

ADJUSTMENT INSTRUCTIONS

1. Application Object

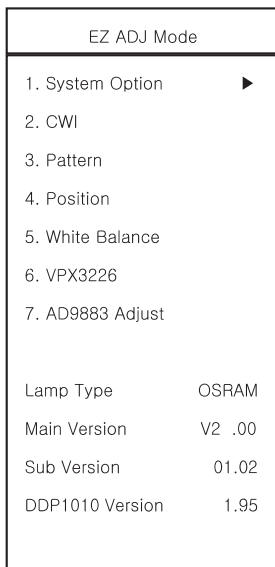
This instruction is for the application to the DLP Projection TV(Chassis: NB-03JC).

2. Notes

- (1) The power source insulation of this DLP Projection is not charging type and you may not use the transformer for insulation. But you'd better adjust the set after operating it with insulation transformer between power supply cable and input part of the set for protecting the adjusting equipments.
- (2) The adjustment must be performed under the correct sequence.
- (3) The adjustment must be performed in the circumstance of 25±5°C of temperature and 65±10% of relative humidity if there is no specific designation.
- (4) The input voltage of the receiver must keep 110V, 60Hz in adjusting.
- (5) The set must be operated for 5 minutes preliminarily before adjustment if there is no specific designation. The preliminary operation must be performed after receiving 100% white pattern, but reception of the moving picture may also be possible in unavoidable case.

3. Composition of Adjustment Mode

- (1) All adjustment mode are entered by pressing the ADJ key on the remote control, after adjustment press the ADJ key to come out.
- (2) Below picture is screen composition when press the first ADJ key.



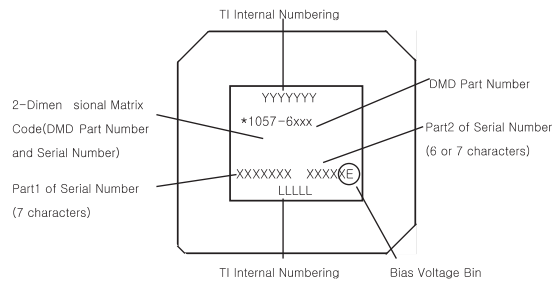
<Fig 1> Adjustment Mode OSD

- (3) Select menu to adjust with using (CH+(▲),CH-(▼)) key above screen and press Enter key or Volume+(▶)key to adjust on the wanting menu.

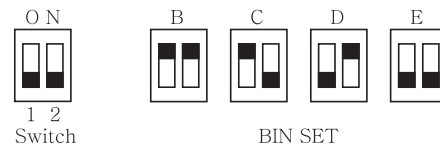
- (4) Adjust the value of adjustment with using the volume +(◀),volume -(▶) key.
- (5) Press the ADJ key to come out after adjustment.
- (6) Preparation for Adjustment
 - 1) Connect the power to TV Set and set the status of "Power on".
 - 2) Heat-Run must operate over 5 minutes before adjustment.

4. Driver Board Bin Setting

See Bias Voltage Bin on the DMD as shown Fig 2 and adjust the switch on the lower Driver Board as shown Fig 3.

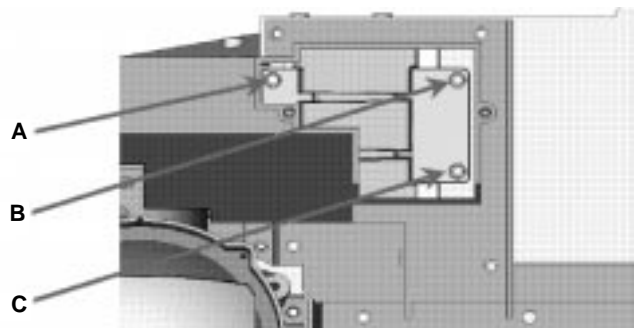


<Fig 2> DMD Marking Locations



<Fig 3> Driver Board Bin Setting

5. Adjustment the optical engine



<Fig 4>

- (1) After placing the optical engine on the JIG, adjust illuminator by adjusting the A, B, and C as shown Fig 4.

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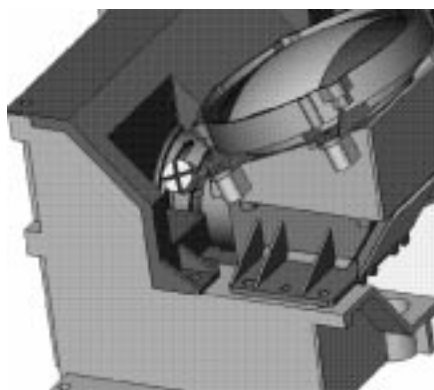
- 1) The screen change when adjusting the A
 - When fasten the screw: Fall out the upper/right illuminator
 - When loosen the screw: Fall out the lower/left illuminator
- 2) The screen change when adjusting the B
 - When fasten the screw: Fall out the lower illuminator
 - When loosen the screw: Fall out the upper illuminator
- 3) The screen change when adjusting the C
 - When fasten the screw: Fall out the upper/left illuminator
 - When loosen the screw: Fall out the lower/right illuminator

Check the spot (phenomenon such as Light tunnel exit) on the edge of the white screen as shown Fig 5.



<Fig 5>

- (2) After adjustment the illuminator, adjust the focus using the focus adjustment screw of projection lens. After fasten the nut tightly, inject the resilock. (Fig. 6)



<Fig 6>

* Caution: The focus check position is not the center screen but to be same proportion about upper/lower screen.

- 1) The pattern when adjustment



<Fig 7.>

- 2) Adjust the 4 gold ellipse to focus as same level.
- 3) If you can't check the DMD cell boulder at red center position after adjustment, regard as NG.
- 4) The magnified pattern for checking the focus adjustment



6. Caution for DMD(Digital Micro-mirror Device)

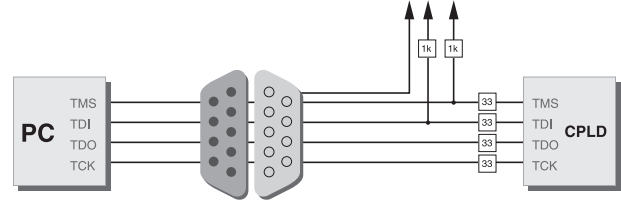
6-1. Caution for DMD ESD

- (1) You connect the grounding to prevent ESD (Electrostatic Discharge) when handing the DMD.
- (2) The worker have to wear wrist strap that connect to ground.
- (3) Electric workshop and an electric conductor surface connect to ground.
- (4) Save the DMD after removal a static electricity. Keep it at an exclusive case when moving it. When grounding, open the case.
- (5) Put on gloves that to prevent static electricity. If it's old, replace it.
- (6) The work is done at the electro static-free location. Attach the tape or remove dust on the front or back pin of DMD glass.

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6-2. Caution

- (1) Keep the procedure and caution to prevent the screen strange phenomenon. Don't make a scratch.
- (2) When DMD stains with dust, polish the front and back DMD with soft wiper. Then, polish the front and back DMD after rotating 180 degree the DMD. If necessary, take a inspection.
- (3) Don't clean the DMD with the high pressure. Because the electric static and pollution influence to DMD.



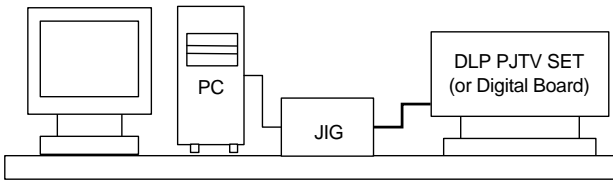
<Fig 8> How to connect the MEMORY JIG and PC

7. EDID Data Input

7-1. Required Test Equipment

- (1) A jig for adjusting PC, DDC.
(PC serial to D-sub. Connection equipment)
- (2) S/W for writing DDC (EDID data write & read)
- (3) D-sub terminal

7-2. Setting of Devices



7-3. Preparation for Adjustment

- (1) Set devices as above and turn the PC, jig on.
- (2) Put the S/W for writing DDC (EDID data write & read) into operation.

7-4. Sequence of Adjustment

- (1) Put the SET(or Digital Board) on the table and turn the power on.
- (2) Input the product code, production week / year, serial number (if it is not input, write "01") to the S/W for writing DDC.
- (3) Put the EDID write instruction into operation.

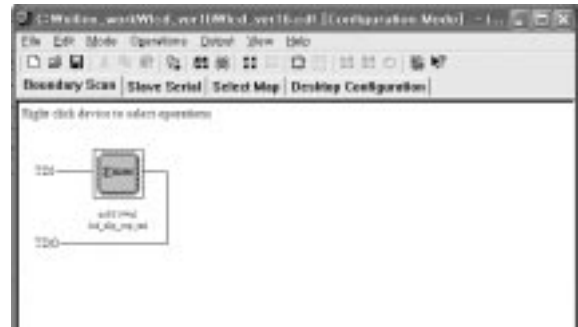
8. CPLD Download Work

8-1. Required Test Equipments & Preparation for Adjustment

- (1) Connect the PC and memory JIG as shown (fig8).
- (2) Turn on JIG MAIN POWER SW.
- (3) After turn on the PC and monitor, operate the device programming.

8-2. Adjustment Sequence

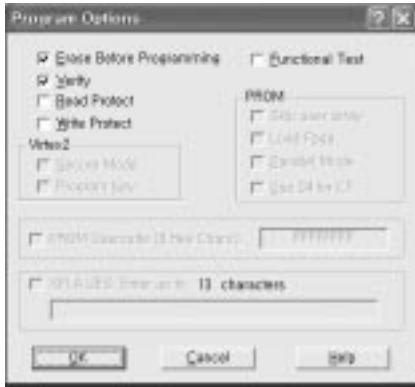
- (1) After program running, displayed [OPTION MODE SELECTION] window.
Check the "Load configuration File(.cdf, .pdr)" in this window and click the finish button
- (2) When the screen displays the open window, select the suitable file(*.cdf) according to model.
- (3) IC figure is change to green by clicking it. (Fig. 9)



<Fig.9>

- (4) Select the program of operations.
- (5) Check the [Erase before programming] and [Verify] menu as shown <Fig4> and press the OK button.
- (6) At this time, the download starts. The download finished after 10 seconds.

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<Fig 10>

- (2) Select menu with using Volume- (◀) key or Volume+ (▶) key on the Country. (USA/CA.)

11. Screen Position Adjustment

11-1. Required Test Equipments

Remote control of adjustment

11-2. Horizontal Position Adjustment

- (1) Press ADJ key on the remote control to enter the adjustment mode.
- (2) Select the POSITION of the adjustment menu. (H: 200)
- (3) Select the H_position of the Adjust Mode.
- (4) Adjust data with using the left/right key on the remote control in order to be left/right symmetry screen.
- (5) After adjustment over, receive PAL-B/G Digital and check the adjustment level.

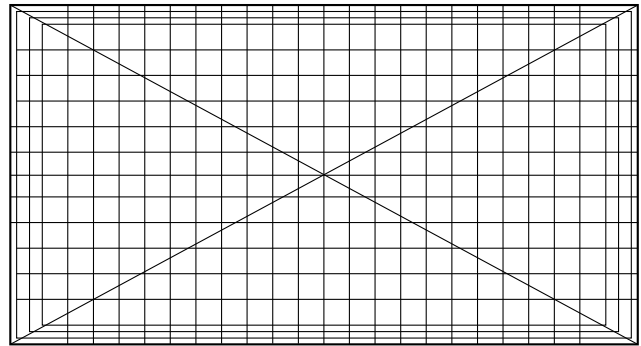
9. Component AD9883A Offset/Gain Adjustment

9-1. Required Test Equipments

Remote control for adjustment, 801GF or 802F



<Fig11> 720P/50Hz HozTVBar Pattern



<Fig 12> Pattern for screen adjustment

9-2. Preparation for Adjustment

- (1) Connect a power source with TV Set and turn TV set on.
- (2) Do Heat-Run for 5 minutes and over before adjustment.
- (3) Receive the Component 1 or 2.
- (4) Receive the 720P/50Hz, HozTVBar Pattern of 801GF /802F. (Fig. 11)

9-3. Offset/ Gain Adjustment

- (1) Press Adjust key on the remote control to enter the adjustment mode after more than 10 seconds of receiving the signals.
- (2) Press "4.AD9883 Adjust" to adjust.
- (3) When the OSD of "End of AD9883 Adjust" appeared and disappears, the adjustment is completed

10. System Option Adjustment

10-1. Required Test Equipments

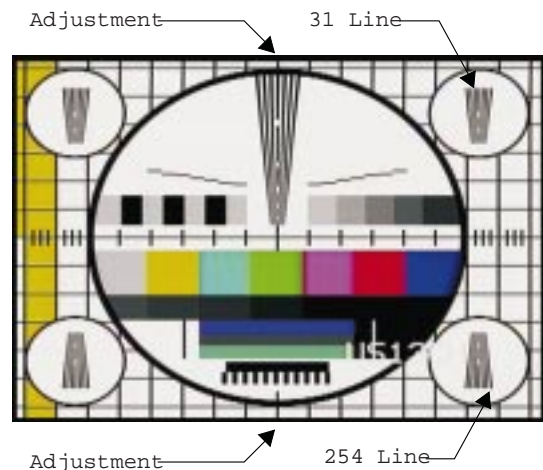
Remote control for adjustment

10-2. System Option Adjustment

- (1) Enter the System Option adjustment mode on the adjustment menu by pressing Volume+ (▶) key.

11-3. Vertical Position Adjustment

- (1) Select V-position. (V: 15)
- (2) Change the data to symmetrized upper and down of screen (refer to Fig12) and then press the Volume key on Remote control to get out of adjustment mode.



<Fig 13>

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12. White Balance Adjustment

(Day Light Mode) : R fixation

12-1. Required Test Equipments

CA100 or CA210

12-2. White basse balue(Medium)

$x = 0.283$; 0.01 , $y = 0.297$; 0.01

12-3. Adjustment Sequence

- (1) Install the equipment(CA110 or CA210) be 20cm away from screen center.
- (2) Select White balance by pressing ADJ Mode Key on Remote control.
- (3) Warm(6500°K) : $x = 0.313$, $y = 0.329$
 - 1) R Gain 120 fixation
 - 2) Adjust white balance changing G, B gain.
(Gain default: R-120, G-110, B-100)
 - 3) Offset fixation R/G/B --> -29, -28, -24
- (4) Medium(9300°K) : $x = 0.283$, $y = 0.297$
 - 1) R Gain 110 fixation
 - 2) Adjust white balance changing G, B gain.
(Gain default: All 110)
 - 3) Offset fixation R/G/B --> -26, -25, -24
- (5) Cool(12000°K) : $x = 0.275$, $y = 0.277$
 - 1) R Gain 110 fixation
 - 2) Adjust white balance changing G, B gain.
(Gain default: R-110, G-110, B-120)
 - 3) Offset fixation R/G/B --> -25, -24, -24

* Reference : Gamma table -> 2
Brightness -> 200Level
Spoke Func. -> 0
R/G/B offset -> It has each color temperature fixation price

13. CWI Adjustment

13-1. Required Test Equipments

Remote control for adjustment

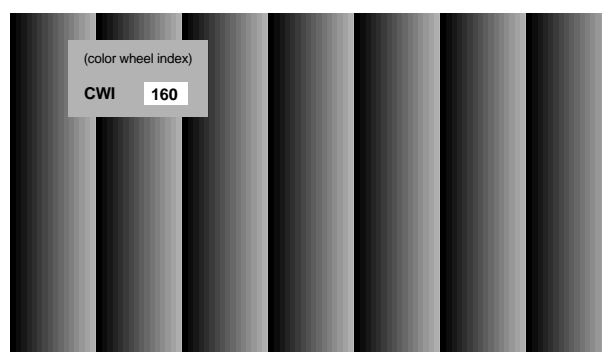
13-2. Preparation for Adjustment

- (1) Connect the power at TV set to turn set on
- (2) Using the remote control, enter from ADJUST to CWI.
(160)

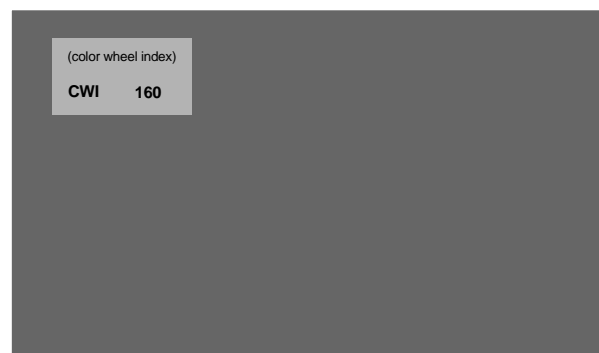
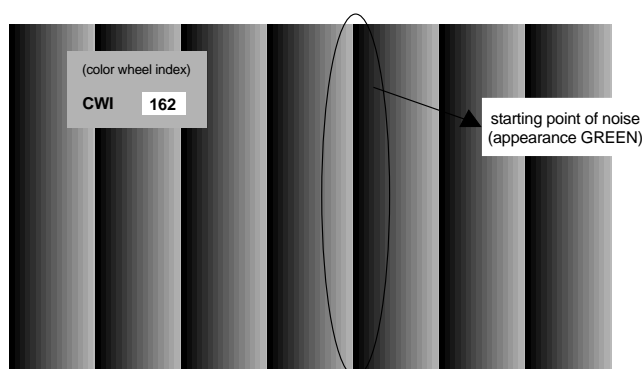
13-3. Adjustment Sequence

- (1) Using the Volume key, adjust CWI to the left/right
- (2) As adjustment, check the appearance noise in the TEST Pattern. Setting the value reduced 3~4 step at a GREEN noise disappearing spot.
- (3) Using CH UP/DOWN key of th remote control, enter the RED PATTERN.

- (4) Check the RED Pattern to uniform. After checking unless abnormality do OK.



<Fig 14> TEST Pattern(Lamp Gray Pattern)



<Fig 15> TEST Pattern(RED Pattern)

* As temperature is different sensitivity, change angle of the color wheel. At this time, the adjustment is done because color may be changed.

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14. Main/Sub Contrast Adjustment

Adjust which it sees last prosecuting attorney time the screen contrast difference.

Basically the letter does with the fact that the character and distinction become.

14-1. Preparation for Adjustment

- (1) Receive signal(RF 06Ch.) on the Main/Sub screen in the twin picture.
- (2) Confirms picture probably is the normal.

14-2. Adjustment Sequence

(1) Main Screen Adjustment

- 1) Select the VPX3226 by pressing "ADJ" key on the remote control for adjustment.
- 2) Select the Contrast(m) of adjustment item using CH +/- key and revises using VOL +/- key. (Initial data: 32)

(2) Sub Screen Adjustment

- 1) Select the VPX3226 by pressing "ADJ" key on the remote control for adjustment.
- 2) Select the Contrast(s) of adjustment item using CH +/- key and revises using VOL +/- key. (Initial data: 32)

* When revising, the case above ; 2 being changed from initial data requests Irrigation.
