TFT-LCD MONITOR

USER′S MANUAL

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Radio frequency interfere statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions,may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off. The user is encouraged to try to correct the interference by the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into another outlet of circuit that different from the one which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Warning: any change or amendment without authorized will possible cause the failure of this display.

Attention: only shielded cable can apply for this equipment!

Caution items for safety

Attention:

1. Read the introduction carefully before operation
2. Keep it safe so as to be reference in the future.
3. When clean the display, power supply should be cut off, do not use cleansing medicament or spray cleanser, if necessary, clean with a wet soft cloth or LCD screen cleanser.
4. Do not use any fittings from any manufacturer without authorized, to avoid possible hazard.
5. When pulling out the power supply wire, bring up plug and do not pull power supply wire.
6. Do not place any article on the power supply wire and keep the wire far away from the place where goers appear
7. Avoid to set display near watery place, such as bathtub, basin, kitchen pool , washing machine, do not place display under the wet ground , swimming-pool and etc, do not hit the LCD screen by finger or other stiff article.
8. The poles on the shell is in the purpose of draught, to avoid the overheat of display, do not block or cover these poles, do not set display on bed, sofa, blanket or other soft substance to prevent failure of dispersing heat, display should keep far away from heater, burner, fireplace or other heat source.
9. Make sure the distance being 5cm at least from display to the wall or other article.
10. Only the power which compywith that indicated on the board can apply applied for this monitor, contact local supplier if any question about the power supply.
11. In view of safety, should apply for trinomial connector plugs, the third end should connect with ground.
12. Make sure the power line and the power supply socket can bear the summation electric current of all the electronic products.
13. Do not put display on un- balanced table or desk, avoiding display destroyed caused by falling down.
14. Operate the monitor comply with all the caution items and introduction in the manual.
15. Do not make over heavy on the power supply socket , and do not extend the power wire , to avoid causing fire or hitting by electricity.
16. Prevent to hit by electricity, do not open the cover, if necessary, please contact the professional or technical persons.
17. Cut off power supply and contact technical persons, in case come up following accidents.

a. Power line and power supply socket damaged
b. Display fall down and out case broken
c. Display working out of order obviously, indicate need to repair
18. Power supply should be cut off when long time no use.
19. Display should set in a place that with enough draught, avoid to expose directly in the sunshine, high temperature and wet environment
20. Beyond the temperature of -20℃~55℃ to store display, will cause permanent Damage.

1、Products introduction

1.1 Brief

This monitor belong to high capacity and Multi-frequency scan display , apply for 15 inch/17inch/19inch active matrix TFT display screen, MCU digital control, free from radiation and glaring. Thin and exquisite design.

1.2 LCD monitor specification

Details as per P12-13

- Auto color balance adjustment. When change to different display card of PC, can use this function to auto adjust color
- Comply with EPA ENERGY SAVING STAR standard
- Plug & play , compatible with WINDOWS9X&2000&XP and VESA DDC1/2B

1.3 Package

Before installation, check the package and make sure whether have include all the following items:

LCD monitor (with pedestal), power adapter(choose), VGA signal cable, DVI cable(select), power line, audio line(select) , manual.

2. Installation

Before installing, please take the following suggestion:

- Setting location
  Choose a place where has less sunshine and less light reflecting, keep a Reasonable distance between the monitor with window.

- Height
  The best position is : when you sit on a comfortable condition , the top of monitor Should slightly lower than the eyesight point-black.

- Obliquity
  Screen with some gradient will make user feel more comfortable.

2.1 Signal cable conneecting
Connect one end of the signal cable to the VGA or DVI faucet, fasten with screw , ensure proper connect to ground; the other end plug into the monitor signal faucet, also fasten by screw.

2.2 Power line connecting
Connect the power line to the adapter , another end to the power supply socket, and then connect the adapter to monitor.

2.3 Audio wire connecting
Connect one end of the video signal cable to the computer video connector on the video card, another end plug into monitor input socket.

2.4 Turn on monitor
Turn on the power supply switch, the indicator light looks green (or blue) when the monitor work normally, if the indicator light looks red , check whether the video cable have been connected rightly.

2,5 Auto-exam function
When without H-signal and V-signal, monitor will pro mpt to input exam-video, as following picture, after some seconds monitor will go into electricity saving mode, indicator light looks red, upon receipting the video signal, monitor will resume to the normal picture.

2.6 Picture adjusting
Can adjust the picture according with customer's request, details as per chapter 3 about "monitor operation"

3、Monitor operation

3.1 Power on-off switch
This key is digital control, working by slightly touch, used for turn on or turn off the display power supply.

3.2 Indicator light
When monitor is working normally , the indicator light looks green (or blue), when the monitor is under electricity saving, the indicator light looks red or extinct, when power off, the indicator light will extinct, but the adapter still under the power-on condition, in view of safety, should cut off the adapter power supply.

3.3 Function keys

3.3.1 AUTO/SELECT key
When with only VGA mode: without OSD menu, this key is used to auto-adjust, to adjust the geometrical setting to best condition. Under OSD menu, this key is use as confirmation. Under VGA+DVI mode, this key is used to switch the signal between VGA and DVI.

3.3.2 Funtion key
Under OSD menu, these two keys are used for scan and select menu from left or right, meanwhile adjust the volume. When under without menu condition, if the monitor either without audio signal , these two keys are used for adjusting brightness and contrast ratio; if the monitor with audio signal function, these two keys only used for adjusting volume.

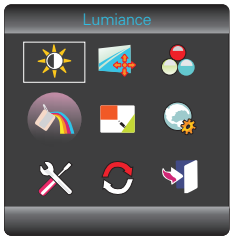
3.3.3 MENU key
Menu key , used for enter into menu and exit from menu.

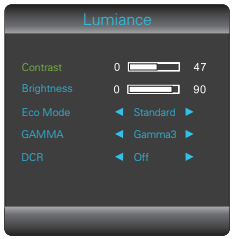
3.4 OSD menu

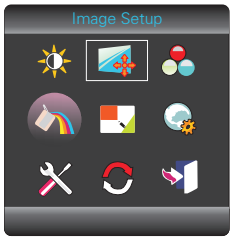
3.4.1 main menu
Item: 1.Lumiance; 2.Image Setup; 3.Color Temp; 4.Color Boost; 5.Picture Boost; 6.OSD Setup; 7.Extra; 8.Reset；9.Exit；

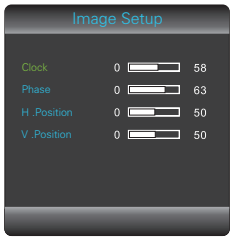
3.4.2.submenu

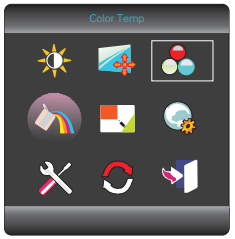
Item: 1.Contrast; 2.Brightness; 3.Eco Mode; 4.GAMMA; 5.DCR; 6.Clock; 7.Phase; 8.H .Position; 9. V .Position; 10.Color Temp; 11.Red; 12.Green; 13.Blue; 14.Full Enhance; 15.Nature Skin; 16.Green Field; 17.Sky-blue; 18.Auto Detect; 19.Demo; 20.Frame size; 21.Brightness; 22.Contrast; 23.H .Posi -tion; 24.V .Position; 25.Bright Frame; 26.H .Position; 27.V .Position; 28.Time out; 29.Transparence; 30.Language; 31.Input select; 32.Anto-config; 33.Image Ratio; 34.Information; 35.Rest; 36.Exit

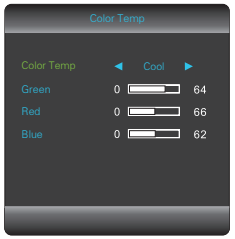


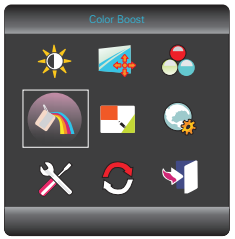


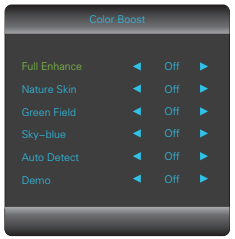


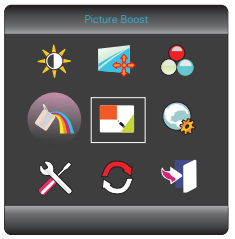


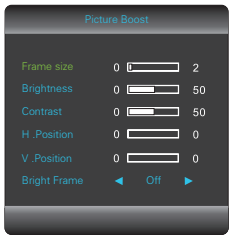


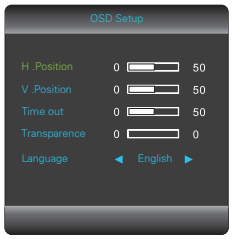




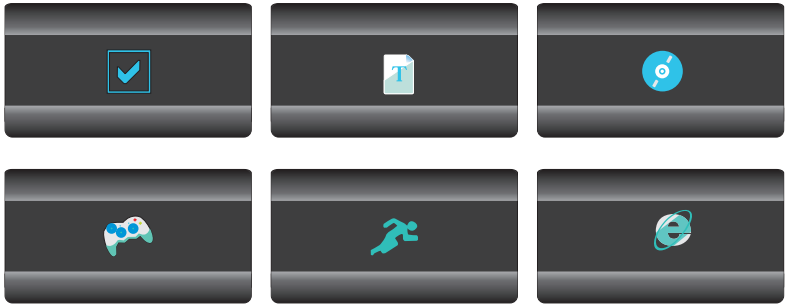






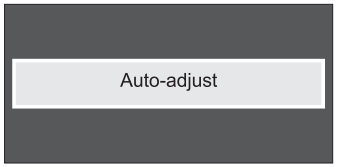


Mode of display



Turn on or turn off DCR

20. Language submenu, offering 6 languages, by turn is : English, Chinese, French,Pyccknw, Portuguese , Spanish.



Menu	Submenu	Function
Lumiance	Contrast	Adjust screen display contrast ratio
	Brightness	Adjust screen display brightness
	Eco Mode	movie/sport/standard/power saving
	GAMMA	GAMMA 1.2.3 choose
	DCR	on/off DCR
Image Setup	Clock	adjust picture clock
	Phase	adjust picture definition
	H .Position	adjust picture horizontal size
	V .Position	adjust vertical size
Color Temp	Color Temp	cold/SPGB/warm/custom
	Red	user custom
	Green	user custom
	Blue	user custom
Color Boost	Full Enhance	on/off full color boost up
	Nature Skin	on/off natural Skin
	Green Field	on/off Green Field
	Sky-blue	on/off Sky-blue
	Auto Detect	on/off Auto Detect
	Demo	on/off Demo

Picture Boost	Frame size	available to adjust when picture boost
	Brightness	available to adjust when picture boost
	Contrast	available to adjust when picture boost
	H .Position	available to adjust when picture boost
	V .Position	available to adjust when picture boost
	Bright Frame	on/off picture boost
OSD Setup	H .Position	adjust H .Position
	V .Position	adjust V .Position
	Time out	adjust Time out
	Transparence	adjust Transparence
	Language	choose language
Extra	Input select	choose signal
	Anto-config	auto adjust geometry picture to the best
	Image Ratio	transfer aspect ratio between 16:10 and 4:3
	Information	display resolution, H-frequency, V-frequency
Reset	Reset	reset to factory original setting
Exit	Exit	exit menu

3.5 Safeguard

When the pc video signal output beyond the monitor frequency scope, the H -sync and V-sync will be cut off by the microcomputer, to protect the monitor (as the following picture). After some seconds monitor will go into electricity saving condition, indicator light looks red, you have to adjust the pc output frequency within the scope of monitor, only by that monitor can resume to work normally.

3.6 Display mode

Number	Mode	Resolution	V-frequency	Pixel frequency	H-frequency
1	VGA	640X480	60Hz	25.175MHz	31.5KHz
2			72Hz	31.5MHz	37.9KHz
3			75Hz	31.5MHz	37.5KHz
4	SVGA	800X600	60Hz	40MHz	37.9KHz
5			72Hz	50MHz	48.1KHz
6			75Hz	49.5MHz	46.9KHz
7	XGA	1024X768	60Hz	65MHz	48.4KHz
8			70Hz	75MHz	56.5KHz
9			75Hz	78.75MHz	60KHz
10	SXGA	1280X1024	60Hz	108MHz	64KHz
11			75Hz	135MHz	80KHz
12	WXGA+(16:9)	1440X900	60Hz	135MHz	55.469KHz
13	WXGA+(16:10)	1440X900	60Hz	135MHz	55.469KHz
14	WXGA+	1680X1050	60Hz	138MHz	64.7KHz

Attention: 15 inch lcd monitor apply for 1-9 item, recommend resolution: 1024X768@60Hz
17 and 19 inch lcd monitor apply for 1-11 item, recommend resolution : 1280X1024@60Hz
19” (16:9) Wide LCD monitor apply for 12 item, recommend resolution:1360*768@60Hz
19” (16:10) Wide LCD monitor apply for 13 item, recommend resolution:1440*900@60Hz
22” LCD monitor apply for 14 item, recommend resolution:1680*1050@60Hz

3. 7 Available upon plug

This monitor come with VESA DDC function, when apply for the view card with VESA DDC1/2 function, the monitor will auto-scan the frequency , output consumption, capacity and etc data to pc when turn on computer, it will figure out the monitor connecting style and seclect the best resolution.

3.8 Power management

This monitor comply with EPA Energy Star standard, compatible VESA DPMS standard ,saving electricity states as follows:

Mode	indicator light	Consumption
Working on	green (or blue)	less 35w/40w
Saving electricity	red or extinct	less 5w
Off	Extinct	less 3w

3.9 Adjust the volume

Volume can be adjusted by the OSD menu and by control the computer volume

4、Product specification

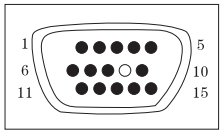
	15″	17″	19″
Display style	Active matrix TFT		
Surface	Anti-graring		
Viewing area(HXV)	304.128X228.096mm	337.920X270.336mm	376.320X301.056mm
Viewing angle			
Horizontal	-60°/-55°	-70°/-65°	-75°/-70°
Vertical	-60°/-55°	-70°/-65°	-75°/-70°
Max brightness	300cd/m²	400cd/m²	300cd/m²
Max contrast ratio	450:1	500:1	800:1
DCR		5000:1	8000:1
Response time	12ms	8ms/4ms/2ms	8ms/5ms/2ms
Standard resolution	1024X768@75Hz	1280x1024@75Hz	1280x1024@75Hz
Input resistance	75±3% Ω 0.7±5%Vp-p	75±3% Ω 0.7±5%Vp-p	75±3% Ω 0.7±5%Vp-p
Horizontal frequency	30-60KHz	30-80KHz	30-80KHz
Vertical frequency	60-75Hz	56-75Hz	55-75Hz
Adapter input	100-240AC 60/50Hz	100-240AC 60/50Hz	100-240AC 60/50Hz
Adapter output	12VDC 3A	12VDC 4A	12VDC 4A
Voltage and consumption	12VDC 35W	12VDC 38W	12VDC 40W
Signal cable	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D
Speaker	Can choose	Can choose	Can choose
Power management	Yes	Yes	Yes
Comply with EPA Energy Star standard	Yes	Yes	Yes
Comply with CE	Yes	Yes	Yes
Available upon plug	Yes	Yes	Yes
Centigrade	5℃-40℃		
Humidity	10%-85%(without dew)		
Store environment	-20℃ -55℃		

Attention: Because of a policy of continuous product improvement, the specification are subject to change without notice

	15″(W)	15″.6(W)	17″(W)	19″16:9 (W)	19″16:10(W)	22″16:10(W)	22″16:9 (W)
Display style	Active matrix TFT						
Surface	Anti-graring						
Viewing area(HXV)	331.2mmX207.0mm	344mm×193.536mm	365.3mm×230.5mm	409.8mm×230.4mm	410.4mm×265.5mm	473.76mm×296.1mm	477.5mm×268.6mm
Viewing angle	−65/+60	−65° /+60°	−75° /+70°	−85°/+80°	−85°/+80°	−85°/+80°	−85°/+80°
Horizontal	−65 /+60	−65° /+60°	−75° /+70°	−85°/+80°	−85°/+80°	−85°/+80°	−85°/+80°
Vertical	−65°/+60°	−65° /+60°	−75° /+70°	−85°/+80°	−85°/+80°	−85°/+80°	−85°/+80°
Max brightness	300cd/㎡	300cd/㎡	300cd/㎡	300cd/㎡	300cd/㎡	450cd/㎡	450cd/㎡
Max contrast ratio	500:1	500:1	500:1	800:1	800:1	1000:1	1000:1
DCR			5000:1	8000:1	8000:1	10000:1	10000:1
Response time	12ms	8ms	4ms	5ms	5ms	5ms	5ms
Standared resolution	1280X800@60Hz	1360×768@60Hz	1440×900@60Hz	1360×768@60Hz	1440×900@60Hz	1680X1050@60Hz	1920×1050@60Hz
Input resistance	75+3% Ω 0.7+5%Vp-p	75+3% Ω 0.7+5%Vp-p	75+3% Ω 0.7+5%Vp-p	75+3% Ω 0.7+5%Vp-p	75+3% Ω 0.7+5%Vp-p	75+3% Ω 0.7+5%Vp-p	75+3% Ω 0.7+5%Vp-p
Horizontal frequency	30-60KHz	30-60KHz	30-80KHz	30-80KHz	30-80KHz	30-80KHz	30-80KHz
Vertical frequency	60--75Hz	60--75Hz	56-75Hz	60--75Hz	56-75Hz	60--75Hz	60--75Hz
Adapter input	100V-240VAC 60/50HZ	100V-240VAC 60/50HZ	100V-240VAC 60/50HZ	100V-240VAC 60/50HZ	100V-240VAC 60/50HZ	100V-240VAC 60/50HZ	100V-240VAC 60/50HZ
Adapter output	12VDC 3A	12VDC 3A	12VCD 4A	12VCD 4A	12VCD 4A	12VDC 5A	12VDC 5A
Voltage and consumption	12VDC 35W	12VDC 35W	12VCD 38W	12VDC 45W	12VCD 40W	12VDC 45W	12VDC 45W
signal cable	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D	15PinD-Sub/DVI-D
speaker	Can choose	Can choose	Can choose	Can choose	Can choose	Can choose	Can choose
TV	Can choose	No	Can choose	Can choose	Can choose	Can choose	Can choose
Build-in power	No	Can choose	Can choose	Can choose	Can choose	Can choose	Can choose
DVI	Can choose	Can choose	Can choose	Can choose	Can choose	Can choose	Can choose
comply with EPA energy star standard	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Plug and play	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Temperature	5℃−40℃						
Humidity	10%-85%(without dew)						
Store environment	−20℃ -55℃						

Attention: Because of a policy of continuous product improvement, the specification are subject to change without notice

- Pin assignment



Pin No	Assignment	Pin No	Assignment
1	Red	9	DDC POWER
2	Green	10	Ground
3	Blue	11	Ground
4	Ground	12	SDA (FOR DDC)
5	TESTCONT	13	H. Sync
6	Red video ground	14	V. Sync
7	Green video ground	15	SCL (FOR DDC)
8	Blue video ground		

- Panel exam

The effective pixel of LCD monitor is high up to 99.99% and more, however there still have 0.01% or less of the pixel and brightness will possible missing.

Normal fault and elimination

If the monitor can not work normally , try first the following method before contacting the authorized centre , if necessary , please contact the supplier.

A. Without picture / LED extinct
Check power line and monitor have connected rightly or not, whether the monitor is under power off condition.

B. Without picture / LED looks red
Check whether the view card of pc and signal cable have connected rightly.

C. Picture is too blurry , too big or to small
If without OSD menu , press AUTO key or enter into OSD picture menu, make the monitor auto-adjust the picture geometrical setting to the best condition

D. Picture is too bright or too dark
Press “+/-” or “▷/◁”key to adjust the brightness and contrast ratio

E. Monitor over heat
Do not put any article on monitor, there should keep around 5cm free space for the monitor to disperse heat

F. Too dark or facula while turning on monitor.
That is normal phenomena, it is because the asymmetric shining caused by the difference In temperature,the facula and dark will disappear after monitor working 20 minutes

G. Picture is not stable or scroll
Check the computer setting , choose the right resolution and re-adjust the scan frequency

H. Picture is not set ideally
Check whether the signal wire have connected rightly ; enter the OSD color menu, choose to make the monitor auto-adjust the picture color to the best condition.