

Open source StationPi Pro touch screen display/controller
Getting started
Ian Jin Apr.10,2022

1. Download and install Workshop4 IDE into your PC
<https://4dsystems.com.au/workshop4#downloads>
In case you don't have the 4D-UPA CP210x USB UART driver
<https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>
2. Make sure you have touch screen module GEN4-ULCD-28PT or GEN4-ULCD-28PT
<https://4dsystems.com.au/products/4d-intelligent-hmi-display-modules/gen4-hmi-display-modules/display-modules>

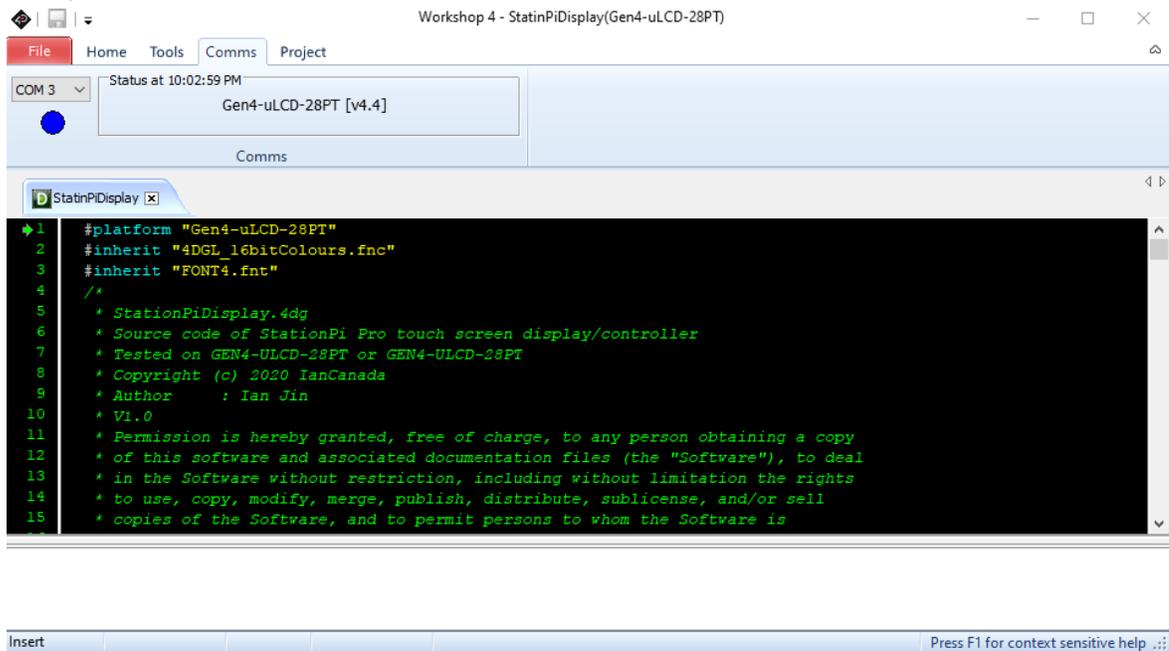
But if it's the first time using them, I would suggest ordering the starter kits SK-GEN4-24PT or SK-GEN4-28PT because the 4D-UPA programmer will be included.
<https://4dsystems.com.au/products/4d-intelligent-hmi-display-modules/gen4-hmi-display-modules/starter-kits>

3. Download the open source StationPi Pro touch screen controller project source code StatinPiDisplay.4dg from gitHub:
<https://github.com/iancanada/DocumentDownload/tree/master/Adapters/StationPiPro>
Save the project source code into a folder, which can be named as "StationPiDisplay"
4. Connect the touch screen module to the 4D-UPA programmer through the FFC/FPC cable. Make sure the cable is in top contact and then lock both of the connectors. And then connect the 4D-UPA to your PC using a USB cable. Make sure the factory default screen is showing.



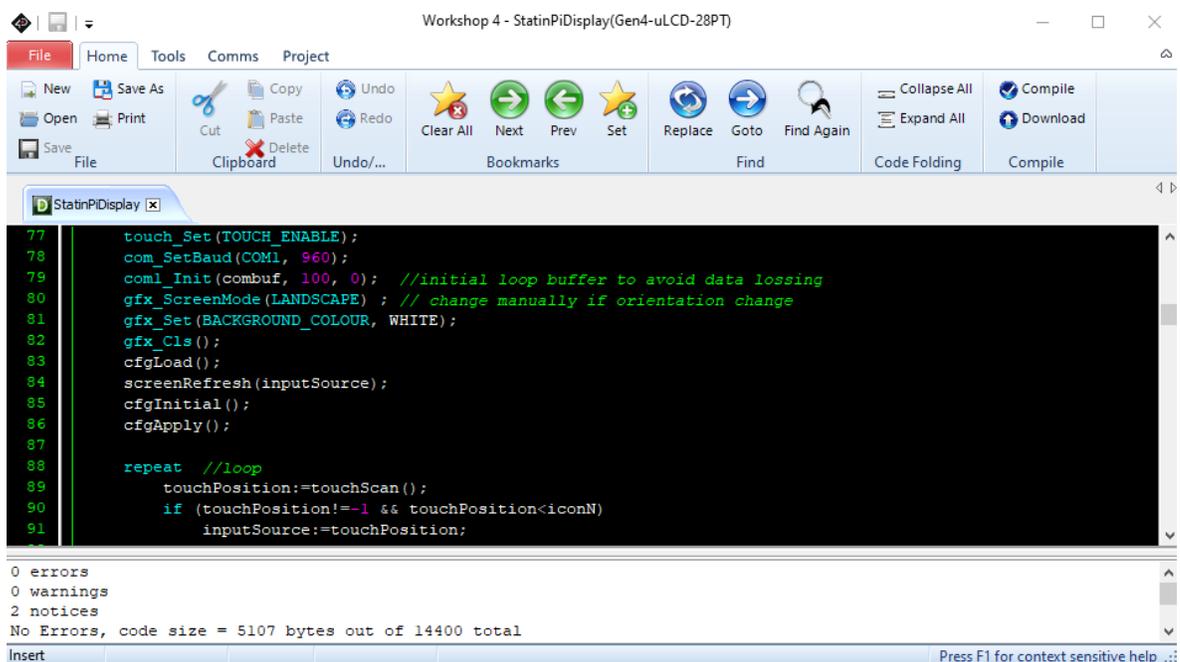
5. Make sure the CP210x USB UART is recognized by the system and works properly. Double click the project file StatinPiDisplay.4dg. You will see the source code opened in the Workshop4 IDE.

On the Comms page, select the corresponding com port of the 4D-UPA programmer, then you will see the status of the touch screen module.



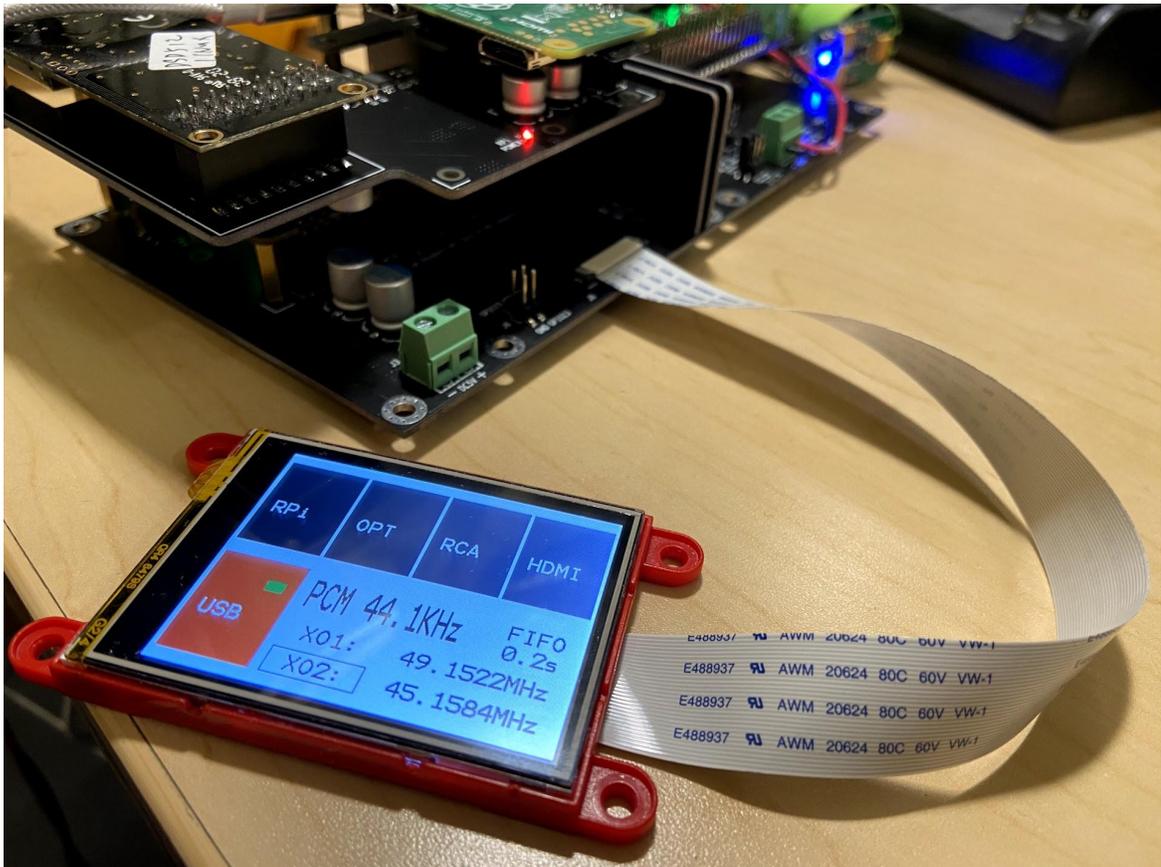
```
Workshop 4 - StatinPiDisplay(Gen4-uLCD-28PT)
File Home Tools Comms Project
COM 3 Status at 10:02:59 PM
Gen4-uLCD-28PT [v4.4]
Comms
StatinPiDisplay [x]
1 #platform "Gen4-uLCD-28PT"
2 #inherit "4DGL_16bitColours.fnc"
3 #inherit "FONT4.fnt"
4 /*
5  * StationPiDisplay.4dg
6  * Source code of StationPi Pro touch screen display/controller
7  * Tested on GEN4-ULCD-28PT or GEN4-ULCD-28PT
8  * Copyright (c) 2020 IanCanada
9  * Author : Ian Jin
10 * V1.0
11 * Permission is hereby granted, free of charge, to any person obtaining a copy
12 * of this software and associated documentation files (the "Software"), to deal
13 * in the Software without restriction, including without limitation the rights
14 * to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
15 * copies of the Software, and to permit persons to whom the Software is
```

6. On the home page, click the Comp'nLoad, the source code will be compiled and downloaded to the touch screen module. Then the SationPi Pro control screen will be displayed and functioning.



```
Workshop 4 - StatinPiDisplay(Gen4-uLCD-28PT)
File Home Tools Comms Project
New Save As Cut Copy Undo Clear All Next Prev Set Replace Goto Find Again Collapse All Compile
Open Print Paste Copy Paste Redo Expand All Download
Save File Clipboard Undo/... Code Folding Compile
StatinPiDisplay [x]
77 touch_Set(TOUCH_ENABLE);
78 com_SetBaud(COM1, 960);
79 com1_Init(combuf, 100, 0); //initial loop buffer to avoid data lossing
80 gfx_ScreenMode(LANDSCAPE); // change manually if orientation change
81 gfx_Set(BACKGROUND_COLOUR, WHITE);
82 gfx_Cls();
83 cfgLoad();
84 screenRefresh(inputSource);
85 cfgInitial();
86 cfgApply();
87
88 repeat //loop
89 touchPosition:=touchScan();
90 if (touchPosition!=-1 && touchPosition<iconN)
91 inputSource:=touchPosition;
92
0 errors
0 warnings
2 notices
No Errors, code size = 5107 bytes out of 14400 total
Insert Press F1 for context sensitive help ...
```

7. Connect the touch screen module to the StationPi Pro. Turn the StationPi Pro power, it will be fully functional. Please be very careful of the FFC/FPC cable orientations. Both sides have to be in top contact. The FifoPi status can also be displayed on the screen if you have a FifoPi Q3 in the system and a control cable is connected between FifoPi Q3 and StationPi.



8. I don't responsible for supporting the 4D system's products. If you have any issue with programming and developing touch screen display modules, please ask the 4D system for help.

Some useful links:

<https://4dsystems.com.au/workshop4>

<https://4dsystems.com.au/products/4d-intelligent-hmi-display-modules/gen4-hmi-display-modules/starter-kits/sk-gen4-24pt>

<https://4dsystems.com.au/products/4d-intelligent-hmi-display-modules/gen4-hmi-display-modules/starter-kits/sk-gen4-28pt>

<https://4dsystems.com.au/products/4d-intelligent-hmi-display-modules/gen4-hmi-display-modules/development-tools/4d-upa>

<https://4dsystems.com.au/mwdownloads/download/link/id/17/>