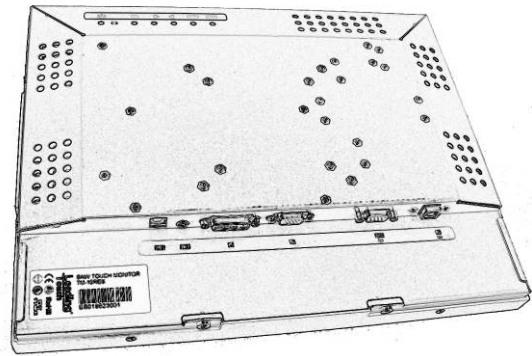
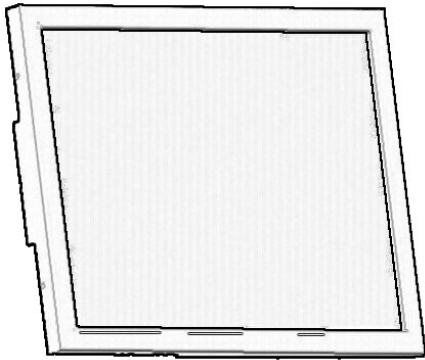


Touchmonitor User Guide

TM-19 19" LCD Rear Mount Touchmonitor



REV A

LeadingTouch Technology Co., Ltd
HuiLongGuan LongXiang industrial center, ChangPing, Beijing, China
Tel: +86-51090978 <http://www.leadingtouch.com>
Fax: +86-51090979 E-mail: info@leadingtouch.com

INDEX

Chapter1	3
INTRODUCTION	3
Product Description.....	3
Precautions	3
About the Product.....	3
Chapter 2	5
INSTALLATION AND SETUP	5
Unpacking Your Touchmonitor	5
Touch Interface Connection.....	6
Installing the Driver Software.....	8
Chapter 3	15
OPERATION	15
About Touchmonitor Adjustments	15
Using the On-Screen Display (OSD) Menus	15
OSD Menu Function	16
Preset Modes	18
Power Management System	18
Chapter 4	20
TROUBLESHOOTING	20
Solutions to Common Problems	20
Appendix A	22
NATIVE RESOLUTION.....	22
Appendix B	24
TOUCHMONITOR SAFETY.....	24
Care and Handling of Your Touchmonitor.....	24
Appendix C	26
TECHNICAL SPECIFICATIONS.....	26
Compatible Video Modes.....	26

CHAPTER

1

INTRODUCTION

Product Description

Congratulations on your purchase of a Leadingtouch touchmonitor. Your new touchmonitor combines the reliable performance of Leadingtouch touch technology with the latest advances in LCD display design. This combination of features creates a natural flow of information between a user and your touchmonitor.

This LCD monitor incorporates a 19" color active matrix thin-film-transistor (TFT) to provide superior display performance. A maximum resolution of SXGA 1280 x 1024 is ideal for displaying graphics and images. Other outstanding features that enhance this LCD monitor's performance are Plug & Play compatibility, and OSD (On Screen Display) controls.

Precautions

Follow all warnings, precautions and maintenance as recommended in this user's manual to maximize the life of your unit. See Appendix B for more information on touchmonitor safety.

About the Product

Your LCD Desktop Touchmonitor is a 19.0" TFT color display with the following features:

- Direct analog RGB or Digital RGB input
- 19.0" diagonal screen size
- 16.7M color
- 1280 x 1024 resolution
- XGA/SVGA/VGA/VESA compatible
- 38.4-96.0 kHz horizontal scan
- Auto adjustment capability
- High quality full screen re-scaling
- Multilingual OSD menus in both languages: English,Chinese.
- Serial or USB touch interface (USB requires Windows 98, 2000, Me and XP.)
- Superior touch technology of Leadingtouch TouchSystems
- VESA flat panel monitor physical mounting interface (Both of 75 & 100mm)

- Wall mountable with optional bracket
- Cable strain reliefs for all cables

For full Product Specifications refer to Appendix C.

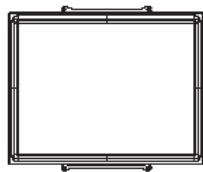
2

INSTALLATION AND SETUP

This chapter discusses how to install your LCD touchmonitor and how to install Leadingtouch TouchSystems driver software.

Unpacking Your Touchmonitor

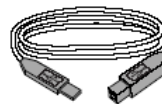
Check that the following 10 items are present and in good condition:



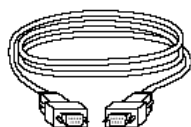
LCD monitor



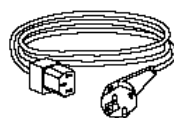
Video cable



USB cable

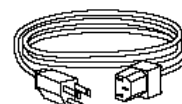


Serial cable

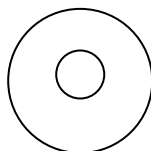


European power cable

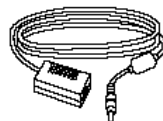
or



Power cable US/Canada



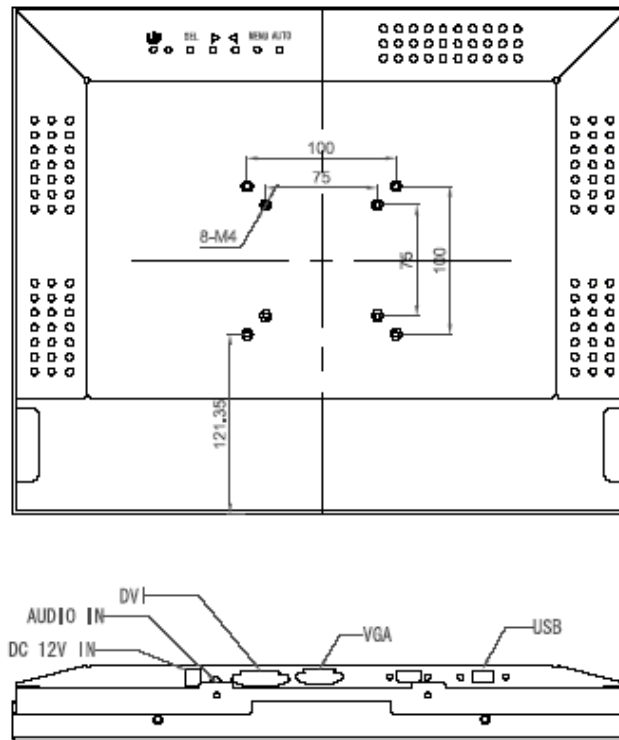
CD and Quick Install Guide



Brick power supply

Touch Interface Connection

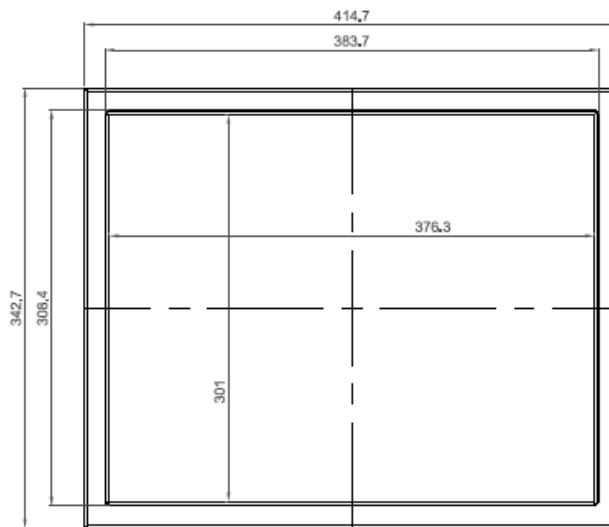
Note: Before connecting the cables to your touchmonitor and PC, be sure that the computer and touchmonitor are turned off.



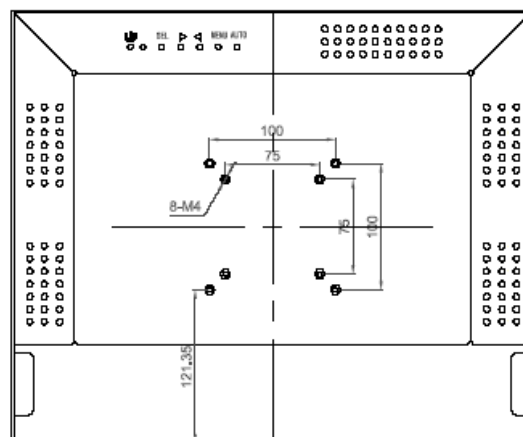
1. Connect one end of the **power adapter** to the monitor and the other end to the connector of the power cord.
2. Connect one end of either the **touchscreen serial (RS232) cable** or the touchscreen USB cable (but not both) to the rear side of the computer and the other end to the LCD monitor. Tighten by turning the two thumb screws clockwise to ensure proper grounding (optional module USB cable does not have thumb screws).
3. Connect one end of the **video cable** to the rear side of computer and the other to the LCD monitor. Tighten by turning the two thumb screws clockwise to ensure proper grounding.
4. Press the **power button** on back frame to turn the monitor power on.

Product Overview

Main Unit



Rear View



Side View



Installing the Driver Software

Leadingtouch TouchSystems provides driver software that allows your touchmonitor to work with your computer. Drivers are located on the enclosed CD-ROM for the following operating systems:

- Windows XP
- Windows 2000
- Windows Me
- Windows 98
- Windows 95
- Windows NT 4.0

Additional drivers and driver information for other operating systems are available on the Leadingtouch web site at www.Lleadingtouch.com.

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

Refer to the appropriate section for driver installation instructions.

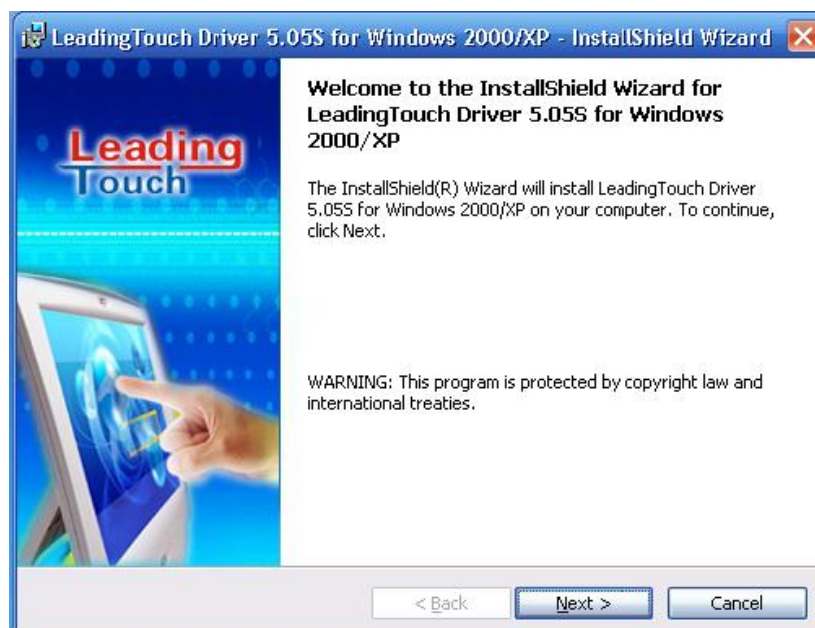
Depending upon whether you connected the serial communication cable or the USB communication cable, you should install only the serial driver or the USB driver.

1.1 Installing and Using Leadingtouch for Windows Serials

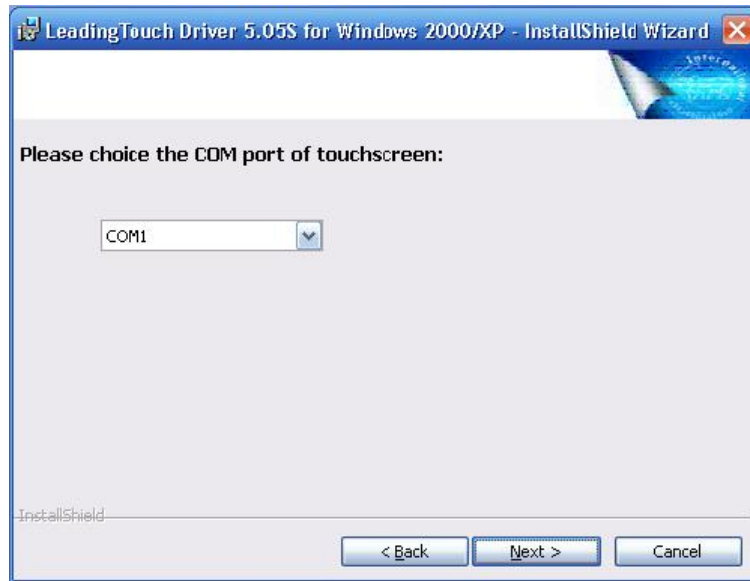
Leadingtouch is software, which contains drivers of the touch panel controllers for the specified communication connectors, RS232, USB

Follow these steps to install *Leadingtouch* .

1. Put the *Leadingtouch* CD to CD-ROM.
2. Change directory to Win9598me OR **Win2000_XP**.
3. Double click the **Setup.exe**, then windows starts to run the installation program.
4. Just click [**Next >**] button to continue installation.



5. Click “Next>”,and select the com port which the touchscreen connected.



6. Then press [**Install >**] to continue installation.



7. After install finished,you need restart the system and save all your working files

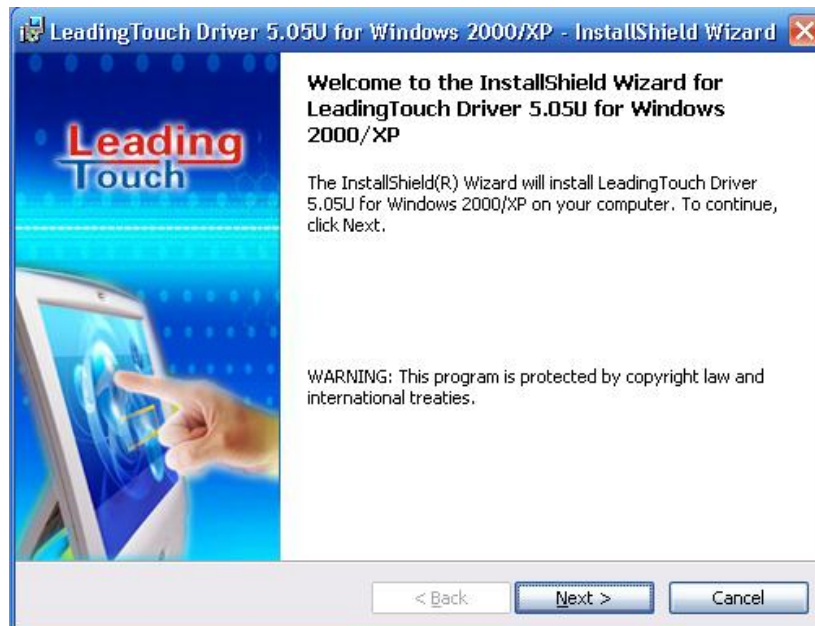


1.2 Installing and Using Leadingtouch for Windows Usb

Leadingtouch is software, which contains drivers of the touch panel controllers for the specified communication connectors, RS232, USB

Follow these steps to install **Leadingtouch** .

1. Put the **Leadingtouch** CD to CD-ROM.
2. Change directory to Win9598me OR **Win2000_XP**.
3. Double click the **Setup.exe**, then windows starts to run the installation program.
4. Just click [**Next >**] button to continue installation.



5. Then press [**Install >**] to continue installation.

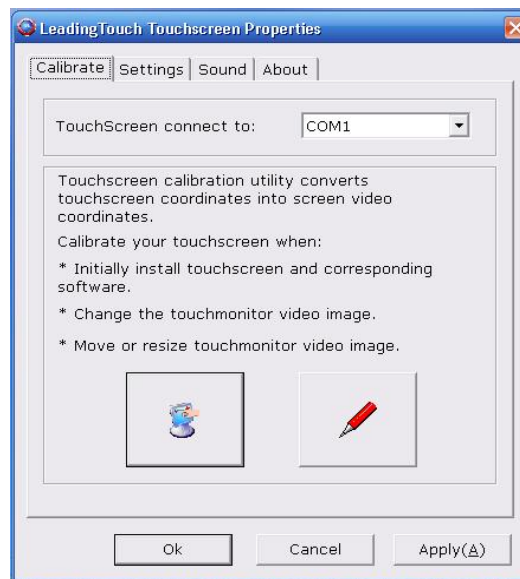


6 After install finished,you need restart the system and save all your working files

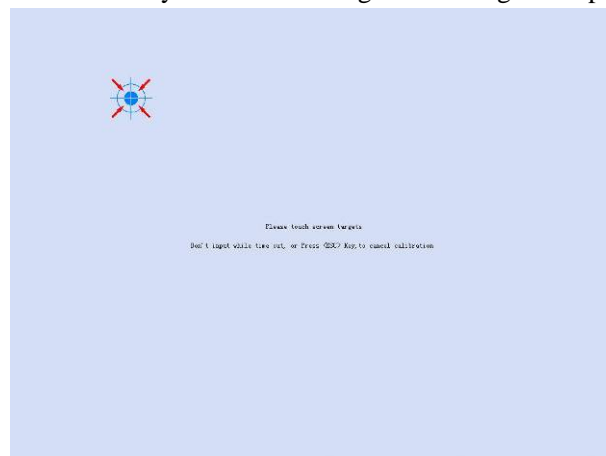


1.3 Calibration and test mode

1)After successful installtion of the driver,reboot the system first.adn then click “calibrate”



2)Click the center of the bull’s eyes cross with finger according to the prompt



3) click all the bull’s eyes,press “Enter”or double click the touchscreen to save the calibration data.

Notice:Re-calibrate is required if the following changes occur:

- 1 Change of monitor’s resolution

- 2 Change of touchscreen
- 3 Change of computer or monitor

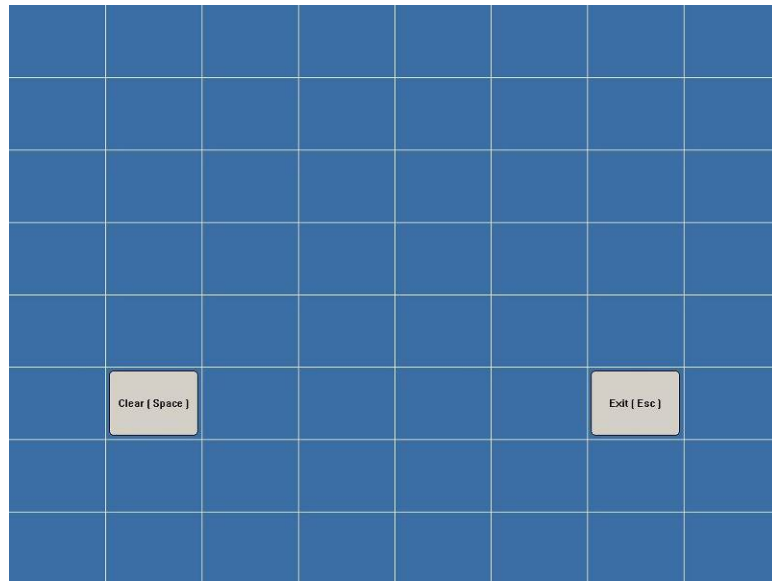
Enter Touchscreen calibration program through the following programmer

- 1 Click “Start”----“programmer”----“Leadingtouch”-----“Serial/USB”
- 2 Click “Calibration”

1.3 Line test

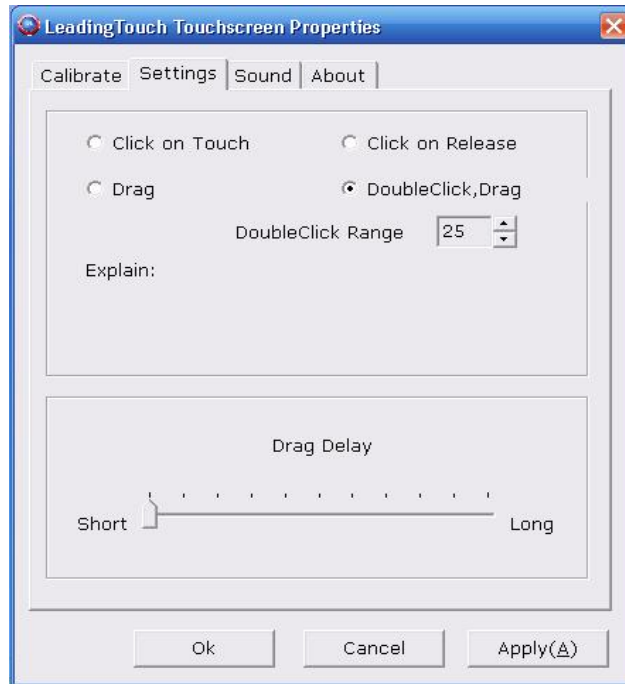
Test the touchscreen.

- 1 Clear-----clear all the lines in the test screen.
- 2 Exit -----quit test mode.



1.4 Setup of the Touchscreen Paramter

Click “Touchsetup”in Leadingtouch,Working mode of the touchscreen can be modified on “Settings” lables



Working Mode(mouse emulation mode)

Click on touch indicates the response when your finger touches on the panel

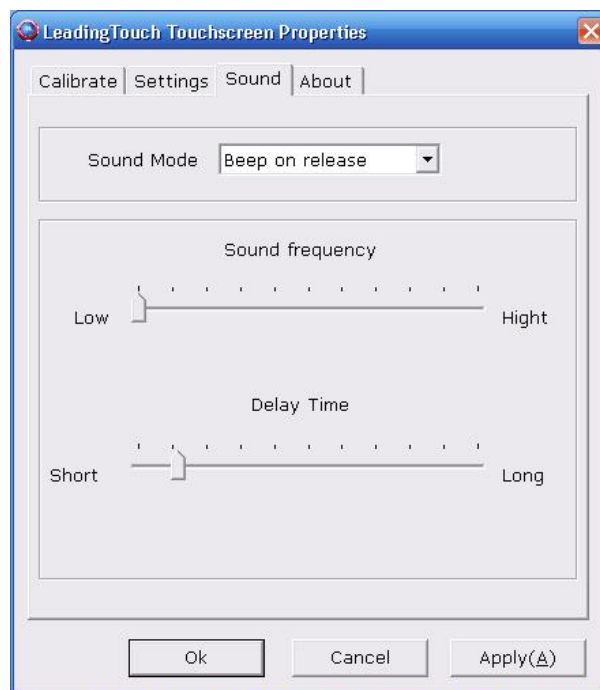
Click on release indicates the response when your finger leaves the touch panel

Drag line mode

DoubleClick, Drag support double click and drag mode, double click range indicates the double click area, the unit is pixel

Drag Delay Time delay of the dragging

1.5 Sound



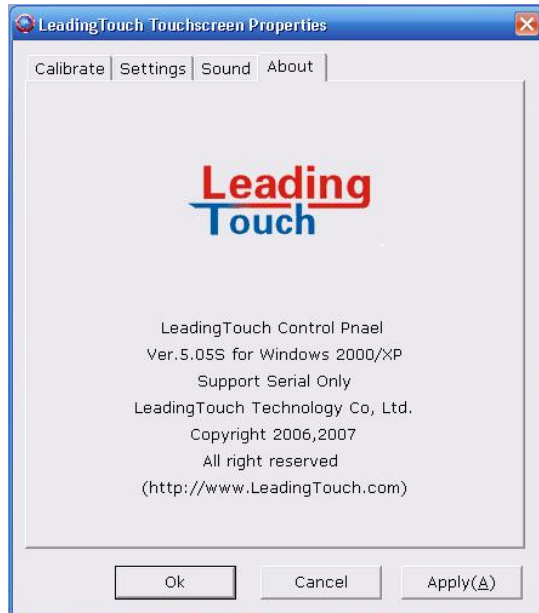
Beep on touch the speaker on the computer will generate voice when touch on the touchscreen

Beep on release the speaker on the computer will generate voice when leave of the touchscreen

Disable no voice when touch

1.6 About

About leadingtouch



1.7 Rescan Leadingtouch usb controller

After you replus Leadingtouch usb touchscreen controller,please use this tools
rescan the touchscreen



1.8 Uninstall Leadingtouch drivers

Enter Touchscreen Uninstall program through the following programmer

- 1 Click "Start"----"programmer"----"Leadingtouch"-----"Serial/USB"
- 2 Click "Uninstall"

CHAPTER

3

OPERATION

About Touchmonitor Adjustments

Your touchmonitor will unlikely require adjustment. Variations in video output and application may require adjustments to your touchmonitor to optimize the quality of the display.

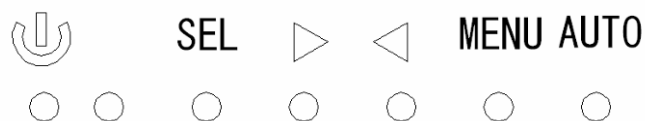
For best performance, your touchmonitor should be operating in native resolution, that is 1280 x 1024.

Use the Display control panel in Windows to choose 1280 x 1024 resolution.

Operating in other resolutions will degrade video performance. For further information, please refer to Appendix A.

All adjustments you make to the controls are automatically memorized. This feature saves you from having to reset your choices every time you unplug or power your touchmonitor off and on. If there is a power failure your touchmonitor settings will not default to the factory specifications.

OSD Controls



Using the On-Screen Display (OSD) Menus

All adjustments are made by using the on-screen display (OSD) menus. All menu items can be selected by using the buttons ◀ or ▶

NOTE: OSD menu default is enabled.

Control	Function
1 Menu/Exit	Display/exits the OSD menus.
2 ▷	1. Enter contrast of the OSD. 2. Increase value of the adjustment item. 3. Select item counter-clockwise.
3 ◁	1. Enter brightness adjustment. 2. Decrease value of the adjustment item. 3. Select item counter-clockwise.
4 Select	Selects the adjustment items from the OSD menus.
5 Power Switch	Switches the power of the monitor.

OSD Menu Function

To Display and Select the OSD Functions:

- 1 Press the Menu key to activate the OSD menu.
- 2 Use ◁ or ▷ to move counter-clockwise through the menu. Press the Enter key, the parameter will be highlighted when selected.
- 3 To quit the OSD screen at any time during the operation, press the Menu key. If no keys are pressed for a short time period, the OSD automatically disappears.

NOTE: The OSD screen will disappear if no input activities are detected for 45 seconds.

Control Description



Contrast Increases or decreases contrast



Brightness Increases or decreases brightness



Color): RGB color adjustment



Auto color) Automatically adjust RGB color.



sRGB: Select sRGB standard color


















Color Temperature In this menu you can select one of the default color temperatures (9300°K, 7500°K, 6500°K, 5000°K, 4200°K)



User Press the OSD button Up and Down or set color values individually using the "USER" option. To define the color values individually, select the "USER" option. You can switch between the setting options for R/G/B (red, green and blue foreground) using the OSD direction button. Select and specify the desired

value by using the OSD button.

	Phase	Controls the vertical and horizontal fine tuning.
	Width	Adjusts screen width
	H-Position	Moves the screen left or right
	V-Position	Moves the screen up or down.
	Auto Adjust	Automatically selects the optional settings for image parameters (brightness, contrast, image position, phase etc).Display the current graphic mode.
	Tools	Enter to adjust OSD, Reset, sharpness, dos or language
	OSD	OSD parameter adjustment
	OSD Time	Determines how long (in seconds) the OSD menu waits before closing automatically after no action has been performed.
	OSD H-Position	Moves the OSD position horizontally on the screen. When the button is pressed, the OSD control menu will move to the right side of the screen. Likewise, when the button is pressed, the OSD control menu will move to the left side.
	OSD V-Position	Moves the OSD position vertically on the screen. When the button is pressed, the OSD control menu will move to the top side of the screen. Likewise, when the button is pressed, the OSD control menu will move to the lower side.
	Reset	Reset factory settings of the image parameters.
	Sharpness	The sharpness can be adjustable.
	DOS	Adjusts screen position under dos
	Language	Selection of the OSD menu language: English, Chinese
	Chinese	Selection of the OSD menu language as Chinese
	Audio	Selection of speaker mode
	Volume	Selection of speaker volume



Mute

Selection of speaker mute mode



Exit

Exit the menu.



OK/Yes

Confirmation of a right operation



Error/No

Reminder of a wrong setting

Preset Modes

To reduce the need for adjustment for different modes, the monitor has default setting modes that are most commonly used as given in the table below. If any of these display modes are detected, the monitor automatically adjusts the picture size and centering. When none of the mode is matched, the user can store their preferred modes in the user modes. The monitor is capable of storing up to 7 user modes. The only condition to store as a user mode is the new display information must have 1 KHz difference for horizontal frequency or 1 Hz for vertical frequency or the sync signal polarities are different from the default modes.

Default modes is as following:

VGA

640 x 480 -- 60 Hz

640 x 480 -- 72 Hz

640 x 480 -- 75 Hz

640 x 350 -- 70 Hz

720 x 400 -- 70 Hz

SVGA

800 x 600 -- 56 Hz

800 x 600 -- 60 Hz

800 x 600 -- 72 Hz

800 x 600 -- 75 Hz

XGA

1024 x 768 -- 60 Hz

1024 x 768 -- 70 Hz

1024 x 768 -- 75 Hz

1024 x 768 -- 72 Hz

SXGA

1280 x 1024 -- 60 Hz

1280 x 1024 -- 70 Hz

1280 x 1024 -- 75 Hz

Power Management System

The monitor is equipped with the power management function which automatically reduces the power consumption when not in use.

Mode	PowerConsumption
On	<30W
Sleep	<4W
Off	<2W

We recommend switching the monitor off when it is not in use for a long time.

NOTE: The monitor automatically goes through the Power Management System (PMS) steps when it is idle. To activate the monitor, press any key on the keyboard or move the mouse.

Check the cable connections. Make sure all the cables are connected correctly. Including a female F Type connector(ANT IN) for VHF/UHF antenna input, a female F Type(MD OUTPUT) with user-selectable channel 3 or 4NTSC RF output to analog television receiver, female RCA connectors for stereo left and right audio (white and red) and a female RCA connector for composite video (yellow). Then insert the adapter whose output plug is into the STB's DC socket and the input plug is into the power socket. Put switch which is in the power socket on, Turn on the television and switch to video mode.

Then Power System will work, and low voltage transformer will supply power to Control System, ATSC Tuner and Modulator, and the LED Indicator state is red, meaning the STB state is stand-by. When you turn the stand-by to power state by Remote Control or the press button on the top of cover, then the LED Indicator state is green and STB is Power State. So ATSC Tuner can receive VHF or UHF frequency signal and transfer it to low frequency signal, then Demodulator demodulate the low frequency signal and output the Transfer Stream(TS) to Decode System, Control System separate the program stream (PS) which come from Decode System into Video PID and Audio PID, and then Audio Decoder and Video Decoder decode them separately and output the digital video signal and analog signal is amplified by amplifier and output to television. Also the digital video signal is converted to analog video signal by NTSC Encoder and DAC and then output to television.

So you can see the picture and hear the sound in television with the program you select, If there is no any program stored in the STB, or you want to add new program to program list, you need to search program by Remote Control, the IR receiver receive the Infra-red which come from Remote Control and encode it, Control System receive and deal the encoded signal. If you have connected the STB to analog television receiver with RF cable, you also can watch television, because the RF signal is modulate by Modulator and the RF output channel is control by software, you can change it by Remote Control.

This STB provide the capability to automatically switch from Power state to the Sleep(Stand-by) state after a period of time without user input, and the default period of inactivity before the equipment automatically switches to the Sleep(Stand-by) state is four hours. Also you can select the pre-set period of time or turn off this function by Remote Control in Power sate.

CHAPTER

4

TROUBLESHOOTING

If you are experiencing trouble with your touchmonitor, refer to the following table. If the problem persists, please contact your local dealer or our service center.

Solutions to Common Problems

Problem Suggestion(s)

No image appears on screen.

Check that all the I/O and power connectors are properly connected as described in Chapter 2. Make sure the pins of the connectors are not crooked or broken. Test power supply by trying different cables, a different wall outlet or plug another appliance into the outlet. Make certain the video cable is properly connected and that it is not damaged. Check for bent pins on the cable connectors. Ensure that your computer and video card are properly configured. (Consult video card documentation.) “Out of Range” display Check to see if the resolution of your computer is higher than that of the LCD display. Reconfigure the resolution of your computer to make it less than or equal to 1280 x 1024. See Appendix A for more information on resolution.

OSD/Power buttons don't respond

See page 3-21 for OSD enable/disable.

Image has vertical flickering line bars.

Use “Phase” to make an adjustment.

Check and reconfigure the display mode of the vertical refresh rate of your graphic card to make it compatible with the LCD display.

Image is unstable and flickering

Use “CLOCK” to make an adjustment.

Image is scrolling

Make sure the VGA signal cable (or adapter) is well connected.

Check and reconfigure the display mode of the vertical refresh rate of your graphic card to make it compatible with the LCD display.

Touch doesn't work

Make sure cable is securely attached at both ends.

APPENDIX



NATIVE RESOLUTION

The native resolution of a monitor is the resolution level at which the LCD panel is designed to perform best. For the Leadingtouch LCD touchmonitor, the native resolution is 1280 x 1024 for the 19 inch size.

In almost all cases, screen images look best when viewed at their native resolution. You can lower the resolution setting of a monitor but not increase it.

Input

640 x 480 (VGA)

800 x 600 (SVGA)

1280 x 1024 (XGA)

Video 19" LCD

Transforms input format to 1280 x 1024

Transforms input format to 1280 x 1024

Displays in Native Resolution

The native resolution of an LCD is the actual number of pixels horizontally in the LCD by the number of pixels vertically in the LCD. LCD resolution is usually represented by the following symbols:

VGA

640 x 480 -- 60 Hz

640 x 480 -- 72 Hz

640 x 480 -- 75 Hz

640 x 350 -- 70 Hz

720 x 400 -- 70 Hz

SVGA

800 x 600 -- 56 Hz

800 x 600 -- 60 Hz

800 x 600 -- 72 Hz

800 x 600 -- 75 Hz

XGA

1024 x 768 -- 60 Hz

1024 x 768 -- 70 Hz

1024 x 768 -- 75 Hz

1024 x 768 -- 72 Hz

SXGA

1280 x 1024 -- 60 Hz

1280 x 1024 -- 70 Hz

1280 x 1024 -- 75 Hz

As an example, a SVGA resolution LCD panel has 800 pixels horizontally by 600 pixels vertically. Input video is also represented by the same terms. XGA input video has a format of 1280 pixels horizontally by 1024 pixels vertically. When the input pixels contained in the video input format match the native resolution of the panel, there is a one to one correspondence of mapping of input video pixels to LCD pixels. As an example, the pixel in column 45 and row 26 of the input video is in column 45 and row 26 of the LCD. For the case when the input video is at a lower resolution than the native resolution of the LCD, the direct correspondence between the video pixels and the LCD pixels is lost. The LCD controller can compute the correspondence between video pixels and LCD pixels using algorithms contained on its controller. The accuracy of the algorithms determines the fidelity of conversion of video pixels to LCD pixels. Poor fidelity conversion can result in artifacts in the LCD displayed image such as varying width characters.

APPENDIX

B

TOUCHMONITOR SAFETY

This manual contains information that is important for the proper setup and maintenance of your touchmonitor. Before setting up and powering on your new touchmonitor, read through this manual, especially Chapter 2 (Installation), and Chapter 3 (Operation).

1. To reduce the risk of electric shock, follow all safety notices and never open the touchmonitor case.
- 2 Turn off the product before cleaning
- 3 Your new touchmonitor is equipped with a 3-wire, grounding power cord. The power cord plug will only fit into a grounded outlet. Do not attempt to fit the plug into an outlet that has not been configured for this purpose. Do not use a damaged power cord. Use only the power cord that comes with your Leadingtouch TouchSystems Touchmonitor. Use of an unauthorized power cord may invalidate your warranty.
- 4 The slots located on the sides and top of the touchmonitor case are for ventilation. Do not block or insert anything inside the ventilation slots.
- 5 It is important that your touchmonitor remains dry. Do not pour liquid into or onto your touchmonitor. If your touchmonitor becomes wet do not attempt to repair it yourself.

Care and Handling of Your Touchmonitor

The following tips will help keep your touchmonitor functioning at the optimal level.

- To avoid risk of electric shock, do not disassemble the brick supply or display unit cabinet. The unit is not user serviceable. Remember to unplug the display unit 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 display unit cabinet, use a cloth lightly dampened with a mild detergent.
- Avoid getting liquids inside your touchmonitor. If liquid does get inside, have a qualified service technician check it before you power it on again.
- Do not wipe the screen with a cloth or sponge that could scratch the surface.
- To clean the touchscreen, use window or glass cleaner. Put the cleaner on the rag and wipe the touchscreen. Never apply the cleaner directly on the touchscreen



APPENDIX



TECHNICAL SPECIFICATIONS

Compatible Video Modes

Your touchmonitor is compatible with the following standard video modes:

VGA

640 x 480 -- 60 Hz

640 x 480 -- 72 Hz

640 x 480 -- 75 Hz

640 x 350 -- 70 Hz

720 x 400 -- 70 Hz

SVGA

800 x 600 -- 56 Hz

800 x 600 -- 60 Hz

800 x 600 -- 72 Hz

800 x 600 -- 75 Hz

XGA

1024 x 768 -- 60 Hz

1024 x 768 -- 70 Hz

1024 x 768 -- 75 Hz

1024 x 768 -- 72 Hz

SXGA

1280 x 1024 -- 60 Hz

1280 x 1024 -- 70 Hz

1280 x 1024 -- 75 Hz

Warning statement

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment .

NOTE: 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 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 technician for help.