



PDP MODULE SERVICE MANUAL

MODEL : PDP42V7####

CAUTION

1. BEFORE SERVICING THE PDP MODULE,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.
2. WHEN REPLACEMENT PARTS ARE REQUIRED, BE SURE TO USE
REPLACEMENT PARTS SPECIFIED BY THE MANUFACTURER.

[PDP42V7#### Module]

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I . Safety Precautions/Technical Feature

1. Safety Precautions

When servicing of PDP Module, it should be not enforced into another way aside next rule, or a unaccustomed person should not repairing.

When using/handling this PDP Module, pay attention to the below warning and cautions.

Warning

Indicates a hazard that may lead to death or injury if the warning is ignored and the product is handled incorrectly.

Caution

Indicates a hazard that can lead to injury or damage to property if the caution is ignored and the product is handled incorrectly.

1) WARNING

- (1) Do not touch Signal and Power Connector while this product operates.
Do not touch EMI ground part and Heat Sink of Film Filter.
- (2) Do not supply a voltage higher than that specified to this product. This may damage the product and may cause a fire.
- (3) Do not use this product in locations where the humidity is extremely high, where it may be splashed with water, or where flammable materials surround it.
Do not install or use the product in a location that does not satisfy the specified environmental conditions. This may damage the product and may cause a fire.
- (4) If a foreign substance (such as water, metal, or liquid) gets inside the product, immediately turn off the power.
Continuing to use the product, it may cause fire or electric shock.
- (5) If the product emits smoke, and abnormal smell, or makes an abnormal sound, immediately turn off the power.
Continuing to use the product, it may cause fire or electric shock.
- (6) Do not disconnect or connect the connector while power to the product is on. It takes some time for the voltage to drop to a sufficiently low level after the power has been turned off.
Confirm that the voltage has dropped to a safe level before disconnecting or connecting the connector.
- (7) Do not pull out or insert the power cable from/to an outlet with wet hands. It may cause electric shock.
- (8) Do not damage or modify the power cable. It may cause fire or electric shock.

- (9) If the power cable is damaged, or if the connector is loose, do not use the product: otherwise, this can lead to fire or electric shock.
- (10) If the power connector or the connector of the power cable becomes dirty or dusty, wipe it with a dry cloth. Otherwise, this can lead to fire.
- (11) PDP Module uses a high voltage (Max.450V dc). Keep the cautions concerning electric shock and do not touch the Device circuitry when handling the PDP Unit. And because the capacitor of the Device circuitry may remain charged at the moment of Power OFF, standing by for 1 minute is required in order to touch the Device circuitry.

2) CAUTIONS

- (1) Do not place this product in a location that is subject to heavy vibration, or on an unstable surface such as an inclined surface. The product may fall off or fall over, causing injuries.
- (2) Before disconnecting cable from the product, be sure to turn off the power. Be sure to hold the connector when disconnecting cables. Pulling a cable with excessive force may cause the core of the cable to be exposed or break the cable, and this can lead to fire or electric shock.
- (3) This product should be moved by two or more persons. If one person attempts to carry this product alone, he/she may be injured.
- (4) This product contains glass. The glass may break, causing injuries, if shock, vibration, heat, or distortion is applied to the product.
- (5) The temperature of the glass of the display may rise to 80°C or more depending on the conditions of use.
If you touch the glass inadvertently, you may be burned.
- (6) If glass surface of the display breaks or is scratched, do not touch the broken pieces or the scratches with bare hands. You may be injured.
- (7) PDP Module requires to be handled with care not to be touched with metal or hard materials, and must not be stressed by heat or mechanical impact.
- (8) There are some exposed components on the rear panel of this product. Touching these components may cause an electric shock.
- (9) When moving the product, be sure to turn off the power and disconnect all the cables. While moving the product, watch your step. The product may be dropped or all, leading to injuries of electric shock.

- (10) In order to protect static electricity due to C-MOS circuitry of the Drive part, wear a wrist band to protect static electricity when handling.
- (11) If cleaning the Panel, wipe it with a soft cloth moistened with water or a neutral detergent and squeezed, being careful not to touch the connector part of the Panel. And don't use chemical materials like thinner or benzene.
- (12) If this product is used as a display board to display a static image, "image sticking" occurs. This means that the luminance of areas of the display that remain lit for a long time drops compared with luminance of areas that are lit for a shorter time, causing uneven luminance across the display. The degree to which this occurs is in proportion to the luminance at which the display is used. To prevent this phenomenon, therefore, avoid static images as much as possible and design your system so that it is used at a low luminance, by reducing signal level difference between bright area and less bright area through signal processing.
- (13) Because PDP Module emits heat from the Glass Panel part and the Drive circuitry, the environmental temperature must not be over 40°C.
The temperature of the Glass Panel part is especially high owing to heat from internal Drive circuitry. And because the PDP Module is driven by high voltage, it must avoid conductive materials.
- (14) If inserting components or circuit board in order to repair, be sure to fix a lead line to the connector before soldering.
- (15) If inserting high-power resistor(metal-oxide film resistor or metal film resistor) in order to repair, insert it as 10mm away as from a board.
- (16) During repairs, high voltage or high temperature components must be put away from a lead line.
- (17) This is a Cold Chassis but you had better use a cold transformer for safety during repairs. If repairing electricity source part, you must use the cold transformer.
- (18) Do not place an object on the glass surface of the display. The glass may break or be scratched.
- (19) This product may be damaged if it is subject to excessive stresses (such as excessive voltage, current, or temperature). The absolute maximum ratings specify the limits of these stresses.
- (20) The recommended operating conditions are conditions in which the normal operation of this product is guaranteed. All the rated values of the electrical specifications are guaranteed within these conditions.
Always use the product within the range of the recommended operating conditions. Otherwise, the reliability of the product may be degraded.
- (21) This product has a glass display surface. Design your system so that excessive shock and load are not applied to the glass. Exercise care that the vent at the corner of the glass panel is not damaged.
If the glass panel or vent is damaged, the product is inoperable.
- (22) Do not cover or wrap the product with a cloth or other covering while power is supplied to the product.
- (23) Before turning on power to the product, check the wiring of the product and confirm that the supply voltage is within the rated voltage range. If the wiring is wrong or if a voltage outside the rated range is applied, the product may malfunction or be damaged.
- (24) Do not store this product in a location where temperature and humidity are high. This may cause the product to malfunction. Because this product uses a discharge phenomenon, it may take time to light (operation may be delayed) when the product is used after it has been stored for a long time. In this case, it is recommended to light all cells for about 2 hours (aging).
- (25) This product is made from various materials such as glass, metal, and plastic. When discarding it, be sure to contact a professional waste disposal operator.
- (26) If faults occur due to arbitrary modification or disassembly, LG Electronics is not responsible for function, quality or other items.
- (27) Use of the product with a combination of parameters, conditions, or logic not specified in the specifications of this product is not guaranteed. If intending to use the product in such a way, be sure to consult LGE in advance.
- (28) Within the warranty period, general faults that occur due to defects in components such as ICs will be rectified by LGE without charge. However, IMAGE STICKING due to misapplying the above (12) provision is not included in the warranty. Repairs due to the other faults may be charged for depending on responsibility for the faults.
- (29) In assembling Module into SET, in case Film Filter and as a protective film is bared, static electricity of exfoliated protective film which is bared from beginning X-Board down ward getting TCP to no getting TCP should not influence on TCP.
Also Filter after protective film is bared or in the storage can be charged with electricity, so the EMI ground part of Film Filter should be used after Grounding.

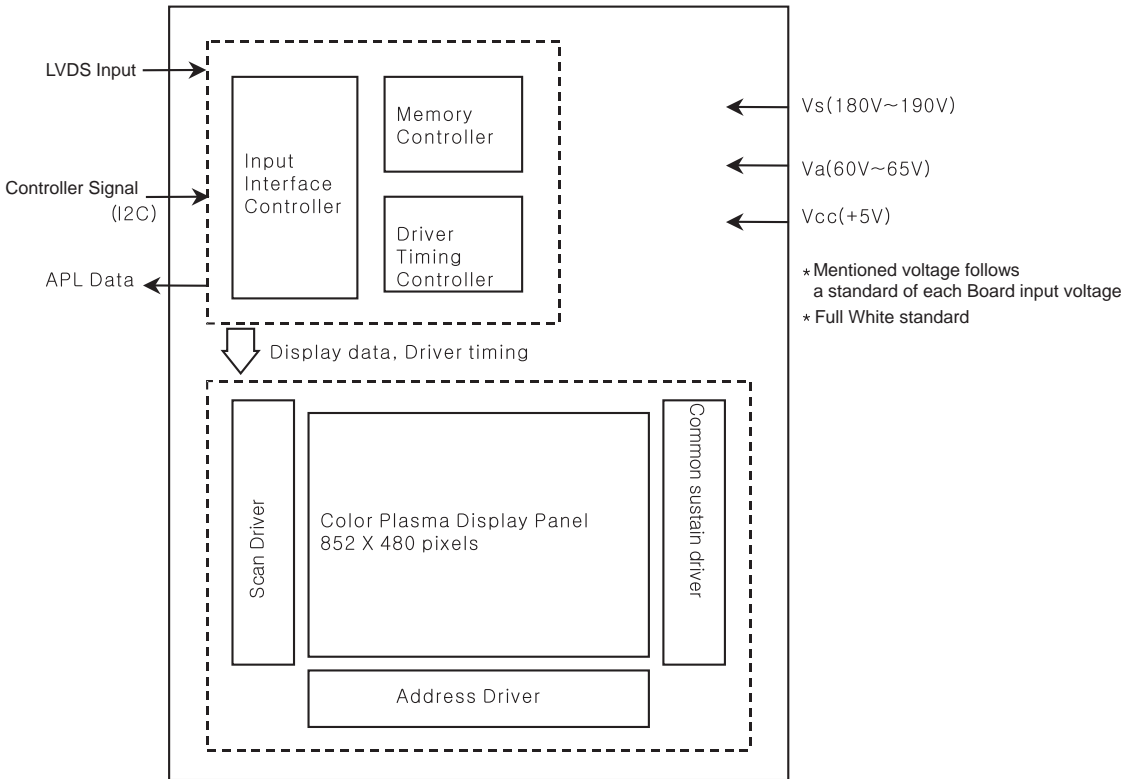
2. Technical Feature

PDP Module is a display device to be divided into a Panel part and a Drive part. The Panel part consists of Electrodes, Phosphor, various dielectrics and gas, and the Drive part includes electronic circuitry and PCB. PDP42V7#### model produced in the LG electronic is 42inches color Plasma display module of WVGA(852(H)x480(V)), and it is a display device giving concrete to bright image by using AC Plasma technology of LG electronic.

1) General Specification

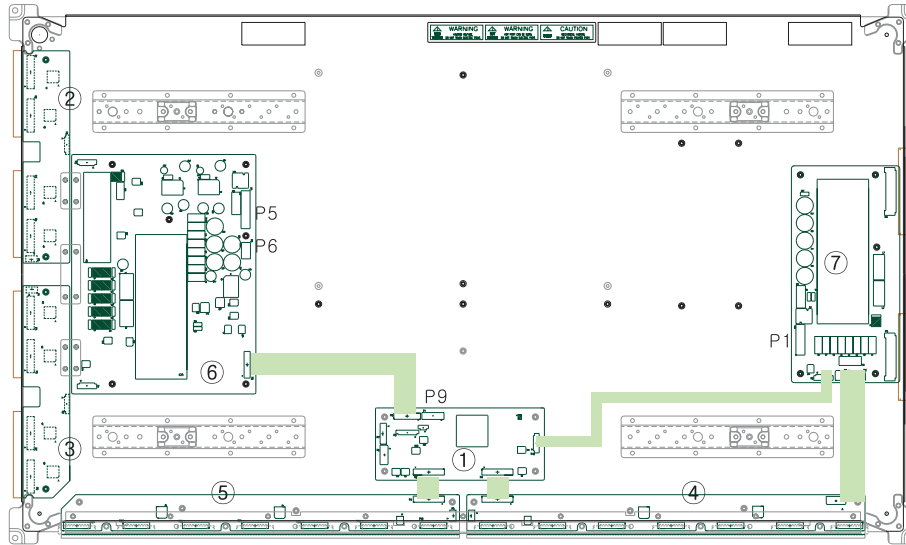
- (1) Model Name : PDP42V7####
- (2) Number of Pixel : 852(H) x 480(V) (1pixel=3 RGB cells)
- (3) Pixel Pitch : 1080 μ m(H) x 1080 μ m(V)
- (4) Cell Pitch : 320 μ m(H) x 1080 μ m(V) (Base: Green Cell)
- (5) Display area : 920.1(H) x 518.4(V) \pm 0.5mm
- (6) Outline dimension : 1005(H) x 597(V)x 60.6(D) \pm 1mm
- (7) Color arrangement : RGB Closed type
- (8) Number of COLRO : (R)1024 x (G)1024 x (B)1024
- (9) Weight : 14.7Kg \pm 0.5Kg
: 100Kg \pm 5Kg(5EA/1BOX)
- (10) Aspect Ratio : 16:9
- (11) Peak Brightness : Typical 1500dc/n²(1/10 White Window)
: Avergae 100:1(Light room 100 Lx at center)
- (12) Contrast Ratio : Typical 10000:1(Dark room 1/10 White Window)
(White Window Pattern at Center)
- (13) POWER CONSUMPTION : Typical 200 W(Full White) * Note 1
- (14) Lifetime : Over 60,000 Hrs (Initial brightness 1/2)

2) Block Diagram



* Note 1) It can be changed maximum 300W according to input image.

II . Formation and Specification of Module



No	Connector	Input Voltage & Signal
1	P1[Z SUS B/D]	5V, Va, Vs
2	P5[Y SUS B/D]	Vs
3	P6[Y SUS B/D]	5V
4	P9[CTRL B/D]	Control Signal

No	Part No.		Description
①	6871QCH053A	PWB(PCB) ASS'Y	LVDS CTRL B/D ASS'Y
	6871QCH073A	PWB(PCB) ASS'Y	HITACHI COPPER LVDS CTRL B/D ASS'Y
	6871QCH053B	PWB(PCB) ASS'Y	LVDS OUTER SIDE CTRL B/D ASS'Y
	6871QCH053C	PWB(PCB) ASS'Y	PB-FREE FFC & CON LVDS OUTER SIDE CTRL B/D ASS'Y
②	6871QDH084A	PWB(PCB) ASS'Y	YDRV TOP B/D ASS'Y
	6871QDH105A	PWB(PCB) ASS'Y	HITACHI COPPER YDRV TOP B/D ASS'Y
③	6871QDH085A	PWB(PCB) ASS'Y	YDRV BTM B/D ASS'Y
	6871QDH106A	PWB(PCB) ASS'Y	HITACHI COPPER YDRV BTM B/D ASS'Y
④	6871QRH055A	PWB(PCB) ASS'Y	XR B/D ASS'Y
	6871QRH055B	PWB(PCB) ASS'Y	PB-FREE FFC & CON XR B/D ASS'Y
	6871QRH066A	PWB(PCB) ASS'Y	HITACHI COPPER XR B/D ASS'Y
⑤	6871QLH047A	PWB(PCB) ASS'Y	XL B/D ASS'Y
	6871QLH047B	PWB(PCB) ASS'Y	PB-FREE FFC & CON XL B/D ASS'Y
	6871QLH056A	PWB(PCB) ASS'Y	HITACHI COPPER XL B/D ASS'Y
⑥	6871QYH036A	PWB(PCB) ASS'Y	YSUS B/D ASS'Y
	6871QYH036B	PWB(PCB) ASS'Y	PB-FREE FFC & CON YSUS B/D ASS'Y
	6871QYH050A	PWB(PCB) ASS'Y	HITACHI COPPER YSUS B/D ASS'Y
⑦	6871QZH041A	PWB(PCB) ASS'Y	ZSUS B/D ASS'Y
	6871QZH052A	PWB(PCB) ASS'Y	HITACHI COPPER ZSUS B/D ASS'Y

※ The composition and specification of Initial production module
Revision information refers to 'VII Revision for Boards, Components and ROM DATA'

III . Adjustment

1. Application Object

This standard is applied to the PDP42V7#### PDP Module which is manufactured by the manufacturing team of PDP promotion department or elsewhere.

2. Notes

- (1) Without any special specification, the Module should be at the condition of preliminaries more than 10minutes before adjusting.
 - Service signal : 100% Full White signal
 - Service DC voltage : Vcc: 5V, Va: 65V, Vs: 187V
 - DC/DC Pack voltage : Vsc=115V
-Vy: -85V
 - Preliminaries environment : Temp (25±5°C), Relative humidity (65±10%)
- (2) Module should get the Aging for the equilibrium after finish the assembling. Aging condition is shown below.
 - Service signal: 100% Full White, Red, Green, Blue pattern signal(Service time of each pattern : within 5minutes/cycle)
 - Service DC voltage : Match the voltage with the set up voltage in the first adjustment.
 - Aging time : More than 30 minutes
 - Aging environment : Temp (25±2°C), Relative humidity- Less than 65%
- (3) Module adjustment should be followed by below sequence.
 - Setting up the Vsc/-Vy voltage(Vsc=115V, -Vy=-85V)
 - Adjusting the voltage wave form(Refer to adjustment)
 - 25±5°C, 65±10%
- (4) Without any special specification, you should adjust the Module in the environment of Temp (25±5°C) and Relative humidity (65±10%)

Caution If you let the still image more than 10 minutes(especially The Digital pattern or Cross Hatch Pattern which has clear gradation), after image can be presented in the black level part of screen.

3. Adjustment after Assembling

3-1. Using Tools

- (1) Digital oscilloscope : More than 200MHz
- (2) DVM(Digital Multimeter) : Fluke 87 or similar one
- (3) Signal generator : VG-825 or similar one
- (4) DC power supply or PSU
 - DC power supply for Vs (1) : Should be changeable between 0V to 200V/ more than 10A
 - DC power supply for Va (1) : Should be changeable between 0V to 100V/ more than 5A
 - DC power supply for 5V (1) :Should be changeable between 0V to 10V/ more than 10A
 - DC-DC Converter Jig (1) : The Jig which has equivalent voltage output of PDP42V7#### Module after taking the Vs, Va, 5V voltage
 - Voltage stability of power supply : Within ±1% for Vs/Va, within ±3% for 5V

3-2. Connection diagram of measuring instrument and setting up the initial voltage

- (1) For connection diagram of measuring instrument, refer to Fig. 1.(Connection diagram of measuring instrument that adjusting the voltage wave form)
- (2) Setting up the initial voltage(Voltage Label)
Vcc: 5V, Va: 65V, Vs: 187V
But, Initially setting up voltage can be changed by the set up range according to the Module's characteristic.

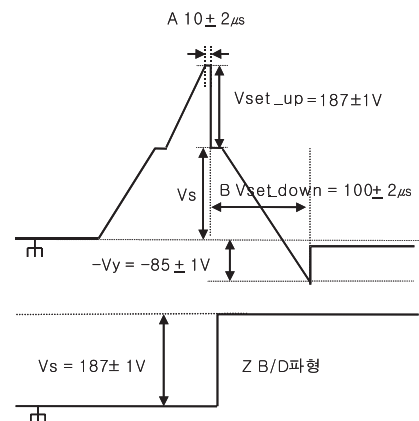
3-3. How to Adjust

(1) Adjusting Vset-up Voltage Wave form

- ① Connect the measuring instrument to be (Fig. 1).
- ② Turn on the measuring instrument with Caution of (Fig. 1).
- ③ Connect the oscilloscope probe to B39(Bead) of Y B/D bottom and GND.
- ④ Turn the VR1 of Y B/D and make the "A" waveform Fig. 2 to be 10±2μs.

(2) Adjusting Vset-down Voltage Wave form

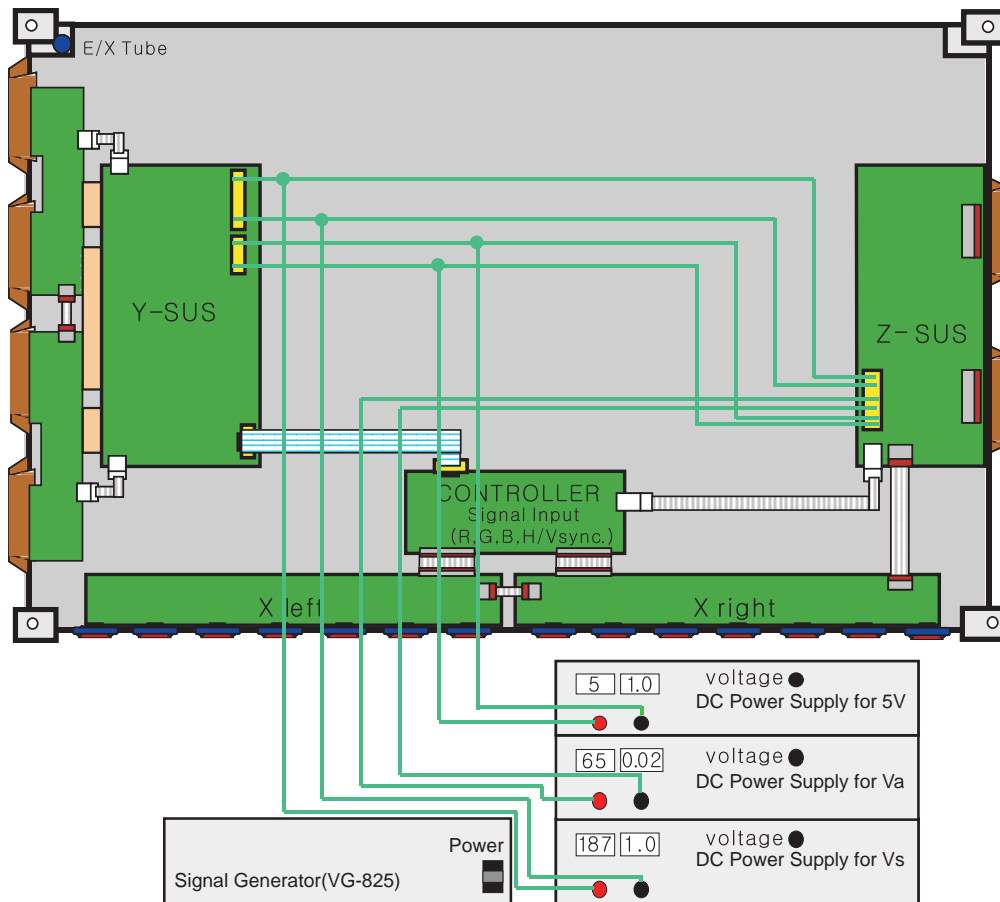
- ① Turn the VR2 of Y SUS B/D and make the "B" waveform Fig. 2 to be 100±2μs.



(Fig. 2) Y, Z set-up Waveform

(3) Checking the DC/DC pack voltage

- ① Convert the signal of signal generator to the 100% Full White signal.
- ② Connect the GND terminal of DVM to the right leg of R53 on the Y B/D and set the Plus terminal to the left leg of R53 to check the Vsc voltage(115±1V) and when there is abnormality in voltage turn the variable resistor(VR3) of DC/DC Pack(Vsc) PS1 on Y B/D to adjust.
- ③ Connect the GND terminal of DVM to the right leg of R78 on the Y B/D and set the Plus terminal to the left leg of R78 to check the -Vy voltage(-85±1V) and when there is abnormality in voltage turn the variable resistor(VR4) of DC/DC Pack(-Vy) PS1 on Y B/D to adjust.



- <Caution>**
- (1) The power of the signal generator should be turned on before turning on the power of DC power supply.
 - (2) The voltage of DC power supply, in standard of Module input voltage, should be preset as below.
Vcc: 5V, Va: 65V, Vs: 187V
 - (3) The power of power supply must turned on by this sequence. Reverse direction When turning off.
* Module on : 5V ⇒ Va ⇒ Vs, Module off: Vs ⇒ Va ⇒ 5V
 - (4) Signal generator should be selected with 852*480(WVGA) mode.

※ Also the PSU(Power Supply Unit) use is possible

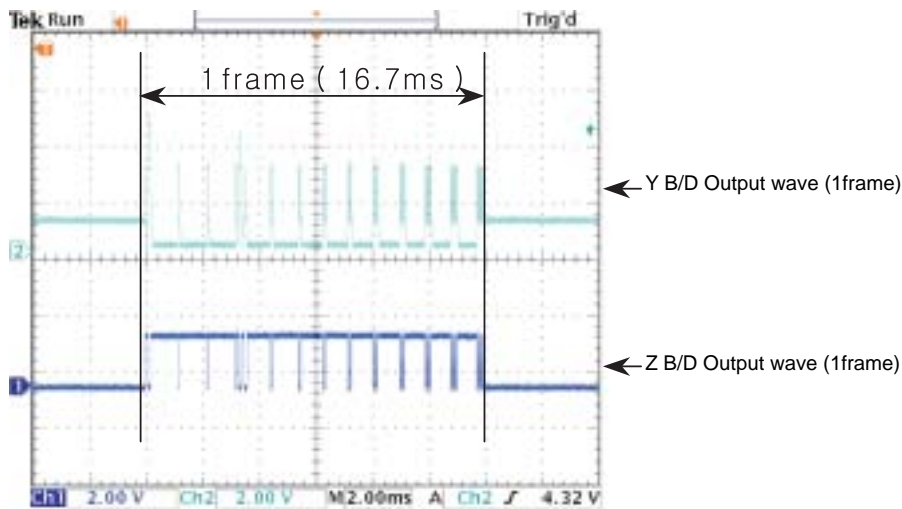
(Fig. 1) Connection diagram of measuring instrument

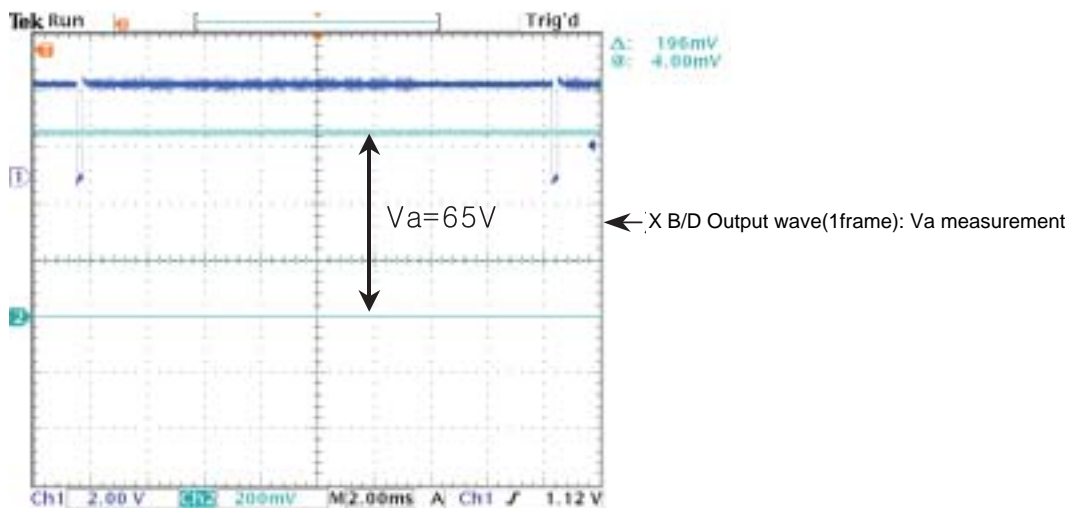
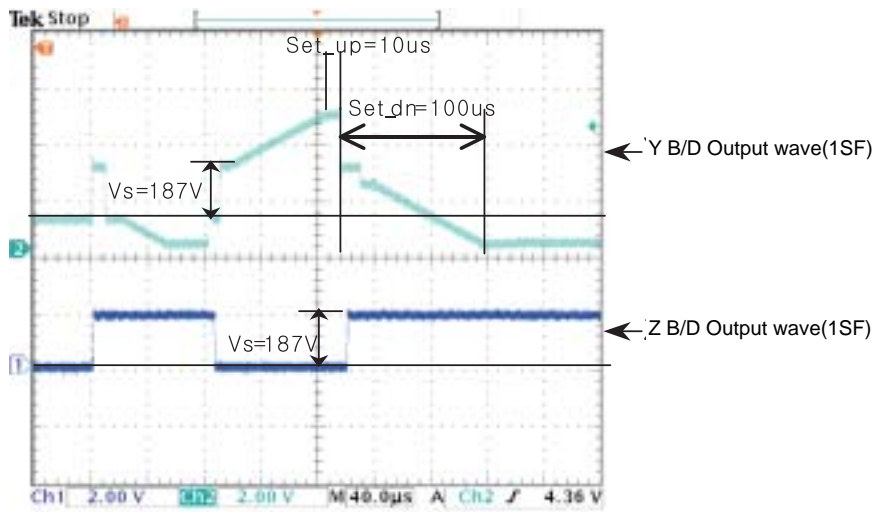
IV . Trouble Shooting

1. Checking for no Picture

A screen doesn't display at all and condition of black pattern or power off.

- (1) Check whether the CTRL B/D LED(D1, D2, D3, D4, D5) is turned on or not.
- (2) Check the power and signal cable of CTRL B/D.
- (3) X B/D, Y B/D, Z B/D is well plugged in.
- (4) Check the connection of X B/D, Y B/D and Z B/D to CTRL B/D.
- (5) Measure the output wave of X, Y, Z B/D with oscilloscope(more than 200MHz) and find the trouble of B/D by comparing the output wave with below figure.
 - Measure Point fo Y B/D : Bead B39
 - Measure Point fo Z B/D : Bead B28
 - Measure Point fo X B/D : P3
- (6) Check the SCAN(Y side) IC
- (7) Check the DATA(X side) TCP IC
- (8) Replace the CTRL B/D.
- (9) Check the Fuse of Y, Z B/D is open and replace when open.
- (10) Check the input voltage. ($V_{cc}=5V/V_a=65V/V_s=187V$)





2. Hitch Diagnosis Following Display Condition

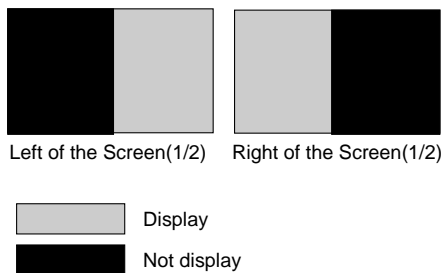
2-1. All or 1/2 of the screen doesn't be shown

- (1) In case of all of the screen doesn't be shown, Confirm the 8pin connection of X B/D to Z B/D is well plugged in which is correspond
- (2) In case of 1/2 of the screen doesn't be shown
 - ① XR B/D
 - Confirm the 60pin connection of CTRL B/D to XR B/D is well plugged in which is correspond
 - ② XL B/D
 - Confirm the 5pin connection of XR B/D to XL B/D is well plugged in which is correspond
 - Confirm the 60pin connection of CTRL B/D to XL B/D is well plugged in which is correspond
- (3) Replace relevant X B/D.

* Relationship between screen and X B/D

Screen		X B/D
Left of the Screen	1/2 <-->	Right X B/D
Right of the Screen	1/2 <-->	Left X B/D

* Screen Display Form



* 1/4 of the screen doesn't be shown

Equality with 2-1

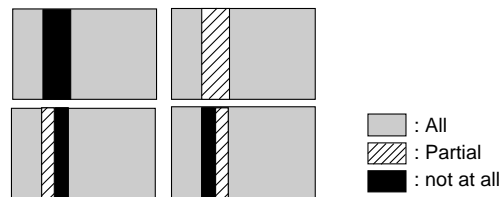
2-2. The screen doesn't be shown as Data TCP

(Include not be shown part of DataTCP quantity or a part)

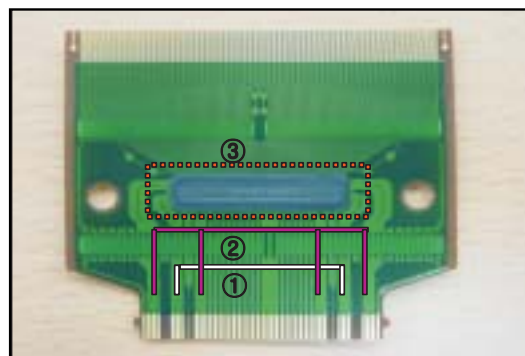
- (1) The problem between Data TCP and X B/D is more possible that the screen is not be shown as data TCP.
- (2) Confirm the connector of Data TCP is well connected to X B/D. Correspond to the part that screen is not showing
- (3) Confirm whether the Data TCP is failed. (Inclusion examination with the naked eye(IC Burnt and others)
 - ① IC is Fail: Replace the Module
 - ② In case of shorting the X B/D by foreign or PCB pattern is open: When TCP IC is not Fail, replace the X B/D.

* Example of the screen display form

(Anything of the 14 Data TCP can be shown beside below pictures)



* How to examine Data TCP IC



- Change '①(Va Power)' into CATHOD, '②(GND)' into ANODE and then examine the Diode to the forward or reverse direction.
- Burnt of '③(IC)' and others examine with the naked eye.

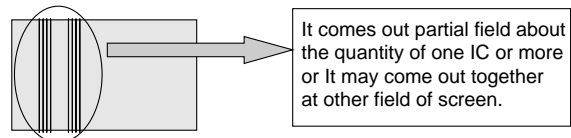
2-3. It Generates Unusual Pattern of Data TCP IC unit

- (1) In case of generating unusual pattern of Data TCP IC unit as below picture, there is problem in the Signal(CLK, data, STB) or connector that is input into Data TCP IC
- (2) In case of <case 1>
 - Confirm the connection of Data TCP connector and IC Fail.
 - Replace the relevant X B/D.
- (3) In case of <case 2>, <case 3>
 - Confirm the connection of Data TCP connector and connector that is connected from CTRL to X B/D.
 - Check the foreign on the CTRL B/D and X B/D.
 - Replace the relevant X B/D or CTRL B/D.
- (4) In case of <case 4>, <case 5>
 - Confirm the connector that is connected from CTRL to X B/D
 - Replace relevant X B/D or CTRL B/D
 - Confirm the connection of Z B/D and XR B/D(8pin), XR B/D and XL B/D(5pin) power connector.

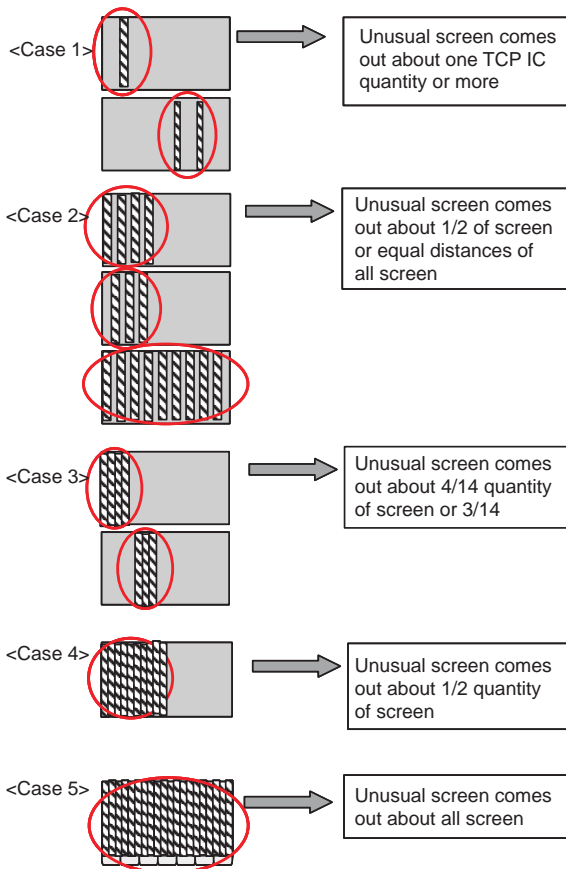
2-4. Regular Stripe is Generated about the Quantity of one Data TCP IC or more

- (1) In case of generating regular stripe about the quantity of one Data TCP IC or more, check the connection of connector or foreign.
- (2) Confirm the connection connector/foreign of XB/D or CTRL B/D to X B/D correspond to unusual screen.
- (3) Replace relevant XB/D or CTRL B/D.

* Screen Display Form



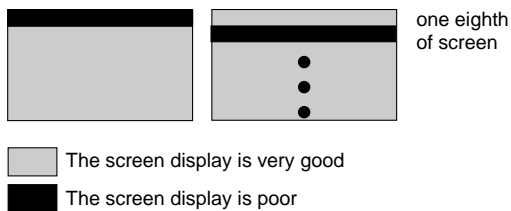
* Screen Display Form



2-5. The screen display has a problem for Scan FPC.

- (1) It's may be a problem between Scan FPC and Y DRV B/D.
- (2) Check the connection of Y DRV B/D and Scan FPC.
- (3) If the Scan IC is failed, replace the Y DRV B/D.

* Screen Display Form



* Check a method of SCAN IC

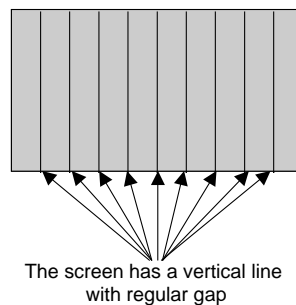


Change the Vpp Pin into ANODE and GND Pin into CATHOD and then test the Diode with forward or reverse direction.

2-6. The screen has a vertical line with regular gap. (A vertical stripe flash at especial color)

- (1) This is a problem about CTRL B/D.
- (2) Replace the CTRL B/D.

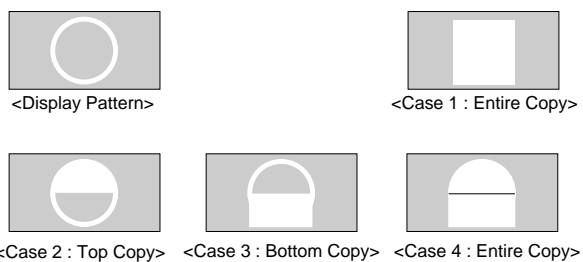
* Screen Display Form



2-7. A data copy is happened into vertical direction

- (1) In this case, it's due to incorrect marking of scan wave.
- (2) Replace the Y DRV B/D or Y B/D.

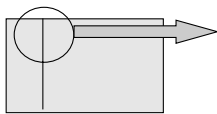
* Screen Display Form



2-8. The screen has one or several vertical line

- (1) In this case, It isn't a problem about CTRL B/D or X B/D.
- (2) It may cause followings.
 - It's out of order a panel
 - Open or short of DATA TCP FPC attached panel
 - It's out of order a DATA TCP attached panel
- (3) Replace Module.

* Screen Display Form

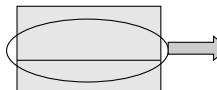


It may show several vertical lines in a quarter or other division part of screen including left case.

2-9. The screen has one or several horizontal line

- (1) In this case, it isn't a problem about CTRL B/D or Y B/D.
- (2) It may cause followings.
 - It's out of order a panel
 - Open or short of SCAN FPC attached panel
 - It's out of order a SCAN IC attached panel
- (3) Replace Y DRV B/D

* Screen Display Form



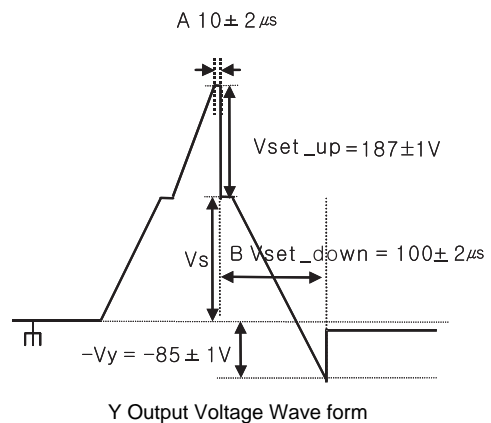
It may show several horizontal lines including left case.

2-10. The screen displays input signal pattern but the brightness is dark

- (1) In this case, Z B/D operation isn't complete.
- (2) Check the power cord of Z B/D.
- (3) Check the connector of Z B/D and CTRL B/D.
- (4) Replace the CTRL B/D or Z B/D.

2-11. The screen displays other color partially on full white screen or happens discharge partially on full black screen.

- (1) Check the declination of Y B/D set up, set down wave.
- (2) Measure each output wave with oscilloscope(more than 200MHz) and compare the data with below figure data. Adjust the Y B/D Set_up(A) and Set_down(B) declination by changing VR1 and VR2 as same writing on the adjustment label.
 - Measuring Point of Y B/D : B39



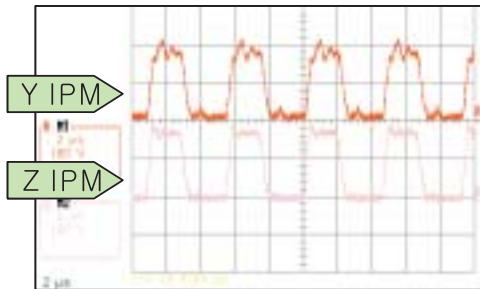
2-12. It doesn't display a specified brightness at specified color

- (1) Check the connector of CTRL B/D input signal.
- (2) Replace the CTRL B/D.

3. Checking for Component Damage

3-1. Y IPM(IC 15) or Z IPM(IC 2) Damage

- (1) When the internal Sustain_IGBT or ER_FET of Y IPM(IC 15) or Z IPM(IC 2) is damaged, VS FUSE is open and screen doesn't be shown.
- Test Point: B32~GND(Y B/D), B28~GND(Z B/D)
 - Wave format: B32(Y B/D) or B28(Z B/D) has no output wave.



<IPM Normal Output Wave>

- Measurement position: Sustain section enlarge the after measuring B32 wave of Y B/D and B28 wave of Z B/D. (Full White Pattern)

3-2. Pass Top FET(Y B/D: HS2) Damage

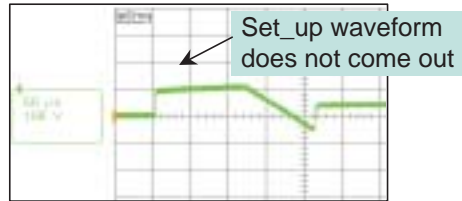
- (1) When Pass Top FET is damaged, electric discharge of entire screen is generated.
- Test Point: Enlarge the after measuring GND~B32(Y B/D)
 - Wave format: When the Set_dn does not descend until $-V_y$.



<When the Pass Top FET is damaged>

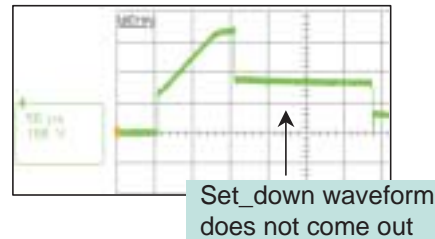
3-3. FET Ass'y(Y B/D: HS1) Damage

- (1) When Set_Up FET is damaged, screen doesn't be shown
- Test Point: Enlarge the after measuring GND~B32(Y B/D)
 - Wave format: Set_up waveform does not come out.



<When the Set_Up FET is damaged>

- (2) When Set_Down FET is damaged, electric discharge of entire screen is generated.
- Test Point: Enlarge the after measuring GND~B32(Y B/D)
 - Wave format: Set_down waveform does not come out.



<When the Set_Down FET is damaged>



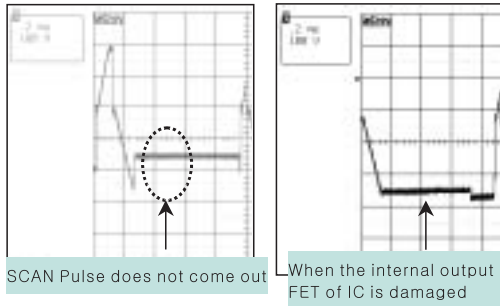
<Reset section normal output wave>

- Measurement position: Reset section enlargement wave of B32(Y B/D) (Full White Pattern)

3-4. SCAN IC(Y DRV B/D: IC1~8) Damage

(1) In case of SCAN IC poor, one horizontal line may open at screen.

- Test Point: ICT measurment of GND~Y DRV B/D output
- Wave format: As shown below figure.



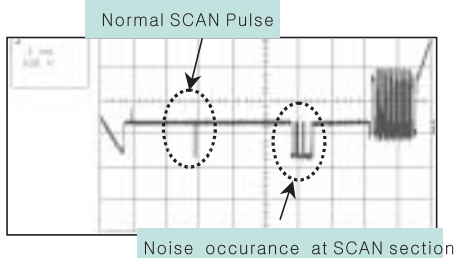
<When SCAN IC is poor>

(2) Screen may not shown when SCAN IC is damaged by SCAN IC poor, external electricity or spark.

- Test Point: ICT measurment of GND~Y DRV B/D output
- Wave format: Output wave format isn't output (You can see the damage for Y DRV B/D Top or Bottom's SCAN IC)

(3) Screen shaken horizontally when Y DRV B/D Top and Bottom cable is poor

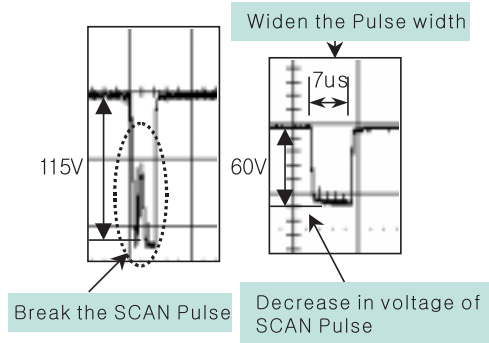
- Test Point: ICT measurment of GND~Y DRV B/D output
- Wave format: As shown below figure.



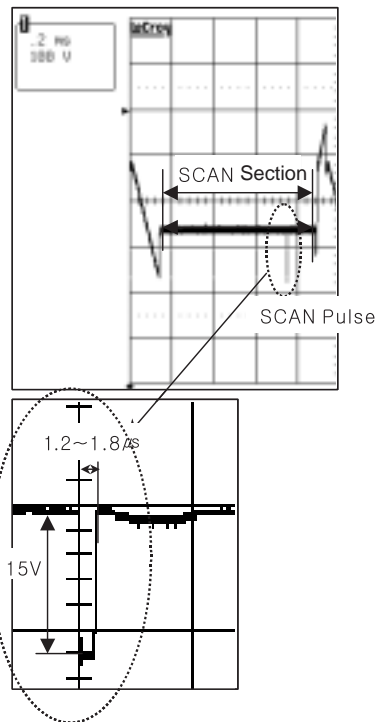
<When Y DRV B/D Top and Bottom cable is poor>

(4) In case of shorting the SCAN IC output by a dust, foreign substance, it may overlap two horizontal lines on screen.

- Test Point: ICT measurment of GND~Y DRV B/D output
- Wave format: As shown below figure.



<When SCAN IC output is short>

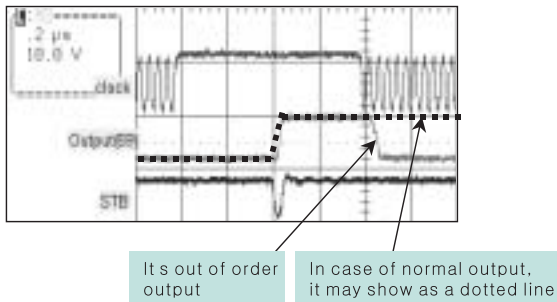


<SCAN IC Normal Output Wave >

- Measurment position: SCAN section enlarge the after measuring output ICT of Y DRV B/D. (Full White Pattern)

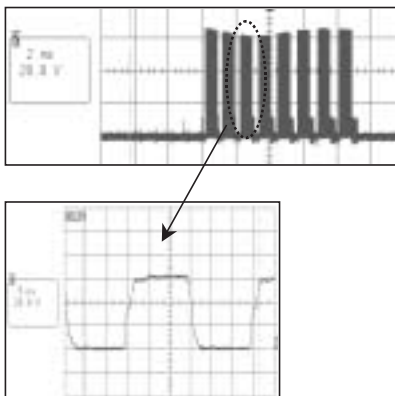
3-5. TCP Damage

- (1) In case of shorting or opening the IC output of TCP, it may show one or several vertical lines.
- Test Point: Enlarge the after measuring output TP of GND-TCP
 - Wave format: As shown output below figure.
- In case of normal wave output, when STB signal is generated, maintain High output. And when STB signal is generated again must be fall Low.
But when IC of TCP is poor, STB signal is not generated Output falls with Low.



<When IC output of COF is poor>

- (2) In case of being damage IC of TCP or power resistance, the screen doesn't be shown or happens discharge partially.
- Test Point: Enlarge the after measuring output TP of GND-TCP
 - Wave format: Output wave doesn't come out

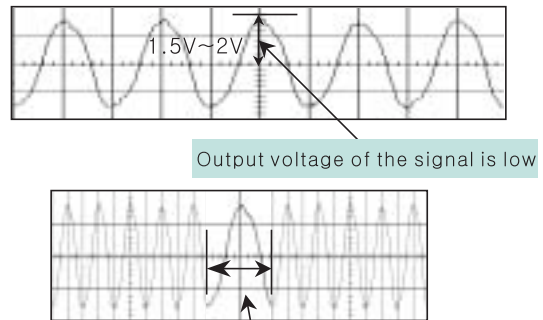


<TCP Normal Output Wave >

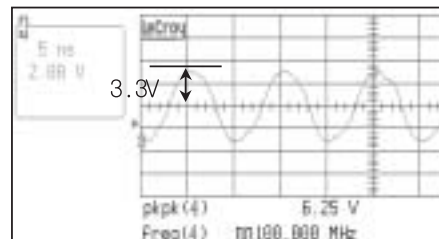
- Measurement position: Enlarge the after measuring output TP of TCP (Full White Pattern)

3-6. Crystal(CTRL B/D: X1) Damage

- (1) When Crystal is damage, the screen doesn't be shown.
- Test Point: Measuring 3pin of GND-Crystal(CTRL B/D: X1)
 - Wave format: Output wave doesn't come out
- (2) In case of unusual launch of the Crystal, it may blink the screen.
- Wave format: As shown below figure



<When Crystal is poor>



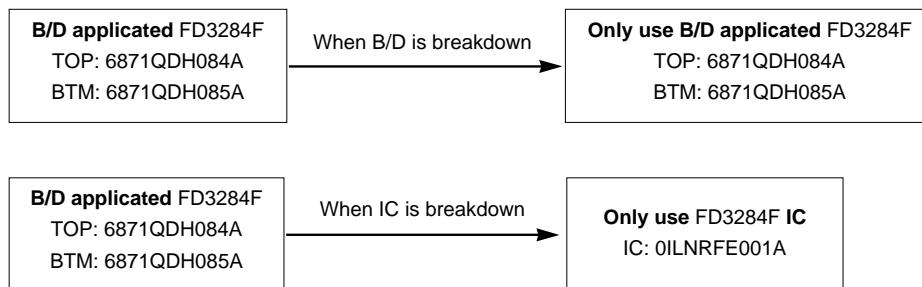
<Crystal Normal Output Wave >

- Measurement position: Measuring output 3pin of Crystal(X1: 100MHz) on CTRL B/D (Full White Pattern)

4. Shift breakdown component compatibility consideration

4-1. Scan IC follows in application, compatibility of Y DRV Top, Bottom B/D

- (1) When B/D appicated FD3284F is breakdown, you must mutually only replace Top B/D and Bottom B/D appicated FD3284F.
- (2) When IC of B/D appicated FD3284F IC is breakdown, you must only replace FD3284F IC.
Different IC application being not right

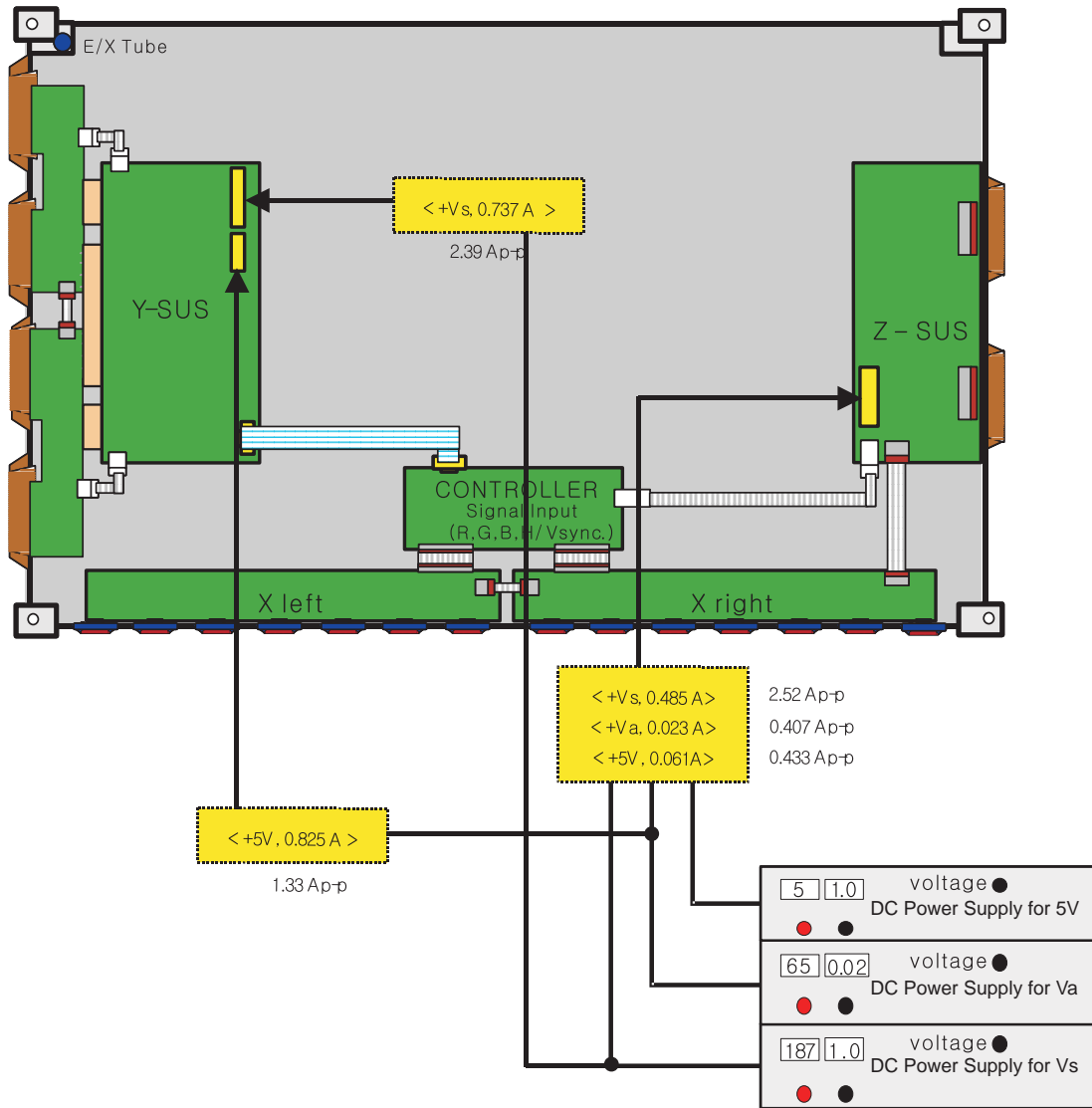


- * When replacing the IC, notice
To prevent dust, fix the same IC after removing the silicon
and then it again stick the IC.

Silicon Part No.: 7254Q00002A(Tube Type)
7254Q00002B(Can Type)

V . Block Diagram


Input Signal : Full White
Current (typ.) : rms










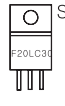
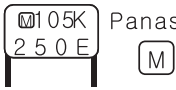








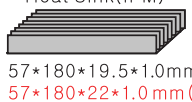





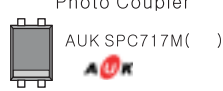

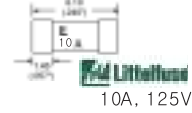



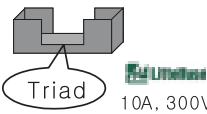



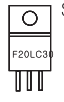
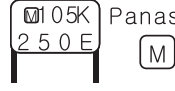






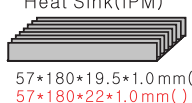




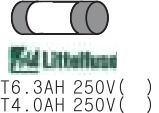
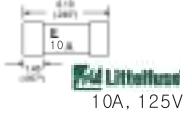
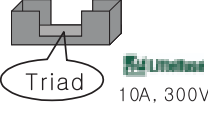
English

















VI. Safety Components List

(1) The safety components list of PDP42V7#### Model is as below.

(2) A component of  mark is important to keep product's security. Therefore in exchanging a component, appointed component is necessary used.

(3)  is an abbreviated word which is instead of <Safety>-mark.

	C27,28,31,34,58	C26,53,56,59,64,68,69	IC200
	 Samwha	 Samwha	 NATIONAL LM2585S
D17	C 8~10,21,25,40~42	 T1	 T3
 SHINDENGEN 20A/300V SF20LC30	 Panasonic 105K 250E M	 GET Plus 15V 10pin W007A ()	 GET Plus Vy, Vsc 6pin W014A ()
 L1,2	 FL1	 IC15	 HS1
 GET Plus() 0.6uH 6140QD0013A	 GET Plus() 60uH 33.5 turns	 Heat Sink(IPM) 57*180*19.5*1.0mm () 57*180*22*1.0mm ()	 Heat Sink(FET) 99.5*30*25*1.5mm
 IC9,11	 HS2	 FS1	 FS2
 Photo Coupler AUK SPC717M() AUK	 Heat Sink 68.5*30*21.5*1.0	 Littelfuse 10A, 125V	 Littelfuse T2.0AH 250V() T4.0AH 250V()
 Fuse holder	 T4		
 Triad 10A, 300V	 GET Plus Vy, Vscw 6pin W014A () W013A ()		
	C9,10,11,12,13	D1	C1,2,3,4,5,6,7,8
	 Samwha	 SHINDENGEN 20A/300V SF20LC30	 Panasonic 105K 250E M
 L1,2	 FL1	 IC2	 FS1
 GET Plus() 0.6uH 6140QD0013A	 GET Plus() 60uH 33.5 turns	 Heat Sink(IPM) 57*180*19.5*1.0mm () 57*180*22*1.0mm ()	 Littelfuse T2.0AH 250V() T4.0AH 250V()
 FS2	 FS3	 Fuse holder	
 Littelfuse T6.3AH 250V() T4.0AH 250V()	 Littelfuse 10A, 125V	 Triad 10A, 300V	

	 42 Glass	 42 Frame	 FPC
 Panel	 Asahi glass Front:978(W)*550(H) Back:958(W)*570(H)	 1005(W)*597(H)	 YoungPoong Y0serise () Daeduck GDS F1-0 ()
 Film Filter(Optional)			
 LG Chem. () Mitsui Chem()			
	 Thermal Pad	 TCP	 TCP Heat Sink
 X B/D	 Dow Corning TP 2460()	 UBE Industries (CS(I) () Flammability : VTM-0	 898*19*20.7*1.0

English

VII. Records of Revision for Boards, components and ROM DATA

1. Boards

No.	Date	Board	Part Number	Note
1	2005.03.04	LVDS CTRL B/D ASS'Y	6871QCH053A	Initial Product
2	2005.03.04	HITACHI COPPER LVDS CTRL B/D ASS'Y	6871QCH073A	Initial Product
3	2005.03.04	LVDS OUTER SIDE CTRL B/D ASS'Y	6871QCH053B	Initial Product
4	2005.03.04	PB-FREE FFC & CON LVDS OUTER SIDE CTRL B/D ASS'Y	6871QCH053C	Initial Product
5	2005.03.04	YDRV TOP B/D ASS'Y	6871QDH084A	Initial Product
6	2005.03.04	HITACHI COPPER YDRV TOP B/D ASS'Y	6871QDH105A	Initial Product
7	2005.03.04	YDRV BTM B/D ASS'Y	6871QDH085A	Initial Product
8	2005.03.04	HITACHI COPPER YDRV BTM B/D ASS'Y	6871QDH106A	Initial Product
9	2005.03.04	XR B/D ASS'Y	6871QRH055A	Initial Product
10	2005.03.04	PB-FREE FFC & CON XR B/D ASS'Y	6871QRH055B	Initial Product
11	2005.03.04	HITACHI COPPER XR B/D ASS'Y	6871QRH066A	Initial Product
12	2005.03.04	XL B/D ASS'Y	6871QLH047A	Initial Product
13	2005.03.04	PB-FREE FFC & CON XL B/D ASS'Y	6871QLH047B	Initial Product
14	2005.03.04	HITACHI COPPER XL B/D ASS'Y	6871QLH056A	Initial Product
15	2005.03.04	YSUS B/D ASS'Y	6871QYH036A	Initial Product
16	2005.03.04	PB-FREE FFC & CON YSUS B/D ASS'Y	6871QYH036B	Initial Product
17	2005.03.04	HITACHI COPPER YSUS B/D ASS'Y	6871QYH050A	Initial Product
18	2005.03.04	ZSUS B/D ASS'Y	6871QZH041A	Initial Product
19	2005.03.04	HITACHI COPPER ZSUS B/D ASS'Y	6871QZH052A	Initial Product



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