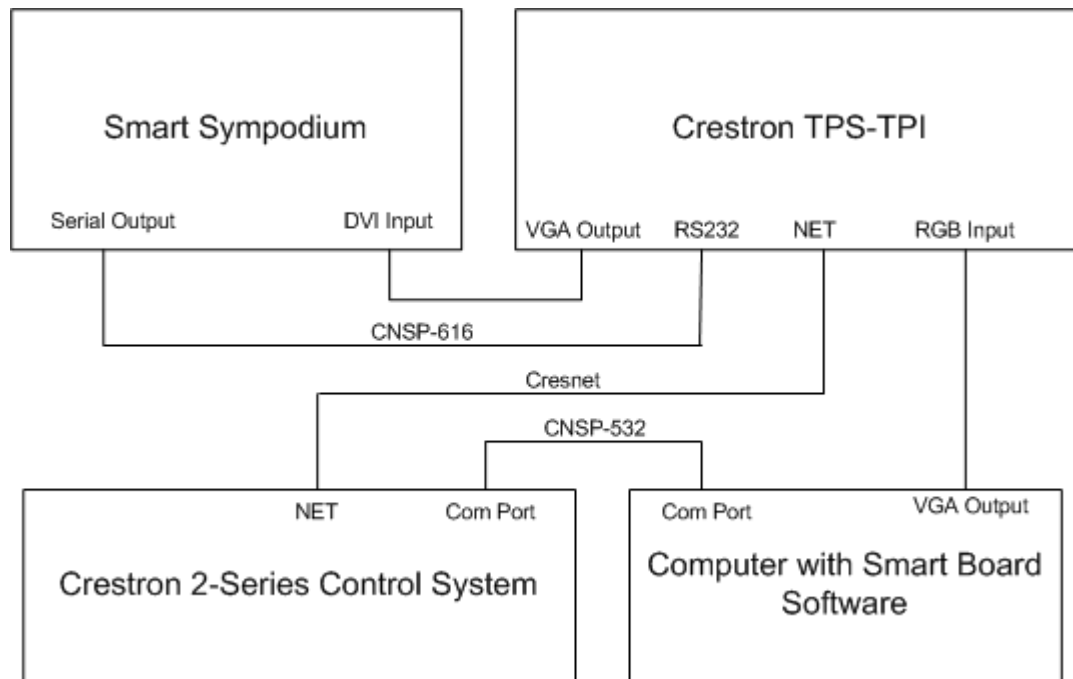


Smart Sympodium / Crestron TPS-TPI System Overview:

The Smart Sympodium can be used as the touch input device for the Crestron TPS-TPI Touch Panel Interface. This will allow the Sympodium to function as a Crestron touch panel. The TPS-TPI will generate the VGA display, which will be shown on the Sympodium. This display can consist of up to two video, and one VGA window (based on what cards are installed in the TPS-TPI), as well as the standard Crestron control buttons and graphics. The Sympodium will be able to activate buttons as if it were a standard Crestron touch panel. In addition, by connecting a computer with Smart Board software loaded, you will be able to telestrate on, and control the computer, from the Sympodium, through the TPS-TPI. A 2-Series control system (Pro2, AV2, etc.) will be needed to perform these functions.



System Setup:

Configuring the TPS-TPI to work with the Sympodium:

1. From Viewport establish communication with the TPS-TPI.
2. Load TPS-TPI firmware Version 2.000.0 or higher into the TPS-TPI.
3. Use the console command “**restore**<enter>” to restore factory defaults.
4. Use the console command “**todest cresnet**<enter>”. This will direct pad area signals over cresnet.
5. Use the console command “**rs232 ext_touch**<enter>”. This will setup the RS232 port to be used as an external touchscreen input.
6. Type “**reboot** <enter>” to reboot the TPS-TPI.

Configuring the Sympodium to work with the TPS-TPI:

1. Load Smart Board software (version 7.1.1 or later) supplied by Smart into the computer to be controlled by the Sympodium.
2. Verify that the Sympodium and PC are working properly together by connecting the PC to the Sympodium – bypassing the Crestron system.

Connecting the TPS-TPI to the Sympodium:

1. Connect the TPS-TPI to the Sympodium and computer as shown in the diagrams above. It is very important to use the cables shown in the diagram above. Incorrect cables will result in the system not working properly. When connecting to the computer, connect directly to a free serial port. Do not use the Smart USB-ADP USB adapter.
2. Switch the Sympodium to Analog input as detailed in the Smart documentation.
3. Power up the Sympodium. The Ready Led should stop flashing red, and turn to a steady green.
4. From Viewport, connected to the TPS-TPI, type "Caltouch <enter>". The TPS-TPI will generate a calibration screen, displayed on the Sympodium. Perform the calibration. This will calibrate the TPS-TPI to the Sympodium.

Loading and Testing the TPS-TPI/Sympodium Demo Program:

1. Using Viewport, load the program file "Smart Sympodium Control from TPS-TPI Demo.spz" into the control system.
2. Load the touch panel file "Smart Sympodium Control from TPS-TPI Demo.vtz" into the TPS-TPI.

The demo program will display two windows....one composite video signal, which should be connected to the comp input on the TPS-TPI, and one RGB signal, which should be connected to the RGB input of the TPS-TPI. If the computer is to be controlled by the Sympodium/TPS-TPI, connect the com port on the computer to the COM A port on the control system.

Troubleshooting:

Sympodium to TPS-TPI Communications:

If the Sympodium and TPS-TPI are communicating properly, the LED at the top of the Sympodium should be green. If the LED is flashing RED, the two systems are not communicating properly, and you should check the following:

1. Verify that the correct cable is being used between the serial port on the Sympodium, and the RS232 port on the TPS-TPI.
2. Verify that the TPS-TPI has been set up properly as described above.
3. Verify that the correct firmware version is loaded into the TPS-TPI.

Control System to Computer Communications:

If the control system and Smart computer are communicating properly, you will be able to control the computer and telestrate from the VGA window displayed on the Sympodium. If this does not work, check the following:

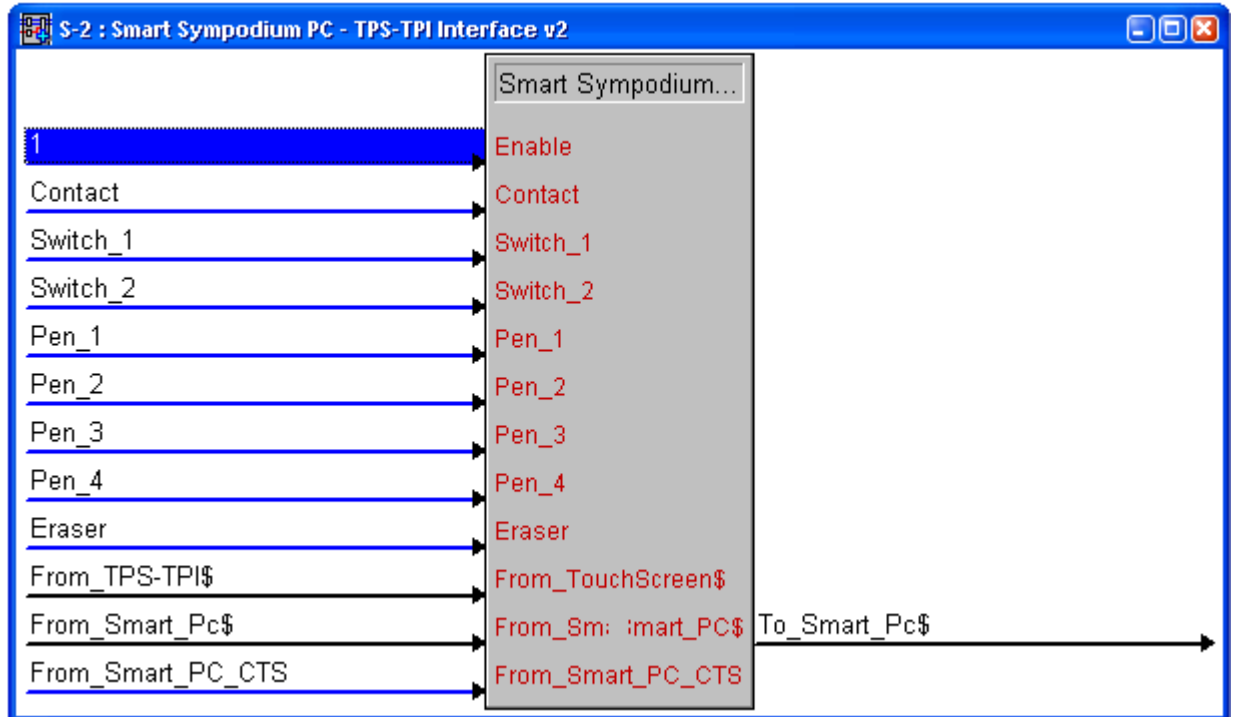
1. Verify that the Smart Board software is running on the PC. You should see the Smart toolbar on the screen.
2. Verify that the correct cable is connected from the com port on the PC, to the COM A port on the control system. Connect directly to a free serial port on the computer. Do not use the Smart USB-ADP USB adapter.
3. On the computer, you can have the Smart Board software search for a valid Smart tablet, by going into the Control Panel menu, then select "Connect", then select "Detect Smart Hardware". It should search all com ports, and automatically establish communications with the control system.
4. You may need to calibrate the computer to the TPS-TPI. This is done by selecting "Orient" from the Control Panel menu of the Smart software. Follow the instructions to complete the calibration.

SimplWindows Programming Considerations:

The firmware of the TPS-TPI handles most of the interactions required to operate with the Symposium. However, in some configurations, some additional SimplWindows programming will be necessary.

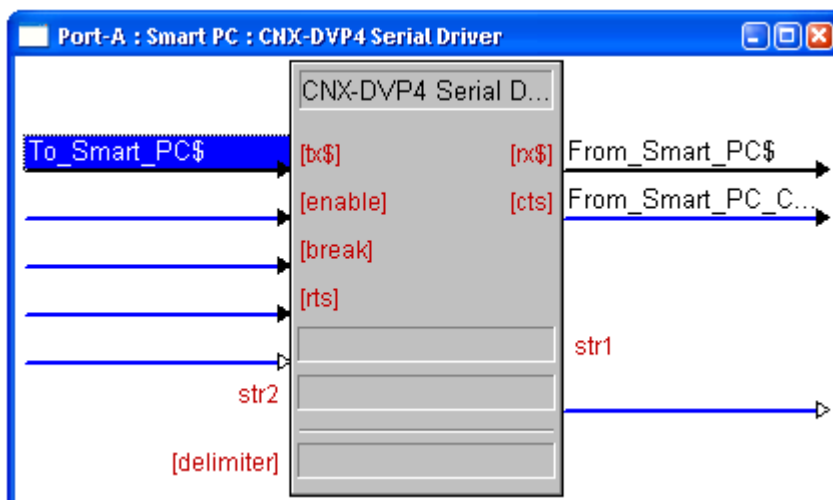
If you are using the Symposium as the touch input device, and you are using a computer for telestration/control, the following SimplWindows programming will be needed:

1. The pad area information (the coordinates corresponding to where you touch) will be sent into the SimplWindows program on the TPS-TPI Touchpanel Interface definition in the SimplWindows program. The information will be a serial (text) input, corresponding to which serial join you specified for the pad area, when creating your VTPro-e file.
2. You will need to add the user module “Smart Symposium PC – TPS-TPI Interface v2.umc “ to the program.

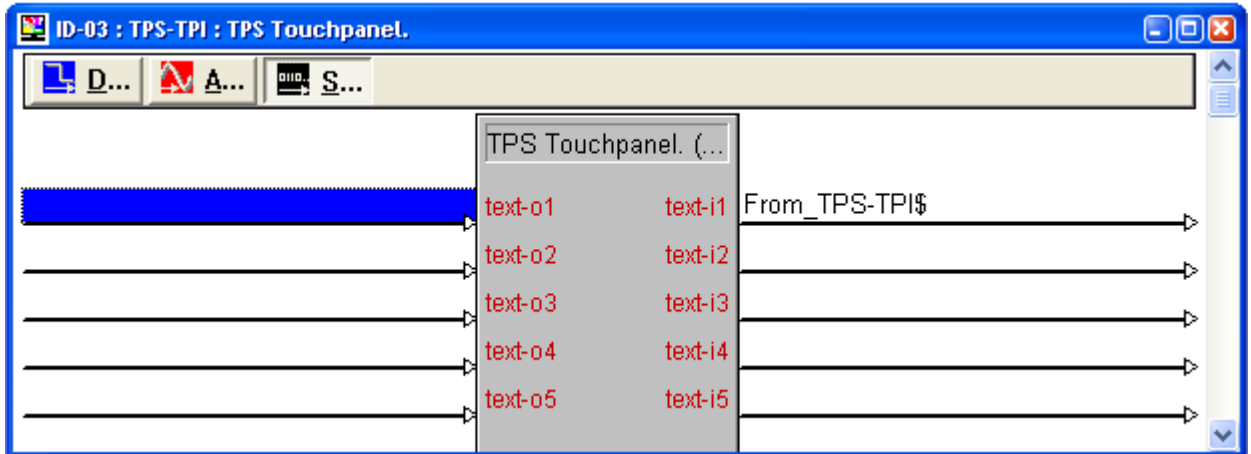


This module serves several functions:

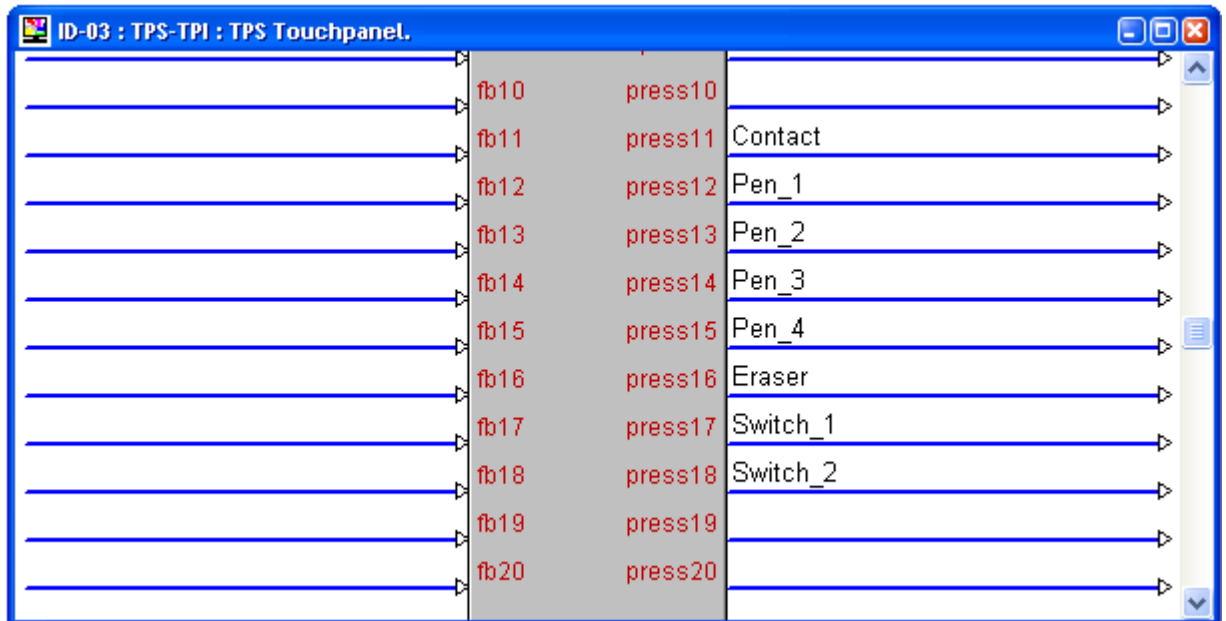
- i. It will interact with the computer, and cause it to believe that it is connected directly to a Symposium. So you must attach the From_Pc\$ and To_Pc\$ input/output to the serial Rx\$ and Tx\$ of the com port to which the PC is connected. You must also connect the From_Smart_Pc_CTS input to the CTS output of the com port.



- ii. It will receive the pad area information generated by the TPS-TPI, and it will reformat it before sending it to the computer. So you must connect the serial input corresponding to the pad area defined in the VTPro-e project, to the From_TPS-TPI\$ input of this module.



- iii. It will receive the pen information (corresponding to which pen/eraser/etc. buttons were pressed on the Sympodium), from the touchpanel definition, and reformat them to be sent to the computer.



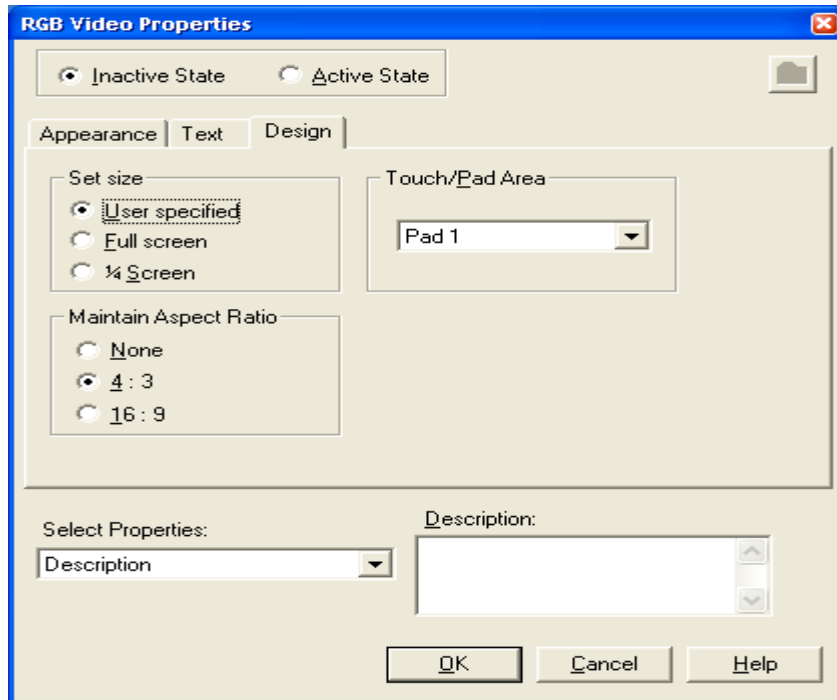
Be sure the com port is configured correctly to communicate with the computer. Proper settings are 9600 baud, no parity, 8 data bits, 1 stop bit, no handshaking.

You can now compile and load the program into the 2-series control system.

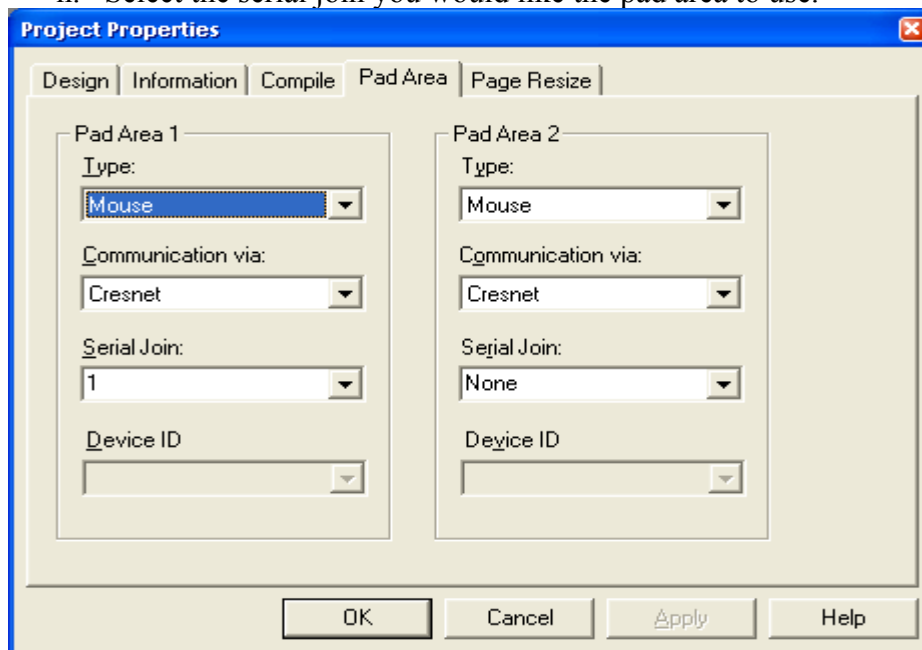
VTPro-e Programming Considerations:

In order to allow computer control and telestration, some additional VTPro-e programming will be necessary.

1. You will need to configure the touch/pad area of the video window as follows:
 - a. Create a TPS-TPI project
 - b. Create a new page and add a RGB window
 - c. Double-click on the RGB window to bring up it's properties
 - d. Click on the Design tab and enable the Touch/Pad area by selecting either Pad 1 or Pad 2.



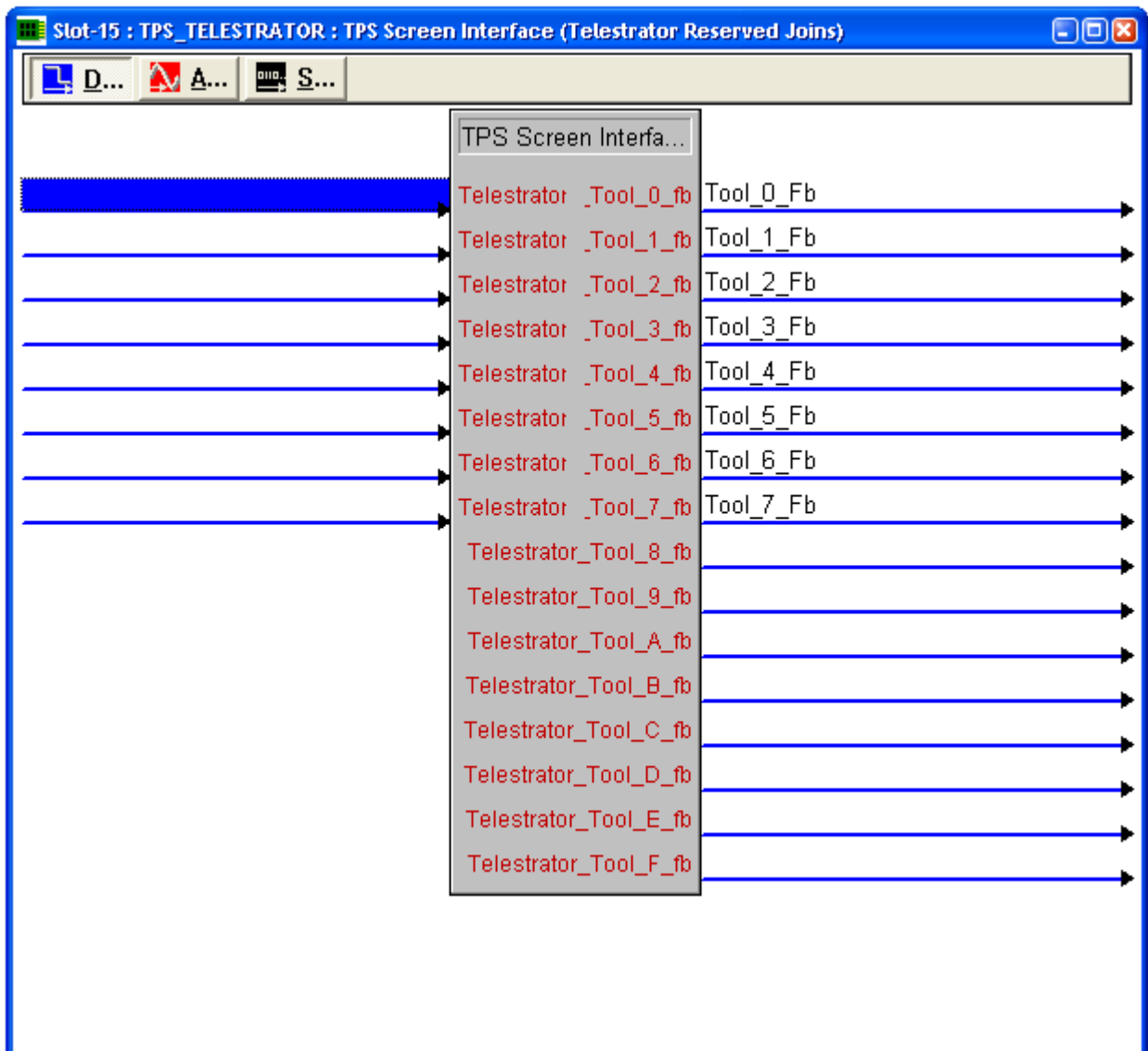
- e. Save and close the page, and go to the Project properties. Select the Pad Area tab.
- f. Set the pad area type to Mouse.
- g. Set the pad area communication via to either Cresnet or TCP/IP.
- h. Select the serial join you would like the pad area to use.



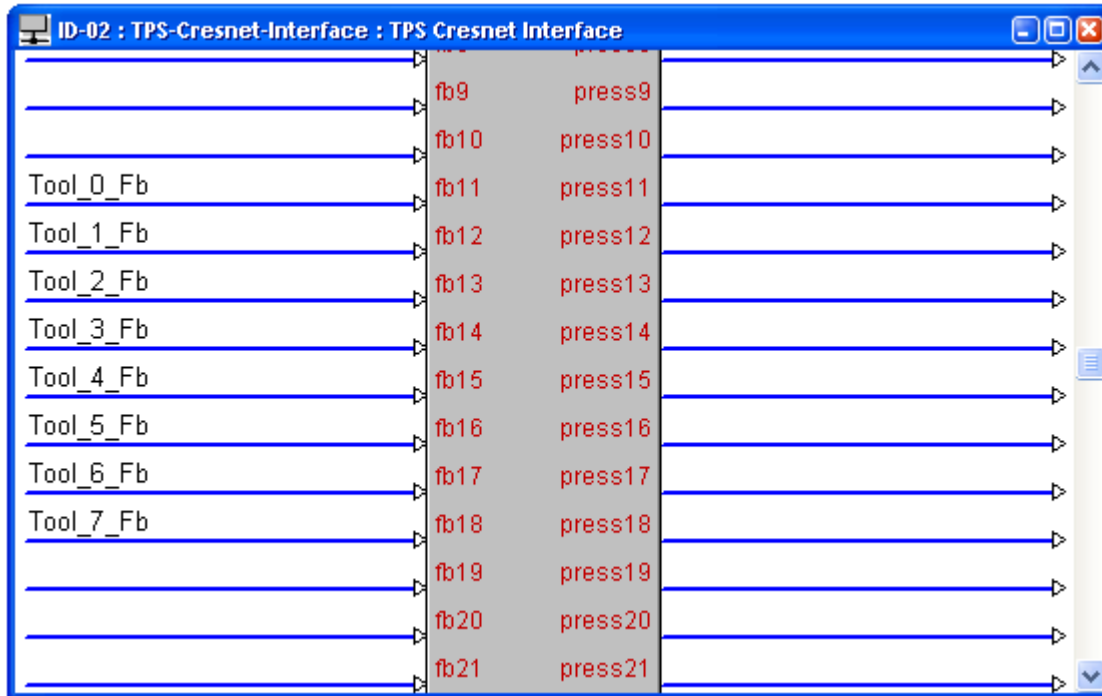
Save and compile the touch panel project.

You will also need to create a touch panel join number remap file. This file will allow reserved touch panel functions to trigger events in the control system. This is necessary to allow the Sympodium buttons (pens/eraser/etc.) to correctly pass through the control system, to the computer. The remap file is created as follows:

1. In SimplWindows, create a new program
2. From the Device Library, Under Control Systems, select a TPS Series panel as the control system
3. Go to Program View, and open up the Central Control Modules folder
4. Open up slot 15 – Telestrator Reserved Joins. This gives access to telestrator functions generated by external touch screens. For the Sympodium, the following tools are defined:
 - a. Telestrator_Tool_0_Fb – Contact
 - b. Telestrator_Tool_1_Fb – Pen 1
 - c. Telestrator_Tool_2_Fb – Pen 2
 - d. Telestrator_Tool_3_Fb – Pen 3
 - e. Telestrator_Tool_4_Fb – Pen 4
 - f. Telestrator_Tool_5_Fb – Eraser
 - g. Telestrator_Tool_6_Fb – Switch 1
 - h. Telestrator_Tool_7_Fb – Switch 2



5. Connect the appropriate Tool functions to the join number which you would like them to be received upon, by connecting them to the TPS Cresnet Interface located in the Network Modules folder.



6. Press the compile button in SimplWindows. You will be prompted to enter a compiler destination. This destination should be the touch panel file, which you compiled in VTPro-e earlier. This remap file will be added to the previously compiled touch panel file.
7. You can now load the touch panel file into the TPS-TPI.