

GeneralTouch[®]

Touch Screen Hardware

Installation Guide

Revision 1.00

General Touch Technology Co., Ltd

www.generaltouch.com



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PREFACE

Thank you for choosing our Surface Acoustic Wave touch screen products!

This guide is the hardware installation manual of GeneralTouch surface acoustic wave touch screens. We hope it will help you to make better use of our touch screens.

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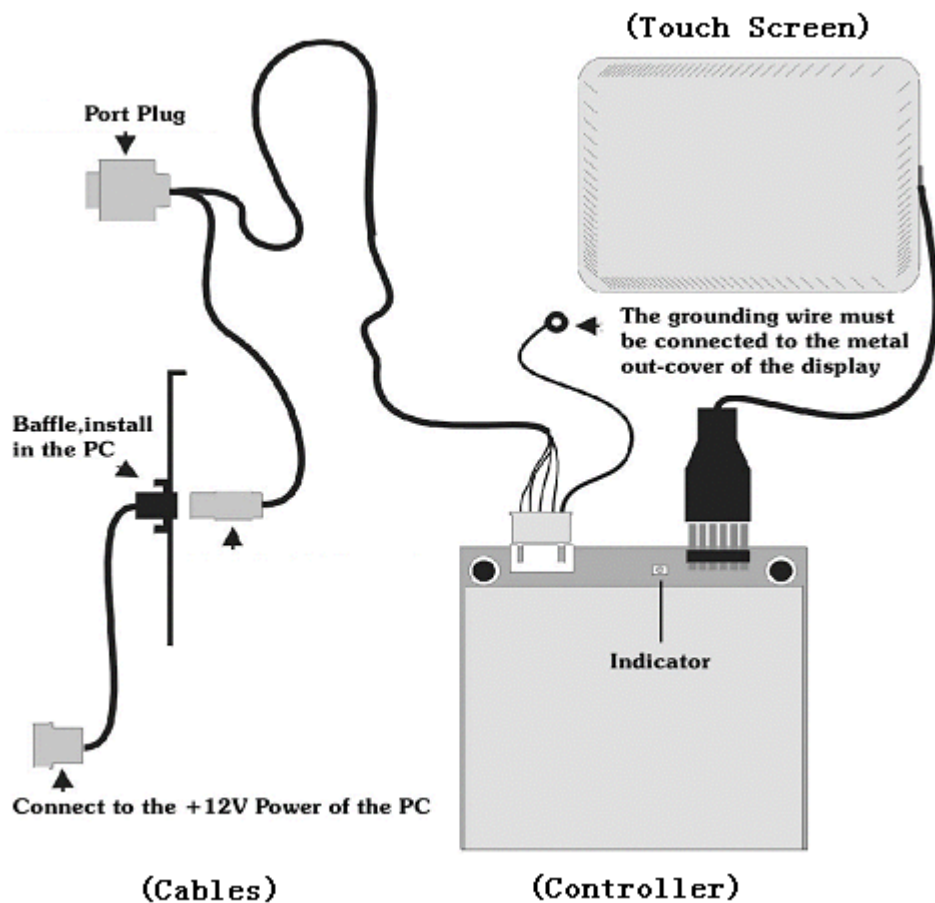
1. Components of touch screen

According to the installation, there are the components and the accessories of General Touch touchscreen.

Components:

- ◆ Touch screen
- ◆ Controller
- ◆ Cables

These components are showed as follow:



Accessories:

- ◆ Double-side adhesive foam tapes
- ◆ Dust-proof strips
- ◆ Tinfoil papers / Aluminum foils
- ◆ Washers
- ◆ Plastic fastening belts, etc.

Tools:

- ◆ Cross screwdriver, Flat screwdriver
- ◆ Diagonal cutting pliers, Sharp-nose pliers
- ◆ Knife, Scissors, etc.

2. Install touch screen in CRT monitor

2.1 Disassemble monitor

The purpose of disassembling the monitor is to expose the front surface completely and take down the display so as to install the touch screen.

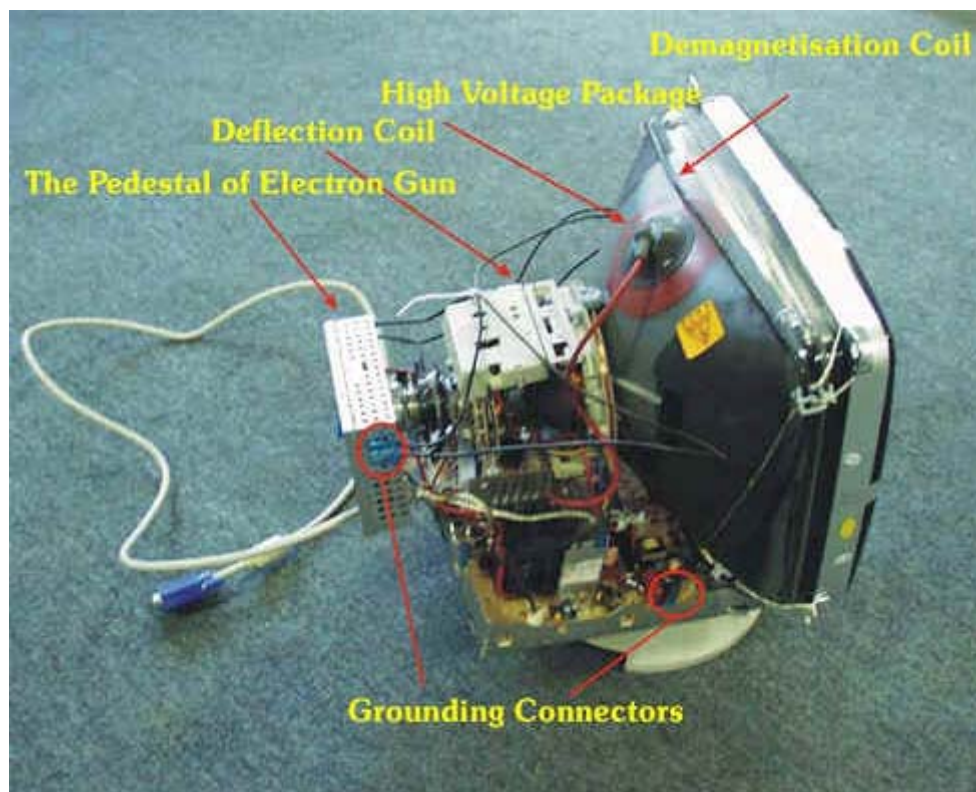
Usually the structure of the monitor prevailing on the markets varies, but the deflection coil, high voltage conducting wire and the electron gun foundation are connected to the CRT.

It is advisable to manage to take out the CRT by unloosing the screws of the outer cover which is used to fix the monitor, and disconnecting the connecting cables as less as possible, no matter how complicated the structure and circuit of the monitor are, but while disconnecting cables, please remember the positions of the connectors so as to make right connection when reassembling.

Take SAMSUNG 550S as an example:

By comparison, there is no other steel framework inside the SAMSUNG 550S, it is easier to disassemble and thus to install the touch screens.

Directions of the inner structure of the monitor



SUMSANG 550s Inner structure

Notes 1 for disassembling the monitor:

- Before taking out the high voltage wires, be sure to discharge:

Connect the metal frame of the CRT with a screw driver, hold the isolating handle of another screw driver with one hand to touch the conducting wires, hold the insulating handle of the screw driver, put it into the high-voltage rubber loop to connect the connecting wire, and contact them again. According to its charge load, electric sparkle may be heard.

- When taking out the CRT, be sure not to grasp or hit the neck of the CRT tube and the electron gun, because the electron gun is glass-structure, which is easily damaged by hitting, be sure to pay attention to the safety of the electron gun.

Notes 2 for disassembling the monitor:

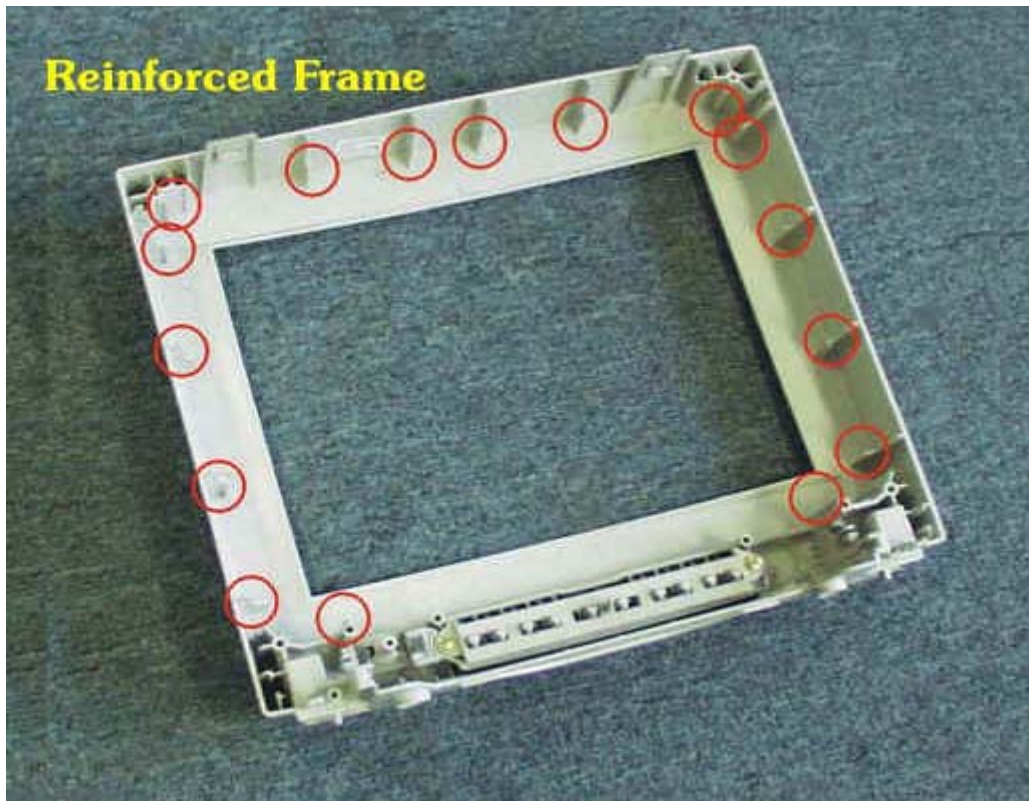
For some large-size monitor with interior steel frame, such as SONY 19", SAMSUNG 21", and PHILIPS 19", the CRT is not installed on the front cover of the monitor, while it is installed in reverse on the steel frame inside the monitor, the anti-vibration of such structure is much better than that of the traditional structure, which is especially suitable for long distance transportation. For this structure, if the front cover of the monitor is not connected to steel frame, it is easier to install the touch screen, the CRT need not taking down, because the front surface of the CRT can be exposed completely once the front cover is removed.

However, if the front cover of the monitor is connected to the steel frame, it is comparatively troublesome to disassemble the front cover of the monitor, because the steel frame must be removed before taking out CRT.

Nap the front cover of the monitor

After removing the CRT and the front cover of the monitor, try to put the touch screen into the front cover of the monitor. Commonly, some reinforces are made inside the front cover, if they will hinder the touch screen from putting in or damage the connecting wires on the side of the touch screen, you should cut them away with pliers. (After cutting, be sure to make the cut smooth by abrading, because the sharp cut may damage the connecting wires on the side of the touch screen. If the space permits, the cut can be bonded with adhesive foam tape.)

The reinforces (reinforced frame) inside the front cover of the monitor:



2.2 Install touch screen

◆ The sticking of the dust-proof strips

To stick the dust-proof strips inside the front cover of the monitor has two purposes:

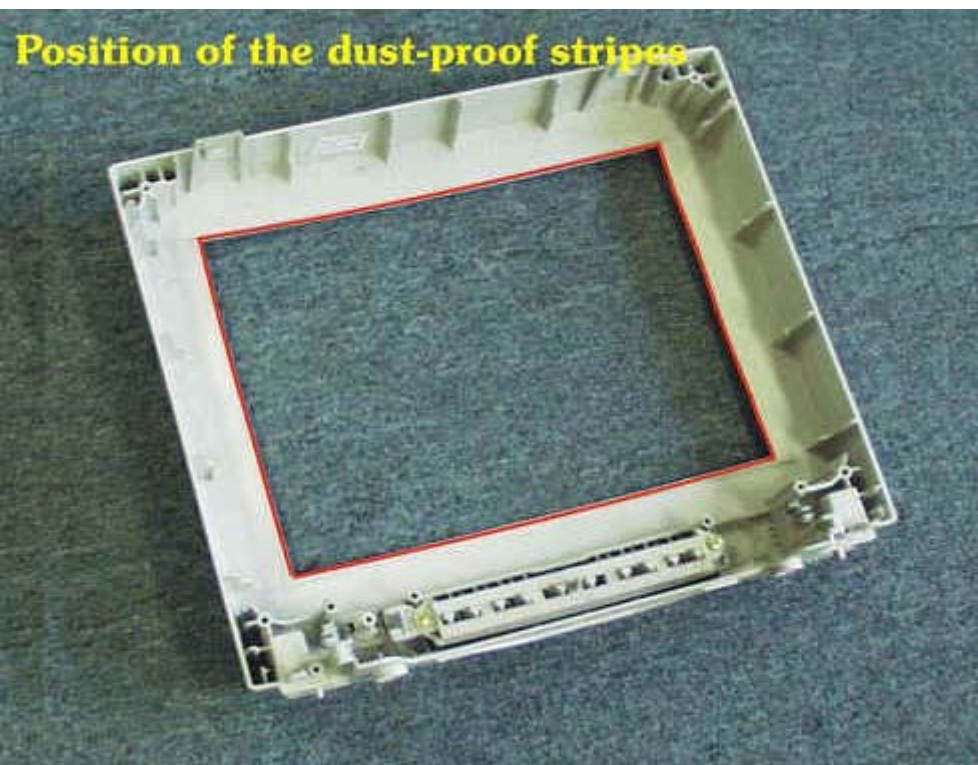
1> To avoid crushing transducers

For some kinds of monitors, such as PHILIPS, the monitor frame of the front cover is not high enough, if the dust-proof strips are not applied when installing the touch screen, the transducers may be crushed, thus the touch screen cannot work properly. Especially on the pure flat monitor, this case stands out. By sticking the dust-proof strips, the space can be made for the transducers, thereby solve this problem.

2> To keep the reflection strips out dust

Too much dust accumulating on the reflection strips of the touch screen will result in slow response of touch, partial touch function lost. To stick the dust-proof strips can solve such problems effectively.

The position for sticking the dust-proof strips:



- ◆ Stick the double-side adhesive foam tape



Stick the double-side adhesive foam tape outside the display area of the CRT, when sticking the touch screen, tear the outer layers of the double-side adhesive foam tape.

◆ Nap the rear cover of the monitor

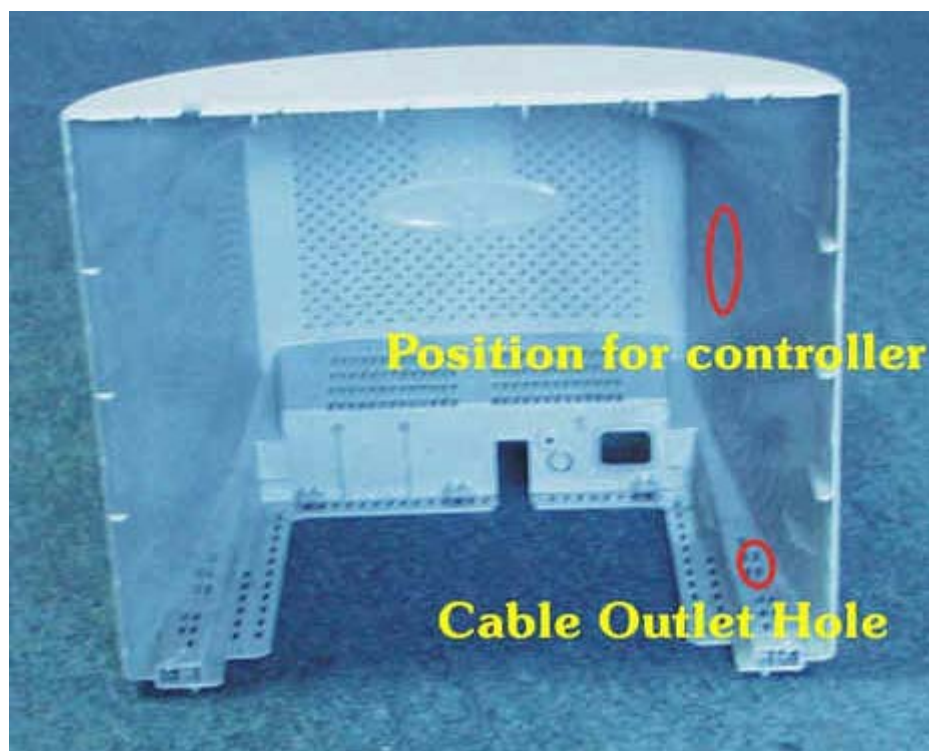
In order to observe the working state of the controller, we suggest the controller is installed outside the monitor.

However, for the sake of the beauty, the controller can be bounded with double-side adhesive foam tape or try to fix the controller inside the monitor with screws, at the same time, use a cant pliers to cut a hole on the rear cover of the monitor, through which the signal cable or connector cable can be put through.

Remarks: There are no set positions for the controller and the cable outlet, mainly ensure the positions not to influence the inner space of the monitor, reinstallation of the monitor.

(The wrong positions sometimes will cause the rear cover of the monitor can not be installed or fixed)

The cable outlet of the rear cover of the monitor:



◆ The cleaning and sticking of the touch screen

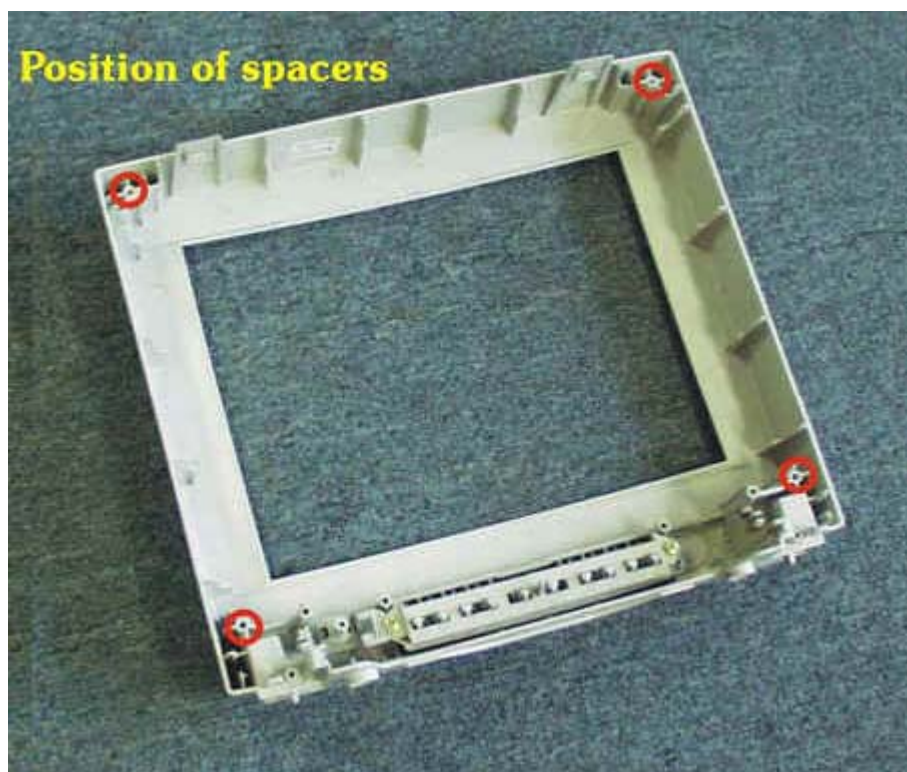
Thoroughly clean the two surfaces of the touch screen as well as the display area with the glass detergent.

After cleaning, collimate and stick the touch screen onto the display carefully, under the prerequisite to guarantee the safety of the transducers, try to make the reflection strips outside the display area of CRT.

The side with 3 transducers of touch screen is upward. And seal the gaps of the four sides of the touch screen with high temperature-resistant double-side adhesive tape immediately to make sure that there is no dust among the gap.

2.3 Reinstall monitor

Because the touch screen and the double-side adhesive foam tape are added between the display and the front cover, Some rubber washers should be added when installing the CRT, and then put the CRT into the front cover. Find the outlet on the rear cover of the monitor for the touch screen cable, please see to it that the touch screen cable should round the high voltage area. Connect all the connecting wires, fetch out the signal cable or the connecting cable, reinstall and fix the touch screen.



The installation method 2 of monitor:

First make the touch screen aimed at the right position, put the front cover of the monitor, and then put

the CRT into the front cover of the monitor carefully.

Connect all the connecting wires, fetch out signal cable or connecting cable, reinstall and fix the display.

The advantages of this method:

To know in advance if the transducers are safe, and if the reflection strips are outside the display area.

Disadvantages:

When installing the large-size monitor, if the rubber washer are not high enough, the touch screen may be crushed into pieces;

The gaps of the four sides of touch screen can not be sealed up.

Notes for assembling the monitor:

- ◆ If the front cover of the monitor is placed on worktable horizontally, then put the CRT into the front cover, in this way, be sure to block up the lower parts of the front cover to ensure the touch screen does not touch the worktable, because the surface of the touch screen is arc, which is easily cause the touch screen crushed into pieces.
- ◆ The height of the rubber washers should slightly exceed the total height of the touch screen and adhesive foam tape.
- ◆ When putting the CRT into the front cover of the monitor, Be sure to collimate the position of the installation holes of the CRT and front cover of the monitor, otherwise, the image of the display will be caused to incline, thus resulting in reinstallation.

3. Install touch screen in LCD monitor

3.1 Disassemble LCD monitor

Open the front and rear cover of the monitor by turning the screws on the rear cover, the switch circuit board and the LCD panel.

The positions of the parts of the monitor are showed as drawing 1.

3.2 Stick dust-proof tapes

Stick the dust-proof tapes on the convex of the inner side of the front cover of the monitor.
As shown in drawing 2.

Notes:

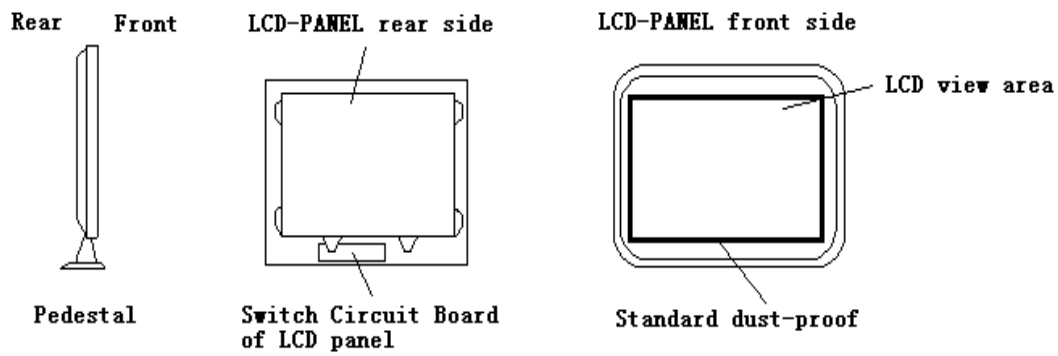
- 1> The edge of the inner side of the dust-proof must flush with that of the display area.
- 2> Each ends of the dust-proof stripes on the four corners must be close connected with no gap.

3.3 Stick double-side adhesive foam tapes

Stick the double-side adhesive foam tapes on LCD Panel.
Shown as drawing 3.

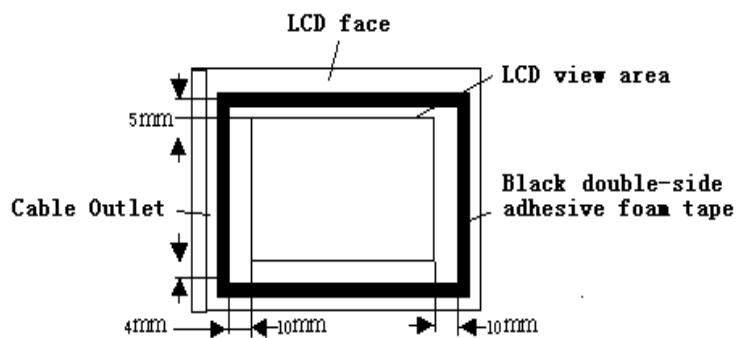
Notes:

- 1> The distance between the edge of the inner sides of the double-side adhesive foam tapes and that of display area of the monitor is shown as drawing 3.
- 2> Each ends of the double-side adhesive foam tapes on the four corners must be close connected with no gap.



Drawing 1

Drawing 2



Drawing 3

Operating Sketch

3.4 Stick touch panel and anti-static aluminum foil

Steps:

- 1> Clean the monitor and the touch screen.
- 2> Stick the touch panel on the LCD-Panel.
- 3> Stick the touch panel with aluminum foils.

Notes:

- 1> When sticking the touch panel, try to keep equal distance between the inner side of reflective strips and four sides of the view area of the LCD.
- 2> Drawing 4 shows the positions for the Aluminum foils to be stuck on the touch panel.

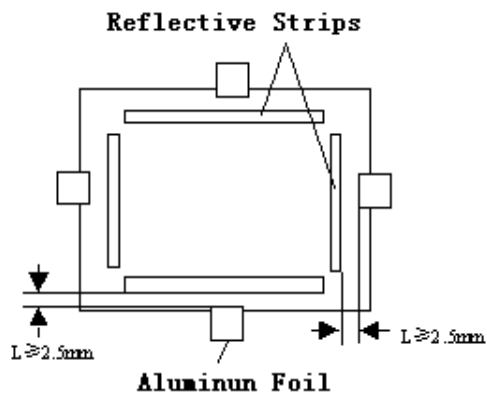
3.5 Fix LCD Panel

Steps:

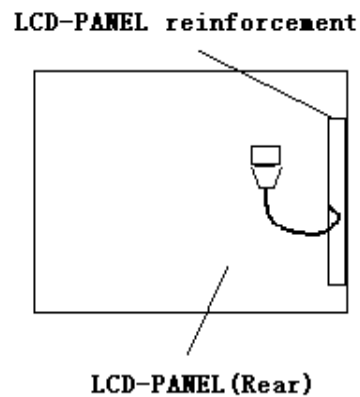
- 1> Put the touch screen and LCD panel into the front cover of the monitor.
- 2> Make the post with the screw thread on the front cover high with washers.
(Each washer is placed between the panel and the post with the screw thread)
- 3> Fix the LCD panel and the circuit board with the screws on the front frame of LCD.

Notes:

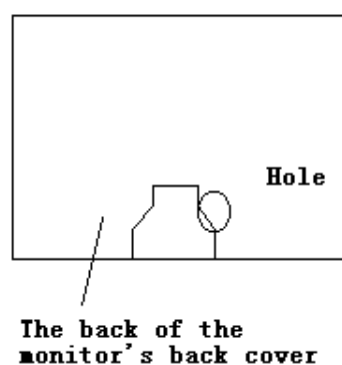
The cable plug goes through the reinforcement on the right side. As showed in drawing 5.
Turn the screws tightly.



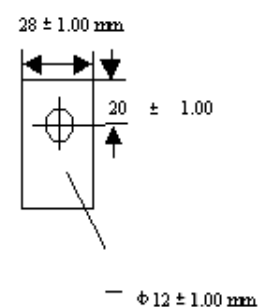
Drawing 4



Drawing 5



Drawing 6



Operating Sketch

3.6 Mount and shield controller

Steps:

- 1> Stick the controller on the LCD-Panel with the double-side adhesive foam tapes, the position as show in drawing 7.
- 2> Stick the aluminum foil on the shielding cover of the LCD circuit and controller, the position is showed as drawing 7.

Notes:

- 1> The position of sticking the controller is showed as drawing 7.
- 2> The position for aluminum foil:
The right edge of the aluminum foil is stuck on the right side of the panel, and lower 10mm than the edge of the panel.

3.7 Connect wires

Steps:

- 1> Connect the plug of the touch panel wire, the controller wire to the controller, and be sure that the connectors link well.
- 2> Connect the grounding wire to the ground
- 3> Fasten the connector cables, grounding wire and controlling wire of the switch circuit board with plastic fastening belts.
(The positions for connecting wires shown as drawing 7)

Notes:

- 1.The panel cable, connecting cables and connectors must not be connected wrong.
 - 2.The grounding wire is connected at the same place as that of the monitor's grounding wire.
- Connector cable must be well connected with the wire of the LCD switch

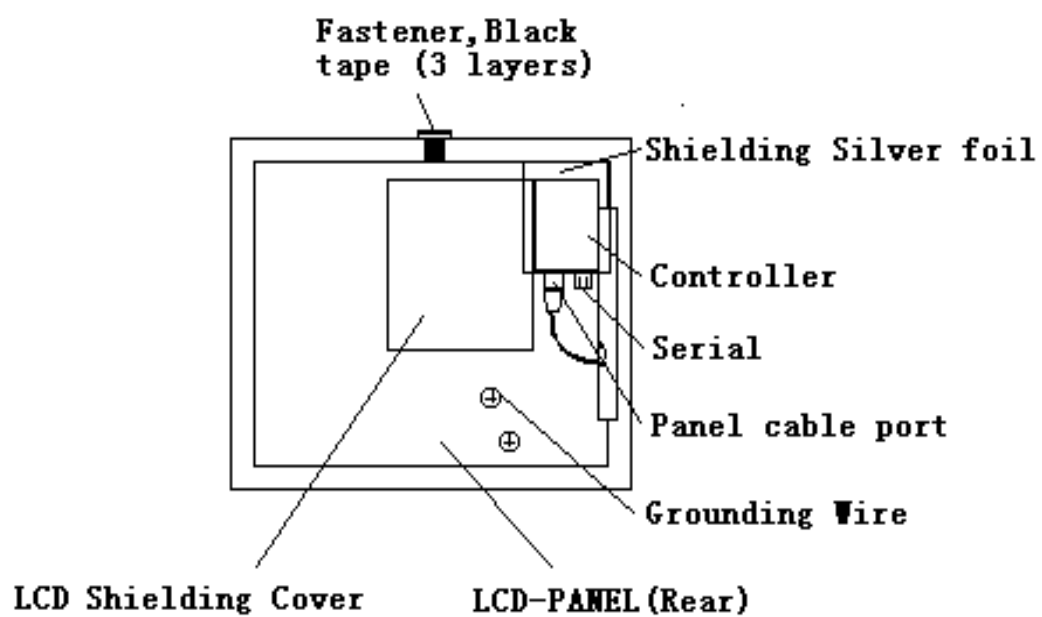
3.8 Assembly

Steps:

- 1> Tightly turn the screws of the switch circuit board of the LCD panel
- 2> Make the plastic clip on the upper part of the front cover high with the double-side adhesive foam tapes
- 3> Close the front and rear covers of the monitor
- 4> Put and turn the screws of the rear cover of the panel

Notes:

Make the clip high: use three pieces of double-side adhesive foam tapes with 4mm length and stick them together, please be sure that the glue do not block the hole.



Drawing 7

Operating Sketch

4. Test touch screen

Fix the educed cable of the touch screen, and mount the power baffle of the connector cable of the touch screen inside the computer, connect all the connector plugs, then start the computer, install the driver of the touch screen, test the touch screen, check if the image of the display incline, and if the power switch of the monitor and the buttons work properly.

Remark:

For the touch screen installation in other kinds of equipments, such as Kiosk, etc., please refer to the relevant parts of this manual.

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June, 2002 By Alex Lee