



LX1200TR Touch Monitor

USER'S MANUAL

www.planar.com

Usage Notice	3
Precautions	3
In a vehicle	3
Cleaning the monitor	3
Introducing the Planar LX1200TR Touch Monitor	4
Front View	4
Bottom View	5
Features	5
Package Contents	6
Installing the LX1200TR.....	7
Before Installing.....	7
Step 1 — Mounting the Monitor.....	7
Step 2 — Connecting the Monitor.....	8
Step 3 — Installing the Touch Screen Driver	11
Using the LX1200TR.....	13
Monitor Controls.....	13
Turning the Monitor On and Off	14
Using the Touch Screen.....	14
Navigating the Touch Screen	14
Cleaning the Monitor.....	14
Appendices.....	15
Troubleshooting the Monitor.....	15
Specifications	16
Dimensions	16
Video Specifications	17
Electrical Specifications	17
Electromagnetic Compatibility (EMC).....	17
Immunity Characteristics.....	18
Safety.....	18
Environmental Specifications.....	18
Connectors.....	19
Support and Service.....	20

Usage Notice

WARNING: TO AVOID FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THE MONITOR TO RAIN OR MOISTURE.

WARNING: TO AVOID THE RISK OF ELECTRIC SHOCK, DO NOT OPEN OR DISASSEMBLE THE MONITOR. DOING SO WILL VOID THE WARRANTY.

Precautions

To maximize the life and safe use of your unit, always be sure to follow the warnings, precautions, and maintenance recommendations in this user's manual.

In a vehicle

- The monitor should be visible to the driver only if it is used for navigation, system control, or vehicle information. If the monitor will be used for other purposes, it should be installed in such a way that it will only operate while the vehicle is not moving (such as when the parking brake is in use), or so that its display is not visible to the driver. Review all applicable state and local laws and regulations to make sure the monitor is used properly and safely.
- Avoid using the monitor for extended times while the vehicle is not running, or the monitor could drain the vehicle's battery.

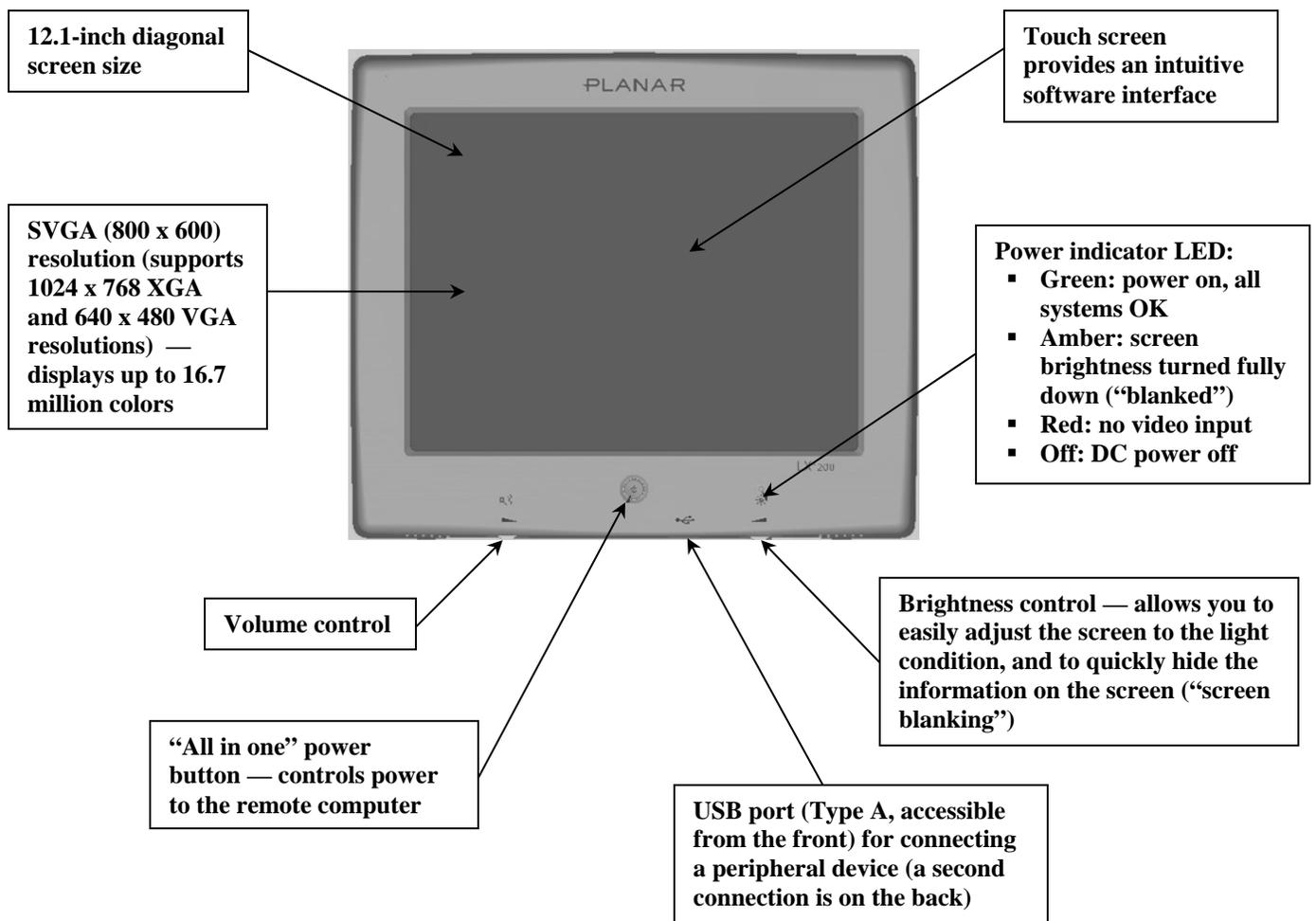
Cleaning the monitor

- Always turn off the unit before cleaning.
- Use only a dry soft cloth when cleaning the LCD touch-panel surface.
- Use a soft cloth moistened with mild detergent, isopropyl alcohol, or window cleaners to clean the display housing.
- Never touch the surface of the display with a sharp object.
- Never use abrasive cleaners, waxes, or solvents to clean the unit.

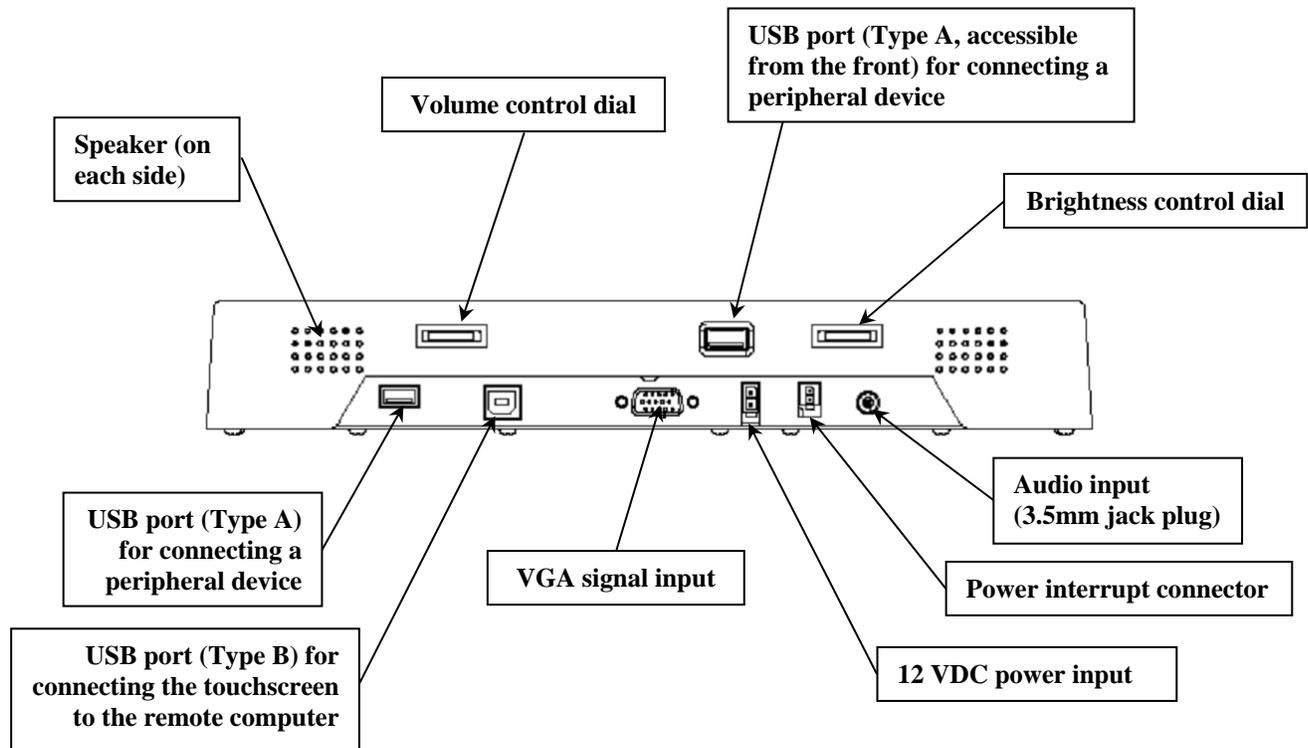
Introducing the Planar LX1200TR Touch Monitor

The LX1200TR is a high-performance, rugged touch monitor intended for demanding environments, such as those inside motor vehicles. The monitor features a 12.1-inch diagonal liquid crystal display, with SVGA resolution, bright enough to be read in full sunlight. The monitor also includes stereo speakers, and a sturdy magnesium enclosure that can withstand shock and vibration.

Front View



Bottom View



Features

- The **brightness control** allows you to easily adjust the display to match the ambient light, from full sunlight to night, even while wearing gloves. Its convenient dial design also enables you to quickly hide the information on the screen when needed (“screen blanking”).
- The monitor’s **transflective display** uses reflected light from the environment — even direct sunlight — to provide a bright image that can be easily viewed under any lighting conditions.
- The monitor’s **autosync function** eliminates the need for adjusting the monitor for the best image— the monitor automatically makes any needed adjustments whenever it is powered up or the display mode is changed.
- Two **Type A USB connections** are available for connecting peripheral devices such as a keyboard, mouse, or USB drive.
- The monitor supports **standard VGA signal input** — native 800 x 600 SVGA resolution — as well as 1024 x 768 XGA and 640 x 480 VGA.
- The monitor’s magnesium enclosure is splash-resistant, and designed to withstand shock and vibration for greater endurance and reliability.

Package Contents

The following items are shipped with the display. *If any of these are not in the shipping container, please contact Planar.*



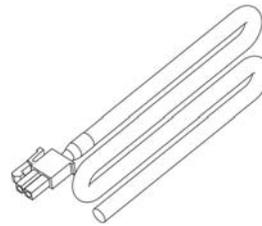
LX1200 Touch Monitor



Touch Screen Driver
Installation CD-ROM



Planar Landing Strip — includes
safety, warranty, and
Planar contact information



Power Input Cable

Note: Mounting hardware and connecting cables sold separately.

Installing the LX1200TR

Installing the LX1200TR monitor consists of three steps:

1. Mounting the monitor using the mounting interface built into the monitor's back cover — see below.
2. Connecting the monitor to the computer and power source — see page 8.
3. Installing the touch screen driver software — see page 11.

Before Installing

Keep the following in mind while installing the monitor.

- The monitor should be visible to the driver only if it is used for navigation, system control, or vehicle information. If the monitor will be used for other purposes, it should be installed in such a way that it will only operate while the vehicle is not moving (such as when the parking brake is in use). Review all applicable state and local laws and regulations to make sure the monitor is used properly and safely.
- The installed monitor must not interfere with the driver's vision.

Step 1 — Mounting the Monitor

The back of the LX1200TR includes a mounting interface that you can use to mount the monitor on a swing arm or other LCD monitor fixture, as follows.

IMPORTANT: FOR BEST RESULTS, USE THE MOUNTING HOLES AROUND THE EDGES OF THE MONITOR.

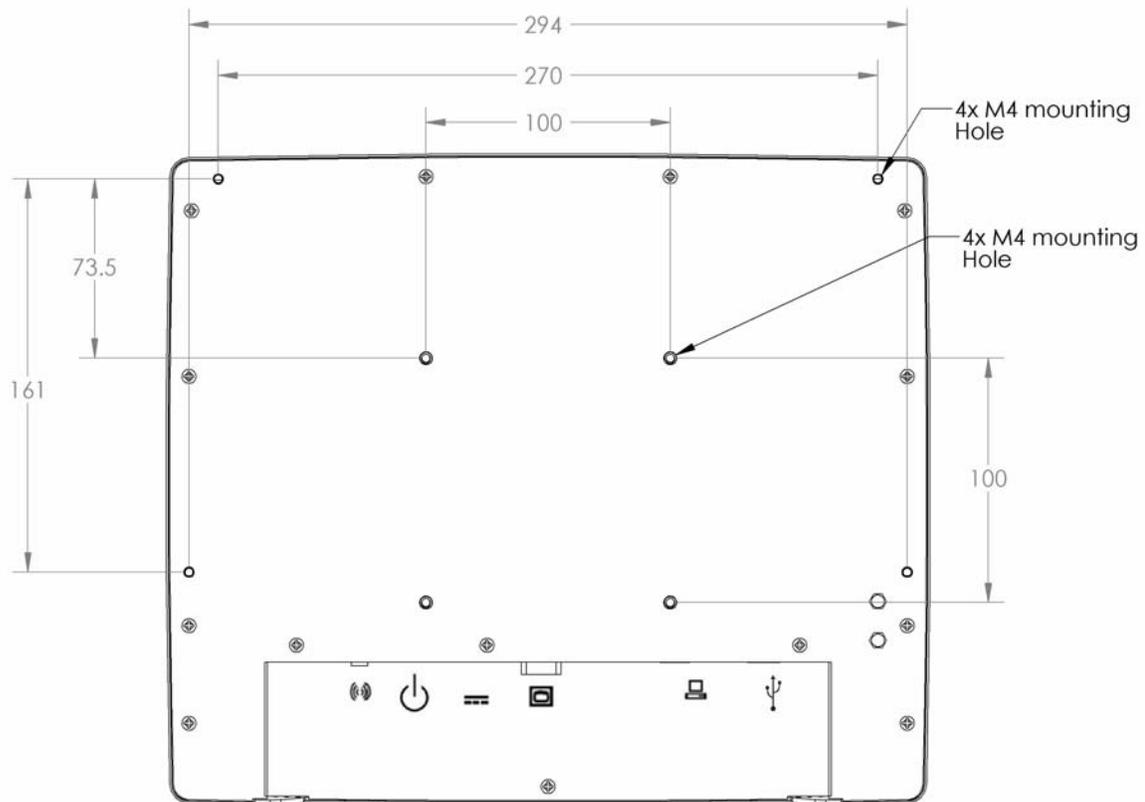
1. Mount the fixture in its planned location according to the instructions included with the fixture.
2. Attach the monitor to the fixture using the attachments on the back of the monitor, shown in the following diagram.

Notes: Use only a Planar-approved mounting bracket for in-vehicle use.

Mounting bracket and hardware are not included with the monitor, and must be obtained separately.

Use the proper M4 x 0.7 screws for attaching the monitor to the mounting fixture.

For low-vibration environments, the back of the monitor includes a VESA Standard 100mm mounting pattern.



Step 2 — Connecting the Monitor

Once the LX1200TR is mounted in place, connect it to the computer (or other video source) and the 12 VDC power supply as follows.

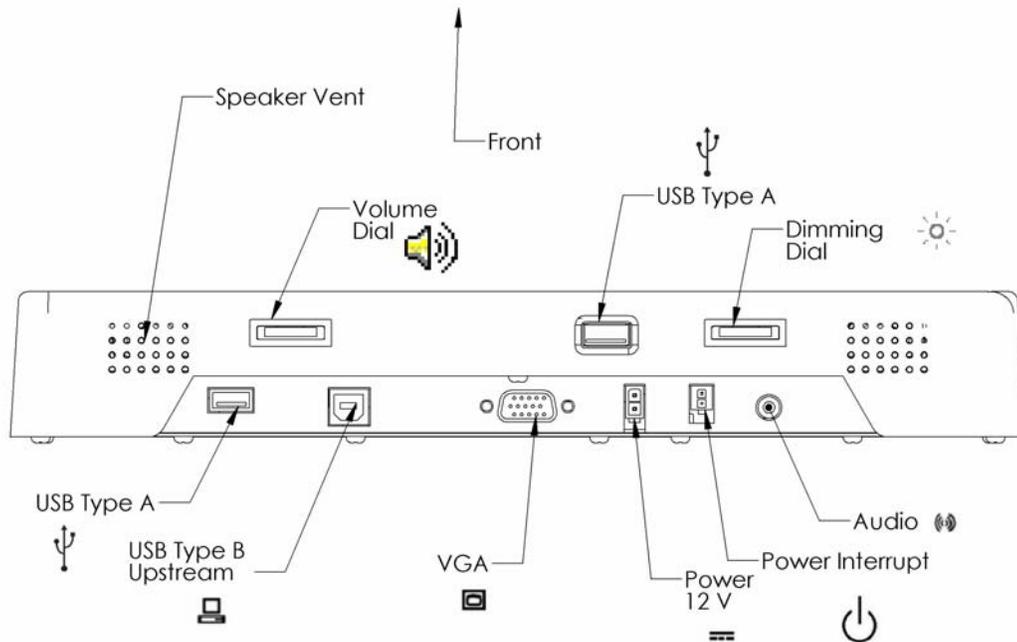
Note: This procedure refers to connections to and from the computer. However, depending on your particular hardware configuration, these connections may be to a dock or other device rather than directly to the computer.

1. As needed, route any data and power cables from the computer to the monitor.
2. Make sure the computer is turned off.
3. Connect the 12 VDC power supply cable to the monitor's power supply.

Notes: Use a 5-Amp fuse in line to the power source.

Also, to extend battery life, you should install a device that shuts off power to the monitor while the monitor is inactive. (An example is First Mobil Technologies' Voltage Armor product. www.firstmobiletechnologies.com.)

4. Connect the power supply and power interrupt cables (for the All-In-One power switch, if your computer or docking station is so equipped) to the connectors on the bottom of the monitor. See the following diagram for connector locations.

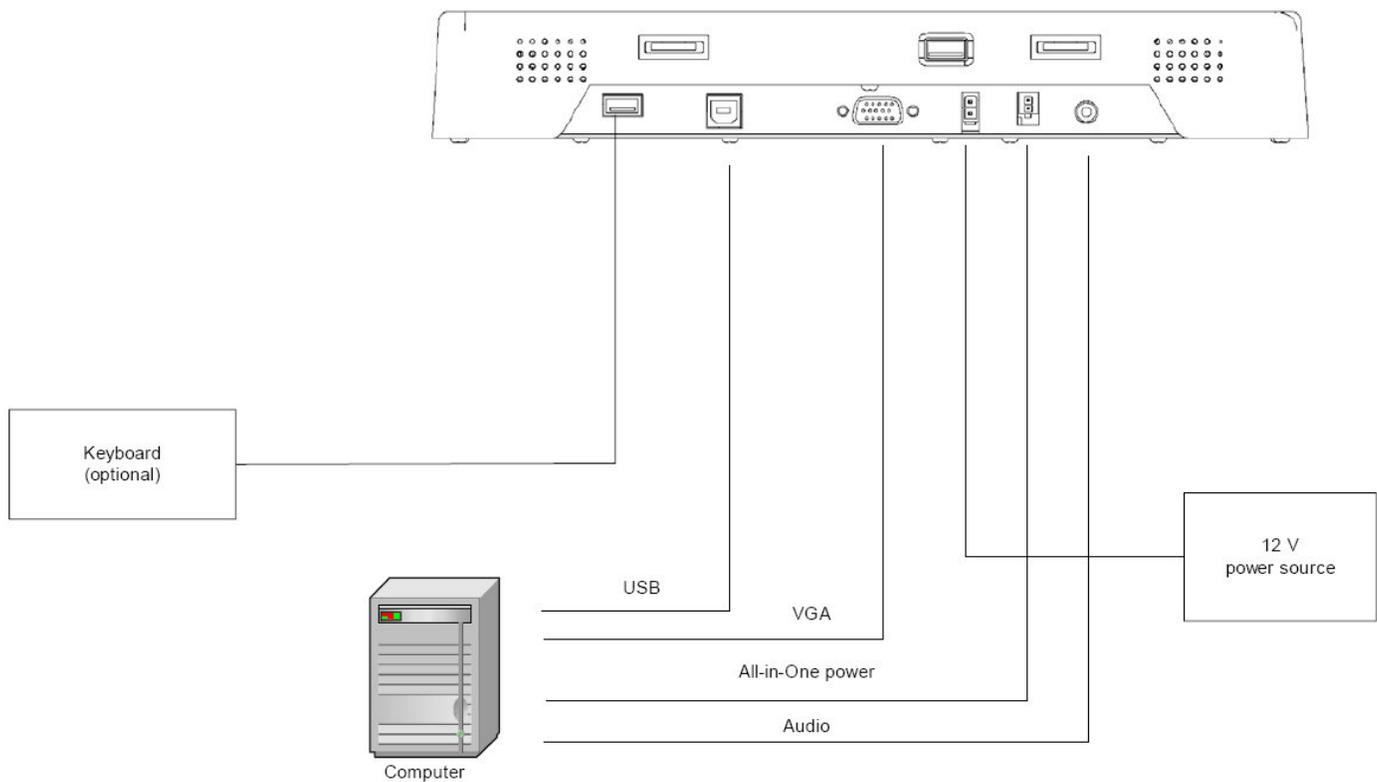


Notes: If needed, connect an audio cable to the audio port on the monitor, and to the headphone or audio line output connector on the computer.

If an external keyboard or other USB device will be used with the monitor, plug it into either of the monitor's Type A USB connectors.

Two USB devices can be connected to the monitor.

The following figure shows typical connections.



5. Turn on power to the computer. The monitor then turns on as soon as it receives a video signal from the computer, and its LED turns green.

Also, the first time the monitor is powered up, it automatically displays a test pattern of repeating colored screens (black, white, red, green, and blue) until video a video signal is detected.

6. The LX1200 monitor is Windows plug and play compatible. Install the monitor's driver software and configure the monitor's touch screen as needed — see below.

Note: For best results, adjust the display mode of the computer to a resolution of 800 x 600, and a refresh rate of 60 Hz.

Step 3 — Installing the Touch Screen Driver

Before using the monitor for the first time if desired, install its driver software from the Touch Screen Driver Installation CD-ROM included with the monitor or from www.planar.com/support.

Note: The LX1200 touchscreen monitor is Plug-and-Play compatible, and requires only Microsoft Windows® 2000 or XP and a USB connection to operate.

For enhanced touch screen features (including drag and drop, touch activation on lift-off, enhanced touch accuracy, and calibration) you can load the touch screen driver from the "Touch Screen Driver Installation" CD included with the monitor.

Please note: the LX1200 is Microsoft Windows® HID (Human Interface Device) compatible. No additional software driver is required for general operation of the monitor. Simply plug in the USB cable to the monitor and computer and power up. The computer will automatically recognize and operate the LX1200 monitor.

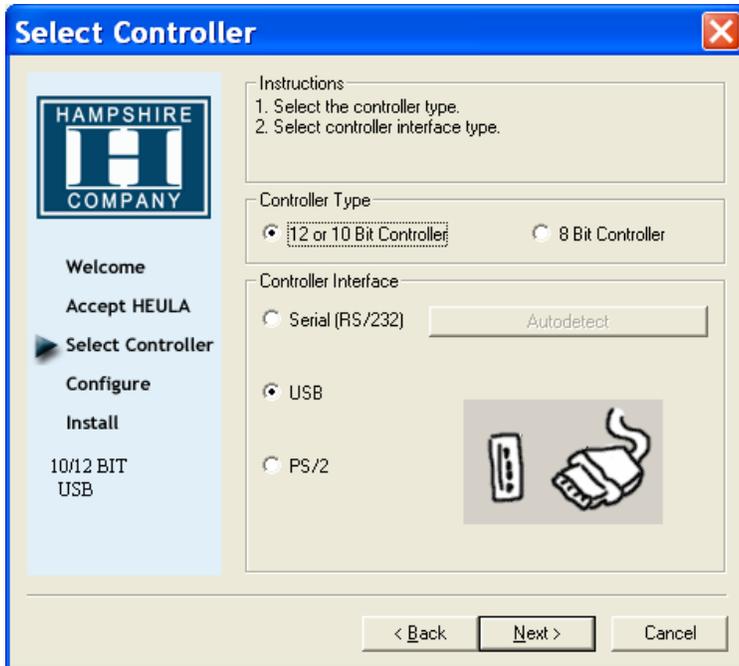
The following Microsoft Windows operating systems are supported by the Planar touch driver: Microsoft Windows 2000 and XP.

Driver Installation Process:

1. Be sure that the USB cable is not connected to the PC.
2. Load the CD-Rom.
3. Click on setup file.
4. Click Run
5. Click Next
6. Read and accept the license agreement



7. Click 10 or 12 bit controller

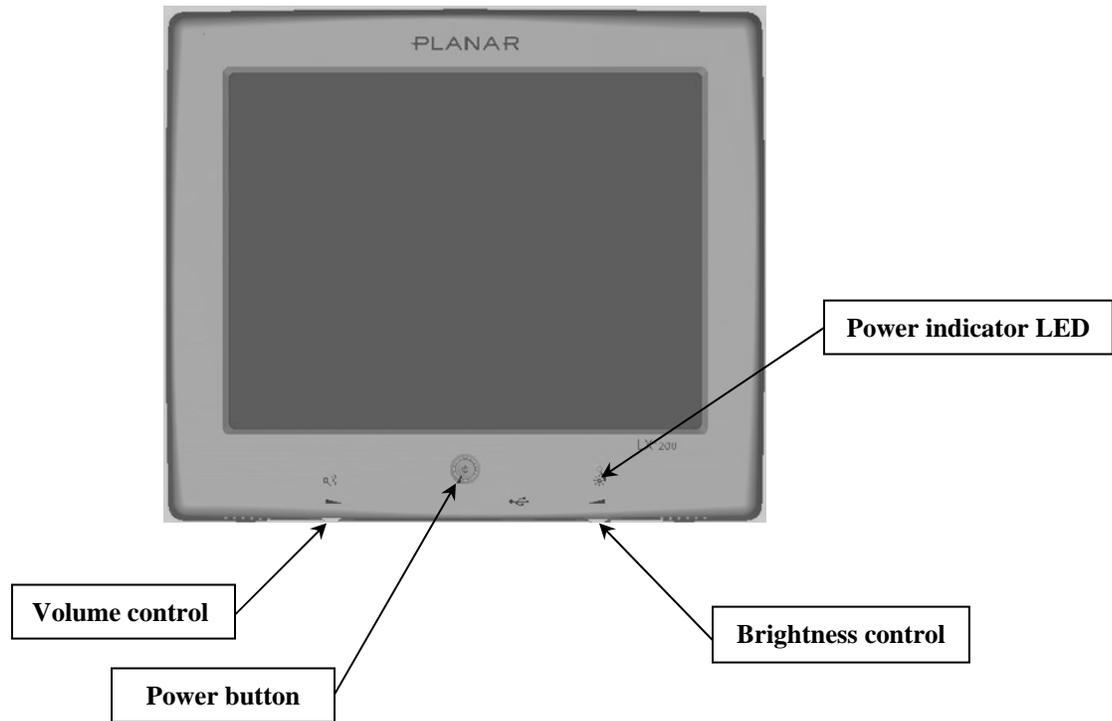


8. Click finish
9. Reconnect the USB cable to the computer prior to use.
10. Please note: if the touch screen isn't active, simply reboot your system.

Please read "Readme.txt" located in the unzipped file folder for additional information and assistance.

Using the LX1200TR

Monitor Controls



Control	Function
Volume control dial	Increases and decreases the volume of the display.
Power button	Turns the connected computer on and off — see page 14 for details.
Power indicator LED	Shows the power state of the monitor: <ul style="list-style-type: none">▪ Green: power is on, all systems OK▪ Amber: display brightness is fully turned down (“blanked”)▪ Red: the monitor is receiving no video input▪ Off: DC power is off
Brightness control dial	Increases and decreases the brightness of the display. Turning the dial all the way clockwise will “blank” the display to hid information if needed.

Turning the Monitor On and Off

The monitor's power button controls power to the *computer*. The monitor itself turns its display on and off according to whether it is receiving a video signal.

- To turn on the computer, press the power button on the front of the monitor. The monitor then turns on when it receives a good video signal from the computer (and the monitor's power indicator turns from red to green).
- To turn off the computer, press the power button again.

Note: Be sure to configure the computer's power options, including how the computer responds when the power button is pressed. See Windows on-line help for details.

The monitor goes into standby whenever the computer is put into sleep or into hibernation.

Using the Touch Screen

The LX1200TR's touch screen allows you to operate the computer by touching the screen with a finger or stylus, rather than using a mouse or keyboard.

CAUTION: NEVER TOUCH THE SURFACE OF THE DISPLAY SCREEN WITH A SHARP OBJECT.

Navigating the Touch Screen

- To click an item, tap the item once.
- To double-click an item, tap the item twice rapidly.
- To drag an item, touch the item, and then drag it along the screen to the new location.
- To move the cursor, touch the screen and move the cursor as needed.

Cleaning the Monitor

Clean the monitor's touch screen periodically to keep the display image bright and sharp, and to keep the touch screen functions working properly.

- Always turn off the monitor before cleaning.
- Clean the touch screen only with a dry soft cloth.

If this does not clean the screen adequately, use water or mild glass or window cleaner (*that does not contain ammonia*) applied to the cloth, and not to the display.

CAUTION: DO NOT APPLY LIQUIDS TO THE DISPLAY.

- Clean the monitor housing with a soft cloth moistened with mild detergent, 70% isopropyl alcohol, 1.6% aqueous ammonia, or household window cleaners.
- Never apply abrasive cleaners, waxes, or solvents to the monitor.

Appendices

Troubleshooting the Monitor

If you have trouble with the LX1200TR monitor, try to solve the problem using the suggestions in the following lists *in the order shown*.

If the problem persists, please contact Planar (see “Contact Information” at the end of this Manual).

Note: Refer to the computer’s documentation for help with configuring the computer’s settings.

Problem: No image appears.

- Make sure the brightness is not turned all the way down.
- Make sure all data and power cables are properly connected to the monitor and to the computer and power supply — see page 8 for details.
- Make sure the pins on the cables and connectors are not crooked or broken.
- Make sure the computer is functioning properly, and has not entered power-saving mode. (You may also want to disable the computer’s power-saving feature.)

Problem: The image is cut off or distorted.

- Make sure the computer’s image resolution is set to one of these resolutions: 800 x 600 (SVGA), 1024 x 768 (XGA), or 640 x 480 (VGA).

Problem: The image is scrolling.

- Make sure the VGA signal cable is securely connected at both ends.

Problem: No sound.

- Make sure the volume is not turned completely down.
- Make sure the audio cable is securely connected at both ends.
- Make sure the computer’s audio is not muted.

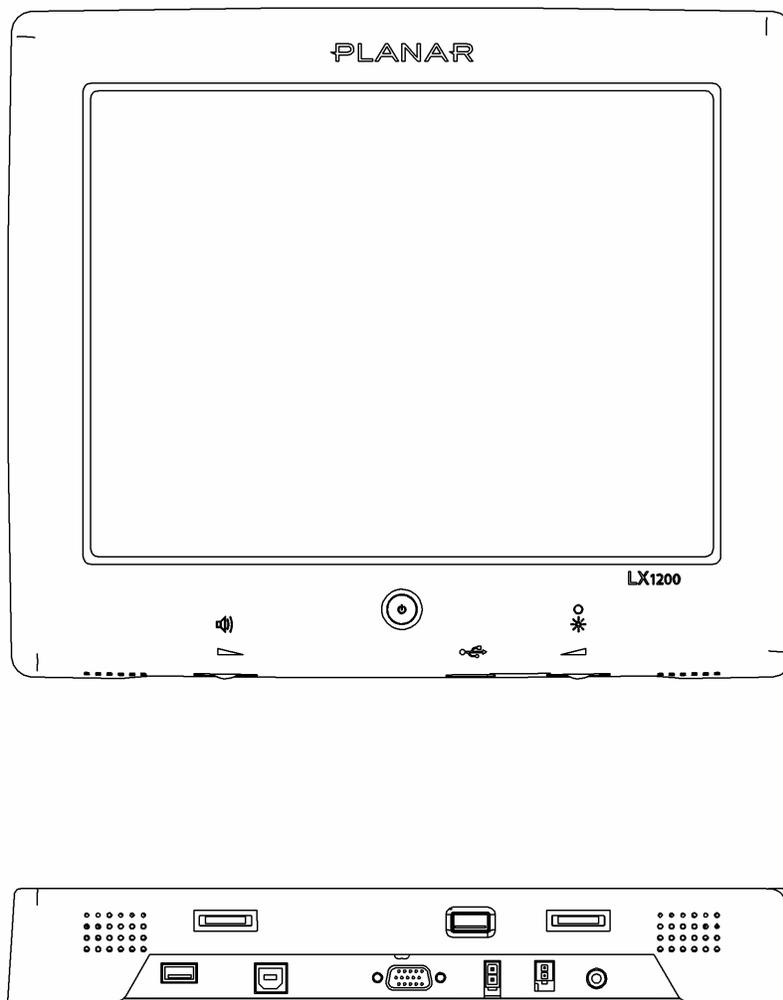
Problem: The monitor does not appear to respond to the touch screen.

- Make sure the USB cable to the computer is securely connected at both ends.

Specifications

Dimensions

- **Size:** 313 mm (12.3 in) width x 267 mm (10.5 in) height x 46 mm (1.8 in) thickness
- **Screen size:** 12.1 inch diagonal
- **Weight:** 5 kg maximum



Video Specifications

- **Input:** standard VGA
- **Resolution:** SVGA (800 x 600); supports 1024 x 768 (XGA) and 640 x 480 (VGA)
- **Response time:** < 35 ms (typical)
- **Viewing angle:** 140° horizontal, 45° up, 55° down (typical)
- **Brightness:** 315 cd/m², transfective panel (typical)
- **Brightness in high ambient light conditions:** 1000 cd/m²
- **Contrast:** > 250:1 at ambient illumination level ≤ 5 lux (typical)
- **Autosync:** on power-up and any change of video mode, will automatically detect any supported video resolution and display the image accordingly

Electrical Specifications

- **Power input:** 12 VDC nominal
- **Power input voltage range:** 8 to 18 VDC, with transient protection resident on the monitor
- **Maximum power:** 25 W
- **Typical power:** less than 17 W
- **Power consumption in power-saving (standby) mode:** 0.7 W
- **Speaker/amplifier power:** 2 W per speaker

Electromagnetic Compatibility (EMC)

- ESD, 6 kV contact and 8 kV air discharge
- Emissions
 - 47 CFR, Part 15, Subpart B, Class B – Conducted and Radiated Tests
 - CE EMC Directive 89/336/EEC
 - EN55022:1998+A1:2000+A2:2003; Class B Conducted & Radiated Test
 - EN61000-3-2:2000, Class D Harmonic Current Emissions
 - EN61000-3-3:1995+A1:2001 Voltage Fluctuations and Flicker

Immunity Characteristics

- EN55024:1998+A1:2001
- IEC 61000-4-2:2001 Electrostatic Discharge Immunity Test
- IEC 61000-4-3:2002 Radiated Radio-Frequency Electromagnetic Field Immunity Test
- IEC 61000-4-4:1995+A1:2000+A2: 2001 Electrical Fast Transient/Burst Immunity Test
- IEC 61000-4-5:2001 Surge Immunity Test
- IEC 61000-4-6:2001 Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields
- IEC 61000-4-8:2001 Power Frequency Magnetic Field Immunity Test
- IEC 61000-4-11:2001 Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety

- UL/CSA 60950-1

Environmental Specifications

Temperature

- Operating: -10 to 55 °C
- Operating Survival: -25 to 65 °C
- Storage: -30 to 75 °C

Humidity

- Operating: 5 to 90% RH, 40 °C, non-condensing
- Non-operating: 5 to 93% RH, non-condensing

Altitude

- Operating: 10,000 ft (IEC 60068 PT2-13, 4 hours)
- Non-operating: 15,000 ft (IEC 60068 PT2-13, 4 hours)

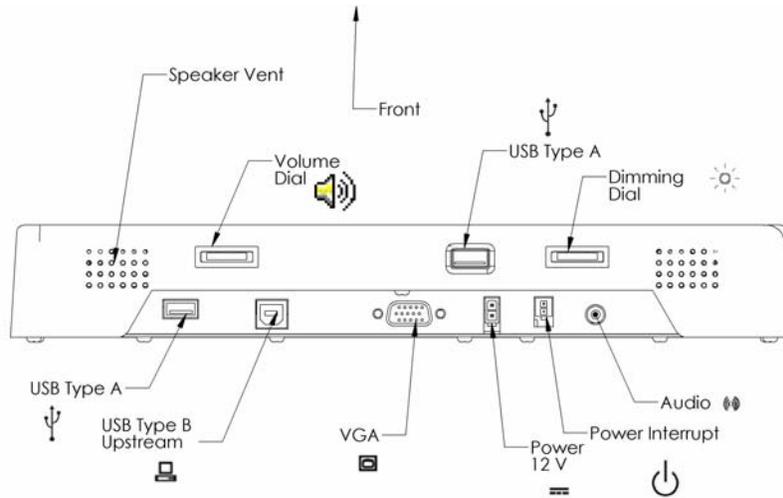
Vibration

- Operating (random): 10 to 500 Hz, 3.0 G rms acceleration, 3 hours per axis

Shock

- Operating/Non-operating: 50 G, 11 ms duration, ½ sine, 3 shocks per axis (IEC 60068 PT2-27)

Connectors



- J1: Video input**

15 pin D-Sub VGA, female, Zhangjiagang SBFR15 or equivalent
- J2: Power interrupt**

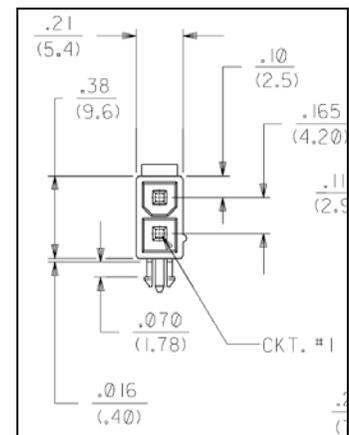
CviLux CP35 2P*H00 (black); terminal part number 43030-0007
Mating connector is Molex Micro Fit Jr., Molex part number 43025-0200, terminal part number 43030-0007.
The power interrupt switch is connected to a single pole single throw normally open push button (SPST N.O) switch. This can be connected to your docking station or computer's power button.
- J3: Audio input**

3mm jack
- J4: USB upstream Type B**

Type B for connecting to the computer
- J5: DC power input**

Chassis-mounted, two-pin connector (Molex Mini Fit Jr Header 5569 Molex p/n 39-30-0020)
The table below lists the connector's pin assignments, and the figure at right shows the physical layout as seen by the interface cable from the DC power source.

Pin number	Signal
1 (Square)	Positive input voltage (12V)
2 (D-Shape)	Return (GND)



- J7, J8: USB downstream Type A**

For connecting peripheral USB devices, powered (I assume??)

Support and Service

Planar is a U.S. company based in Beaverton, Oregon and Espoo, Finland, with a world-wide sales distribution network. Full application engineering support and service are available to make the integration of Planar displays as simple and quick as possible for our customers.

RMA Procedure: For a Returned Material Authorization number, please contact Planar Systems, Inc. with the model number(s) and serial number(s). When returning goods for repair, please include a brief description of the problem, and mark the outside of the shipping container with the RMA number.

Planar Systems, Inc.

Customer Service

24x7 Online Technical Support: <http://www.planar.com/support>

Email: PlanarSupport@planar.com

Americas Support

1195 NW Compton Drive

Beaverton, OR 97006-1992

Tel: 1-866-PLANAR-1 (1-866-752-6271)

Hours: M-F, 8am-8pm Eastern Time (5am-5pm Pacific Time)

Europe and Asia-Pacific Support

Olarinluoma 9 P.O. Box 46

FIN-02201 Espoo, Finland

Tel: +358-9-420-01

Hours: M-F, 7:00am - 4pm CET

© 2006 **Planar Systems, Inc. 05/06** Planar is a registered trademark of Planar Systems, Inc.

Other brands and names are the property of their respective owners.

Technical information in this document is subject to change without notice.