

GT-VP Control Center Instructions/Overview (V4.0)

GT-VP Control Center is a tool developed on Raspberry Pi 4 with a Linux operating system.
Operation is not guaranteed on all Linux systems.

Connection Diagram

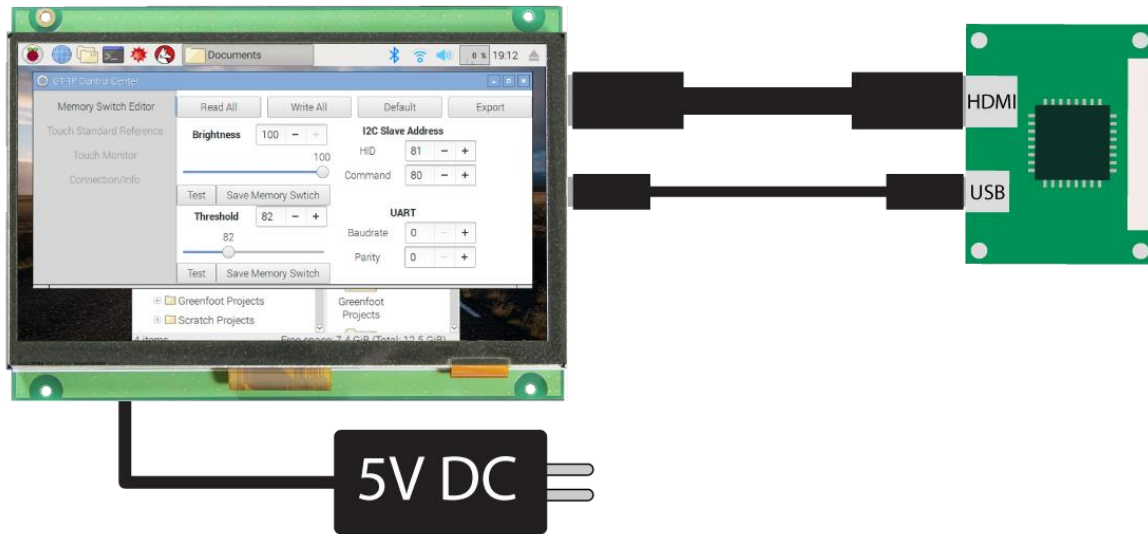


Figure 1: Control Center Connection Diagram

Installation Procedure (Standalone)

1. **Download** the Control Center tar file.
2. **Move "Control_Center_V4_0.tar"** onto your **Linux system**.
 - a. It is **recommended** to save the file in a new folder in the **"/home/pi"** directory.
3. **Open** the terminal.
4. **Navigate** to the **"Control_Center_V4_0.tar"** file using the **"cd <Destination Path>"** command.
5. **Type** the following commands:
 - a. **tar -xvf Control_Center_V4_0.tar**
 - b. **chmod +x controlcenter**
 - c. **chmod +x base2**
 - d. **sudo ./controlcenter**
6. Now the **Control Center** application should be **running** on your Linux system.

Installation Procedure (Source Code)

1. **Download** the Control Center tar file.
2. **Move “Control_Center_V4_0_src.tar”** onto your **Linux system**.
 - a. It is **recommended** to save the file in a new folder in the **“/home/pi”** directory.
3. **Open** the terminal.
4. **Navigate** to the **“Control_Center_V4_0_src.tar”** file using the **“cd <Destination Path>”** command.
5. **Type** the following commands:
 - a. **tar -xvf Control_Center_V4_0.tar**
 - b. **chmod +x base2**
 - c. **make**
 - d. **sudo ./controlcenter**
6. Now the **Control Center** application should be **running** on your Linux system.

NOTE: If an error occurs during program execution or a bug is discovered, send a bug report to: support.ele@noritake.com.

Tool Functions

This application is intended to help users easily adjust the GT-VP module's settings with a basic graphical user interface on a Linux system. It can change the module's settings as long as the display is on and is connected via USB. Version 3.2 of Control Center contains five tabs dedicated to various module settings.

Connection/Info

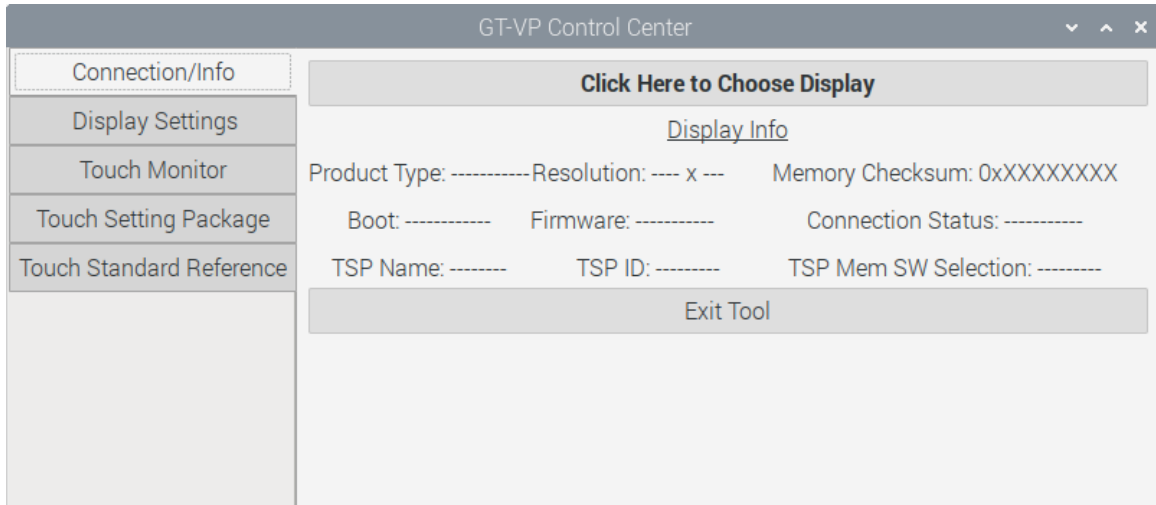


Figure 2: Connection/Info Tab

- **Choose a module to connect**
 - Click on "Click Here to Choose Display" and select the connected display module:
 - GTW050VHB00P
 - GTWS070VHA00P
 - GTWX101VHB00P
 - GTWV070VHA00P / GT800X480A-1303P
 - GTWX101VHA00P / GT1280X800A-1303P
- **Display module information**
 - After a module has been selected, the product info will be read from the module and displayed on the application.
- **Exit Control Center**
 - Click on the "Exit Tool" button to close the Control Center application. This is intended to be used with touch controls.

Display Settings

The screenshot shows the 'GT-VP Control Center' window with the 'Display Settings' tab selected. The sidebar on the left lists: Connection/Info, Display Settings, Touch Monitor, Touch Setting Package, and Touch Standard Reference. The main panel has four tabs: Load Settings, Save Settings, Default, and Export. The 'Brightness' section shows a value of 100 with a slider and 'Test' and 'Save Brightness' buttons. The 'Threshold' section shows a value of 82 with a slider and 'Test' and 'Save Threshold' buttons. The 'I2C Slave Address' section has 'HID' set to 81 and 'Command' set to 80, each with a slider and '+'/'-' buttons. The 'UART' section has 'Baudrate' set to 38400bps and 'Parity' set to None, each in a dropdown menu.

Figure 3: Display Settings Tab

- **Read all memory switch values and change editor values**
 - The “Load Settings” button will read all memory switch values from the connected module and update the memory switch values displayed on the application.
- **Write all display setting editor values to module’s memory switches**
 - The “Save Settings” button will write all memory switch values displayed on the application to the connected module’s memory switches.
- **Set display setting editor values to factory default**
 - The “Default” button will change all memory switch values displayed on the application to their factory default values.
- **Export display setting editor values to a text file**
 - The “Export” button will create a text file containing all memory switch values read from the module. This file is useful to remember memory switch values used for a specific system or application.
- **Adjust the display’s brightness**
 - Adjust the slider or value box in the “Brightness” section to choose a brightness level (from 0 – 100%) to test. Click on the “Test” button to test the brightness level on the display.
 - **NOTE:** Using a brightness level of 0 will turn the display backlight off.
- **Save display brightness to the module’s memory switch**
 - Click on the “Save Brightness” button to save the current brightness value to the module’s memory switch.

- **Adjust the display's touch threshold**
 - Adjust the slider or the value box in the "Threshold" section to choose a touch threshold level to test (from **0 – 255**). Click on the "Test" button to test the touch threshold level on the display.

NOTE: Be careful when using a touch threshold that is less than 10, erroneous behavior may occur.

- **Save touch threshold to the module's memory switch**
 - Click on the "Save Threshold" button to save the current touch threshold value to the module's memory switch.
- **Adjust the module's I²C slave address**
 - Adjust the value boxes in the "I2C Slave Address" section to change the HID and command I²C slave addresses. The valid values for these addresses are as follows:
 - I²C HID Slave Address
 - **0x08 – 0x77**
 - I²C Command Slave Address:
 - **0x00, 0x08 – 0x77, and 0x88 - 0xF7**
 - The display will accept values from **0x00 – 0xF7**, but any values not indicated in the above range will be converted to the default value.
- **Adjust the module's UART settings**
 - Adjust the menu boxes in the "UART" section to change the UART communication settings.
 - Baudrate
 - 38400bps
 - 4800bps
 - 9600bps
 - 19200bps
 - 38400bps
 - 57600bps
 - 115200bps
 - Parity
 - None
 - Even
 - Odd

Touch Monitor

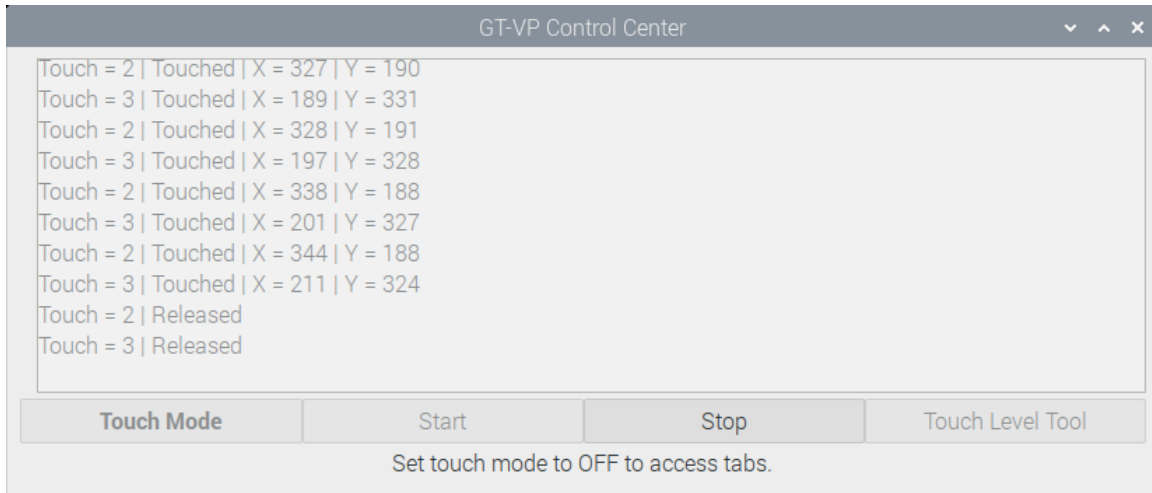


Figure 4: Touch Monitor Tab

- **Choose touch mode**
 - Click on "Touch Mode" and select the desired touch mode:
 - **Off:** Turns the touch data stream off and reveals the page tabs.
 - **Single Touch:** Enables single touch mode and hides the page tabs.
 - **Multi-Touch:** Enables 10-point multi-touch mode and hides the page tabs.
- **Start touch monitor**
 - Click the "Start" button to start reading in touch data to the text box. This button is greyed-out until the "Single Touch" or "Multi-Touch" mode is selected.
 - **NOTE:** This button also disables the "Start", "Touch Mode", and "Touch Level Tool" buttons.
- **Stop touch monitor**
 - Click the "Stop" button to stop displaying touch data on the text box.

NOTE: This button re-enables the "Start" and "Touch Mode" buttons.

NOTE: Turn "Touch Mode" to OFF to regain access to tabs.

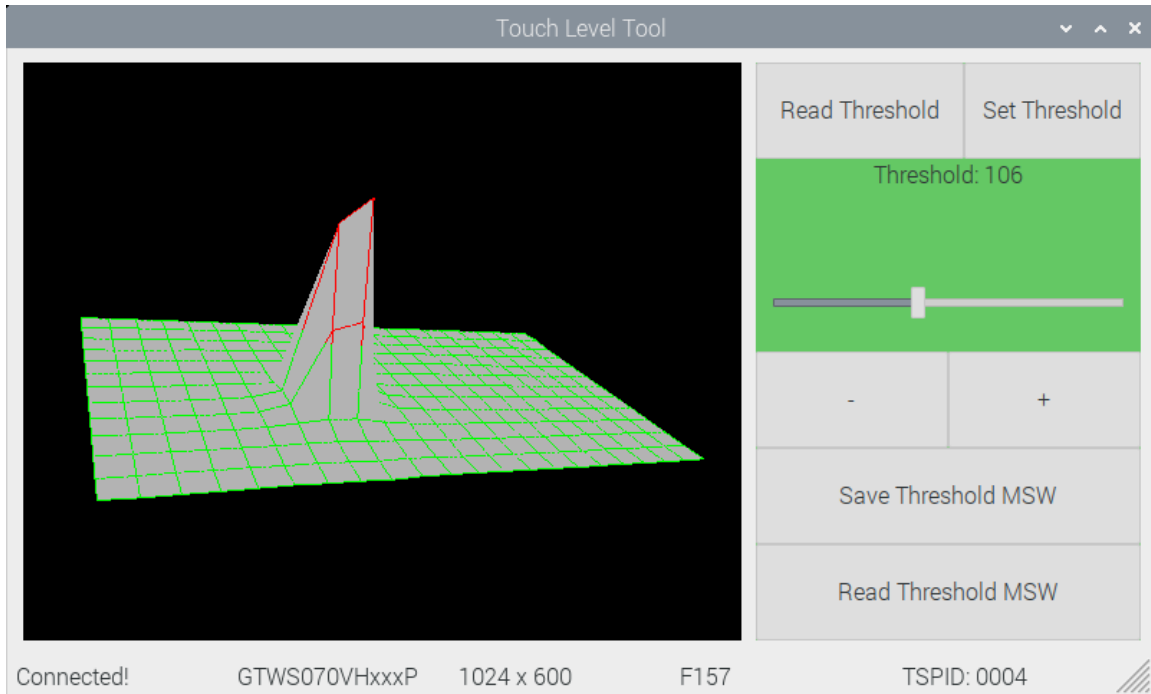


Figure 5: Touch Level Tool

- **Run Touch Level Tool**
 - Click the "Touch Level Tool" button to launch the Touch Level Tool application.
 - **Touch Graph:** Touch the screen to change the touch graph and test the display's touch input values against the selected threshold value. Any touch value over the threshold is seen in **red**.
 - **Read Threshold:** Read the display's current threshold setting.
 - **Set Threshold:** Set the threshold value in **green** to the display's current threshold setting.
 - **"-" Button:** Change the threshold slider by -1.
 - **"+" Button:** Change the threshold slider by +1.
 - **Save Threshold MSW:** Save the threshold value in **green** to the displays threshold memory switch.
 - **Read Threshold MSW:** Read the display's threshold memory switch value.

Touch Setting Package

Touch setting package (TSP) is fully compatible with:

- GTWV070VHA00P (F150)
- GTWS070VHA00P (F150)
- GTW050VHB00P (F150)
- GTWX101VHB00P (F165)

The buttons on this page are greyed out if the GTWX101VHA00P/GT1280X800A-1303P module is connected.

WARNING: Make sure ONLY TSP files are used in this section. Other files may harm the connected module.

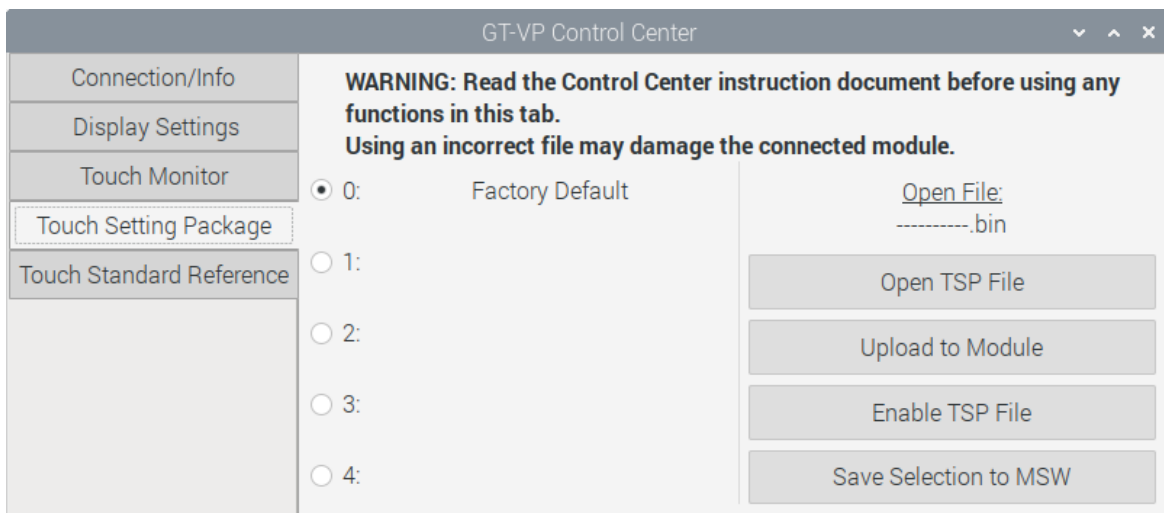


Figure 6: Touch Setting Package Tab

What is a touch setting package?

A touch setting package is an encrypted binary file created by Noritake that can adjust the touch panel sensitivity beyond the capabilities of a simple threshold adjustment. These files are created in special situations where a threshold adjustment cannot help the display module operate in the desired environment. Please contact your local Noritake sales representative if you would like to use a touch setting package.

- **Open a touch setting package file**
 - Click on the “Open TSP File” button and select the desired touch setting package file to open. Once the file is open, its name will appear under the “Open File:” label.
 - **NOTE:** Use the “Computer” tab in the open dialog window to choose a file.

- **Load a touch setting package file**
 - Select a package location radio button and then click on the “Upload to Module” button to load the open touch setting package file to that location on the connected module. The touch setting package file name will appear next to the location number once it has been loaded onto the module.
- **Select a touch setting package file**
 - Select a package location radio button and then click on the “Enable TSP File” button to choose that touch setting package for immediate use. A touch setting package file must be loaded to the desired location before being selected (see “Load a touch setting package file”).
- **Save a touch setting package file selection**
 - Select a package location radio button and then click on the “Save Selection to MSW” button to change the “Touch Setting Package selection at startup” memory switch setting to the indicated location. A touch setting package file must be loaded to the desired location before memory switch setting can be changed (see “Load a touch setting package file”).

Touch Standard Reference

Touch standard reference is only compatible with:

- GTWV070VHA00P/GT800X480A-1303P (F150)
- GTWS070VHA00P (F150)
- GTW050VHB00P (F150)
- GTWX101VHB00P (F156)

The buttons on this page are greyed out if the GTWX101VHA00P/GT1280X800A-1303P module is connected.

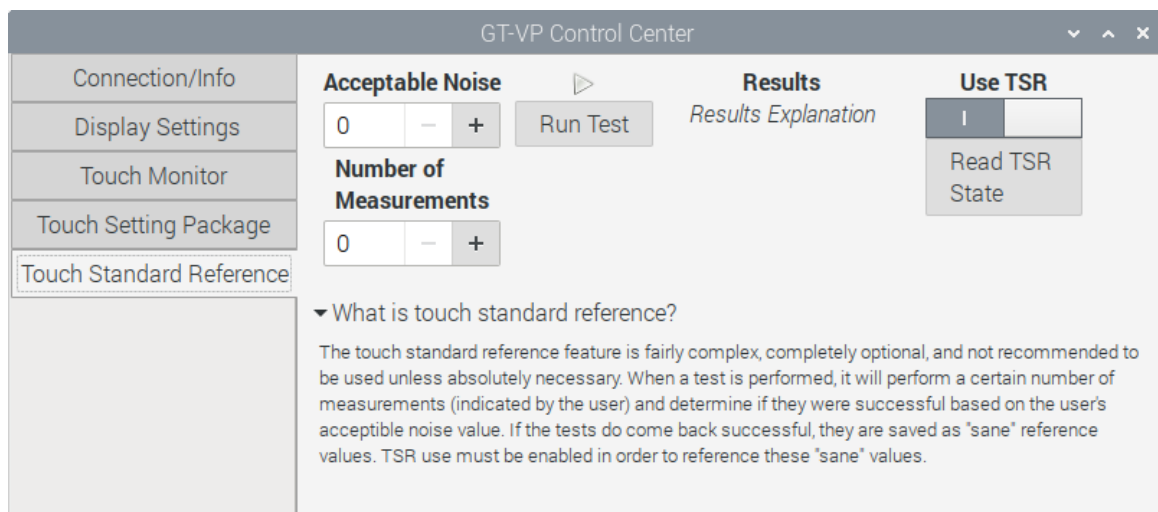


Figure 7: Touch Standard Reference Tab

What is touch standard reference (TSR)?

The touch standard reference feature is a fairly complex, completely optional, and not recommended to be used unless absolutely necessary. When a test is performed, it will perform a certain number of measurements (indicated by the user) and determine if they were successful based on the user's acceptable noise value. If the tests do come back successful, they are saved as "sane" reference values. TSR use must be enabled in order to reference these "sane" values.

- **Run the touch standard reference test**
 - Adjust the "Acceptable Noise" and "Number of measurements" to set the TSR testing parameters. Click on the "Run Test" button to start the TSR test. The results of the test can be seen in the "Results" section.
- **Toggle touch standard reference**
 - Use the toggle slider to enable or disable TSR on the connected module.
- **Read touch standard reference state**

- Click on the “Read TSR State” to read the current TSR ON/OFF state from the connected module.

Disclaimer

This tool is supplied “as is” without warranty. It’s possible to fail or malfunction under a specific combination of peripherals and PC or operating system.

Appendix

GT-VP USB Communication Explanation

The GT-VP module has **one** configuration and **two** different USB interfaces.

- **Interface 0 (interrupt):** Used for HID communication. It sends touch information to the host controller.
- **Interface 1 (bulk):** Used for Noritake command communication (read and write).

For USB devices, only one configuration can run at one time, but multiple interfaces can run within a configuration. So, the GT-VP module's configuration can run interface 0 to use touch input to control the host's mouse, digitizer, gestures, etc. and also run interface 1 to receive and respond to Noritake commands at the same time.

For customers/developers, it is important to note that the GT-VP has these two concurrently running interfaces to operate the module via touch and change settings without one interface affecting the other.

Tool Revision History

Version	Date	Revision
1.0.0	02/23/2018	Initial
2.0.0	09/20/2018	<ul style="list-style-type: none">· Added full command functionality.· Organized GUI into tabs.· Added compatibility with GT1280X800A-1303P.
3.0.0 BETA	06/02/2020	<ul style="list-style-type: none">· Added the “Touch Setting Package” tab· GTWV050VHB00P compatibility· Various bug fixes
3.0.0	09/04/2020	<ul style="list-style-type: none">· Improved “Touch Setting Package” tab features and stability· Various bug fixes
3.1.0	12/30/2020	<ul style="list-style-type: none">· Added compatibility for GTWX101VHB00P· Various bug and logic fixes· Improved TSP file compatibility
3.2.0	06/24/2021	<ul style="list-style-type: none">· Added compatibility for GTWS070VHA00P
4.0.0	08/05/2021	<ul style="list-style-type: none">· Added Touch Level Tool to “Touch Monitor” tab