TouchScreen Driver User Manual
（For Linux）

Beijing IRTOUCHSYSTEMS Technology Co., Ltd

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1 Installing Driver

***Notes**: In order to install the driver, you need to run as user "Root".*

Step1: Open a terminal window.

Step2: Unzip the installation file. Folder "IRTOUCH_HID_Touchscreen_Driver_For_Linux" appears which contains two files: "irtouch.hid.bin.tar.gz" and "setup.sh".

Step3: Run "./setup.sh" and begin to install the driver, as shown in:

Step4: Driver installation is complete. Please restart your computer.

Step5: Plug the end of the USB connecting line to the USB port of the computer, and now the touchscreen can be used.

2 TouchScreen Control Panel

Double-click “IRControl” on the desktop, or open a terminal window and run “irtouch” to open the TouchScreen Control Panel, as shown in:

***Tips**: When you click [**Calibrate**], [**Region Touch**] or [**Diagnostics**] to make some operations, you need firstly to choose a touchscreen from the list. If no touchscreen is chosen, then by default the operations will be made to the first touchscreen.*

2.1 Mapping

TouchScreen Control Panel provides adjustment and configuration with touchscreens, and supports compatibility of multi-touchscreens at the same PC. The panel shows the basic information about

the touchscreen and calibration. If several touchscreens are mounted on the PC, then all the touchscreens will be shown in the Touch Screen List. Click [**Mapping**] button on TouchScreen Control Panel, the setting window pops up, as shown in:

Select a touchscreen from the list, choose a number for the touchscreen from the drop-down menu of [**TouchScreen ID**]. And then choose a number for the monitor related to the touchscreen from the drop-down menu of [**Monitor ID**]. [**Device Path**] shows the path of the touchscreen's device node. After you have set IDs for each touchscreen, click [**OK**] to save and exit.

***Notes**: If two monitors are mounted to your computer, then you can choose number 0 or 1 for the two monitors. Order of the two monitors (top-bottom or left-right) in across mode (horizontal or vertical) is relative to numbers that you have chosen to the two monitors. See "2.3 Calibrating" for reference.*

2.2 Setting Calibration Mode

Click [**Set Calibration Mode**] button on TouchScreen Control Panel to select monitor's mode, as shown in:

You can choose a mode from:

- Single-Screen Mode (default mode)
- Across Mode - Horizontal
- Across Mode - Vertical
- Extended Mode

After choose a mode, you can click [**OK**] to save and exit.

2.3 Calibrating

After setting the mapping and calibration modes for the touchscreen, you can calibrate each touchscreen. The method is: choose a touchscreen from the TouchScreen Control Panel, and then click [**Calibrate**]. For different modes of the touchscreens, there are following calibration ways:

2.3.1 Calibrating in Single-Screen Mode

If you choose “Single-Screen Mode”, the following calibration window appears after you click [**Calibrate**] on the panel:

Calibration is done by clicking the center of each flashing butt mark one after the other.

The mode of “Click on Release” (see “2.5.1 Modes” for reference) is used when calibrating. So you can move the pointer or finger without lift until hitting the center of the flashing butt mark.

After the calibration window appears, you need to begin to calibrate within 30 seconds. Or program will automatically terminate. The red line on the bottom of the screen prompts the rest of the time.

When calibrating, you can press “Esc” key to exit.

After calibration, three buttons appear, as shown in:

① [**ReCalibrate**]： to calibrate again;

② [**OK**]： to save the calibration result and exit;

③ [**Cancel**]： to exit without saving the calibration result.

After calibration, red circle in the center of the touchscreen becomes blue tick, as shown in:

2.3.2 Calibrating in Horizontal Across Mode

***Tips**: In horizontal across mode, touchscreen whose Monitor ID is 0 is the first one, and whose monitor ID is 1 is the second one. You need to calibrate the two touchscreens separately.*

Choose the touchscreen from the list of TouchScreen Control Panel whose Monitor ID is 0, and then click [**Calibrate**] button, the following calibration window appears:

Calibration is done by clicking the center of each butt mark one after the other.

The mode of “Click on Release” (see “2.5.1 Modes” for reference) is used when calibrating. So you can move the pointer or finger without lift until hitting the center of the flashing butt mark.

After the calibration window appears, you need to begin to calibrate within 30 seconds. Or program will automatically terminate. The red line on the bottom of the screen prompts the rest of the time.

When calibrating, you can press “Esc” key to exit.

After calibration, three buttons appear, as shown in:

① [**ReCalibrate**]： to calibrate again;

② [**OK**]： to save the calibration result and exit;

③ [**Cancel**]： to exit without saving the calibration result.

After calibration, red circle in the center of the touchscreen becomes blue tick.

Choose the touchscreen from the list of TouchScreen Control Panel whose Monitor ID is 1, and then click [**Calibrate**] button, the following calibration window appears:

Calibration is done by clicking the center of each butt mark one after the other.

The mode of “Click on Release” (see “2.5.1 Modes” for reference) is used when calibrating. So you can move the pointer or finger without lift until hitting the center of the flashing butt mark.

After the calibration window appears, you need to begin to calibrate within 30 seconds. Or program will automatically terminate. The red line on the bottom of the screen prompts the rest of the time.

When calibrating, you can press “Esc” key to exit.

After calibration, three buttons appear, as shown in:

① [**ReCalibrate**]： to calibrate again;

② [**OK**]： to save the calibration result and exit;

③ [**Cancel**]： to exit without saving the calibration result.

After calibration, red circle in the center of the touchscreen becomes blue tick.

2.3.3 Calibrating in Vertical Across Mode

***Tips**: In horizontal across mode, touchscreen whose Monitor ID is 0 is the first one, and whose monitor ID is 1 is the second one. You need to calibrate the two touchscreens separately.*

Way of Calibration in vertical across mode is the same as calibration in horizontal across mode. The only difference is that you need to calibrate the top and bottom part of the touchscreen separately,

instead of calibrate the left and right part of the touchscreen. See “2.3.2 Calibrating in Horizontal Across Mode” for reference.

2.3.4 Calibrating in Extended Mode

In extended mode, two touchscreens use same calibration result. So you just need to choose one touchscren and calibrate it. The calibration way is the same as single-screen mode. See “2.3.1 Calibrating in Single-Screen Mode” for reference.

2.4 Region Touch

You can select a region as a regional touch. Click [**Region Touch**] button on TouchScreen Control Panel to set regional touch, as shown in:

You can set the position and size of the touch region by drag the title bar of the setting window or adjust the size of the touch region.

When setting, you can press “Esc” key to exit.

When you drag to adjust the position and size of the touch region, you can only by mouse operation, but not by touch operation.

After setting, click [**OK**] to save and exit. Or click [**Cancel**] to exit without saving the settings.

***Notes**: Please calibrate the touchscreen first before setting region touch and use the feature.*

2.5 Settings

Click the [**Settings**] button on the TouchScreen Control Panel, the "Settings" panel appears, as shown in:

***Notes**: For the detailed descriptions of those functions, you can refer to the introduction of the rest of this chapter. You can flexibly set related parameters according to hardware statuses and external factors, so as to achieve the best practical effects. See "Attachment" for reference of the general settings of the touchscreen.*

2.5.1 Modes

There are three touch modes:

1. **Click on Touch:**

Mouse single click event happens immediately at the point when the finger contacts the touchscreen. The mode is applied only to click objects, but not to drag objects. Touchscreens in the mode responds fastest and are usually used for clicking big buttons. Under this mode, Beep mode that can be used is only “Beep on Touch”.

2. **Click on Release:**

Mouse single click event happens at the point when the finger leaves the touchscreen. You can move the pointer or finger without lift until you accurately hitting the object that you want to click. Touchscreens in the mode are usually used for clicking small buttons or clicking hyperlinks on a Web page, such as POS and Web applications. Under this mode, Beep mode that can be used is only “Beep on Release”.

3. **Mouse Emulation:**

Full emulation of mouse functions, including left-clicking, moving, lifting, and dragging objects. The mode is very suitable to the following applications: writing, drawing, and dragging maps. Under this mode, you can choose any mode among the three Beep modes.

2.5.2 Options

1. **Enable Touch:**

Enable/disable touchscreen.

2. **Hide Cursor:**

Hide cursor without turn off the mouse functions. Because mouse cursor is not necessary in some

cases, such as clicking big buttons, playing animations and children education in “Click on Touch” mode.

3. **Enable Double Click:**

Enable/disable double click. It is same as functions of mouse double click. Double click will be started as long as you double click on same area in a short time.

You can set the features of the function in “Double Click Settings” on the right side of the panel:

① **Speed**：to adjust the interval time between two clicks that will trigger as a double-click. the higher the value, the longer the interval time, and unit is millisecond (ms).

② **Area**：to adjust the effective area of the double-click’s scope, the higher the value, the wider the effective area, and unit is pixels (px).

You can use this function in all of the three modes (click on touch, click on release or mouse emulation).

4. **Enable Right Click:**

Enable/disable right click function. Click and press on any area of the screen for a while, then the right-click pop-up menu will appear. This function is only available in “Mouse Emulation” mode.

You can set the features of the function in “Right Click Settings” on the right side of the panel:

① **Delay**：to set the pop-up time, the higher the value, the slower the pop-up time, and unit is millisecond (ms).

② **Area**：to adjust the jitter-range of the touch surface within limit of error, the higher the value, the wider the jitter-range, and unit is pixels (px).

After setting, right-click menu will pop up so long as the finger contacts the screen for a while (Delay) within the range (Area).

5. **Enable Drag Delay:**

After checking the option, you can specify how long the delay time to perform the action of dragging after clicking the object.

You can set the features of the function in “Drag Delay Settings” on the bottom of the panel. Drag delay may be adjusted to the correct value if the object cannot be precisely selected or if jitter happens to cursor when you touch. The unit is millisecond (ms).

6. **Enable Delay Touch**

After checking the option, high speed touch or scratch on the screen becomes ineffective. It is the very effective for touch to maintain steadily for a time in specified area.

You can set the features of the function in “Delay Touch Settings” on the bottom of the panel. The higher the value, the longer time of delay touch, and the unit is millisecond (ms).

7. **Enable Beep:**

After checking the option, beep mode enables. As a result, when mouse click event happens, a sound tip prompts.

You can choose a beep mode from “Beep Settings” on the right side of the panel:

① **Beep On Touch**： sound tip prompts immediately when the finger contacts the touchscreen.
② **Beep On Release**： sound tip prompts at the point when the finger leaves the touchscreen.
③ **Both**：sound tip prompts when the finger contacts and leaves the touchscreen. Under this mode, only “Mouse Emulation” can be used.

And you can choose a sound mode:

① **PC Speaker**： send out beep through the default PC card, and you can adjust the frequency (Frequency)and duration (Duration) of beep to change the sound.
② **Sound Card**： send out sound through the sound card.

***Notes**: “PC Speaker” and “Sound Card” are mutually exclusive, you can only choose one of them.*

2.6 Diagnostics

After you choose a touchscreen from the list and click [**Diagnostics**] button on TouchScreen Control Panel, you can diagnosis the state of the touchscreen, as shown in the following figure. Hardware version, product serial number, and lamp state (OK/Bad) of your touchscreen will be shown.

You can click [**Export**] button on the dialog to save the result as a text.

3 Uninstallation

***Notes**: In order to uninstall the driver, you need to run as user "Root".*

Step1: Open a terminal window.

Step2: Run command "./setup.sh uninstall" in the installation directory of driver and begin to uninstall the driver, as shown in:

Step3: Driver uninstallation is complete.

Attachment 1 - General setting of the touchscreen (As reference)

Select "**Mouse Emulation**" mode, then check "**Enable Touch**", "**Enable Double Click**" and "**Enable Right Click**" in "Options". In general, "Enable Delay Touch" is not needed to check to avoid slowing the touch response, and it is proved null if you quickly click or drag the touch point.

Setting Description:

1. **Enable Double Click:**

It is same as functions of mouse double click. Double click will be started as long as you double click on same area in a short time. In general, "**Speed**" is set to 500~550, "**Area**" is set to 12px.

2. **Enable Right Click:**

After checking the option, click and press on any area of the screen for a while, then the right-click pop-up menu will appear. This function is only available in "Mouse Emulation" mode. In general, "**Delay**" is set to 1000ms (1 second), "**Area**" is set to 8px.

3. **Enable Drag Delay:**

After checking the option, high speed touch or scratch on the screen becomes ineffective. It is the very effective for touch to maintain steadily for a time in specified area. "**Drag Delay**" may be adjusted to the correct value if the object cannot be precisely selected or if jitter happens to cursor when you touch.

(Please refer to the User Manual for detailed information.)

Attachment 2 - Setting of touchscreen in strong light, rain and snow condition (As reference)

The snow and rain drop will be mistakenly a single touch. So the function of "**Enable Delay Touch**" may be checked in driver to avoid the above error without the normal manipulation. The function of "**Enable Delay Touch**" will do the work to prevent the false touch. Each value should be gradually set in "**Delay Touch Settings**" after fulfillment of "**Enable Delay Touch**". "**Delay**" is set to 40.

***Tips**: Checking "Enable Delay Touch" may result in slowing the touch response.*