



22" LCD Monitor

Model: 150TFT[X]2214[XX]

Manual

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Index

1. Introduction.....	3
2. Safety.....	3
3. Model descriptions.....	3
4. Monitor connection.....	3
5. Monitor specifications.....	4
6. Operation.....	5
7. OSD MENU.....	6
8. Driver software touch screen (optional 150TFT2214XX)	8
9. Mounting instructions	9
10. Accessories	10

1. Introduction

Congratulations with the purchase of your monitor. This LCD monitor is a color active matrix thin-film-transistor (TFT) liquid crystal (LCD) to provide superior display performance.

2. Safety

This monitor is only suitable for use in an indoor environment where there are not sealed, not subject to dust, dirt, condensation (Pollution Degree 2) (IP20).

It is not allowed to connect appliances to the monitor which does not comply to SELV or Class II qualification.

Turn off the monitor before cleaning.

The slots located on the backside of the monitor case are for ventilation. Do not block or insert anything inside the ventilation slots.

It is important that your monitor remains dry. Do not pour liquid into or onto the monitor. If the monitor becomes wet do not attempt to repair it yourself.

Unplug the monitor from the power outlet before cleaning. Do not use alcohol (methyl, ethyl or isopropyl) or any strong dissolvent. Do not use thinner or benzene, abrasive cleaners or compressed air. To clean the monitor, use a cloth lightly damped with a mild detergent.

If the liquid crystal materials leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, legs or clothes, it must be washed away thoroughly with soap.

Warning: This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

3. Model descriptions

Part number	Description
150TFT2214	Monitor 22"
150TFTG2214	Monitor 22" with 4mm tempered glass
150TFTS2214M	Monitor 22" with 3M touch screen serial
150TFTS2214MU	Monitor 22" with 3M touch screen USB

Further models to be announced.

4. Monitor connection

1. Connect the 12V power supply to the monitor.
2. Connect one end of the video cable to the computer and the other to the monitor. Tighten by turning the two thumb screws clockwise to ensure proper grounding.
3. Connect one end of either the touch screen cable to the computer and the other end to the monitor.
4. Press the power button on the rear panel to turn the monitor power on.

5. Monitor specifications

Panel

Manufacturer	Part No.
Samsung	LM220MT12

Absolute Maximum Ratings

Item	Unit	Min	Typical	Max	Remarks
Operating Temperature	°c	0	-	50	
Storage Temperature	°c	-20	-	60	
Operation Humidity	%	20	-	90	
Storage Humidity	%	35	-	75	

Input characteristics

Description	Signal	Unit	Min	Typical	Max	Remarks
Power in (12Vdc)						
	Input	VDC	11.4	12	12,6	
	Consumption	A	0.5	0.8	1.2	Panel / Blue / Total
RGB Input						
	Analog RGB	VPP	0	0.7	-	
	Sync	VDC	0	5	5.5	
	H Frequency	KHz	31	64	80	Depends on Mode
	V Frequency	Hz	55	75	76	Depends on Mode
DVI-D Input						
	DATA/CLK	VPP	450	500	900	Differential +/-

Display Characteristics

Item	Unit	Specifications
Screen Diagonal	[inch]	22
Active Area	[mm]	473.76 (H) x 296.1 (V)
Pixels		1680x3(RGB) x 1050
RoHS Compliance		RoHS Compliance

Optical Characteristics

Item	Unit	Conditions	Min.	Typ.	Max	Remarks
White Luminance	[cd/m2]	IRCFL=6.5mA(center point)	240	300	-	1 (4mA)
Uniformity	%	9 Points	75	80	-	-
Contrast Ratio			1600	2000		-
Cross talk	%		-	-	1,5	-
Response Time	[msec]	Rising + Faling	-	20	-	-
Viewing Angle	[degree]	Horizontal (Right)	75	89	-	-
	[degree]	CR = 10 (Left)	75	89	-	
	[degree]	Vertical (Upper)	75	89	-	
	[degree]	CR = 10 (Lower)	75	89	-	
Color Gamut	%		-	72	-	

Signal Input (Analog RGB, TMDS(DVI))

Item	Description	Resolution
Supported Resolutions	VGA	640x480
	SVGA	800x600
	XGA	1024X768
	WXGA	1280X768
	WXGA	1360X768
	SXGA	1280X1024
	WSXGA+	1680X1050

6. Operation

Color LED: This LED shows the state of controller.

Green is the “normal state”.

Red is the “Off mode”. (Can’t find Sync. signals)

Blink is the “DPMS mode” (*Display Power Management Signaling*).

PC Settings: The PC needs to be set to an appropriate graphics mode that has the same resolution with the LCD panel to have clear screen image. And the vertical refresh rate should be set to one of 56~75Hz, non-interlaced signal.

LCD display System Settings: The OSD (On Screen Display) provides certain functions to have clear image and others. This board supports 5 buttons OSD operation as a standard. The control functions defined on OSD operation are as below.

Pc Graphics Output: Signal quality is very important, if there is noise or instability in the PC graphics output this may result in visible noise on the display. Refer to the graphic modes table in specification section for supported modes. Non-interlaced & interlaced video input is acceptable.

USB cable (if installed): Plug the USB cable to the connector on the backside of the monitor.

Note: Use a USB cable with two ferrite bead’s at each end.

VGA cable: Plug the VGA cable to the connector on the backside of the monitor.

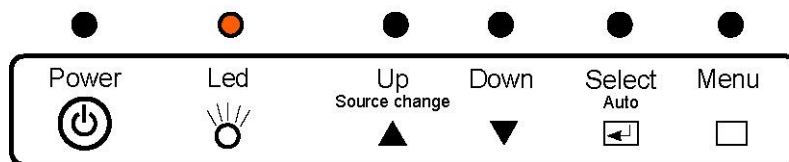
DVI-D Cable: Plug the DVI-D Cable to the connector on the backside of the monitor.

Power supply: Plug the 12V power supply (Not included) to the connector on the backside of the monitor.

Power on: Switch on the monitor by using the on/off switch on the OSD control buttons.

PC Setting: The controller has been designed to take a very wide range of input signals however to optimize the PC’s graphic performance we recommend choosing 60Hz vertical refresh rate this will not cause screen flicker.

OSD Control Board: The OSD (On Screen Display) provides certain functions to have clear image and others. This board supports 4 buttons OSD operation as a standard. The control functions defined on OSD operation are as below.



The chosen OSD settings will be stored in memory. The OSD menu can be cleared from the screen from the screen by moving the selection bar to the EXIT MENU icon pressing the SEL button otherwise it will be automatically cleared after a few second of non-use.

7. OSD MENU

The chosen OSD settings will be stored in memory. The OSD menu can be cleared from the screen by pressing the **MENU** button otherwise it will be automatically cleared after a few seconds of non-use.

OSD Main Menu

[PICTURE]

PICTURE	
Brightness	80
Contrast	80
Sharpness	80

[COLOR]

COLOR	
Color Status Management	▶ NORMAL
Red	80
Green	80
Blue	80
Auto Color	▶ To Start

[SCREEN]

SCREEN	
Auto Configure	▶ To Start
H Position	80
V Position	80
Clock	80
Phase	80

[OSD]

OSD	
Language	▶ English
H Position	80
V Position	80
Transparency	80
OSD Time	10

[SETUP]

SETUP	
Source	▶ RGB
Factory reset	▶ To Start
Aspect	▶ Off
1024x768 60 Hz	
Version 1.05	

OSD GUI Control Table

MAIN	SUB MENU	CONTROL	
Picture	Brightness	50(0~100)	
	Contrast	50(0~100)	
	Sharpness	2(0 ~ 4)	
Color	Color Status Management	User(User, Warm, Normal, Cool)	
	Red	50(0~100)	PC ONLY
	Green	50(0~100)	
	Blue	50(0~100)	
	Auto Color	To Start	
Auto Configure	To Start		
Screen	H Position	50(0~100)	PC ONLY
	V Position	50(0~100)	
	Clock	50(0~100)	
	Phase	30(0~100)	
	Auto Configure	To Start	
OSD	Language	English(English, Deutsch, Francais, Italiano, Espanol, Korean)	
	H Position	50(0~100)	
	V Position	50(0~100)	
	Transparency	33 (0~100)	
	OSD Time	10(3~30)	
SETUP	Source	RGB, DVI, AUTO	
	Factory reset	To Start	
	Aspect	Off(On/Off)	

8. Driver software touch screen (optional 150TFT2214XX)

3M Touch Systems provides driver software that allows your touch monitor to work with your computer. Drivers are located on “3M Touch Systems” web site for the following operating systems:

- Windows
- Linux
- Mac OSX

The latest versions of drivers and driver information for other operating systems are available on the “3M Touch Systems” web site at:

http://solutions.3m.com/wps/portal/3M/en_US/TouchSystems/TouchScreen/

Your monitor is Plug-and-Play compliant. Information on the video capabilities of your monitor is sent to your video display adapter when Windows starts. If Windows detects your monitor, follow the instructions on the screen to install a generic Plug-and-Play monitor.

Depending upon whether you connected the USB communication cable, you should install only the USB driver.

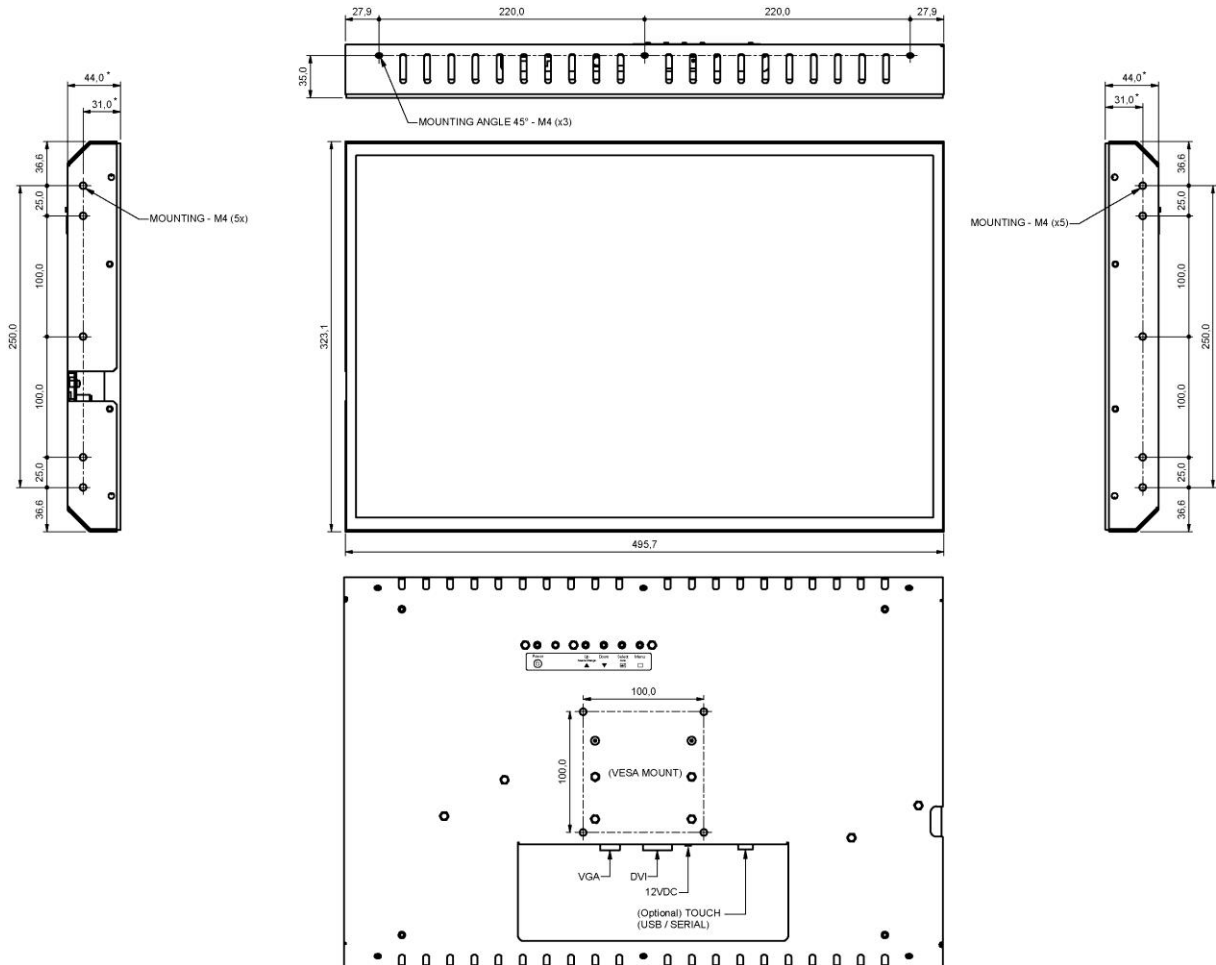
9. Mounting instructions

Monitor Mounting

This monitor can be mounted with twenty M4 mount holes. Follow the steps described below:






Place the monitor into the machine.

Place the M4 screws on the both sides of the monitor. Tighten the nuts until the monitor is firmly secured to the machine.



***Dimensions without glass
With glass standard +4,0mm**

10. Accessories

Part number	Description	
150-0049	Power supply input 100/240V output 12V 5A	
22-0012-4	Power cable Euro lead 1.80M	
149-0112-11	VGA cable 1.80m	
149-0121	DVI-D Cable 2 mtr. 18+1	
149-0111-2	Serial cable 2m	
98-0003-2209-3	22 " Touch screen (without controller)	