADJUSTMENT PROCEDURE START-UP

The P50H401, P50T501 and the P50H4011 PDP TV sets pass through adjustment procedures during the assembly process. These adjustments must be done to assure the best performance of the PDP set for the consumer.

Also, after servicing, these same adjustments must be done. The adjustments are all made through the I²C bus by changing data in the Adjustment mode menu.

1.1 HOW TO GET TO ADJUSTMENT MODE

Chassis adjustment mode can be access by pressing the R/C keys MENU + MENU + 8 + SELECT to enter adjustment mode. For some parameters the only way to see them is by selecting the parameter number than press SELECT in order to see it; then DATA can be change if other parameter needs to change then press ▼ key then repeat the same procedure.

ADJUST MODE
FACT RESET
MEMORY INIT
RGB
WHITE BAL HIGH
WHITE BAL MED
WHITE BAL STD
WHITE BAL B/W

To escape from Adjustment Mode press “INPUT” key on Front panel or EXIT key of R/C to exit service adjustment mode.

1.2 CHANGING DATA AND SELECTING ADJUSTMENT CODE

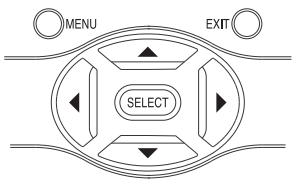
When the PDP set is in adjustment mode, the cursor ◄, ►, ▲, ▼ and MENU keys of the remote control or front panel may be used as the adjustment keys.

(1) Use any Hitachi remote control when making an adjustment.

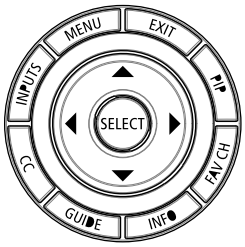
▲, ▼ keys are used for selecting adjustment item.

◄, ► keys are used for changing data values.

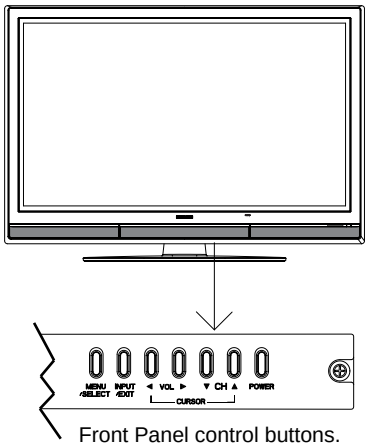
MENU key is used to advance through the adjustment mode menus and pages.



Part of H model's remote control



Part of T model's remote control



Front Panel control buttons.

(2) To make a selection, use the NUMBER pad on the PDP R/C ; example : select DEVICE press 69 then SELECT the DATA shown is "EB" ; if this DATA needs to be change press the ◄, ►, keys to modify, when finish press SELECT key to store the new DATA value.
normal condition.

(3) After finishing the necessary adjustment press the R/C EXIT key or EXIT key on the front panel.
Adjustment mode is released and PDP set returns to normal condition.

2 MEMORY INITIALIZE

2.1 MEMORY INITIALIZE OPERATION

NOTE: The execution of this function returns the adjustment codes to the preset values, therefore, **adjustment data will be lost**.

Procedure

(1) Enter Adjustment mode by the method described in sub-items 1.1 and 1.2 from item 1 (“Adjustment procedure start up”).
(2) Get to the second page of Adjust Mode by pressing remote control “Menu” key once, or with either the R/C or front panel ▲, ▼ cursor keys several times.
(3) Select MEMORY INIT adjust code.
(4) Activate MEMORY INIT by pressing ► cursor key for more than 3 seconds.
(5) Check the following process for initialization operation.

BACK TO ADJUSTMENTS

·**Process of Memory Initialize operation.**

① A screen is be colored **cyan** when MEMORY INIT start.

② A screen is be colored **green** when MEMORY INIT finish normally.

③ A screen is be colored **red** when MEMORY INIT finish abnormally.

(6) Do not unplug from AC outlet until this operation is complete and do not perform any key operation either, after this operation each factory setting and all adjust mode data should reset to delivery settings automatically.

(7) After Memory Initialize, it should be unplug AC cord. Unplug and plug AC cord and then all settings and data are updated.

(8) When PDP turns ON , it will tune CH03 this is the complete operation of Memory Initialize process.

2.2 FACTORY AND SERVICE ADJUSTMENTS

The adjustment item that is affected by the memory initialize operation is shown below:

ITEM	MEMORY INITIALIZE	PROTECTION DATA	FACTORY RESET	MMC SOFTWARE UPGRADE	BECKHAM SOFTWARE UPGRADE
WHITE BALANCE ADJUSTMENT DATA	NOT INITIALIZED	INITIALIZED	NOT INITIALIZED	NOT INITIALIZED	INITIALIZED
SUB CONTRAST ADJUSTMENT DATA	NOT INITIALIZED	INITIALIZED	NOT INITIALIZED	NOT INITIALIZED	INITIALIZED
CLAMP OFFSET ADJUSTMENT DATA	NOT INITIALIZED	INITIALIZED	NOT INITIALIZED	NOT INITIALIZED	INITIALIZED
OTHER ADJUSTMENT MODE DATA	INITIALIZED	NOT INITIALIZED	NOT INITIALIZED	NOT INITIALIZED	INITIALIZED
FACTORY RESET	INITIALIZED	NOT INITIALIZED	INITIALIZED	NOT INITIALIZED	INITIALIZED

3 VIDEO ADJUSTMENT

Note: Perform pre heat-run for more than 20 min. before adjusting.

3.1 SUB-CONTRAST & CLAMP OFFSET ADJUSTMENT

Preparation for adjustment

(1) Pre-heat at least 2 min. before the Final Adjust.

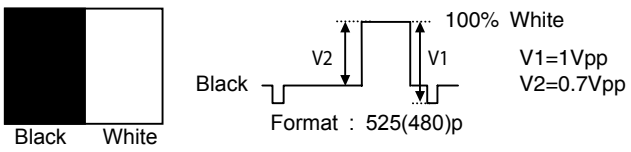
(2) Recall user menu and select 'Video'→ 'Picture Mode'→ 'Day(Dynamic)'→ 'Reset'.

(3) Receive following signal into input3 or input4(Comp) input.

Adjustment procedure

3.11 525p Sub-Contrast, Y/Cb/Cr Clamp offset adjustment

(1) Receive following 525(480)p Signal.



Adjustment signal for 525(480)p format

(2) Go into Service Adj. Menu and select 'RGB' .

(3) Press ▶ for over 2 seconds and have it perform automatic adjustment. When it's completed, 'Auto Adjusting' on the screen will be disappeared.

3.12 525i Cb,Cr Clamp offset adjustment

Preparation

(1) Change signal format from 525(480)p to 525(480)i. (See Fig.2)

Adjustment

(1) Select 'RGB' of Service Adj. Menu. Press ▶ for over 2 seconds and have it perform automatic adjustment. When it's completed, 'Auto Adjusting' on the screen will be disappeared.

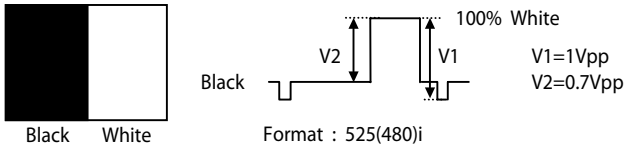
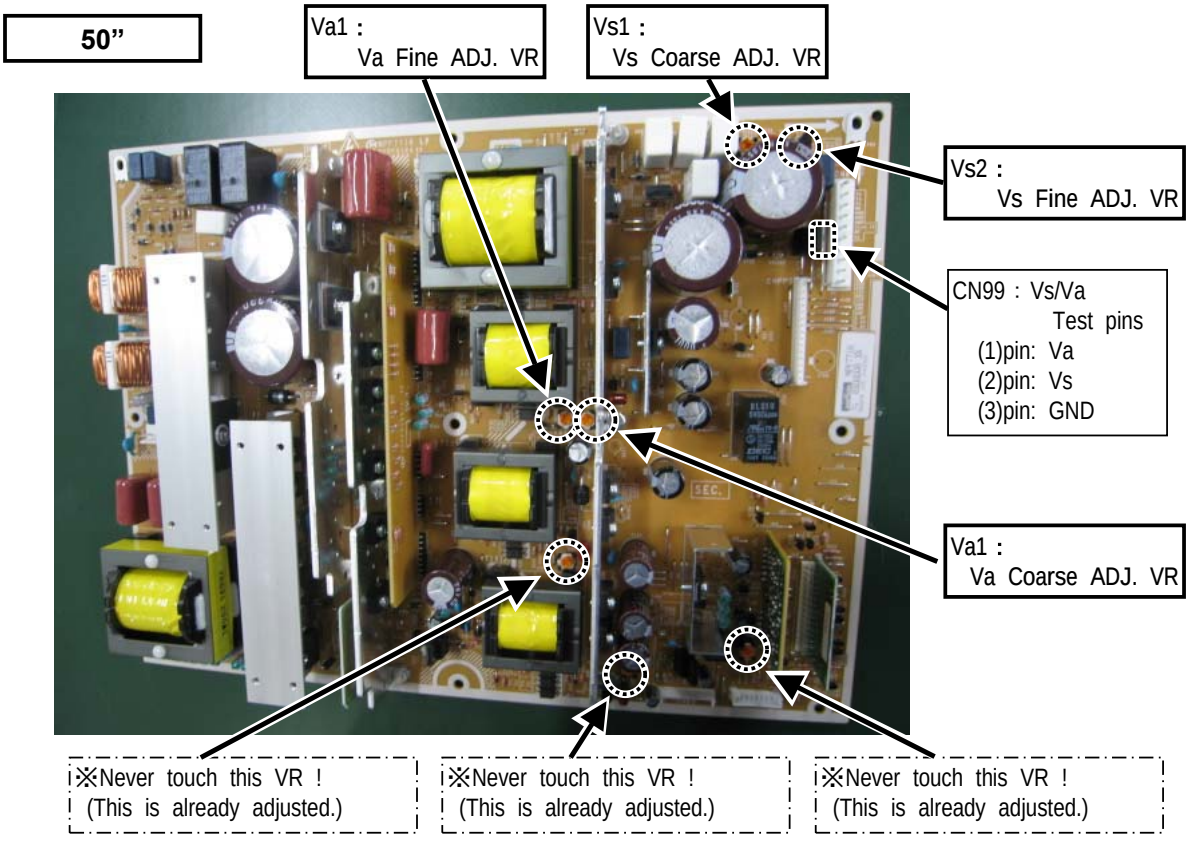


Fig.2 Adjustment signal for 525(480)i format

BACK TO ADJUSTMENTS

4 POWER SUPPLY Vs, Va voltage adjustment

Item	Power Unit Vs, Va Adjustment			Adj. point	Refer to following
Adjustment Preparations		Adjustment Procedures		Remarks	
(1)	Turn on the set and perform pre-heat run more than 1 min on burn-in screen.	(1)	Turn Vs ADJ to adjust Vs voltage to be within ±0.1V of the value specified in the label on the panel.	Permissive level of voltage in sufficient time of heat-run performed is: Vs: within±0.1V	
(2)	Receive full black pattern signal (or video silence signal; but the power will be automatically turned off after a few seconds by power save function.)	(2)	Turn Va ADJ to adjust Va voltage to be within ±0.2V of the value specified in the label on the panel.	Va: within±0.2V	
(3)	Connect voltmeter (which has an error within 0.02V or less) leads to Vs (or Va) and GND test points of the power unit.	(3)	Reconfirm that Vs voltage remains within ±0.1V of the specified value. Readjust if it's outside of the margin. [Label example] <LOT>N6 Vs= 80.0V Va=60.0V Vw=140.0V Vx=60.0V	Label position (Reference) : Upper left If it's hard to read the voltage value because of the wiring positions, write it down by a marker at visible place in advance.	



BACK TO ADJUSTMENTS

5 WHITE BALANCE ADJUSTMENT

General Notes for White Balance

(1) If the incident illumination is more than 20 lux, change the environment (location, lighting, etc.) and ensure it to be less than 20 lux.
(2) At least one of the color drive codes must stay at its maximum value, FF_H.

5.1 VIDEO COLOR TEMPERATURE ADJUSTMENT (HIGH)

Preparation 1

(1) Set the output of signal generator to white raster. (Ratio:100%)
(2) Component signal (480i)
Video level: 0.700Vp-p
SYNC: 0.300Vp-p
Set-up level: 0V
(3) Input white raster signal into COMPONENT input terminal of the PDP set.
(4) Set user control to Day(Dynamic) mode. (Picture Mode)
(5) Confirm that the mode is set as "Factory Setting Mode".
(6) Aspect: 4:3 Expanded

Adjustment

(1) Perform the following adjustment with the remote control.
(2) Set the CRT color analyzer (CA-100) at the center of the panel.
(3) Set color temperature to "HIGH".
(4) Ensure that Adjustment R/G/B DRIVE (HIGH) are all set as FF.
(5) After receiving White raster signal, step down the two (or one) among Adjustment R/G/B DRIVE (HIGH) and adjust the value shown in the following:

Specification
Video Color temperature (HIGH)
x = 0.266 ± 0.005
y = 0.270 ± 0.005
(Color temp: 14000K+0MPCD)

At least one of the data should be FF.

Remarks

(1) Color temperature should be adjusted under the condition in which the screen is the brightest, thus the initial value for adjustment is set to its maximum.
(2) Adjustment is made by reducing brightness only. Reduce a bright color for adjustment.
(3) Video color temperature & Adjustment No. are the same, but addresses in the memory are different, thus there's no problem.

5.2 VIDEO COLOR TEMPERATURE ADJUSTMENT (MEDIUM)

Preparation

(1) Same as "Video Color Temperature adjustment: (HIGH)".

Adjustment

(1) Perform the following adjustment with the remote control.
(2) Set the CRT color analyzer (CA-100) at the center of the panel.
(3) Set color temperature to "MEDIUM".
(4) Ensure that Adjustment R/G/B DRIVE (MEDIUM) are all set as FF.
(5) After receiving White raster signal, step down the two (or one) among Adjustment R/B/G DRIVE (MEDIUM) and adjust the value shown below.

Specification
Video Color temperature (MED)
x = 0.285 ± 0.005
y = 0.293 ± 0.005
(Color temp: 9300K)

At least one of the data should be FF.

Remarks

(1) Color temperature should be adjusted under the condition in which the screen is the brightest, thus the initial value for adjustment is set to its maximum.
(2) Adjustment is made by reducing brightness only. Reduce a bright color for adjustment.
(3) Video color temperature & Adjustment No. are the same, but addresses in the memory are different, thus there's no problem.

BACK TO ADJUSTMENTS

5.3 VIDEO COLOR TEMPERATURE ADJUSTMENT (STD)

Preparation

(1) Same as "Video Color Temperature adjustment: (HIGH)".

Adjustment

(1) Perform the following adjustment with the remote control.
(2) Set the CRT color analyzer (CA-100) at the center of the panel.
(3) Set color temperature to "STD".
(4) Ensure that Adjustment R/G/B DRIVE (STD) are all set as FF.
(5) After receiving White raster signal, step down the two (or one) among Adjustment R/B/G DRIVE (STD) and adjust the value shown below.

Specification
Video Color temperature (STD)
x = 0.314 ± 0.005
y = 0.323 ± 0.005
(Color temp: 6500K)

At least one of the data should be FF.

Remarks

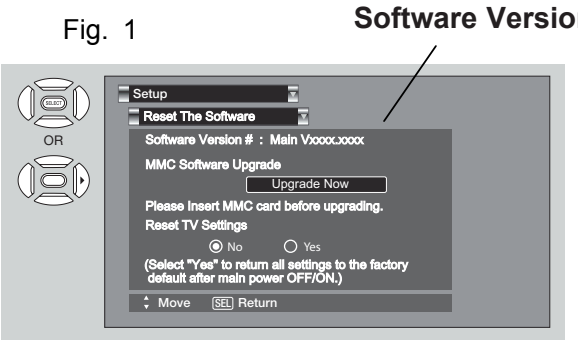
(1) Color temperature should be adjusted under the condition in which the screen is the brightest, thus the initial value for adjustment is set to its maximum.
(2) Adjustment is made by reducing brightness only. Reduce a bright color for adjustment.
(3) Video color temperature & Adjustment No. are the same, but addresses in the memory are different, thus there's no problem.

6 DIGITAL MAIN CHECK

6.1 SYSTEM SOFTWARE VERSION CHECK

(1) Press Menu button on the R/C or control panel.
(2) Enter the SETUP options, and then look for UPGRADES option.
(3) The Main software version will be display Vxxx.xxxx as shown on Fig. 1.
(4) If this version needs to be change for a design improvement or failure, please select the Upgrade Now button after inserting MMC/SD card.

Fig. 1



(5) The upgrading process begin by filling a bar, when finish the message will say, "Upgrade complete …" when this appear unplug the TV from the AC line outlet to complete the process.
(6) Now plug again the TV and verify the new software version.
(7) The Main software version will display the latest version issue by design.

NOTE:

(1) In case that the upgrade fails or when a CARD is inserted with new version and can't upgrade ; please perform the **FACTORY RESET** process to the TV, then try upgrading again.

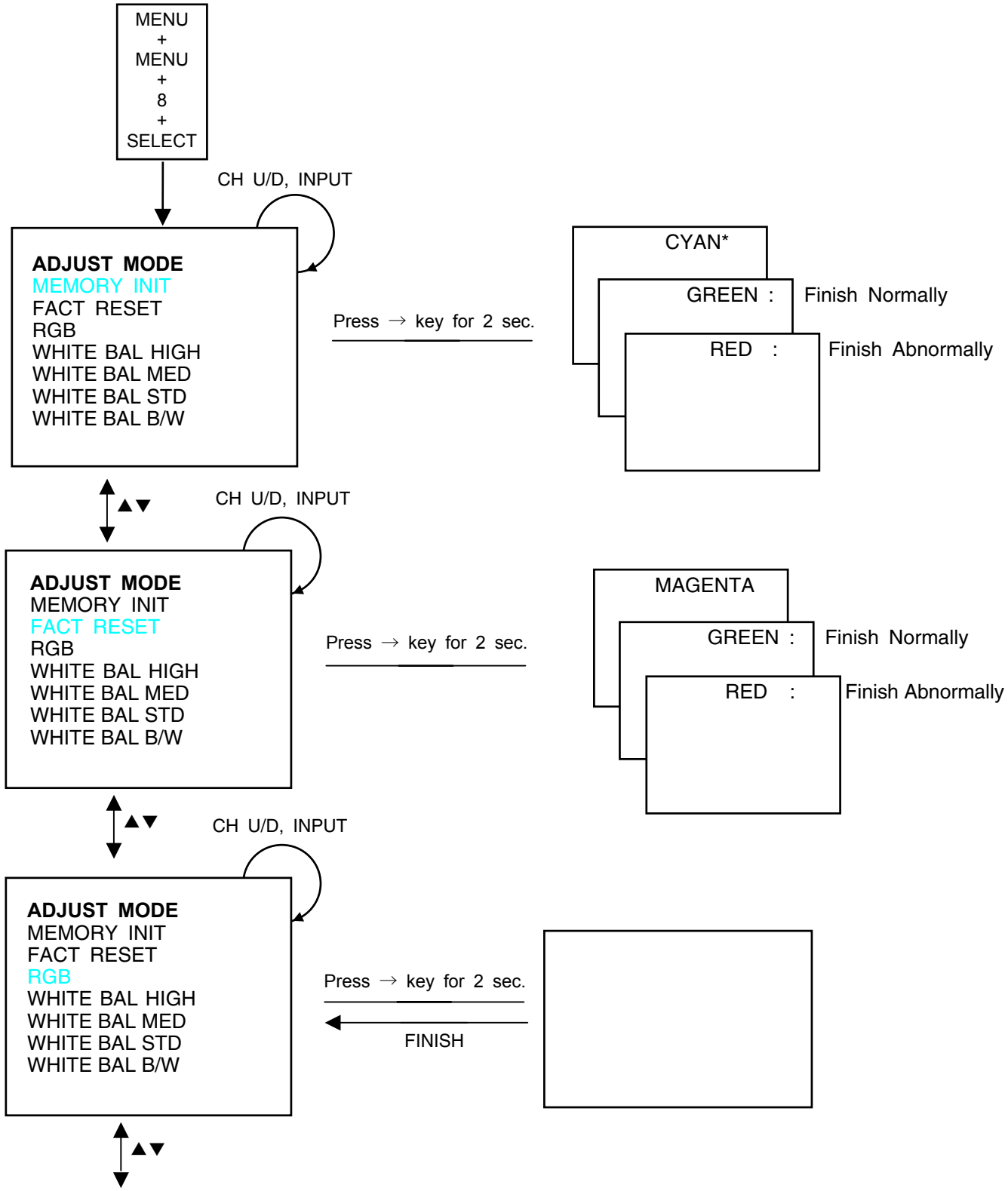
BACK TO ADJUSTMENTS

5.4 WHITE BALANCE ADJUSTMENT OSD FLOW DIAGRAM

5.4.1 Adjustment OSD Flowchart

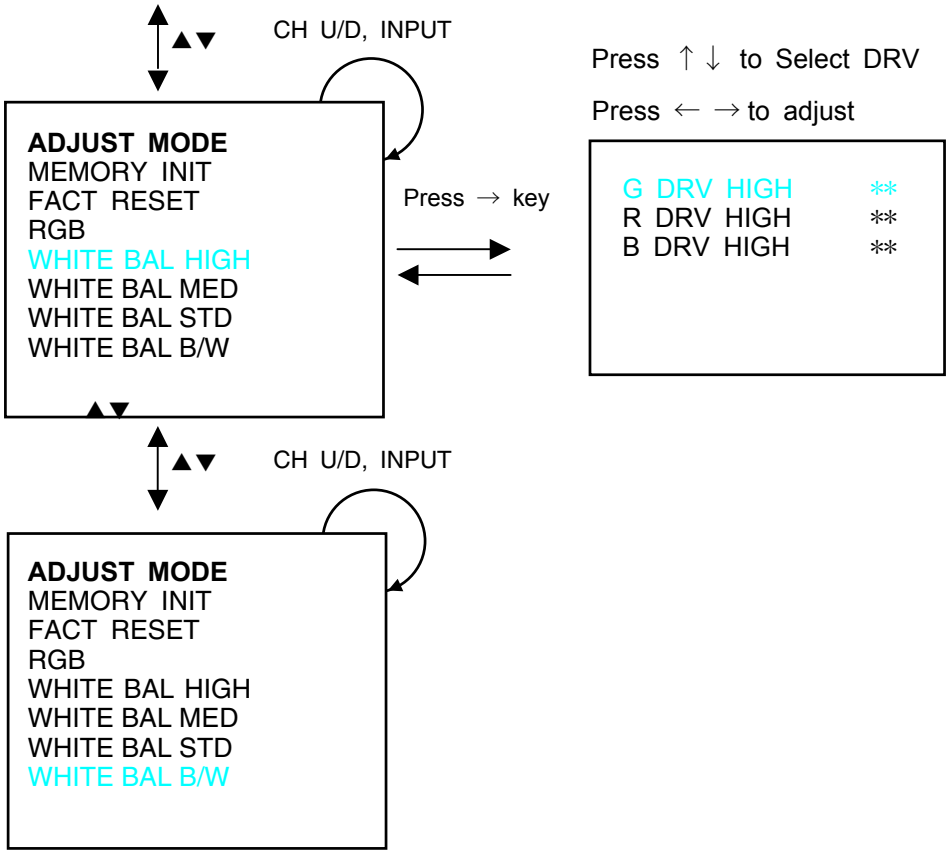
(1) Adjust Mode OSD

Press [MENU]+[MENU]+[8]+[SELECT] of Control panel.



BACK TO ADJUSTMENTS

5.4.1 Adjustment OSD Flowchart (continued)



WHITE BALANCE
ADJUST MODE

VIDEO SETTINGS
(1) CONTRAST ; MAX
(2) COLOR,TINT,SHARP,BRIGHT ; CENTER
(3) COLOR TEMP ; HIGH

ADJUST
(1) Press ↑ ↓ to Select the G DRV,R DRV, B DRV.
(Initial value R/G/B DRV : FF)

(2) Press ← →to adjust

BACK TO ADJUSTMENTS

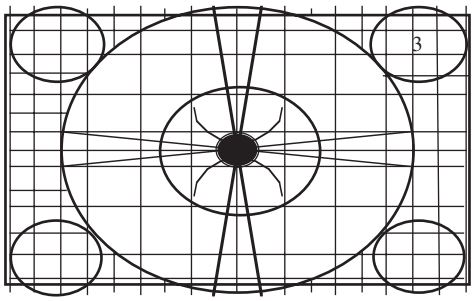
7 SCREEN CHECK

Preparation

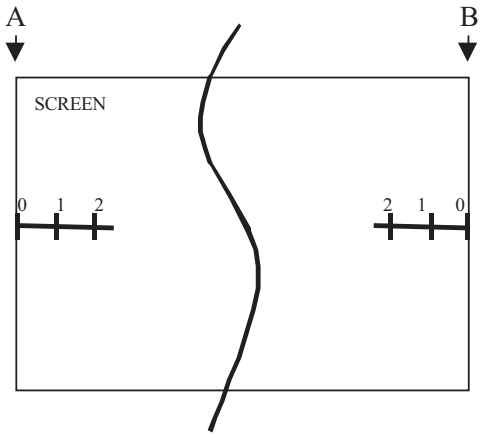
(1) Set AC120±1V.
(2) Turn on the power and leave it more than 5 min.
(3) Receive circle pattern at 4:3 Expanded mode.
(4) Input 480p and 1080i circle pattern into Component video 3. (ASPECT 16:9 Standard)

Checking

(1) Receive RF, 480p and 1080i signal, then check the following items 1~4:
1. Check the symmetry of the pattern (right/left).
2. Check the horizontal position and the balance (right/left).
3. Check the symmetry of the pattern (top/bottom).
4. Check the vertical position and the balance (top/bottom).



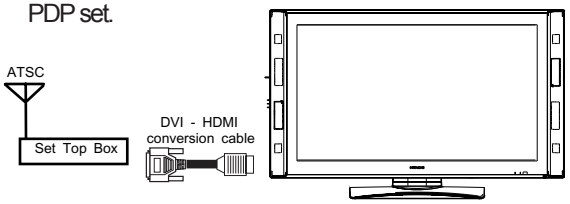
Remarks



SIGNAL	ASPECT	SPEC(A,B)
Hitachi circle pattern	16:9 Standard1	0 +/- 0.5

8 HDMI ADJUSTMENT

(1) DVI compatibility check
Preparation
1. Prepare HDTV signal generator.
2. Select DVI mode then 1080i format
3. Connect HDMI-DVI cable to the HDMI input on the PDP set.



9 FACTORY RESET

After all of the adjustments of main chassis are finished, perform FACTORY RESET.
(1) Enter Adjustment Mode by the method described in sub-item 1-1 from page 43. (“Adjustment Procedure Start-up”).
(2) From the first menu in Adjustment Mode, select FACT RESET adjustment code.
(3) Activate FACT RESET by pressing “Right” cursor key once.
(4) The procedure of the FACTORY RESET process is the following and the DATA table is shown next.

Process of FACTORY RESET operation.

① A screen is colored **magenta** when FACTORY RESET start.
② A screen is colored **green** when FACTORY RESET finish normally.
③ A screen is colored **RED** when FACTORY RESET finish abnormally.

(6) After FACTORY RESET, it should be unplug AC cord.Unplug and plug AC cord and then all settings and data are updated.

(7) When PDP turns ON , it will tune CH03 this is the complete operation of FACTORY RESET process.

BACK TO ADJUSTMENTS

10 DATA TABLE OF SETTING FOR DELIVERY

USER Control Initialization
Settings for delivery (FACTORY RESET)

Function	Initial Data	Condition	P50T501	P50H401 P50H4011
Input Mode	Air		X	X
Channel	03/03-1 ch		X	X
Favorite Channels	Not Registered		X	X
PIP On/Off	Off		X	—
PIP Mode	SPLIT		X	—
POP Position	Middle Right		—	—
PIP Position	Bottom Right		—	—
Freeze Mode	Main Freeze (1pix)		X	—
Photo Mode	Off		X	—
Rotate	No Rotate		X	—
Slideshow Interval	5 sec		X	—
Master Volume	20 Step		X	X
Video				
Picture Mode	Day(Dynamic)		X	X
Contrast (White Level)	100%		X	X
Brightness (Black Level)	50%		X	X
Color	58%		X	X
Tint	CENTER		X	X
Sharpness	50%		X	X
Motion Sharpness	High		—	—
Back Light	100%		—	—
Color Temperature	High		X	X
Black Enhancement	Off		X	X
Contrast Mode	Dynamic		X	X
Noise Reduction	Low		X	X
Cross Color NR	Off		—	—
MPEG-NR	Off		X	X
Auto Movie Mode	Off	ANT	X	X
	On	Input	X	X
	Smooth2	ANT	—	—
	Smooth1	Input	—	—
Color Space	Wide		—	—
Color Management				
Set User Colors	Off		—	—
Magenta	±0		—	—
Red	±0		—	—
Yellow	±0		—	—
Green	±0		—	—
Cyan	±0		—	—
Blue	±0		—	—
Color Decoding				
RGB	RGB		—	—
Red	50%		—	—
Green	50%		—	—
Color	62%		—	—
Tint	Center		—	—
Auto Color	Off		—	—

10 DATA TABLE OF SETTING FOR DELIVERY (continued)

Function			Initial Data	Condition	P50T501	P50H4401 P50H4011
	White Balance					
		Red Drive	100%		—	—
		Green Drive	100%		—	—
		Blue Drive	100%		—	—
		Red Cutoff	50%		—	—
		Green Cutoff	50%		—	—
		Blue Cutoff	50%		—	—
	Aspect					
		Auto Aspect	Off		X	X
		Mode	4:3 Expanded	4:3	X	X
			16:9 Standard1	16:9	X	X
		Vertical Position	0		X	X
	Black Side Panel		Off		X	X
	Reset Video Settings		—		X	X
Audio						
	Treble		50%		X	X
	Bass		50%		X	X
	Balance		CENT		X	X
	Surround		Off		X	X
	Bass Boost		On		X	X
	Audio Source		Stereo	Analog Broadcast	X	X
	Internal Speakers		On		X	X
	Auto Noise Cancel		Off	Analog Broadcast	X	X
	Perfect Volume		Off		X	X
	Loudness		Off		X	X
	Language		1 [Unknown]	DTV	X	X
	Digital Output		Dolby Digital	DTV	X	X
	DRC		On	DTV	X	X
Channel Manager						
	Signal Meter					
		Channel	—		X	X
		Strength	—		X	X
		Peak	—		X	X
		SNR	—		X	X
		OOB Lock/Unlock	—		—	—
		OOB SNR	—		—	—
		OOB Frequency	—		—	—
	Auto Channel Scan					
		Source	Air		X	X
		Reset	—		X	X
		Start	—		X	X
	Channel List					
		FAV	Not Set		X	X
		CH#	Air/Cable:2-13CH		X	X
		Scan	On		X	X
		Lock	Off		X	X
		ID	—		X	X

10 DATA TABLE OF SETTING FOR DELIVERY (continued)

Function	Initial Data	Condition	P50T501	P50H4401 P50H4011
Locks				
Change Access Code	–		X	X
Engage Lock				
Set Channel Lock	All Unlock		X	X
Set Front Panel Lock	Unlock		X	X
Movie Ratings	All Unlock		X	X
TV Ratings	All Unlock		X	X
Canadian Ratings (Eng.)	All Unlock		X	X
Canadian Ratings (Frn.)	All Unlock		X	X
Region 5	–		X	X
Timers				
Set the Clock				
Time Zone	PST		X	X
Date	Jan 01 200 7		X	X
Time	--:-- AM (Not set)		X	X
Automatically Adjust Clock for Daylight Savings Changes.	off		X	X
Set Sleep Timer	0:00 (off)		X	X
Set Day/Night Timer				
Day (Normal) Mode On	Off/AM 6:00		X	X
Day (Dynamic) Mode On	Off/PM12:00		X	X
Night Mode On	Off/PM 6:00		X	X
Set Event Timer			X	X
Event1(2/3/4)	Not set		X	X
Start Time	--:-- AM (Not set)		X	X
End Time	--:-- AM (Not set)		X	X
Repeat	Jan 01 2006 (Once)		X	X
CH#	–		X	X

BACK TO ADJUSTMENTS

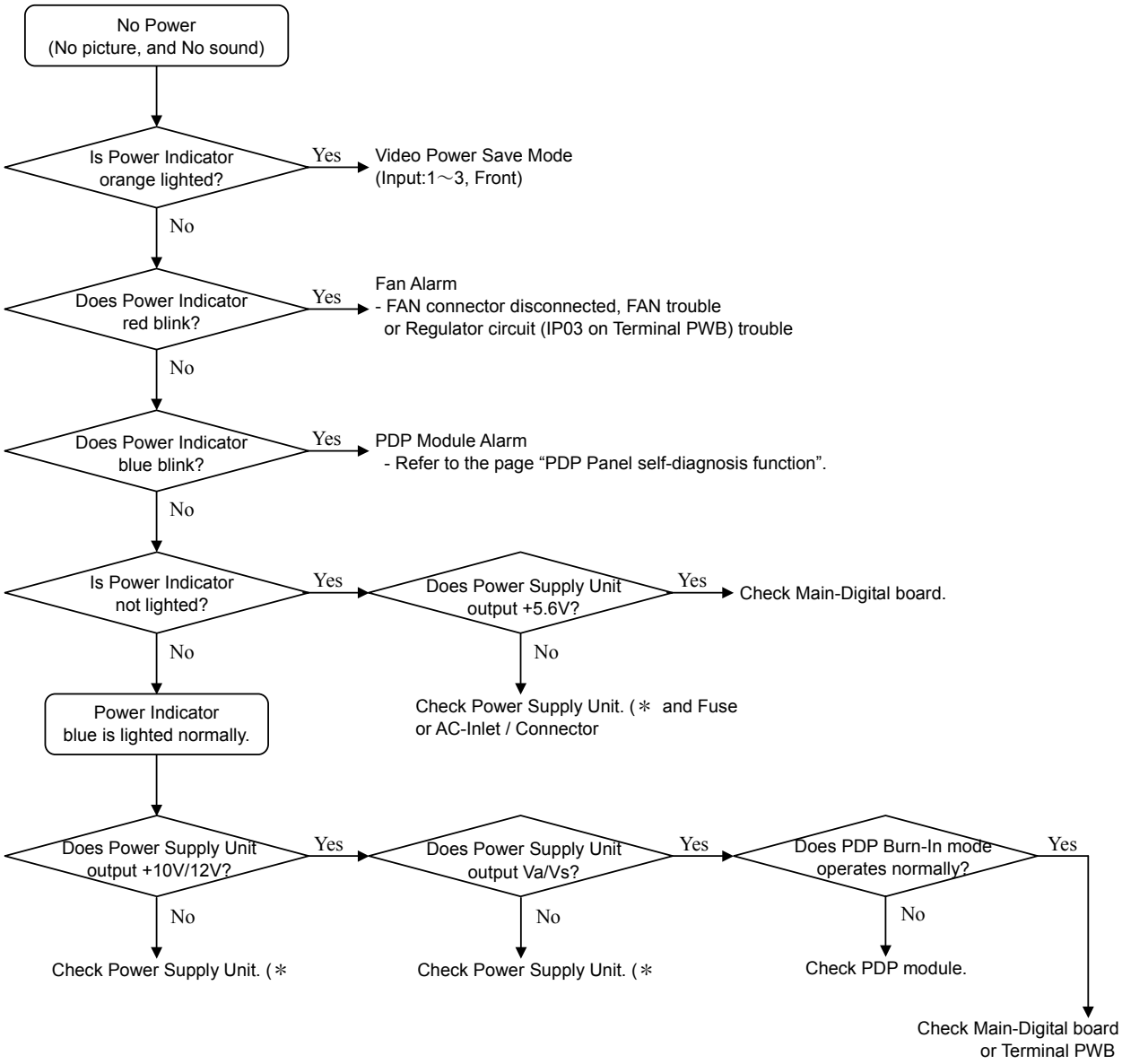
10 DATA TABLE OF SETTING FOR DELIVERY (continued)

Function	Initial Data	Condition	P50T501	P50H4401 P50H4011
Setup				
Menu Preference				
Set The Language	English		X	X
Set The Menu Background	Shaded		X	X
Set The Screen Saver			X	X
Main Picture Moving	Option 1		X	X
Image Power	Max		X	X
Screen Wipe	–		X	X
Automatic Power Saving	Yes		X	X
Set The Power Saving			—	—
Image Power	Max		—	—
Automatic Power Saving	Yes		—	—
Set The Inputs				
Input1 Rename	None		X	X
Input2 Rename	None		X	X
Input3 Rename	None		X	X
Input3 Auto Link (Auto/Off)	Off		X	X
Input Front Rename	None		X	X
HDMI1 Rename	None		X	X
HDMI2 Rename	None		X	X
HDMI Front Rename	None		X	X
Set the AV Net	(Wizard will be starting.)		—	—
Set Closed Caption				
Caption Display	Auto		X	X
Analog				
Mode	Captions		X	X
Channel	Channel1		X	X
Digital				
Language	1 [Unknown]		X	X
Font	Default		X	X
Size	Standard		X	X
Style	Standard		X	X
Set The IR OUT				
IR Out	Normal Length		—	—
Set The Quick Start Options	off		X	X
Reset The Software				
MMC Software Upgrade	–		X	X
Reset TV Settings	No		X	X
Power Swivel	Locked		—	—

BACK TO ADJUSTMENTS

TROUBLESHOOTING FLOW CHARTS

[Power Supply trouble shooting]



＊) Power-On control signal for Power Supply Unit

(1) AC switch : ON → PSU outputs STBY+5V.

(2) PoWER_1 (CN63 [6]) : High → PSU outputs +5.6V.

(3) PoWER_2 (CN63 [7]) : High → PSU outputs +10V and +12V.

(4) Vcego (CN68 [7]) : High → PSU outputs Vcc+5.1V for PDP Panel.

(5) Vsago (CN68 [8]) : High → PSU outputs Va and Vs for PDP Panel.

If any control signal does not rise, PSU cannot output the voltage.
・PoWER_1/2 : not rise ----- Main-Digital PWB trouble
・Vcego/Vsago : not rise ----- PDP Panel Module (Logic PWB) trouble
However, Vcego rises when PNLRST (EC01 [43] at Main-Digital board) is High, and
Vsago rises when PNLoN (EC01 [42] at Main-Digital board) is also High.

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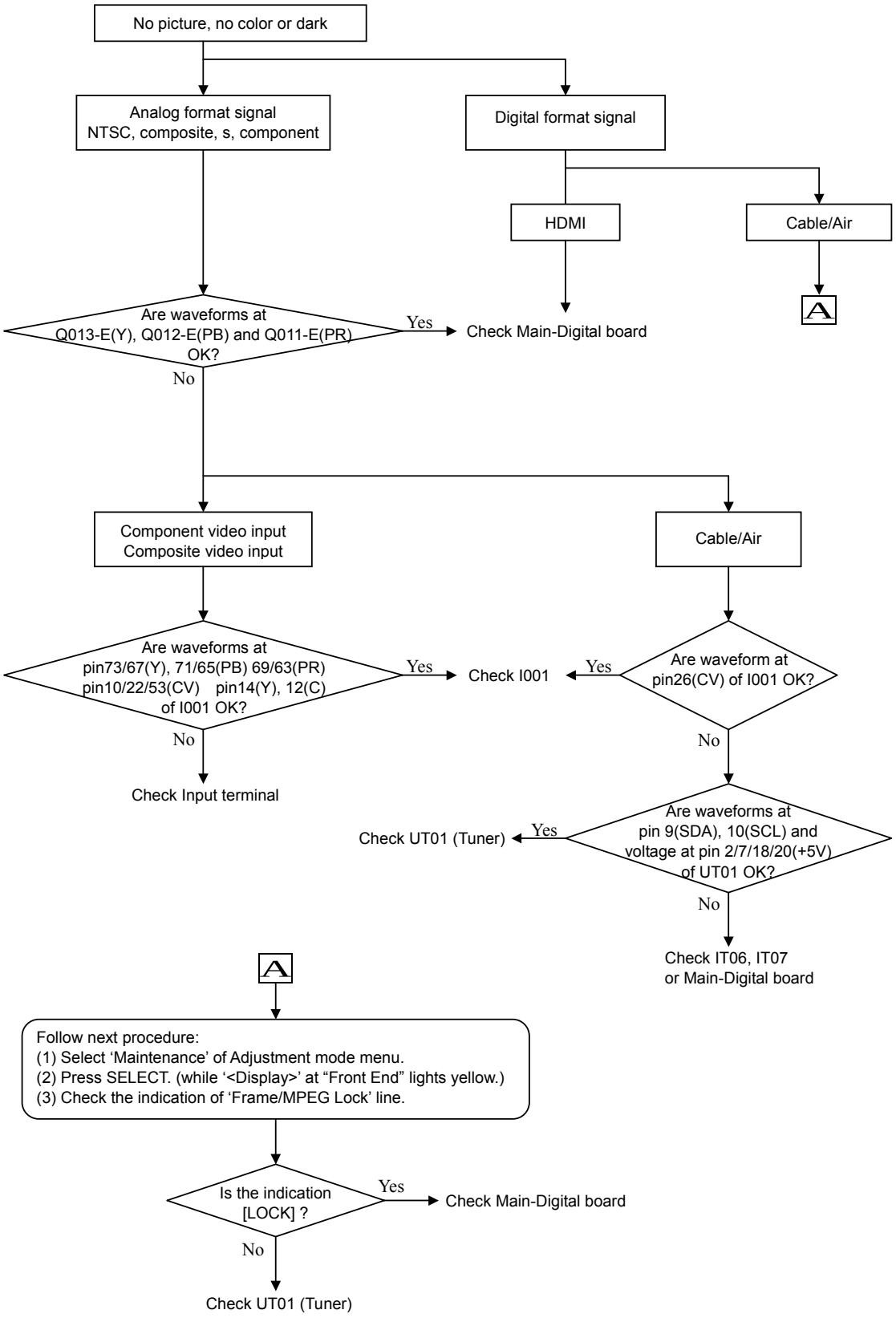
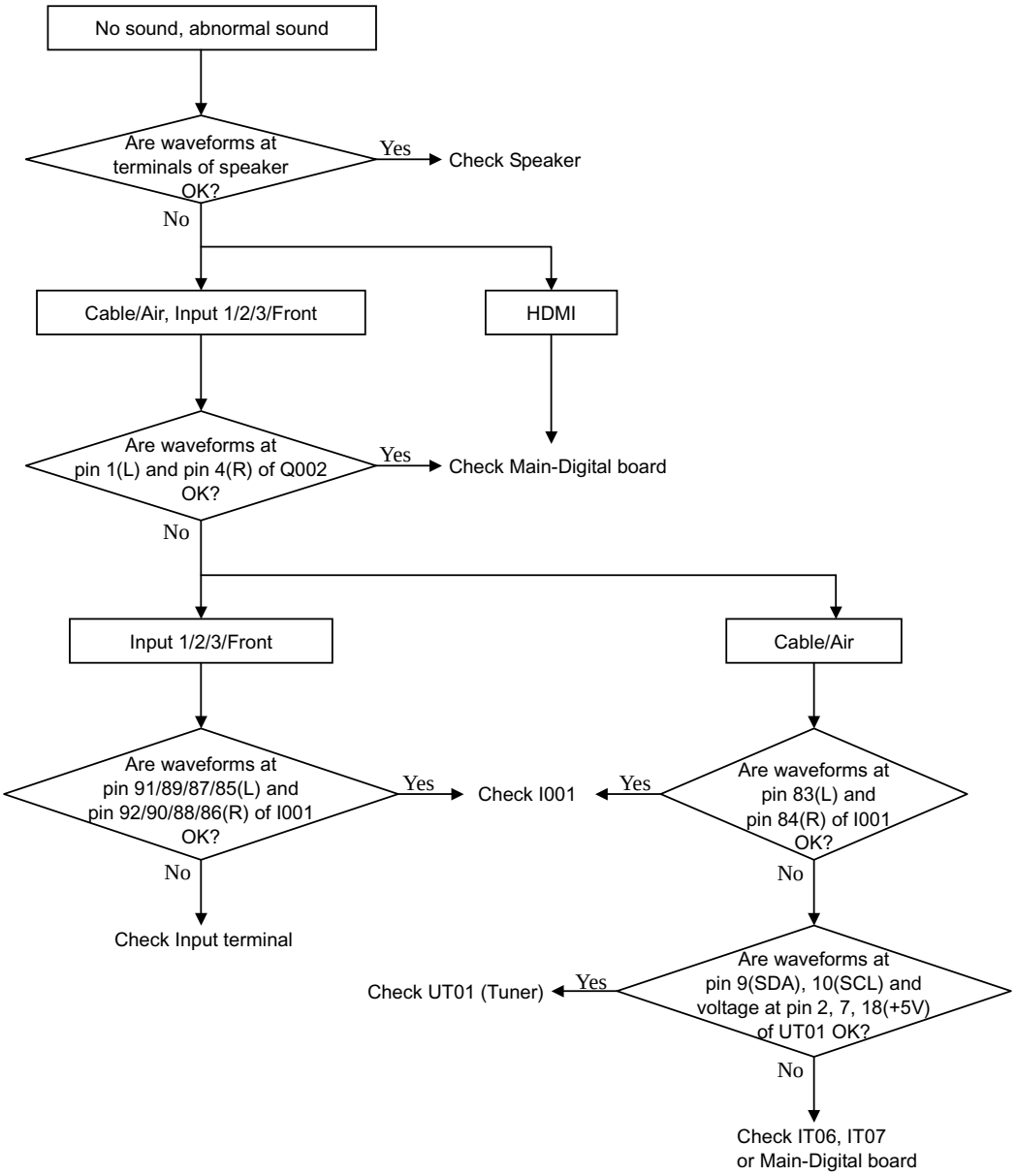
TROUBLESHOOTING FLOW CHARTS

[Terminal PWB circuit trouble shooting]



TROUBLESHOOTING FLOW CHARTS

[Terminal PWB circuit trouble shooting]



TROUBLESHOOTING FLOW CHARTS

● **PDP panel self-diagnosis function**

This function is for a PDP module failure with no picture.

To use this Self-Diagnosis function, follow the next steps:

Procedure:

1) When the PDP module has some trouble, it generates blue blinking series of the power indicator light.

2) The next table shows the PDP PWB in which failure most probably would be allocated according to the number of blinks.

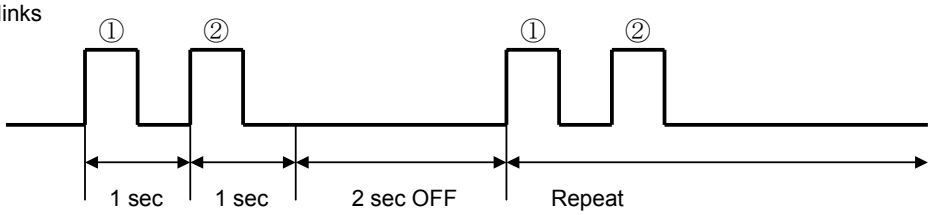
Number of red blinks of power indication light	Presumed failing PWB of PDP panel
1	Logic
2	X-SUS
3	Y-SUS, SDM
4	X-SUS, Y-SUS, SDM, PSU
5	ABUS, ADM, PSU
6	ADM
7	ADM
8	All of above-mentioned PWB's

SDM: Scan Driver Module
PSU: Power Supply Unit
ABUS: Address Bus Module
ADM: Address Driver Module

Note) SDM is permanently contacted to glass part.

[Blinking condition of power indication light]

Ex. 2 blinks

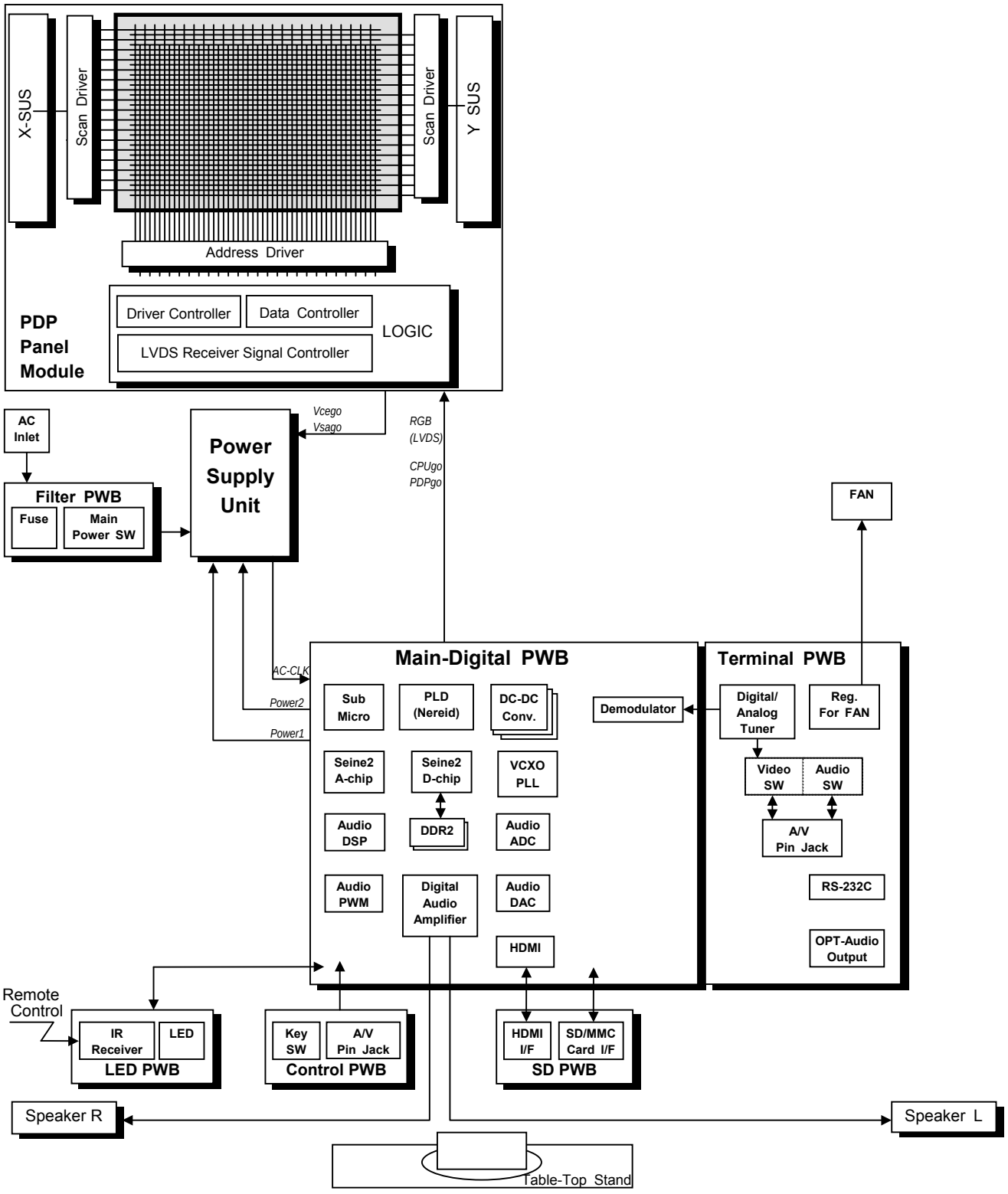


MAINTENANCE MODE ITEM'S DESCRIPTION TABLE.

In the Adjustment mode menu there is the Maintenance Mode sub-Menu of the Digital Module. It is useful for system diagnostics. The next table gives a brief explanation of its items.

Group	No	Item	Indicate format or choices	Contents
Front End	1	FEC	[LOCK] [UNLOCK]	Status of Forward Error Correction
	2	Modulation Type	[8VSB], [64QAM] [256QAM]	Modulation type
	3	IF Error	+/-[xxxxx]Hz	IF Frequency offset is updated every second
	4	Signal Strength	[0-100]	Signal level is scaled from 0 to 100. It is updated every second.
	5	Tuned CH	DTV: [xx] ch CATV-STD: [xx] ch CATV-HRC: [xx] ch CATV-IRC: [xx] ch	Tuned physical channel.
	6	Symbol Rate	[xxxxxxx] sym/sec	Symbol rate is updated every second
	7	SNR	[xx.xx] dB	Signal to noise ratio is updated every second.
	8	BER Before Correct	[x.xx e-xx]	Bit error rate before Reed-Solomon error correction is updated every second
	9	BER After Correct	[x.xx e-xx]	Bit error rate after Reed-Solomon error correction is updated every second
TS check	1	Video PID (HEX)	[xxxx]	Video PID in TS (Transport Stream)
	2	Audio PID (HEX)	[xxxx]	Audio PID in TS
	3	PCR PID (HEX)	[xxxx]	PCR PID in TS
Video Format	1	Video Format	[1080I] [720P] [480P] [480I] [240P]	Video format of selected program
	2	Frame Rate	[23.97] [24] [29.97] [30] [59.94] [60]	Frame rate of selected program
	3	Aspect Ratio	[16:9] [4:3]	Picture aspect ratio of selected program
	4	Pan Scan	H: [Yes] [No] V: [Yes] [No]	Existence of Horizontal/vertical Pan & Scan setting
	5	3: 2 Pull-down	[ON] [OFF]	Status of 3:2 pull-down function
	6	Resolution	H: [1920] [1280] [704] [640] V: [1080] [720] [480]	Horizontal and vertical picture resolution in decimal
	7	Bit Rate / VBV Bf	[xx.xxx] Mbps [xxxxxx] KB	Video encode bit rate / VBV buffer rate
	8	Copy Guard (D)	[Free] [1 time] [Never] [Stop]	Copy guard status of digital output ([stop] is not available for Digital output)
	9	Copy Guard (A)	CGMS-A: [20bit; HEX 5 digit] Macrovision: [Yes] [No]	Copy guard status of Analog output
Audio Format	1	Sampling Frequency	[48 KHz] [44.1KHz] [32KHz]	Status of audio sampling frequency
	2	Channel Mode	[MONO] [STEREO] [DUAL] / MULTI-ST [2/1] [3/0] [2/2] [3/1] [3/2] [3/2+LFE]	Status of audio channel mode
	3	Timing Adjustment	[-2] [-1] [0] [+1] [+2]	For AV synchronization, the timing of the down mixing audio output is adjustable with 5 values.
	4	Audio Decode	[AC3] [MPEG Audio]	Status of audio decoding
Video Output	1	Video Output Setup	[Normal]	Status of NTSC video output for VCR recording. Display only [Normal] as fixed value because the video output only supports [Normal].
	2	NTSC Output Quality	[Weak] [Normal] [Strong]	Selection of vertical filter adapted to NTSC video output
	3	Brightness	Adjust: [-100 ~ +100%]	Adjustment of brightness control for UD OSD
	4	Contrast	Adjust: [-100 ~ +100%]	Adjustment of contrast control for UD OSD
System	1	Rcv Interrupt Rec.	[List Indication]	Received Interrupt Record. See Note 1
	2	Software Version	Main: [xxxxxxxx] 1394: [xxxxxx]	Software version of module control (Main) and IEEE1394 control (1394)
	3	MMC Download	[List Indication]	Download a software from MMC stored file list (See Note 2)
	4	Factory Settings	-----	Administration of the factory settings, and initialization of user and EPG cache.
	5	Serial No. Confirm	Manufacturer ID: [xx] Model ID: [xx] Serial No.: [xxxxxx] Check Sum: [xxxx]	Display of set of serial number data: manufacturer ID, model ID, serial No. and check sum.
	6	MMC/Sniffer Switch	[MMC] [Sniffer]	Selection of MMC socket mode between MMC and Sniffer. Restored to MMC by initialization of “Factory Settings”

CIRCUIT BLOCK DIAGRAM



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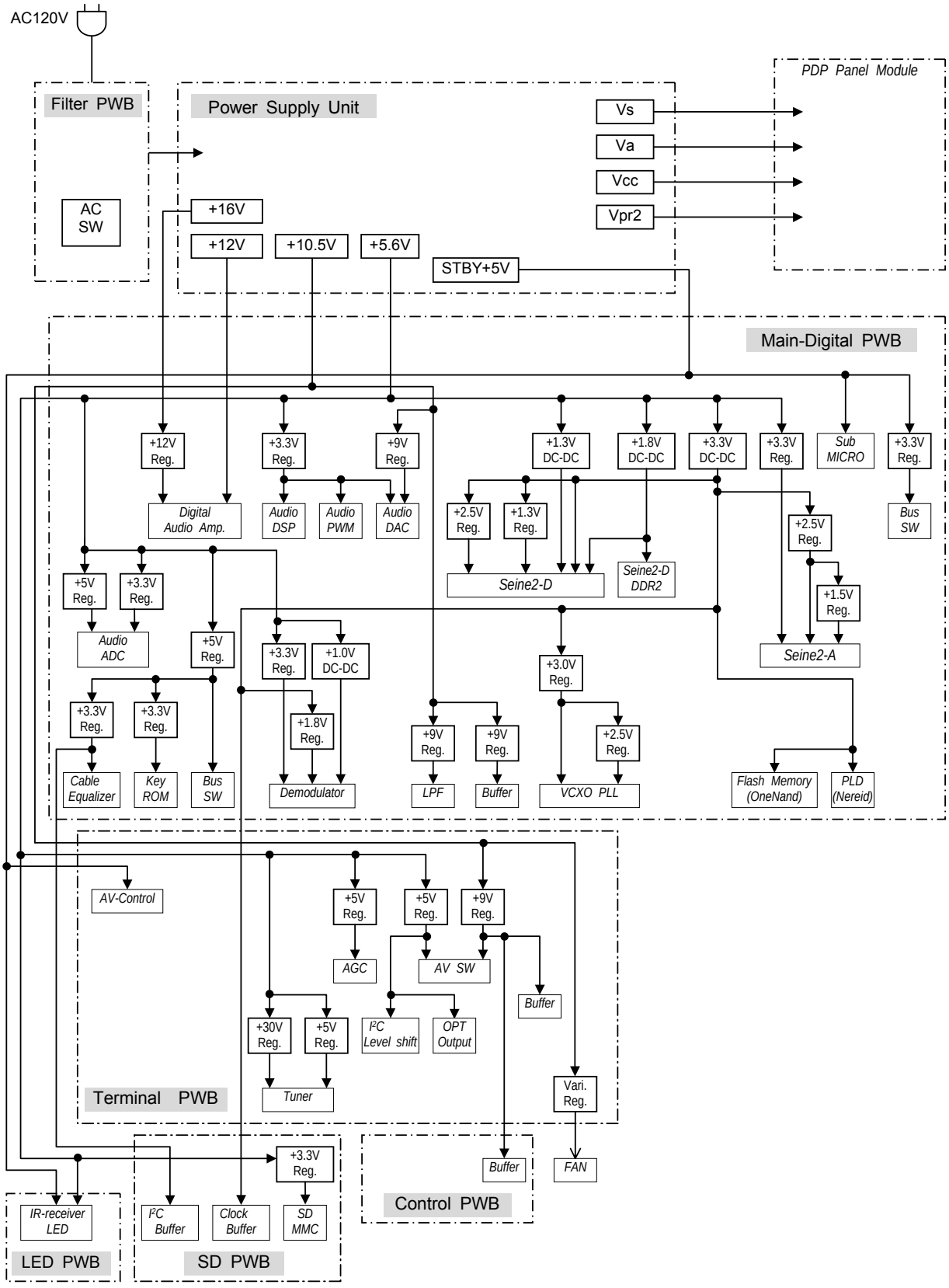
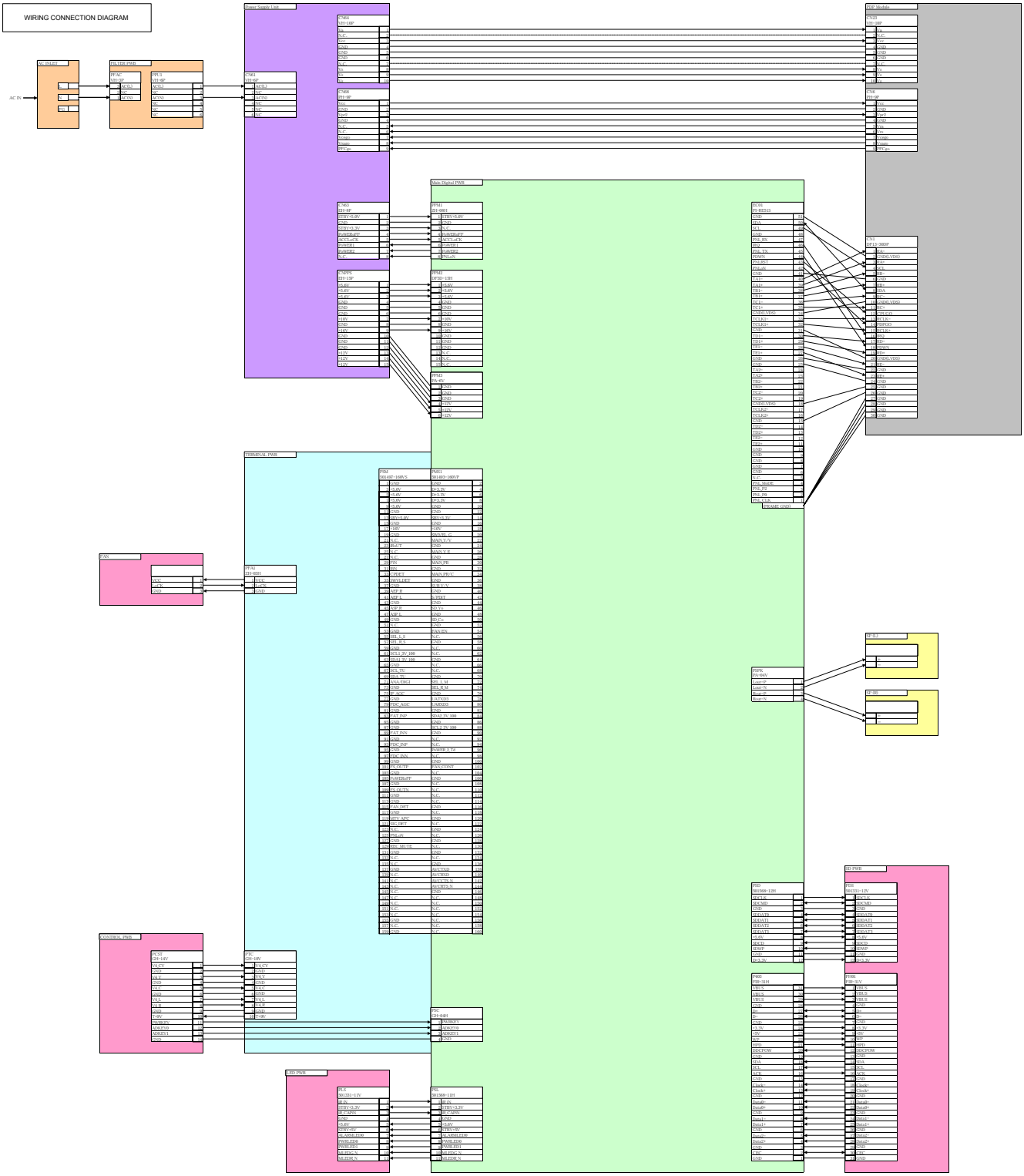
POWER SYSTEM BLOCK DIAGRAM



CONNECTION DIAGRAM



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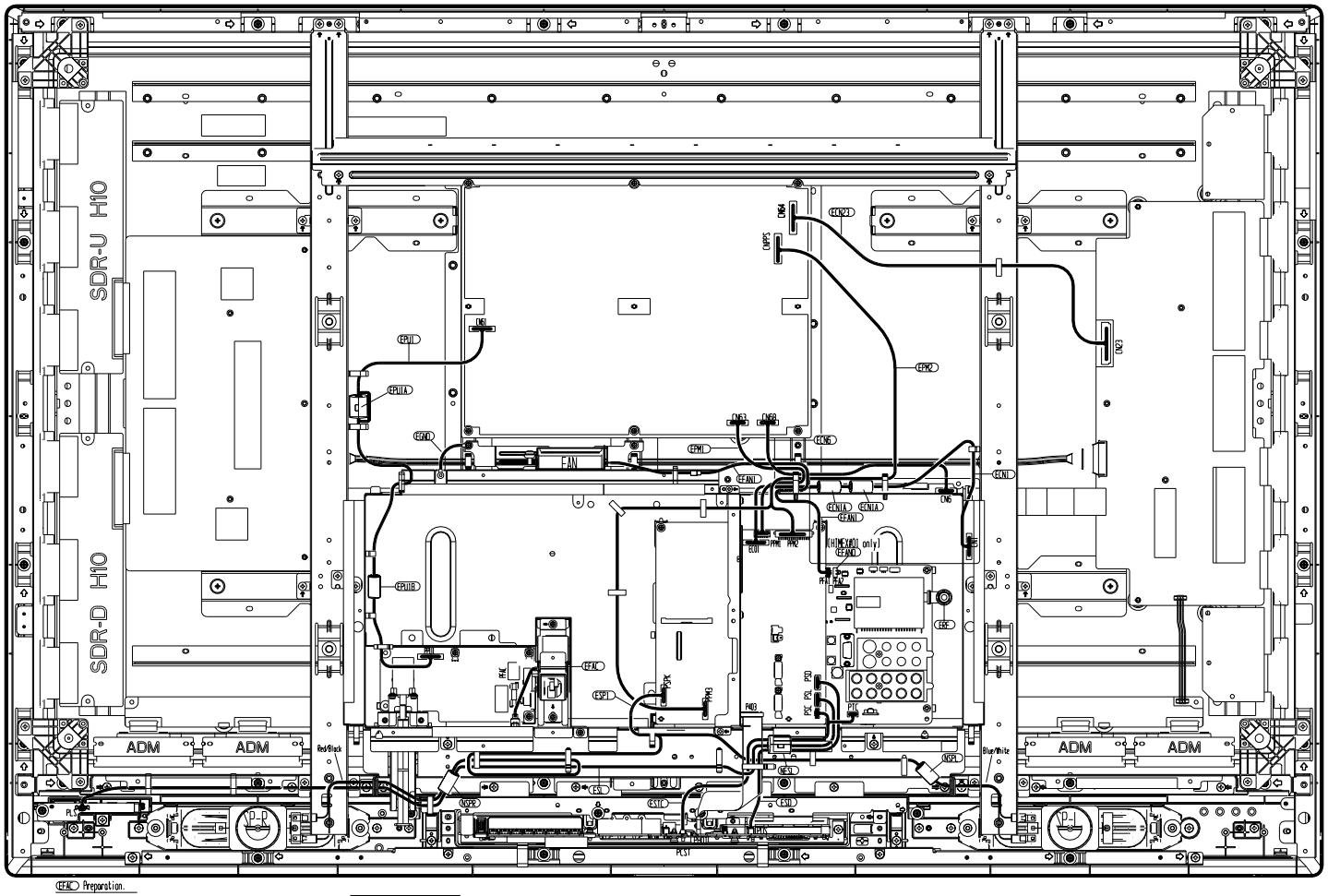
FINAL WIRING DIAGRAM

Table of Using cable

Connector wire		Plug Pin 1		Plug Pin 2	
Name	Assy List	Board or Location	Name	Board or Location	Name
ESTC	Final Ass'y	CONTROL	PCST	TERMINAL	PTC
				MAIN DIGITAL	PSC
ESL	Final Ass'y	MAIN DIGITAL	PSL	LED	PLS
ESD	Final Ass'y	MAIN DIGITAL	PSD	SD	PDS
EFANI	Final Ass'y	TERMINAL	PFA1	FANI	-
ESPI	Final Ass'y	MAIN DIGITAL	PSPK	SP-L/R	SP-L SP-R
EPM1	Final Ass'y	POWER	CNB3	MAIN DIGITAL	PM1
EPM2	Final Ass'y	POWER	CNPPS	MAIN DIGITAL	PM2 PM3
EPU1	Final Ass'y	POWER	CNB1	FILTER	PCU1
ECN23	Final Ass'y	POWER	CNB4	PANEL P.SUS	CN23
ECN6	Final Ass'y	POWER	CNB8	PANEL LOGIC	CN6
ECN1	Final Ass'y	MAIN DIGITAL	ECOT	PANEL	CN1
EFAC	Final Ass'y	FILTER	PFAC	INLET	-
		CHASSIS METAL	GND		
EGND	Final Ass'y	CHASSIS METAL	-	PANEL BASE	-

When (#C101) DW3 CHASSIS CASE(P#NA90551) is used , this drawing is applied.

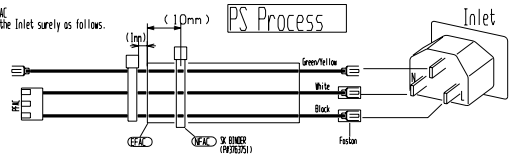


*1 Regarding (ECN23) and (ECN6) , insert connectors while installing Power Supply PWB in the panel.

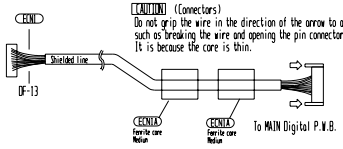
Specification

1. This drawing shows the wiring diagram for 50"PDP Chassis. The connection and wire styling are in the figure.
2. This drawing shows the rear view of the set.
3. Lock lead holders surely.
4. Cores with ( ) round brackets should be deliveried integrated with Harness.

(EFAC) Preparation.
Insert Faston of EFAC in the terminal of the Inlet surely as follows.



[The Inlet is built in by final Ass'y Drawing(LJ23750).]



CAUTION (Connectors)
Do not grip the wire in the direction of the arrow to avoid defects. such as breaking the wire and opening the pin connector part. It is because the core is thin.

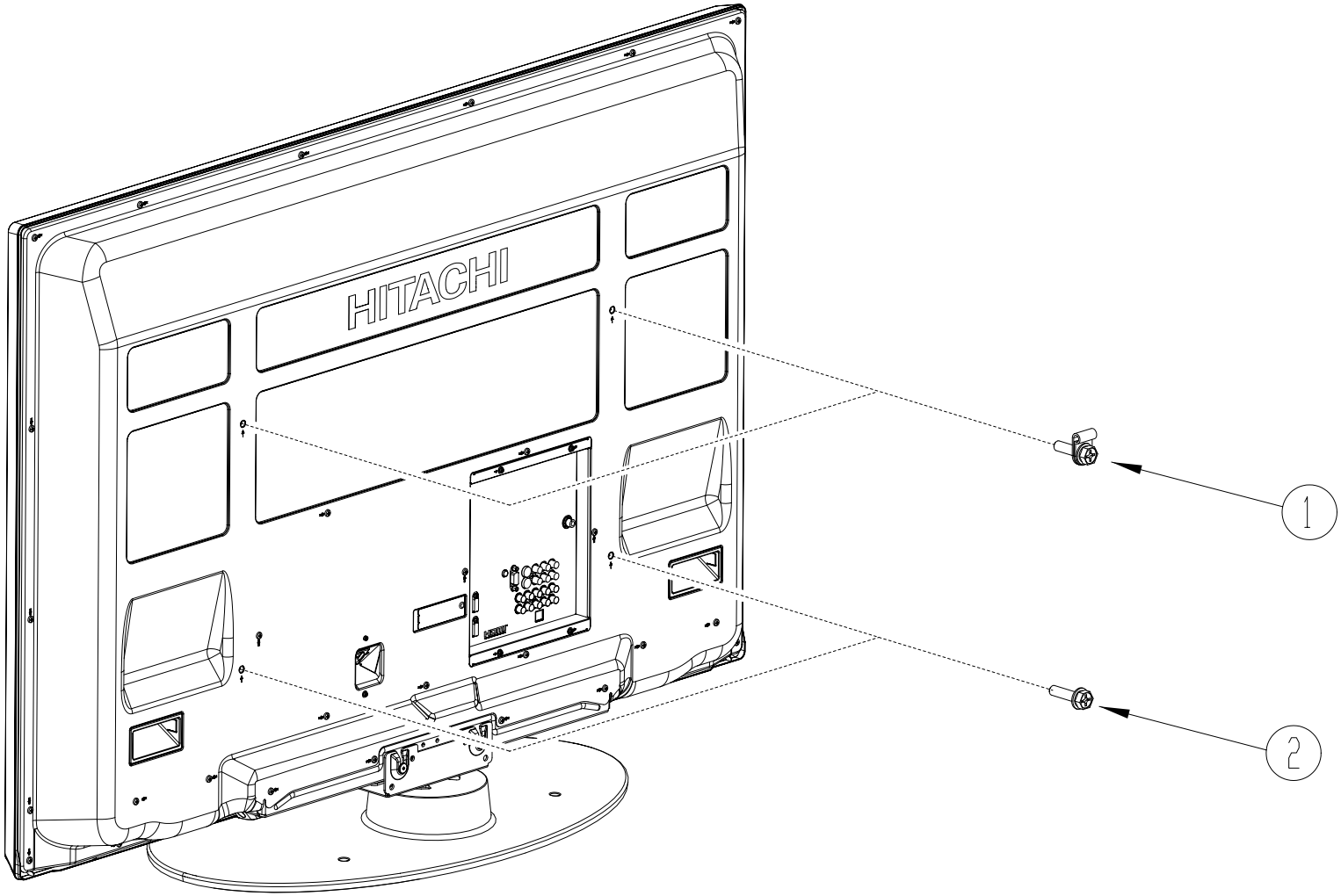
"ECN1(LVDS)" has a fragile connector housing. Be careful not to break it during the connecting operation.. During the connecting operation,push carefully "both side housing latch terminal to the insert direction not to break it.

Push the arrow point to insert direction straightforward.

QUICK DISASSEMBLE GUIDE (Back Cover 1)

① Remove Screw M3M 6*18 (2 pcs.)
M6 Cable Clamp (2 Pcs.)

② Remove Screw M3M 6*18 (2 pcs.)



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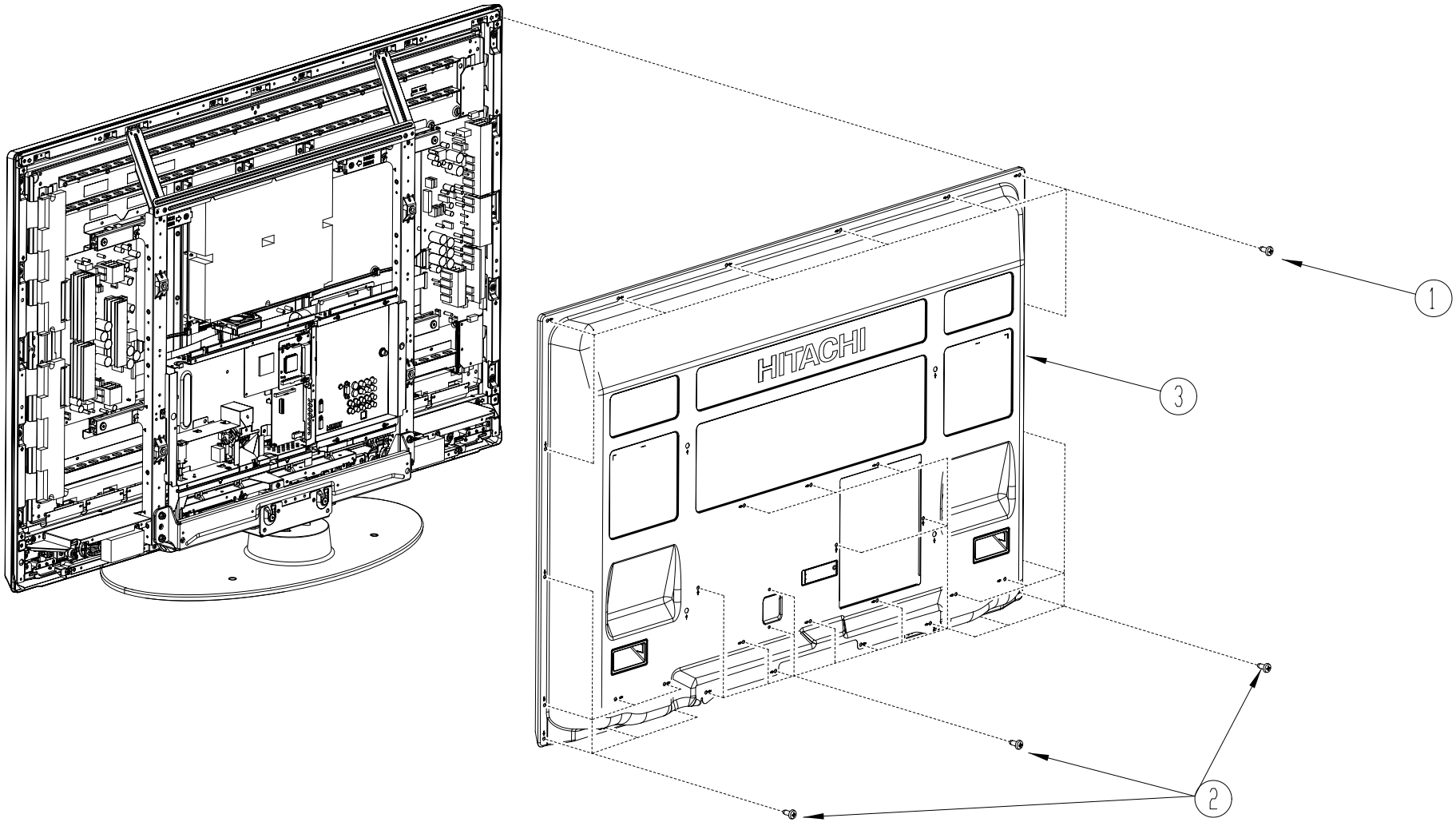
QUICK DISASSEMBLE GUIDE (Back Cover 2)

① Remove Screw M3D 4*10 (26 pcs.)
Screw M3S 3*8 (11 pcs.)

② Remove Back Cover



QUICK DISASSEMBLE GUIDE (Power Unit, Fan Ass'y)

① Remove Screw M3M 3*8 (4 pcs.)
Screw M3E 3*8 (2 pcs.)

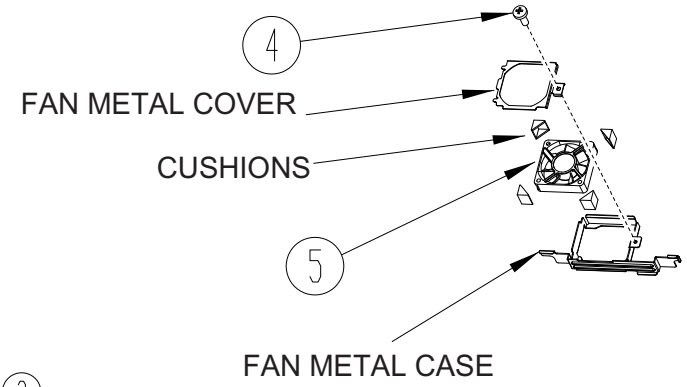
② Remove Power Unit P#HA01912

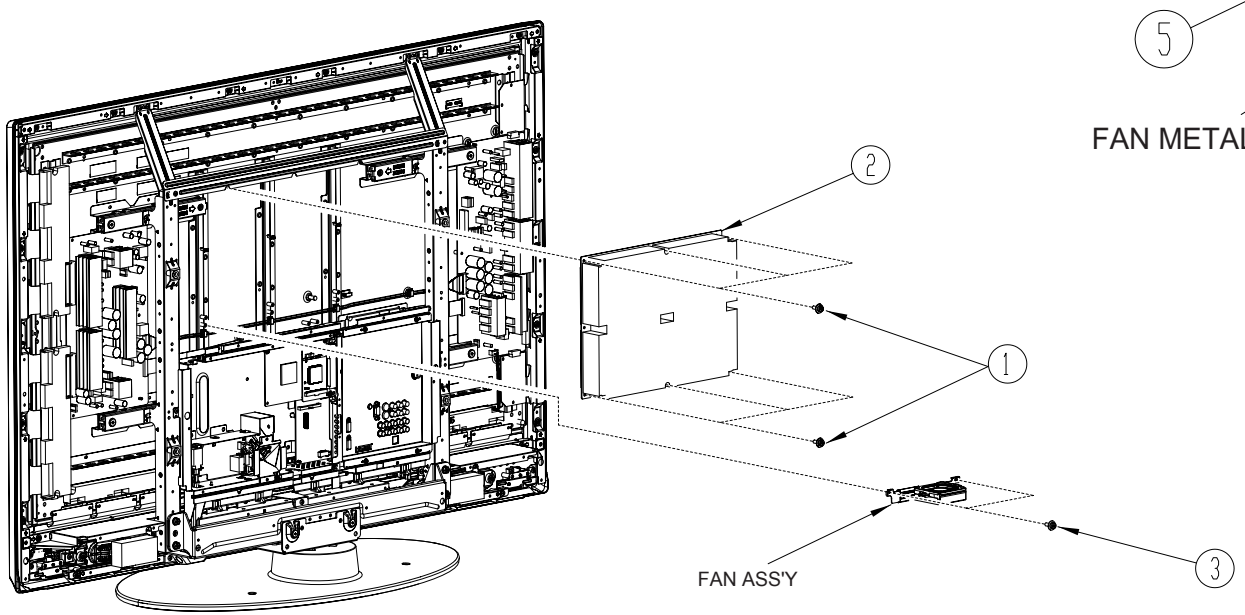
③ Remove Screw M3M 3*8 (2 pcs.)
Fan Ass'y

④ Remove Screw M3D 4*10

⑤ Remove Fan P#GS00696

FAN ASS'Y DETAIL

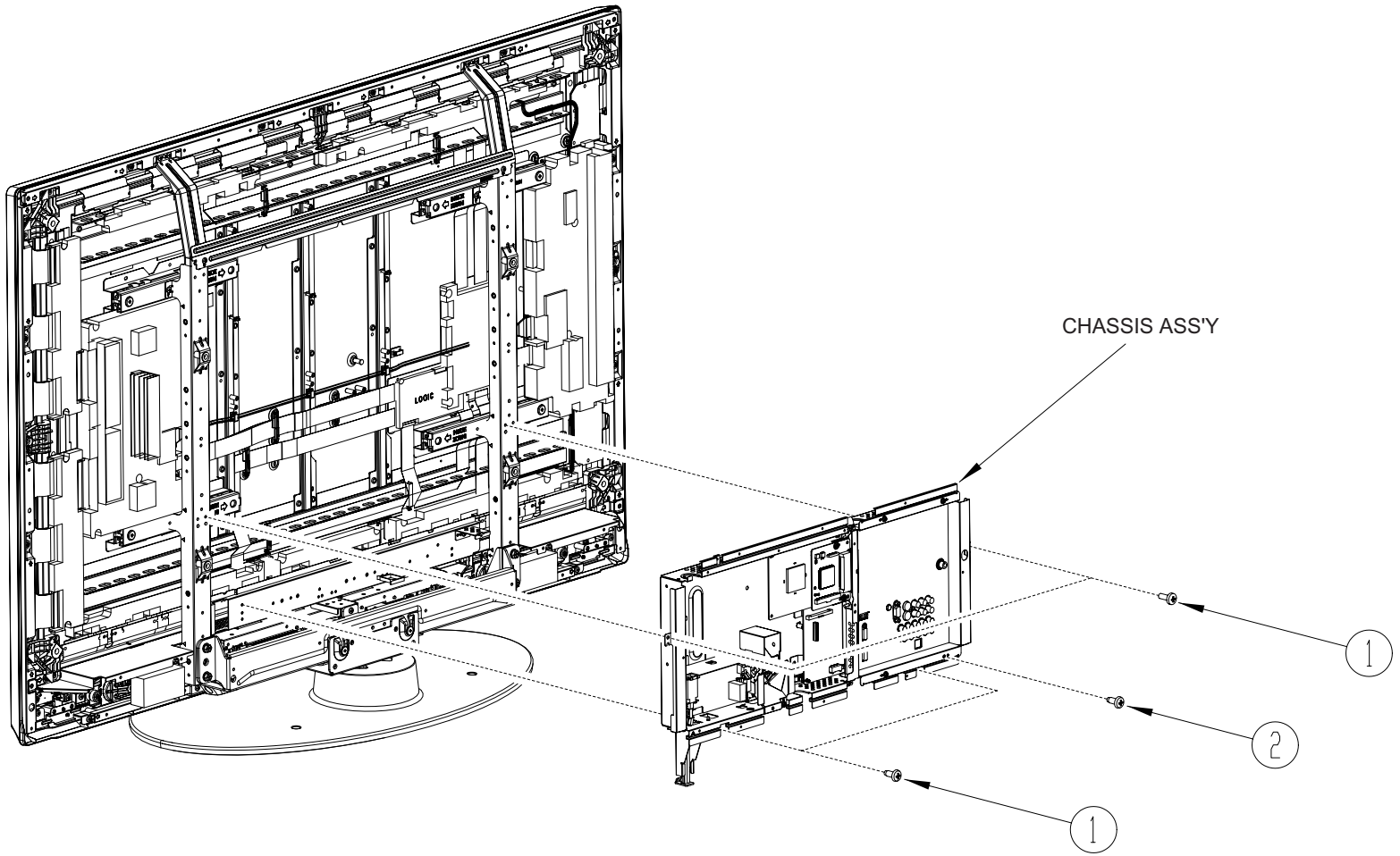




QUICK DISASSEMBLE GUIDE (Chassis Ass'y 1)

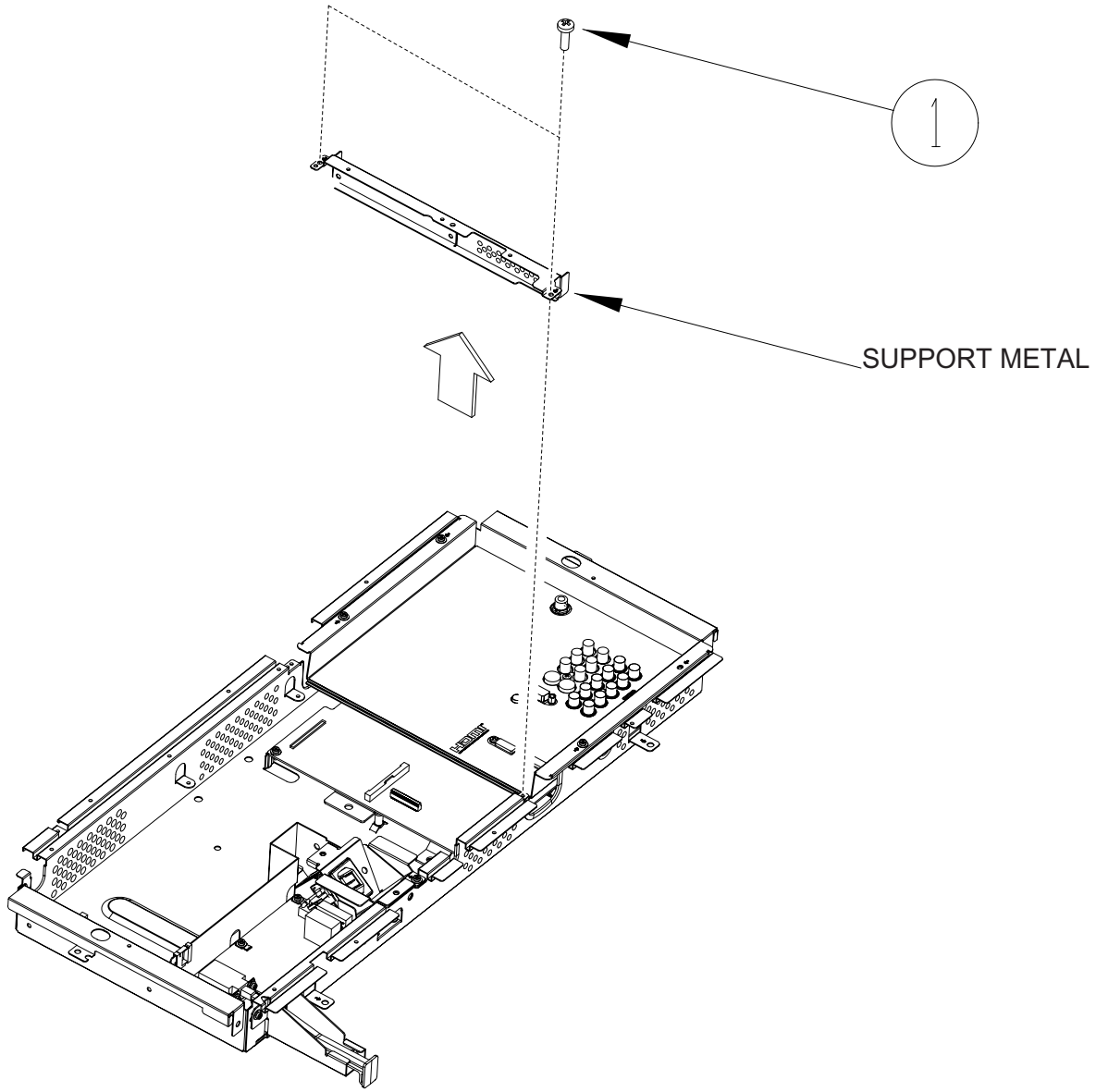
① Remove Screw M3S 3*8 (4 pcs.)

② Remove Screw M3C 4*10
Chassis Ass'y P#UE27031



QUICK DISASSEMBLE GUIDE (Chassis Ass'y 2)

① Remove Screw M3E 3*8 (2 pcs.)
Support Metal



QUICK DISASSEMBLE GUIDE (Chassis Ass'y 3)

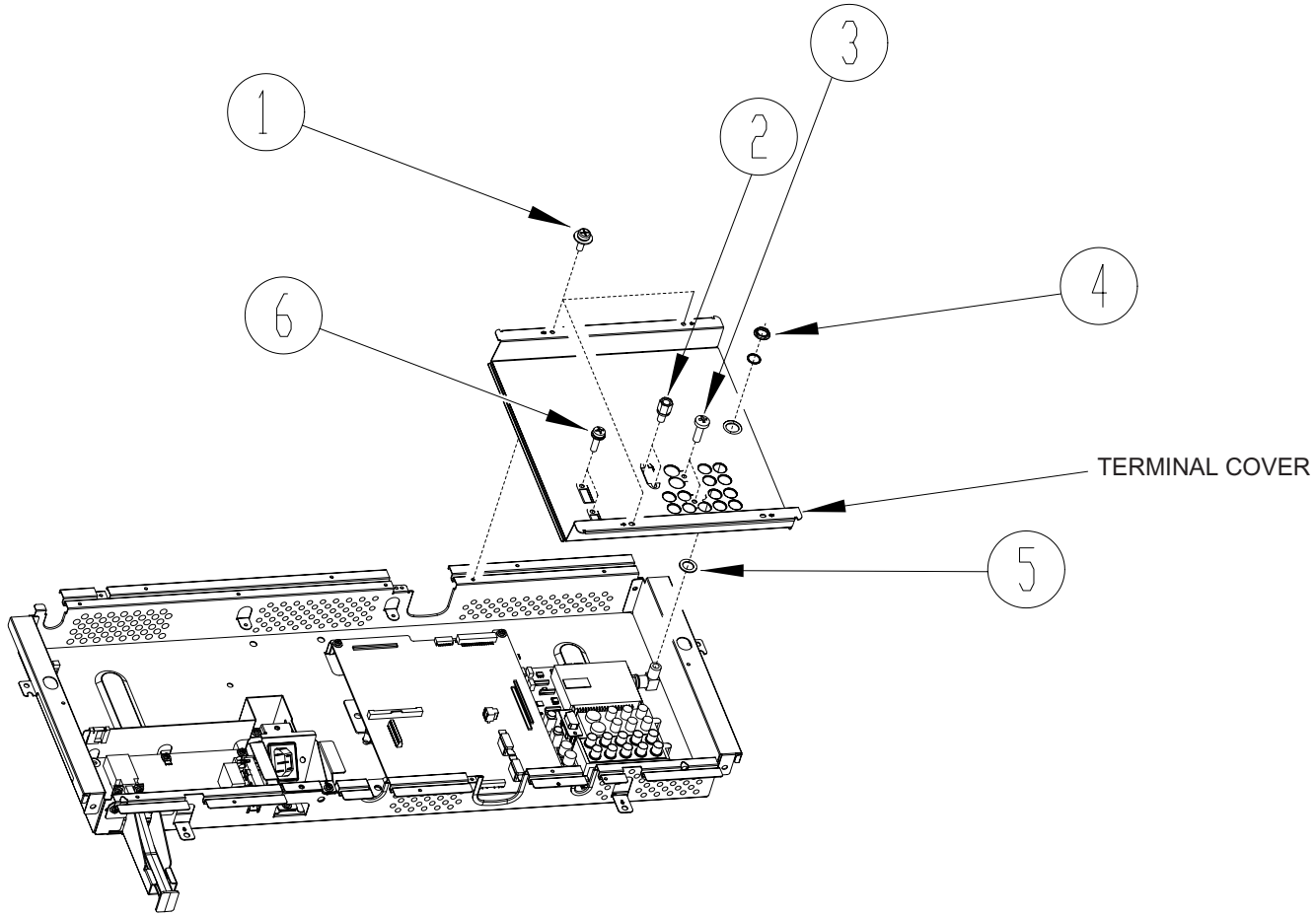
① Remove Screw M3S 3*8 (3 pcs.)

② Remove Screws D-Sub (2 Pcs.)

③ Remove Screws T2B 3*10 (2 Pcs.)

④⑤Remove Tuner Nut & Washers

⑥ Remove Screw M3M 3*6 (2 pcs.)

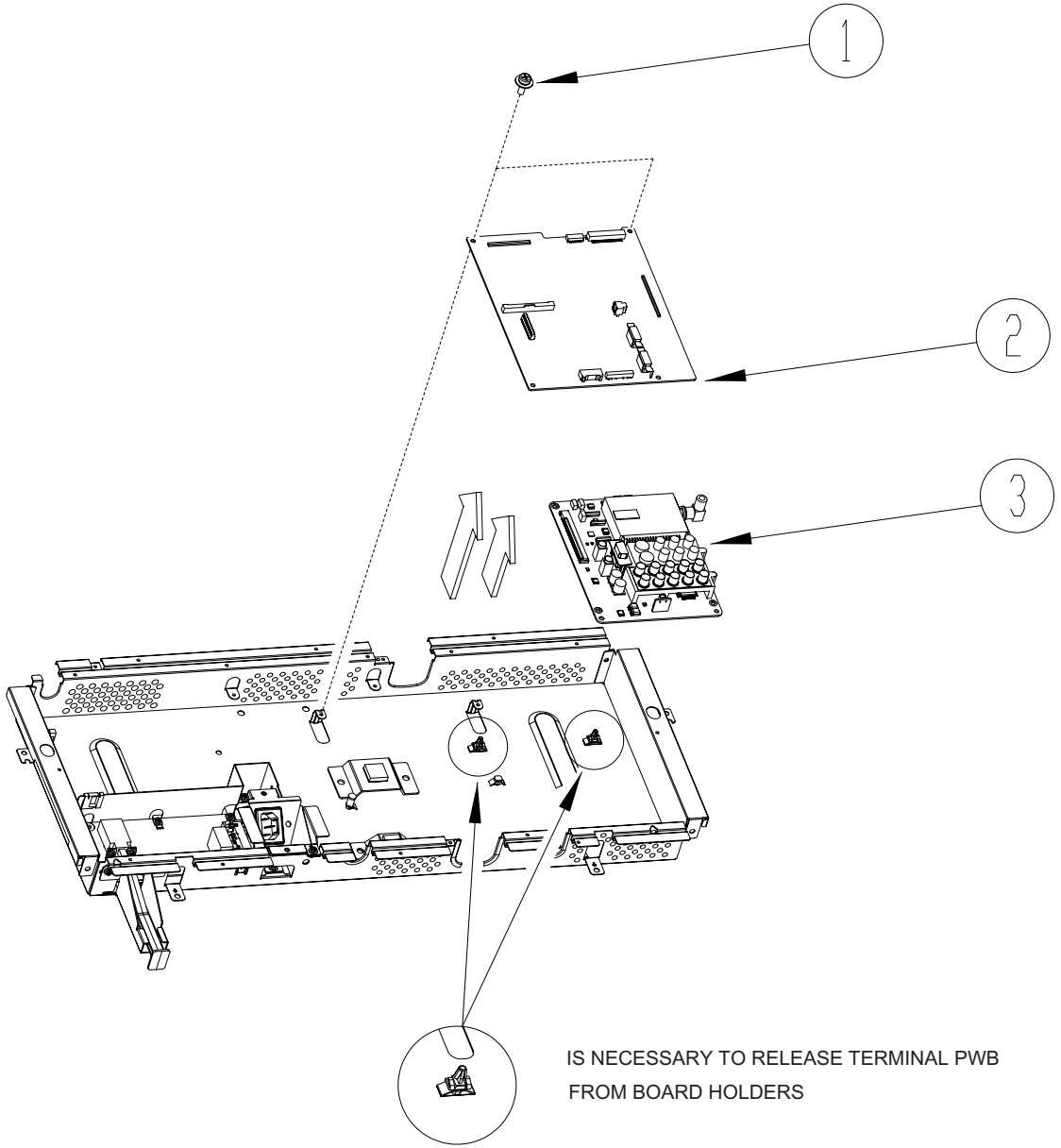


QUICK DISASSEMBLE GUIDE (Chassis Ass'y 4)

① Remove Screw M3E 3*8 (2 pcs.)

② Remove Digital Main Ass'y P#UX28021

③ Remove Terminal PWB Ass'y P#JP55121

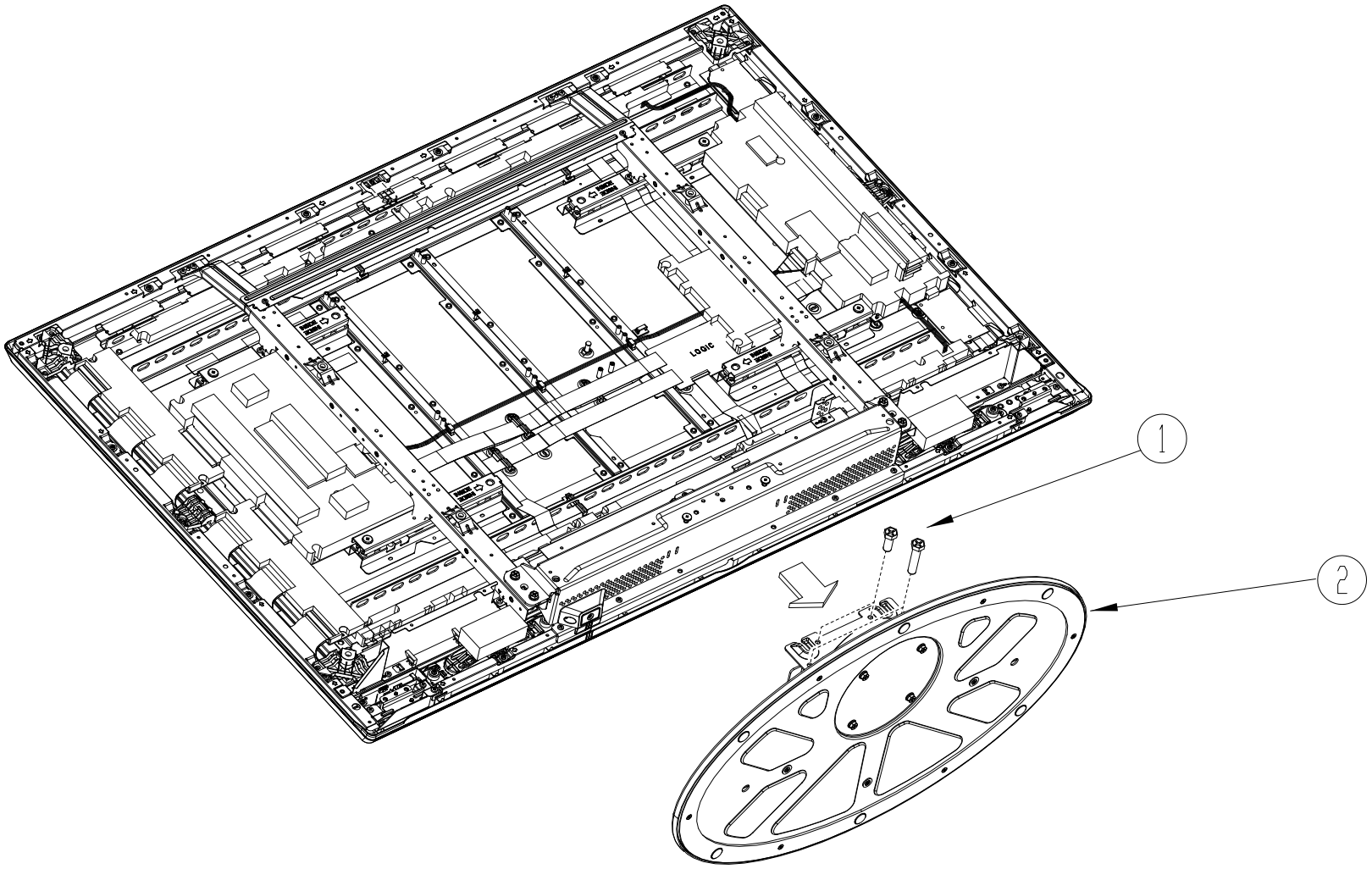


QUICK DISASSEMBLE GUIDE (Stand Ass'y, Control Panel Ass'y)

① Remove Screw HEX M5*15(2 Pcs.)
Screw HEX M5*85(2 Pcs.)

② Remove Stand Ass'y P#UX27281(50")

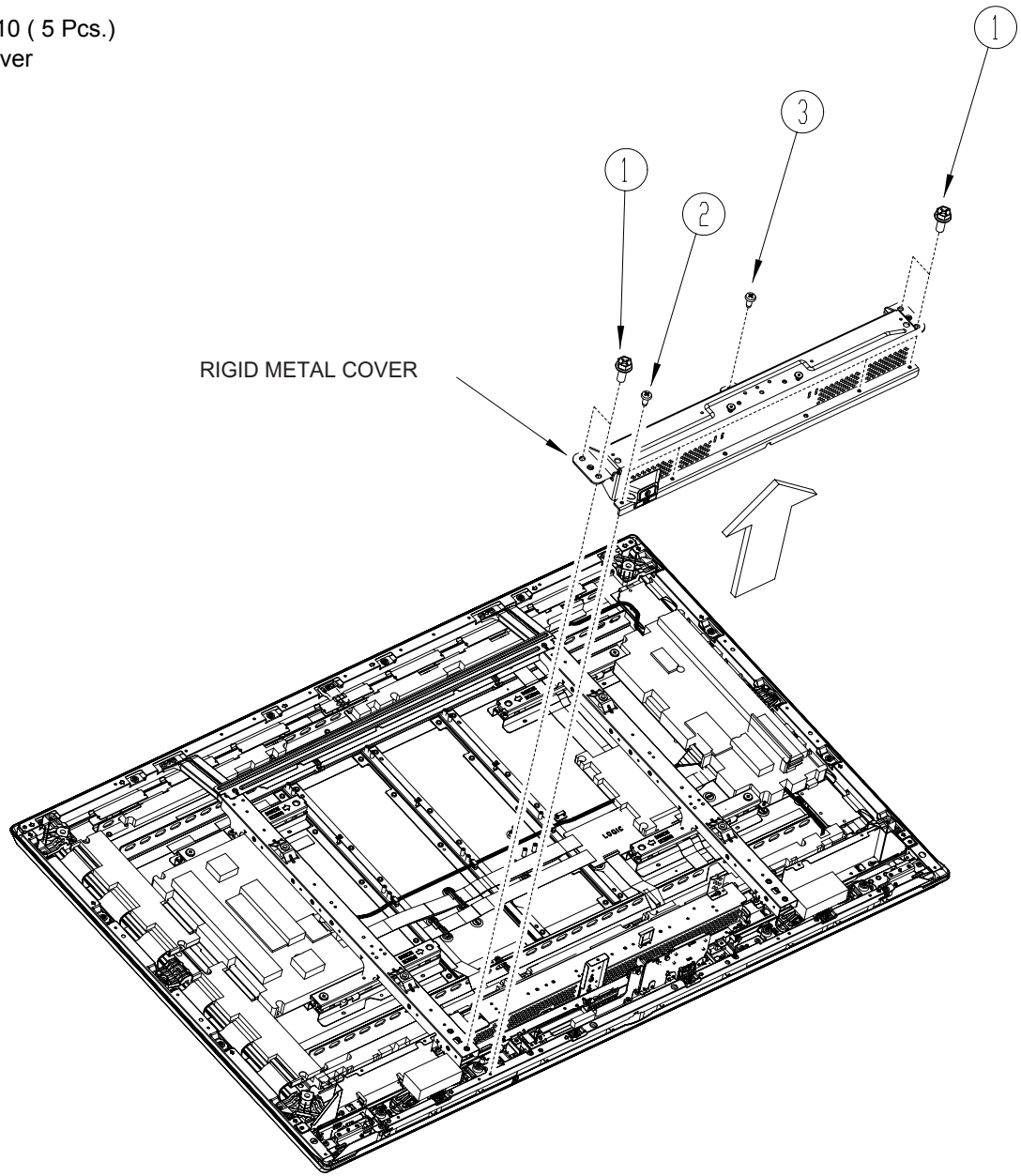
*Note: In order to remove stand ass'y is necessary to place Plasma TV carefully on horizontal direction over a soft surface to avoid scratches or other damages.



QUICK DISASSEMBLE GUIDE (Control Panel Ass'y 2)

① Remove Screw M3M 6*18 (4 Pcs.)

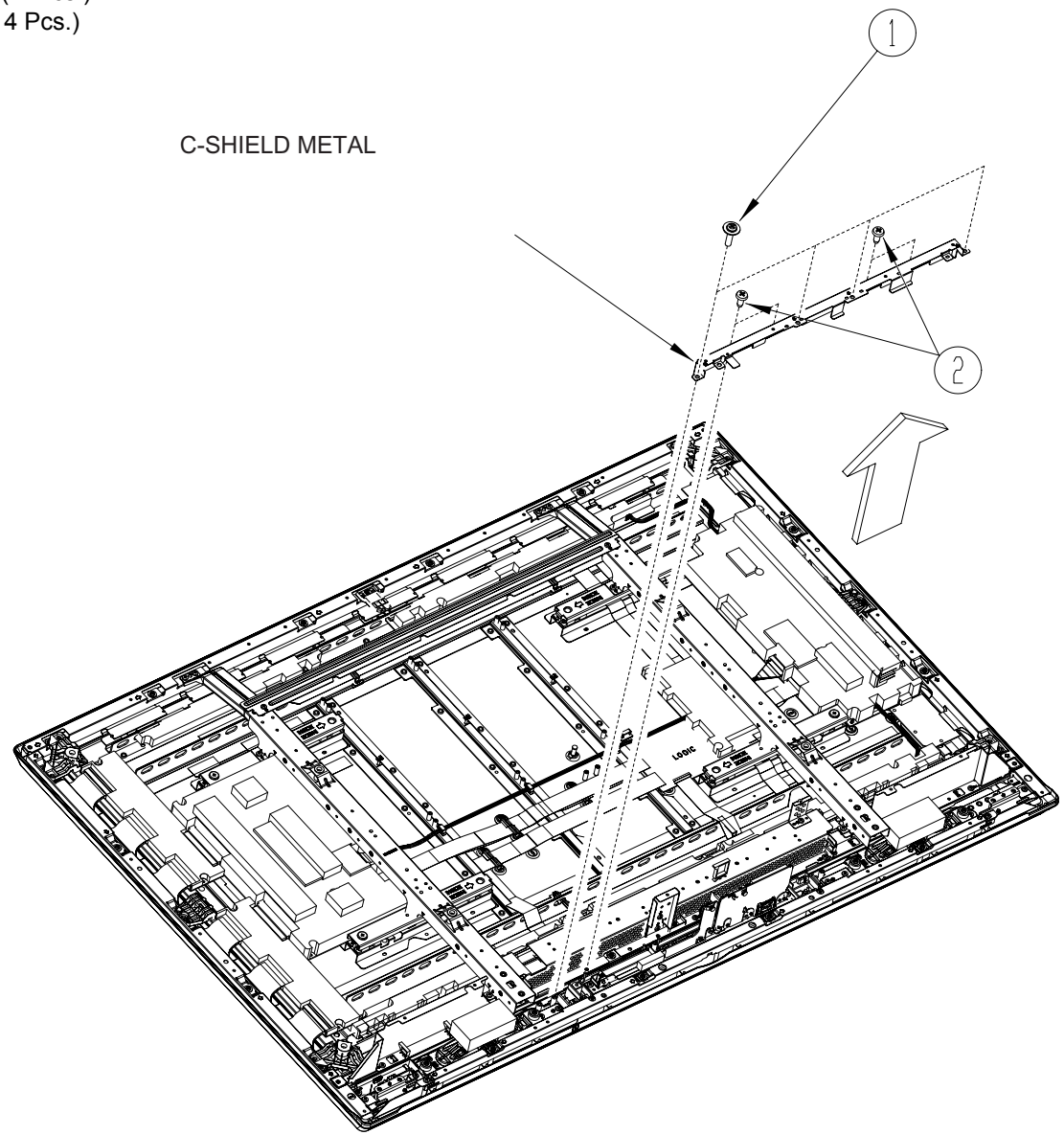
② Remove Screw M3D 4*10 (5 Pcs.)
Rigid Metal Cover



QUICK DISASSEMBLE GUIDE (Control Panel Ass'y 3)

① Remove Screw M3D 4*10 (4 Pcs.)
Screw T2B 4*16 (4 Pcs.)
C Metal Shield

C-SHIELD METAL



QUICK DISASSEMBLE GUIDE (Control Panel Ass'y 4)

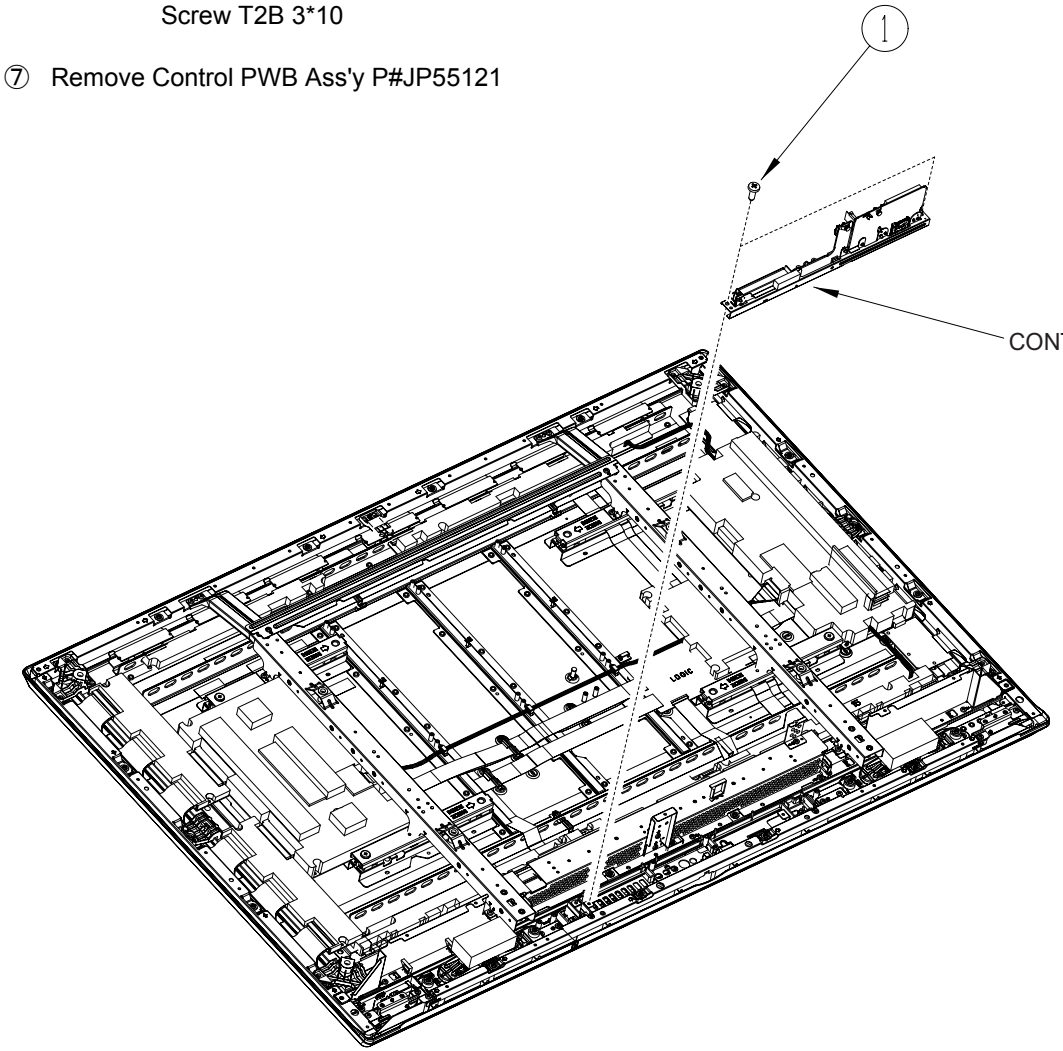
① Remove Screw M3D 4*10 (2 Pcs.)
Control Panel Ass'y

②③ Remove Screw M3D 4*10 (2 Pcs.)

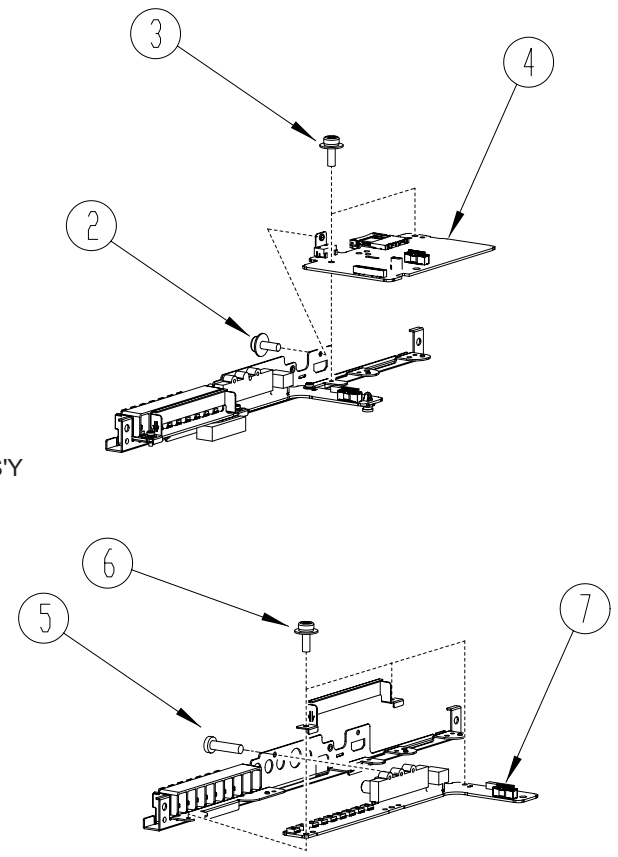
④ Remove SD PWB Ass'y P#JP55121

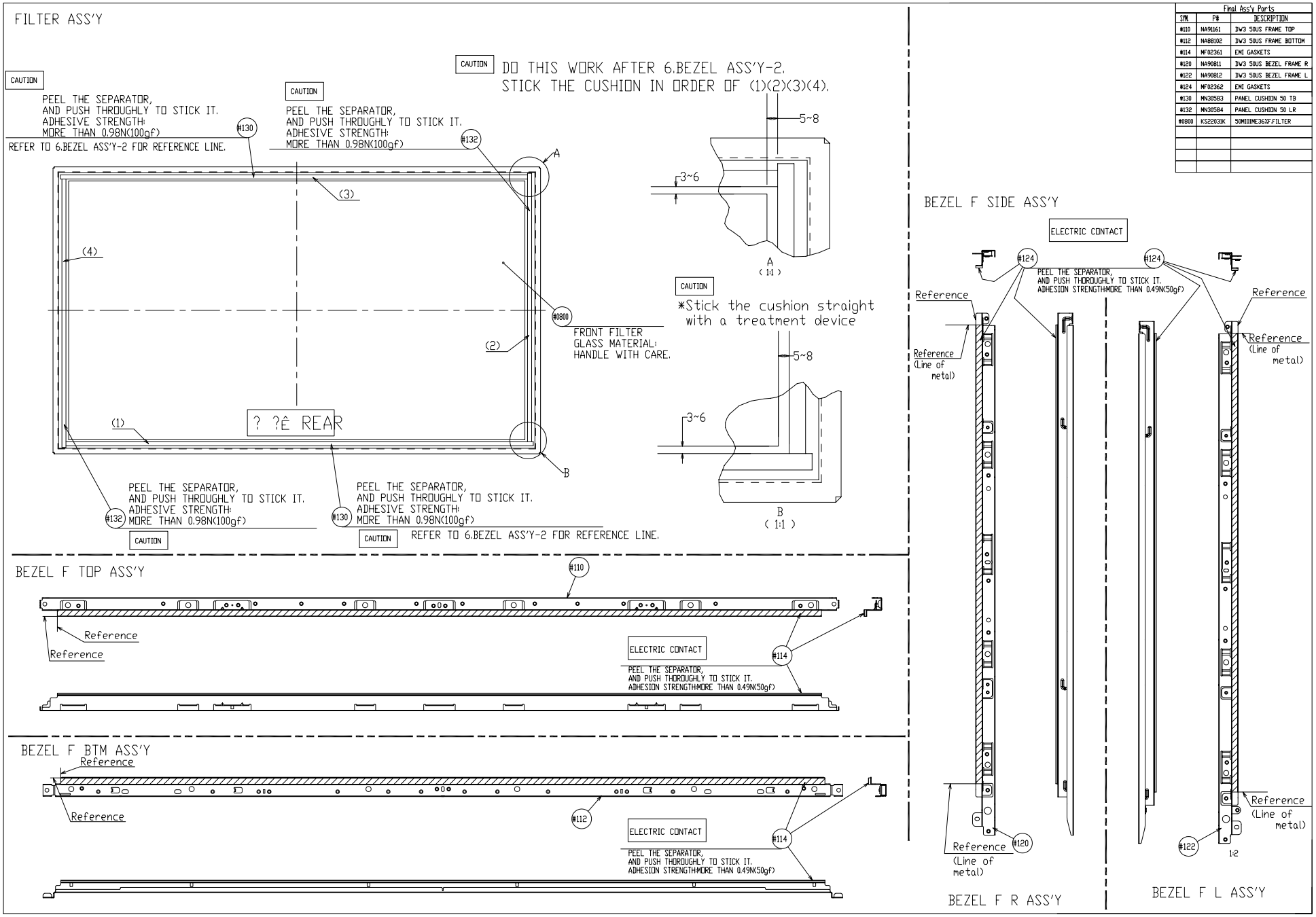
⑤⑥ Remove Screw M3E 3*8 (3 Pcs.)
Screw T2B 3*10

⑦ Remove Control PWB Ass'y P#JP55121



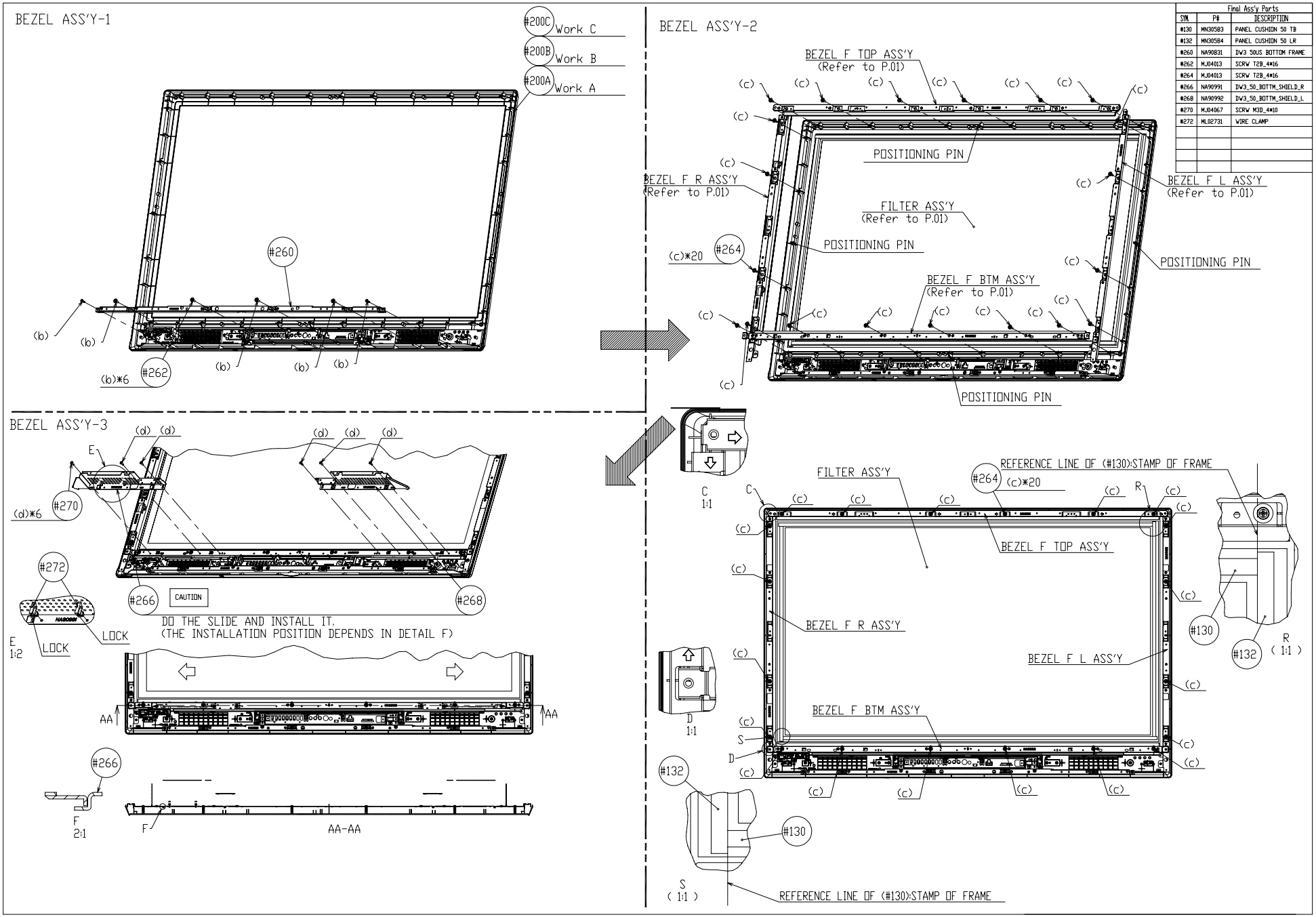
CONTROL PANEL ASS'Y DETAIL





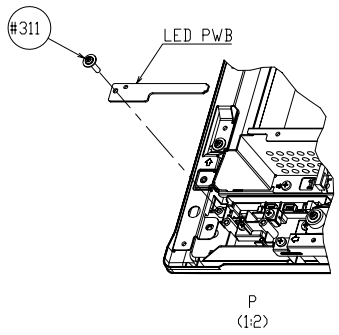
Final Ass'y Parts		
SYM.	P#	DESCRIPTION
#110	NA91161	DW3 50US FRAME TOP
#112	NA88102	DW3 50US FRAME BOTTOM
#114	MF02361	EMI GASKETS
#120	NA90811	DW3 50US BEZEL FRAME R
#122	NA90812	DW3 50US BEZEL FRAME L
#124	MF02362	EMI GASKETS
#130	MN30583	PANEL CUSHION 50 TB
#132	MN30584	PANEL CUSHION 50 LR
#0800	KS22031K	50MI01ME362XF:FILTER

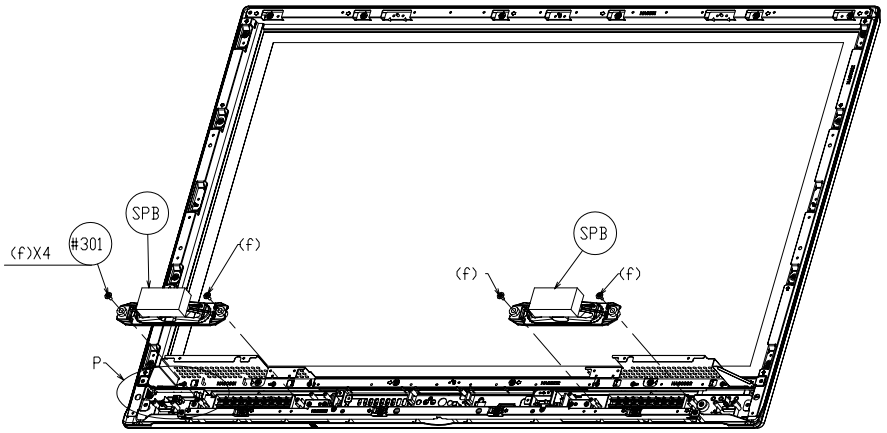
TABLE OF CONTENTS


BEZEL ASS'Y-1
#200C Work C
#200B Work B
#200A Work A
#260
#262
(b)
(b)*6
BEZEL ASS'Y-2
BEZEL F TOP ASS'Y
(Refer to P.01)
POSITIONING PIN
BEZEL F R ASS'Y
(Refer to P.01)
BEZEL F L ASS'Y
(Refer to P.01)
FILTER ASS'Y
(Refer to P.01)
POSITIONING PIN
(c)*20
#264
POSITIONING PIN
BEZEL F BTM ASS'Y
(Refer to P.01)
POSITIONING PIN
(c)
Final Ass'y Parts
SYM | P# | DESCRIPTION
#130 | MN30583 | PANEL CUSHION 50 TB
#132 | MN30584 | PANEL CUSHION 50 LR
#260 | NA90831 | DW3 50US BOTTOM FRAME
#262 | MJ04013 | SCRW T2B_4*16
#264 | MJ04013 | SCRW T2B_4*16
#266 | NA90991 | DW3_50_BOTTM_SHIELD_R
#268 | NA90992 | DW3_50_BOTTM_SHIELD_L
#270 | MJ04067 | SCRW M3D_4*10
#272 | ML02731 | WIRE CLAMP
BEZEL ASS'Y-3
(d)
E
(d)*6
#270
#272
#266
#268
CAUTION
DO THE SLIDE AND INSTALL IT.
(THE INSTALLATION POSITION DEPENDS IN DETAIL F)
LOCK
LOCK
E
1:2
AA
AA
#266
F
2:1
F
AA-AA
C
1:1
FILTER ASS'Y
#264
(c)*20
REFERENCE LINE OF (#130)STAMP OF FRAME
BEZEL F TOP ASS'Y
BEZEL F R ASS'Y
BEZEL F L ASS'Y
BEZEL F BTM ASS'Y
#130
#132
R
(1:1)
D
1:1
S
D
#132
#130
S
(1:1)
REFERENCE LINE OF (#130)STAMP OF FRAME

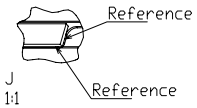
BEZEL ASS'Y-3

Final Ass'y Parts		
SYM.	P#	DESCRIPTION
#301	MJ04013	SCRW T2B_4*16
#303	MJ04067	SCRW M3D_4*10
#307	MF02363	EMI GASKETS
#311	MJ03568	SCRW T2D_4*16
SPB	GK01651	SPEAKER-04X15D



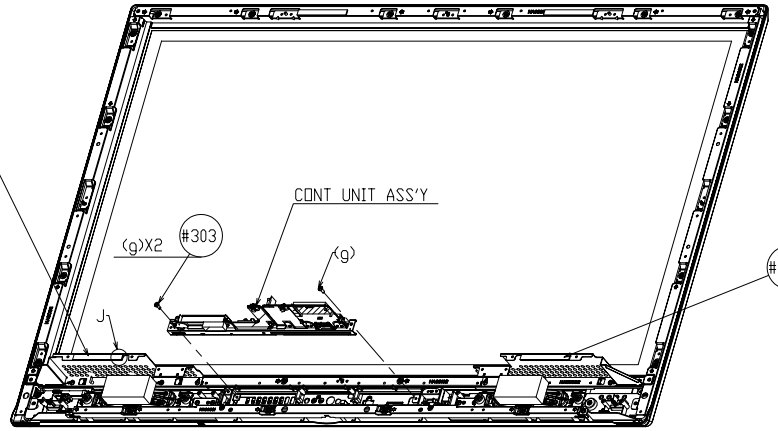


BEZEL ASS'Y-4



CAUTION

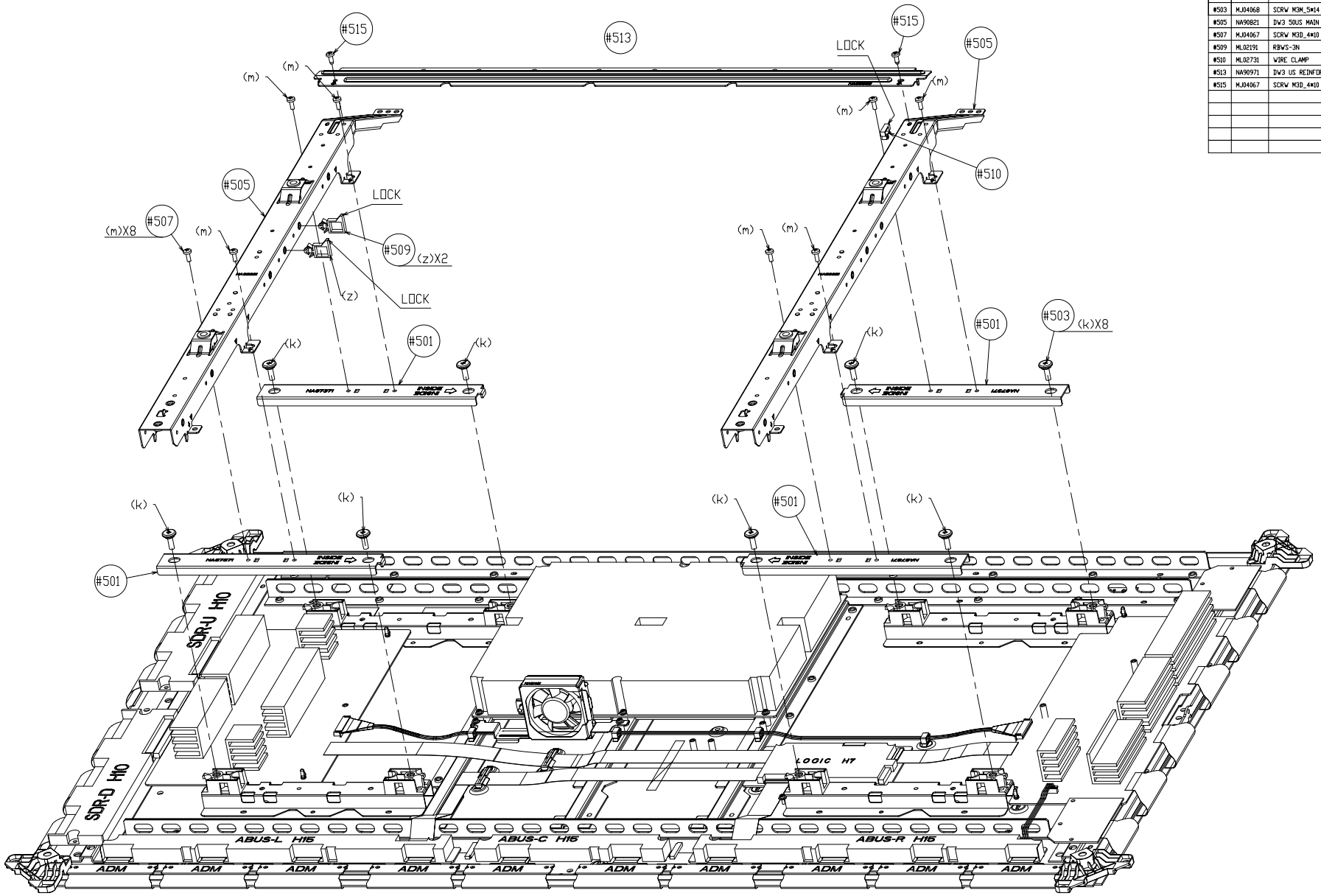
PEEL THE SEPARATOR,
AND PUSH THOROUGHLY TO STICK IT.
ADHESION STRENGTH:MORE THAN 0.49N(50gf)



#307 CAUTION

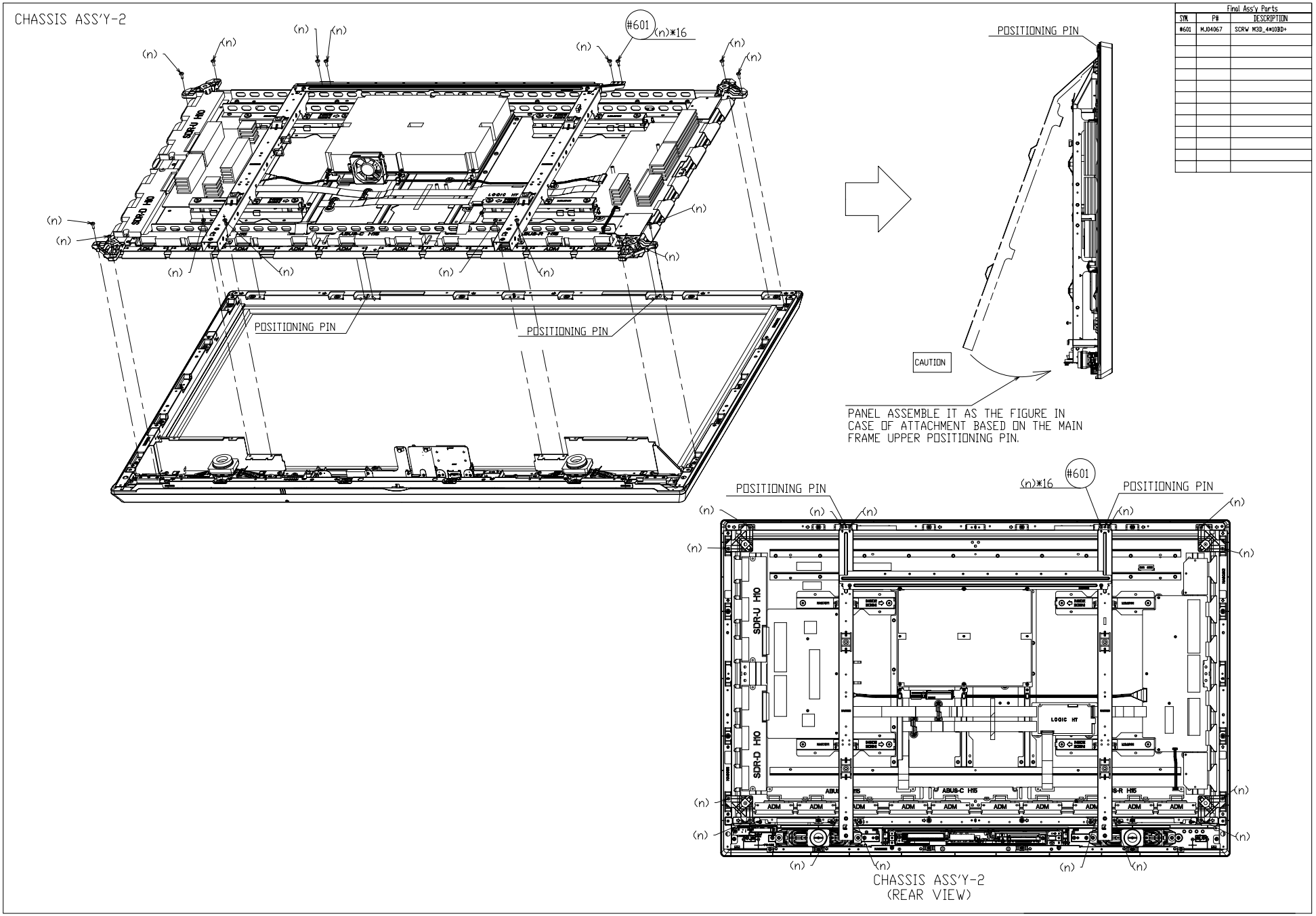
PEEL THE SEPARATOR,
AND PUSH THOROUGHLY TO STICK IT.
ADHESION STRENGTH:MORE THAN 0.49N(50gf)

CHASSIS ASS'Y-1

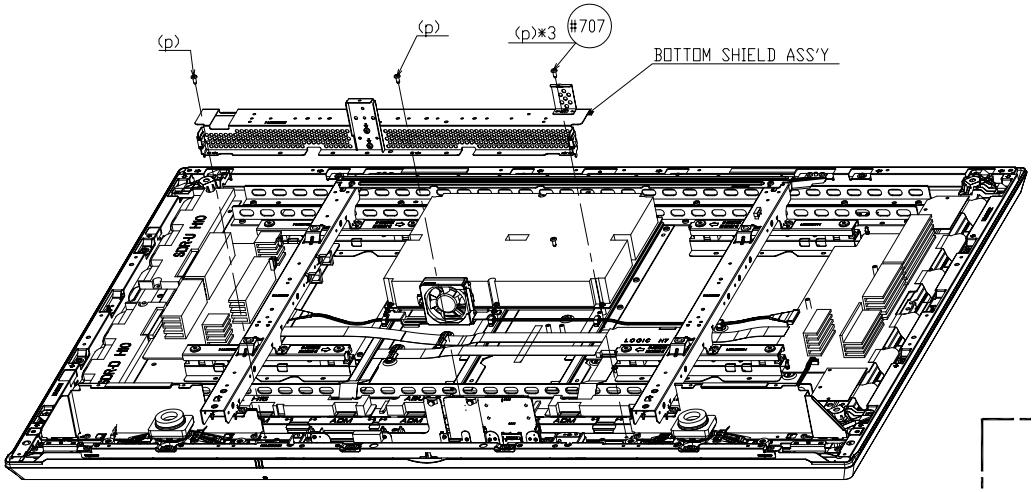


Final Ass'y Parts

SYM.	P#	DESCRIPTION
#501	NAB7371	DW2 50 SUB FRAME
#503	MJ04068	SCRW M3M_5*14
#505	NA90B21	DW3 50US MAIN FRAME
#507	MJ04067	SCRW M3D_4*10
#509	ML02191	RBWS-3N
#510	ML02731	WIRE CLAMP
#513	NA90971	DW3 US REINFORCE MTL
#515	MJ04067	SCRW M3D_4*10

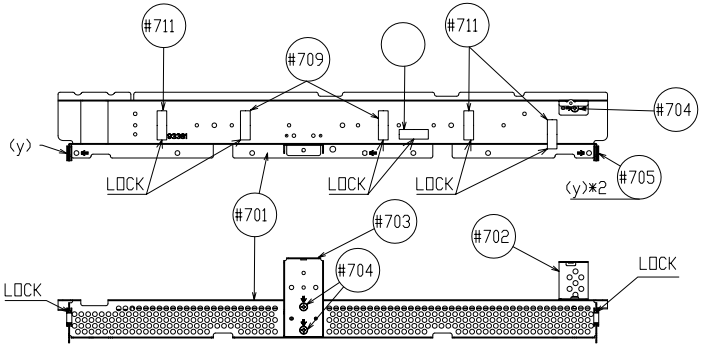

CHASSIS ASS'Y-2
#601
(n)*16
(n)
POSITIONING PIN
POSITIONING PIN
POSITIONING PIN
CAUTION
PANEL ASSEMBLE IT AS THE FIGURE IN CASE OF ATTACHMENT BASED ON THE MAIN FRAME UPPER POSITIONING PIN.
Final Ass'y Parts
SYM
P#
DESCRIPTION
#601
MJ04067
SCRW M3D_4*10BD+
POSITIONING PIN
POSITIONING PIN
#601
(n)*16
SDR-U H10
SDR-D H10
LOGIC HT
ABUS-C H15
ADM
CHASSIS ASS'Y-2
(REAR VIEW)

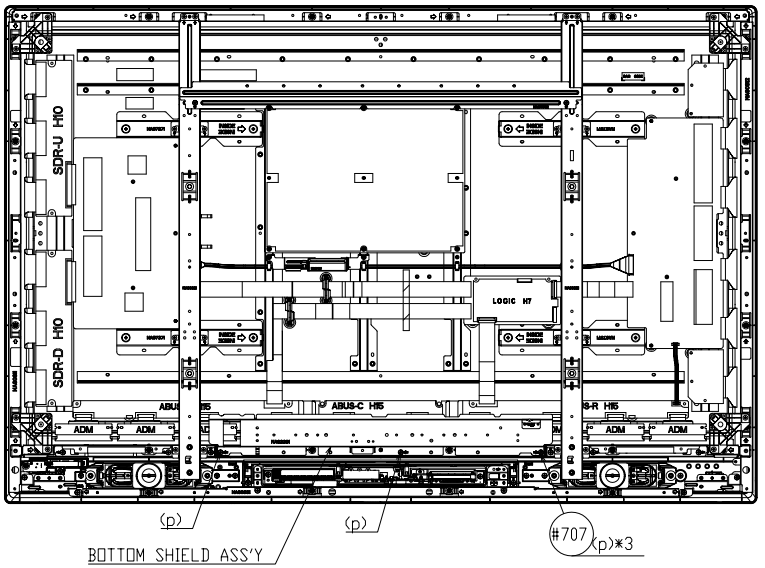
CHASSIS ASS'Y-3



Final Ass'y Parts		
SYM.	P#	DESCRIPTION
#701	NA93381	DW3 50US BTM SHIELD
#702	NA93351	DW3 50US BTM SUB MTL
#703	NA93371	DW3 50US R-FIX MTL
#704	MJ04067	SCRW M3D_4*10
#705	ML02063	EDG SADDLE 1010L
#707	MJ04067	SCRW M3D_4*10
#710	ML02731	WIRE CLAMP
#711	ML02731	WIRE CLAMP

BOTTOM SHIELD ASS'Y

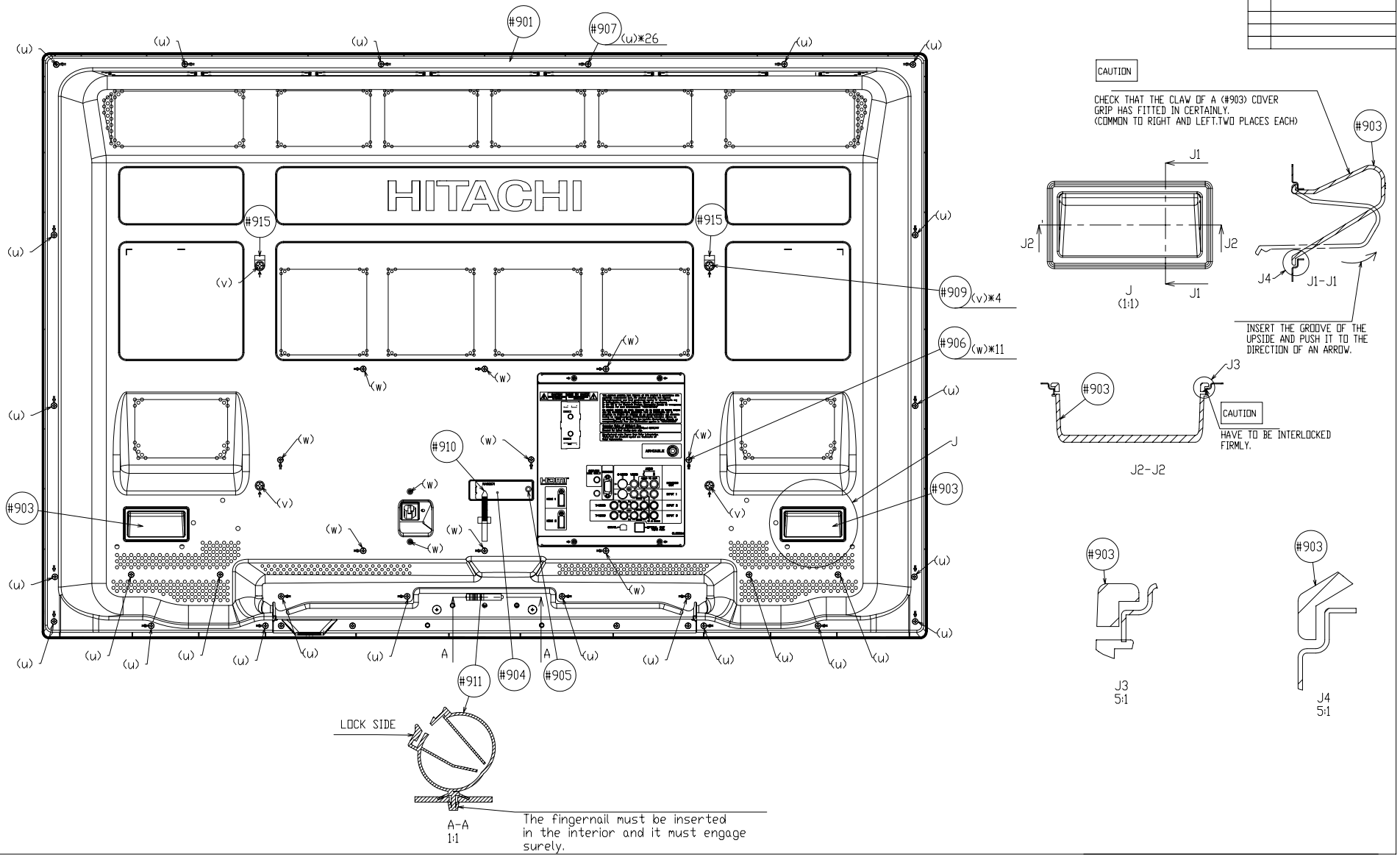




CHASSIS ASS'Y-3
(REAR VIEW)

BACK COVER ASS'Y

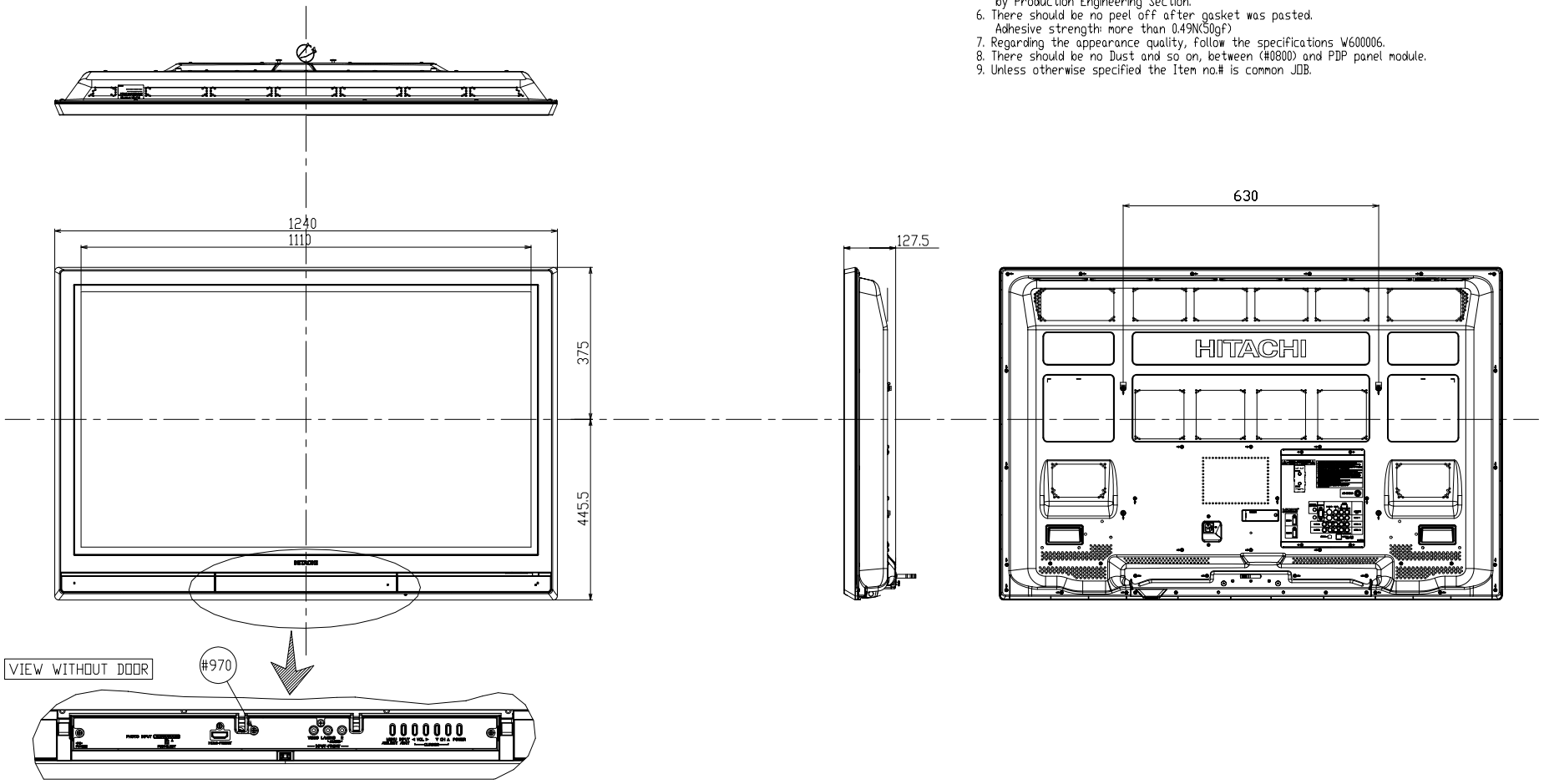
Final Ass'y Parts		
SYM.	P#	DESCRIPTION
#901	NA91161	DW3 50US FRAME TOP
#903	NA88102	DW3 50US FRAME BOTTOM
#905	MF02361	EMI GASKETS
#906	NA90811	DW3 50US BEZEL FRAME R
#907	NA90812	DW3 50US BEZEL FRAME L
#909	MF02362	EMI GASKETS
#910	MN30583	PANEL CUSHION 50 TB
#911	MN30584	PANEL CUSHION 50 LR

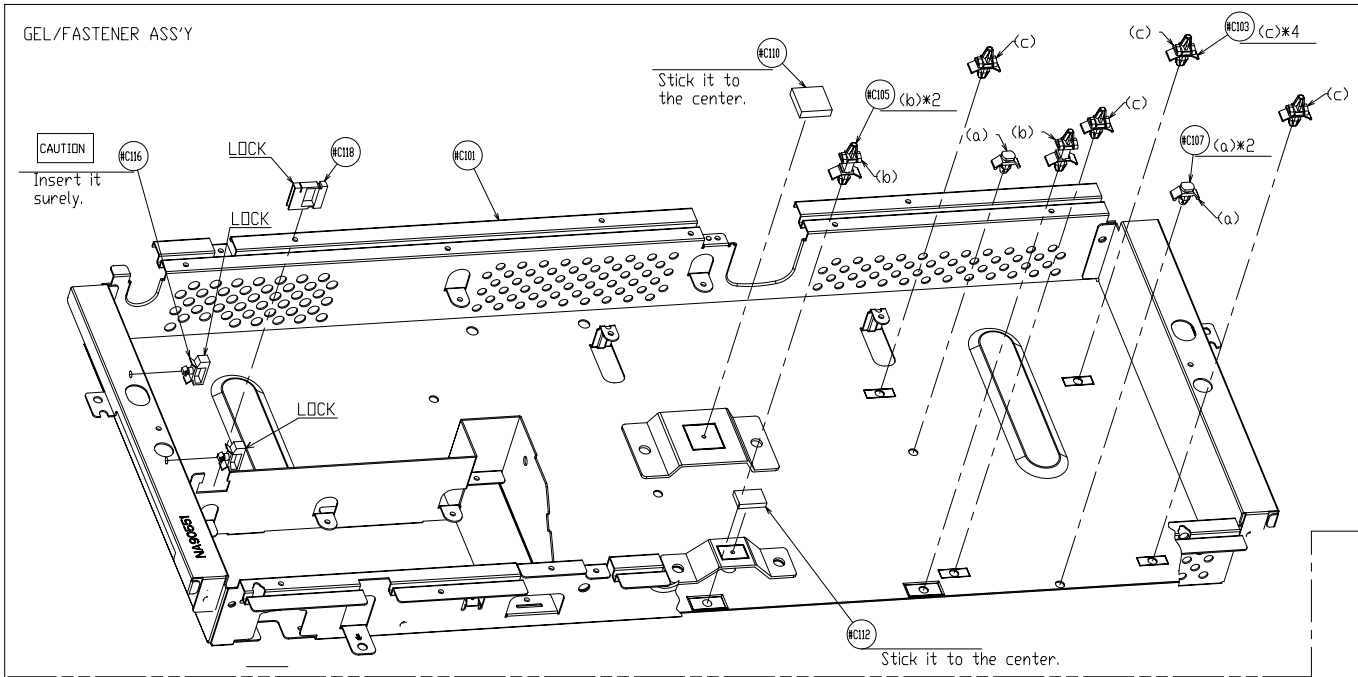


DRAWING OF OUTER SHAPE

Final Ass'y Parts		
SYM.	P#	DESCRIPTION
#970	MJ03649	SCRW M3D_3*10BD

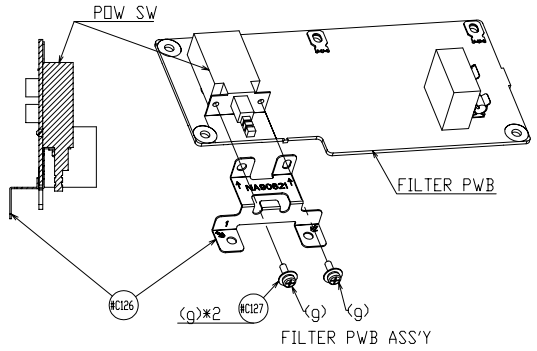
Specifications
1. Wiring is refered to Wiring Diagram.
2. Plastics fasteners should be interlocked surely.
3. Unspecified screwing torque is as follows.
   Refer to W020359
4. While assembly, There should be no Finger Mark,Dust and so on, on the chassis metal.
5. Detail of assembly JOB is refered to work instruction issued by Production Engineering Section.
6. There should be no peel off after gasket was pasted.
   Adhesive strength: more than 0.49N(50gf)
7. Regarding the appearance quality, follow the specifications W600006.
8. There should be no Dust and so on, between (#0800) and PDP panel module.
9. Unless otherwise specified the Item no.# is common JOB.

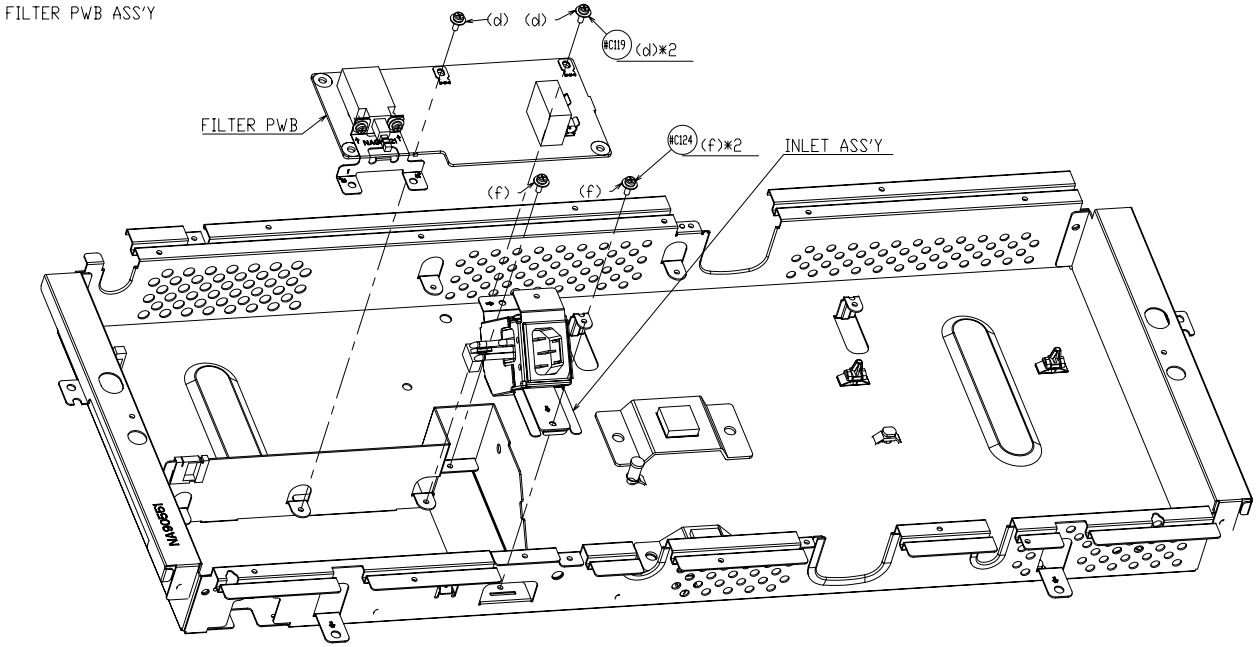


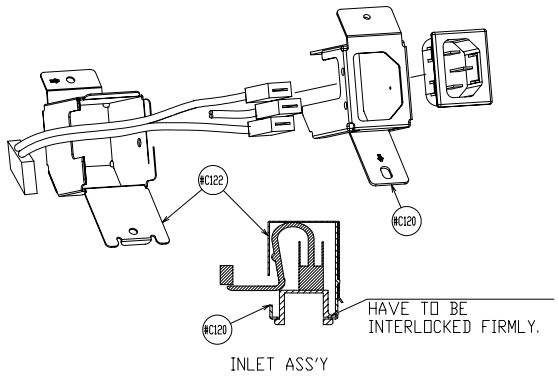


Final Ass'y Parts		
SYM.	P#	DESCRIPTION
#C101	NA96551	DW3 CHASSIS CASE
#C103	ML02411	FG SPACER 3S
#C105	ML02412	FG SPACER 8S
#C107	ML03811	PCB SUPPORT PS-3-01
#C110	MC01164	DW2 MAIN PWB GEL 4.5T
#C112	MC01167	DW3 SOUND GEL
#C116	ML02731	WIRE CLAMP
#C118	ML01081	WIRE CLAMP
#C119	MJ03467	SCRW M3E_3*8
#C120	NA90931	DW3 AC INLET BRAKET
#C122	NA90941	DW3 AC INLET CASE
#C124	MJ03467	SCRW M3E_3*8
#C127	MJ03467	SCRW M3E_3*8

Specifications
1.Regarding the wiring, refer to the wiring drawing(W151299).
2.Interlock firmly the plastics fasteners.
3.Unless otherwise specified, the screw fixing is as follows.
Screwing to a metal : Refer to the specification drawing (W020359).
Screwing to a plastics : Refer to the specification drawing (W045714).
4.When assembling, do not stain the chassis and the product appearance surface with a fingerprint and so on.
5.Asymbol number in a balloon that is not indicated a work code is applied to all works codes.
6.Detail of assembly JOB is referred to work instruction issued by Production Engineering Section.
7.The adhesion power of tape : More than 0.49N(50gf)



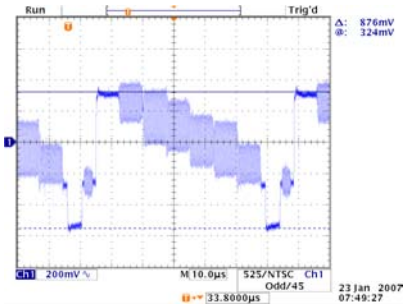




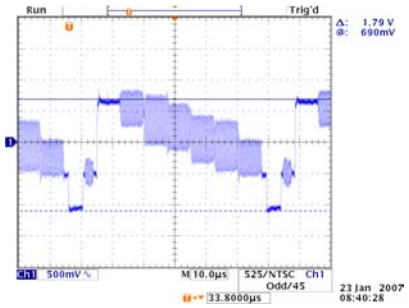
WAVEFORMS

Numbers inside circle correspond to locations shown in the circuit diagram. Waveforms taken using an NTSC Color Bar signal and a X10 probe. The amplitude of the waveform is shown as Δ.

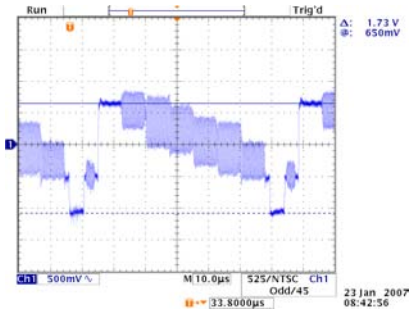
(1) UT01 Pin 13 TunerM_CV (out)



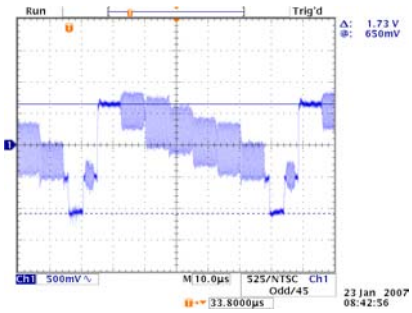
(2) JY02 Pin 4 Monitor-Out



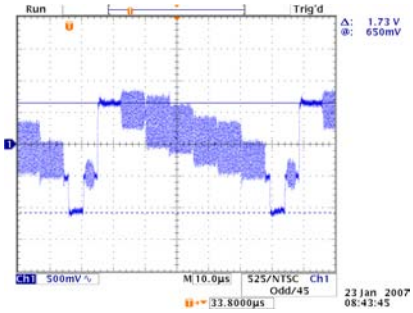
(3) I001 Pin 26 TunerM_CV (in)



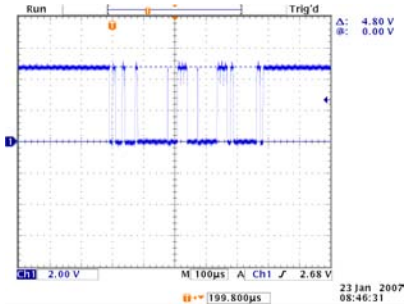
(4) I001 Pin 28 MAIN_Y/V (out)



(5) I001 Pin 32 SUB_Y/V (out)



(6) I001 Pin 44 I^2C DATA



(7) I001 Pin 45 I^2C CLK

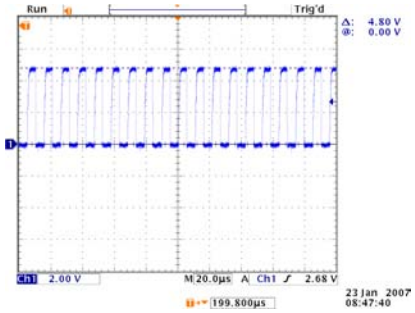


TABLE OF CONTENTS

DC VOLTAGES

(50" Models only)

Symbol	Pin No.	Voltage
CN64	1	65.7 V
	2	NC
	3	5.1 V
	4	GND
	5	GND
	6	GND
	7	NC
	8	(Vs) 86.8 V
	9	(Vs) 86.8 V
	10	(Vs) 86.8 V

Symbol	Pin No.	Voltage
CN68	1	5.1 V
	2	GND
	3	3.3 V
	4	GND
	5	NC
	6	NC
	7	2.7 V
	8	2.7 V
	9	NC

Symbol	Pin No.	Voltage
PFA1	1	7.8 V
	2	0
	3	GND

Symbol	Pin No.	Voltage
CNPPS	1	5.4 V
	2	5.4 V
	3	5.4 V
	4	GND
	5	GND
	6	GND
	7	10 V
	8	GND
	9	16 V
	10	GND
	11	GND
	12	GND
	13	10 V
	14	10 V
	15	10 V

Symbol	Pin No.	Voltage
CN63	1	5 V
	2	GND
	3	3.3 V
	4	0
	5	-
	6	4.8 V
	7	3.1 V
	8	NC

Symbol	Pin No.	Voltage
PTC	1	-
	2	-
	3	-
	4	-
	5	-
	6	-
	7	-
	8	-
	9	-
	10	9.2 V

Symbol	Pin No.	Voltage
PSC	1	5.2 V
	2	5.2 V
	3	5.2 V
	4	GND

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BASIC CIRCUIT DIAGRAM

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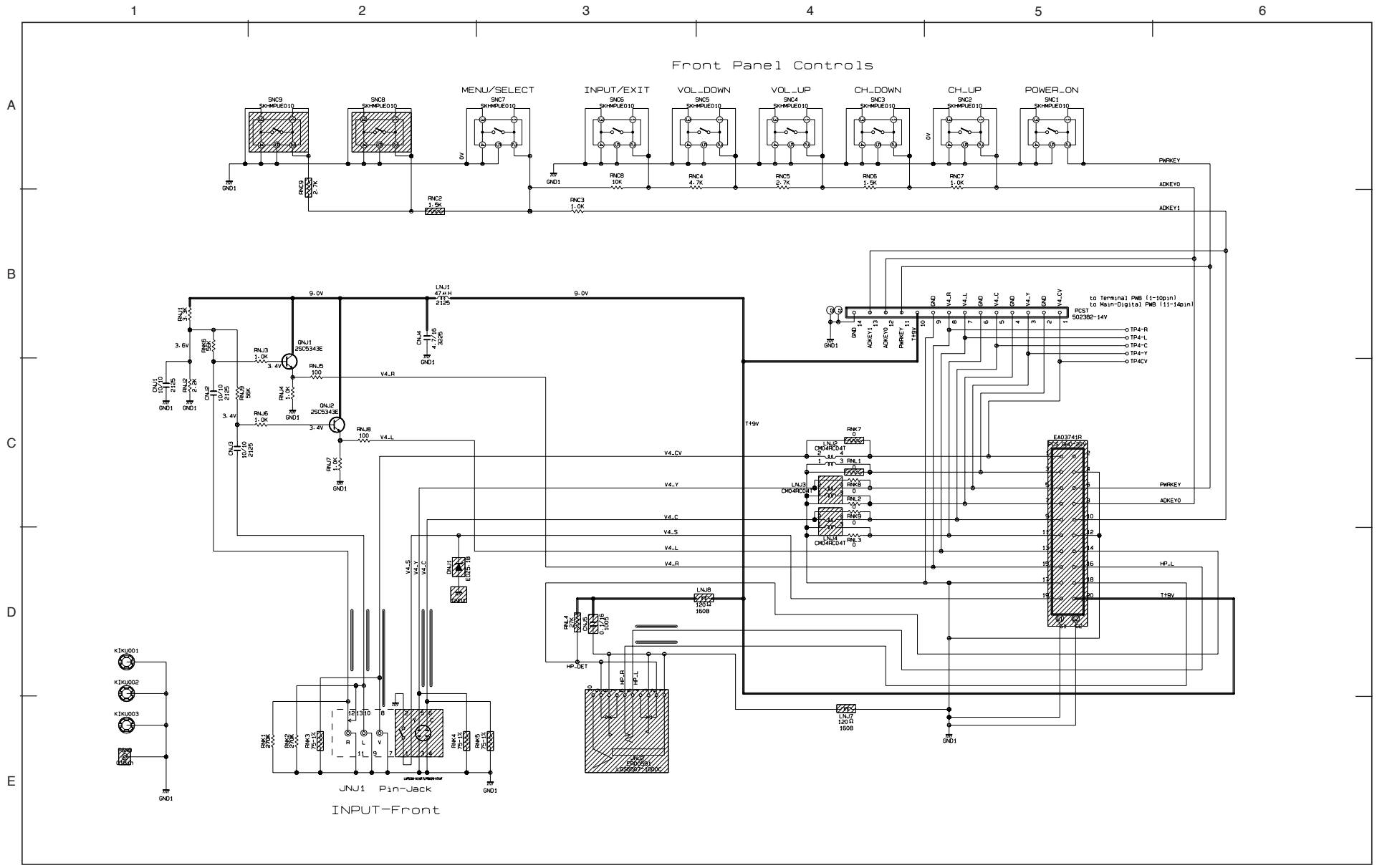

- All DC voltage to be measured with a tester (100 kΩ/V). Voltage taken on a complex color bar including a standard color bar signal.
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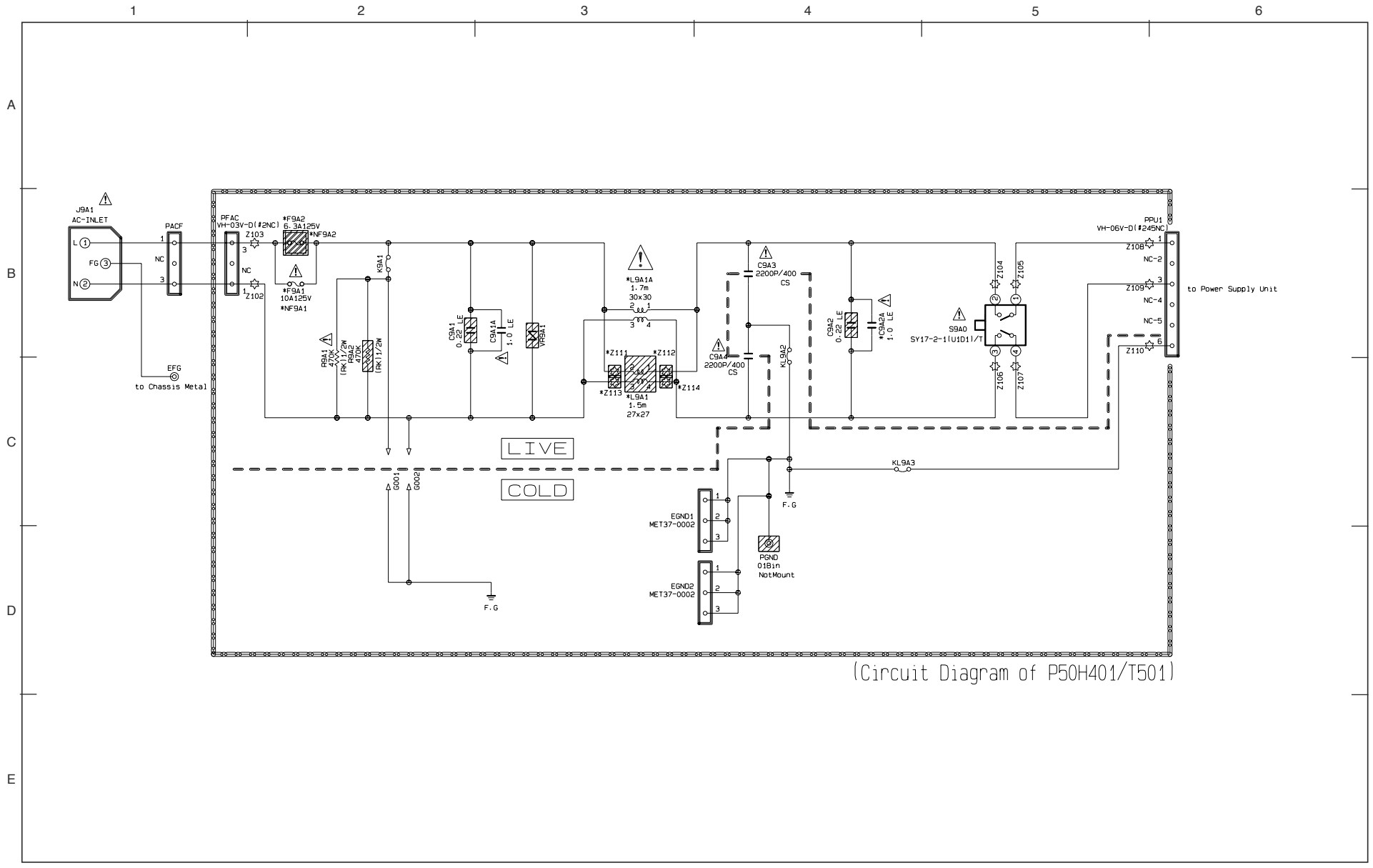

FILTER

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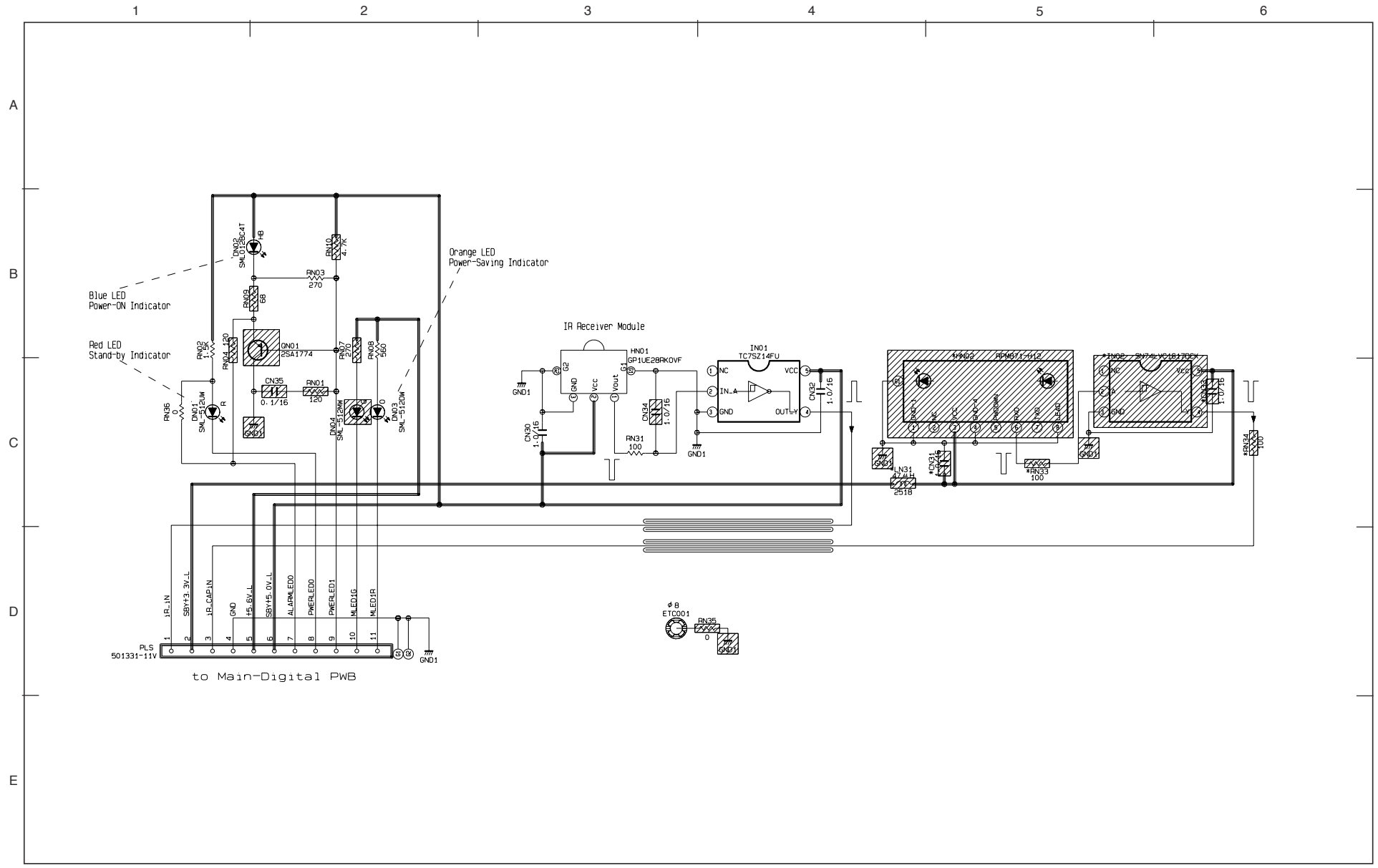

LED

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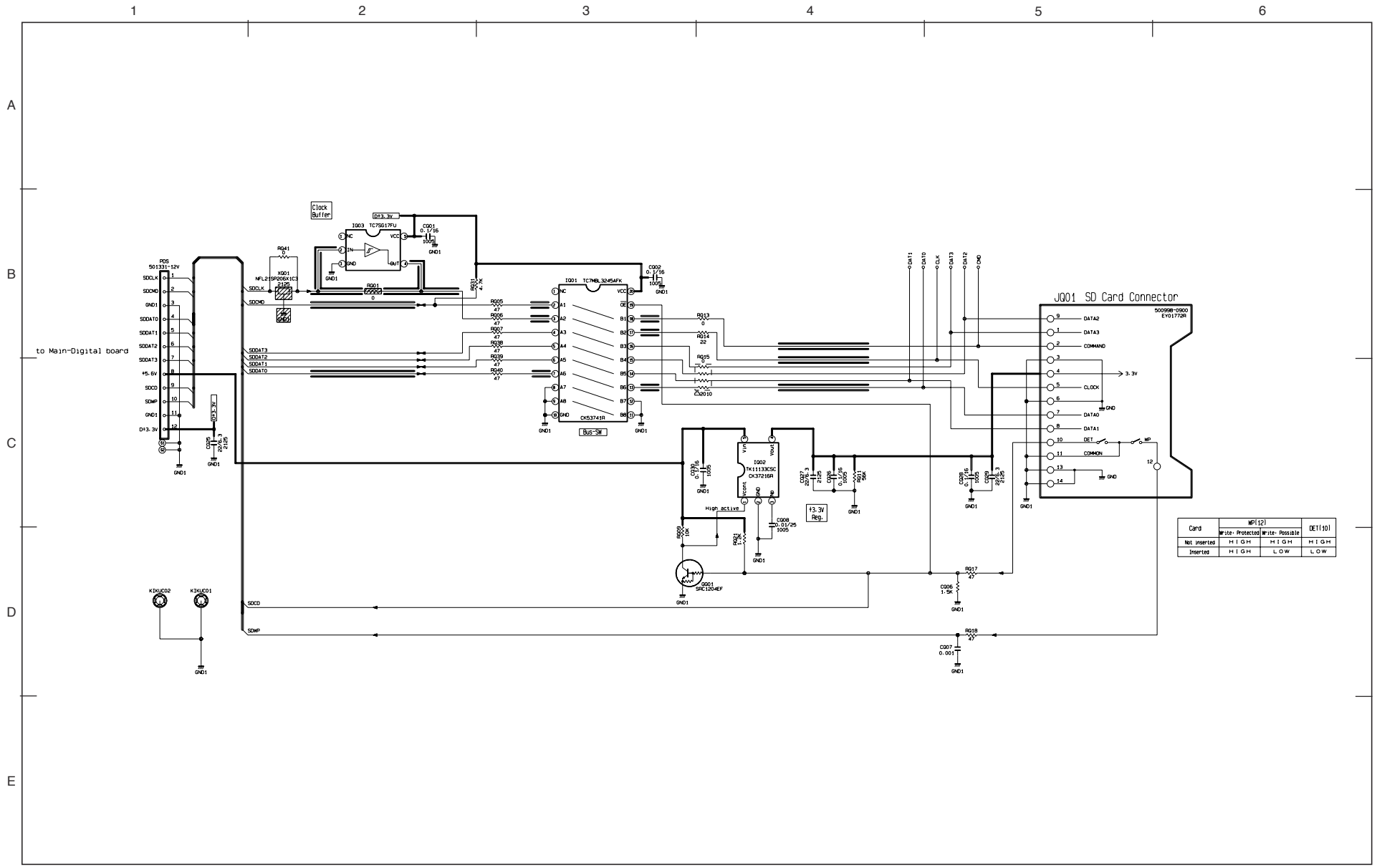

SD

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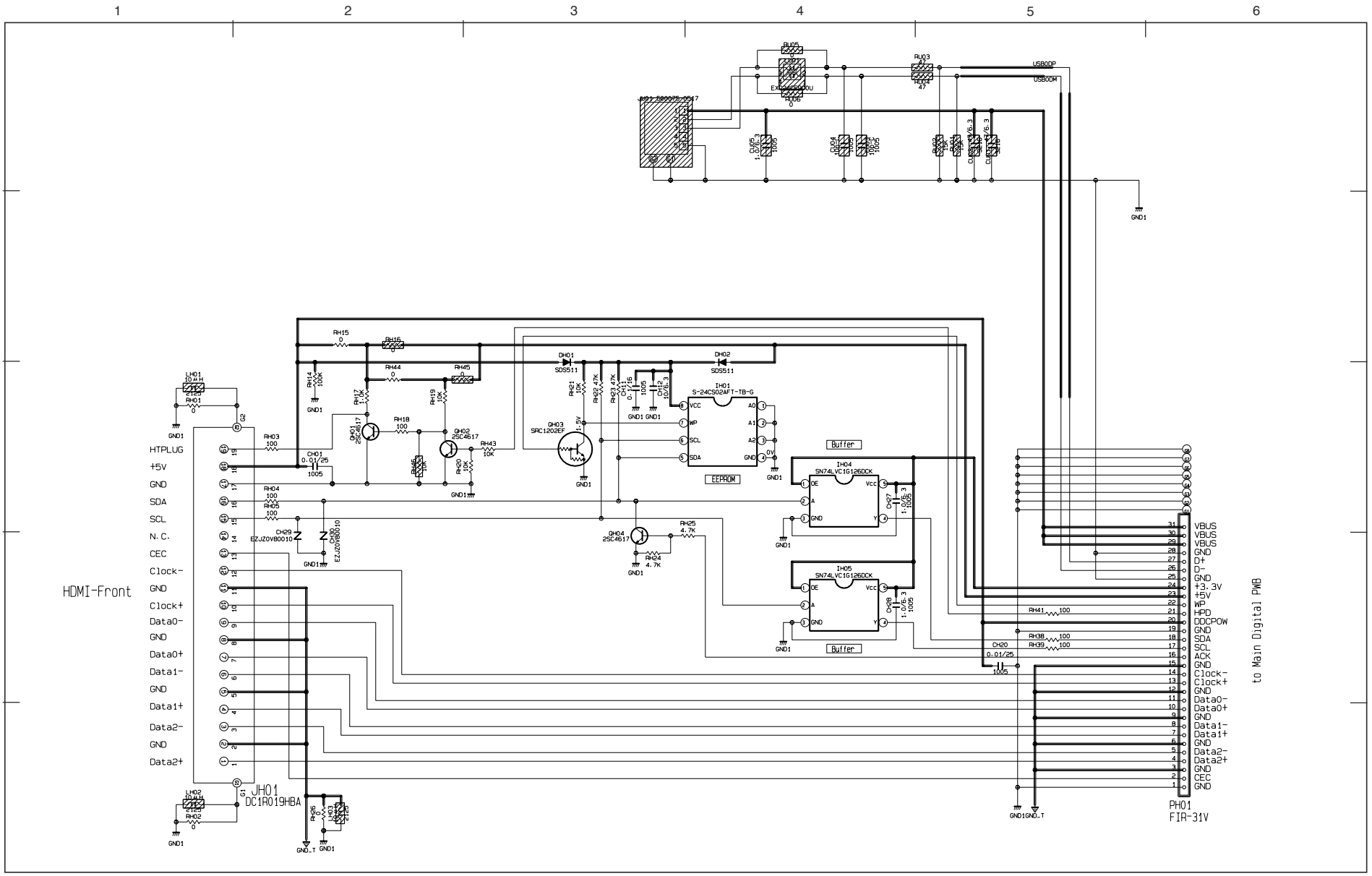

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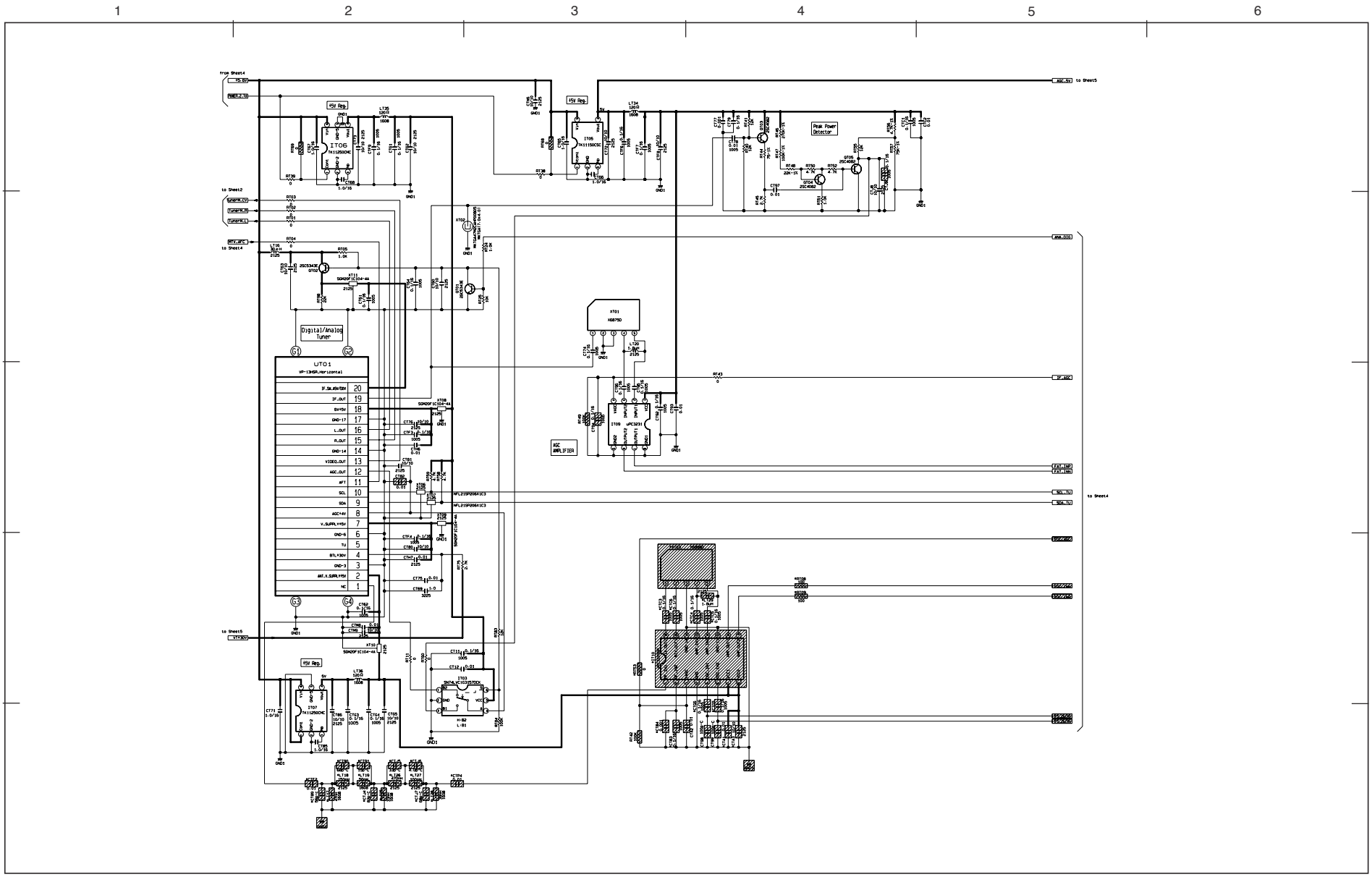

TERMINAL

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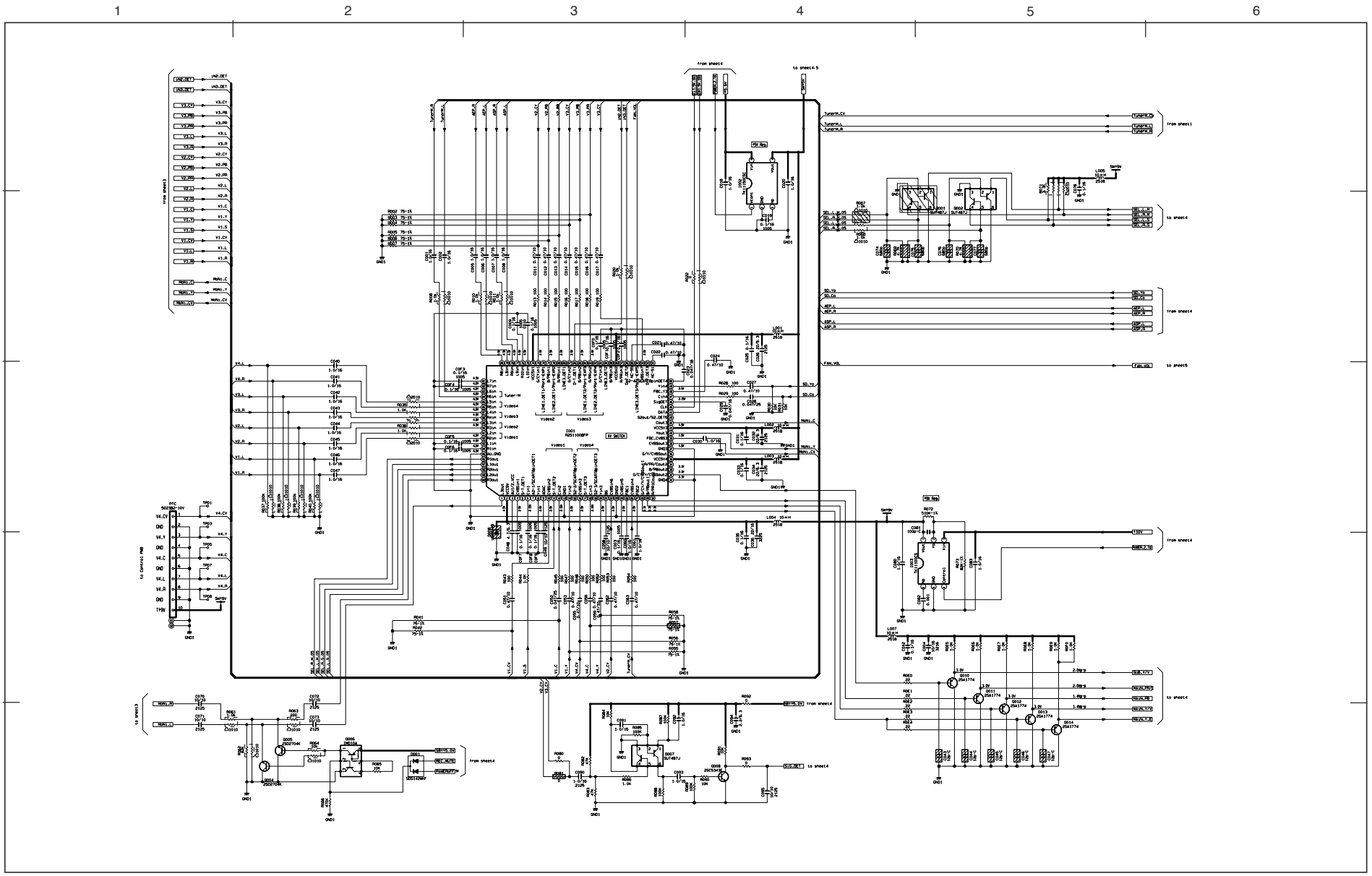

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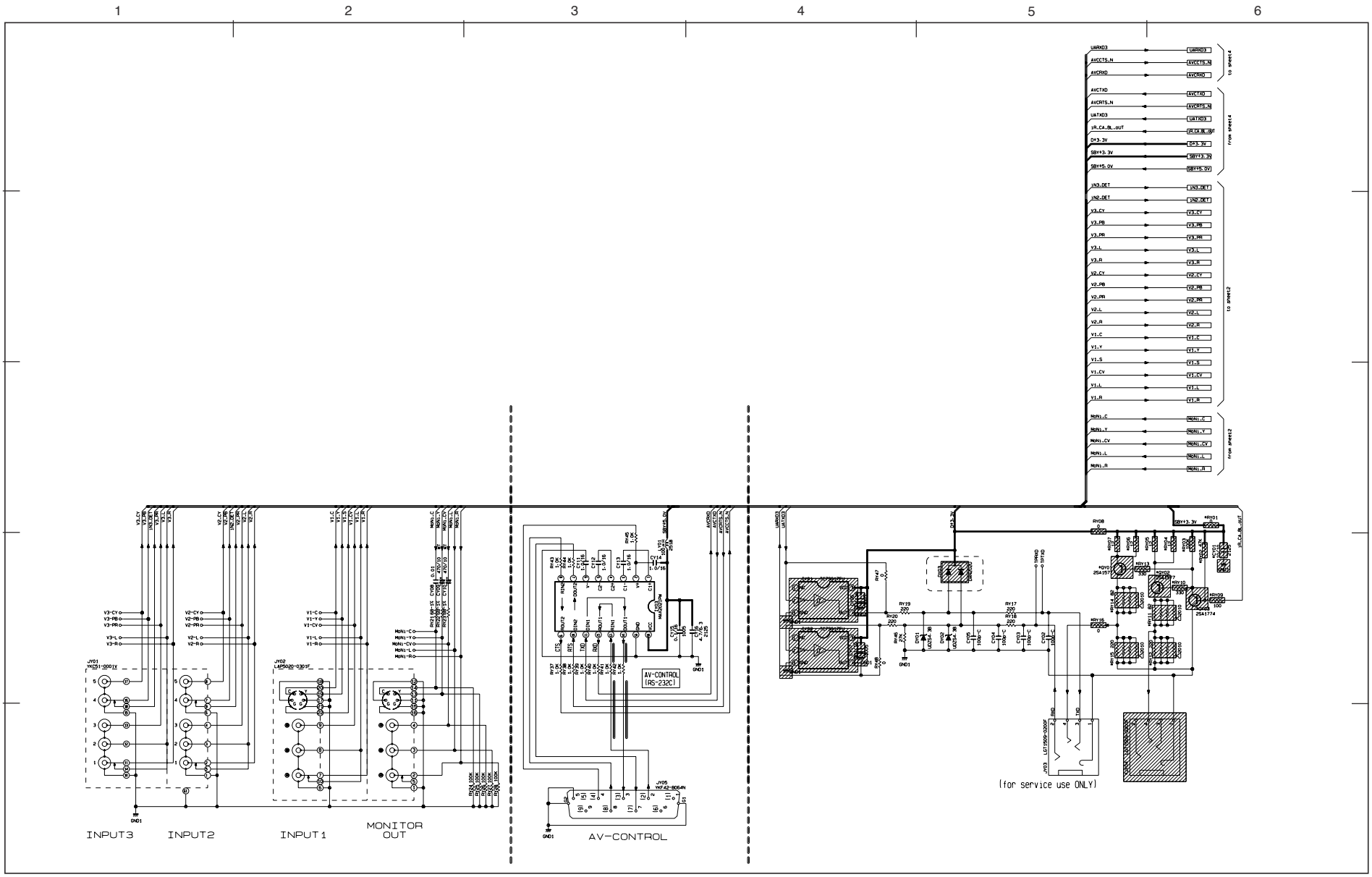

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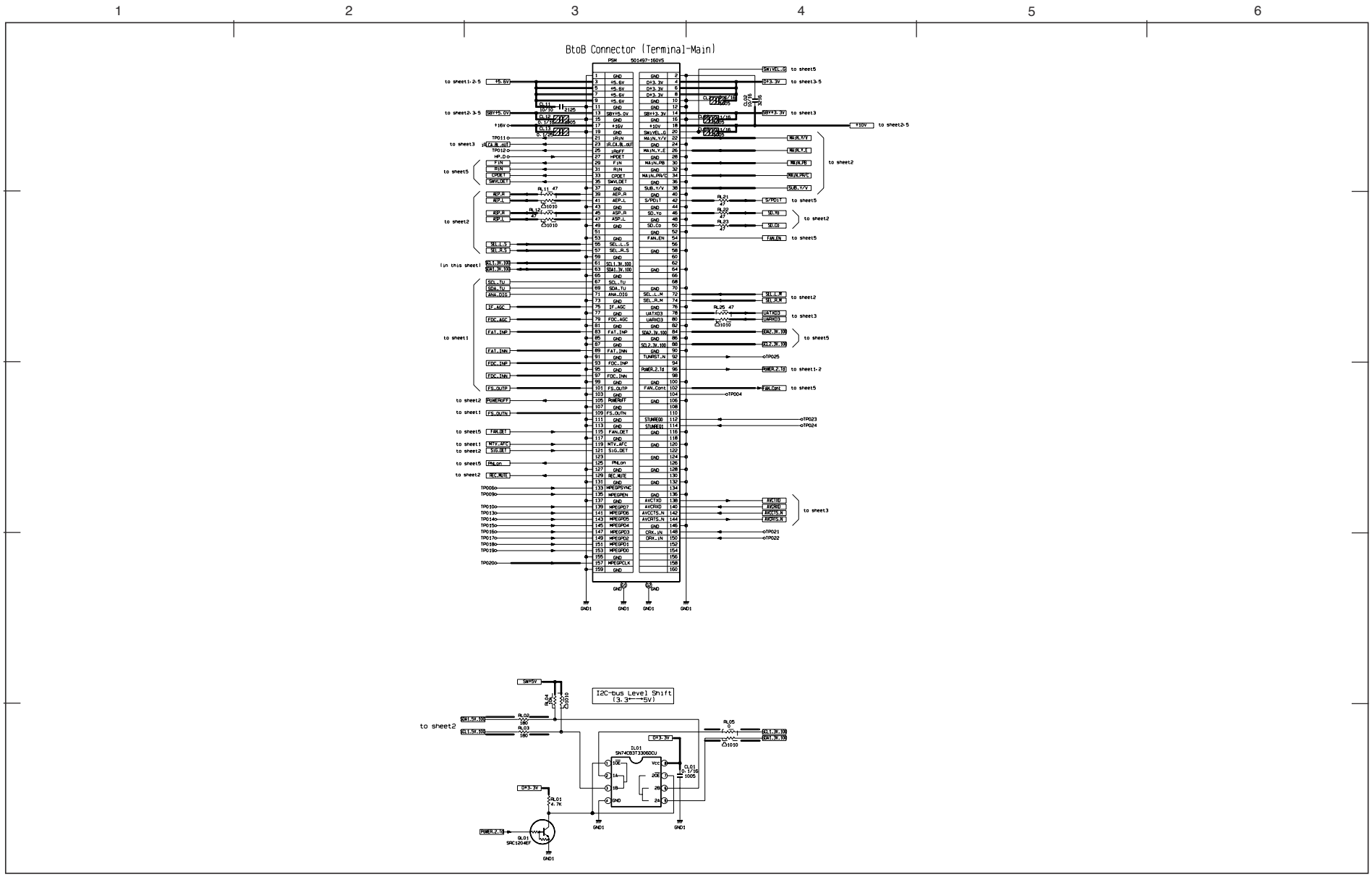

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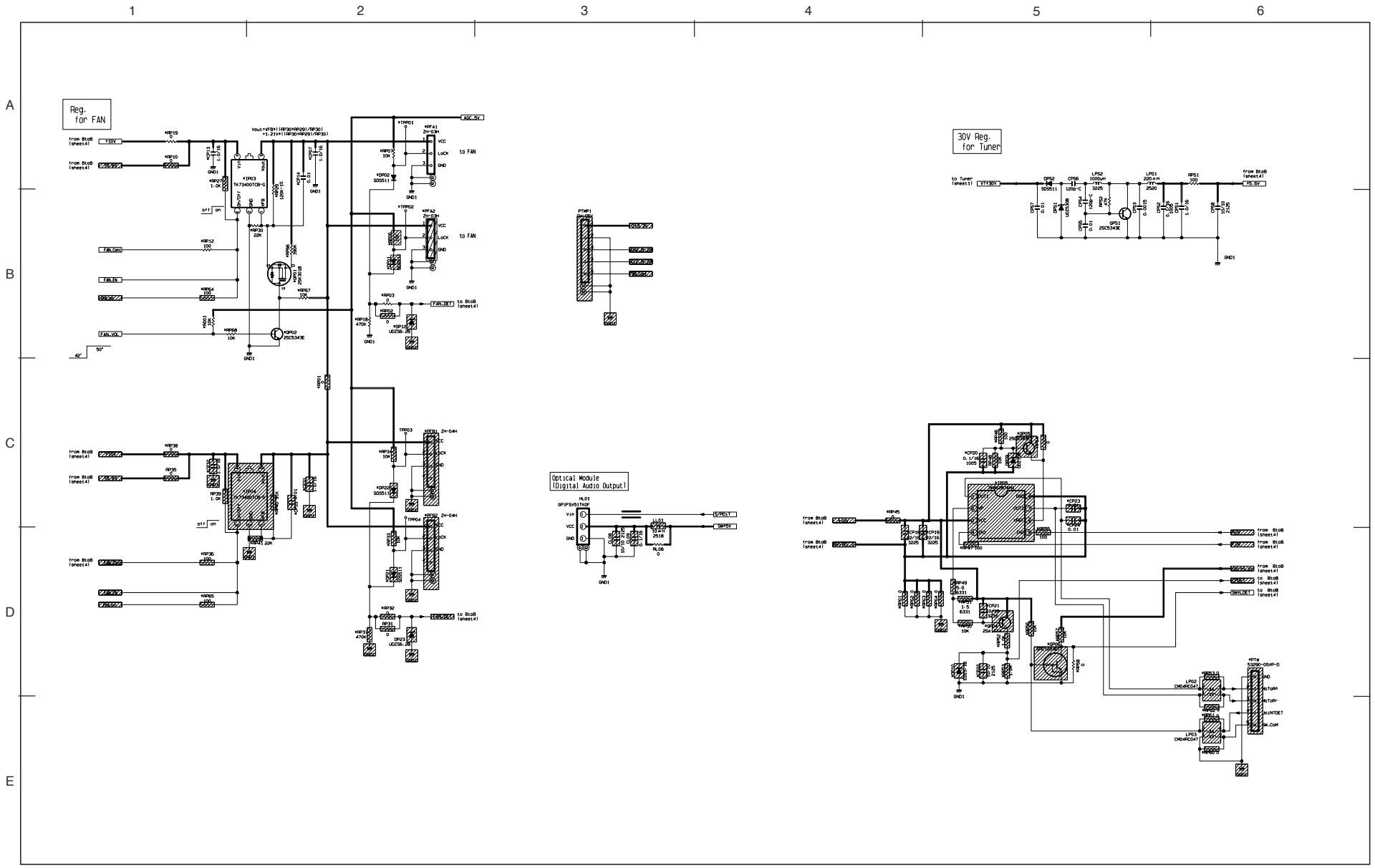

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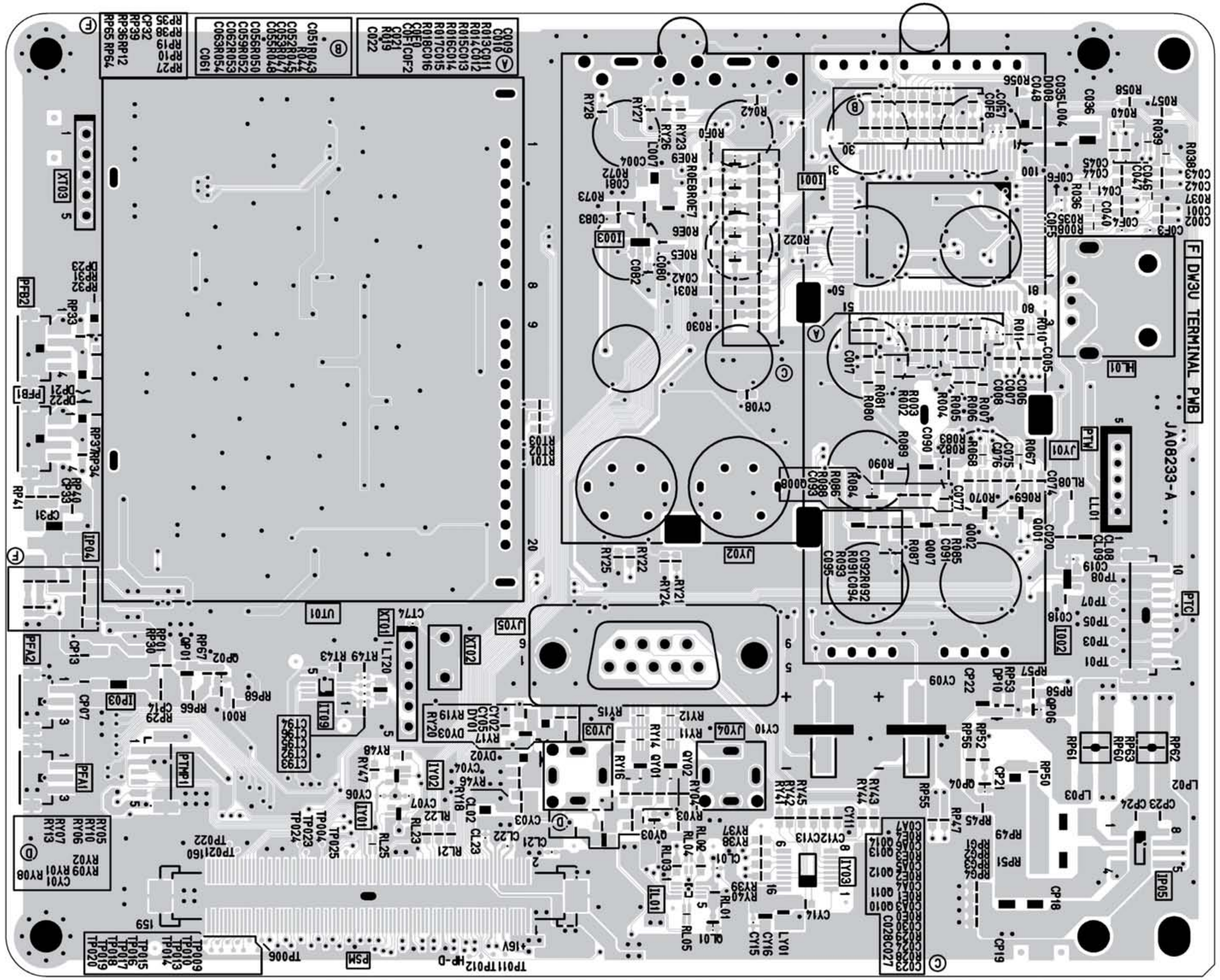
DW3-U TERMINAL PWB (Component side)



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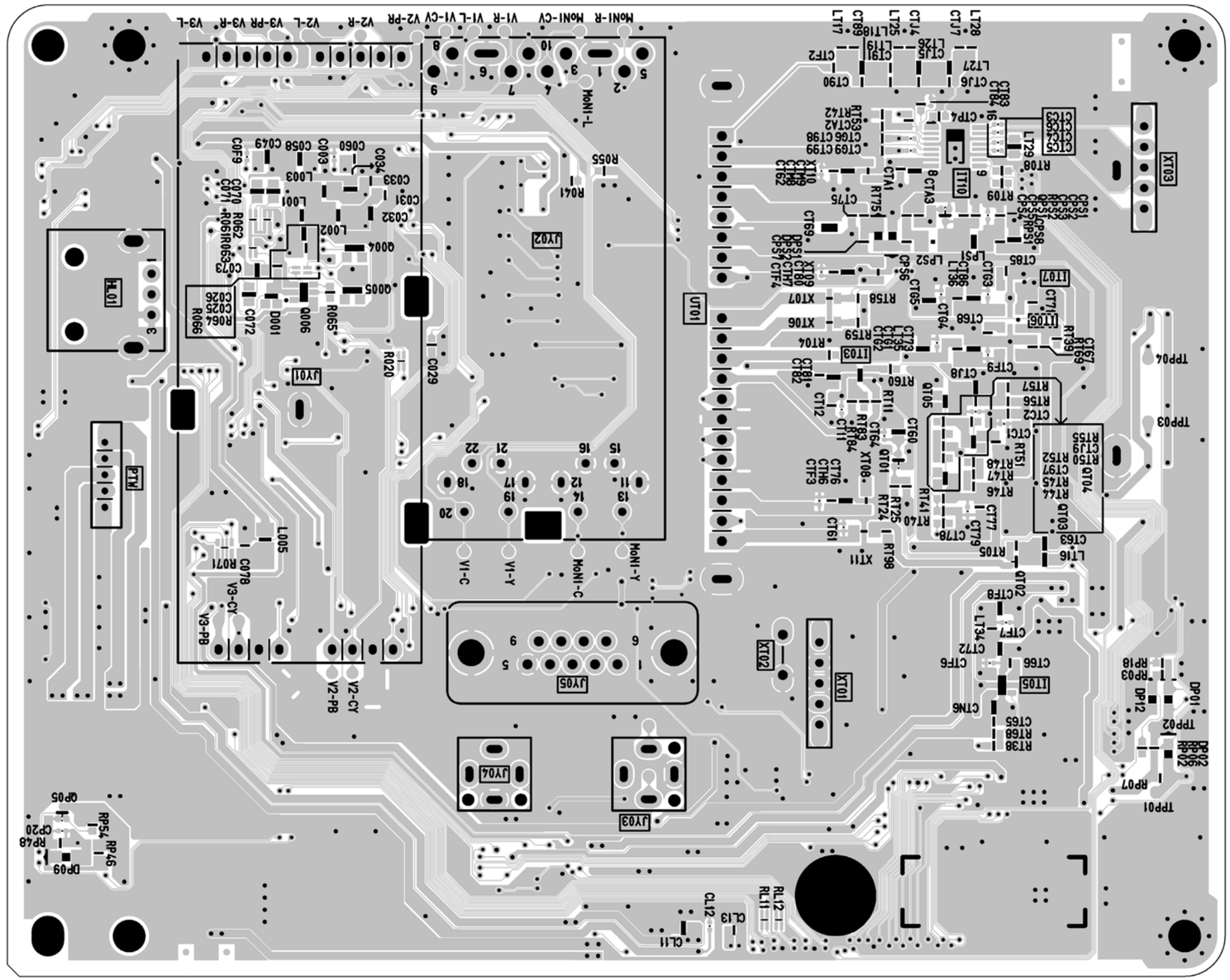
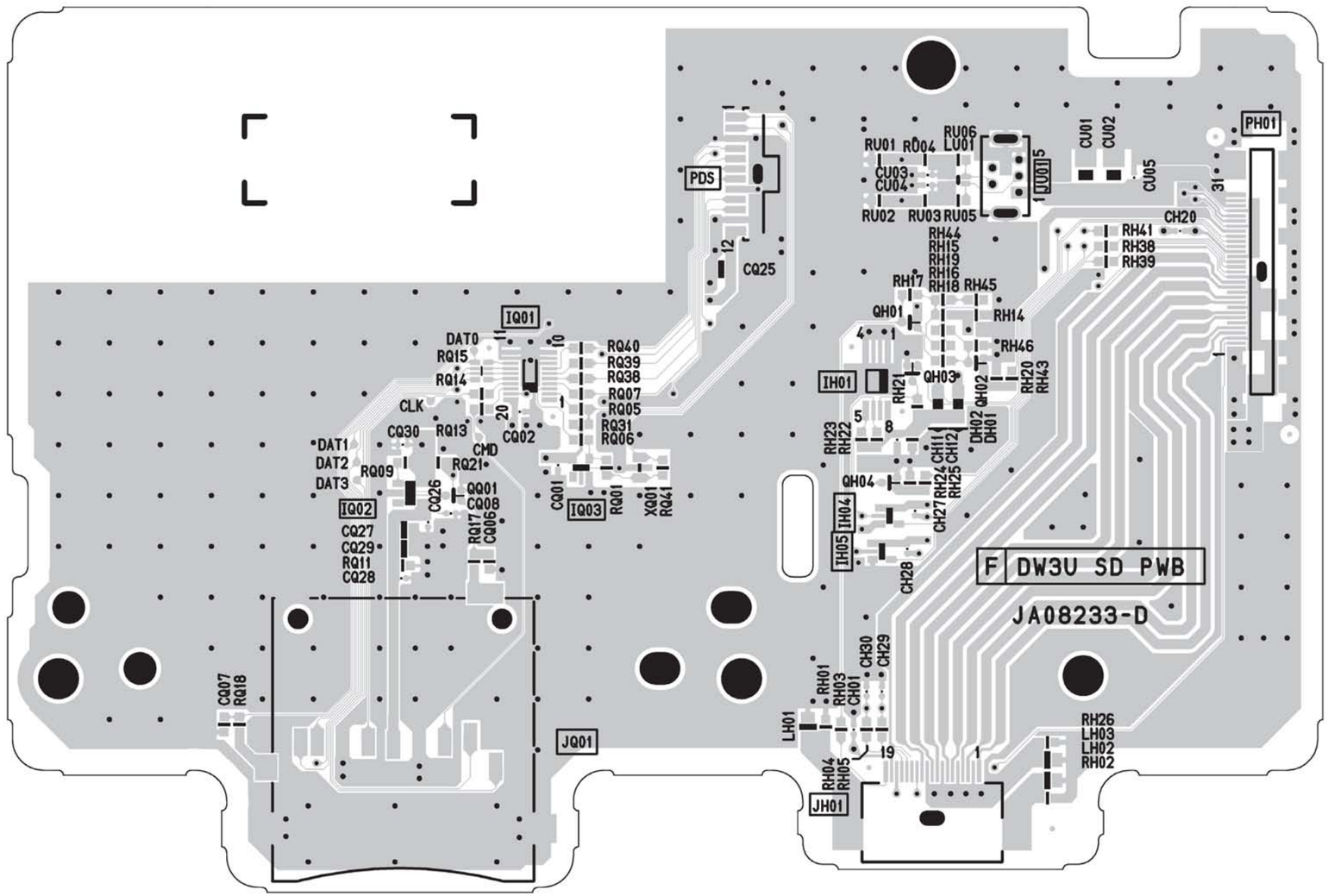
DW3-U TERMINAL PWB (Solder side)

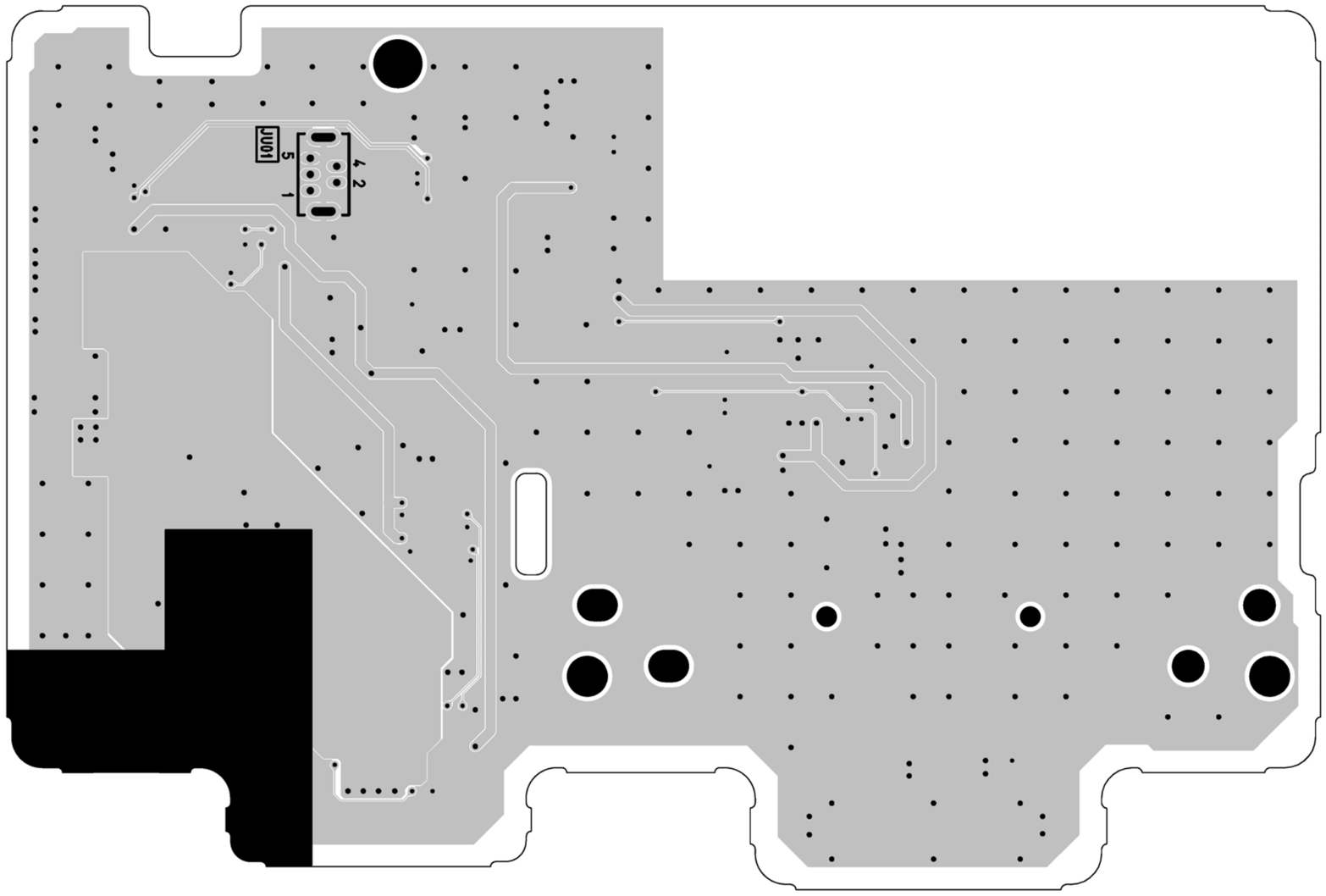


PRINTED CIRCUIT BOARDS

DW3-U SD PWB (Component side)

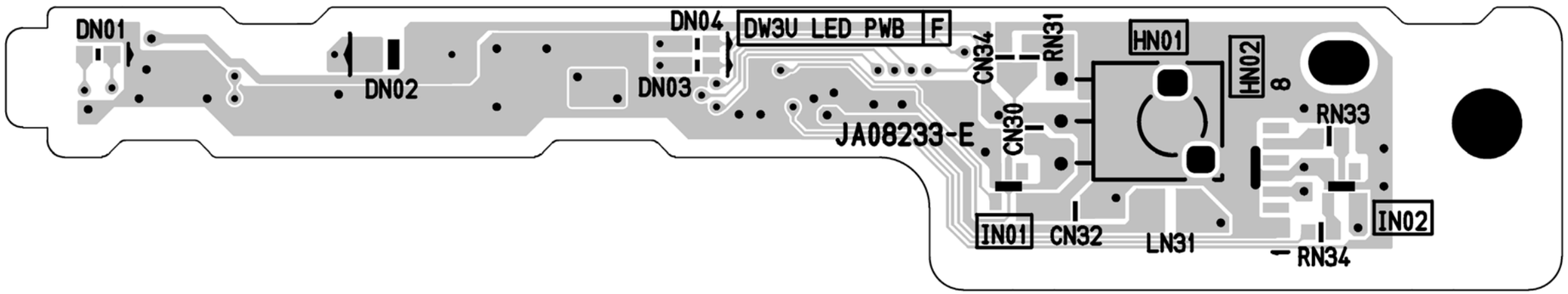


DW3-U SD PWB (Solder side)

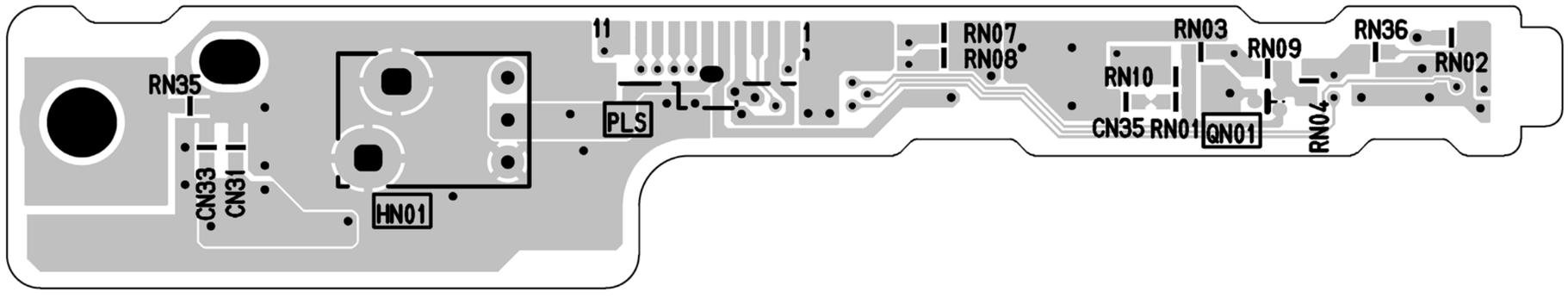


DW3-U LED PWB

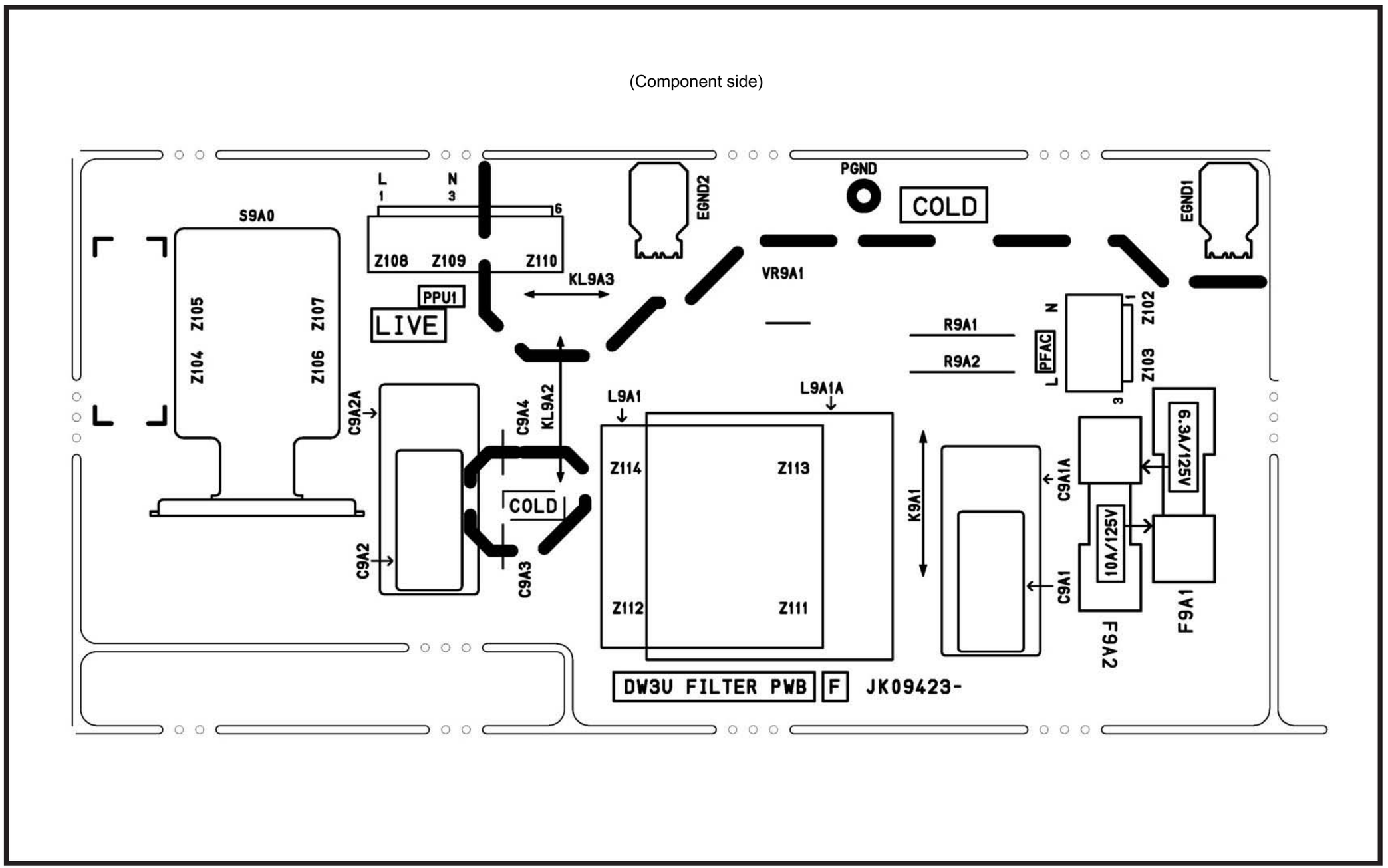
(Component side)



(Solder side)

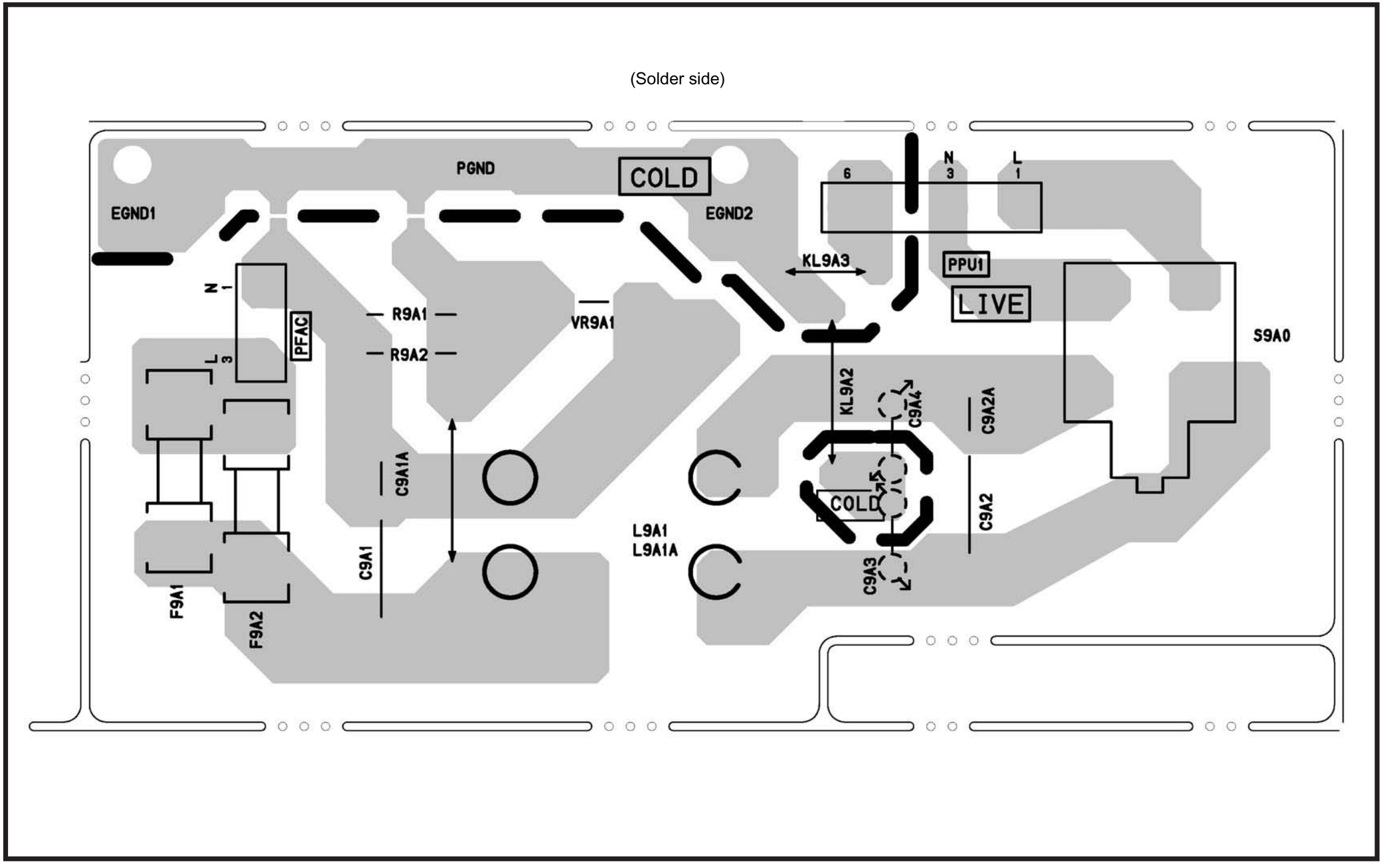


DW3-U FILTER PWB (Component side)

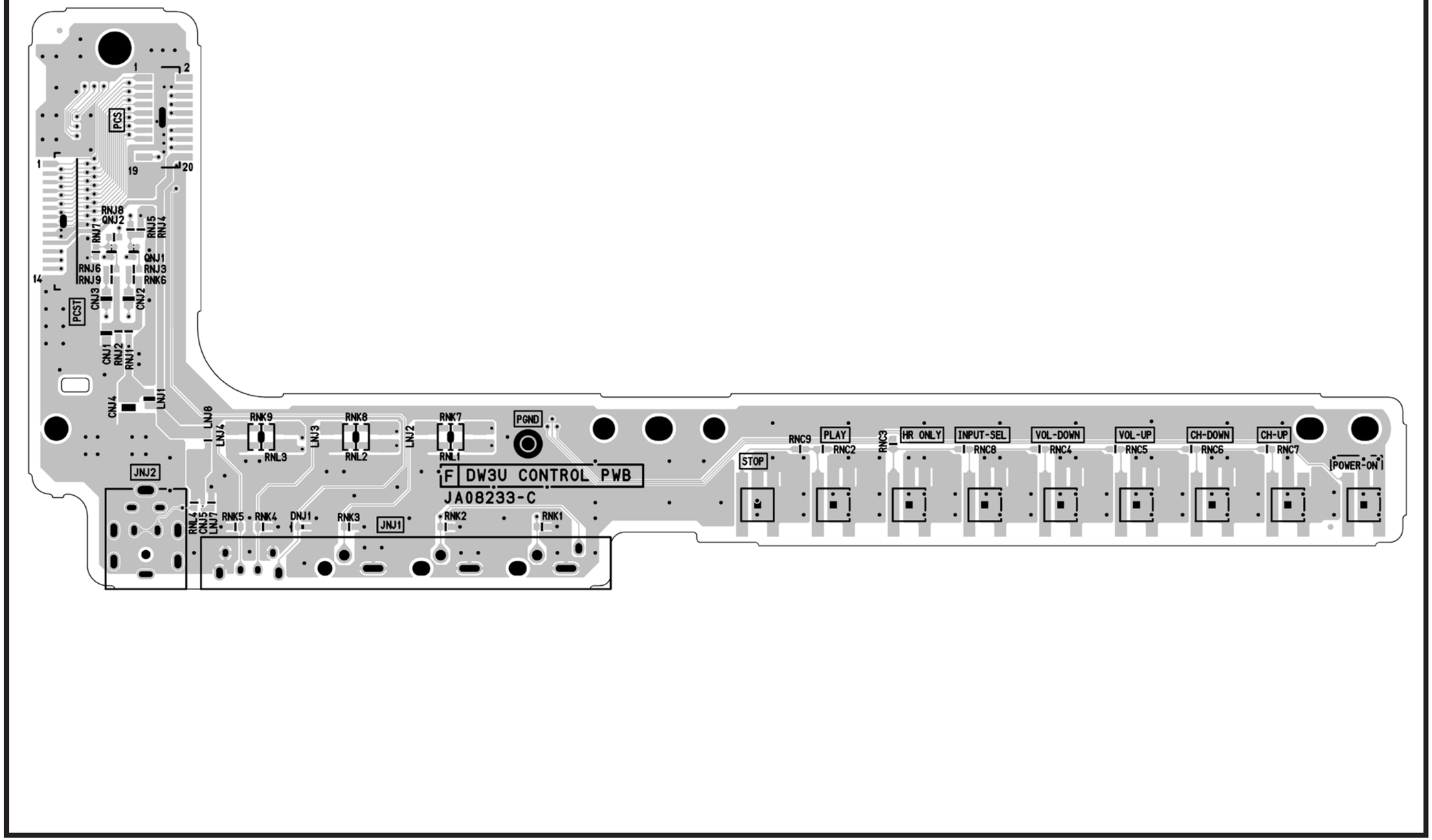


DW3-U FILTER PWB (Solder side)

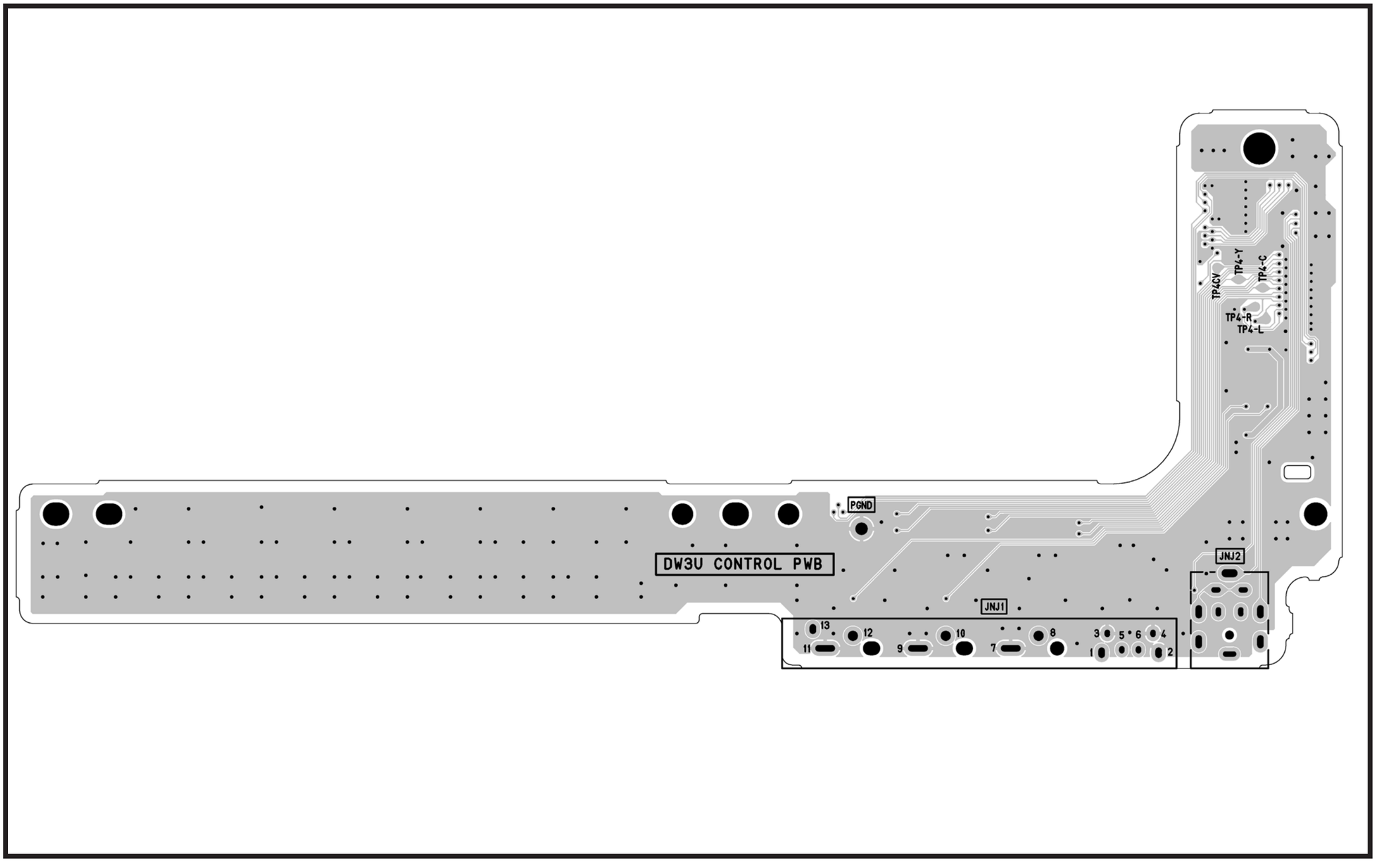
(Solder side)



DW3-U CONTROL PWB (Component side)



DW3-U CONTROL PWB (Solder side)



REPLACEMENT PARTS LIST

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ABBREVIATIONS

Capacitors:
- AL: Aluminum Electrolytic
- CD: Ceramic Disc
- EL: Electrolitic
- PF: Polyester Film
- PP: Polypropylene
- PL: Plastic
- TA: Tantalum
- PR: Paper
- TM: Trimmer
- MC: Mylar

Resistors:
- CF: Carbon Film
- CC: Carbon Composition
- MF: Metal Oxide
- VR: Variable Resistor
- WW: Wire Wound
- FR: Fuse Resistor
- MG: Metal Grazed

Semiconductors:
- TR: Transistor
- DI: Diode
- ZD: Zener Diode
- VA: Varistor
- TH: Termistor
- IC: Integrated Circuit

SYMBOL	PART No.	DESCRIPTION	SYMBOL	PART No.	DESCRIPTION
			C035	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
		TERMINAL PWB	C036	AA01185R	CAP.CHIP-CERAMIC 22UF/16V B 32
	JP55121		C040	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
			C041	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
			C042	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
		CAPACITORS	C043	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C001	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C044	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C002	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C045	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C003	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	C046	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C004	AA00699R	CAP.CHIP-CERAMIC 10UFK 16V B 3	C047	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C005	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C048	AA01115R	CAP.CHIP1608-B-4.7UF6.3V
C006	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C049	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C007	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C051	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C008	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C052	AA01343R	CERAMIC CAPACITOR(0.047UF 25V-
C009	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	C053	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C010	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	C055	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C011	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C056	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C012	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C058	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C013	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C059	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C014	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C060	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C015	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C061	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C016	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C062	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C017	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C063	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
C018	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C070	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C019	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	C071	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C020	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C072	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C021	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C073	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C022	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C078	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C023	0893188R	CERAMIC CAPACITOR(47000PF 16V)	C080	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C024	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C081	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
C025	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	C082	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C026	AA00969R	CAP.CHIP2125-B-22UF6.3V	C083	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C027	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C090	AA00951R	CERAMIC CAPACITOR(1.0UF 16V)
C028	AA01343R	CERAMIC CAPACITOR(0.047UF 25V-	C091	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C029	0893188R	CERAMIC CAPACITOR(47000PF 16V)	C092	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C030	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	C093	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
C031	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	C094	AA01113R	CCC225K06-B-16CT
C032	AA00969R	CAP.CHIP2125-B-22UF6.3V	C095	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
C033	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	C0A2	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)
C034	AA00969R	CAP.CHIP2125-B-22UF6.3V	C0F0	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC

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C0F1	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CT95	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
C0F2	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CT96	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
C0F3	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CT97	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C0F4	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTC1	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
C0F5	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTC2	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
C0F6	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTF3	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
C0F7	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTF4	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
C0F8	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTF6	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
C0F9	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTF7	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
CH01	0893348R	CCC103K25-B-10CT 1005-B-0.01UF	CTF8	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
CH11	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTF9	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
CH12	AA01116R	CAP.CHIP1608-B-10UF 6.3V M	CTG1	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
CH20	0893348R	CCC103K25-B-10CT 1005-B-0.01UF	CTG2	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
CH27	AA01216R	CAP.CHIP-CERAMIC 1005B 1UF 6.3	CTG3	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
CH28	AA01216R	CAP.CHIP-CERAMIC 1005B 1UF 6.3	CTG4	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
CH29	CE00151R	EZJZ0V80010	CTG5	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
CH30	CE00151R	EZJZ0V80010	CTH6	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CL01	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CTH7	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CL02	AA00699R	CAP.CHIP-CERAMIC 10UFK 16V B 3	CTJ8	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
CL11	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	CTM8	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CN30	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	CTM9	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
CN32	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	CTN6	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK
CNJ1	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	CY02	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CNJ2	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	CY03	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CNJ3	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	CY04	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CNJ4	AA00421R	CERAMIC CAPACITOR(10UF 16V)	CY05	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CP07	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	CY08	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CP13	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	CY09	AD00433R	CEC471M10-EWCT
CP14	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	CY10	AD00433R	CEC471M10-EWCT
CPS1	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	CY11	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
CPS2	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	CY12	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
CPS3	0893211R	CAP 1608CHIP 1500PFKB 50V TAPE	CY13	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
CPS4	0893127R	CAP 1608CHIP 120PFJCH 50V TAPE	CY14	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V
CPS5	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	CY15	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC
CPS6	0893127R	CAP 1608CHIP 120PFJCH 50V TAPE	CY16	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CPS7	0893222R	CAP 1608CHIP10000PFKB 50V TAPE			
CPS8	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK			**DIODES**
CQ01	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	D001	CC01921R	SDS142WKF_PF
CQ02	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	DH01	CC01891R	SDS511_PF
CQ06	0790039R	RES.CHIP 1/16W 1.5K OHM	DH02	CC01891R	SDS511_PF
CQ07	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	DN01	CC01871R	LIGHT EMITTING DIODE
CQ08	0893348R	CCC103K25-B-10CT 1005-B-0.01UF	DN02	CC01863R	LIGHT EMITTING DIODE (SML012BC4T)
CQ25	AA00969R	CAP.CHIP2125-B-22UF6.3V	DN03	CC01872R	LIGHT EMITTING DIODE
CQ26	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	DP02	CC01891R	SDS511_PF
CQ27	AA00969R	CAP.CHIP2125-B-22UF6.3V	DPS1	CC02022R	ZENER.CHIP UDZSTE-1730B
CQ28	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	DPS2	CC01891R	SDS511_PF
CQ29	AA00969R	CAP.CHIP2125-B-22UF6.3V	DY01	CC01999R	ZENER.CHIP UDZSTE-174.3B
CQ30	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	DY02	CC01999R	ZENER.CHIP UDZSTE-174.3B
CT11	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC			
CT12	0893222R	CAP 1608CHIP10000PFKB 50V TAPE			**MODULES**
CT60	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	HL01	CZ01391	ANALOG MONOLITHIC IC (GP1FSV51TK0F)
CT61	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	HN01	CZ01371U	INFRARED DETECTING UNIT(GP1UE281RK0VF)
CT62	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC			
CT63	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK			**INTEGRATED CIRCUITS (IC's)**
CT64	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	I001	CK53531U	R2S11008FP
CT65	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	I002	CK37218R	MONO IC TK11150CSCL
CT66	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	I003	CK51331R	TK11100CS
CT67	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	IH01	CK53582R	S-24CS02AFT-TB-G
CT68	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	IH04	CK38329R	DIGITAL MONOLITHIC IC (SN74LVC
CT69	AA01173R	CCC1R0K50-B-32CT 1UF/50V-B-3225	IH05	CK38329R	DIGITAL MONOLITHIC IC (SN74LVC
CT71	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	IL01	CK50961R	SN74CB3T3306DCUR
CT72	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	IN01	CK55475R	1GATE LOGIC IC (TC7SZ14FU)
CT73	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	IP03	CK52481R	TK73400TCB-G
CT74	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	IQ01	CK53741R	TC7MBL3245AFK
CT75	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	IQ02	CK37216R	MONO IC TK11133CSCL
CT76	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	IQ03	CK55511R	1G LOGIC IC (TC7SG17FU)
CT77	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	IT03	CK53612R	TC7PA53FU
CT78	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	IT05	CK37218R	MONO IC TK11150CSCL
CT79	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC	IT06	CK37605R	IC TK11250CM
CT80	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	IT07	CK37605R	IC TK11250CM
CT81	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK	IT09	CK51152R	UPC3231GV
CT85	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	IY03	CK50027R	DIGITAL MONOLITHIC IC (MAX202I
CT86	AA00937R	CAP.CHIP-CERAMIC 10UF 10V 2012BK			
CT92	AA01231R	0.1UF 16V 1005-B CERAMIC CAPAC			**COILS**
CT93	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	L001	BA00887R	LBC2518 CHIP COIL 10UH

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SYMBOL	PART #	DESCRIPTION
L002	BA00887R	LBC2518 CHIP COIL 10UH
L003	BA00887R	LBC2518 CHIP COIL 10UH
L004	BA00887R	LBC2518 CHIP COIL 10UH
L005	BA00887R	LBC2518 CHIP COIL 10UH
L007	BA00887R	LBC2518 CHIP COIL 10UH
LNJ1	BA02646R	LBR2012 CHIP INDUCTOR 47UH
LNJ2	BM00241R	CHOKE COIL-CHIP (TYPE RC04)
LPS1	BA02185R	HCC221J2520CT
LPS2	BA02244R	HCC102J32CT
LT16	BM00151R	FILTER BLM21P300SPT
LT20	BA01127R	MLF2012 CHIP INDUCTOR 1.8UH
LT34	BM10348R	CHIP FERRITE BEAD BLM18PG121SN
LT35	BM10348R	CHIP FERRITE BEAD BLM18PG121SN
LT36	BM10348R	CHIP FERRITE BEAD BLM18PG121SN
LY01	BA00894R	LBC2518 CHIP COIL 100UH
		TRANSISTORS
Q002	CA02162R	SUT487J
Q004	CA03271R	SMD TRS 2SD2704K
Q005	CA03271R	SMD TRS 2SD2704K
Q006	CA01181R	D-TRS.CHIP IMD10A
Q007	CA02162R	SUT487J
Q008	CA14091R	PHOTO TRANSISTOR
Q010	1323294R	TRS.CHIP 2SA1774 TL (R/S)
Q011	1323294R	TRS.CHIP 2SA1774 TL (R/S)
Q012	1323294R	TRS.CHIP 2SA1774 TL (R/S)
Q013	1323294R	TRS.CHIP 2SA1774 TL (R/S)
Q014	1323294R	TRS.CHIP 2SA1774 TL (R/S)
QH01	1323293R	TRS.CHIP 2SC4617 TL (R/S)
QH02	1323293R	TRS.CHIP 2SC4617 TL (R/S)
QH03	CA02092R	SRC1202EF
QH04	1323293R	TRS.CHIP 2SC4617 TL (R/S)
QL01	CA02091R	SRC1204EF_PF
QNJ1	CA14091R	PHOTO TRANSISTOR
QNJ2	CA14091R	PHOTO TRANSISTOR
QP01	CA01011R	TRS.CHIP 2SK3018
QP02	CA14091R	PHOTO TRANSISTOR
QPS1	CA14091R	PHOTO TRANSISTOR
QQ01	CA02091R	SRC1204EF_PF
QT01	CA14091R	PHOTO TRANSISTOR
QT02	CA14091R	PHOTO TRANSISTOR
QT03	CA02171R	TRS.CHIP 2SC4082T106P
QT04	CA02171R	TRS.CHIP 2SC4082T106P
QT05	CA02171R	TRS.CHIP 2SC4082T106P
		RESISTORS
R001	0790051R	RES.CHIP 1/16W 10K OHM
R002	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R003	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R004	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R005	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R006	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R007	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R008	AQ03317R	RES.CHIP 1/16W 1KOHM
R010	AQ03317R	RES.CHIP 1/16W 1KOHM
R011	AQ03317R	RES.CHIP 1/16W 1KOHM
R013	0790024R	RES.CHIP 1/16W 100 OHM
R014	0790024R	RES.CHIP 1/16W 100 OHM
R015	0790024R	RES.CHIP 1/16W 100 OHM
R016	0790024R	RES.CHIP 1/16W 100 OHM
R017	0790024R	RES.CHIP 1/16W 100 OHM
R018	0790024R	RES.CHIP 1/16W 100 OHM
R019	0790024R	RES.CHIP 1/16W 100 OHM
R020	AQ03317R	RES.CHIP 1/16W 1KOHM
R022	AQ03361R	RES.CHIP 1/16W 0OHM
R028	0790024R	RES.CHIP 1/16W 100 OHM
R029	0790024R	RES.CHIP 1/16W 100 OHM
R030	0790051R	RES.CHIP 1/16W 10K OHM
R031	0790051R	RES.CHIP 1/16W 10K OHM
R035	AQ00537R	4-NETWORKED CHIP RESISTOR 1.0K
R036	AQ00537R	4-NETWORKED CHIP RESISTOR 1.0K
R037	AQ03344R	RES.CHIP 1/16W 100KOHM
R038	AQ03344R	RES.CHIP 1/16W 100KOHM
R039	AQ03344R	RES.CHIP 1/16W 100KOHM
R040	AQ03344R	RES.CHIP 1/16W 100KOHM
R041	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R042	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R043	0790024R	RES.CHIP 1/16W 100 OHM
R044	0790037R	RES.CHIP 1/16W 1.0K OHM
R045	0790024R	RES.CHIP 1/16W 100 OHM
R047	0790024R	RES.CHIP 1/16W 100 OHM
R048	0790024R	RES.CHIP 1/16W 100 OHM
R050	0790024R	RES.CHIP 1/16W 100 OHM
R052	0790024R	RES.CHIP 1/16W 100 OHM
R053	0790024R	RES.CHIP 1/16W 100 OHM
R054	0790024R	RES.CHIP 1/16W 100 OHM
R055	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R056	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R058	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
R061	AQ03317R	RES.CHIP 1/16W 1KOHM
R062	AQ03343R	RES.CHIP 1/16W 82KOHM
R063	AQ03308R	RES.CHIP 1/16W 220OHM
R064	AQ03331R	RES.CHIP 1/16W 10KOHM
R065	0790051R	RES.CHIP 1/16W 10K OHM
R066	0790073R	RES.CHIP 1/16W 470K OHM
R068	AQ03317R	RES.CHIP 1/16W 1KOHM
R071	AQ00544R	CHIP RESISTOR 3.3KOHM
R072	AQ00266R	RES.CHIP 1/16W 510K OHM TAPE
R073	AQ00245R	RES.CHIP 1/16W 82K OHM TAPE
R080	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R082	0790059R	RES.CHIP 1/16W 47K OHM
R083	0790059R	RES.CHIP 1/16W 47K OHM
R084	0790051R	RES.CHIP 1/16W 10K OHM
R085	0790064R	RES.CHIP 1/16W 100K OHM
R086	0790037R	RES.CHIP 1/16W 1.0K OHM
R087	0790064R	RES.CHIP 1/16W 100K OHM
R088	0790064R	RES.CHIP 1/16W 100K OHM
R089	0790064R	RES.CHIP 1/16W 100K OHM
R090	0790051R	RES.CHIP 1/16W 10K OHM
R091	0790051R	RES.CHIP 1/16W 10K OHM
R092	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R093	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R0E0	0790015R	RES.CHIP 1/16W 22 OHM
R0E1	0790015R	RES.CHIP 1/16W 22 OHM
R0E2	0790015R	RES.CHIP 1/16W 22 OHM
R0E3	0790015R	RES.CHIP 1/16W 22 OHM
R0E4	0790015R	RES.CHIP 1/16W 22 OHM
R0E5	0790037R	RES.CHIP 1/16W 1.0K OHM
R0E6	0790037R	RES.CHIP 1/16W 1.0K OHM
R0E7	0790037R	RES.CHIP 1/16W 1.0K OHM
R0E8	0790037R	RES.CHIP 1/16W 1.0K OHM
R0E9	0790037R	RES.CHIP 1/16W 1.0K OHM
R0F0	0790037R	RES.CHIP 1/16W 1.0K OHM
RH01	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RH02	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RH03	0790024R	RES.CHIP 1/16W 100 OHM
RH04	0790024R	RES.CHIP 1/16W 100 OHM
RH05	0790024R	RES.CHIP 1/16W 100 OHM
RH14	0790064R	RES.CHIP 1/16W 100K OHM
RH15	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RH17	0790037R	RES.CHIP 1/16W 1.0K OHM
RH18	0790024R	RES.CHIP 1/16W 100 OHM
RH19	0790051R	RES.CHIP 1/16W 10K OHM
RH20	0790051R	RES.CHIP 1/16W 10K OHM
RH21	0790051R	RES.CHIP 1/16W 10K OHM
RH22	0790059R	RES.CHIP 1/16W 47K OHM
RH23	0790059R	RES.CHIP 1/16W 47K OHM
RH24	0790046R	RES.CHIP 1/16W 4.7K OHM
RH25	0790046R	RES.CHIP 1/16W 4.7K OHM
RH26	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RH38	0790024R	RES.CHIP 1/16W 100 OHM
RH39	0790024R	RES.CHIP 1/16W 100 OHM
RH41	0790024R	RES.CHIP 1/16W 100 OHM
RH43	0790051R	RES.CHIP 1/16W 10K OHM
RH44	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RL01	0790046R	RES.CHIP 1/16W 4.7K OHM
RL02	0790027R	RES.CHIP 1/16W 180 OHM
RL03	0790027R	RES.CHIP 1/16W 180 OHM
RL04	AQ03331R	RES.CHIP 1/16W 10KOHM
RL05	AQ03361R	RES.CHIP 1/16W 0OHM

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SYMBOL	PART #	DESCRIPTION	SYMBOL	PART #	DESCRIPTION
RL08	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT43	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RL11	AQ03299R	RES.CHIP 1/16W 47OHM	RT44	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE
RL12	AQ03299R	RES.CHIP 1/16W 47OHM	RT45	0790043R	RES.CHIP 1/16W 2.7K OHM
RL21	0790019R	RES.CHIP 1/16W 47 OHM	RT46	AQ00258R	RES.CHIP 1/16W 270K OHM TAPE
RL22	0790019R	RES.CHIP 1/16W 47 OHM	RT47	AQ00247R	RES.CHIP 1/16W 100K OHM TAPE
RL23	0790019R	RES.CHIP 1/16W 47 OHM	RT48	AQ00229R	RES.CHIP 1/16W 22K OHM TAPE
RL25	AQ03299R	RES.CHIP 1/16W 47OHM	RT50	0790046R	RES.CHIP 1/16W 4.7K OHM
RN02	0790039R	RES.CHIP 1/16W 1.5K OHM	RT51	0790037R	RES.CHIP 1/16W 1.0K OHM
RN03	0790029R	RES.CHIP 1/16W 270 OHM	RT52	0790046R	RES.CHIP 1/16W 4.7K OHM
RN08	0790034R	RES.CHIP 1/16W 560 OHM	RT55	0790052R	RES.CHIP 1/16W 12K OHM
RN31	0790024R	RES.CHIP 1/16W 100 OHM	RT56	AQ00212R	RES.CHIP 1/16W 4.7K OHM TAPE
RN36	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RT57	AQ00244R	RES.CHIP 1/16W 75K OHM TAPE
RNC3	0790037R	RES.CHIP 1/16W 1.0K OHM	RT58	0790046R	RES.CHIP 1/16W 4.7K OHM
RNC4	0790046R	RES.CHIP 1/16W 4.7K OHM	RT59	0790046R	RES.CHIP 1/16W 4.7K OHM
RNC5	0790043R	RES.CHIP 1/16W 2.7K OHM	RT60	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RNC6	0790039R	RES.CHIP 1/16W 1.5K OHM	RT75	0790043R	RES.CHIP 1/16W 2.7K OHM
RNC7	0790037R	RES.CHIP 1/16W 1.0K OHM	RT83	0790052R	RES.CHIP 1/16W 12K OHM
RNC8	0790051R	RES.CHIP 1/16W 10K OHM	RT84	0790064R	RES.CHIP 1/16W 100K OHM
RNJ1	0790044R	RES.CHIP 1/16W 3.3K OHM	RT98	0790055R	RES.CHIP 1/16W 22K OHM
RNJ2	0790042R	RES.CHIP 1/16W 2.2K OHM	RY17	0790028R	RES.CHIP 1/16W 220 OHM
RNJ3	0790037R	RES.CHIP 1/16W 1.0K OHM	RY18	0790028R	RES.CHIP 1/16W 220 OHM
RNJ4	0790037R	RES.CHIP 1/16W 1.0K OHM	RY19	0790028R	RES.CHIP 1/16W 220 OHM
RNJ5	0790024R	RES.CHIP 1/16W 100 OHM	RY20	0790028R	RES.CHIP 1/16W 220 OHM
RNJ6	0790037R	RES.CHIP 1/16W 1.0K OHM	RY21	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE
RNJ7	0790037R	RES.CHIP 1/16W 1.0K OHM	RY22	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE
RNJ8	0790024R	RES.CHIP 1/16W 100 OHM	RY23	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE
RNJ9	0790061R	RES.CHIP 1/16W 56K OHM	RY24	0790064R	RES.CHIP 1/16W 100K OHM
RNK1	0790069R	RES.CHIP 1/16W 270K OHM	RY25	0790064R	RES.CHIP 1/16W 100K OHM
RNK2	0790069R	RES.CHIP 1/16W 270K OHM	RY26	0790064R	RES.CHIP 1/16W 100K OHM
RNK6	0790061R	RES.CHIP 1/16W 56K OHM	RY27	0790064R	RES.CHIP 1/16W 100K OHM
RNK8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY28	0790064R	RES.CHIP 1/16W 100K OHM
RNK9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY37	0790037R	RES.CHIP 1/16W 1.0K OHM
RNL2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY38	0790037R	RES.CHIP 1/16W 1.0K OHM
RNL3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY39	0790037R	RES.CHIP 1/16W 1.0K OHM
RP03	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY40	0790037R	RES.CHIP 1/16W 1.0K OHM
RP07	0790051R	RES.CHIP 1/16W 10K OHM	RY41	0790037R	RES.CHIP 1/16W 1.0K OHM
RP12	0790024R	RES.CHIP 1/16W 100 OHM	RY42	0790037R	RES.CHIP 1/16W 1.0K OHM
RP18	0790073R	RES.CHIP 1/16W 470K OHM	RY43	0790037R	RES.CHIP 1/16W 1.0K OHM
RP19	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY44	0790037R	RES.CHIP 1/16W 1.0K OHM
RP29	AQ00249R	RES.CHIP 1/16W 120K OHM TAPE	RY45	0790037R	RES.CHIP 1/16W 1.0K OHM
RP30	0790055R	RES.CHIP 1/16W 22K OHM	RY46	0790056R	RES.CHIP 1/16W 27K OHM
RP58	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY47	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RP66	0790072R	RES.CHIP 1/16W 390K OHM	RY48	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RP67	0790051R	RES.CHIP 1/16W 10K OHM			
RP68	0790051R	RES.CHIP 1/16W 10K OHM			**SWITCHES**
RPS1	0790024R	RES.CHIP 1/16W 100 OHM	SNC1	FB00021R	CHIP PUSH SWITCH
RPS2	0790059R	RES.CHIP 1/16W 47K OHM	SNC2	FB00021R	CHIP PUSH SWITCH
RQ05	0790019R	RES.CHIP 1/16W 47 OHM	SNC3	FB00021R	CHIP PUSH SWITCH
RQ06	0790019R	RES.CHIP 1/16W 47 OHM	SNC4	FB00021R	CHIP PUSH SWITCH
RQ07	0790019R	RES.CHIP 1/16W 47 OHM	SNC5	FB00021R	CHIP PUSH SWITCH
RQ09	0790051R	RES.CHIP 1/16W 10K OHM	SNC6	FB00021R	CHIP PUSH SWITCH
RQ11	0790061R	RES.CHIP 1/16W 56K OHM	SNC7	FB00021R	CHIP PUSH SWITCH
RQ13	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608			
RQ14	0790015R	RES.CHIP 1/16W 22 OHM			**CRYSTALS, FILTERS**
RQ15	AQ00501R	CHIP RESISTOR 0OHM	XT01	BG01624U	SAW FILTER(X6875D)
RQ17	0790019R	RES.CHIP 1/16W 47 OHM	XT02	BN00261	BGS TRAP MKTGA47M2CAHP00B05
RQ18	0790019R	RES.CHIP 1/16W 47 OHM	XT06	BK00199R	CERAMIC FILTER 2012TYPE
RQ21	0790038R	RES.CHIP 1/16W 1.2K OHM	XT07	BK00199R	CERAMIC FILTER 2012TYPE
RQ31	0790046R	RES.CHIP 1/16W 4.7K OHM	XT08	AZ01102R	NOISE FILTER SGM20F1C104-4A
RQ38	0790019R	RES.CHIP 1/16W 47 OHM	XT09	AZ01102R	NOISE FILTER SGM20F1C104-4A
RQ39	0790019R	RES.CHIP 1/16W 47 OHM	XT10	AZ01102R	NOISE FILTER SGM20F1C104-4A
RQ40	0790019R	RES.CHIP 1/16W 47 OHM	XT11	AZ01102R	NOISE FILTER SGM20F1C104-4A
RQ41	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608			
RT01	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608			**CONNECTORS, JACKS**
RT02	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	JH01	EA02291U	HDMI RECEPTACLE DC1R019HBA
RT03	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	JNJ1	EQ00873	PLUG LPR8029-04**F
RT04	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	JQ01	EY01772R	SD MEMORY CARD 500998-0900
RT05	0790037R	RES.CHIP 1/16W 1.0K OHM	JY01	EQ00721	JACK
RT11	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	JY02	EQ00961	JACK
RT24	0790037R	RES.CHIP 1/16W 1.0K OHM	JY03	EQ00741	JACK
RT25	0790051R	RES.CHIP 1/16W 10K OHM	JY05	EQ00771	JACK
RT38	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	PCST	EA04044R	14P 1.25MM PITCH CONNE. (502382)
RT39	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	PDS	EA02332R	12P 1.0MM PITCH CONNE. 501331-1207
RT40	0790052R	RES.CHIP 1/16W 12K OHM	PFA1	EA02192R	3P SMT ZH CONN. POST SIDE
RT41	0790052R	RES.CHIP 1/16W 12K OHM	PH01	EA02662R	PLUG

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL	PART #	DESCRIPTION
PLS	EA02331R	11P 1.0MM PITCH CONNE. 501331-
PSM	EA02223U	0.5 PITCH 160P B TO B CONN. SHIELD TYPE RECE
PTC	EA04039R	10P 1.25MM PITCH CONNE. (502382)
		MISCELLANEOUS
UT01	HC00701	ENGD6305
#TG1	MF02032	GASKET 5-2-15 J1G
#TG2	MF02033	GASKET 5-2-45 J1G
		FILTER PWB
	JP55131	
		CAPACITORS
C9A1A ⚠	AN02089S	PLASTIC FILM CAP.CQ-105K251PVS
C9A2A ⚠	AN02089S	PLASTIC FILM CAP.CQ-105K251PVS
C9A3 ⚠	AJ00163R	CAP. CERAMIC CS11-E2GA222MYVS
C9A4 ⚠	AJ00163R	CAP. CERAMIC CS11-E2GA222MYVS
		JUMPERS
K9A1	2784381M	0.60MM TAPED JUMP.WIRE
KL9A2	2784381M	0.60MM TAPED JUMP.WIRE
KL9A3	2784381M	0.60MM TAPED JUMP.WIRE
		PROTECTORS, FUSES
F9A1 ⚠	FN00478	FUSE 51MS 100 L-U 125V 10A
NF9A1 ⚠	2721351	FUSE HOLDER
		COILS
L9A1A ⚠	BZ06241	LINE FILTER TF3022H-A172Y10R0-
		RESISTORS
R9A1 ⚠	AT03661M	RES.MTL GRAZD FLM 1/2W 470K
		SWITCHES
S9A0 ⚠	FG00251	POWER SW SPW02N02SY17-2-1(U1D1
		CONNECTORS, JACKS
EGND1	ED01651R	CONNECTOR CP-03PH2R5V
EGND2	ED01651R	CONNECTOR CP-03PH2R5V
PFAC	2674281	3P B-PLUG PIN
PPU1	ED02812	6P VH CONNECTOR PLUG #2,4,5 NC
		FINAL ASS'Y
		SPEAKERS
SPB	GK01651	SPEAKER-04X15D
		MISCELLANEOUS
EFAN	GS00696	DC MOTOR:DC2406KL-04W-B29-T0E
		CONNECTORS, JACKS
E901 ⚠	EP00411	AC INLET SK-1015(F1-0)
ECN1	EF25783	51P LVDS CABLE L=360 (FI-R DF13)
ECN23	EF25995	10P VH CONNE. L=360MM
ECN6	2908838S	9J PH CONNECTOR 200MM
EFAC	EF27391	3P VH-SPS-61T-250 X 4 LEAD L=110MM

SYMBOL	PART #	DESCRIPTION
EFAN1	EF26106	3P 2.0MM PITCH PALR-ZH CONNE. L=225MM
EGND	EF24041	CO-01T-T0R0-101
EMH	EK01933	WIRE (PROCESSED) JF04R0R021970AA
EPM1	EF27362	8P EH-502380 CONNE. L=180MM
EPM2	EF27711	15P EH-DF3/DF3 CONNE. L=820MM
EPU1	EF25044	6J VH-VH CONNE. L=295MM #2,4,5,6 NC
ERF	EY02262	PLUG L NIC8014N
ESD	EF27431	12P 1.0MM PITCH 501330 CONNE. L=240MM
ESL	EF27421	11P 1.0MM PITCH 501330 CONNE. L=790MM
ESP1	EF27342	4P FASTON-PA CONNE. L=660MM (#110 #187)
ESTC	EF27401	14P 1.25MM PITCH 502380-GH CONNE. L=250MM
		FERRITE CORES
ECN1A	GX00408	MAGNET-FERRITE CORE
EPU1A	GX00667	CLAMP FERRITE CORE K5B RC 26X30X13-MB1(GY)
EPU1B	GX00666	CLAMP FERRITE CORE K5C RC 16X2
NESL	GX00667	CLAMP FERRITE CORE K5B RC 26X30X13-MB1(GY)
NSP1	GX00666	CLAMP FERRITE CORE K5C RC 16X2
NSPL	GX00666	CLAMP FERRITE CORE K5C RC 16X2
NSPR	GX00666	CLAMP FERRITE CORE K5C RC 16X2
		ACCESSORIES
E01 ⚠	EV01841	POWER CORD 125V10A UL/CSA
E203	FQ00021	DRY BATTERY(R6P-AA)
N01	QR70191	H401 INST. BOOK
N01	QR70201	T501 INST. BOOK
N02	QR70211	H401 EASY GUIDE
N02	QR70221	T501 EASY GUIDE
N203	QT44791	PLASMA WARRANTY CARD CANADA
N204	QT49441	NATIONAL WARRANTY CARD 06 (EXCEPT H4011)
U01	HL02075	REMOTE CONTROL CLU-4371UG2 (H401 MODEL)
U01	HL02076	REMOTE CONTROL CLU-4372UG2 (H4011 MODEL)
U01	HL02401	REMOTE CONTROL UNIT CLU-4371A (T501 MODEL)

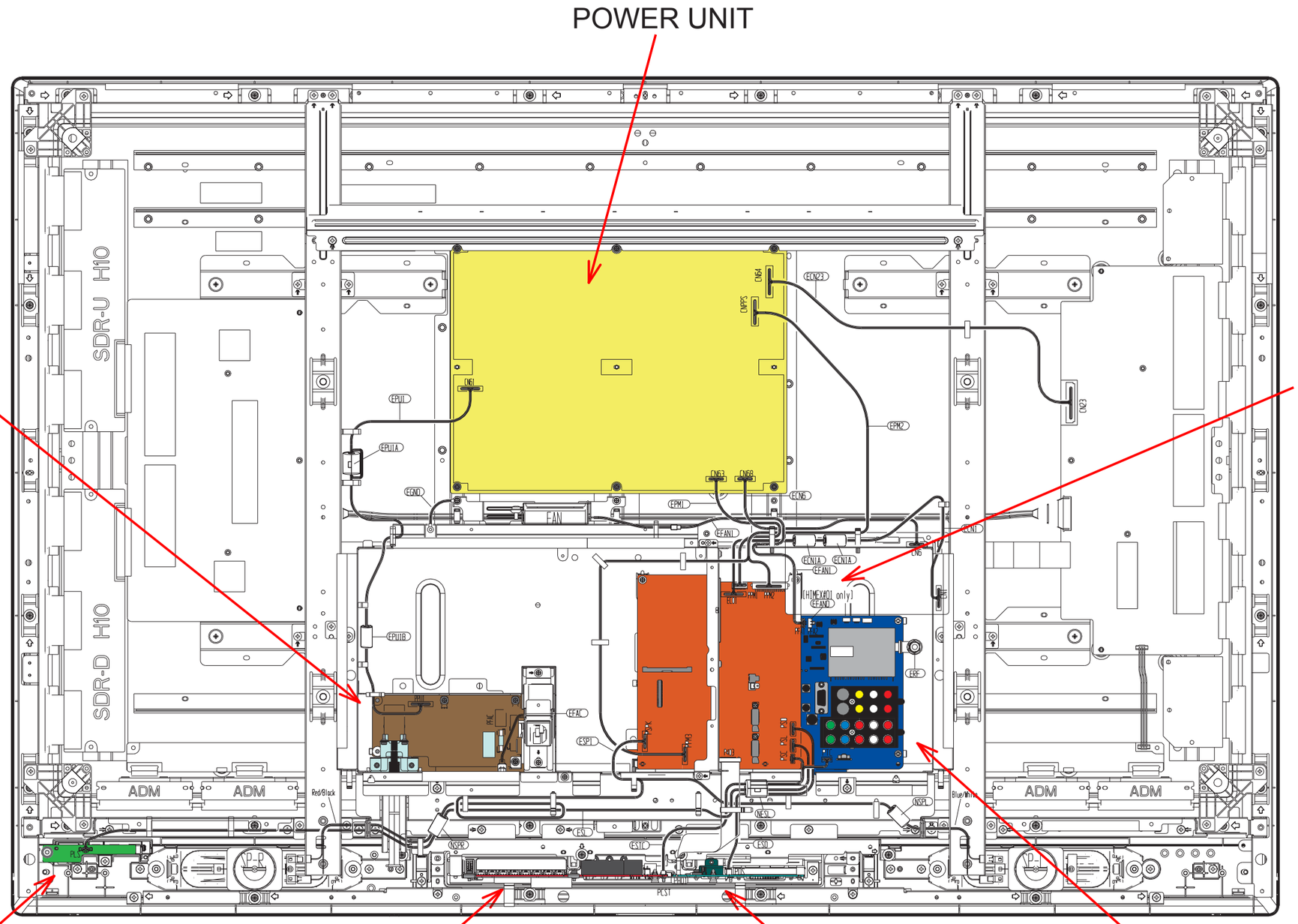
Chassis Boards

Panel Boards

Cable Assemblies

50" Plasma - Chassis Boards

DW3-U



No	Name	Part No.
1	Main Digital PWB	See below
2	TERMINAL PWB	JP55121
3	SD PWB	X480414
4	LED PWB	X480415
5	CONTROL PWB	X480413
6	FILTER PWB	JP55131
7	POWER UNIT	HA01912

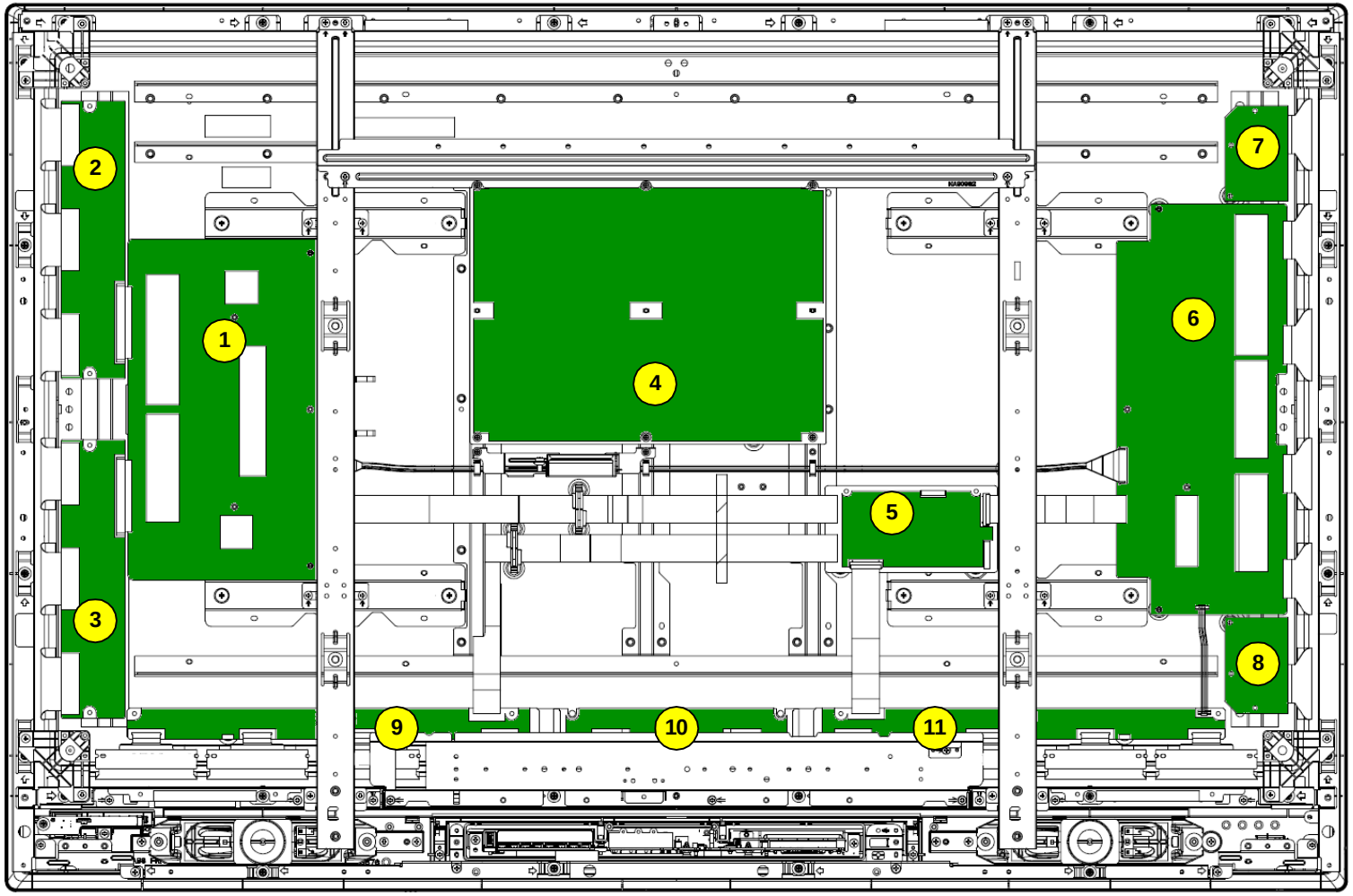
Main Digital PWB	
Model	**Part Number**
P50H401	UX28021
P50H4011	UX28021
P50T501	UX28022

CH 1

CH 4

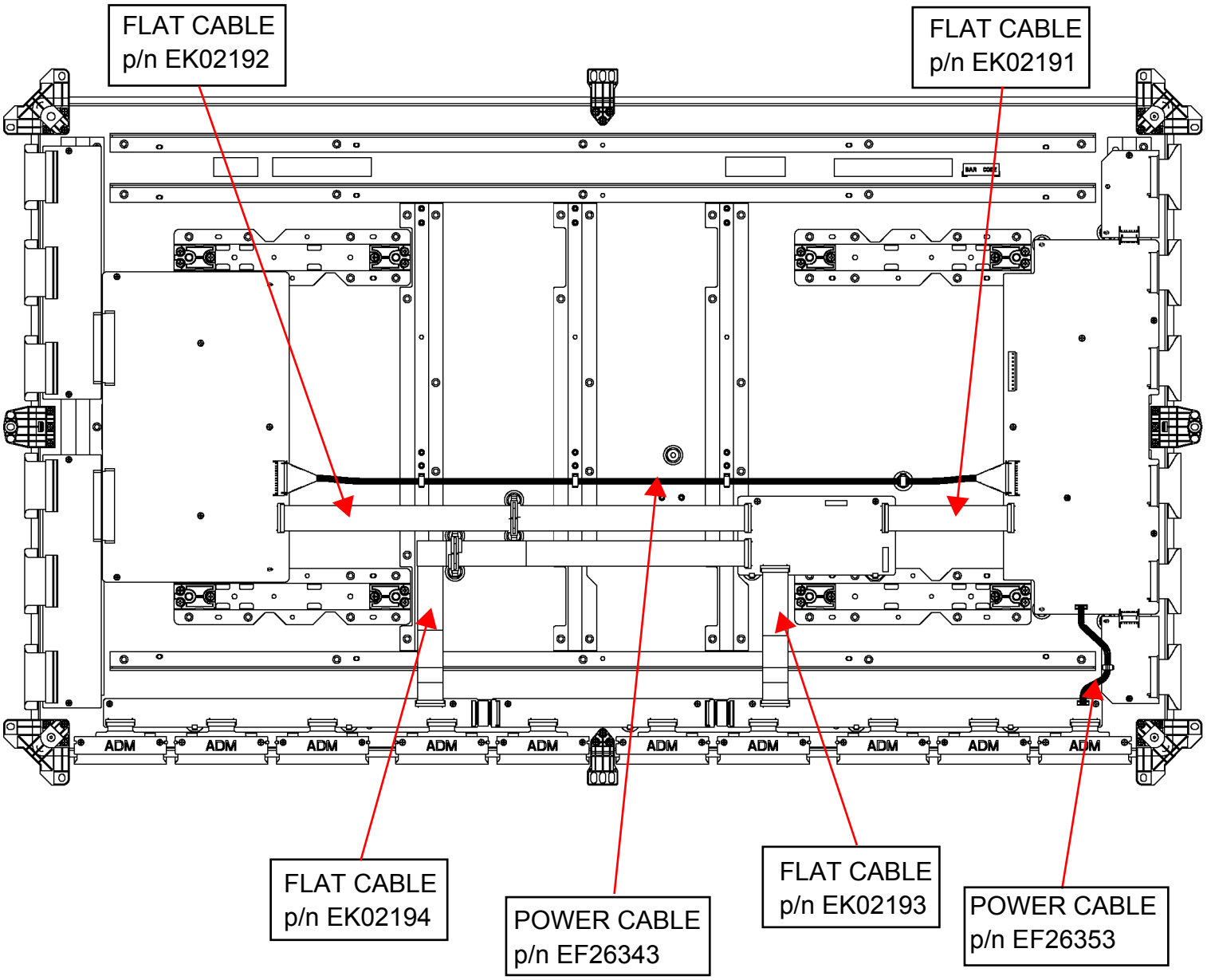
50" Plasma - Panel Boards

DW3U



1	Y-SUS PWB	JP54581
2	SDR-U PWB	JP54592
3	SDR-D PWB	JP54602
4	PSU	HA01912
5	Logic PWB	JP54092
6	X-SUS PWB	JP54571
7	XBUS-U PWB	JP54611
8	XBUS-D PWB	JP54621
9	A-BUS-L PWB	JP54631
10	A-BUS-C PWB	JP54651
11	A-BUS-R PWB	JP54641

50" Plasma - Cable Assemblies



QUICK REFERENCE PARTS LIST
IC'S & UNITS

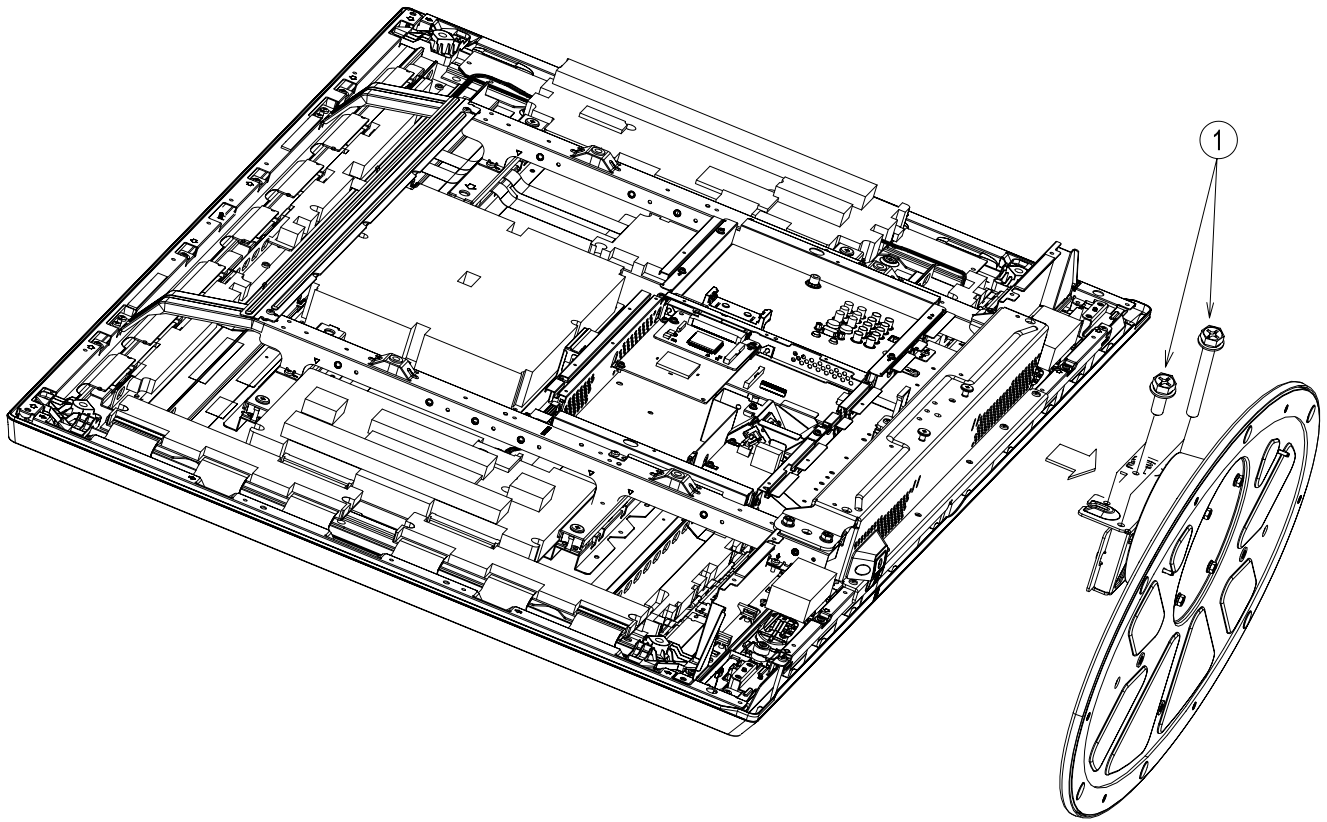
No.	Symbol	P#	Description	Function	PWB ASSY	Remarks
1	F9A1	FN00478	FUSE 51MS 100 L-U 125V 10A	FUSE	FILTER	
2	L9A1A	BZ06241	LINE FILTER TF3022H-A172Y10R0-	AC NOISE FILTER	FILTER	
3	DN01	CC01871R	LIGHT EMITTING DIODE	RED/ORANGE LED	LED	
4	DN02	CC01863R	SML012BC4T	BLUE LED	LED	
5	DN03	CC01872R	LIGHT EMITTING DIODE	RED/ORANGE LED	LED	
6	HN01	CZ01371U	INFRARED DETECTING UNIT(GP1UE281RK0VF)	IR RECEIVER	LED	
7	IN01	CK55475R	1GATE LOGIC IC (TC7SZ14FU)	SCHMITT INVERTER	LED	
8	IH01	CK53582R	S-24CS02AFT-TB-G	EEPROM	SD	
9	IH04	CK38329R	DIGITAL MONOLITHIC IC (SN74LVC1G126DCK)	SINGLE BUS BUFFER GATE WITH 3-STATE OUTPUTS	SD	
10	IH05	CK38329R	DIGITAL MONOLITHIC IC (SN74LVC1G126DCK)	SINGLE BUS BUFFER GATE WITH 3-STATE OUTPUTS	SD	
11	IQ01	CK53741R	TC7MBL3245AFK	OCTAL BUS SWITCH	SD	
12	IQ02	CK37216R	MONO IC TK11133CSCL	3.3 V VOLTAGE REGULATOR W ON/OFF SW	SD	
13	IQ03	CK55511R	1G LOGIC IC (TC7SG17FU)	CLOCK BUFFER	SD	
14	JWE1	EY01772R	SD MEMORY CARD 500998-0900	MEMORY CARD JACK	SD	
15	HL01	CZ01391	ANALOG MONOLITHIC IC (GP1FSV51TK0F)	OPTICAL MINI JACK FOR DIGITAL AUDIO	TERMINAL	
16	I001	CK53531U	R2S11008FP	AUDIO/VIDEO SELECTOR	TERMINAL	
17	I002	CK37218R	MONO IC TK11150CSCL	5 V VOLTAGE REGULATOR W ON/OFF SW	TERMINAL	
18	I003	CK51331R	TK11100CS	ADJUSTABLE POSITIVE LOW DROPOUT REGULATOR IC	TERMINAL	
19	IL01	CK50961R	SN74CB3T3306DCUR	DUAL FET BUS SWITCH	TERMINAL	
20	IP03	CK52481R	TK73400TCB-G	6.2 VOLTAGE REGULATOR FOR TV / VTR USE	TERMINAL	
21	IT03	CK53612R	TC7PA53FU	2 CHANNEL MULTIPLEXER/DEMULTIPLEXER	TERMINAL	
22	IT05	CK37218R	MONO IC TK11150CSCL	5 V VOLTAGE REGULATOR W ON/OFF SW	TERMINAL	
23	IT06	CK37605R	IC TK11250CM	5 V VOLTAGE REGULATOR W ON/OFF SW	TERMINAL	
24	IT07	CK37605R	IC TK11250CM	5 V VOLTAGE REGULATOR W ON/OFF SW	TERMINAL	
25	IT09	CK51151R	UPC3221GV	5 V AGC AMPLIFIER	TERMINAL	
26	IY03	CK50027R	DIGITAL MONOLITHIC IC (MAX202IPW)	DUAL RS-232 LINE DRIVER/REC W/+-15KV ESD PROTEC	TERMINAL	
27	UT01	HC00701	ENGD6305	ANALOG/DIGITAL TUNER	TERMINAL	

FRAME REMOVAL(Step 1)

① Remove Screw HEX M5*15(2 Pcs.)
Screw HEX M5*85(2 Pcs.)
Stand Ass'y

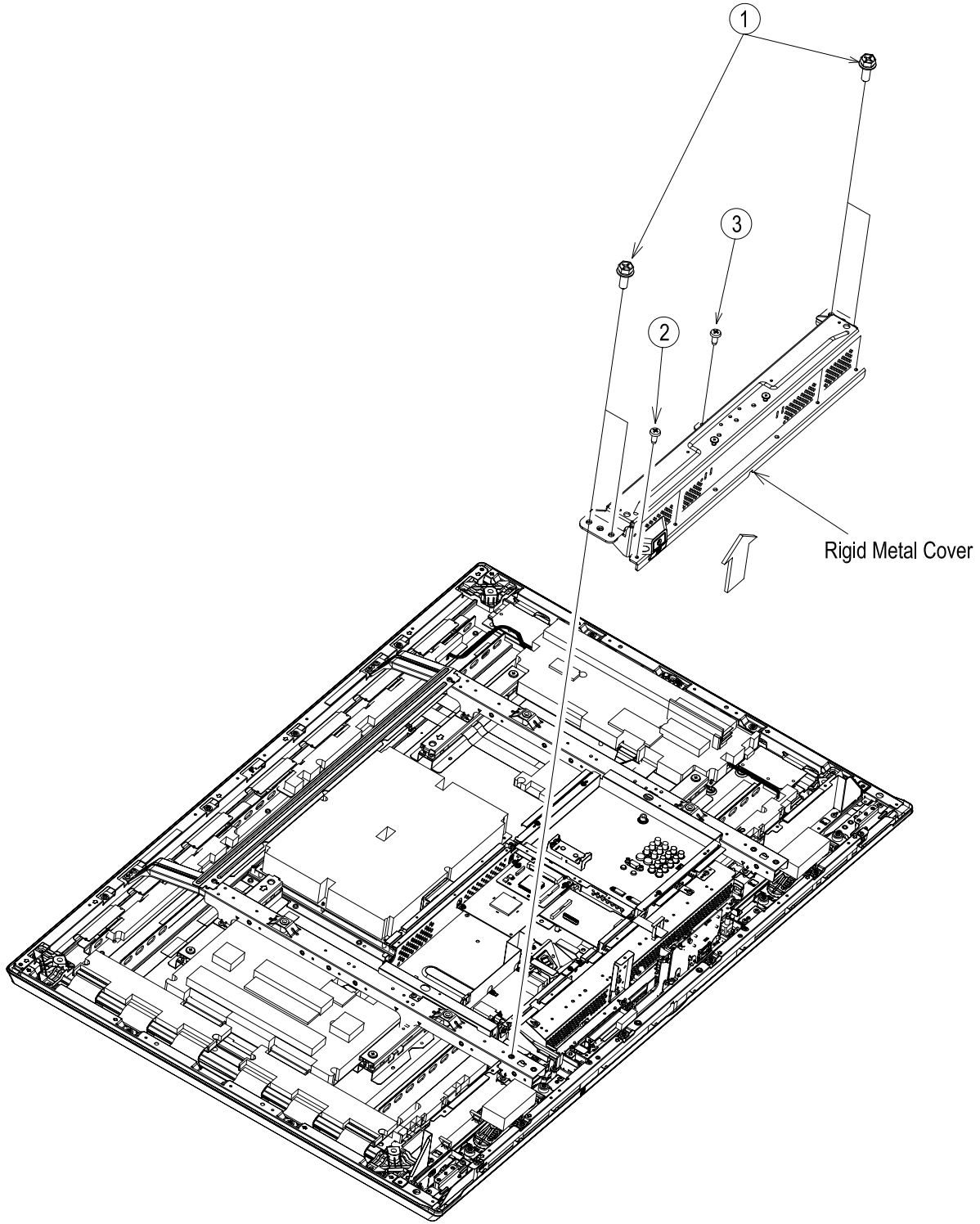
*Note1: In order to remove Stand Ass'y is necessary to place plasma TV carefully on horizontal position over a soft-dust free surface to avoid scratches or other damage.

*Note2:For a correct Stand Ass'y re-assemble please refer to Stand Base IB.



FRAME REMOVAL(Step 2)

① Remove Screw M3M 6*18 P#MJ03693(4 Pcs.)
② Remove Screw M3D 4*10 P#MJ04067(4 Pcs.)
③ Remove Screw M3D 4*10 P#MJ04067
Rigid Metal Cover



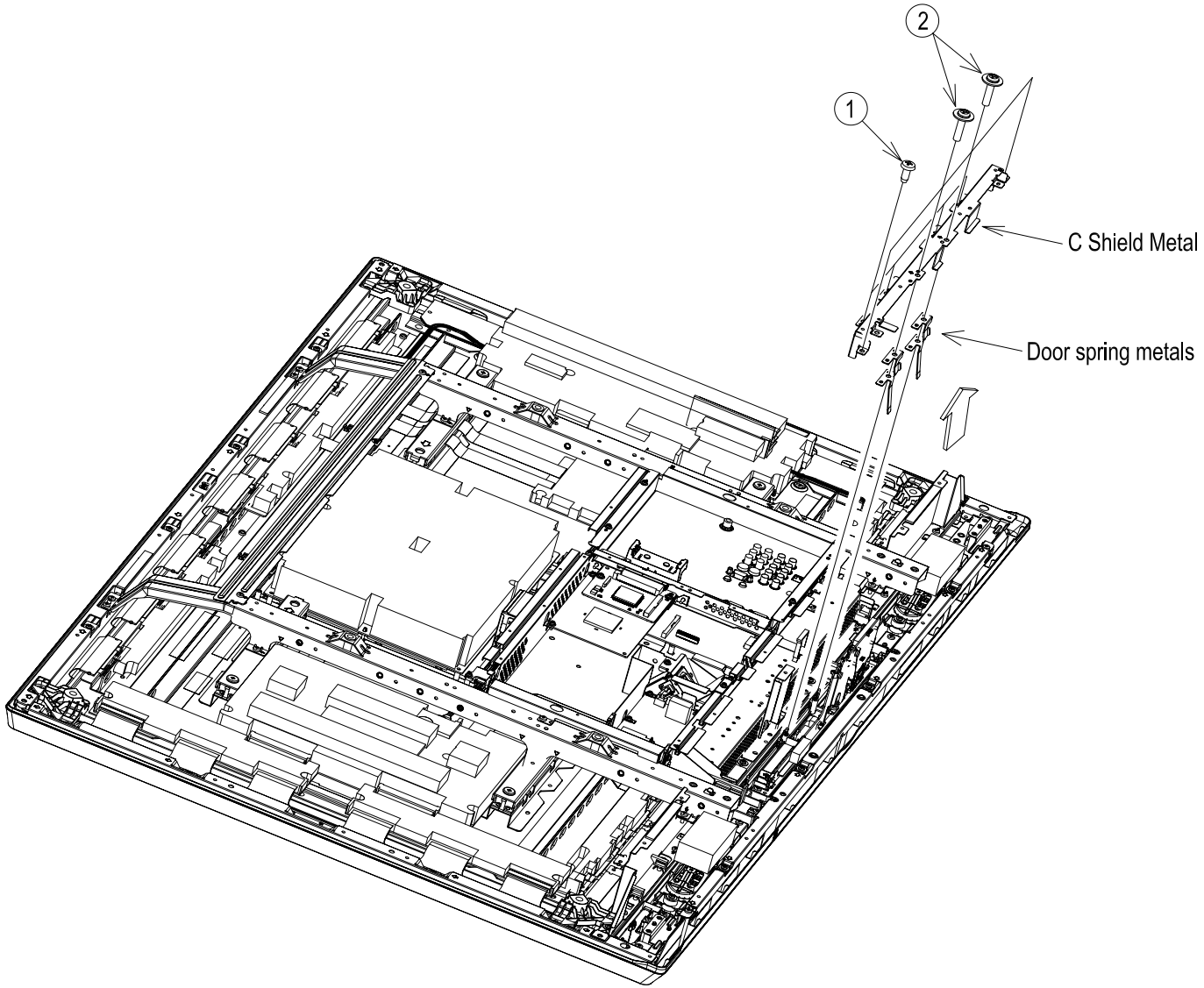
FRAME REMOVAL(Step 3)

① Remove Screw M3D 4*10 P#MJ04067(4 Pcs.)

② Remove Screw T2B 4*16 P#MJ04013(4 Pcs.)

C Shield Metal

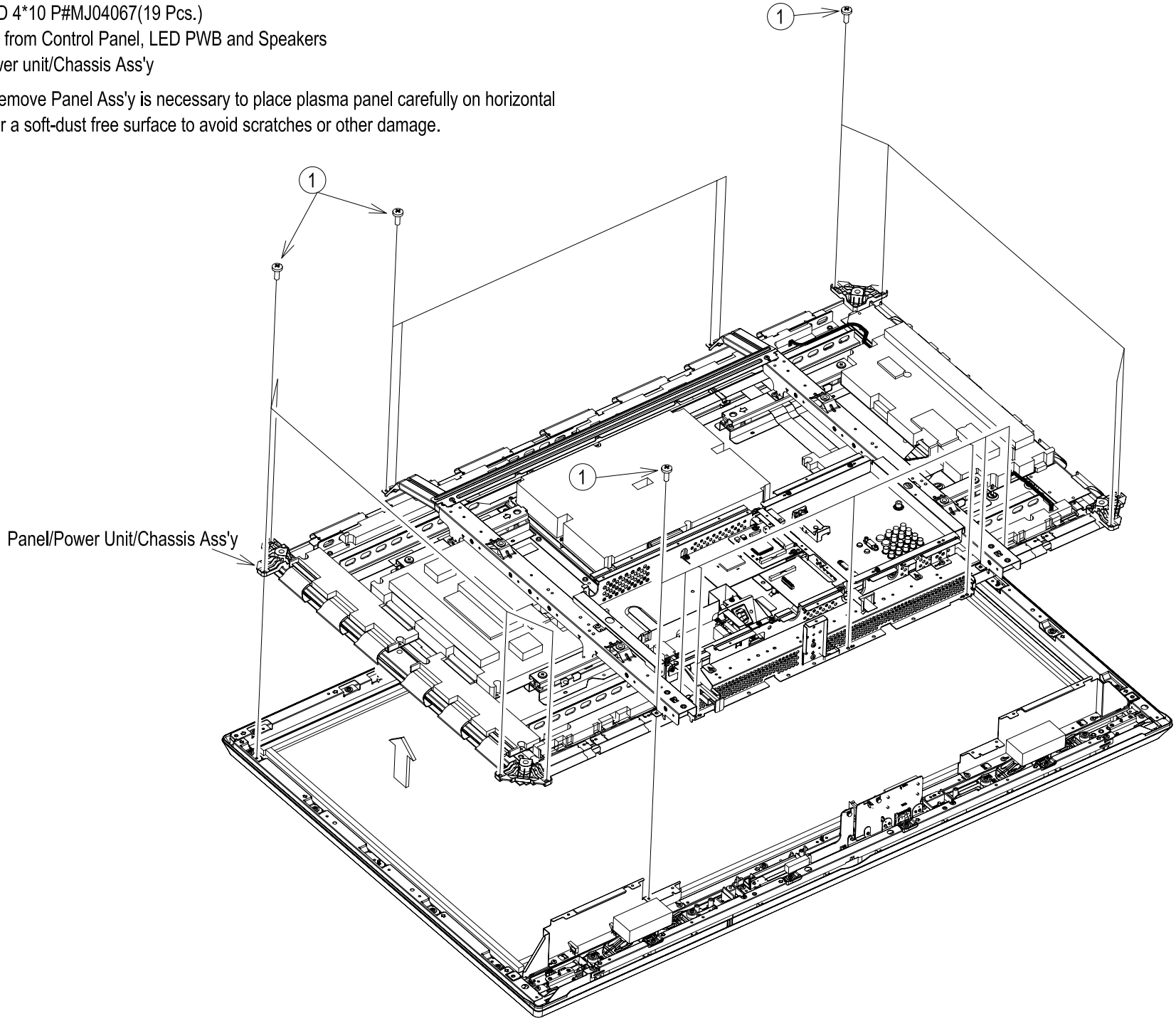
Door Spring metals



FRAME REMOVAL(Step 4)

① Remove Screw M3D 4*10 P#MJ04067(19 Pcs.)
Unplug Connectors from Control Panel, LED PWB and Speakers
Remove Panel/Power unit/Chassis Ass'y

*Note1: In order to remove Panel Ass'y is necessary to place plasma panel carefully on horizontal position over a soft-dust free surface to avoid scratches or other damage.



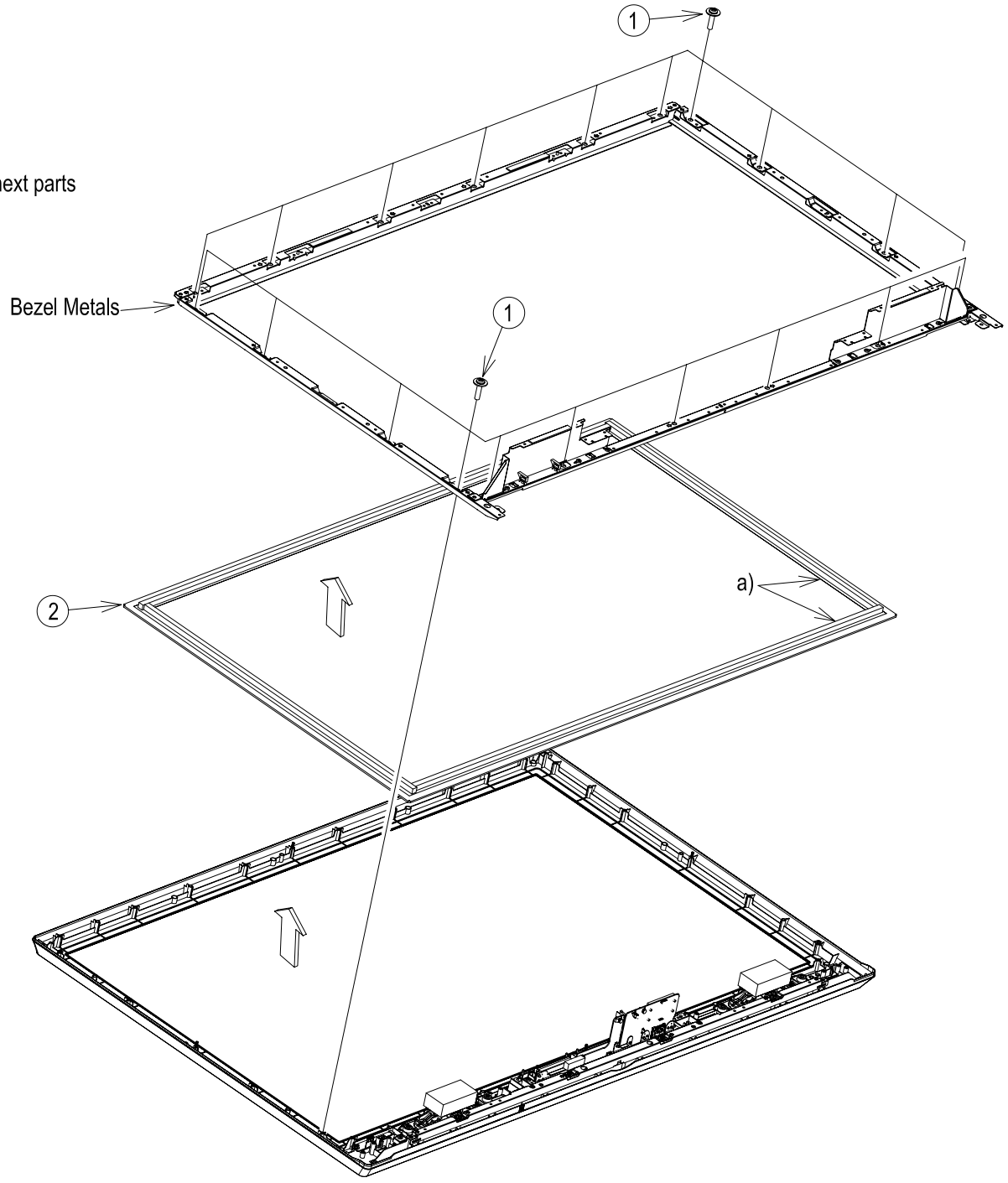
FRAME REMOVAL(Step 5)

① Remove Screw T2B 4*10 P#MJ04013(20 Pcs.)
Bezel Metals

② Remove Filter P#KS22031K(P50H401, P50H4011)
P#KS22032K(P50T501)
P#KS22254(P50V701)
P#KS22255(P50S601)

*Note: In case of Filter Replacement also is necessary to order next parts
Use defective filter for assemble reference

a) Filter Cushions P#MN03587(2 Pcs.)
P#MN03588(2 Pcs.)



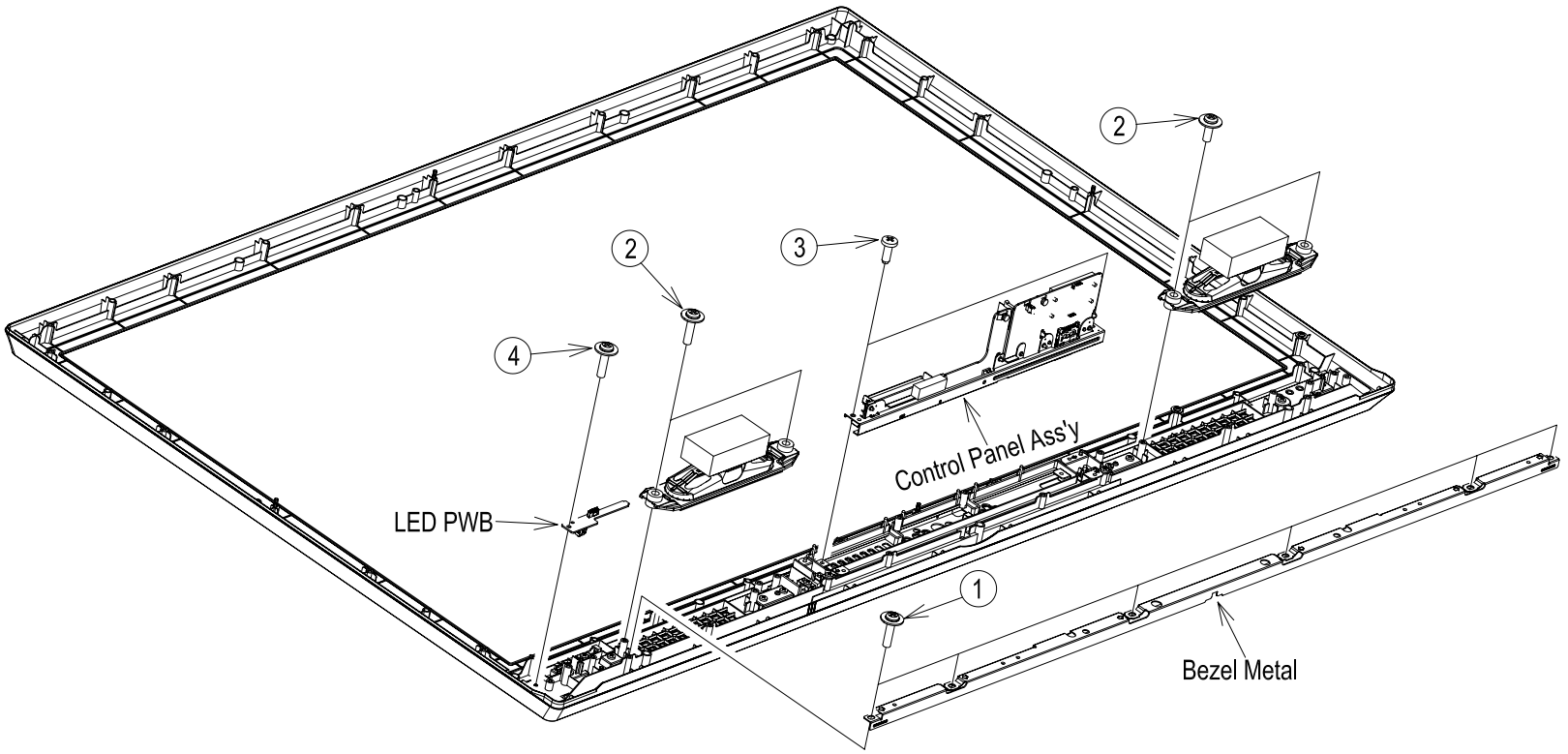
FRAME REMOVAL(Step 6)

① Remove Screw T2B 4*16 P#MJ04013(6 Pcs.)
Bezel Metal

② Remove Screw T2B 4*16 P#MJ04013(4 Pcs.)
Speakers

③ Remove Screw M3D 4*10 P#MJ04067(2 Pcs.)
Control Panel Ass'y

④ Remove Screw T2B 4*16 P#MJ03568
LED PWB

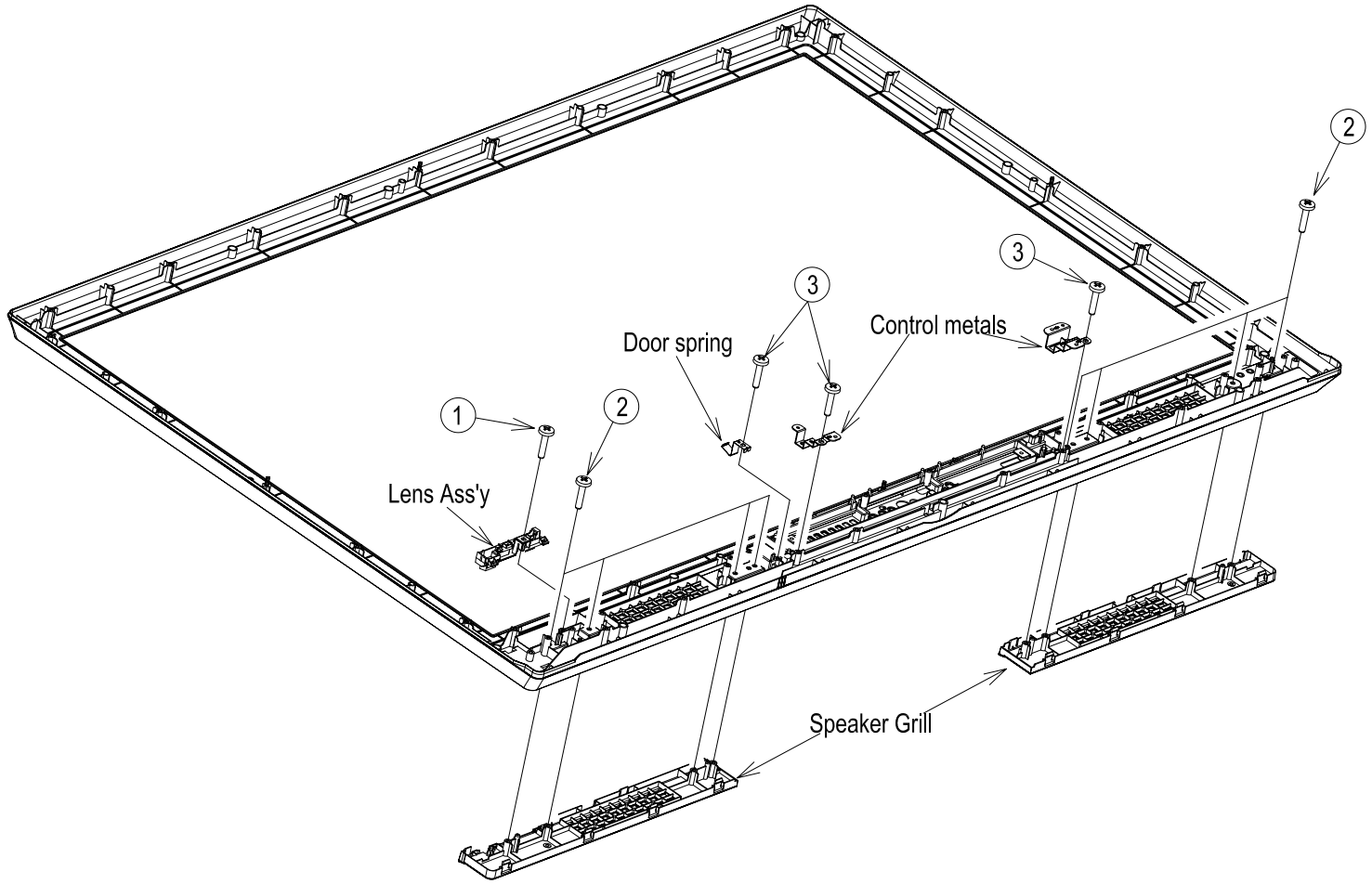


FRAME REMOVAL(Step 7)

① Remove Screw T2D 4*16 P#MJ03568
Lens Ass'y

② Remove Screw T2D 4*16 P#MJ03568(8 Pcs.)
Speaker Grill

③ Remove Screw T2D 4*16 P#MJ03568(3 Pcs.)
Control Frame Metals
Door spring



FRAME REMOVAL(Step 8)

① Remove Door Ass'y by Pulling Out Carefully)

② Remove Screw M3D 3*10 P#MJ03649(3 Pcs.)
Control Metal/Control Plate

③ Remove Frame P#QD56861(P50H401)
P#QD56862(P50T501)
P#QD56863(P50H4011)
P#QD56864(P50S601)
P#QD56865(P50V701)

*Note: In case of Frame Replacement also is necessary to order next parts
Use defective frame for assemble reference.

a) HD Label P#ML04031(50" H&T Series)
P#ML04171(50" V&S Series)

b) Badge P#3875771

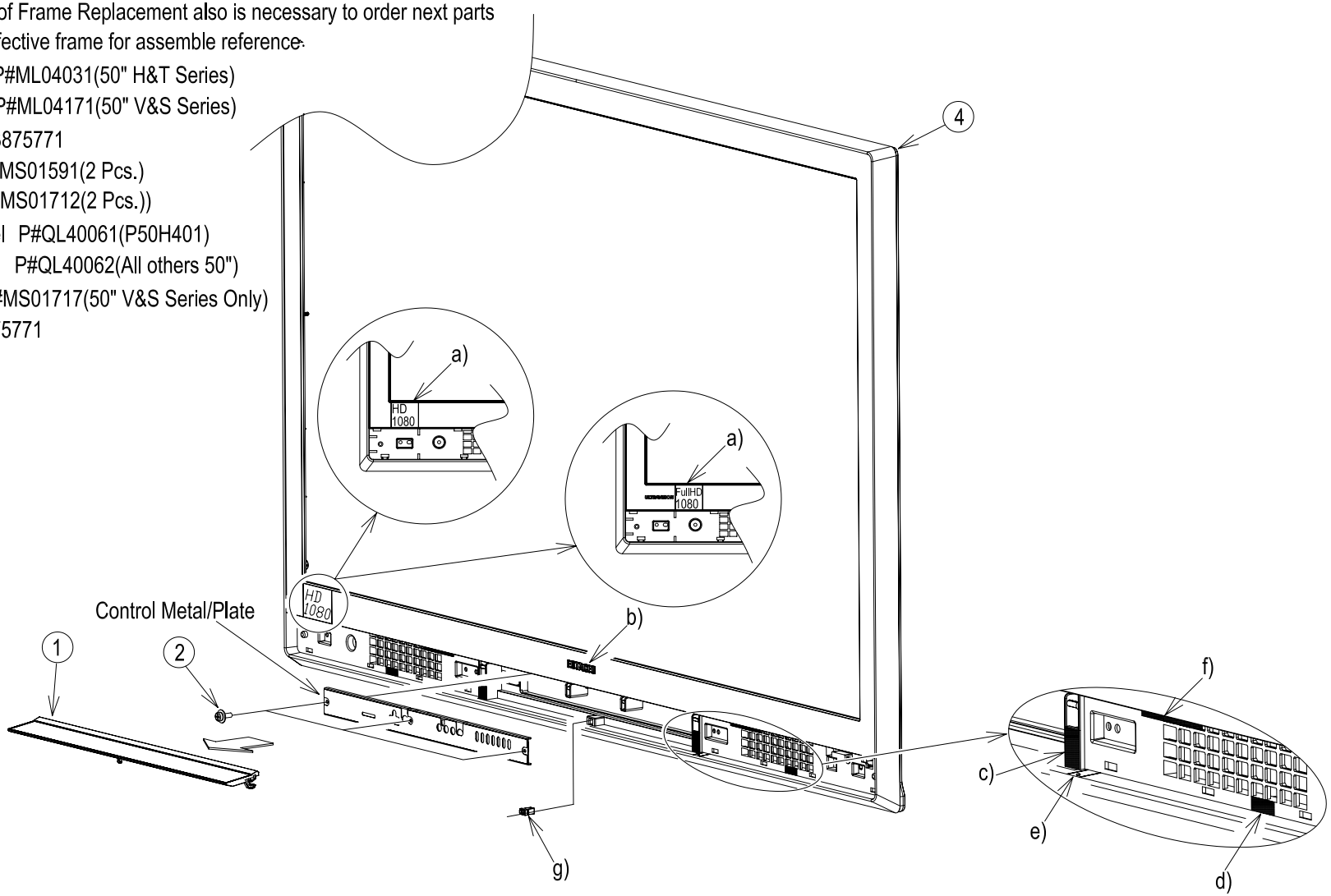
c) Himeron P#MS01591(2 Pcs.)

d) Himeron P#MS01712(2 Pcs.))

e) Power Label P#QL40061(P50H401)
P#QL40062(All others 50")

f) Himeron P#MS01717(50" V&S Series Only)

g)Latch P#3875771

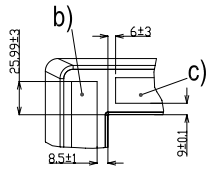


FRAME REMOVAL(Step 9)(For P50S601 & P50V701 Only)

*Note: In case of Frame Replacement also is necessary to order next parts
Use defective frame for assemble reference

a) Top Deco Panel P#PH43353
b) Double Face Tape P#ZJ02122(2 Pcs.)(L=720 mm)
c) Double Face Tape P#ZJ02122(2 Pcs.)(L=1130 mm)

Left Top Corner
Tape Reference



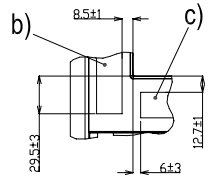
a) Before sticking, peel off a protection sheet of the back side.
Refer to detail of the sticking position(mm).

c) L=1130 mm

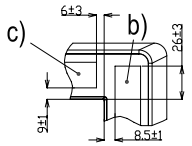
b) L=720 mm

b) L=720 mm
Sticking it so as not to go out of DECO BEZEL.
Consider it so as not to generate the bubble when you stick it.

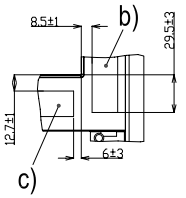
c) L=1130 mm



Left Bottom Corner
Tape Reference



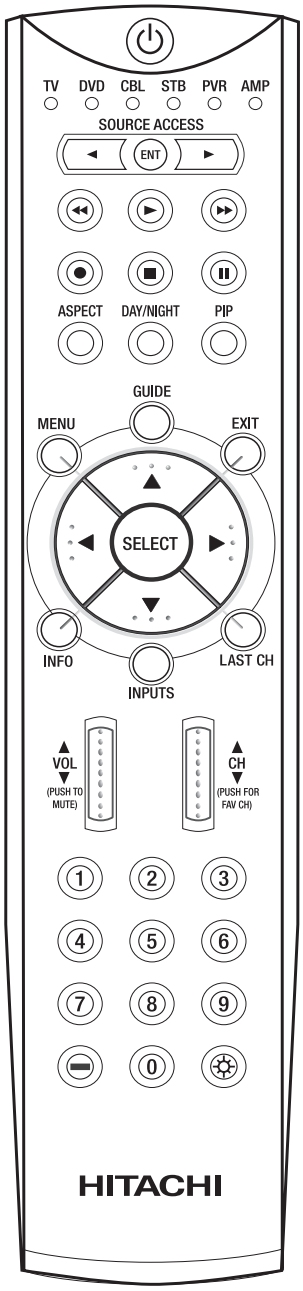
Right Top Corner
Tape Reference



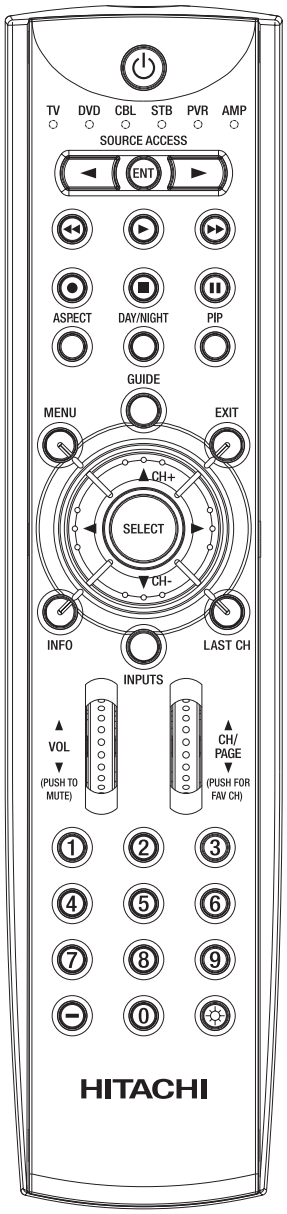
Right Bottom Corner
Tape Reference

Service Modes available to the technician (via remote only)

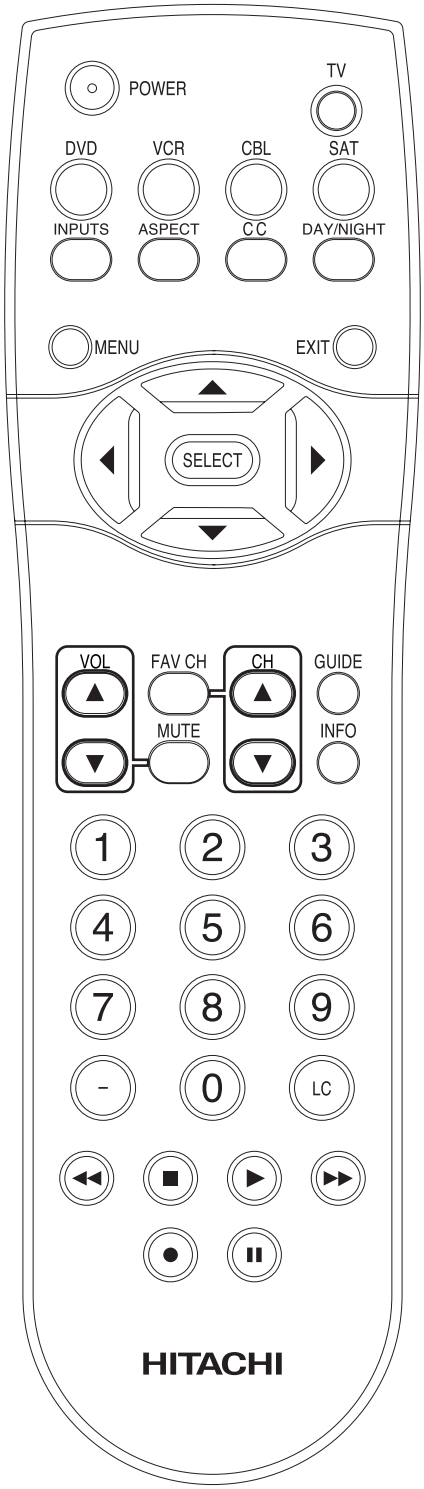
DW1



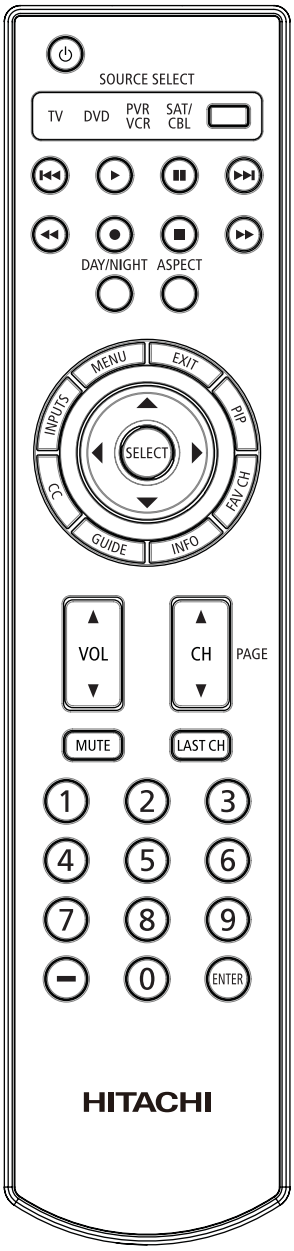
DW2



DW3 - H models

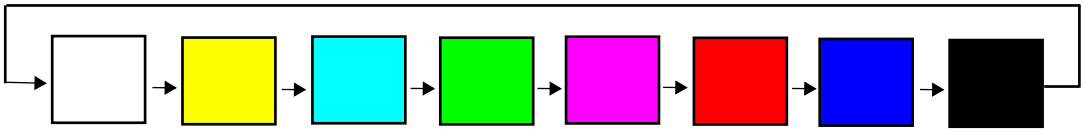


DW3 - T models



MENU + MENU + MENU + 8 + SELECT = Service Adj Mode (I2C Adjust)

MENU + MENU + MENU + 9 + SELECT = Panel Test Mode (see below)



HITACHI