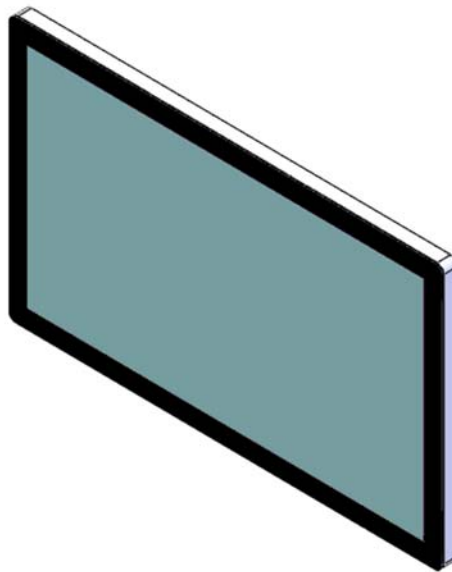


MODEL : 150P3240

Zero Bezel with PCAP Touchscreen



| Revision | Date | History |
|----------|------------|--|
| V0.1 | 2021.02.10 | Initial Release. |
| V1.0 | 2021.03.03 | Changed Model Name INF-3203UHPZIPC-U -> 150P3240 |
| V1.1 | 2021.05.11 | Changed Touchscreen G1-320S-6162-1B -> G1-320C-8887-1B |
| V1.2 | 2021.05.26 | Changed Touchscreen G1-320C-8887-1B -> G1-320C-8887V1-1B |
| | | |
| | | |

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Date : _____

Checked: _____

Date : _____

Approved : _____

Date : _____

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1. General Description

1.1 Overview

- ◆ SUZOHAPP Open-frame LCD Monitor 150P3240 is a high performance TFT LCD monitor providing a high quality screen image.
- ◆ This monitor supports DVI-D,HDMI and DP input. Other input options are available.
- ◆ Wide input resolution range up to UHD (3840 x 2160@60Hz).
- ◆ It is designed for industrial use with Auto power on, up scaling performance adequate for low-resolution applications and enhanced design margin for reliability.
- ◆ It is available in matching touch and non-touch designs.

1.2 General Specifications

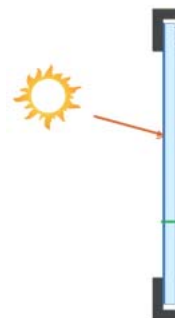
| | | |
|-------------------------|-------------------------------------|---|
| LCD Panel | Size | 32.0" Diagonal |
| | Active Display Area | 708.48mm(H) x 398.52mm(V) |
| | Type No. | AUO M320QAN01.0 |
| | Number of Pixels | 3840 (H) x 2160 (V) |
| | Pixel Arrangement | RGB Vertical Stripe |
| | Pixel Pitch | 0.1845mm x 0.1845mm |
| | Color Depth | 1.07B Colors |
| | Surface Treatments | Anti-Glare 3H |
| | Viewing Angle (CR>10) | R/L: 178 degree (89/89) U/D: 178 degree (89/89) |
| | Contrast Ratio | Typ. 1000 : 1 |
| | Response Time(Typ.) | 12.0ms |
| | Average Brightness | Typ. 350 cd/ m² |
| | Frame Rate | Typ. 60Hz |
| | Backlight Unit | LED |
| Input Resolution | Prime | 3840 x 2160@60Hz |
| | Standard | 800x600 @60/72/75Hz 1024x768 @60/70/75Hz, 1280x1024 @60/75Hz, 1366x768@60Hz, 1600x900@60Hz, 1680x1050@60Hz, 1920x1080@60Hz, 1920x1200@60Hz 2560x 1440@60Hz, 3840x2160@60Hz |

| | | |
|----------------------|----------------------|--|
| Input Signal Port | DVI-D | 24pin DVI Jack |
| | HDMI 2.0 | 19pin HDMI Jack |
| | HDMI 1.4 | 19Pin HDMI Jack |
| | DP(Display Port) 1.2 | 15Pin DP Jack |
| | DVI-D | 24pin DVI Jack |
| | Power Jack | Power Mini-Din 4P x 1 Port |
| Scanning Frequency | Horizontal | 30 ~ 130Khz |
| | Vertical | 55 ~76Hz |
| OSD Control | | Menu, Select, Up, Down, Power |
| Plug & Play | | VESA DDC 2B Ver1.3 |
| Touchscreen | Touch Panel | P-CAP Touch : 32.0" Touch / 10 Point (G1-320C-8887V1-1B) |
| | Controller | ILI2312 |
| | Controller Interface | USB 2.0 Type "B" |
| RoHS | | RoHS2 Compliance |
| Mounting Options | | 200 x 200mm M4 VESA Mounting Holes |
| Optional Accessories | | Cables, Power Supply |



Application Caution

- Precautions for strong light exposure.**
Strong light exposure causes degradation of polarizer and color filter.



- Using Conditions.**

- Temperature inside the cabinet should be controlled 'at room temp' (0 ~ 40°C) by cooler and fan.

1.3 Environmental and Reliability Specification

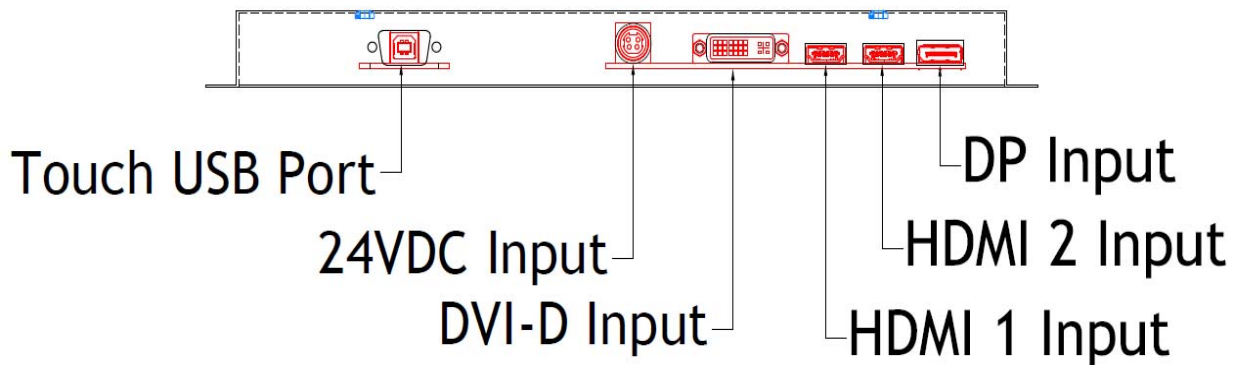
- This specification depends on the LCD panel characteristics. Please refer to the manufacturer's panel specification for details.

| Item | Symbol | Min | Max | Unit |
|-----------------------|--------|-----|-----|------|
| Operating Temperature | TOP | 0 | +50 | °C |
| Operating Humidity | HOP | 10 | 90 | % |
| Storage Temperature | TST | -20 | +60 | °C |
| Storage Humidity | HST | 10 | 90 | % |

1.4 Power Supply Rating

| | |
|-----------------------------|-------------------------|
| Optional PSU Input Voltage | AC 100 ~ 240VAC,50/60Hz |
| Optional PSU Output Voltage | DC 24V/5.0A |
| Monitor DC Input Voltage | 24VDC |
| Power Consumption | TBD |

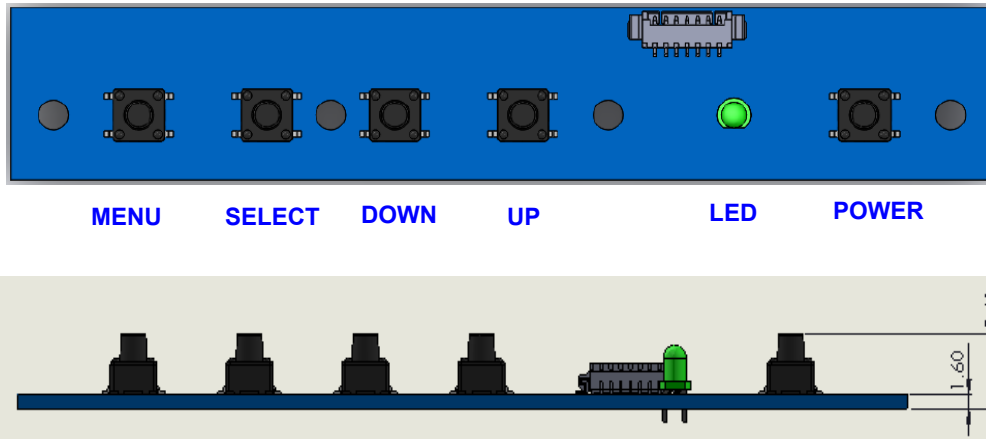
1.5 Input/Output Port



2. User Control & OSD

2.1 Key Control Board

K002



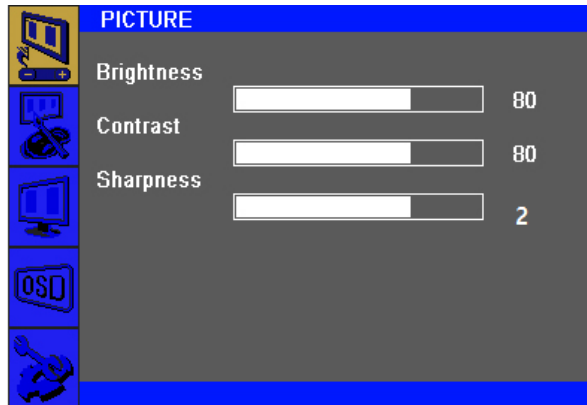
| Button | Function | Status | HOT Key |
|--------|---|--|---------------------------------------|
| LED | Indicates operation status | Green : Normal State Red : Off Mode Green Blinking : DPMS Mode | |
| POWER | Power on/off | | |
| MENU | Enable MENU Window Disable MENU Window Exit from Sub function | | |
| SELECT | Select function | | No OSD Window, Input Source Change |
| DOWN | Move to Down or Left | | No OSD Window, Auto Color |
| UP | Move to Up or Right | | No OSD Window, Auto Configuration |

2.2 OSD Control Function

The chosen OSD settings will be stored in memory. The OSD menu can be cleared from the screen by pressing the **MENU** button otherwise it will be automatically cleared after a few second of non-use.

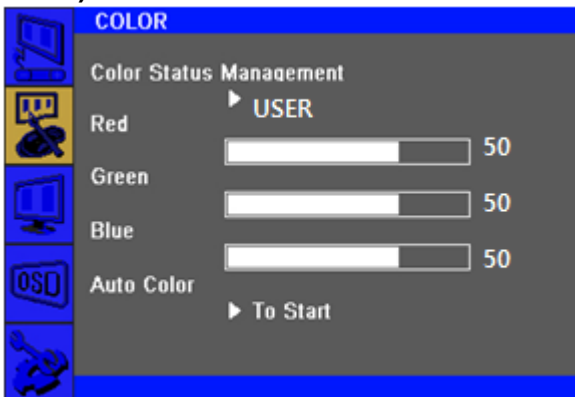
2.2.1 OSD Main Menu

1) PICTURE



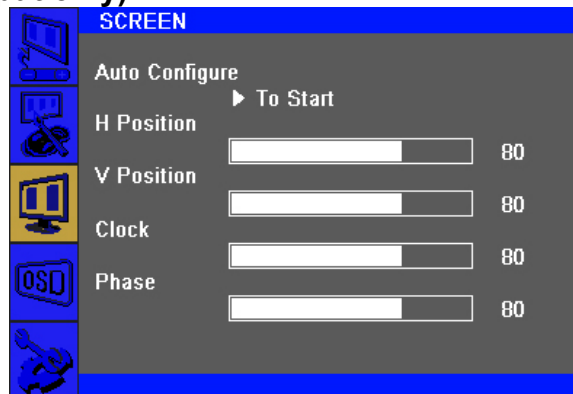
| | |
|----------------------|--|
| Brightness (0 ~ 100) | Increases/decreases monitor Brightness. Default: 100 |
| Contrast (0 ~ 100) | Increases/decreases monitor Contrast. Default: 100 |
| Sharpness (0 ~ 4) | Adjusts Sharpness of the displayed images. Default : 2 |

2) COLOR



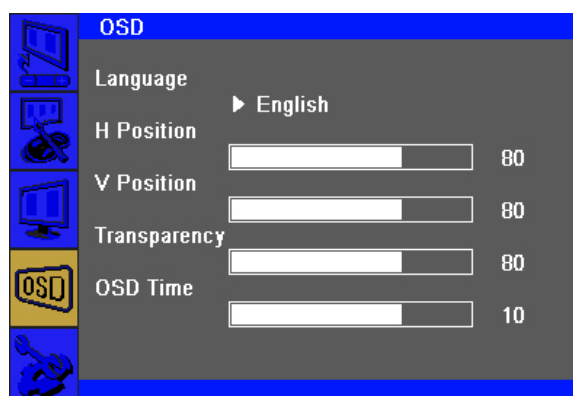
| | |
|-------------------------|--|
| Color Status Management | Selects the display's color temperature. The available color settings "Normal", "Warm", "Cool", "User", "Game" mode. Default : User |
| Red (0 ~ 100) | Increases/decreases Red Color Temperature. Default : 50 |
| Green (0 ~ 100) | Increases/decreases Green Color Temperature. Default : 50 |
| Blue (0 ~ 100) | Increases/decreases Blue Color Temperature. Default : 50 |
| Auto Color | Automatically adjusts the system color to the input VGA. |

3) SCREEN (VGA input only)



| | |
|----------------------|---|
| Auto Configure | Automatically adjusts the system clock to the input VGA. |
| H Position (0 ~ 100) | Moves the image horizontally on the display in single-pixel increments. Default : 50 |
| V Position (0 ~ 100) | Moves the image vertically on the display in single-pixel increments. Default : 50 |
| Clock (0 ~ 100) | Allows fine adjustments of the panel's pixel dot clock. Default : 50 |
| Phase (0 ~ 100) | Allows fine adjustments of the panel's pixel dot clock phase. Default : 50 |
| WXGA Mode | Selects WXGA Mode Off, 1024 x 768, 1280 x 768, 1360 x 768, 1366 x 768 Default : Off |

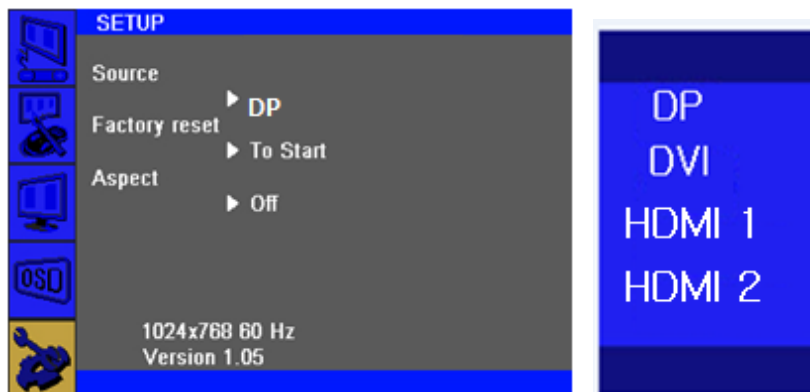
4) OSD



| | |
|----------------------|---|
| Language | Selects the OSD's display language. The available languages are English, Deutsch, Français, Italiano, Español, Korean. Default : English |
| H Position (0 ~ 100) | Adjusts the horizontal location of the OSD menus on the display. Default : 50 |

| | |
|------------------------|---|
| V Position (0 ~ 100) | Adjusts the vertical location of the OSD menus on the display. Default : 50 |
| Transparency (0 ~ 100) | Adjusts the transparency of the OSD menus on the display. Default : 33 |
| OSD Time (0 ~ 60) | Adjusts how long the touch monitor will wait without OSD button activity before closing the OSD. The adjustable range is between 0 and 60 seconds. Default : 10 |

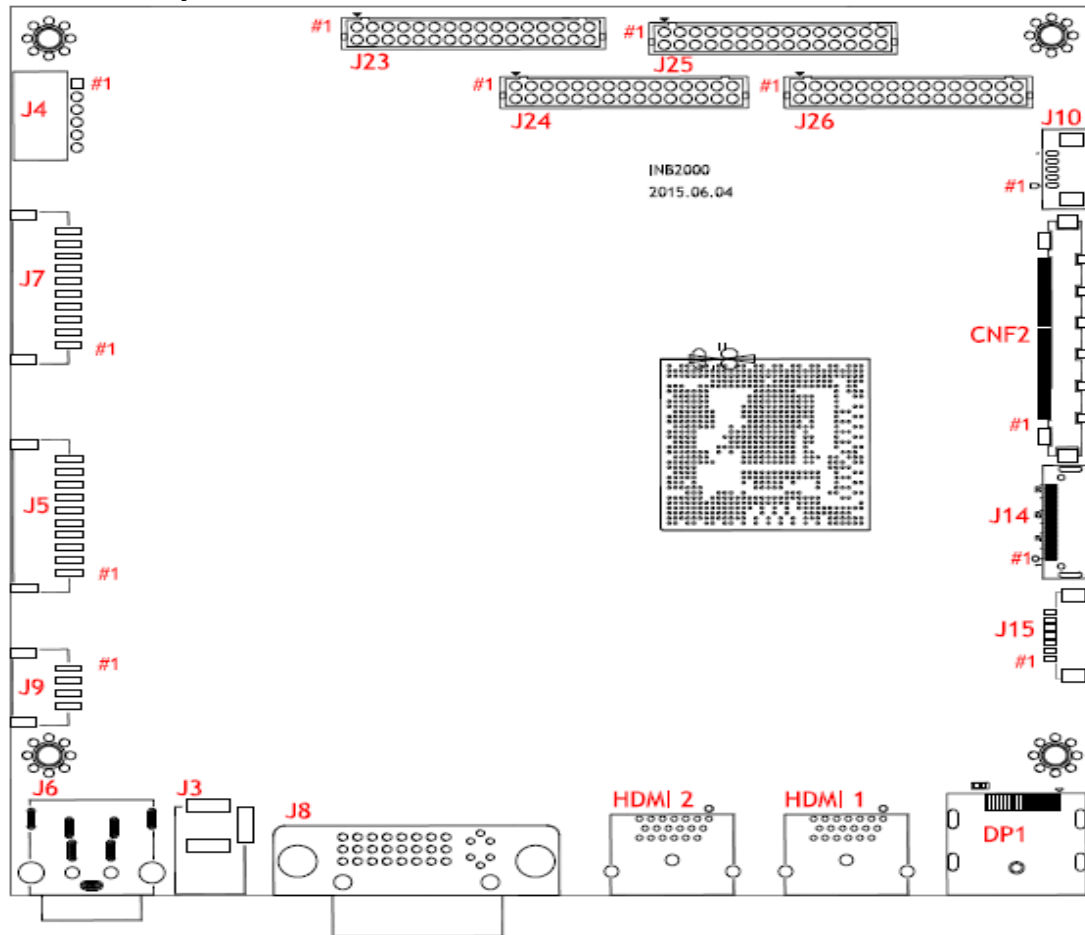
5) SETUP



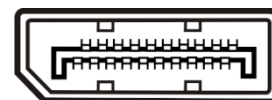
| | |
|---------------|--|
| Source | Selects Input Source DP, DVI, HDMI1(1.4), HDMI2(2.0) |
| Factory reset | Restores all factory default settings for OSD-adjustable parameters and for Preset Video Mode timings. |
| Aspect | Switches the scaling method between Full Scaling and Maintain Aspect Ratio. Default : Off |
| DP Option | Selects DP Signal : DP1.1(30Hz) / DP1.2(60Hz) |

3. Connector Description

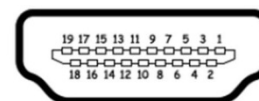
3.1 Summary



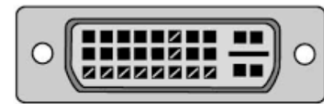
| Reference | Item | Description | Type | Manufacture |
|-------------|-----------|-----------------------------------|-------------|-------------|
| DP1 | Connector | DP Input Connector | DP | - |
| CNF2 | Connector | V-By-One/DP Connector(8 LANE) | FI-RE51S-HF | JAE |
| J3 | Connector | 12V Input Dc power Jack | DJ05H-250 | |
| J4 | Connector | 12V/5V Output DC power | SMAW200-6 | YEONHO |
| J5,J7 | Connector | Inverter Power Out | 20010WS-10 | YEONHO |
| J6 | Connector | 24V Input DC power Jack | KPJ-4S | - |
| J8 | Connector | DVI-D Input(TMDS) Connector | DVI-D24P | - |
| J9 | Connector | 24V Input DC power Connector | 20022WS-4P | YEONHO |
| J10 | Connector | RS232 Control , Auto dimming | 12505WR-05P | YEONHO - |
| J15 | Connector | OSD Interface connector | 12505WR-07P | YEONHO |
| J14 | Connector | eDP Connector (4 LANE) | 20347-030E | I-PEX |
| J23 | Connector | LCD Interface connector(2Ch LVDS) | YDW200-32P | YEONHO - |
| J25,J26,J27 | Connector | LCD Interface connector(2Ch LVDS) | YDW200-30P | YEONHO |
| HDMI1 | Connector | HDMI Input(TMDS) Connector | HDMI-19P | - |
| HDMI2 | Connector | HDMI Input(TMDS) Connector | HDMI-19P | - |


3.2 DP1 : DP 1.2 (Display Port) Connector

| Pin No. | Symbol | Description |
|---------|--------|--------------------|
| 1 | Red1 | Red analog input |
| 2 | Green1 | Green analog input |
| 3 | Blue1 | Blue analog input |
| 4 | GND | Ground |
| 5 | GND | Ground |
| 6 | GND | Ground |
| 7 | GND | Ground |
| 8 | GND | Ground |
| 9 | NC | No Connection |
| 10 | GND | Ground |
| 11 | GND | Ground |
| 12 | DSDA | DDC-SDA |
| 13 | HSYNC | Horizontal Sync |
| 14 | VSNC | Vertical Sync |
| 15 | DSCL | Serial Clock Input |


3.3 HDMI1 (1.4) , HDMI2 (2.0) : HDMI Input(TMDS) Connector

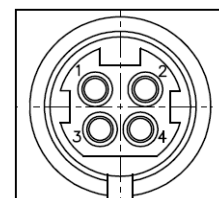
| Pin No. | Symbol | Description |
|---------|-------------------|---|
| 1 | TMDS DATA2- | TMDS DATA2 Differential Negative Signal |
| 2 | TMDS DATA2+ | TMDS DATA2 Differential Positive Signal |
| 3 | TMDS DATA2 Shield | Shield for TMDS Channel #2 |
| 4 | TMDS DATA1- | TMDS DATA1 Differential Negative Signal |
| 5 | TMDS DATA1+ | TMDS DATA1 Differential Positive Signal |
| 6 | TMDS DATA1 Shield | Shield for TMDS Channel #1 |
| 7 | TMDS DATA0- | TMDS DATA0 Differential Negative Signal |
| 8 | TMDS DATA0+ | TMDS DATA0 Differential Positive Signal |
| 9 | TMDS DATA0 Shield | Shield for TMDS Channel #0 |
| 10 | TMDS CLOCK Shield | Shield for TMDS Clock differential Pair |
| 11 | TMDS CLOCK+ | TMDS DATA0 Differential Positive Signal |
| 12 | TMDS CLOCK- | TMDS DATA0 Differential Negative Signal |
| 13 | CEC | CEC Function |
| 14 | NC | No Connection |
| 15 | DDC Clock | DDC Clock Signal |
| 16 | DDC data | DDC Data Signal |
| 17 | GND | GND |
| 18 | +5V Power | +5V Power |
| 19 | HPD | Identify the presence of a monitor |


3.4 J8 : DVI-D Input(TMDS) Connector

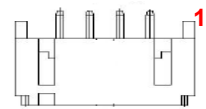
| Pin No. | Symbol | Description |
|---------|-------------------|--|
| 1 | TMDS DATA2- | TMDS DATA2 Differential Negative Signal |
| 2 | TMDS DATA2+ | TMDS DATA2 Differential Positive Signal |
| 3 | TMDS DATA2 Shield | Shield for TMDS Channel #2 |
| 4 | NC | No Connection |
| 5 | NC | No Connection |
| 6 | DDC Clock | The Data Line for the DDC Interface |
| 7 | DDC Data | The Clock Line for the DDC Interface |
| 8 | NC | No Connection |
| 9 | TMDS DATA1- | TMDS DATA1 Differential Negative Signal |
| 10 | TMDS DATA1+ | TMDS DATA1 Differential Positive Signal |
| 11 | TMDS DATA1 Shield | Shield for TMDS Channel #1 |
| 12 | NC | No Connection |
| 13 | NC | No Connection |
| 14 | +5V Power | +5 Volt signal for EDID (Un-powered Monitor) |
| 15 | GND(for +5V) | Ground for +5 Volt Power pin, Sync return |
| 16 | HPD | Identify the presence of a monitor |
| 17 | TMDS DATA0- | TMDS DATA0 Differential Negative Signal |
| 18 | TMDS DATA0+ | TMDS DATA0 Differential Positive Signal |
| 19 | TMDS DATA0 Shield | Shield for TMDS Channel #0 |
| 20 | NC | No Connection |
| 21 | NC | No Connection |
| 22 | TMDS CLOCK Shield | Shield for TMDS Clock differential Pair |
| 23 | TMDS CLOCK+ | TMDS DATA0 Differential Positive Signal |
| 24 | TMDS CLOCK- | TMDS DATA0 Differential Negative Signal |


3.5 J3: 12V Power Input Jack

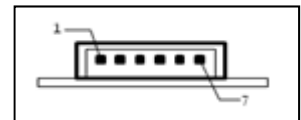
| Pin No. | Symbol | Description |
|---------|--------|-------------|
| - | GND | Ground |
| + | VCC | DC 12V |


3.6 J6: 24 Power Input Jack

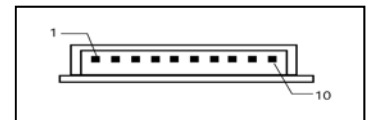
| Pin No. | Symbol | Description |
|---------|--------|-------------|
| 1,3 | GND | Ground |
| 2,4 | VCC | DC 24V |


3.7 J9: SMPS Power Output Connector

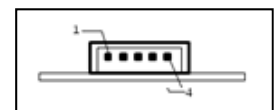
| Pin No. | Symbol | Description |
|---------|--------|------------------|
| 1,2 | VCC | DC 24V or DC 12V |
| 3,4 | GND | GND |


3.8 J4: DC Power Output

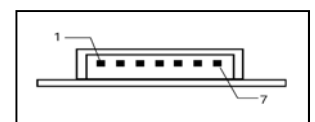
| Pin No. | Symbol | Description |
|---------|--------|-------------|
| 1,2 | VCC | +12V |
| 3,4 | VCC | +5V |
| 5,6 | GND | Ground |


3.9 J5,J7 : Backlight Inverter connector

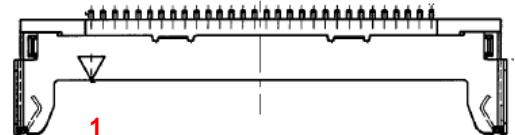
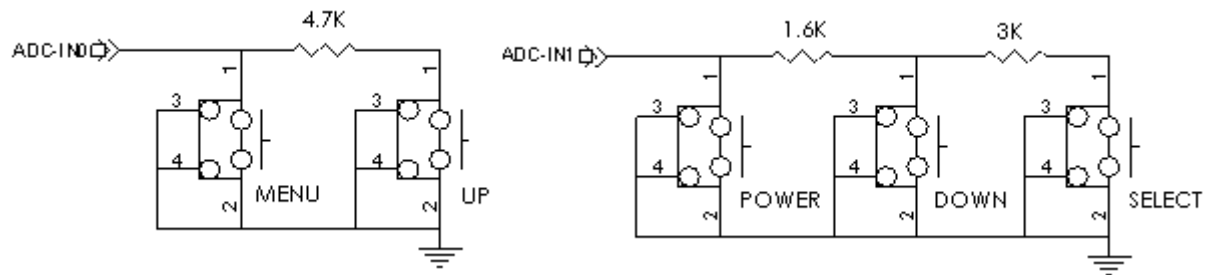
| Pin No. | Symbol | Description |
|---------|-----------------|--|
| 1,2,3,4 | B+ | B+ (12V) |
| 5,6,7,8 | GND | Ground |
| 9 | Inverter On/Off | Inverter digital ON(3.3V)/OFF(0V) signal |
| 10 | DIM-ADJ | DIM-adjustment analog dimming control signal |


3.10 J10: Auto-Dimming/RS232

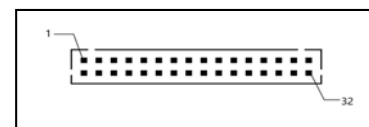
| Pin No. | Symbol | Description |
|---------|--------------|---------------------|
| 1 | VCC | +5V power for RS232 |
| 2 | RS232 | RS232 RX |
| 3 | RS232 | RS232 TX |
| 4 | Auto- Bright | Auto-Dimming |
| 5 | GND | Ground |


3.11 J15: OSD Board connector

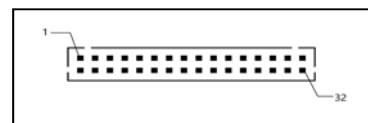
| Pin No. | Symbol | Description |
|---------|---------|----------------------------|
| 1 | VCC | +5V power for IR sensor |
| 2 | IRQ | Infrared rays signal line. |
| 3 | LED1 | Green LED |
| 4 | LED2 | Red LED |
| 5 | GND | Ground |
| 6 | ADC-IN0 | Menu, Up |
| 7 | ADC-IN1 | Power, Down, Up |


3.12 J14 : eDP 4LANE Interface

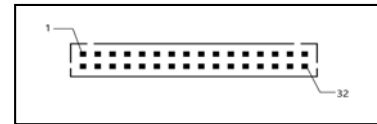
| Pin No. | Symbol | Description |
|---------|----------|-----------------------|
| 1 | GND | GND |
| 2 | NC | NC |
| 3 | GND | GND |
| 4 | GND | GND |
| 5 | DPTX_L3N | DPTX_L3N |
| 6 | DPTX_L3P | DPTX_L3P |
| 7 | GND | GND |
| 8 | DPTX_L2N | DPTX_L2N |
| 9 | DPTX_L2P | DPTX_L2P |
| 10 | GND | GND |
| 11 | DPTX_L1N | DPTX_L1N |
| 12 | DPTX_L1P | DPTX_L1P |
| 13 | GND | GND |
| 14 | DPTX_L0N | DPTX_L0N |
| 15 | DPTX_L0P | DPTX_L0P |
| 16 | GND | GND |
| 17 | TX_AUX_P | TX_AUX_P |
| 18 | TX_AUX_N | TX_AUX_N |
| 19 | GND | GND |
| 20 | TX HPD | TX HPD |
| 21 | GND | GND |
| 22 | NC | NC |
| 23 | NC | NC |
| 24 | GND | GND |
| 25 | NC | NC |
| 26 | MOD_PWR | Panel Power (12V, 5V) |
| 27 | MOD_PWR | Panel Power (12V, 5V) |
| 28 | MOD_PWR | Panel Power (12V, 5V) |
| 29 | MOD_PWR | Panel Power (12V, 5V) |
| 30 | MOD_PWR | Panel Power (12V, 5V) |


3.13 J23 : LCD LVDS Interface connector (10bit 2Ch LVDS)

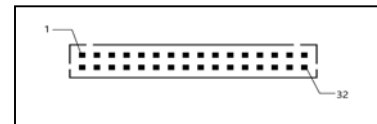
| Pin No. | Symbol | Description |
|---------|---------|---|
| 1 | MOD_PWR | Panel Power (12V, 5V) |
| 2 | MOD_PWR | Panel Power (12V, 5V) |
| 3 | MOD_PWR | Panel Power (12V, 5V) |
| 4 | MOD_PWR | Panel Power (12V, 5V) |
| 5 | MOD_PWR | Panel Power (12V, 5V) |
| 6 | MOD_PWR | Panel Power (12V, 5V) |
| 7 | A0N-ODD | Positive(-) LVDS differential second 0 data |
| 8 | A0P-ODD | Negative(+) LVDS differential second 0 data |
| 9 | A1N-ODD | Positive(-) LVDS differential second 1 data |
| 10 | A1P-ODD | Negative(+) LVDS differential second 1 data |
| 11 | A2N-ODD | Positive(-) LVDS differential second 2 data |
| 12 | A2P-ODD | Negative(+) LVDS differential second 2 data |
| 13 | ACN-ODD | Positive(-) LVDS differential second Clock |
| 14 | ACP-ODD | Negative(+) LVDS differential second Clock |
| 15 | A3N-ODD | Positive(-) LVDS differential second 3 data |
| 16 | A3P-ODD | Negative(+) LVDS differential second 3 data |
| 17 | A4N-ODD | Positive(-) LVDS differential second 4 data |
| 18 | A4P-ODD | Negative(+) LVDS differential second 4 data |
| 19 | GND | GND |
| 20 | GND | GND |
| 21 | B0N-ODD | Positive(-) LVDS differential second 0 data |
| 22 | B0P-ODD | Negative(+) LVDS differential second 0 data |
| 23 | B1N-ODD | Positive(-) LVDS differential second 1 data |
| 24 | B1P-ODD | Negative(+) LVDS differential second 1 data |
| 25 | B2N-ODD | Positive(-) LVDS differential second 2 data |
| 26 | B2P-ODD | Negative(+) LVDS differential second 2 data |
| 27 | BCN-ODD | Positive(-) LVDS differential second Clock |
| 28 | BCP-ODD | Negative(+) LVDS differential second Clock |
| 29 | B3N-ODD | Positive(-) LVDS differential second 3 data |
| 30 | B3P-ODD | Negative(+) LVDS differential second 3 data |
| 31 | B4N-ODD | Positive(-) LVDS differential second 4 data |
| 32 | B4P-ODD | Negative(+) LVDS differential second 4 data |


3.14 J26 : LCD LVDS Interface connector (10bit 2Ch LVDS)

| Pin No. | Symbol | Description |
|---------|-------------|---|
| 1 | ODC SEL | ODC SELECT |
| 2 | PANEL PWM | PANEL PWM |
| 3 | LVDS Format | LVDS Fromat |
| 4 | GND | GND |
| 5 | C0N-ODD | Positive(-) LVDS differential second 0 data |
| 6 | C0P-ODD | Negative(+) LVDS differential second 0 data |
| 7 | C1N-ODD | Positive(-) LVDS differential second 1 data |
| 8 | C1P-ODD | Negative(+) LVDS differential second 1 data |
| 9 | C2N-ODD | Positive(-) LVDS differential second 2 data |
| 10 | C2P-ODD | Negative(+) LVDS differential second 2 data |
| 11 | CCN-ODD | Positive(-) LVDS differential second Clock |
| 12 | CCP-ODD | Negative(+) LVDS differential second Clock |
| 13 | C3N-ODD | Positive(-) LVDS differential second 3 data |
| 14 | C3P-ODD | Negative(+) LVDS differential second 3 data |
| 15 | C4N-ODD | Positive(-) LVDS differential second 4 data |
| 16 | C4P-ODD | Negative(+) LVDS differential second 4 data |
| 17 | GND | GND |
| 18 | GND | GND |
| 19 | D0N-ODD | Positive(-) LVDS differential second 0 data |
| 20 | D0P-ODD | Negative(+) LVDS differential second 0 data |
| 21 | D1N-ODD | Positive(-) LVDS differential second 1 data |
| 22 | D1P-ODD | Negative(+) LVDS differential second 1 data |
| 23 | D2N-ODD | Positive(-) LVDS differential second 2 data |
| 24 | D2P-ODD | Negative(+) LVDS differential second 2 data |
| 25 | DCN-ODD | Positive(-) LVDS differential second Clock |
| 26 | DCP-ODD | Negative(+) LVDS differential second Clock |
| 27 | D3N-ODD | Positive(-) LVDS differential second 3 data |
| 28 | D3P-ODD | Negative(+) LVDS differential second 3 data |
| 29 | D4N-ODD | Positive(-) LVDS differential second 4 data |
| 30 | D4P-ODD | Negative(+) LVDS differential second 4 data |
| | | |
| | | |


3.15 J25 : LCD LVDS Interface connector (10bit 2Ch LVDS)

| Pin No. | Symbol | Description |
|---------|-------------|---|
| 1 | ODC SEL | ODC SELECT |
| 2 | PANEL PWM | PANEL PWM |
| 3 | LVDS Format | LVDS Fromat |
| 4 | GND | GND |
| 5 | E0N-ODD | Positive(-) LVDS differential second 0 data |
| 6 | E0P-ODD | Negative(+) LVDS differential second 0 data |
| 7 | E1N-ODD | Positive(-) LVDS differential second 1 data |
| 8 | E1P-ODD | Negative(+) LVDS differential second 1 data |
| 9 | E2N-ODD | Positive(-) LVDS differential second 2 data |
| 10 | E2P-ODD | Negative(+) LVDS differential second 2 data |
| 11 | ECN-ODD | Positive(-) LVDS differential second Clock |
| 12 | ECP-ODD | Negative(+) LVDS differential second Clock |
| 13 | E3N-ODD | Positive(-) LVDS differential second 3 data |
| 14 | E3P-ODD | Negative(+) LVDS differential second 3 data |
| 15 | E4N-ODD | Positive(-) LVDS differential second 4 data |
| 16 | E4P-ODD | Negative(+) LVDS differential second 4 data |
| 17 | GND | GND |
| 18 | GND | GND |
| 19 | F0N-ODD | Positive(-) LVDS differential second 0 data |
| 20 | F0P-ODD | Negative(+) LVDS differential second 0 data |
| 21 | F1N-ODD | Positive(-) LVDS differential second 1 data |
| 22 | F1P-ODD | Negative(+) LVDS differential second 1 data |
| 23 | F2N-ODD | Positive(-) LVDS differential second 2 data |
| 24 | F2P-ODD | Negative(+) LVDS differential second 2 data |
| 25 | FCN-ODD | Positive(-) LVDS differential second Clock |
| 26 | FCP-ODD | Negative(+) LVDS differential second Clock |
| 27 | F3N-ODD | Positive(-) LVDS differential second 3 data |
| 28 | F3P-ODD | Negative(+) LVDS differential second 3 data |
| 29 | F4N-ODD | Positive(-) LVDS differential second 4 data |
| 30 | F4P-ODD | Negative(+) LVDS differential second 4 data |
| | | |
| | | |


3.16 J27 : LCD LVDS Interface connector (10bit 2Ch LVDS)

| Pin No. | Symbol | Description |
|---------|-------------|---|
| 1 | ODC SEL | ODC SELECT |
| 2 | PANEL PWM | PANEL PWM |
| 3 | LVDS Format | LVDS Fromat |
| 4 | GND | GND |
| 5 | G0N-ODD | Positive(-) LVDS differential second 0 data |
| 6 | G0P-ODD | Negative(+) LVDS differential second 0 data |
| 7 | G1N-ODD | Positive(-) LVDS differential second 1 data |
| 8 | G1P-ODD | Negative(+) LVDS differential second 1 data |
| 9 | G2N-ODD | Positive(-) LVDS differential second 2 data |
| 10 | G2P-ODD | Negative(+) LVDS differential second 2 data |
| 11 | GCN-ODD | Positive(-) LVDS differential second Clock |
| 12 | GCP-ODD | Negative(+) LVDS differential second Clock |
| 13 | G3N-ODD | Positive(-) LVDS differential second 3 data |
| 14 | G3P-ODD | Negative(+) LVDS differential second 3 data |
| 15 | G4N-ODD | Positive(-) LVDS differential second 4 data |
| 16 | G4P-ODD | Negative(+) LVDS differential second 4 data |
| 17 | GND | GND |
| 18 | GND | GND |
| 19 | H0N-ODD | Positive(-) LVDS differential second 0 data |
| 20 | H0P-ODD | Negative(+) LVDS differential second 0 data |
| 21 | H1N-ODD | Positive(-) LVDS differential second 1 data |
| 22 | H1P-ODD | Negative(+) LVDS differential second 1 data |
| 23 | H2N-ODD | Positive(-) LVDS differential second 2 data |
| 24 | H2P-ODD | Negative(+) LVDS differential second 2 data |
| 25 | HCN-ODD | Positive(-) LVDS differential second Clock |
| 26 | HCP-ODD | Negative(+) LVDS differential second Clock |
| 27 | H3N-ODD | Positive(-) LVDS differential second 3 data |
| 28 | H3P-ODD | Negative(+) LVDS differential second 3 data |
| 29 | H4N-ODD | Positive(-) LVDS differential second 4 data |
| 30 | H4P-ODD | Negative(+) LVDS differential second 4 data |
| | | |
| | | |

3.17 CNF2 : LCD V-by-one / eDP Interface connector (8bit / 10bit)

| Pin No. | Symbol | Description |
|-------------|---------------------|----------------------------|
| 1 | MOD_PWR | Panel Power (12V, 5V) |
| 2 | MOD_PWR | Panel Power (12V, 5V) |
| 3 | MOD_PWR | Panel Power (12V, 5V) |
| 4 | MOD_PWR | Panel Power (12V, 5V) |
| 5 | MOD_PWR | Panel Power (12V, 5V) |
| 6 | MOD_PWR | Panel Power (12V, 5V) |
| 7, 8 | GND | GND |
| 9 | V-by-one Bit Select | V-by-one 8bit/10bit Select |
| 10 | SDA | V-by-one IICSDA |
| 11 | SCL | V-by-one IICSCL |
| 12 | VTX_HPDP | V-by-one Hot Plug Detect |
| 13 | AUX_CH_N1 | AUX_CH_N1 |
| 14 | AUX_CH_P1 | AUX_CH_P1 |
| 15 | GND | GND |
| 16 | VTX_TX7P | VTX_TX7P |
| 17 | VTX_TX7N | VTX_TX7N |
| 18 | GND | GND |
| 19 | VTX_TX6P | VTX_TX6P |
| 20 | VTX_TX6N | VTX_TX6N |
| 21 | GND | GND |
| 22 | VTX_TX5P | VTX_TX5P |
| 23 | VTX_TX5N | VTX_TX5N |
| 24 | GND | GND |
| 25 | VTX_TX4P | VTX_TX4P |
| 26 | VTX_TX4N | VTX_TX4N |
| 27 | VTX_PLL_Lock | VTX_PLL_Lock |
| 28 | AUX_CH_N2 | AUX_CH_N2 |
| 29 | AUX_CH_P2 | AUX_CH_P2 |
| 30 | GND | GND |
| 31 | VTX_TX3P | VTX_TX3P |
| 32 | VTX_TX3N | VTX_TX3N |
| 33 | GND | GND |
| 34 | VTX_TX2P | VTX_TX2P |
| 35 | VTX_TX2N | VTX_TX2N |
| 36 | GND | GND |
| 37 | VTX_TX1P | VTX_TX1P |
| 38 | VTX_TX1N | VTX_TX1N |
| 39 | GND | GND |
| 40 | VTX_TX0P | VTX_TX0P |
| 41 | VTX_TX0N | VTX_TX0N |
| 42,43,44 | GND | GND |
| 45,46,47 | GND | GND |
| 48,49,50,51 | GND | GND |

4. Standard Display Modes

| Spec Mode | Pixel Freq. | Horizontal Timing | | | | Vertical Timing | | | |
|----------------|----------------|-------------------|---------|-------|--------|-----------------|--------|-------|--------|
| | | Sync Polar | Freq. | Total | Active | SP | Freq. | Total | Active |
| | MHz | | KHz | Pixel | Pixel | | Hz | Line | Line |
| 640*350@70Hz | 25.144 | P | 31.430 | 800 | 640 | N | 70.000 | 449 | 350 |
| 640*400@70Hz | 28.287 | N | 31.430 | 800 | 640 | P | 70.000 | 449 | 400 |
| 720*400@ 70Hz | 28.287 | N | 31.430 | 900 | 720 | P | 70.000 | 449 | 400 |
| 640*480@60Hz | 28.175 | N | 31.469 | 800 | 640 | N | 59.940 | 525 | 480 |
| 640*480@72Hz | 31.500 | N | 37.861 | 832 | 640 | N | 72.809 | 520 | 480 |
| 640*480@75Hz | 31.500 | N | 37.500 | 840 | 640 | N | 75.000 | 500 | 480 |
| 800*600@56 Hz | 36.000 | P | 35.156 | 1024 | 800 | P | 56.250 | 625 | 600 |
| 800*600@60Hz | 40.000 | P | 37.879 | 1056 | 800 | P | 60.317 | 628 | 600 |
| 800*600@72Hz | 50.000 | P | 48.077 | 1040 | 800 | P | 72.188 | 666 | 600 |
| 800*600@75Hz | 49.500 | P | 46.875 | 1056 | 800 | P | 75.000 | 625 | 600 |
| 1024*768@60Hz | 65.000 | N | 48.363 | 1344 | 1024 | N | 60.005 | 806 | 768 |
| 1024*768@ 70Hz | 75.000 | N | 56.476 | 1328 | 1024 | P | 70.070 | 806 | 768 |
| 1024*768@75Hz | 78.750 | P | 60.023 | 1312 | 1024 | P | 75.030 | 800 | 768 |
| 1280*720@60Hz | 74.500 | P | 44.772 | 1664 | 1280 | P | 59.855 | 748 | 720 |
| 1280*768@60Hz | 68.250 | P | 47.396 | 1440 | 1280 | N | 59.995 | 790 | 768 |
| 1360*768@60Hz | 84.75 | P | 47.72 | 1776 | 1360 | P | 59.799 | 798 | 768 |
| 1280*1024@60Hz | 108.000 | P | 63.981 | 1688 | 1280 | P | 60.020 | 1066 | 1024 |
| 1280*1024@75Hz | 135.000 | P | 79.976 | 1688 | 1280 | P | 75.035 | 1066 | 1024 |
| 1440*1050@60Hz | 101.000 | P | 64.744 | 1560 | 1400 | N | 59.948 | 1080 | 1050 |
| 1680*1050@60Hz | 119.125 | P | 64.742 | 1840 | 1680 | N | 59.946 | 1080 | 1050 |
| 1600*1200@60Hz | 162,000 | P | 75,000 | 2160 | 1600 | P | 60.00 | 1250 | 1200 |
| 1920*1080@60Hz | 138.625 | P | 66.647 | 2080 | 1920 | N | 59.988 | 1111 | 1080 |
| 1920*1200@60Hz | 154.125 | P | 74.099 | 2080 | 1920 | N | 59.999 | 1235 | 1200 |
| 2560*1440@60Hz | 241.000 | P | 88.800 | 2720 | 2560 | N | 60.010 | 1481 | 1440 |
| 3840*2160@60Hz | 585.980 | | 129.600 | 4480 | 3840 | | 60.000 | 2180 | 2160 |
| | | | | | | | | | |
| | | | | | | | | | |

5. LED Backlight Driver Board Specification

5.1 Electrical Specification

| Item | Symbol | Spec | Unit | Remarks |
|-----------------------|----------|------------|------|---------|
| Input Voltage 1 | Vin | 10.8 ~26.4 | V | |
| Input Voltage 2 | ON / OFF | 0 ~ 5.0 | V | |
| Operating Temperature | TOP | 0 ~ 50 | °C | |
| Storage Temperature | Tstg | -20 ~60 | °C | |
| Relative Humidity | RH | 80 | % | |

5.2 Control Signal

| Item | Symbol | Status | Action | Remarks |
|---------|--------|--------|---------|---------|
| CN1 #12 | ON/OFF | HIGH | LED-ON | 5.0V |
| | | LOW | LED-OFF | 0V |

5.3 Output Characteristics

| NO | Item | Symbol | Condition | Min. | Typ. | Max | Unit |
|----|--------------------------|--------|-------------------|------|------|------|------|
| 1 | Input Voltage | Vin | - | 21.6 | 24.0 | 26.4 | VDC |
| 2 | Input Current | Iin | Vin=24V Dim=0V | - | - | 4.0 | A |
| 3 | Output Voltage | Vout | Vin=24V Dim=0V | 39 | 39.3 | 39.6 | VDC |
| 4 | Output Current | Iout | Vin=24V Dim=0V | 110 | 120 | 130 | mA |
| 5 | Backlight On/Off Control | ON | - | 3.0 | | 5.0 | VDC |
| | | OFF | - | -0.3 | | 0.8 | VDC |

5.4 Interface

5.4.1 CN1 Connector: 20022WR-14AML(Yeon-Ho) or EQ

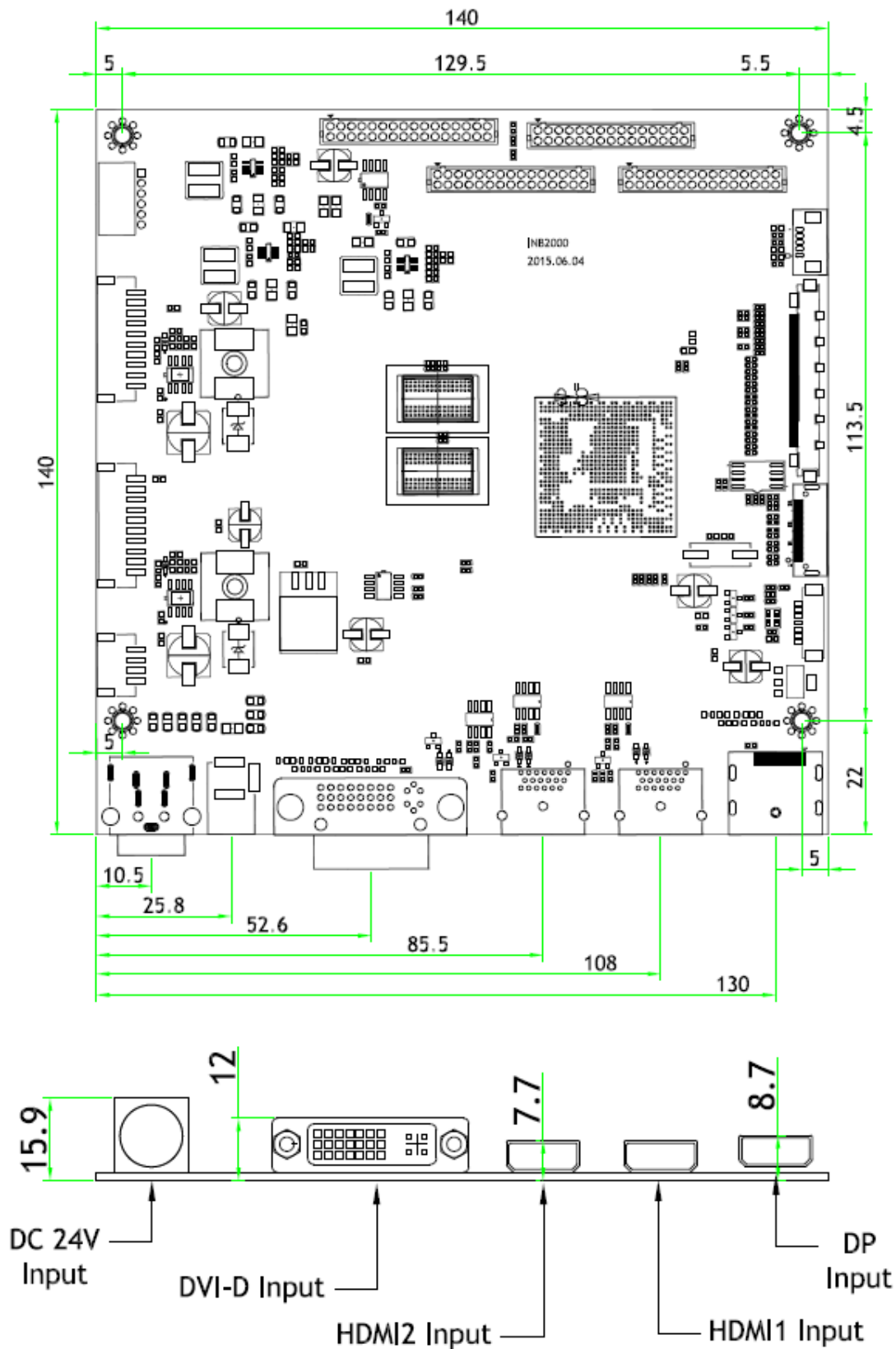
| Pin No | Symbol | Remark |
|---------------|--------|--|
| 1,2,3,4,5 | VIN | Voltage Input 24.0V |
| 6,7,8,9,10,11 | GND | GND |
| 13 | NC | NC |
| 12 | ON/OFF | LED Driver ON/OFF Signal (Active High) |
| 14 | DIM | 0V(MAX) ~ 5V(Min) |

5.4.2 CN2,CN3 Connector: 12507WR-06(Yeon-Ho) or EQ

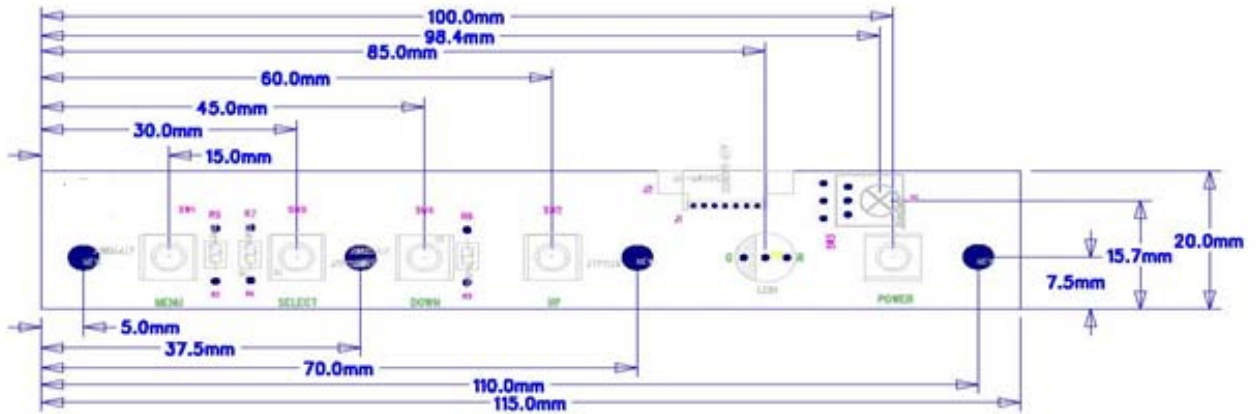
| Pin No | Symbol | Remark |
|--------|--------|----------------------|
| 1 | RTN1 | Feedback1 (Return 1) |
| 2 | RTN2 | Feedback2 (Return 2) |
| 5 | RTN3 | Feedback3 (Return 3) |
| 6 | RTN4 | Feedback4 (Return 4) |
| 3,4 | VOUT | System Output |

6. Board Dimensions

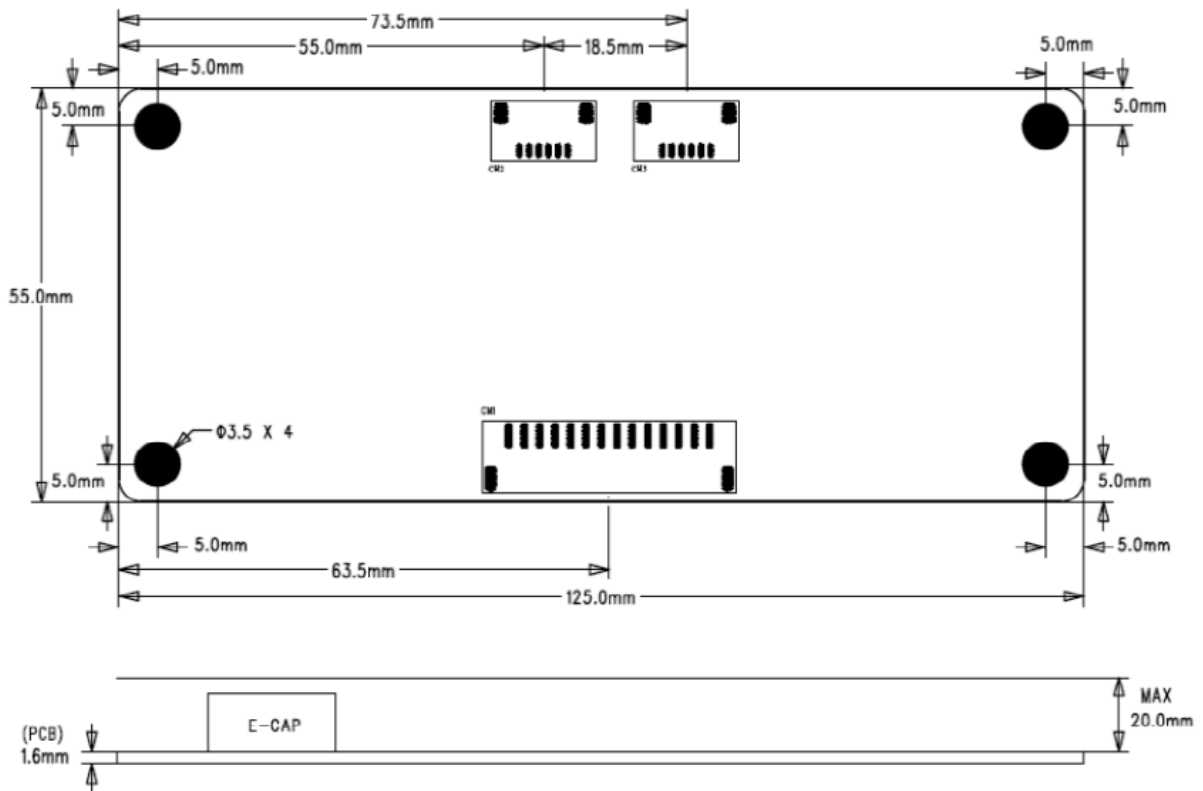
6.1 AD Board (INB2000) Dimension (140mm x 140mm x 15.9mm)



6.2 OSD Board (K002) Dimension (115mm x 20mm x 8.7mm)



6.3 LED Driver Board (GH734A(A2)) Dimension (125.0mm x 55.0mm x 21.6mm)



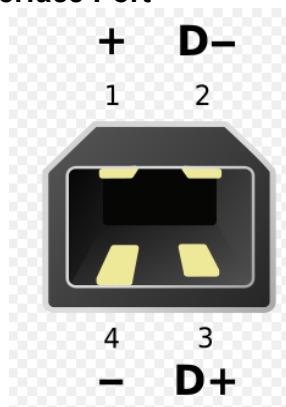
7. P-CAP Touchscreen Specification

7.1 Touchscreen Dimension (755.12mm x 448.6mm x 3.4(T)mm)

7.2. USB Connector (USB 2.0, Type “B”)

| Number | Signal Name |
|--------|-------------|
| 1 | +5V |
| 2 | D- |
| 3 | D+ |
| 4 | GND |

7.3 USB Interface Port



8. Packing Information

| Item | Q'ty | Dimension (W x H x D) | Weight(Kg) | Remark |
|----------------|------|-----------------------------|------------|--------|
| Open Frame | 1Pcs | 755.12mm x 448.6mm x 55.0mm | TBD | |
| Box Packing | | | TBD | |
| Pallet Size | | | TBD | |
| Pallet Packing | | | TBD | |

9. Mechanical structure