Ergo Kiosk

GPO DISPLAY

User Guide

Notice

1. When disconnecting the display from an electrical outlet, the plug must be pulled out from the socket. Do not remove power cord from outlet by pulling from the cord. Pull from the plug head.

2. WARNING – To reduce the risk of fire or electric shock, do not expose this appliance to rain or other forms of moisture.

3. Display must not be exposed to liquids via dripping or splashing. Please do not place liquid –filled items such as vases near the display.

4. Use only a properly grounded plug and receptacle.

5. CAUTION – These instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any service other than that contained in the operating instructions unless you are qualified to do so.

	CAUTION	
	RISK OF ELECTRIC SHOCK **DO NOT OPEN**	
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

This symbol is intended to alert the user to the presence of insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Important Safety Instructions

1.   Read these instructions.
2.   Keep these instructions.
3.   Heed all warnings.
4.   Follow all instructions.
5.   Do not use this product near water.
6.   Clean only with dry microfiber cloth.
7.   Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8.   Do not install near any heat sources such as radiators, heat registers, stoves, or other display (including amplifiers) that produce heat.
9.   Do not remove ground prong from three-pronged plugs. If your outlet will not accept three-pronged plugs, consult an electrician for replacement.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the display.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the display. When a cart is used, exercise caution when moving the cart/display combination to avoid injury from tip-over.
13. Unplug this display during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the display has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the display, the display has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this display to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the display.
16. To completely disconnect this display from the wall outlet, disconnect the power supply cord plug from the AC receptacle./wall socket
17. The mains plug of the power supply cord shall remain readily operable.
18. An display with CLASS I construction shall be connected to a wall socket outlet with a protective grounding connection.
19. Note: Prolonged use of headphones at a high volume may cause damage your ears.
20. **Notice to users : This is a Class A digital device**
21. This device is designed for commercial use and features safety certificates for electromagnetic interference (EMI). Users should be mindful of EMI issues.

Accessories

CD

Remote Control

Batteries (AAA x 2)

HDMI Cable

Power Cable

1. **SOURCE : Selects Input Source**

2. **POWER : Turns the LCD Display On and Off**

3. **UP : Controls the UP cursor in the menu**

4, **LEFT : Controls the LEFT cursor in the menu**

5. **RIGHT : Controls the RIGHT cursor in the menu**

6. **DOWN : Controls the DOWN cursor in the menu**

7. **ENTER : Controls the ENTER cursor in the menu**

8. **MENU : Displays the main On-Screen menu**

9. **EXIT : Exits the On-Screen menu**

Introduction

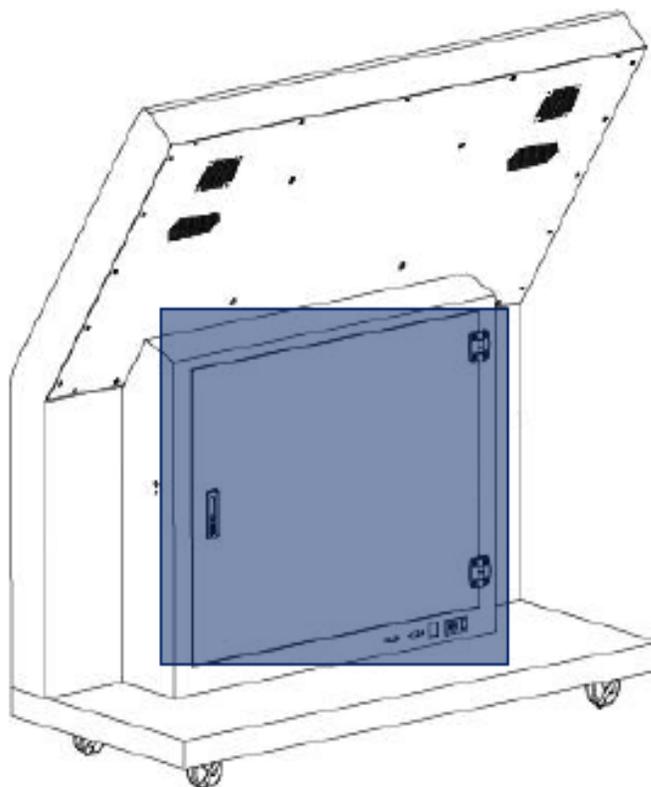| Manual		
Utilities CD		
Cable		
AC Power Cable		
Others		
Remote Control	Batteries (AAA x 2)	

Mechanical layout

1. AC Power In. (100V ~ 240V)
2. DP Input.
3. DVI Input.
4. HDMI Input.
5. VGA Input.
6. PC Audio Input.
7. RS-232 Input.
8. LAN Input(ACR)
9. Component Input.
10. Component Audio Input.
11. ACR LED
12. Audio Output.

11. ACR LED
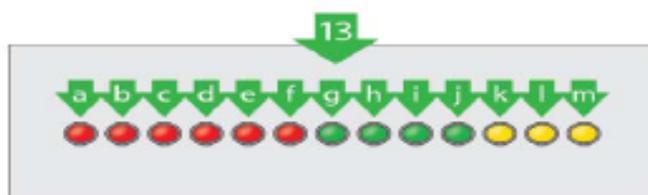
a. Network LED.
b. Backlight Lamp LED.
c. Temperature LED.
d. Power On Signal LED.
e. Backlight On Signal LED.
f. Dimming Signal LED.
g. DC 24V LED.
h. DC 12V LED.
i. DC M5V LED.
j. DC S5V LED
k. Input Source 1 LED.
l. Input Source 2 LED.
m. Input Source 3 LED.

Applies to only Built-in PC and All-in-one models
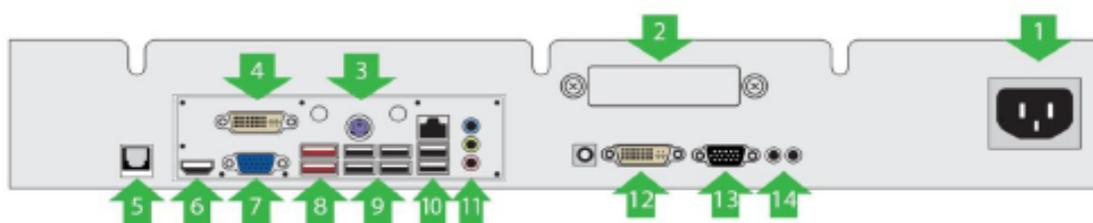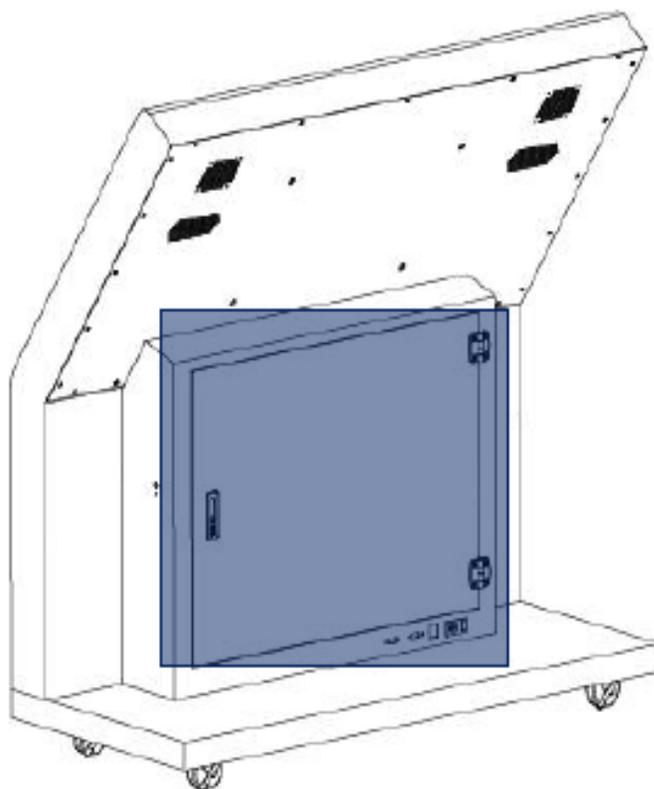
1. AC Power In. (100V ~ 240V)
2. Hard DISK.
3. P/S Keyboard.
4. DVI Out
5. Touch USB.
6. HDMI Output.
7. PC Output.
8. ESATA (2ea)
9. USB2.0 (6ea)
10. RJ45 LAN
11. PC Audio Output.
12. DVI Input.
13. PC Input.
14. PC Audio Input.

Using the remote control

REMOTE — 1

LED — 2
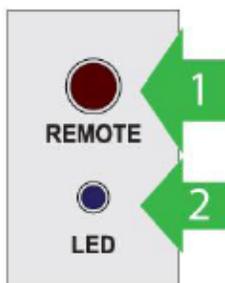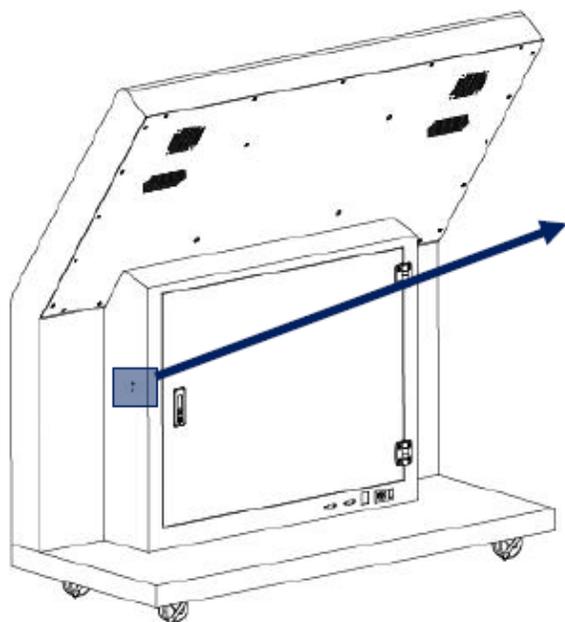
. IR
Aim the remote control towards this spot on the LCD Display.

. LED
LCD Power Status display(On : BLUE / Off : RED)

4   3   2   1
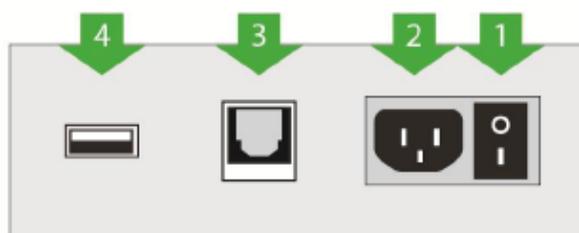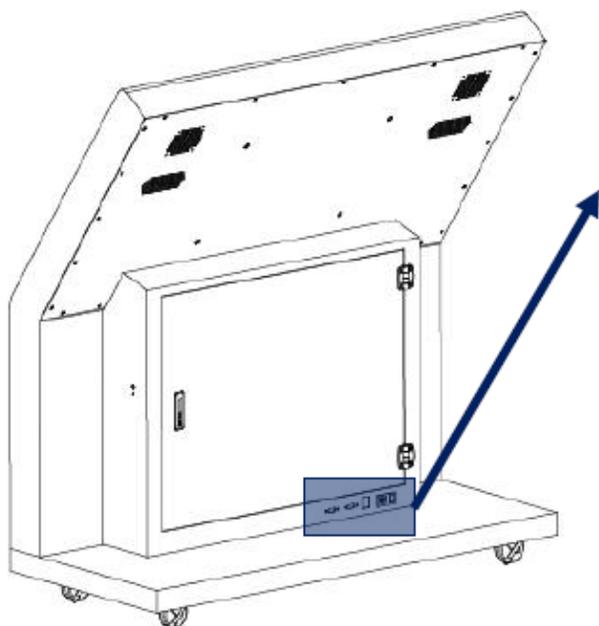
1. AC Power S/W
2. AC Power In (100V~240V)
3. LAN
4. USB

Viewing the Menus

```
DVI
        Main Menu

    Exit
    Bright / Cont
    Positioning
    Image Settings
    Color Settings
    OSD Settings
    Language
    Misc.


        1280 x 720   60Hz
```
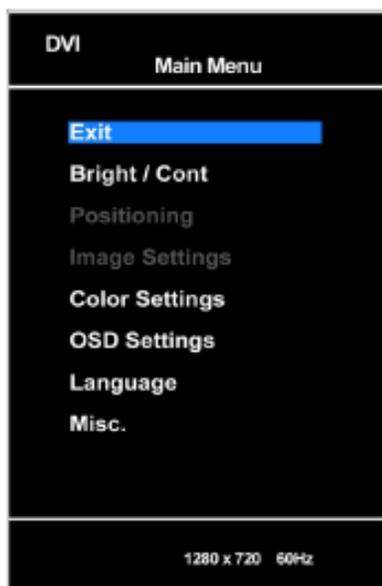
◆ Press the Menu button
   The main menu is displayed on the screen

Brightness/Contrast (Bright / Conf)

```
DVI
        Main Menu

    Exit
    Bright / Cont
    Positioning
    Image Settings
    Color Settings
    OSD Settings
    Language
    Misc.


        1280 x 720   60Hz
```
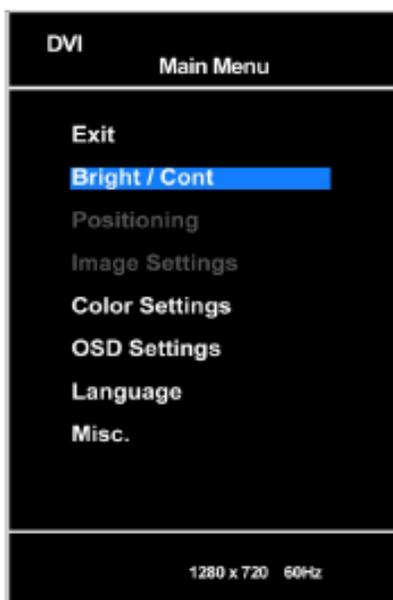
1.   **Press the Menu button**
2.   **Press ▲ or ▼** button to select the menu and then press the Enter button
   ➤ The settings values may vary depending on the input source.
      (ex. DP, Component, HDMI,PC, or DVI)
3. Press the **EXIT** button to exit.

Picture Setting
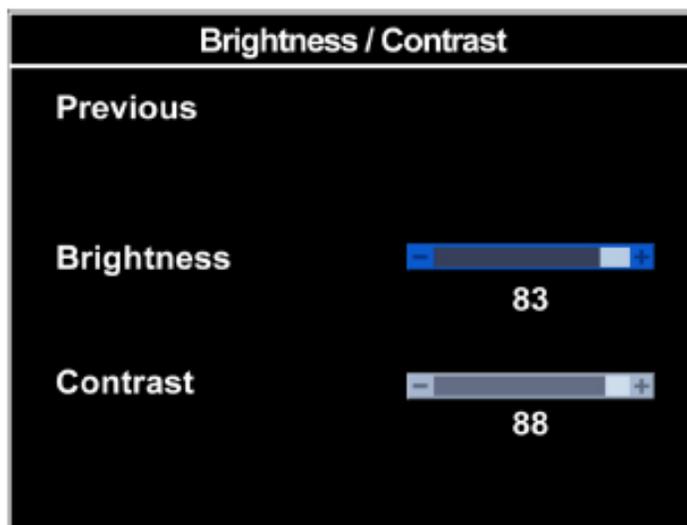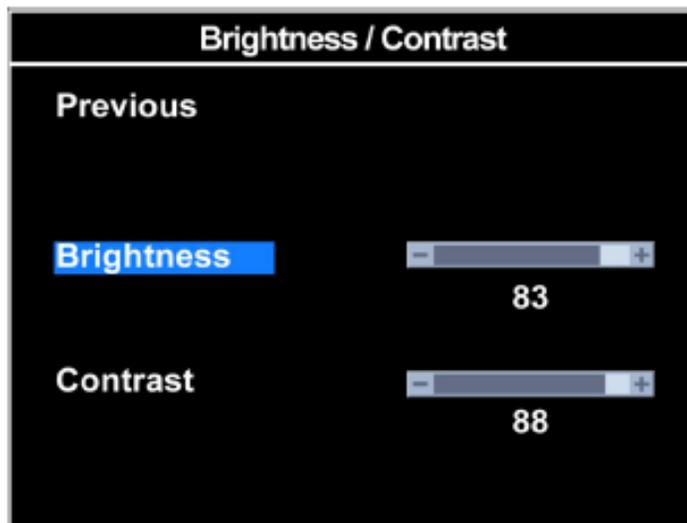
1. **Press the Menu button**
2. **Press ▲ or ▼** button to select the **Brightness/Contrast** and then press the Enter button
3. **Press ▲ or ▼** button to select the menu and then press the Enter button
4. **Press ◄ or ►** button to adjust the value.
5. Press the **EXIT** button to exit.

◆ **Brightness – Contrast**

Brightness: adjusts the brightness of the image
Contrast: adjusts the contrast of the image

Color Settings

1. Press the Menu button
2. Press ▲ or ▼ button to select the **Color Settings** and then press the Enter button
3. Press ▲ or ▼ button to select the menu and then press the Enter button
4. Press ▲ or ▼ button to adjust the value.
4. Press the **EXIT** button to exit.

◆ Normal: This is standard color setting.
◆ Reddish: This results in a reddish tone.
◆ Bluish: This results in a blue tone.
◆ User: This results in a custom tone.

Color(User) Settings.

1. Press the Menu button
2. Press ▲ or ▼ button to select the User and then press the Enter button
3. Press ▲ or ▼ button to select the menu and then press the Enter button
4. Press ◄ or ► button to adjust the value.
5. Press the **EXIT** button to exit.

OSD Setting

DVI		OSD	
Main Menu			
Exit		**Previous**	
Bright / Cont			
Positioning		OSD Horizontal	— ▮▮▮▮ +
Image Settings			50
Color Settings		OSD Vertical	— ▮▮▮▮ +
OSD Settings			50
Language		OSD Hold Time	— ▮ +
Misc.			20 Second
1280 x 720 60Hz			
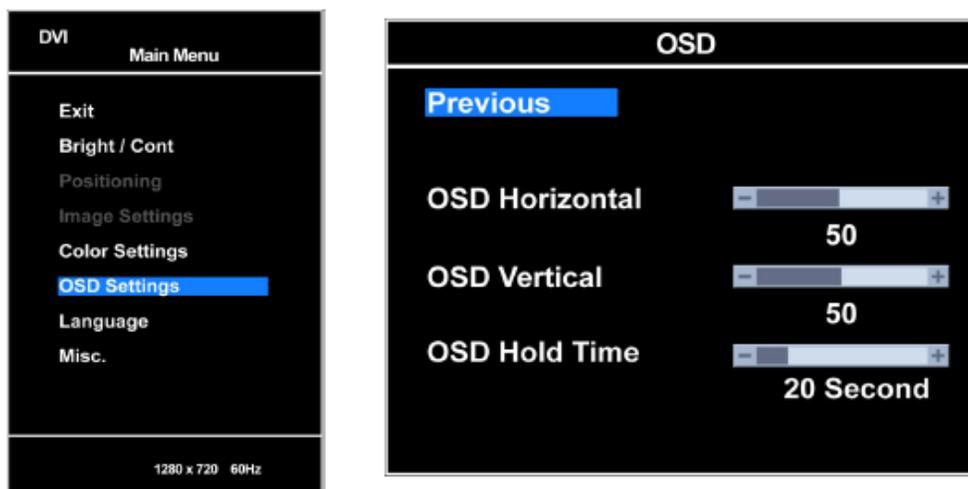
1. Press the Menu button
2. Press ▲ or ▼button to select the **OSD Settings** and then press the Enter button
3. Press ▲ or ▼button to select the menu and then press the Enter button
4. Press ◄ or ►button to adjust the value.
5. Press the **EXIT** button to exit.

Selecting the OSD Language

DVI		Language	
Main Menu			
Exit		**Previous**	
Bright / Cont		English	
Positioning		Spanish	
Image Settings		France	
Color Settings		German	
OSD Settings		한국어	
Language			
Misc.			
1280 x 720 60Hz			

1. Press the Menu button
2. Press ▲ or ▼button to select the Language and then press the Enter button
3. **Select the required option by Pressing the ▲ or ▼button, then press the Enter button.**
4. When you are satisfied with your setting, press the **ENTER** button
5. Press the **EXIT** button to exit.

Selecting the Misc

DVI
Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.

1280 x 720 60Hz

Misc.

Previous

Initialize

Aspect Ratio   Wide
DCR   OFF
SPK Mode   Internal
SET ID   1

1. **Press the Menu button**
2. **Press ▲ or ▼** button to select the **Misc** and then press the Enter button
3. **Press ▲ or ▼** button to select the **Initialize**   and then press the Enter button
◆ **Initialize**: You can return to the factory defaults settings

You can select the picture size which best corresponds to your viewing requirements
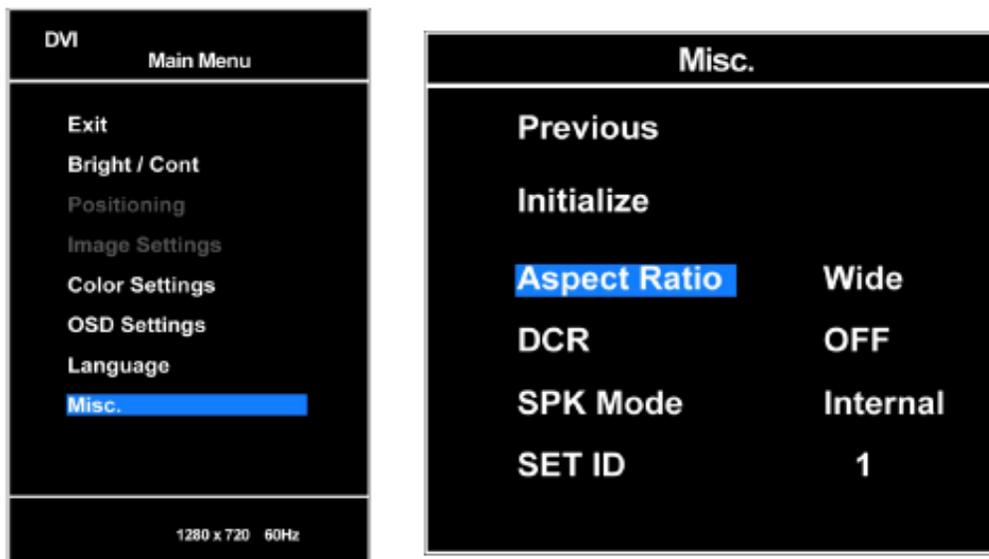
DVI
Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.

1280 x 720 60Hz

Misc.

Previous

Initialize

Aspect Ratio   Wide
DCR   OFF
SPK Mode   Internal
SET ID   1

1. **Press the Menu button**
2. **Press ▲ or ▼** button to select the **Misc**   and then press the Enter button
3. **Press ▲ or ▼** button to select the **Aspect Ratio** and then press the Enter button
4. **Press Enter** button to adjust the value.
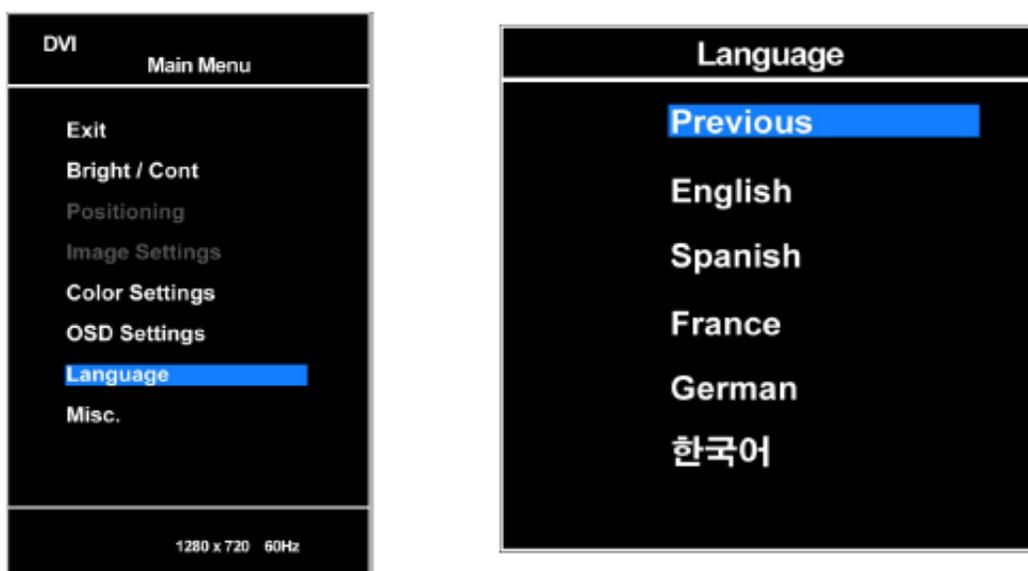5. Press the **EXIT** button to exit.

DVI
Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.

1280 x 720   60Hz

Misc.

Previous

Initialize

Aspect Ratio   Wide

DCR   OFF

SPK Mode   Internal

SET ID   1

1. **Press the Menu button**
2. **Press ▲ or ▼**button to select the **Misc**   and then press the Enter button
3. **Press ▲ or ▼**button to select the **DCR**   and then press the Enter button
4. **Press Enter** button to adjust the value.
5. Press the **EXIT** button to exit.

DVI
Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.

1280 x 720   60Hz

Misc.

Previous

Initialize

Aspect Ratio   Wide

DCR   OFF
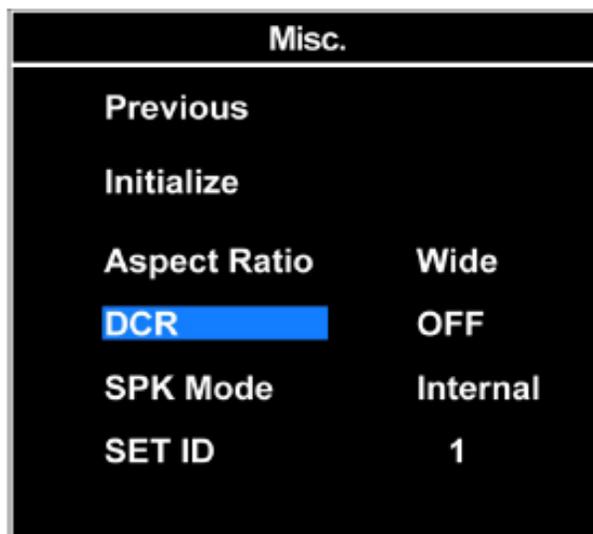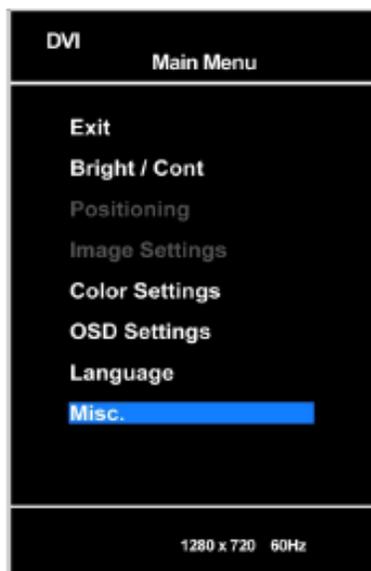
SPK Mode   Internal

SET ID   1
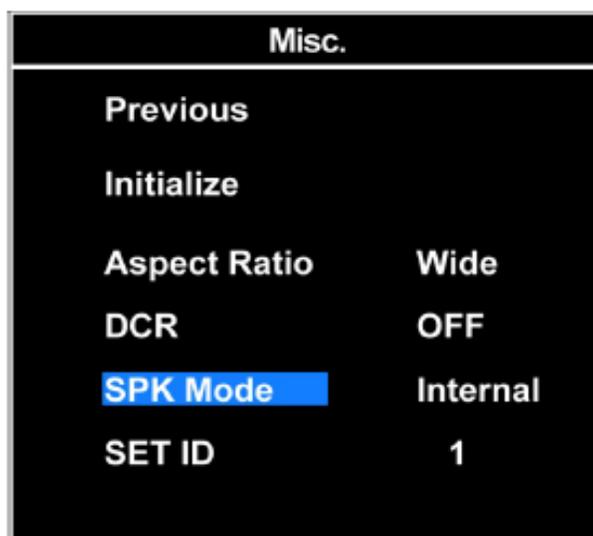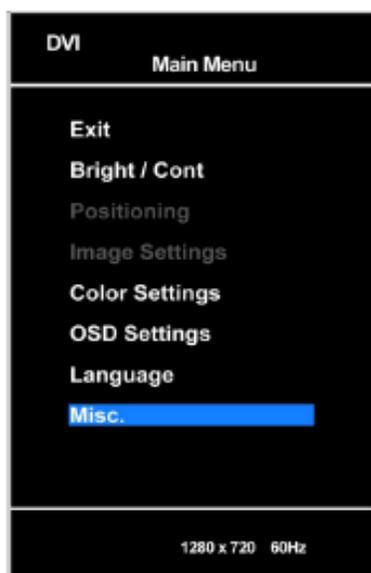
1. **Press the Menu button**
2. **Press ▲ or ▼**button to select the **Misc**   and then press the Enter button
3. **Press ▲ or ▼**button to select the **SPK Mode**   and then press the Enter button
4. **Press Enter** button to adjust the value.
5. Press the **EXIT** button to exit.

```
DVI
        Main Menu

  Exit
  Bright / Cont
  Positioning
  Image Settings
  Color Settings
  OSD Settings
  Language
  Misc.

        1280 x 720   60Hz
```

```
                Misc.

  Previous

  Initialize

  Aspect Ratio      Wide

  DCR               OFF

  SPK Mode          Internal

  SET ID            1
```

1. **Press the Menu button**
2. **Press ▲ or ▼** button to select the **Misc** and then press the Enter button
3. **Press ▲ or ▼** button to select the **SET ID** and then press the Enter button
4. **Press ◄ or ►** button to adjust the value.
5. Press the **EXIT** button to exit.

Selecting image positioning (PC mode)

```
RGB
      Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.


      1280 x 720   60Hz
```

```
            Positioning

Previous


Horizontal        [ -         + ]
                        50

Vertical          [ -         + ]
                        50
```
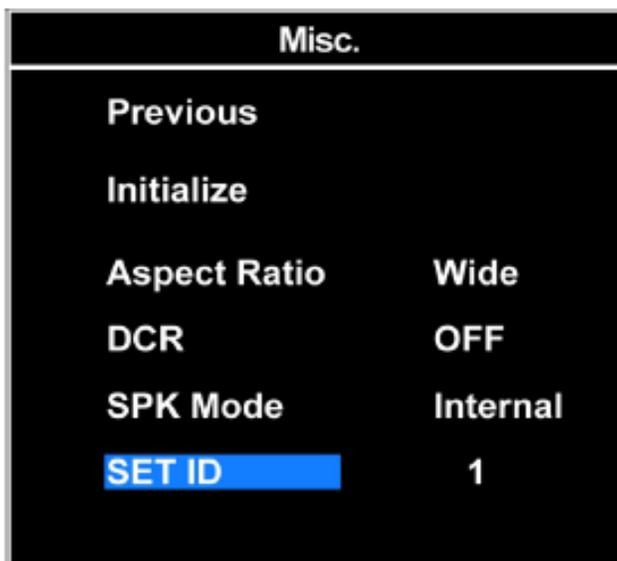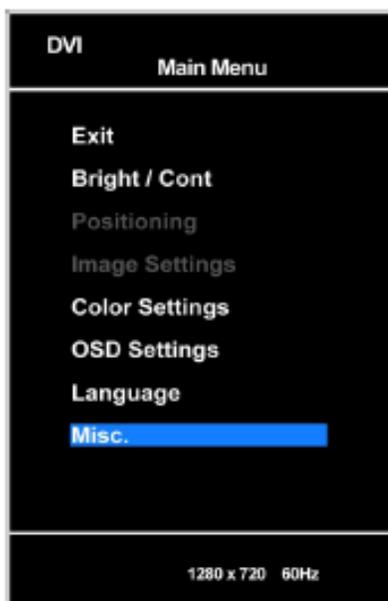
1. Press the Menu button
2. Press ▲ or ▼button to select the **Positioning** and then press the Enter button
3. Press ▲ or ▼button to select the Menu and then press the Enter button
4. Press ◄ or ►button to adjust the value.
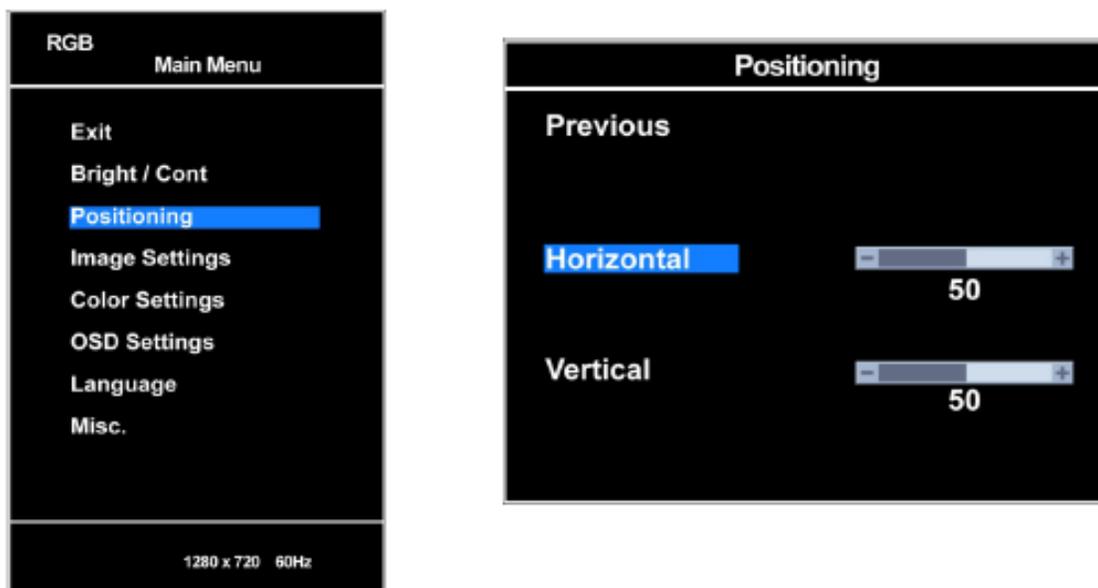5. Press the **EXIT** button to exit.

Selecting image settings(PC mode)

```
RGB
      Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.


      1280 x 720   60Hz
```

```
          Image Settings

Previous

Auto Adjust


Pixel Clock       [ -        + ]
                        57

Phase             [ -      + ]
                        39
```

1. Press the Menu button
2. Press ▲ or ▼button to select the **Image Settings** and then press the Enter button
3. Press ▲ or ▼button to select the **Auto Adjust** and then press the Enter button
◆ **Auto Adjust** :   Turn the PC Auto Adjust

RGB
Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.

1280 x 720   60Hz

Image Settings

Previous

Auto Adjust

Pixel Clock   −   +
                              57

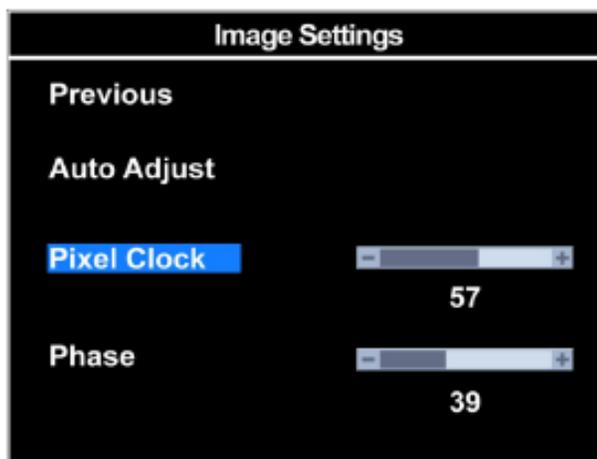Phase   −   +
                              39

1. Press the Menu button
2. Press ▲ or ▼ button to select the **Image Settings** and then press the Enter button
3. Press ▲ or ▼ button to select the **Pixel Clock** and then press the Enter button
4. Press ◄ or ► button to adjust the value.
5. Press the **EXIT** button to exit.

RGB
Main Menu

Exit
Bright / Cont
Positioning
Image Settings
Color Settings
OSD Settings
Language
Misc.

1280 x 720   60Hz

Image Settings

Previous

Auto Adjust

Pixel Clock   −   +
                              57

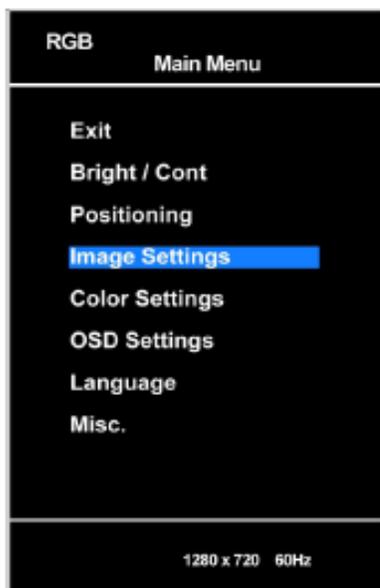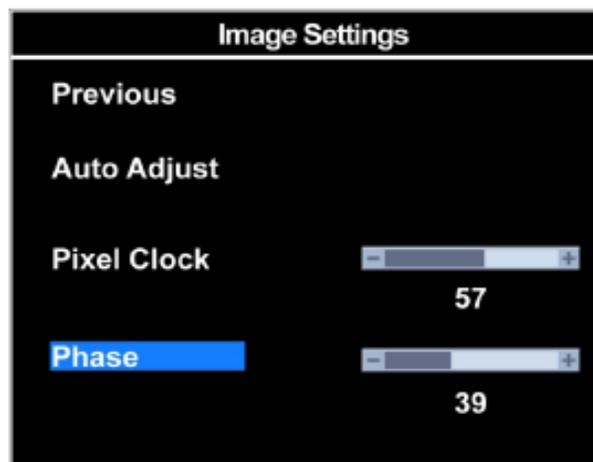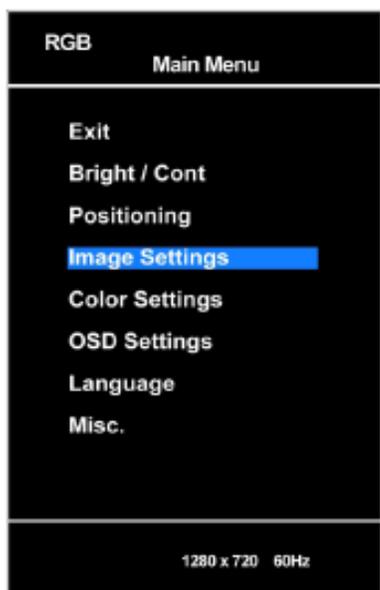**Phase**   −   +
                              39

1. Press the Menu button
2. Press ▲ or ▼ button to select the **Image Settings** and then press the Enter button
3. Press ▲ or ▼ button to select the **Phase**   and then press the Enter button
4. Press ◄ or ► button to adjust the value.
5. Press the **EXIT** button to exit.

◆ SICP (Serial Interface Communication Protocol)

This document defines all the command and messages exchanged between the Master (a PC or the other controller) and the Slave (the displays).
It also describes the ways to send or read the commands or the messages.

1. Protocol definition

SICP stands for "Serial Interface Communication Protocol".
The protocol is specifically designed to allow data communication in half duplex multi-point environments, but it can also be used for half duplex point-to-point RS-232C communication.

2. Communication characteristics

A half duplex communication is implemented starting from the concept of a master-slave structure, where the display is supposed to be the slave.
The first action is always taken by the master, which can be either a PC or any controlling device (acting as server) interfaced to the monitor. After sending a command or a request in the appropriate format the master receives from the slave an acknowledgement, which tells the transmitter whether the command is not valid (or not executable, anyway) or it is accepted. In case of a request, the requested information is sent back and it becomes the acknowledgement by itself.

3. How to connect control devices

Female Pin number   Male Pin number
2 <---> 2
3 <---> 3
5 <---> 5

[Display side]

Pin 1	RI
Pin 2	TXD
Pin 3	RXD
Pin 4	DSR
Pin 5	GND
Pin 6	DTR
Pin 7	CTS
Pin 8	RTS
Pin 9	Power Input /DCD

RS232 Pinout
(9 Pin Female)

Pin 5   Pin 1
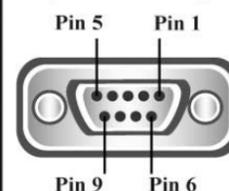
Pin 9   Pin 6

4. Hardware Protocol

Baud rate : 9600 bps
Data bits : 8 bit
Parity bits : None
Stop bits : 1 bit
Handshake : None

[PC side]

Pin 1	DCD
Pin 2	RXD
Pin 3	TXD
Pin 4	DTR
Pin 5	GND
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	RI

RS232 Pinout (9 Pin Male)

Pin 1   Pin 5

Pin 6   Pin 9

6. OK Acknowledgement

The acknowledgement will be sent by the display to the computer to verify that the command has been successfully received and executed. This format for this acknowledgement is as follows:

ex) <STX>001PWR#OFF#<ETX> (Set ID : 1 , Power Off   Acknowledgement)

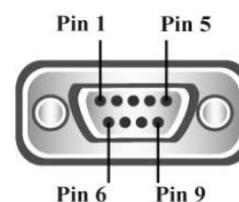| STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	0	0	1	P	W	R	#	O	F	F	#	0x0d
Hex	ASCII (capital letter)											Hex

7. Error Acknowledgement

The Error Values will be sent by the display to the computer to verify that the command has been successfully received and executed. This format for this Error Values is as follows:

ex) <STX>001PWRERROR<ETX> (Set ID : 1 , Power Off   Error)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	0	0	1	P	W	R	E	R	R	O	R	0x0d
Hex	ASCII (capital letter)											Hex

8. Command List

♦ Power On/Off (PWR)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				P	W	R	W				0	0x0d
Hex	ASCII (capital letter)											Hex

- ID1 ~ ID3 : Set ID ("001" ~ "100")
- DA1 ~ DA3 : "-ON" : Power On / "OFF" : Power Off

Ex) <STX>001PWRWOFF0<ETX> (Power Off)
   Acknowledge =>   <STX>001PWR#OFF#<ETX>

♦ Source Change (MIN)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				M	I	N	W				0	0x0d
Hex	ASCII (capital letter)											Hex

- ID1 ~ ID3 : Set ID ("001" ~ "100")
- DA1 ~ DA3 : "DVI" : DVI / "COM" : Component / "-PC" : PC(D-SUB) / "--DP" : DP/"HDM": HDMII

Ex) <STX>001MINWDVI0<ETX> (Source DVI)
   Acknowledge =>   <STX>001MIN#DVI#<ETX>

♦ Virtual Remote Control (RMT)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				R	M	T	W				0	0x0d
Hex	ASCII (capital letter)											Hex

- ID1 ~ ID3 : Set ID ("001" ~ "100")
- DA1 ~ DA3 : "MEN" (Menu)   "SOU" (Source)   "LEF" (Left & Volume-)   "RIG" (Right & Volume+)

              "ENT" (Enter)   "-UP" (Up)   "DOW" (Down)   "EXI" (Exit)

Ex) <STX>001RMTWSOU0<ETX> (Remote Source Button)
   Acknowledge =>   <STX>001RMT#SOU#<ETX>

♦ PC Auto Adjust (AUT)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				A	U	T	W				0	0x0d
Hex	ASCII (capital letter)											Hex

- ID1 ~ ID3 : Set ID ("001" ~ "100")
- DA1 ~ DA3 : "-PC"

Ex) <STX>001AUTW-PC0<ETX> (PC Auto)
     Acknowledge =>   <STX>001AUT#-PC#<ETX>

♦ Mute On/Off (MUT)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				M	U	T	W				0	0x0d
Hex	ASCII (capital letter)											Hex

- ID1 ~ ID3 : Set ID ("001" ~ "100")
- DA1 ~ DA3 : "-ON"(Mute On)
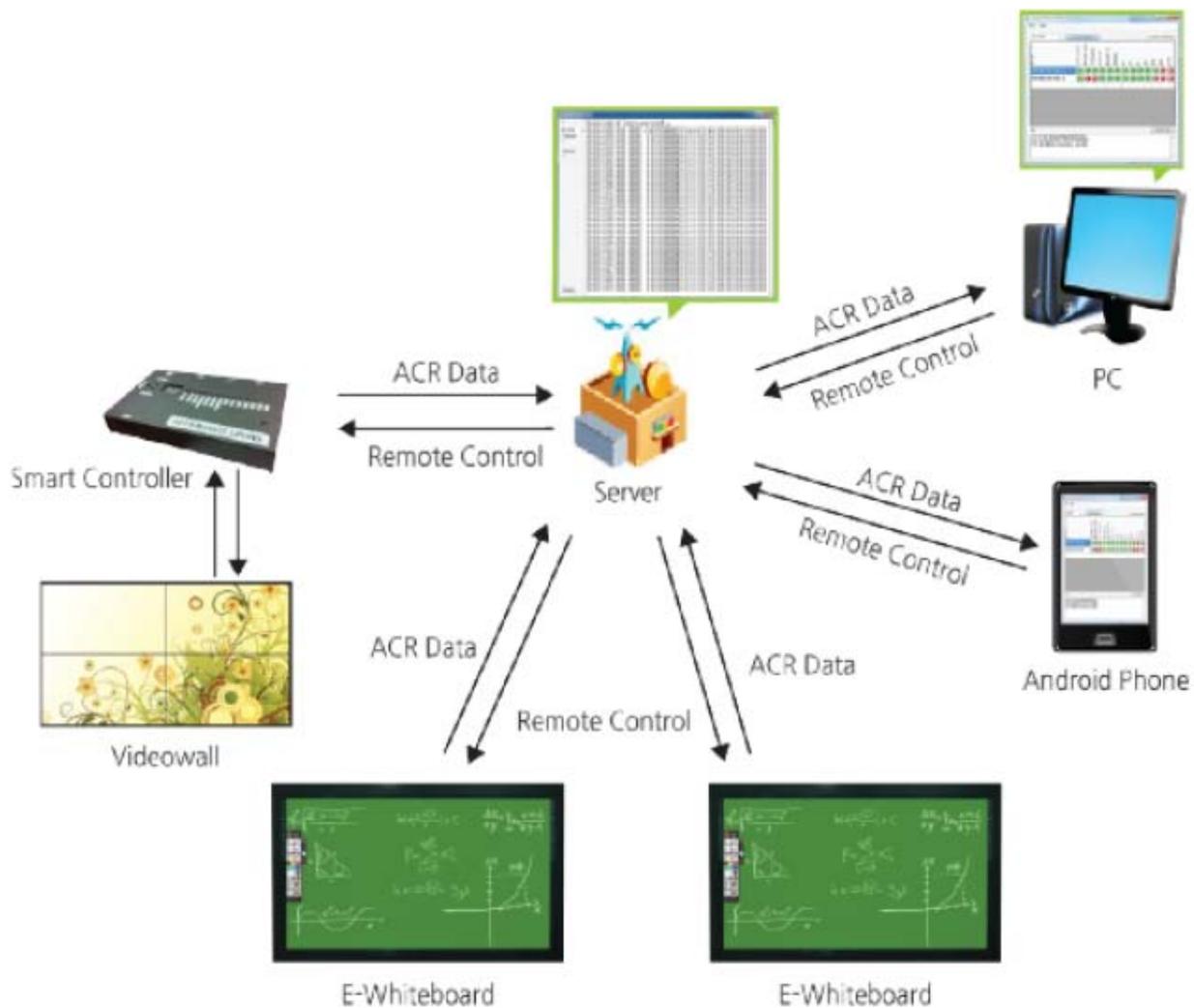   "OFF"(Mute Off)

Ex) <STX>001MUTW-ON0<ETX> (Mute On)
     Acknowledge =>   <STX>001MUT#--ON#<ETX>

ACR(Auto-Condition Report) Diagram

Refer to ACR Manual

Troubleshooting with the ACR

Network (red): indicates whether the ACR has LAN connection. The light will be on if the SMC is connected to a network device. This does not necessarily indicate internet connectivity.

BLK Lamp LED (red): This LED light will always be turned off.

Temperature LED (red): Indicates whether or not the temperature sensor on the AD board is working. This should always be on (working). The light will turn off if the temperature thresh hold set by the user(or the default 45 Celsius) is passed.

Power ON LED (red): Indicates whether or the AD board has sent power to the Inverter board. This should be on.

Backlight ON (red): Indicates whether or not the Inverter board has sent power to the panel. This should always be on.

Backlight dimming (red): indicates whether the power board has sent the Dimming power (3.3v) to the Inverter board. This should always be on.

24V LED (green): indicates whether the power board has sent the Backlight power (24v) to the Inverter board. This should always be on.

12V LED (green): indicates whether power is running to the AD board and power board. This should always be on.
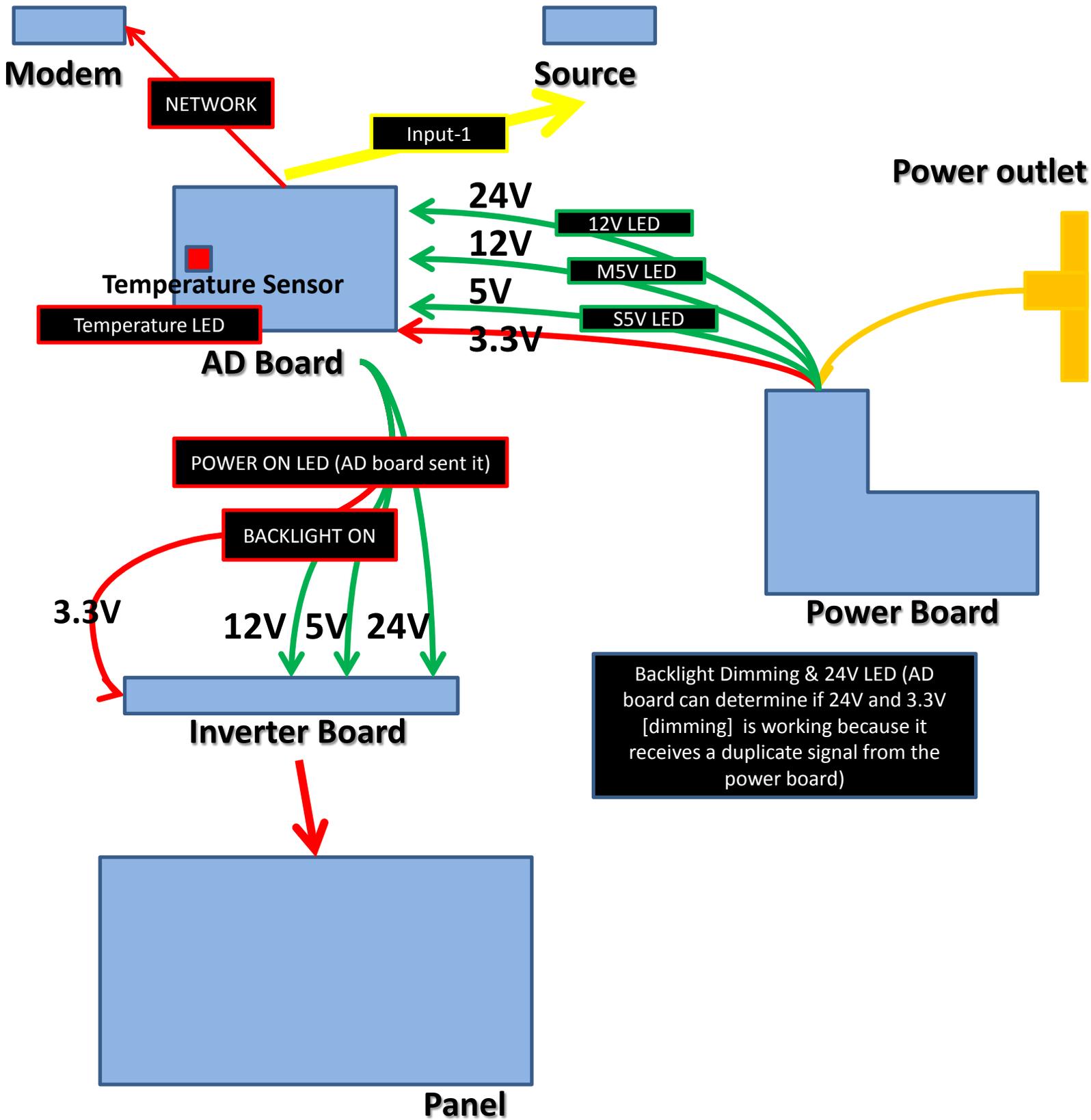
M5V LED (green): indicates whether power is running to the AD board
This should always be on.

SSV LED (green): indicates whether power is running to the standby function (on the AD board). This should always be on.

Input-1 (yellow): whether DVI1 is active. This light will be on if you are running a source through this input.
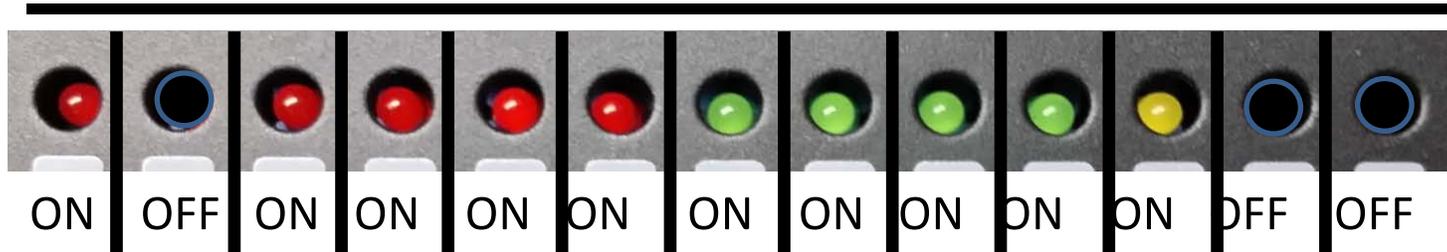
Input-2 (yellow): whether DVI2 is active. This light will be on if you are running a source through this input.

Input-3 (yellow): whether VGA is active. This light will be on if you are running a source through this input.

Modem

Source

NETWORK

Input-1

Power outlet

24V

12V LED

12V

M5V LED

5V

S5V LED

3.3V

Temperature Sensor

Temperature LED

AD Board

POWER ON LED (AD board sent it)

BACKLIGHT ON

3.3V

12V 5V 24V

Inverter Board

Power Board

Backlight Dimming & 24V LED (AD board can determine if 24V and 3.3V [dimming] is working because it receives a duplicate signal from the power board)

Panel

= LED light OFF

ACR LED readout combinations

| ON | OFF | ON | ON | ON | ON | ON | ON | ON | ON | ON | OFF | OFF |

In a setup where the SMC is connected to a Network, and a source is active and connected to DVI 1, this (above) would be the correct readout (everything working properly). If there is a display problem then based off of the LED readout we can conclude that the issue is in the panel.

| ON | OFF | ON | OFF | OFF | OFF | OFF | OFF | OFF | ON | ON | OFF | OFF |
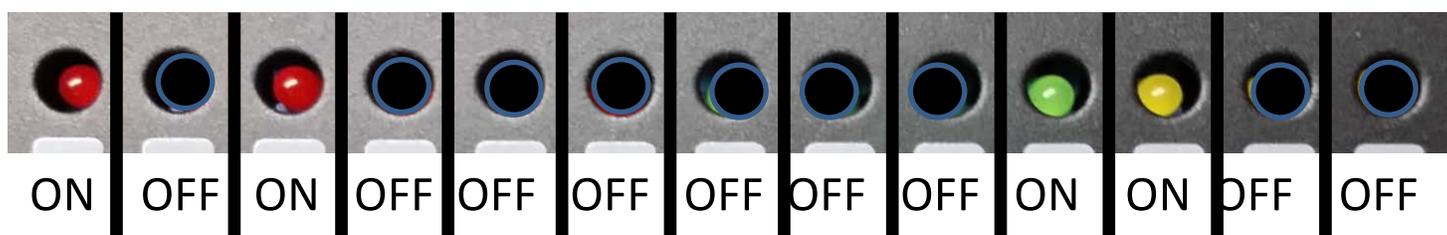
In the case the unit does not display anything (black screen), the LED readout above would indicate that there is most likely an issue with the AD board.
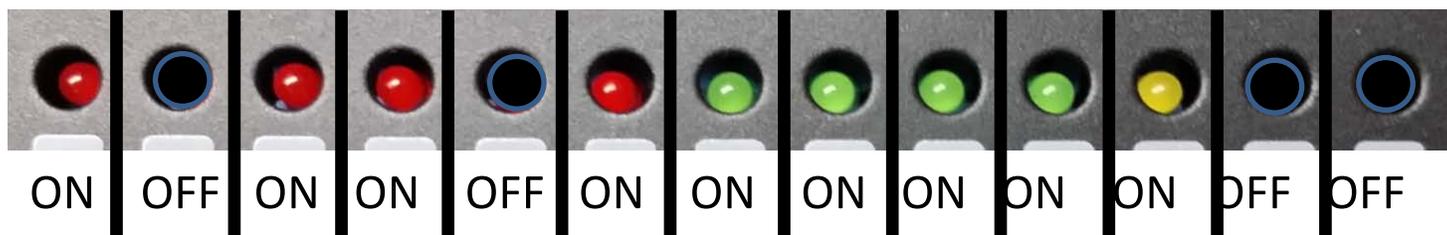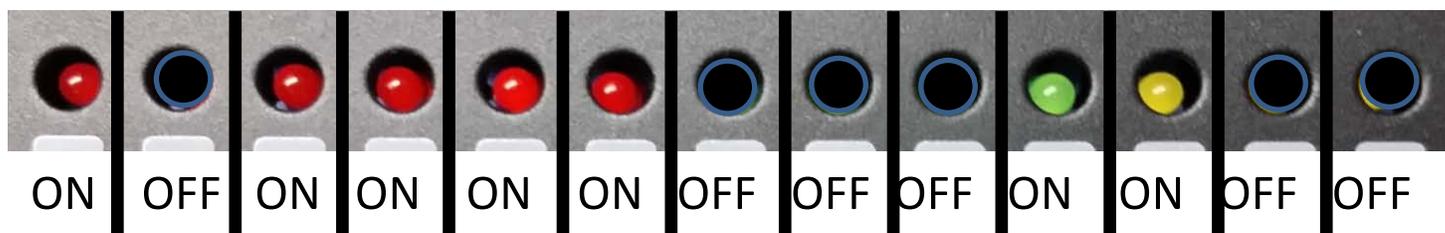

| ON | OFF | ON | ON | OFF | ON | ON | ON | ON | ON | ON | OFF | OFF |

In the case the unit does not display anything (black screen), the LED readout above indicates there is most likely an issue with the AD board.
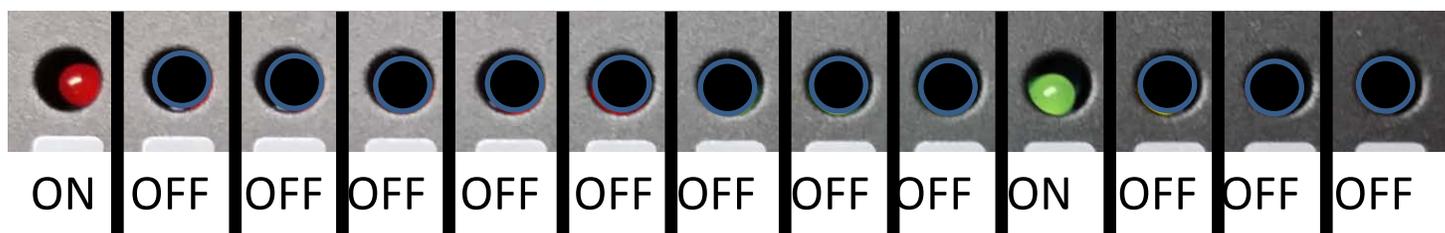
 = LED light OFF
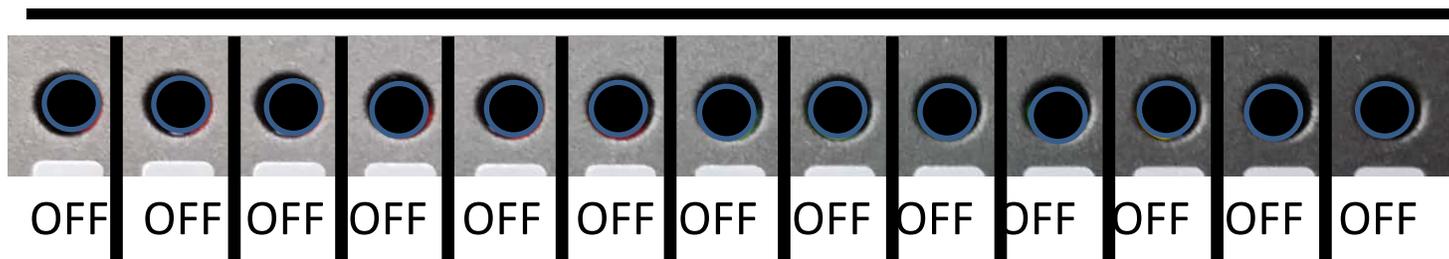
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

In the case there is no display (black screen), the LED readout above indicates there is most likely an issue with the power board.

ON	OFF	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON	OFF	OFF

In the case there is no display (black screen), the LED readout above indicates there is most likely an issue with the power board.

ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF

In the case there is no display (black screen), the LED readout above indicates there is most likely a PC input issue(DPMS).

ON	OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	OFF	OFF

In the case the unit displays very dim images, the LED readout above indicates there is most likely an issue in the backlight lamp.

Timing Modes

Display Mode	Horizontal Frequency(KHz)	Vertical Frequency(Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	43.269	85.008	36.000	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 800 x 600	53.674	85.061	56.250	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
1366 x 768	47.712	60.015	85.500	+/+
VESA,1920 x 1080	66.587	59.934	138.500	+/-

DTV Timing

Display Mode	Horizontal Frequency(KHz)	Vertical Frequency(Hz)	Pixel Clock (MHz)	Mode
720 x 480	15.735	59.94	13.500	Interlace
720 x 576	15.735	50.0	13.595	Interlace
720 x 480	31.469	59.94	25.175	
720 x 576	31.250	50.0	26.566	
1280 x 720	44.964	59.94	74.176	
1280 x 720	37.500	50.0	60.466	
1920 x 1080	33.750	60.0	74.25	Interlace
1920 x 1080	28.125	50.0	70.723	Interlace
1920 x 1080	31.250	50.0	72.000	Interlace
1920 x 1080	148.500	60.000	67.500	
1920 x 1080	148.352	59.940	67.433	
1920 x 1080	148.500	50.000	56.250	