



# SQM-003 MONITER Motherboard Specifications

## SQM-003 显示器 主板规格书

*Thank you for your trust and support!*

感谢您的信任与支持!

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## 1. General Description/概述:

The board of the main control IC is HX6820-A, with high integration, low power consumption and high quality display characteristics. The motherboard supports only one VGA video input, the highest VGA video format can support to UXGA FHD (1920X1080) @75Hz, maximum output can support dual 8 bit 1920X1080 of panel. The board has the advantages of small volume, low price and other characteristics, suitable for the display and advertising and other fields.

本主板的主控 IC 是 HX6820-A, 具有高集成、低功耗和优质显示等特点。本主板仅支持一路 VGA 视频输入, VGA 视频格式最高可以支持到 FHD(1920X1080)@75Hz, 输出最高可以支持双 8 位的 1920X1080 屏。本主板具有体积小, 价格便宜等特点, 适用于显示器和广告机等领域。

## 2. Conditions Of Use/使用条件:

Input Voltage/输入电压: DC12 $\pm$ 3V。

Operating Temperature / 工作温度: -10 $^{\circ}$ C~ 60 $^{\circ}$ C

Storage Temperature / 贮存温度 : -20 $^{\circ}$ C~ 80 $^{\circ}$ C

Operating Humidity / 工作湿度 : 0% ~ 90%RH

Storage Humidity / 贮存湿度 : 0% ~ 95%RH

Operation Altitude/工作海拔 : to 10,000FT.

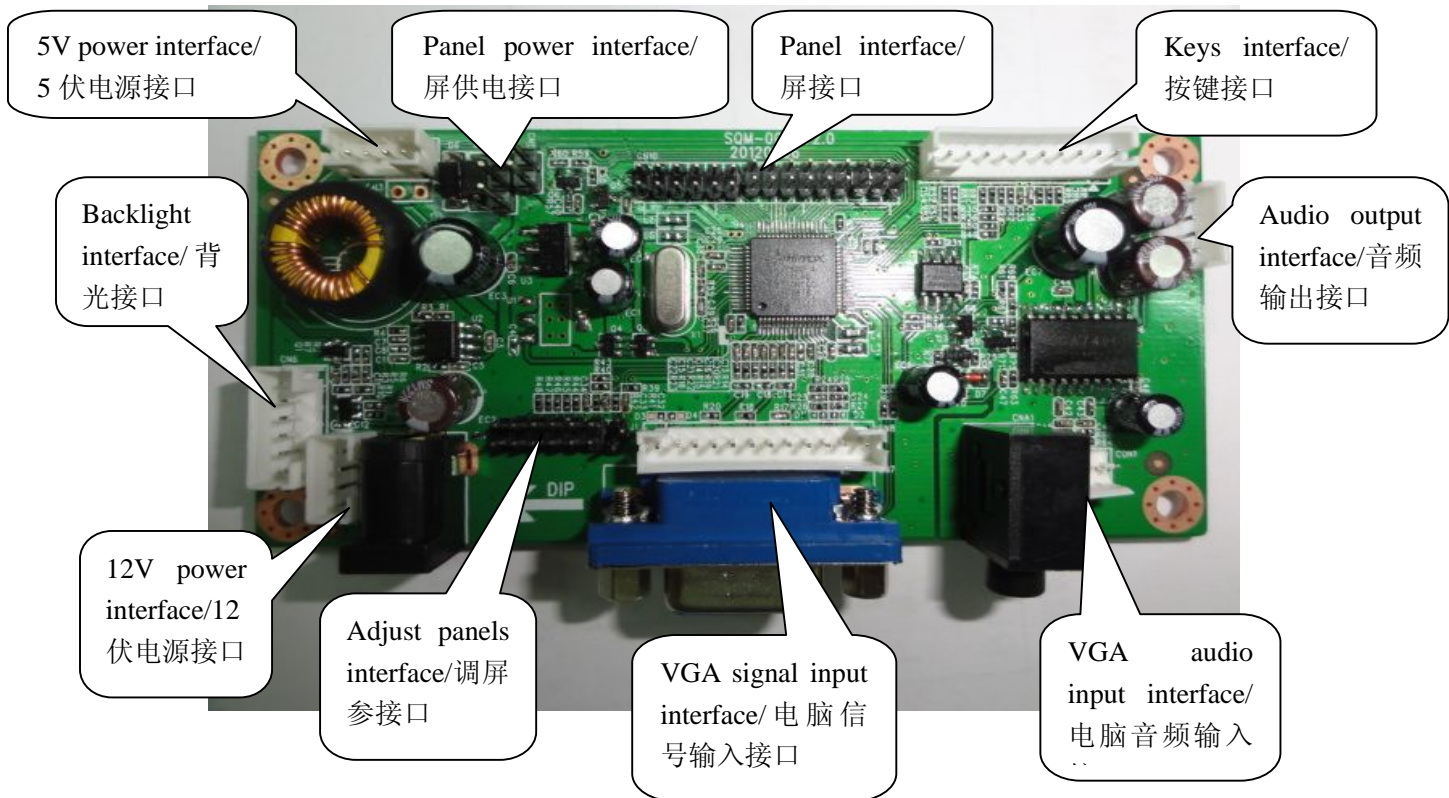
Storage Altitude/贮存海拔 : to 20,000FT.

Cooling Method/冷却方式 : Ventilation cooling/自然冷却

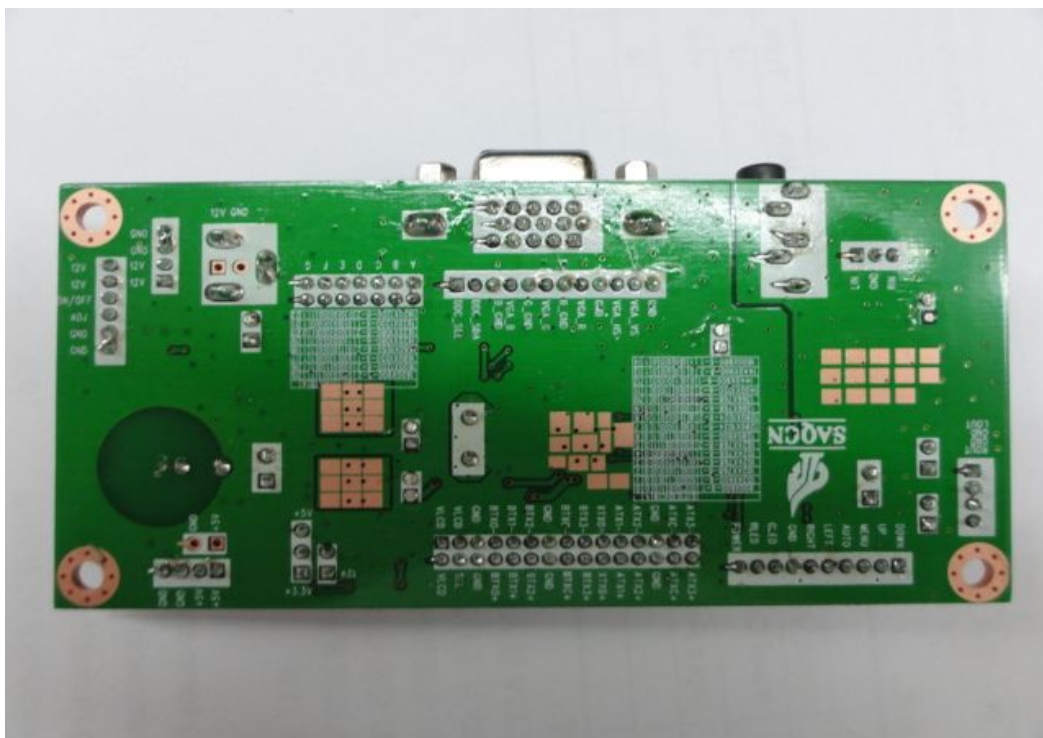
## 3. The Motherboard Structure And Interface Description/主板的

结构和接口说明:

The front view of the motherboard as follows:/主板的正面图如下:



The rear view of the motherboard as follows:/主板的背面图如下:



Each interface definition and function as follows:/ 每个接口的定义和功能如下:

(1) 5V power interface/5 伏电源接口:

NO/序号	Name/名	Functions/功能	Remarks/备注
-------	--------	--------------	------------

1	+5V	5V power input /5 伏电压输入	
2	+5V	5V power input /5 伏电压输入	
3	GND	Ground/地	
4	GND	Ground/地	

(2) Backlight interface/背光接口:			
NO/序号	Name/名	Functions/功能	Remarks/备注
1	GND	Ground/地	
2	GND	Ground/地	
3	ADJ	Backlight brightness adjusting/背光亮 度调节	In the factory menu adjust/ 可在工厂菜 单调节
4	ON/OFF	The backlight on / off control/背光开/ 关控制	
5	12V	12V power output /12 伏电压输出	
6	12V	12V power output /12 伏电压输出	

(3) 12V power interface/12 伏电源接口:			
NO/序号	Name/名	Functions/功能	Remarks/备注
1	+12V	12V power input /12 伏电压输入	
2	+12V	12V power input /12 伏电压输入	
3	GND	Ground/地	
4	GND	Ground/地	

(4) Adjust panels interface/调屏参接口									
NO/序号	A	B	C	D	E	F	G	Explain/说明	备注
0	0	0	0	0	0	0	0	DEFAULT_PANEL	1 : Connect jumper/ 接上跳帽 0: No connect jumper/ 不接跳帽 All is 0, as the default screen parameter, i.e. program at initialization time does not change the screen./ 全是
1	0	0	1	0	0	0	0	800X600-6-1	
2	0	0	0	1	0	0	0	1024X600-6-1	
3	0	0	0	0	1	0	0	1024X768-6-1	
4	0	0	0	0	0	1	0	1024X768-6-2	
5	0	0	0	0	0	0	1	1024X768-8-1	
6	0	1	1	0	0	0	0	1024X768-8-2	
7	0	1	0	1	0	0	0	1280X800-6-1	
8	0	1	0	0	1	0	0	1280X1024-8-1	
9	0	1	0	0	0	1	0	1280X1024-8-2	
10	0	1	0	0	0	0	1	1366X768-6-2	
11	1	0	1	0	0	0	0	1366X768-8-1	
12	1	0	0	1	0	0	0	1400X1050-6-2	
13	1	0	0	0	1	0	0	1440X900-6-1	
14	1	0	0	0	0	1	0	1440X900-8-2	
15	1	0	0	0	0	0	1	1600X900-6-1	

16	1	1	1	0	0	0	0	1600X900-8-2	0 时，为默认屏参，即是说程序在初始化时不改变屏参。
17	1	1	0	1	0	0	0	1600X1200-8-2	
18	1	1	0	0	1	0	0	1680X1050-6-1	
19	1	1	0	0	0	1	0	1680X1050-8-2	
20	1	1	0	0	0	0	1	1920X1080-6-1	
21	0	1	0	0	0	0	0	1920X1080-8-2	
22	1	0	0	0	0	0	0	1920X1200-6-1	
23	1	1	0	0	0	0	0	1920X1200-8-2	

(5) VGA signal input interface/电脑信号输入接口:

NO/序号	Name/名	Functions/功能	Remarks/备注
1	GND	Ground/地	
2	VGA_VS	VGA vertical signal/VGA 场信号	
3	VGA_HS	VGA horizontal signal/VGA 行信号	
4	GND	Ground/地	
5	VGA_R	VGA red signal/VGA 红色信号	
6	R_GND	Ground/地	
7	VGA_G	VGA greenl signal/VGA 绿色信号	
8	G_GND	Ground/地	
9	VGA_B	VGA blue signal/VGA 蓝色信号	
10	B_GND	Ground/地	
11	DDC_SDA	Updating of data line/升级数据线	
12	DDC_SCL	Updating of clock line/升级时钟线	

(6) VGA audio input interface/电脑音频输入:

NO/序号	Name/名	Functions/功能	Remarks/备注
1	LIN	Left audio input /左声道输入	
2	GND	Ground/地	
3	RIN	Right audio input /右声道输入	

(7) Audio output interface/音频输出接口:

NO/序号	Name/名	Functions/功能	Remarks/备注
1	ROUT	Right audio output /右声道输出	
2	GND	Ground/地	
3	GND	Ground/地	
4	LOUT	Left audio output /左声道输出	

(8) Keys interface/按键接口:

NO/序号	Name/名	Functions/功能	Remarks/备注
1	POWER	Turn on/off/开/关机	● The UP and DOWN keys will be not
2	RLED	The LED is red when sleep/睡眠时指示灯变红	

3	GLED	The LED is green when working/正常时指示灯变蓝	connected when use 5keys. ● The RIGHT and LEFT keys only use to adjust value when use 7keys. ●使用5键时,上/下键不接。 ●使用7键时,左/右键仅作调整数值作用。
4	GND	Ground/地	
5	RIGHT	Move up the icon or or right adjusting value /上移或者右调整	
6	LEFT	Move down the icon or left adjusting value /下移或者左调整	
7	AUTO	Automatic adjustment and exit higher menu role /自动调整或者退出上一级菜单	
8	MENU	Enter the menu and determine the role /进入菜单和确定作用	
9	UP	Move up the icon /上移	
10	DOWN	Move down the icon /下移	

(9) Panel interface/屏接口:			
NO/序号	Name/名	Functions/功能	Remarks/备注
1	VLCD	Panel power/屏供电	
2			
3			
4	GND	Ground/地	
5			
6			
7	BTX0+	Data0+/数据0正	
8	BTX0-	Data0-/数据0负	
9	BTX1+	Data1+/数据1正	
10	BTX1-	Data1-/数据1负	
11	BTX2+	Data2+/数据2正	
12	BTX2-	Data2-/数据2负	
13	GND	Ground/地	
14			
15	BTXC+	Clock+/时钟正	
16	BTXC-	Clock-/时钟负	
17	BTX3+	Data3+/数据3正	
18	BTX3-	Data3-/数据3负	
19	ATX0+	Data0+/数据0正	
20	ATX0-	Data0-/数据0负	
21	ATX1+	Data1+/数据1正	
22	ATX1-	Data1-/数据1负	
23	ATX2+	Data2+/数据2正	
24	ATX2-	Data2-/数据2负	
25	GND	Ground/地	
26			

27	ATXC+	Clock+/时钟正	
28	ATXC-	Clock-/时钟负	
29	ATX3+	Data3+/数据 3 正	
30	ATX3-	Data3-/数据 3 负	

(10) Panel power interface/屏供电接口:			
NO/序号	Name/名	Functions/功能	Remarks/备注
1	+3.3V	3.3V power output for panel /3.3 伏屏供电	The voltage is decided by panel. /电压由屏确定。
2	+5V	5V power output for panel /5 伏屏供电	
3	+12V	12V power output for panel /12 伏屏供电	

#### 4. Key Functions/按键功能说明:

- **Key Definition/按键的定义:**

POWER/电源 面 MENU/菜单 LEFT/左 RIGHT/右 AUTO/自动

- **Key Functions/按键功能说明:**

POWER/电源: Turn On/Off/开/关机。

MENU/菜单: Enter the menu and determine the role/进入菜单和确定作用。

AUTO/自动: Automatic adjustment and exit higher menu role/自动调整和退出上级菜单作用。

If use the 5 keys keyboard:/如果使用的是 5 键的按键板:

LEFT/左: Move down the icon or left adjusting value/向下移动图标或者向左调节数值。

RIGHT/右: Move up the icon or or right adjusting value /向上移动图标或者向右调节数值。

If use the 7 keys keyboard:/如果使用 7 键的按键板:

LEFT/左: Left adjusting value/向左调节数值。

RIGHT/右: Right adjusting value /向右调节数值。

UP/上: Move up the icon./向上移动图标。

DOWN/下: Move down the icon./向下移动图标。

#### 5. Menu And Function Description/菜单及其功能说明:

- **Menu Description/菜单简述:**

The name of current item is in the up of the menu title; the information of the current VGA video format is in the under of the menu title.

When a menu icon is not selected as black, when selected as grey; rightmost option and schedule playing is not selected as deep blue, was selected as the red.

菜单的上标题为当前项目名; 下标题为当前 VGA 视频的格式。

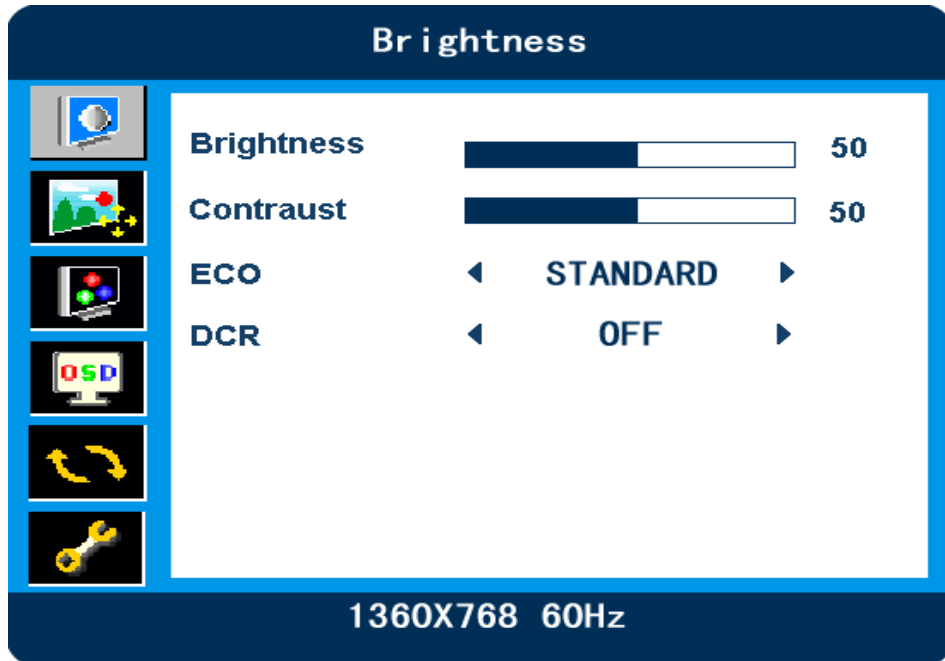
当菜单图标没被选中时是黑色, 选中时是灰色; 右边的选项和进度打条没被选中时是深蓝色, 被选中时是红色。



- **Detailed Description Of The Function/功能的详细说明:**

- (1) **The Page Of Brightness/亮度对比度页:**

Photograph As/图片如下:



Brightness: Adjust the brightness of the image from 0 to 100, the default is 50.

亮度: 0~100 调节图像的亮度, 默认为 50。

Contrast: Adjust the contrast of the image from 0 to 100, the default is 50.

对比度: 0~100 调节图像的对比度, 默认为 50。

ECO Mode: There are four kinds of mode: standard, games, movies, text.  
The default is 50. The parameters of the standard see schedule 1.

情景模式：有标准、游戏、电影、文本四种模式，默认为 50。它们的参数标准请见附表 1。

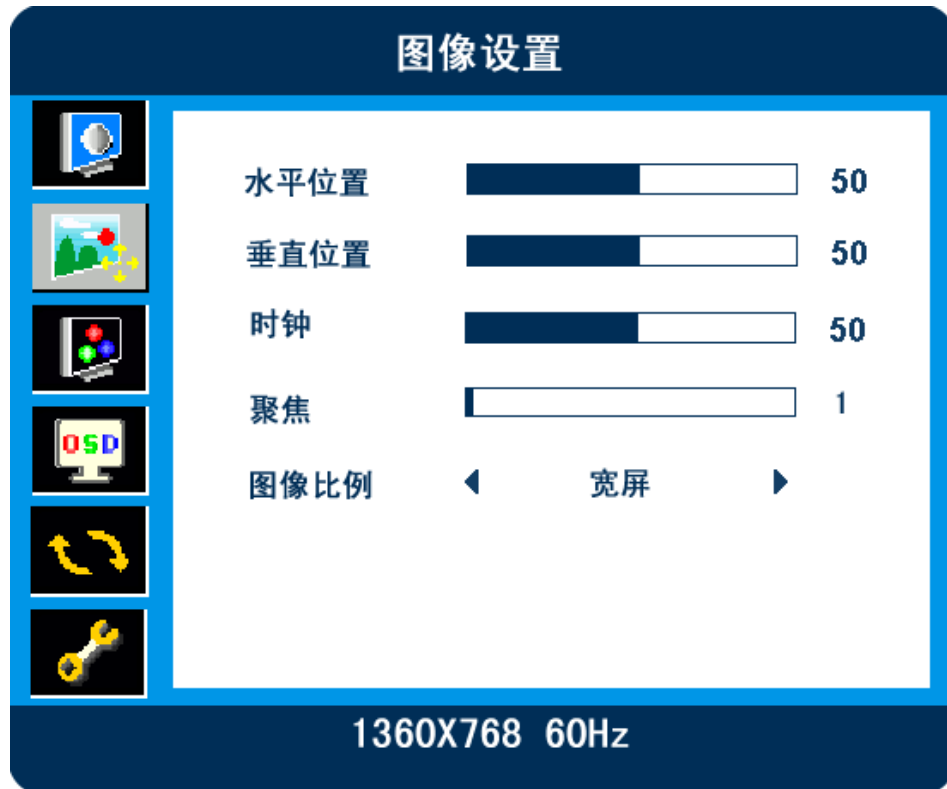
DCR: it can be adjusted with off/on, the default is off. The brightness and contrast can be adjusted, when DCR is off; the brightness and contrast will be locked, when DCR is on;

动态对比度：禁用/启用调节，默认为禁用。禁用时，亮度/对比度可调；启用时，亮度/对比度将会锁死。

(2) The Page Of The Image/图像设置页：

Photograph As/图片如下：





H.position: adjust the image of horizontal position, the default is 50.

水平位置：调节图像的水平位置，默认为 50。

V.position: adjust the image of vertical position, the default is 50.

垂直位置：调节图像的垂直位置，默认为 50。

Clock: adjust image stretching / shrinking, the default is 50.

时钟：调节图像的拉伸/缩小，默认为 50。

Phase:

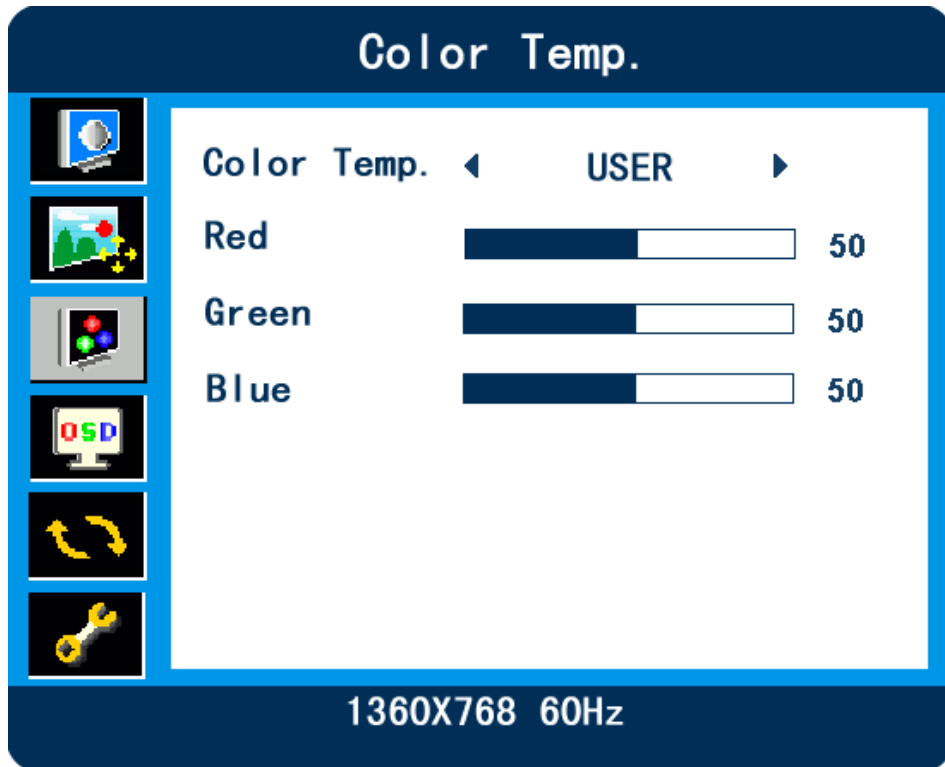
聚焦：

Aspect: there are three modes: wide (16:9), 4:3, auto. In the auto mode, it can distinguish the resolution automatically. It will display as 4:3 ratio, when it distinguish the resolution is 4:3 resolution automatically and fill it with black content in the side of panel. It will display as 16:9 ratio, when it distinguish the resolution is 16:9 resolution automatically.

图像比例：有宽屏（16：9）、4：3、自动三种模式。在自动的模式下，能够自动识别分辨率，为 4：3 的分辨率下就自动以 4：3 的比例显示，左右两边黑色画面处理，为 16：9 的分辨率下就自动以 16：9 比例显示。

### (3) The page of Color temperature/色温页：

Photograph As/图片如下：

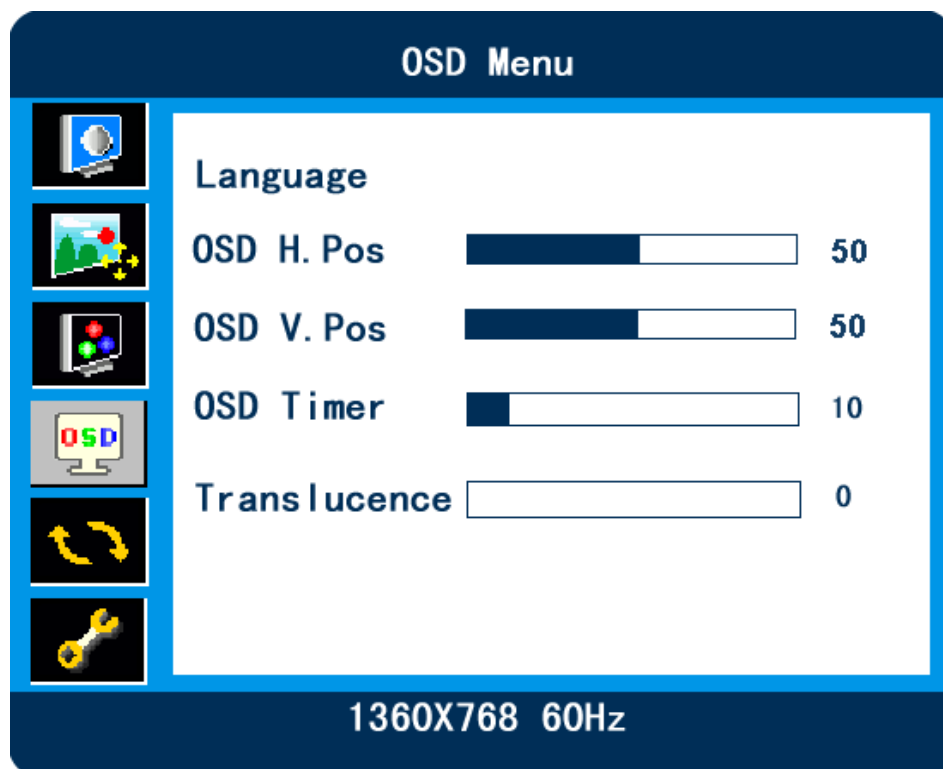


Color temp.: there are three kinds of mode: user, warm, cool, the default is user. In user mode, the items of red, green, blue can be adjust from 0 to 100; In warm and cool mode, the items of red, green, blue will be locked.

色温：有用户设定、暖色温、冷色温三种模式，默认为用户设定。用户设定时，红色、绿色、蓝色 0~100 可调；暖色温和冷色温时，红色、绿色、蓝色将会锁死。

(4) The page of OSD menu/OSD 设置页:

Photograph As/图片如下:





Language: there are five options: English, French, Deutsch, Russian, Japanese, Korean, simplified Chinese, traditional Chinese and default the simplified Chinese.

语言选择: 有英文、法文、德文、俄文、日文、韩文、简体中文、繁体中文 8 种选择,同时默认为简体中文。

OSD H.Pos: adjust the horizontal position of menu that shows on the

screen, the default is 50.

水平位置: 调节菜单在屏幕上的显示水平位置, 默认为 50。

OSD V.Pos: adjust the vertical position of menu that shows on the screen, the default is 50.

垂直位置: 调节菜单在屏幕上的显示垂直位置, 默认为 50。

OSD Timer: set the time of display menu, the default is 10S.

时间设定: 设定菜单显示的时间, 默认为 10 秒。

Translucence: set menu Translucence, default is 0 as opaque.

透明度: 设定菜单的透明度, 默认为 0 即不透明。

**(5) The page of reset/重置页:**

Photograph As/图片如下:





Auto Adjust: do automatic adjustment for the image of color and position.

图像自动调整：对图像的颜色和位置等做自动调整。

Color adjust: do the automatic adjustment only for the image color.

色彩自动调整：仅对图像的颜色做自动调整。

Reset: all the options parameter reset to default on the menu.

重置：对整个菜单的所有选项的参数复位到默认值。

**(6) The page of Other/其他页：**

- NO audio, Photograph As/不带功放时，图片如下：





Hotkey type: there are two modes: BRI+CON and ASP+ECO, the default is BRI+CON. The details see schedule 2.

热键选择: 有亮度+对比度、图像比例+情景模式二种方式, 默认为亮度+对比度。详情请见附表 2。

- With audio, Photograph As/带功放时, 图片如下:



Hotkey type: there are three modes: BRI+CON, Volume and ASP+ECO, the default is BRI+CON. The details see schedule 3.

热键选择: 有亮度+对比度、音量、图像比例+情景模式三种模式, 默认为亮度+对比度。详情请见附表 3。

Mute: there are two choices off and on, default is off. In off mode the speaker will output the sound; when on, the speaker did not

sound.

静音：有禁用和启用两种选择，默认为禁用。禁用时，喇叭放出声音；启用时，喇叭没声音。

Volume: adjust the volume from 0 to 100, default is 30.

音量：0~100 调节输出声音的大小，默认为 30。

## 6. Appendix/附录:

Schedule/附表 1:

ECO/情景模式:	Brightness/亮度:	Contrast 对比度:
Standard/标准	50	50
Games/游戏	60	70
Movies/电影	80	80
Text/文本	20	60

Schedule/附表 2:

Hotkey type/热键选择:	DOWN/下键	UP/上键
BRI+CON/亮度+对比度	Brightness of shortcut keys/亮度快捷键	Contrast of shortcut keys/对比度快捷键
ASP+ECO/图像比例+情景模式	Aspect of shortcut keys/图像比例快捷键	ECO of shortcut keys/情景模式快捷键

Schedule/附表 3:

Hotkey type/热键选择:	DOWN/下键	UP/上键
BRI+CON/亮度+对比度	Brightness of shortcut keys/亮度快捷键	Contrast of shortcut keys/对比度快捷键
Volume/音量	Volume+/音量+	Volume-/音量-
ASP+ECO/图像比例+情景模式	Aspect of shortcut keys/图像比例快捷键	ECO of shortcut keys/情景模式快捷键