User's Guide

TFT COLOR LCD MONITOR





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Microcontroller features

The microcontroller automatically detects the video board installed in your system. When you turn on the monitor, the Micro controller first checks the display mode memory stored in the user setting area and factory presetting area.

Display modes memory

The microcontroller has memory capacity to store 24 different display modes including timing formats and display settings. This memory capacity is divided into two parts. One is user setting area, the other is the factory presetting area.

User setting area

The user can add nonstandard modes. If you adjust display Image, the image is saved automatically. Then the microcontroller always detects and displays the last mode stored in the user setting area when the monitor is turned on.

The user setting area maintains the last 6 display modes set by the user in its memory. When the user setting area is full(6 modes are registered), if new nonstandard timing is registered, the oldest timing setting will be deleted.

Factory presetting area

There are 14 display modes stored in this area. These display modes are preset at the factory and include most of the display modes currently available(see Timing Charts of this manual).

You can also retrieve the factory preset mode by selecting the RECALL menu,

Automatic save

The monitor automatically saves the setting value after certain time (20 sec) of adjusting OSD menu.

Power management

This monitor equipped with DPMS(Display Management Signaling) function which automatically leads the monitor to the state of power saving that consumes just a little power less than 5Watts, when the computer is left unattended.

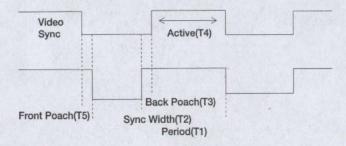
Operation

The DPMS function requires support from the computer system of any software DPMS function applied, currently being used. If the keyboard(or mouse) is left unattended for a certain period, the program or system will set the sync signals to DPMS modes. The DPMS function has three status. The recommended signal, power consumption and recovery times are shown in the below.

Status		Signal		Power	Recovery	LED	
Status	Hsync Vsync		Video	Consumption	Time	Indictor	
On	Pulse	Pulse	Active	25 Watts (Max)		Green	
Standby	No Pulse	Pulse	Blank			Alternating Green/Orange(0.5sec)	
Suspend	Pulse	No Pulse	Blank	Less than 5 Watts	Within 2 sec		
Off	No Pulse	No Pulse	Blank			Off	

Preset Mode Chart

Timing Charts



Input timing limits

H-sync pulse width 1.0us \leq Sync Pulse Width \leq 8.0us V-sync pulse width 0.04ms \leq Sync Pulse Width \leq 0.5us



NOTE

If the width of Sync Pulse is out of input timing range, monitor may be able to operate abnomal. Be sure to check the sync pulse width of input timing.

Input level limits

Low level: 0.4V max High level: 2,4V min



NOTE

For better quality of display image, use the timing and polarity shown in the preset mode table. Please see user's guide of your video card to ensure compatibility.

Preset Mode Table

Horizontal	Pixel	640	720	640	640	640	640	800	800	800	800	1024	1024	1024	1024
Frequency	KHz	31.469	31.469	31.469	37.500	37.861	35.000	35.156	37.879	46.875	48.077	48.363	56.476	60.023	57.928
Period(T1)	μs	31.778	31.778	31.778	26.667	26.413	28.571	28.444	26.400	21.333	20.800	20.677	17.707	16.660	17.247
Sync Width (T2)	μs	2.542	3.813	3.813	2.032	1.270	2.116	2.000	3.200	1.616	2.400	2.092	1.813	1.219	1.662
Back Porch(T3)	μs	3.178	1.907	1.907	3.810	3.810	3.175	3.555	2.200	3.232	1.280	2.462	1.920	2.235	2.078
Active(T4)	ЦS	25.422	25.422	25.422	20.317	20.317	21.164	22.222	20.000	16.162	16.000	15.754	13.653	13.003	13.299
Front Porch(T5)	ДS	0.635	0.636	0.636	0.508	0.762	2.116	0.667	1.000	0.323	1.120	0.369	0.320	0.203	0.208

Vertical	Line	350	400	480	480	480	480	600	600	600	600	768	768	768	768
Frequency	KHz	70.087	70.087	59.940	75.000	72.809	66.667	56.250	60.317	75.000	72.188	60.004	70.069	75.029	72.117
Period(T1)	ms	14.268	14.268	16.683	13.333	13.735	15.000	17.778	16.579	13.333	13.853	16.666	14.272	13.328	13.866
Sync Width (T2)	ms	0.095	0.064	0.064	0.080	0.079	0.086	0.057	0.106	0.064	0.125	0.124	0.106	0.050	0.121
Back Porch(T3)	ms	1.905	1.080	1.048	0.427	0.528	1.110	0.626	0.607	0.448	0.478	0.600	0.513	0.466	0.448
Active(T4)	ms	11.136	12.711	15.253	12.800	12.678	13.714	17.067	15.840	12.800	12.480	15.880	13.599	12.795	13.246
Front Porch(T5)	ms	1.145	0.413	0.318	0.027	0.238	0.086	0.028	0.026	0.021	0.021	0.062	0.053	0.017	0.086
Interlaced	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sync Polarity	Н	P	N	1	-	-	-	-	-	-	-	-	-	-	-
Sylle Foldrity	٧	N	Р	-	-		-	-	-	-	-	-	-	-	-

■ Normal mode

When video signal is working with normal display condition, power LED is lit Green.

■ DPMS mode

The LED indicates different status when this unit operates in different power saving modes.

■ Not Supported Video

When unsuitable signal is detected, the display "Not Supported Video" message.

On Screen Display Setting

■ Auto Setup

Automatically adjust the position, phase, black and white levels of the screen.

■ Brightness

Adjust the intensity of the screen.

■ Contrast

Adjust the contrast of the screen.

■ Image Adjust

- 1) Horizontal Position: Adjust the horizontal position.
- 2) Vertical Position: Adjust the vertical position.
- 3) Scale / Center
 - ① Full Screen: The input image will be displayed on the panel so that it fills the entire screen.
 - ② Maintain Aspect Ratio: The input image will be displayed on the panel using the same aspect ratio while trying to fill the entire screen.
 - 3 Center: The input image will be displayed on the panel without being scaled.
- 4) Image Enhancement
 - ① Context Sensitive: The Scaling Engine will adjust filter parameters on a pixel-by-pixel basis,
 - 2 Text(Sharp): The Scaling Engine will be set to use a high sharpening filter.
 - 3 Video(Smooth): The Scaling Engine will adjust images to be smoothed.

5) Color

- ① Color Temp
 - -Native: A gamma table for Native temperatures will be loaded for all three color channels.
- -Cool: A gamma table for Cool temperatures will be loaded for all three color channels.
- -Neutral: A gamma table for Neutral temperatures will be loaded for all three color channels.
- -Warm: A gamma table for Warm temperatures will be loaded for all three color channels.
- 2 RGB Adjust
 - -Red: Control the intensity of the Red color of the screen's image.
 - -Green: Control the intensity of the Green color of the screen's image.
 - -Blue: Control the intensity of the Blue color of the screen's image.
- 3 Black Level Adjust
- -Red: Control the intensity of the Black Level for Red color of the screen's image,
- -Green: Control the intensity of the Black Level for Green color of the screen's image.
- -Blue: Control the intensity of the Black Level for Blue color of the screen's image.
- 4 Exit

6) Advanced

- ① Phase Adjust: Adjust the analog signals phase.
- 2 Clock Adjust : Adjust the horizontal clocks.
- 3 AutoSetup Options
 - -Autosetup On Modeset: Select the function of the Autosetup on Modeset,
 - -Autoclock Feature: Select the function of the Autoclock Feature,
 - -Exit
- Mode Format : Select the monitor timing.
- (5) Exit

7) Exit

■ Languages

Change the OSD language selection.
OSD exits back to main menu with new language activated.

■ OSD Settings

1) OSD Position

- 1 Horizontal Position: Adjust the OSD Horizontal position,
- 2 Vertical Position: Adjust the OSD Vertical position.
- 3 Exit
- 2) OSD Size: Select the OSD size.
- 3) OSD Transparency: Adjust the OSD Transparency.
- 4) OSD Timeout : Adjust the OSD Timeout.
- 5) Exit

■ Restore Factory Presets

Resets all values that are global settings and mode specific to the current mode.

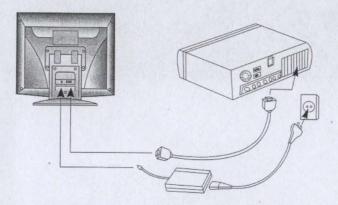
■ Exit

Menu Exit.

Connecting with external eqipment

■ Cautions

Be sure to turn off the power of your computer before connecting the Monitor

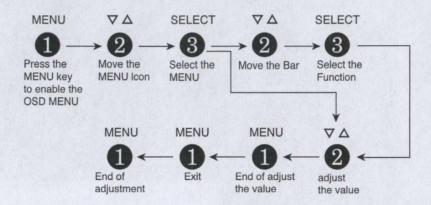


Video input terminal

A 15 pin D-sub connector is used as the input signal connector. Pin and input signals are shown in the table below

Pin number	Signal name	Pin number	Signal name	Pin number	Signal name	
1	Red	2	Green	3	Blue	
4	4 N.C		GND	6	RED-Gnd	
7	GREEN-GND	8	BLUE-GND	9	+5V	
10	Logic-GND	- 11	N.C	12	SDA (DDC)	
13	H-sync	14	V-sync	15	SCL (DDC)	

■ OSD Control Procedure



■ Main menu & control selection

Press the MENU key to access the main menu. Select the MENU Icon you wish to adjust by the ∇ or \triangle key.

■ Exit Menu

Press the MENU key to exit.

■ Auto exit

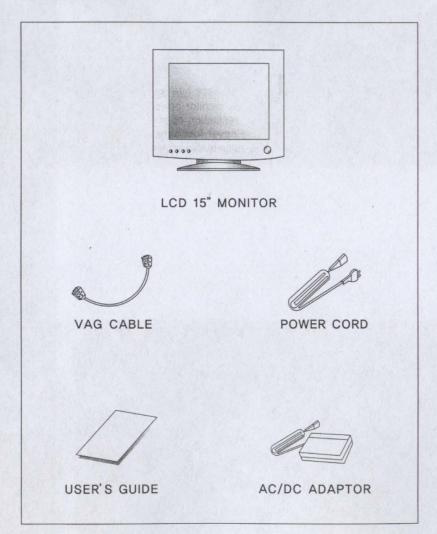
The OSD images are disappeared automatically after few seconds inactivity.

■ Auto save

The monitor automatically saves the new setting while OSD exits.

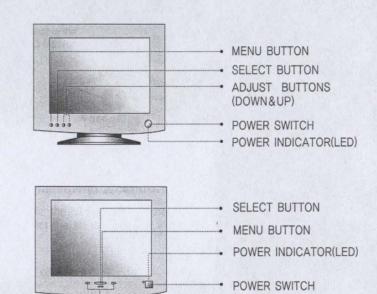
Installation

Packing List



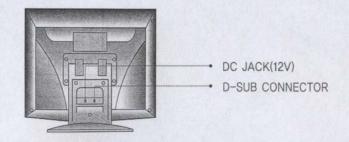
Control description

■ Front view



 ADJUST BUTTONS (DOWN&UP)

■ Rear View



How to get the most enjoyment with monitor

This is a 15" color LCD monitor to display signals from PC or Video equipment

This manual has been prepared to assist you in becoming familiar with your new display monitor.

Features

- · 15" viewable XGA(1024×768) resolution LCD module
- · 262,144 Color Display
- · Brightness (250cd/m²)
- · Viewing angle (U/D: 55°/60° R/L: 70°/70°)
- · DPMS (Display Power Management Signaling)
- · Implement the DDC 1/2B features.

DDC 1/2B uses a formerly unconnected signal pins in the 15-pin VGA connector.

The system will perform "plug & Play" feature if both monitor and host systems support DDC 1/2B protocol.



NOTE

Some computer systems are not compatible with the DDC standard.

If your monitor is displaying a wrong resolution, please check your computer system including a DDC compatible video card and contact Service Center.

General Safety precautions

This Monitor has been engineered and manufactured to assure your safety, and you can prevent your safety from serious electrical shock and other hazards by keeping in the following attentions.



Do not place heavy, wet or magnetic objects on the monitor power cord. Never cover the ventilation openings with any material and never touch them with metallic of inflammable materials.



Avoid operating the monitor in the place extremely heated, humid or affected by dust.

Temperature : 0~40℃ Humidity : 30~80RH



Be sure to turn the monitor off before plugging the power cord into the socket of power source.



 Do not use the sharp tool such as pin or pencil to avoid scratch on the LCD surface.

Specification

	Туре	TFT Color					
LCD	Size Dot Pitch Brightness Response Time Viewing Angle	15" viewable, diagonal 0.297 × 0.297mm 250cd/m² 20m sec Max U/D 55°/60°, R/L : 70°/70°					
Input	Signal Type	RGB Analog 15pin D-sub					
Sync	H - Freq V - Freq	31~60 KHz 56~75 KHz					
Video Band Widt	h	80MHz Max					
Display '	Active Area	304.1×228.1mm					
To the second	Color	262,144(Normal), 16,777,216(Expansio					
Resolution (max)		1024×768@75Hz					
User Controls &	OSD Controls	Contrast, Brightness, H/V Position etc					
Power Manageme	ent	As per VESA Standard.					
Power Consumpt	ion	25Watt (Max)					
Plug & Play		VESA DDCI/2B					
Tilt	U/D	35° / 5°					
Tommonotore	Operating	0 TO 40℃					
Temperature	Storage	-10 TO 50℃					
Humidity	Operating	30% to 80% (Non-condensing)					
	Storage	5% to 90% (Non-condensing)					
Weight	Unit	5.3kg					
	Carton	7.5kg					
Dimension (W ×	H × Dmm)	487×250×465mm (Carton Box)					

■ TROUBLESHOOTING GUIDE

TROUBLE	TROUBLESHOOTING TIP
Calminant course	Check that power cord of Monitor has been connected securely into wall outlet or grounded cable or strip.
No image on display	2. Power switch should be in the ON position and LED is on.
screen	Check that the Brightness and / or the Contrast adjustments of the Display have not been turned down to minimum levels.
"No signal,Check signal Cable"	The signal cable should be completely connected to the video card / computer
message on screen	The video card should be completely seated in its slot and the computer is switched ON.
Display image is not	Select Auto-adjust in the OSD.
Vertical or Horizontal noise is present in the picture	Adjust H-Size and Clock-phase in the OSD.

FCC RF INTERFERENCE STATEMENT

NOTE:

The 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 protecton 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 off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio, TV technical for help.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment.