

prime **TOUCH**

Manual version 2.4

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1. What comes with your primeTOUCH?

We offer four different types of primeTOUCH: Integrated version, Overlay version, Lucent version and UHD Version. All other primeTOUCHes (also primeTOUCH IR protect) are customised versions.

1.1 Integrated Version

This version is fixed on a FHD display and cannot be removed by the user.

Parts of this version are:

- primeTOUCH frame with non-reflecting front glass fixed on the display
- Power supply cable for the display
- Remote control for the display
- USB cable (USB Type A Male / A Male)
- USB extension cable (USB Type A)
- External power supply for TOUCH
- CD ROM including driver and manual

1.2 Overlay Version

This version can easily be mounted on a display which fits its size.

Parts of this version are:

- primeTOUCH Overlay frame
- USB cable (USB Type A Male / A Male)
- USB extension cable (USB Type A)
- External power supply for TOUCH
- CD ROM including driver and manual
- where applicable: Mounting parts to fix the frame on the display

1.3 Lucent Version

This version has to be integrated in an adequate set up with external backlight.

Parts of this version are:

- primeTOUCH frame with special coated front glass fixed to the translucent panel
- Display power supply 22 inch: Mains adaptor
- Display power supply 46 inch: Mediaboard with mains adaptor and LVDS cable
- USB cable (USB Type A Male / A Male)
- USB extension cable (USB Type A)
- Touch power supply 22 inch: via USB
- Touch power supply 46 inch: External power supply with mini XLR connector
- CD ROM including driver and manual

1.4 UHD Version

This version is fixed on an UHD display and cannot be removed by the user.

Parts of this version are:

- primeTOUCH frame with non-reflecting front glass fixed on the display
- Power supply cable for the display
- Remote control for the display
- USB cable (USB Type A Male / A Male)
- USB extension cable (USB Type A)
- External power supply for TOUCH
- CD ROM including driver and manual

2. Installation

2.1 Mechanical Installation

Depending on the display that is used, some installations are not allowed. This could be an installation in a table or maybe in portrait mode. The primeTOUCH itself does not have any technical problem with different ways of mounting, but you should avoid too much direct light that could shine into the frame. Please make sure the display manufacturer allows the way you want to install the display. In some cases it might be necessary to install additional fans to guarantee a safe ventilation of the display.



NOTE: Because the system is based on infrared technology, ambient light could disturb the function of a primeTOUCH. Especially if there is much infrared light included. So you have to keep that in mind during the installation. This does not apply to primeTOUCH IR protect, as this primeTOUCH version is resistant to infrared ambient light.

If you have any questions, please don't hesitate to ask us.

2.2 Software Installation Windows

The software consists of two parts, the driver ("MultiTouchDriver") and the platform which is in parts the graphical front end for the user ("MultiTouchPlatform").

Connect the primeTOUCH to its external power supply and via USB to your pc. Each shipment includes a CD ROM containing the driver. You can also download the latest driver here: www.prime-touch.com

Please execute the driver installation file and follow each step. After successful installation, open the graphical user interface of the driver. It is called "Multitouch Platform" and might be hidden in the system tray. Some operating systems will ask you to install a driver after the primeTOUCH is connected to your computer. Please allow this and follow each step.

The driver should now detect the connected primeTOUCH. This can be verified as soon as you can see the system under "Physical Information". If not please unplug the USB cable and plug it in again.



NOTE: After the primeTOUCH is identified it might be necessary to reset it. Please refer to chapter 3 regarding to that.

2.3 Software Installation Mac

With the Mac driver it is the same as with the Windows driver. Please connect everything like described in chapter 2.2, execute the Mac driver and follow each step. The following screenshots show the MultiTouchPlatform in Mac OS, it is running under Programs.

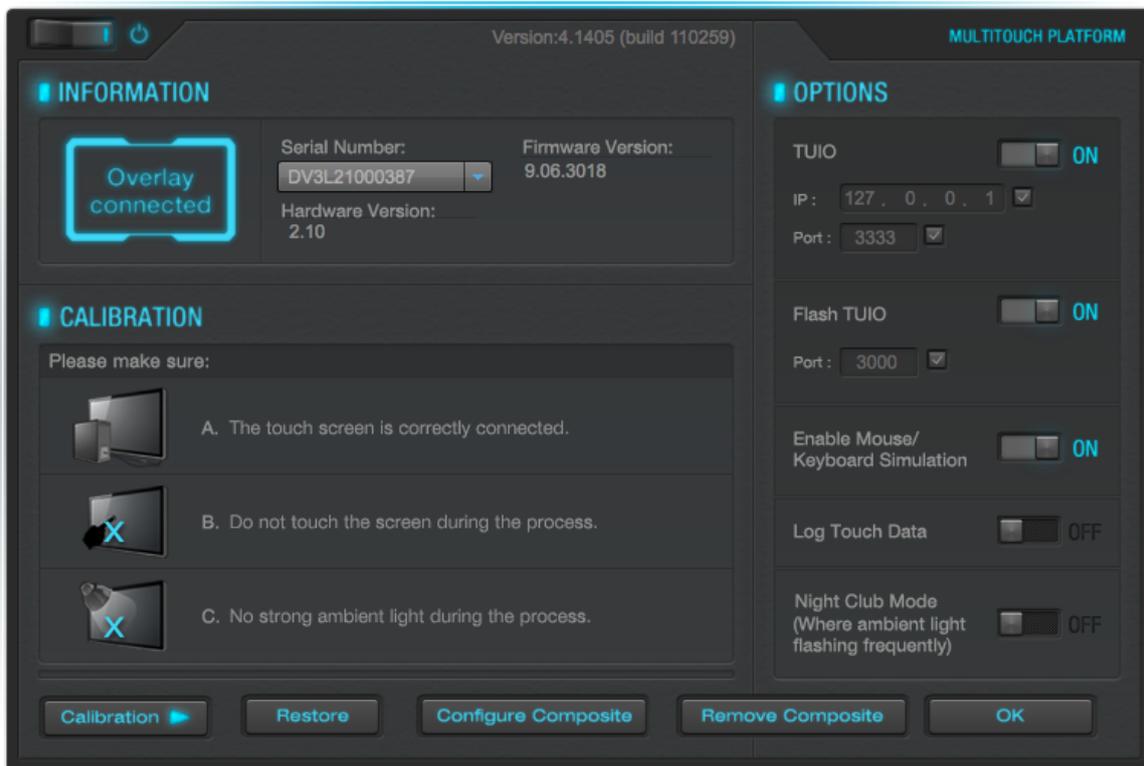


Figure 1 Driver GUI under Mac OS

The GUI under Mac is simple and consists of three parts.

- Information
- Options
- Calibration

Information:

Here you can see if your primeTOUCH is connected. Also its serial number, hardware and firmware version are shown. If more than one primeTOUCH is connected, the drop-down menu let choose you, the information of which device is shown.

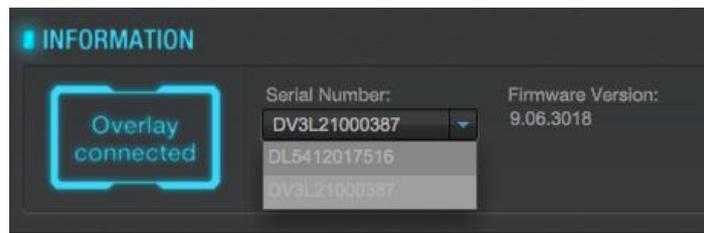


Figure 2 Drop-down menu with all connected devices

Options:

The Options are the same as under Windows. Please refer to chapter 03. *Graphical User Interface in Windows* for explanations of the several points.

Advanced configurations can be changed in the “mtsvrset.xml” that is located here: “/usr/local/pqlabs/mtsvrset.xml”

Calibration:

Here you can execute the calibration or restore the calibration data of the selected device. After pressing the button a reset is automatically generated and then you will see a black screen with a cross in the upper left corner. (Figure 3) Touch the cross for approximately 2 seconds. After the cross turns green remove your finger and repeat this procedure with following crosses. To reset your calibration, press “Restore”.

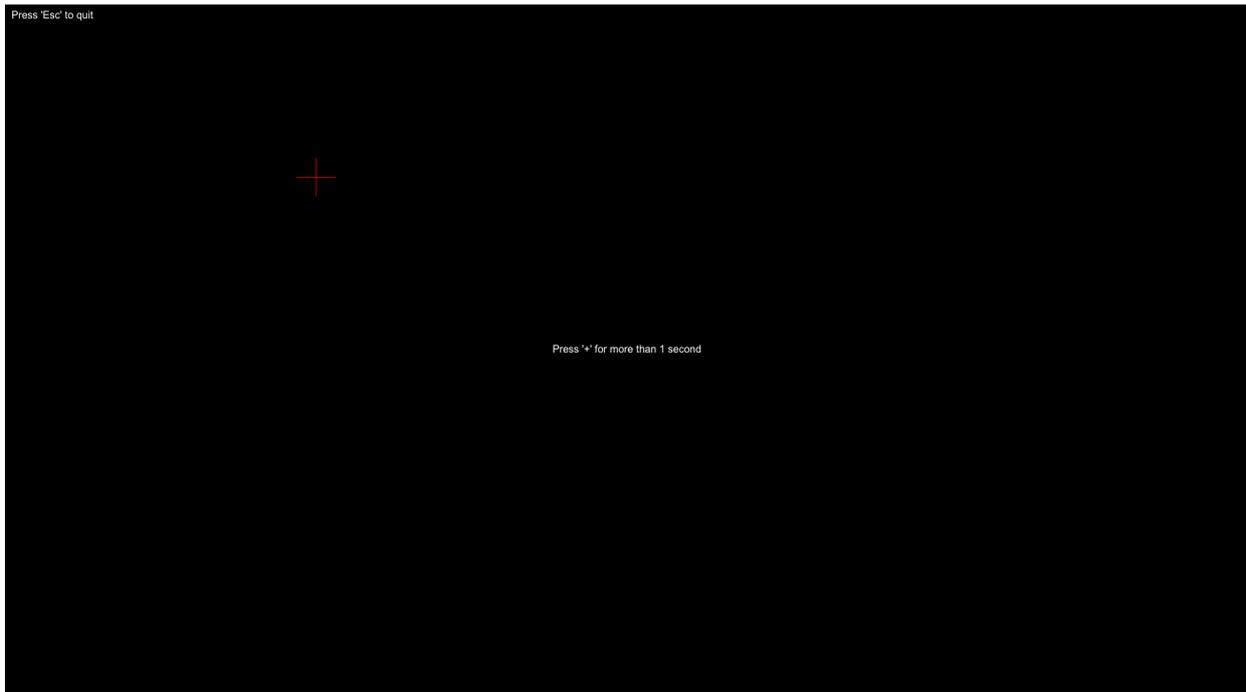


Figure 3 Calibration screen Mac OS

If you are using more than one primeTOUCH at your workstation, you can assembly the input of the primeTOUCH to the according display output with the “Configure Composite” button. The “Remove Composition” button removes this configuration.

After pressing the “Configure Composite” button, you will have to press once with your finger at all connected primeTOUCH devices one after another, regarding the instructions on the screens.

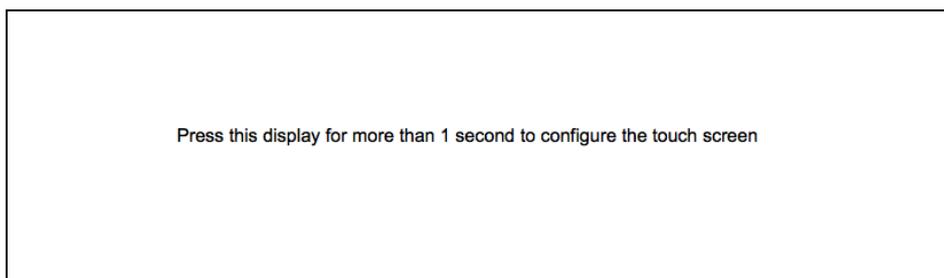


Figure 4 Composite Configuration screen Mac OS



NOTE: There is no Assembly Inspection Tool for Mac OS (see chapter 3. *Graphical User Interface in Windows* for more information about Assembly Inspection Tool).

In addition Mac OS driver version has no button to reset touchscreen data. For resetting touchscreen data on Mac OS please unplug and plug the power supply of your primeTOUCH.

3. Graphical User Interface in Windows

The GUI consists of different parts which will be explained as follows.

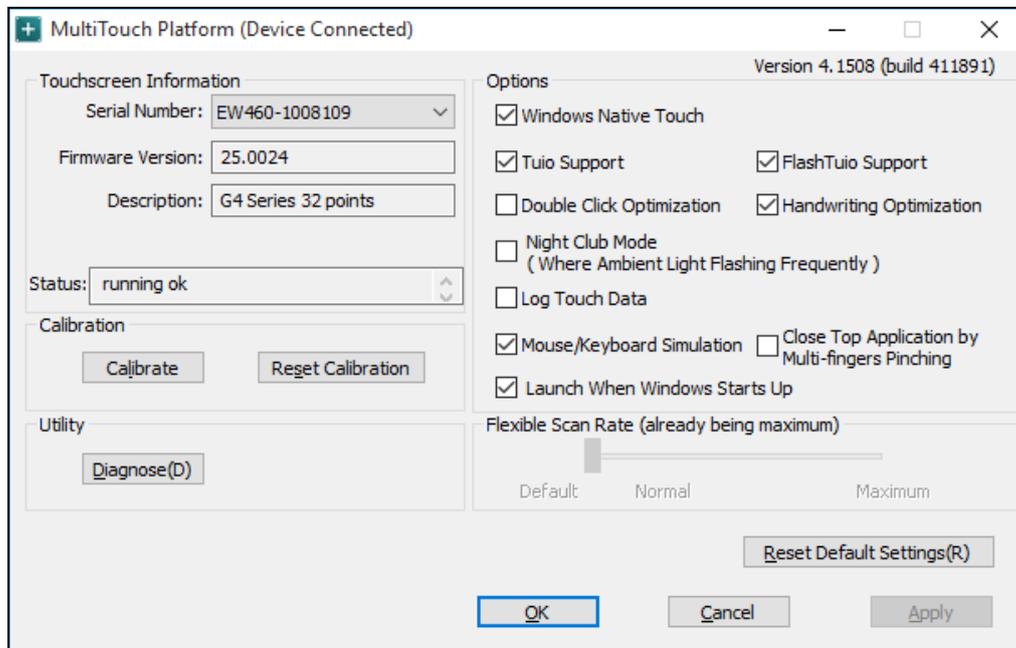


Figure 5 Driver GUI under Windows

Touchscreen Information

This container shows different information about the connected device like Serial number, Firmware, Hardware and Screen Status.

Options

- If desired you can adjust the platform by checking or deselect TUIO or FlashTUIO to send TUIO data or Flash compatible TUIO data to a client.
- “Double Click Optimization” makes it easier to run an application or folder.
- “Handwriting Optimization” makes it much more convenient to use Win 7 MS paint handwriting function.
- You should activate “Night Club Mode” if the environmental light flashes frequently.
- “Log Touch Data” records the touch point data for analysis.
- “Enable Windows Native TOUCH” turns the Windows multi touch on or off, please refer to Chapter 4.1 *Windows7 and mouse behavior*
- “Close Top Application by Multi-fingers Pinching” de-/activates this function.
- “Enable Mouse/Keyboard simulation” turns mouse and keyboard simulation on or off.
- Check “Launch When Windows starts up” if you want the driver to start every time when Windows starts.

- Please note that “Close Top Application by Multi-fingers Pinching” works not with all applications. Some applications, like MS paint, will recognize the gesture as a multiple fingers drawing action.

Flexible Scan Rate

This slider changes the scan rate (Frames Per Second) regarding the touch data transfer. In some cases this could improve the touch experience.

Calibration

Under “Calibration” you can start the calibration in case your touch point should not fit the cursor position on the screen.

After pressing the button you will see a black screen with a cross in the upper left corner. Touch the cross for approximately 2 seconds. After the cross turns green remove your finger and repeat this procedure with following crosses.

By pressing “Reset Calibration”, you can reset all calibration data to its default values.

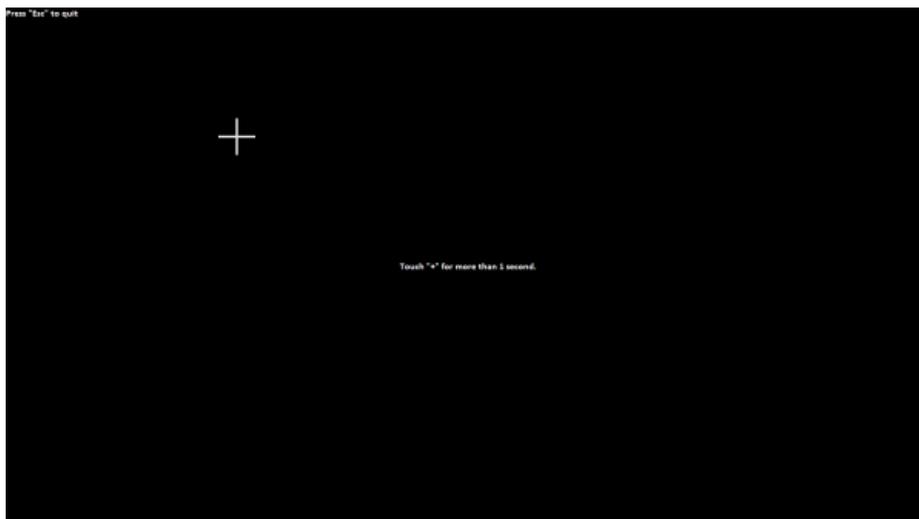


Figure 6 Calibration screen Windows

Utility

The “Diagnose(D)” button opens a diagnose tool called “MultiTouchDoctor”. (Figure 7)
This tool runs a diagnosis of your connected primeTOUCH.

If no problem has been detected this will be shown in a dialog window. (Figure 8) You can click on the first button “OK”.

“Reset Touchscreen Data” resets the system and adapts the screen to the environmental light conditions. You should do a reset if the environment changes or if you have trouble with the system.

If there is something wrong you should click on the second button “Expert Mode”. The Assembly Inspection Tool will start, it will show you if there is too much ambient light. If necessary you can run an inspection with the button “Start Inspection”. If everything is ok you will be notified (Figure 9). If something is wrong you can send a report to the support: info@prime-touch.com (Figure 10).

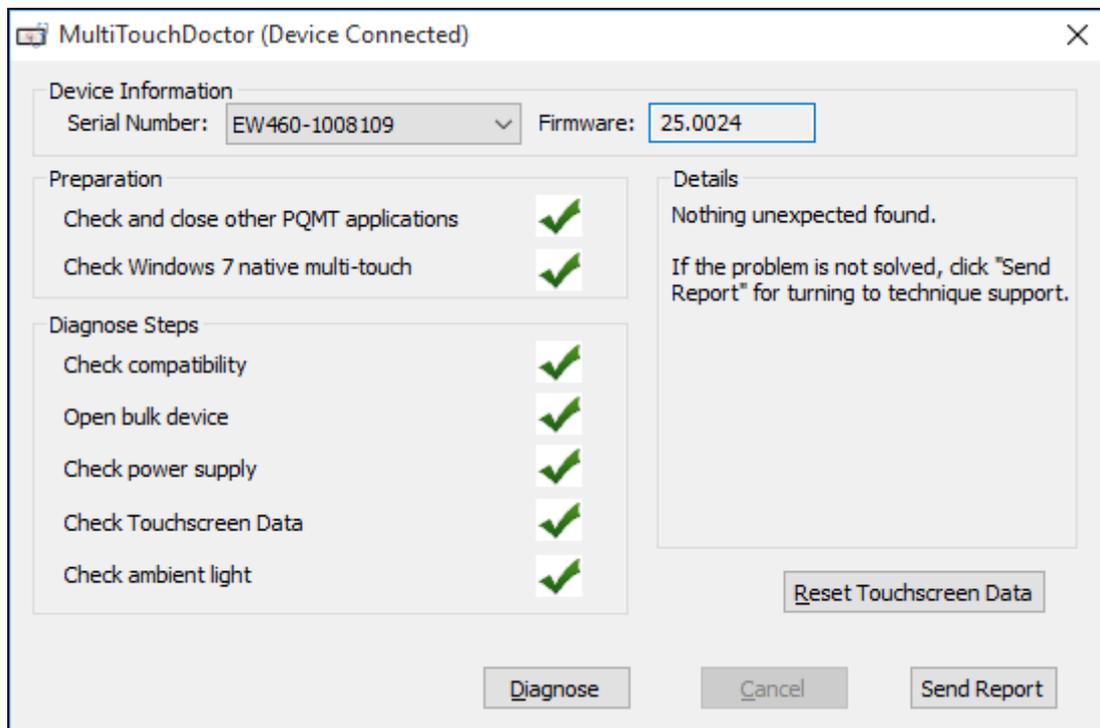


Figure 7 MultiTouchDoctor GUI

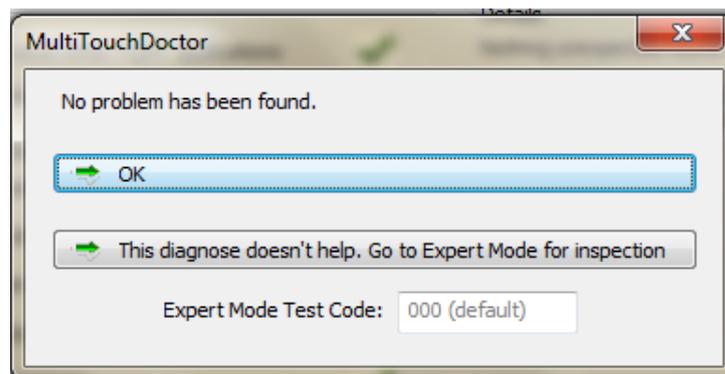


Figure 8 MultiTouchDoctor GUI dialog

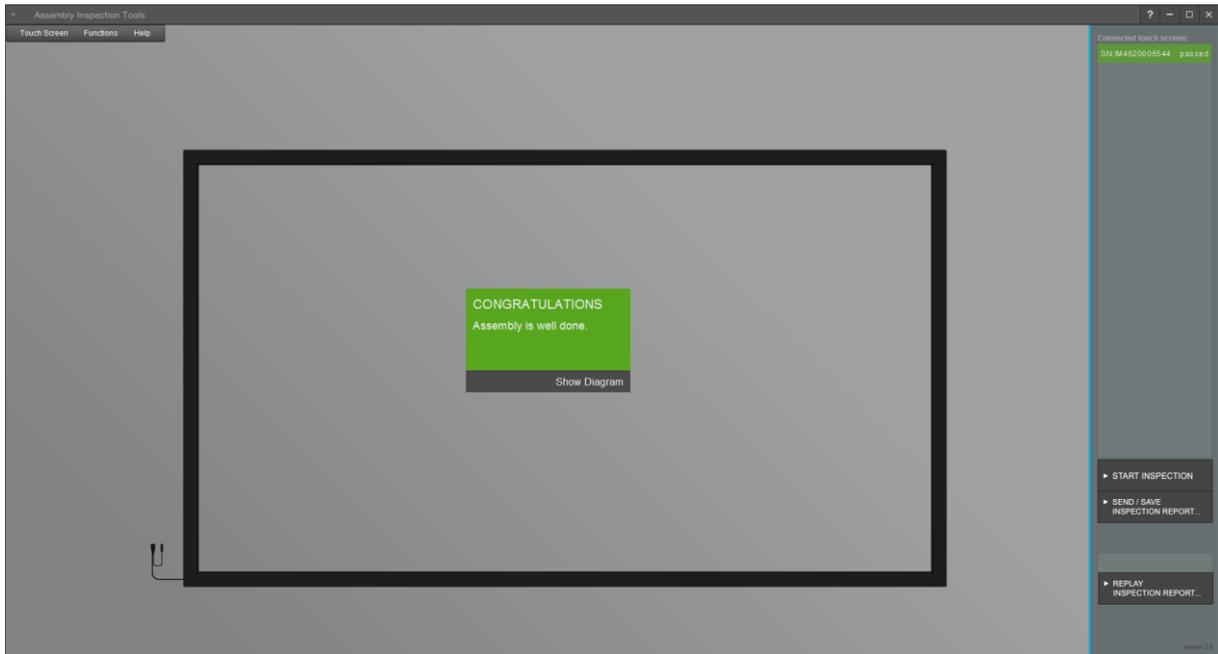


Figure 9 Assembly Inspection tool

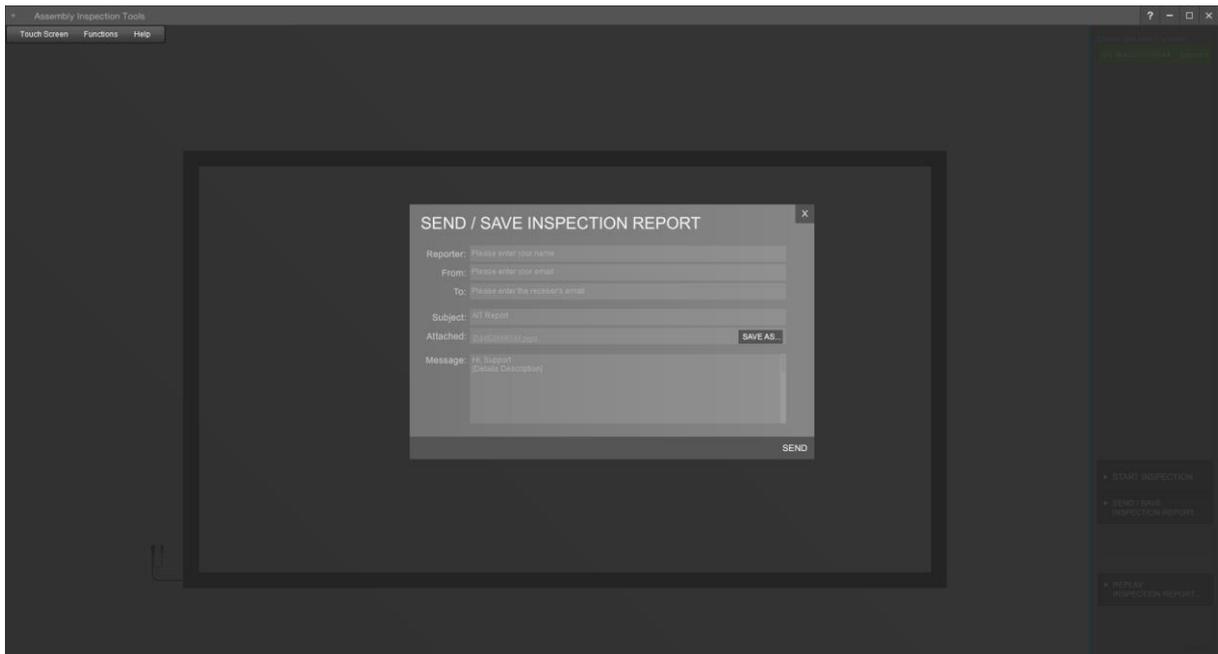


Figure 10 Send Report

4. How to integrate in your system

There are three ways how you can connect your software to the primeTOUCH:

- Using Windows 7 / 8 / 10 and its native touch commands
- TUIO
- FlashTUIO

4.1 Windows7 and mouse behavior

The primeTOUCH supports the native Windows 7 touch commands with its multi touch features.

To make sure that this input is enabled on your Win7 system, please go to “Pen and Touch” and enable “Use your finger as an input device” and “Enable multi-touch gestures and inking” under the tab “Touch”

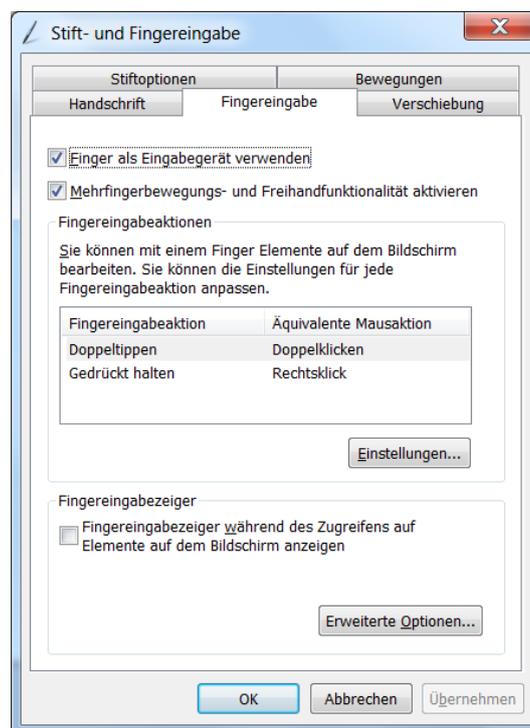


Figure 11 "Pen and Touch" dialog in Windows

If you don't want Win7 to respond on these input commands, either deselect both checkboxes here or the one “Enable Windows Native Touch” in the driver GUI.

If you don't want the primeTOUCH software to emulate the mouse of your computer you can do this either by deselecting the checkbox “Enable Mouse/Keyboard Simulation” in the driver GUI, or by modifying an xml file.

This file is called “mtsvrset.xml” and can be found under: ...\\MultiTouch\\MultiTouchPlatform. Please open the file with an xml editor, for example Notepad++, which will help you to understand the files with its syntax highlighting. If you change this file, first of all please exit the driver (not just minimizing). After you did your changes, save the file and start the driver again.

At the end of the xml file you will find these explanations and settings for disabling and changing the mouse:

```
<!-- global mouse simulation disable: set the "enable_mouse_key_simulation" to be
"false"; when the finger touching at your application, if you don't want to take
any action you can add a apptrans like below <apptrans
appname="your_application.exe" transname="no_action" /> ;if you'd like it to act
just like a mouse with only left button,you can add a apptrans like below <apptrans
appname="your_application.exe" transname="only_left_mouse" /> ;if you'd like it to
act without the right button of mouse(with left button and some keys),you can add a
apptrans like below <apptrans appname="your_application.exe"
transname="no_right_mouse" /> -->
```

If you are working with a driver version before version 4.1303 there are the following settings in the xml file:

```
global mouse simulation disable:
uncomment the "<tuple operation="assign" left="default" right="no_action"></tuple>"
below, to disable the "mouse simulation" of our touch screen globally
comment it will enable the mouse simulation;
```

So please do the following for disabling the mouse:

```
<!--<tuple operation="assign" left="default" right="no_action"></tuple>-->
```

Uncomment this line by removing “<!-- ...-->”:

```
<tuple operation="assign" left="default" right="no_action"></tuple>
```

This works on all XP, Linux or Mac computers.

If you use Win7, this will have no effect.

In this case you have to define with an application translator which app must not use Win7 native touch:

```
<apptrans appname="your_application.exe" transname="no_action" />
```

Please insert the name of the application and uncomment the line.

If you are working with a driver version before version 4.1112 you have to do the following to disable mouse emulation:

```
<tuple operation="assign" left="default" right="default"></tuple>
```

Set the parameter “right” to “no_action”:

```
<tuple operation="assign" left="default" right="no_action"></tuple>
```

4.2 TUIO

TUIO became a standard for the communication between multi touch hardware and software. Basically, this protocol works over a UDP network connection and sends information like coordinates of all detected touch points. For more information please visit www.tuio.org.

If the client software, that has to receive the TUIO data, runs on the same computer on which the driver is running, you have to send the TUIO data to localhost which is IP 127.0.0.1. This is the default setting for TUIO. You can change these settings also in the “mtsvrset.xml” file (Please see 4.1 for more information).

In this file you will find the following TUIO settings:

```
<tuio flash_tuio_support="true" tuio_support="true">
  <server port="3333" host="127.0.0.1" type="udp"/>
  <server port="3000" host="127.0.0.1" type="tcp"/>
</tuio>
```

To change the TUIO settings, modify the IP address under:

server port “3333”

For example, if the driver runs on a laptop (with IP 192.168.1.1) and you have a second pc (with IP 192.168.1.10) that shall receive the TUIO data on port 3333:

```
<tuio flash_tuio_support="true" tuio_support="true">
  < server port="3333" host="192.168.1.10" type="udp"/>
  < server port="3000" host="127.0.0.1" type="tcp" />
</tuio>
```

Make sure that your computers network settings are correct and that they match your needs.

NOTE: If the TUIO data are not sent to the chosen IP close the driver and run it again as administrator.

4.3 FlashTUIO

In some versions Flash does not allow to receive UDP data. In this case the driver can send TUIO data via an TCP connection.

To change these settings open the “mtsvrset.xml” file go on like described under 4.2 but modify the IP address under server type “tcp”

NOTE: On some Windows7 machines you might not be allowed to modify the xml file.

To get a workaround do the following steps:

- simply copy the xml file for example to your desktop,
- rename it,
- modify and
- save it. Then
- rename it again to its original name and
- copy it to the original location replacing the old file

5. Technical data

Power supply

Mains adaptor

- 5V DC, 4A
- If mains adaptor has 3 Pin mini XLR female connector:
 - Pin 1 → +
 - Pin 3 → -

Interface

Connection	USB 2.0 (Full Speed) connector type A
Operating System	Windows 10/8/7/Vista/XP, Mac OS X, Ubuntu/Fedora
Software interface	native Windows 7,8,10 touch commands, TUIO HID (not all versions)

Touch

Technology	infrared LEDs and photo diodes
Response time	7ms - 12ms
Sample Rate	up to 200 FPS
Touch points	32 (standard) and more
Finger touch accuracy	± 1.5 mm
Method	detects any kind of object without pressure (finger, gloved hand, stylus, ...) stylus tip size: minimum 6 mm

Mechanical data

Material	steel, aluminium, glass
Colour	matt carbon black (other colours on demand)

Environmental data

Light conditions	Diffuse ambient light. As it is based on IR technology always avoid direct warm light with too much infrared light included as this could cause malfunction. This does not apply primeTOUCH IR protect!
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Warranty

24 months, excluded:
USB cable and protection glass

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