

Digital Panel Driving Board

CUSTOMER:

MODEL NO.: TDS3165 VGA/DVI Board

PART NO.:

DATE: 2014/07/10

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PAGE :		
Contact		

Approval by :	Review by : Tony	Design by : James
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Revision Note

Rev No	Date	Description	Note
Initial	2013.08.01		
V0.2	2014.01.03	Updates board picture.	
V0.3	2014.05.23		
V0.4	2014.07.10	Update Osd menu	

GENERAL:

TDS-3165-XXXX is high performance for middle and large size panel driving board, which can directly support PC VGA input and DVI(optional TMDS) input . The board for PC VGA input can allow from 640x480@60Hz to 1920x1080@ 60 Hz input

For the panel display output support ,This board can support display panel range from VGA panel(640x480) up to high resolution such as 1920x1080 panel with single or dual LVDS interface.

Features:

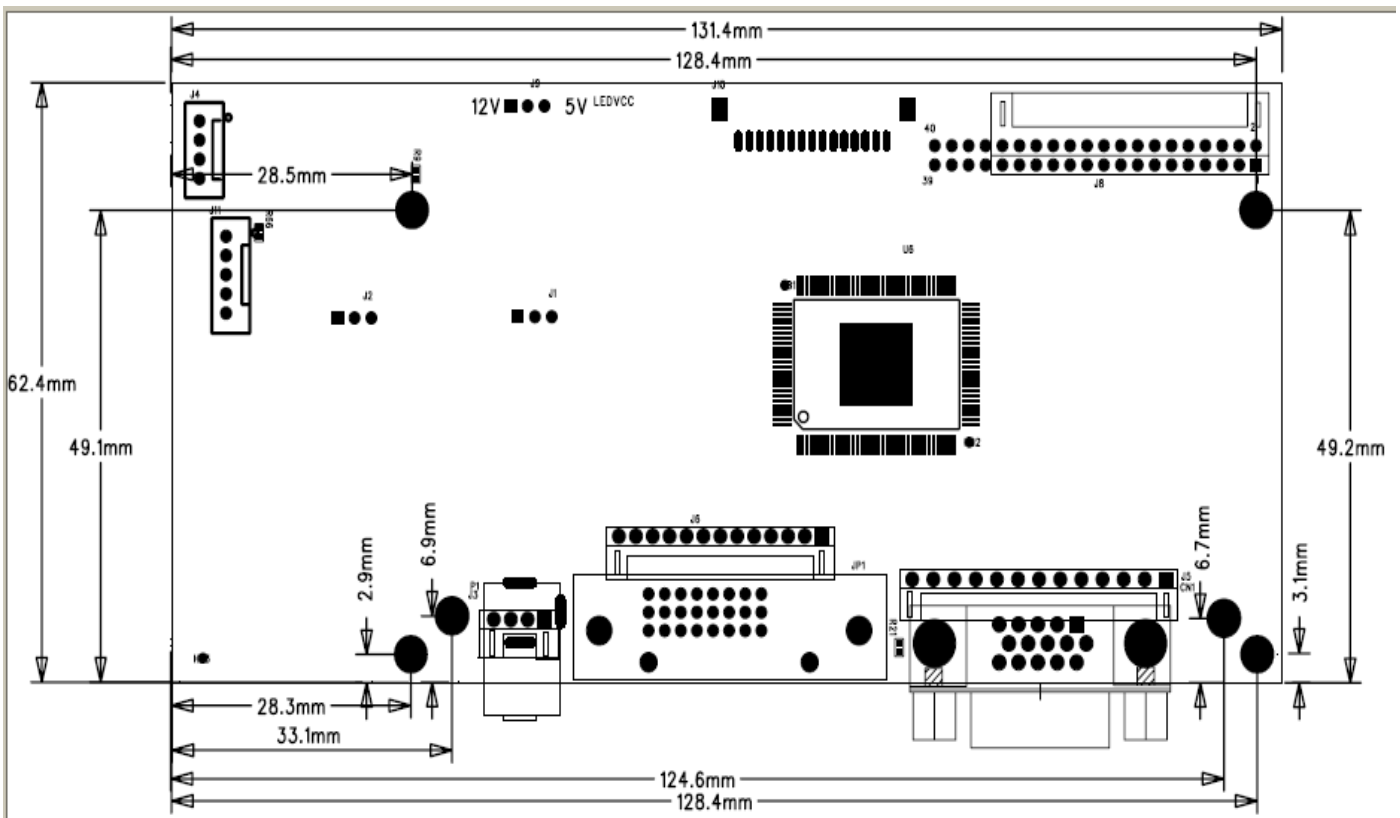
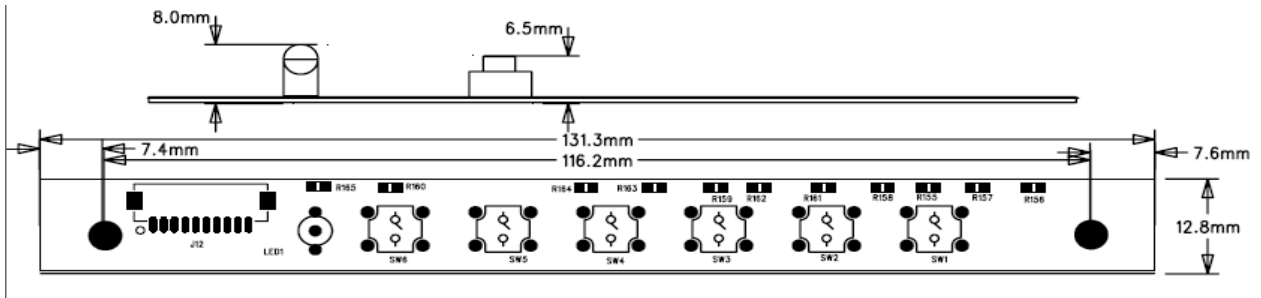
- **Support VGA,SVGA,XGA,WXGA,1920x1080 higher resolution TFT LCD panel**
- **Support single or double pixel LVDS panel interface TFT LCD panel**
- **Support Standard VESA PC VGA Input Mode**
- **Auto-adjustment function for PC analog and Auto color adjustment**
- **RS232 Communication Function available (optional)**
- **Suitable for Industry operation**
- **Compact and small size**

BOARD DIMMENSION:

Main board: 131.4(L) mm x 62.4mm(W) x 15.0 mm (Height)—standard Board

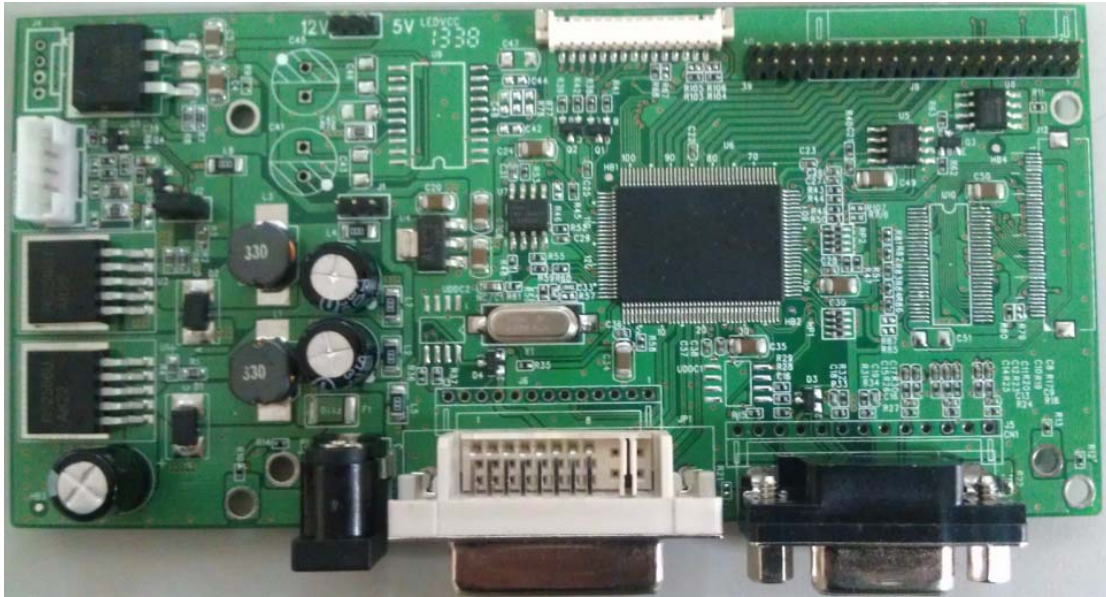
Main board: 131.4(L) mm x 62.4mm(W) x 10.0 mm (Height)—Low profile

Key Board : 131.4 mm x 62.4 mm x 8.0mm

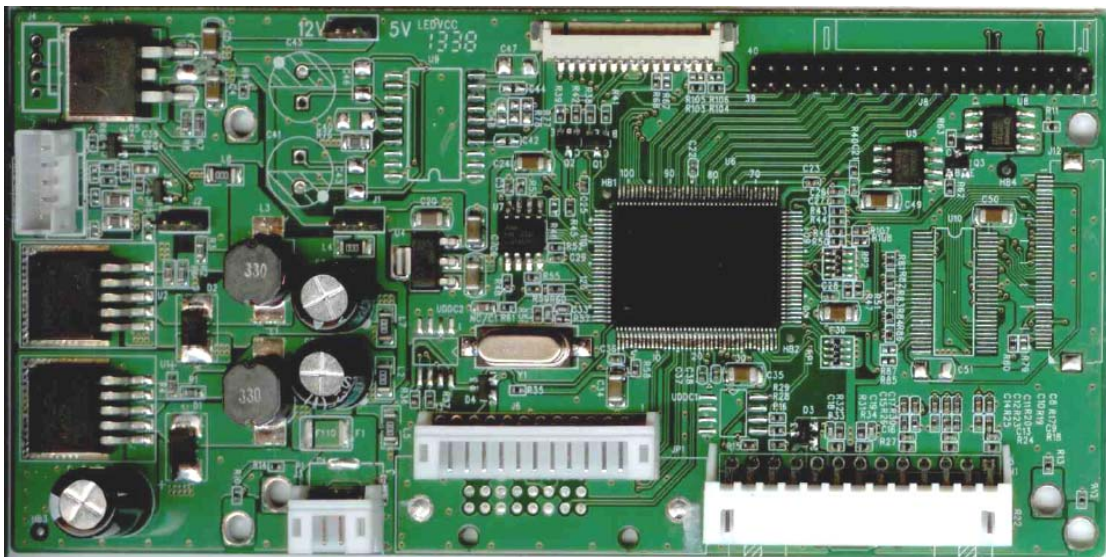


Main Board and Keypad Board

Board Photo picture:



(Board with Standard Version)



(Board with Low Profile version)


VGA Support Timing Table

Support Timing Table

Mode	Resolution	H Freq. (kHz)	V Freq. (Hz)
1	640*350@70	31.469	70.087
2	640*400@70	31.469	70.087
3	640*480@60	31.469	59.940
4	640*480@72	37.861	72.809
5	640*480@75	37.500	75.000
6	720*400@70	31.469	70.087
7	800*600@56	35.156	56.250
8	800*600@60	37.879	60.317
9	800*600@72	48.077	72.188
10	800*600@75	46.875	75.000
11	1024*768@60	48.363	60.004
12	1024*768@70	56.476	70.069
13	1024*768@72	58.038	71.918
14	1024*768@75	60.023	75.029
15	1024*768@60	48.019	60.000
16	1024*768@60	47.700	60.000
17	1280*1024@60	63.980	60.000
18	1280*1024@70	74.882	69.853
19	1280*1024@75	79.976	75.025

Connector List

Reference	Function	Note
J10	Key Board Connector	1.25 mm, 15 Pin, 180°
J8	Inverter/LED Connector	2.0 mm, 5 Pin, 180°
J5	VGA Connector (optional)	2.5 mm, 13 Pin, 90°
J6	DVI Connector(optional)	2.0 mm, 13Pin,90°
J9	Power Connector	2.0 mm, 4 Pin, 90°
J7	LCD Panel for LVDS	2.0 mm, 2*20 Pin, 180°
CN1		

DC-JACK Input : +  -

2. Pin define for connectors

J10: Key Board Connector (1.25 mm 10 Pin 180°)

Pin	Function	Note
1	SW1	POWER
2	SW2	MENU/ENTER
3	SW3	DOWN/ AUTO ADJUST
4	SW4	UP / AUTO COLOR
5	SW5	DOWN/AUTO ADJUST(Reserve)
6	LED-G	LED GREEN
7	LED-R	LED RED
8	GND	GND
9	SW6	UP / AUTO COLOR
10	NC	NC
11	AUDIO_R_IN	OPTIONAL
12	AUDIO_L_IN	OPTIONAL
13	GND	OPTIONAL
14	SPK_R_OUT	OPTIONAL
15	SPK_L_OUT	OPTIONAL

J8: Inverter/LED Connector (2.0 mm 5 Pin 180°)

Pin	Function	Note
1	12V Input	
2	GND	
3	Brightness Control	Analog Dimming 0-5V)
4	Digital PWM	Digital PWM Dimming
5	ON / OFF Control	ON: high OFF:Low

J5: VGA Connector (2.5 mm13 Pin 90°)

Pin	Function	Note
1	B	
2	CND	
3	G	
4	CND	
5	R	
6	GND	
7	HS	
8	VS	
9	CND	
10	CND	
11	SDA	
12	SCL	
13	CND	

J6: DVI Connector (2.0 mm13 Pin 90°)

Pin	Function	Note
1	TMDS 0+	
2	TMDS 0-	
3	TMDS 1+	
4	TMDS 1-	
5	TMDS 2+	
6	TMDS 2-	
7	TMDS CK+	
8	TMDS CK-	
9	GND	
10	DVIPOWER/HotPlug	hotplug and 5V share same pin
11	NC	
12	DVI_SCL	
13	DVI_SDA	

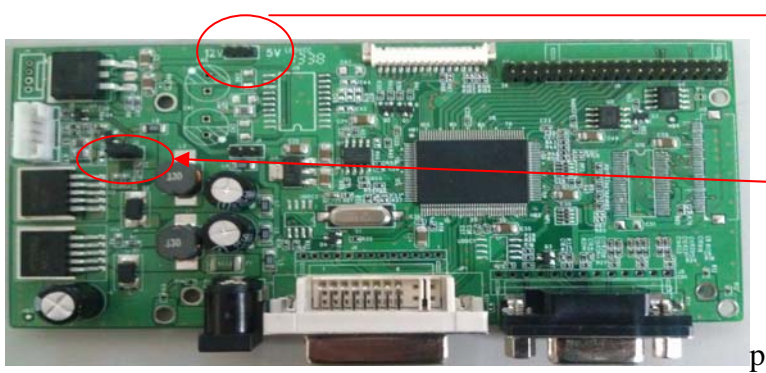
J9 : 2nd Power Connector (2.0 mm 4 Pin 90°) (Option)

Pin	Description	Note
1	12V Input	
2	GND	
3	GND	
4	12V Input	

J7 : Panel Connector / (2x2.0 MM 40 PIN 180)

Pin	Name
1	GPIO 0
2	GPIO 1
3	GPIO 2
4	GPIO 3
5	GPIO 4 (DDC CLOCK)
6	GPIO 5 (DDC DATA)
7	LED VDD (5V or 12V)— set by LEDVCC Jumper
8	GPIO 7
9	VDD (3.3V or 5V) -----set by J2 jumper
10	VDD (3.3V or 5V) -----set by J2 jumper
11	
12	LED PWM
13	GND
14	GND
15	GND
16	GND
17	RXO1N3
18	RXO1N3+
19	RXOCK1N
20	RXOCK1N+
21	RXO1N2
22	RXO1N2+
23	RXO1N1
24	RXO1N1+
25	RXO1N0
26	RXO1N0+

27	GND
28	GND
29	RXE1N3
30	RXE1N3+
31	RXECK1N
32	RXECK1N+
33	RXE1N2
34	RXE1N2+
35	RXE1N1
36	RXE1N1+
37	RXE1N0
38	RXE1N0+
39	GND
40	GND



LED 12V or 5V selection

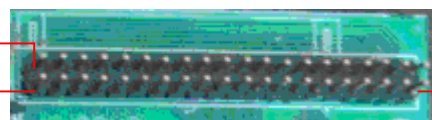
LCD VCC voltage selection

J2 (jumper -all open)-----LCD 5V

J2 (Jumper -2-3 short) -----LCD 3.3V

PIN 40

PIN 39



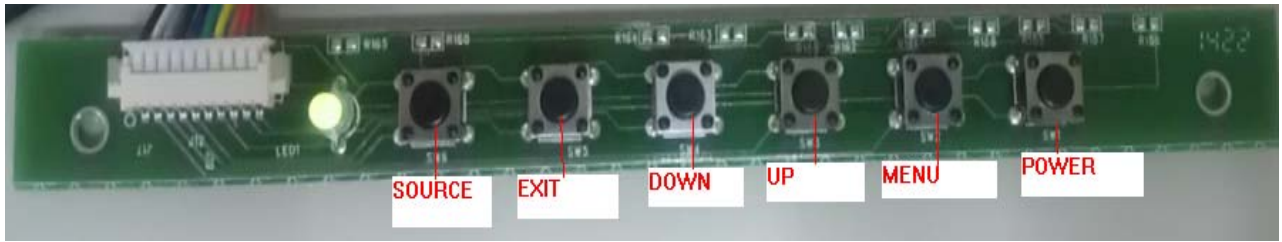
PIN 1 (J7 --40pin)

OPERATION CONDITION

- 1.) Operating Temperature : -20°C ~ +75°C
- 2.) Storage Temperature : -20~85°C
- 3.) Operating Relative Humidity : 90% MAX.R.H.
- 4.) Storage Relative Humidity : 90% MAX.R.H.

ENVIRONMENT

Operating Temperature	-20 TO 75°C
Operating Humidity	90% MAX. R.H.
Storage Temperature	-20 TO 85°C
Storage Humidity	90% MAX. R.H.

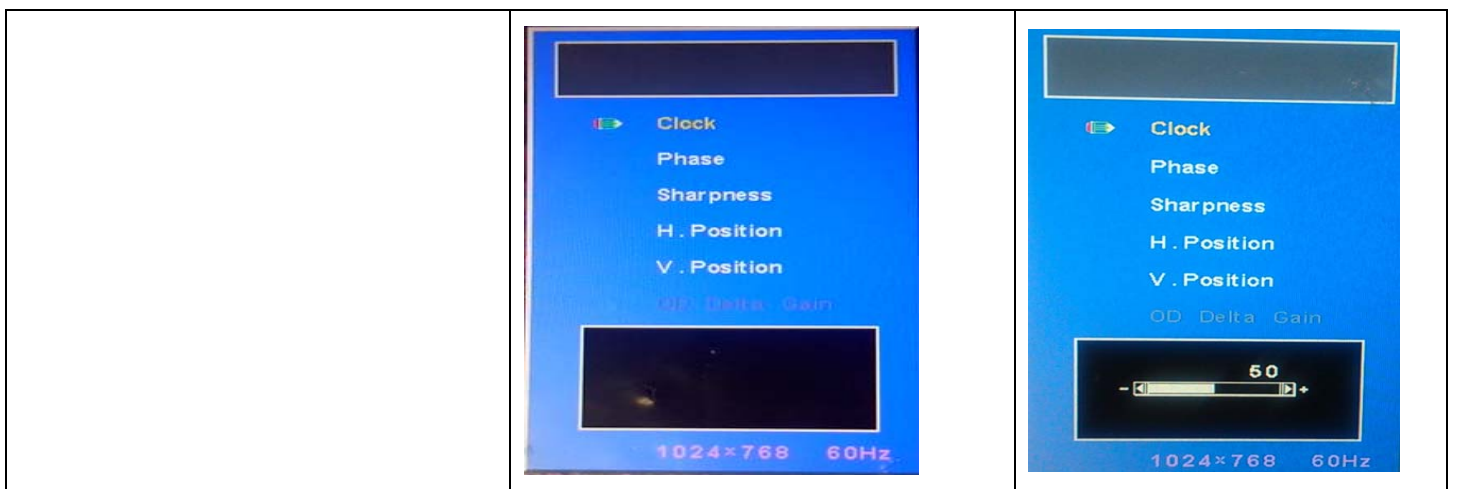


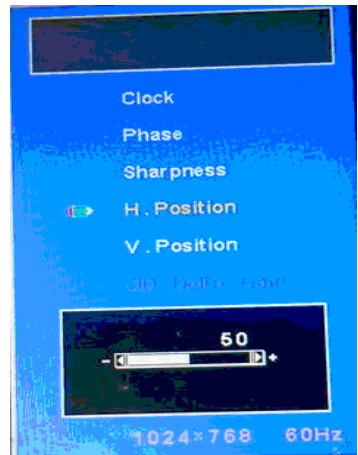
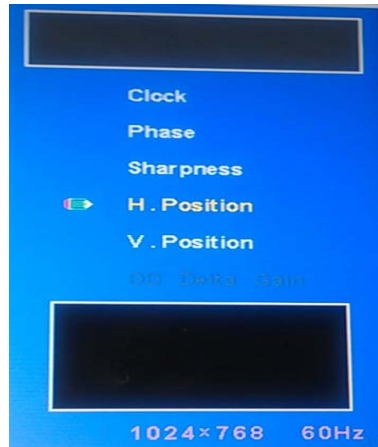
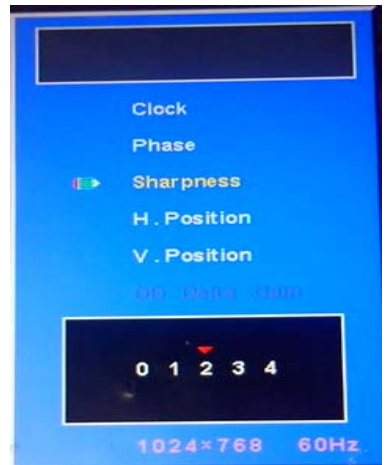
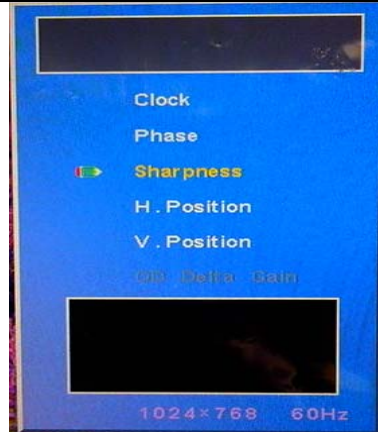
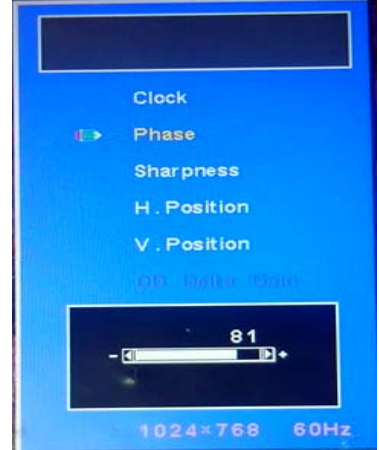
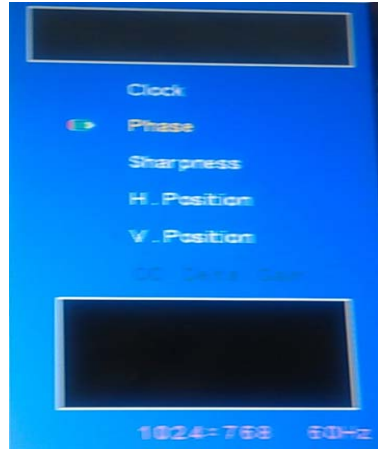
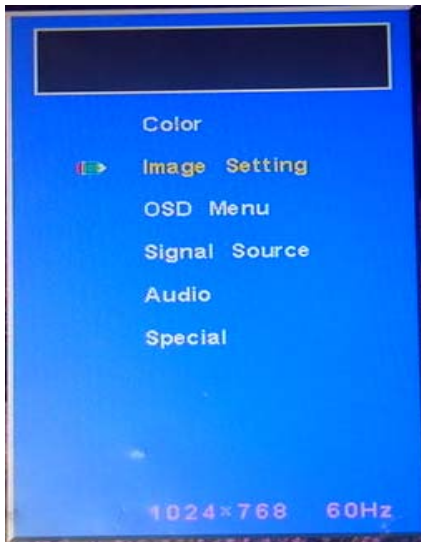
1: Color Menu & Sub Menu

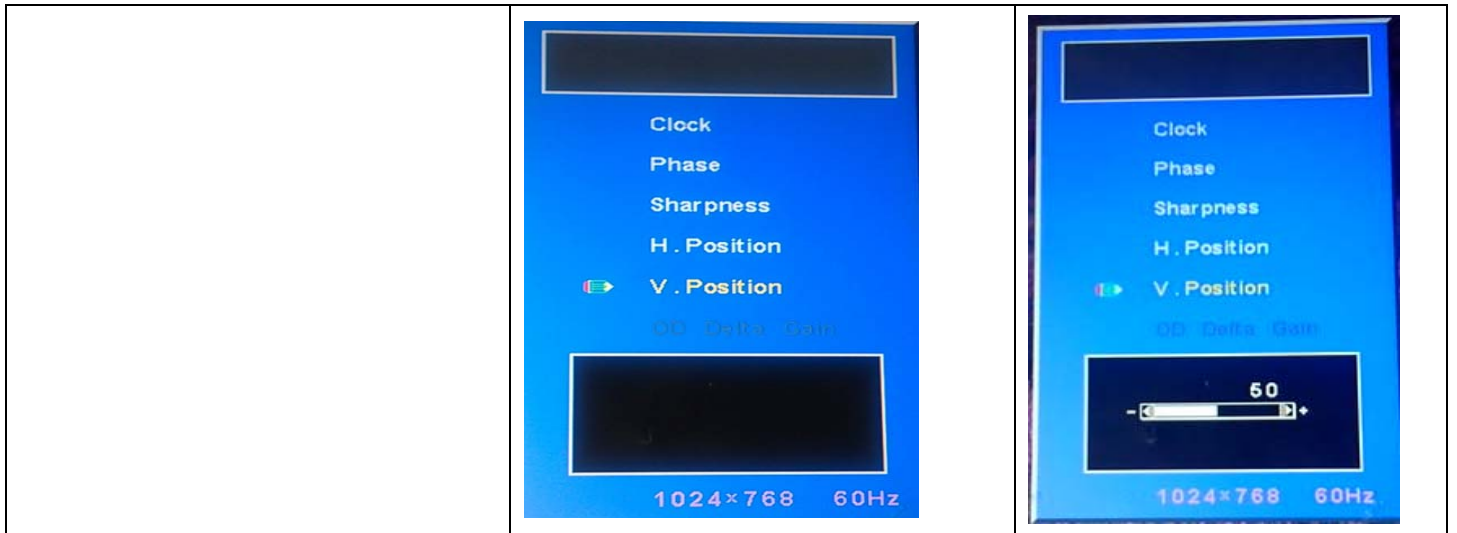
<p>Menu: key: Enter Sub Menu Function Up/down Key: Main Menu Navigation Exit Key: Exit OSD menu</p>	<p>Menu: key: Enter Bar Adjust Up/down key : Sub Menu Navigation Exit Key: Baxk to Main menu</p>	<p>Menu: key: Exit Bar Adjust Up/down Key: Adjust Bar Value Exit Key: Baxk to Sub Menu</p>
		
		



2: Image Setting Menu & Sub Menu

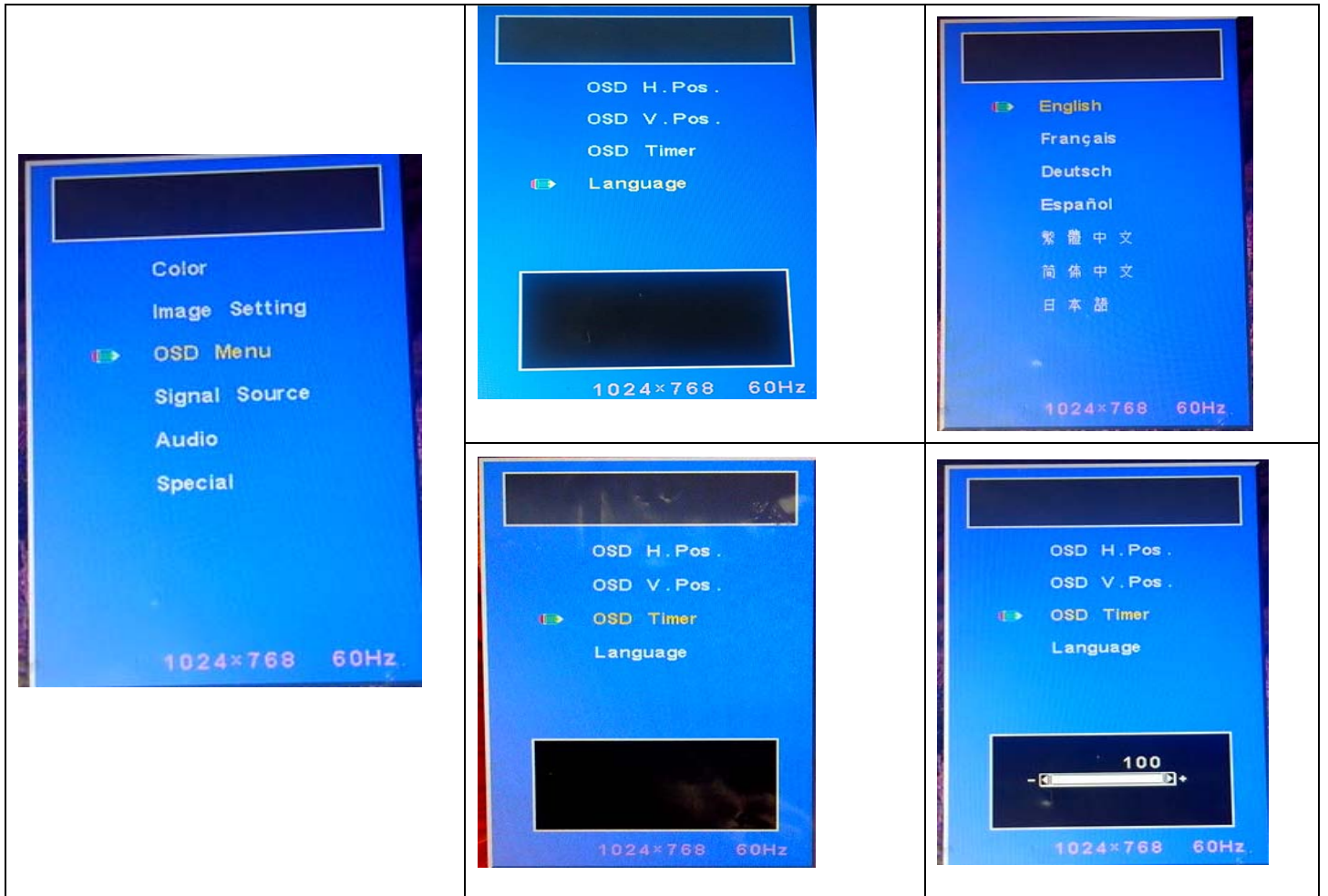




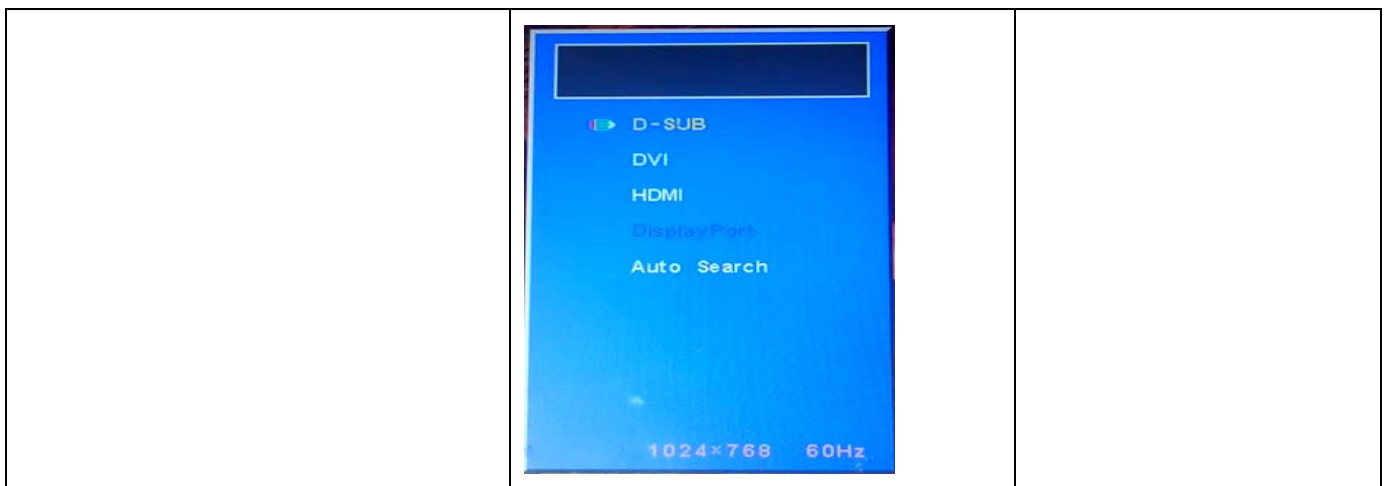


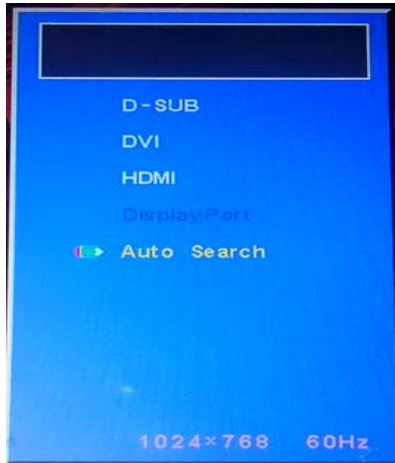
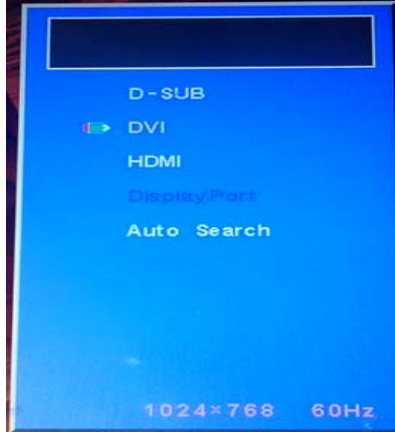
3: OSD Menu & Sub Menu





4: Signal Source Selection Menu & Sub Menu





5: Audio Menu & Sub Menu

