



General How to Update the PmmC for Pixxi

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Description

This application note provides step-by-step instructions on how to connect the display module and how to update the firmware.

Before getting started, the following are required:

Hardware

- Any 4D Systems display module powered by any of the following processors:
 - o Pixxi28/44
- Programming Adaptor for target display module

Software

- Workshop4

Note: Using a non-4D programming interface could damage the processor and void the warranty.

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Updating the Firmware

Follow the instructions below to update the firmware or PmmC (Personality module micro Code) of the display module.

1. Open a new project or any existing project in any environment in Workshop4
2. Connect the display module to the PC
3. Open the PmmC loader
 - a. Auto update mode
 - b. Manual update mode
 - c. Force update

Create or Open any Project in Workshop4

For instructions on how to create or open a project, please refer to the section “**Create a New Project**” of any of the following application notes:

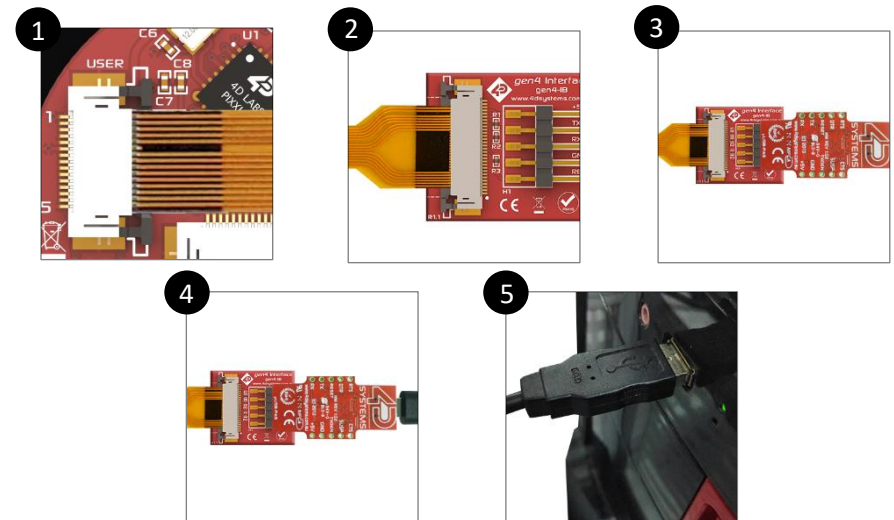
- **ViSi-Genie Getting Started - First Project for Pixxi**
- **ViSi Getting Started – First Project for Pixxi Display Modules**

Connect the Display Module

The Pixxi display module can be connected to the PC using an appropriate programming adaptor. Refer to the product datasheet for the 4D Programming modules suitable for you. Before using any of these programming modules, the drivers need to be installed first. Please, visit their respective product page for the drivers.

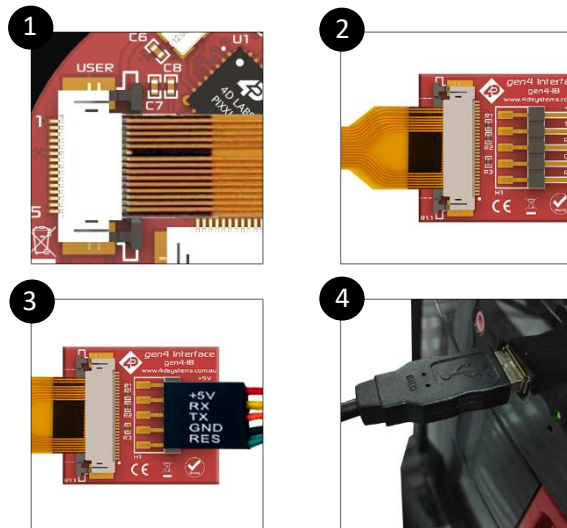
Using the μ USB-PA5 Programming Adaptor

1. Connect the 15-to-30 way FPC to the display module's 15-way ZIF socket with the metal contacts on the FPC facing on the latch.
2. Connect one end of the 15-to-30 way FPC to the Adaptor Board's 15-way ZIF socket with the metal contacts on the FFC facing on the latch.
3. Connect the other end of the FFC to the 30-way ZIF socket on the gen4-IB with the metal contacts on the FFC facing on the latch.
4. Connect the 5-Pin female header of the μ USB-PA5-II to the gen4-IB following the orientation on both cable and module labels. You can also do this with the assistance of the supplied ribbon cable.
5. Connect a USB-Mini-B Cable to the μ USB-PA5-II.
6. Lastly, connect the other end of the μ USB-Mini-B to the computer.



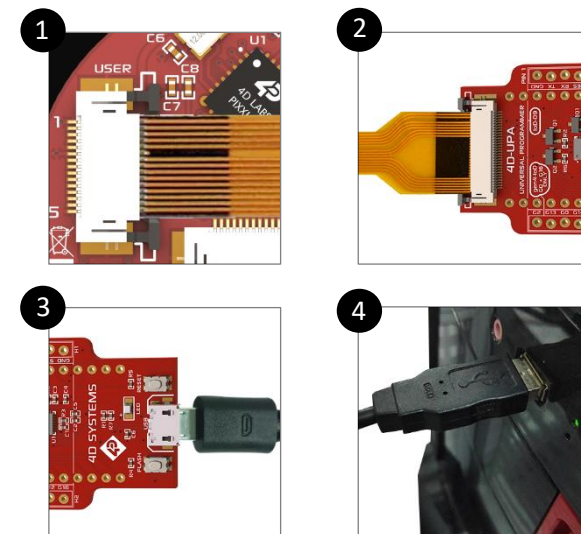
Using the 4D USB Programming Cable

1. Connect the 15-to-30 way FPC to the display module's 15-way ZIF socket with the metal contacts on the FPC facing on the latch.
2. Connect the other end of the 15-to-30 way FPC to the 30-way ZIF socket on the gen4-IB with the metal contacts on the FPC facing on the latch.
3. Connect the 5-Pin female header of the 4D Programming Cable to the gen4-IB following the orientation on both cable and module labels. You can also do this with the assistance of the supplied ribbon cable.
4. Connect the other end of the 4D Programming Cable to the computer



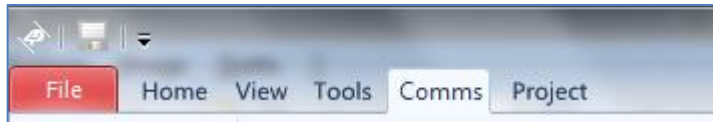
Using 4D-Universal Programming Adaptor (4D-UPA)

1. Connect the 15-to-30 way FPC to the display module's 15-way ZIF socket with the metal contacts on the FPC facing on the latch.
2. Connect the other end of the 15-to-30 way FPC to the 30-way ZIF socket on the 4D-UPA with the metal contacts on the FPC facing on the latch
3. Connect the USB-Micro-B Cable to the 4D-UPA.
4. Lastly, connect the other end of the USB-Micro-B Cable to the computer

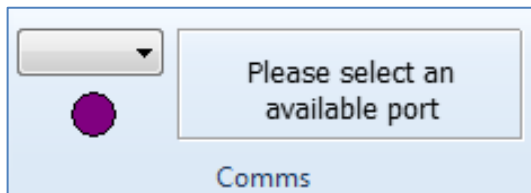


Check if the Display Module is detected by the PC

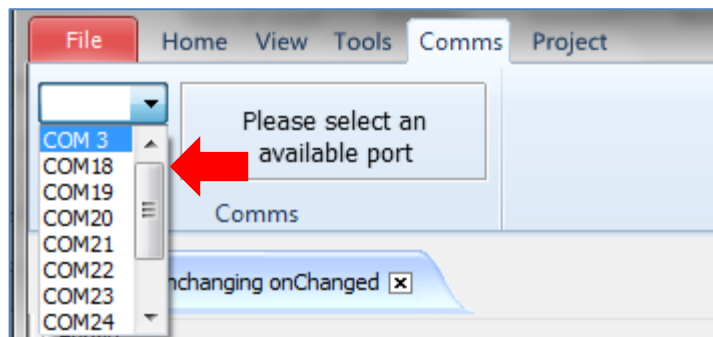
Go to the Comms menu to check if the module is detected.



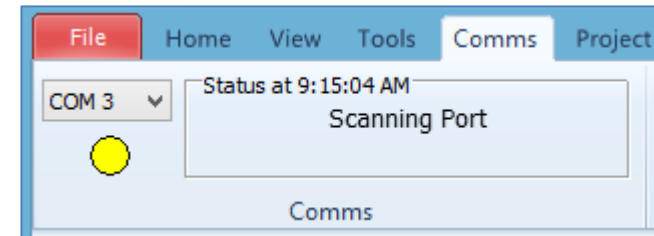
Above the Comms section, the violet light mentions no module is currently connected.



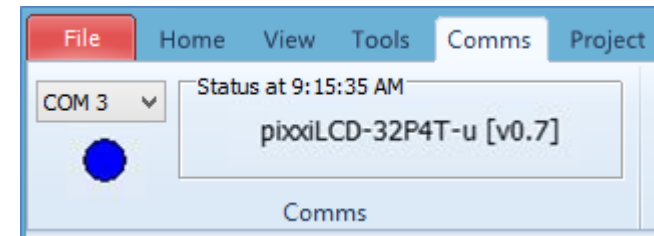
With the display module connected to the 4D USB programming cable (or μ USB-PA5 or 4D-UPA), plug the other end of the cable to the USB port. Click on the drop-down list and select the COM port allocated to the cable. The product pages for the programming cable, μ USB-PA5, and 4D-UPA have instructions on how to determine the allocated COM port.



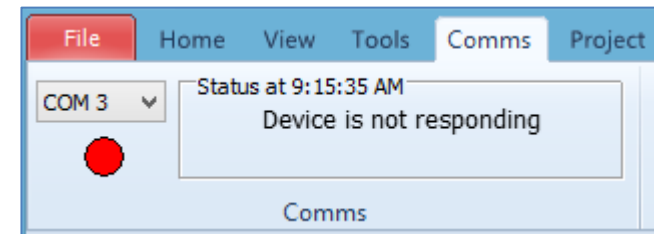
The light turns yellow while the connection is being established:



Finally, the light goes blue when the connection is established.



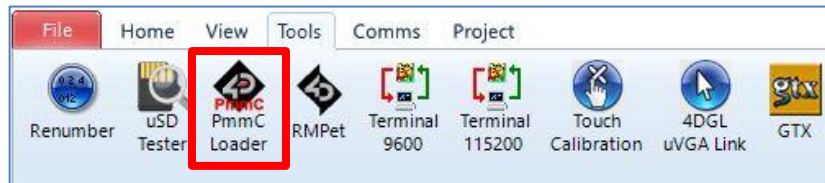
The light turns red when no module is detected to the selected port.



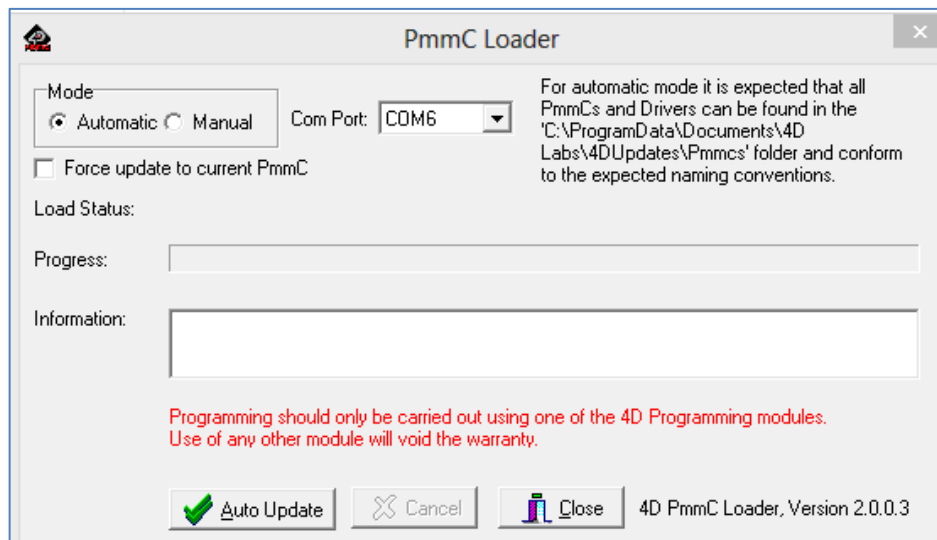
Note: If the connected target display cannot be detected, double check all connections, ensure that the drivers are correctly installed, and verify the correct COM port allocation for the programming module. Check continuity of the 5-way cable and try replacing the USB-to-miniUSB or USB-to-Micro USB cable (if using a μ USB-PA5 or 4D-UPA) as well. Some USB-to-miniUSB and USB-to-Micro USB cables transfer power only and not data.

Open the PmmC Loader

Workshop4 uses the PmmC loader to download PmmCs and drivers onto the display module. To open it, go to the **Tools** menu and click on the **PmmC Loader** icon.

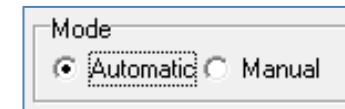


The PmmC Loader window appears.



Auto Update Mode

By default, the mode is set to automatic.



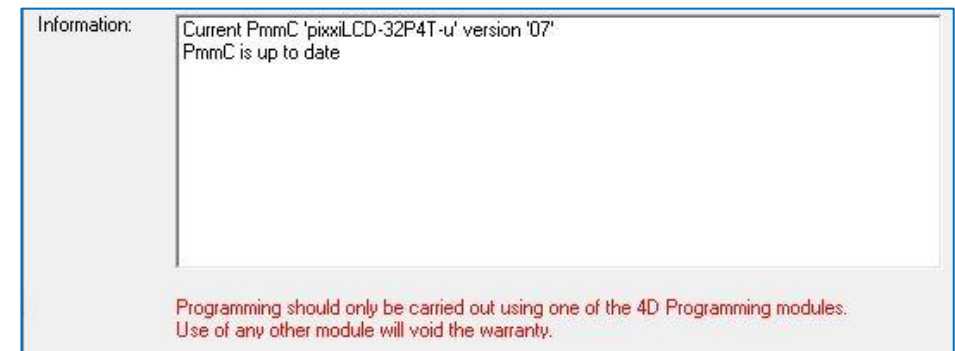
Select the appropriate Com Port by clicking the drop-down menu arrow.



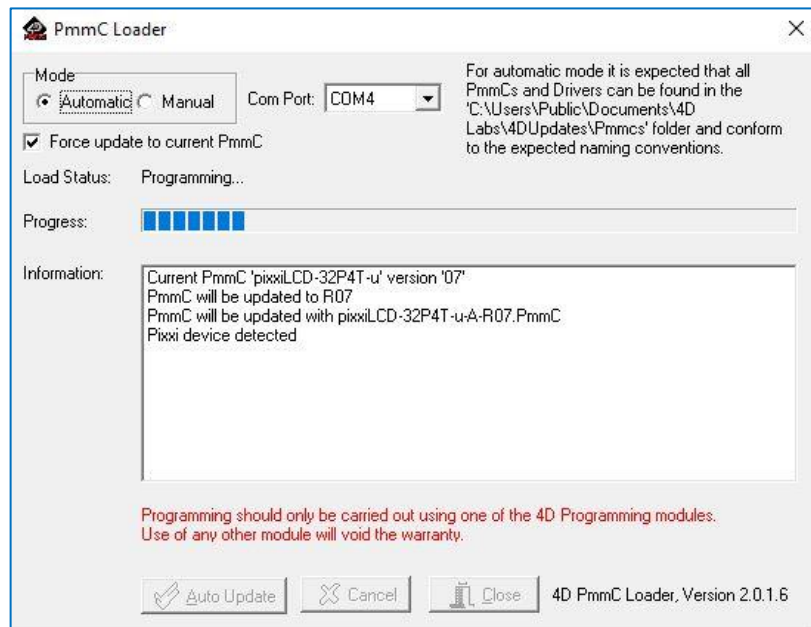
Click on the Auto Update button at the bottom part of the window.



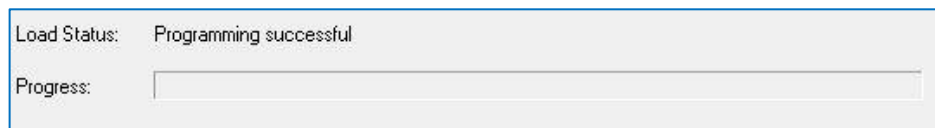
The information box displays the message below.



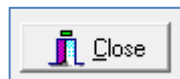
Download is now in progress.



PmmC is now updated.

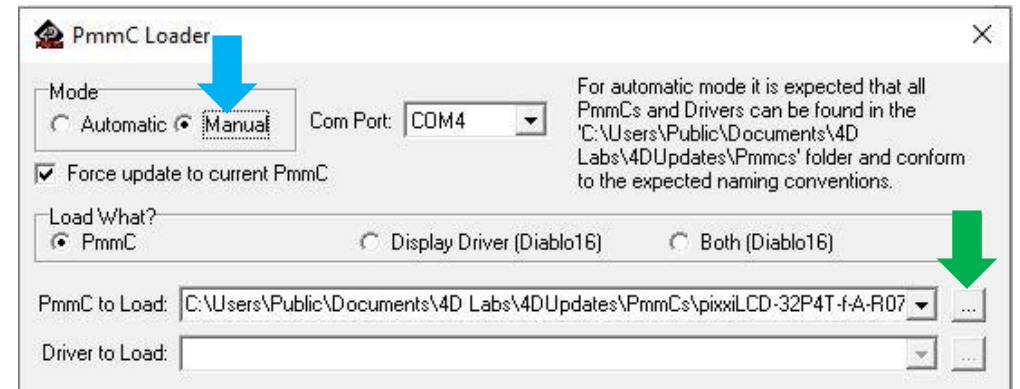


Click on the Close button to exit.



Manual Update Mode

Use the **Manual** update mode to manually select the desired PmmC to be downloaded onto the display module.

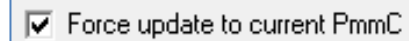


Force Update

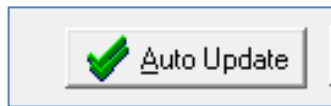
In the automatic mode, no action is taken if the PmmC loader detects that the PmmC and driver are up to date.



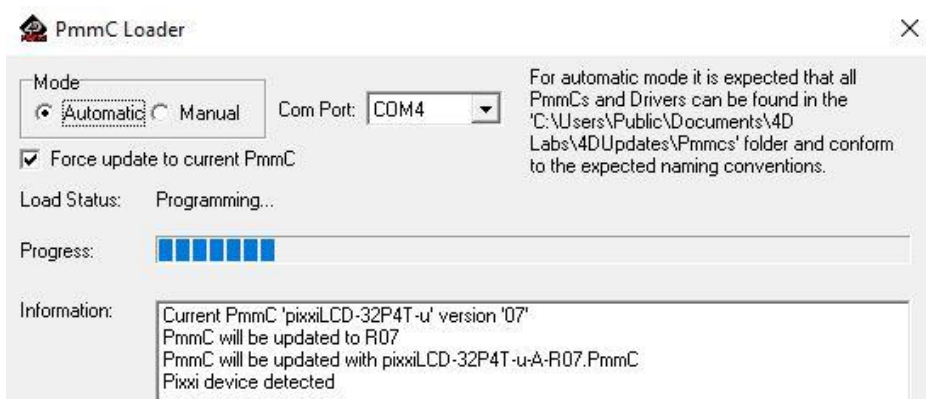
However, it is possible to force the PmmC loader to load the most current PmmC and driver files onto the display module. To accomplish this, enable the **“Force update to current PmmC”** option by clicking on the tick box beside it.



Click on the Auto Update button at the bottom part of the window.



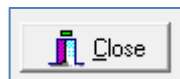
Download is now in progress.



The PmmC is now updated.

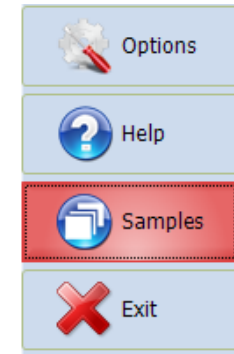


Click on the Close button to exit.



Open Sample Projects for Testing

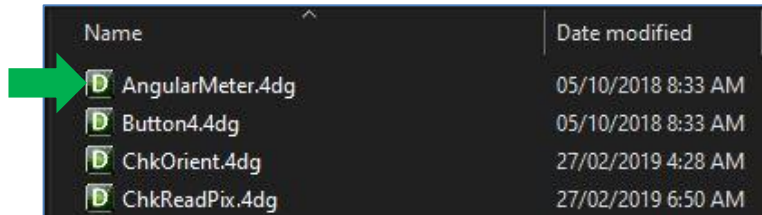
To open a sample project, click on the **Samples** button.



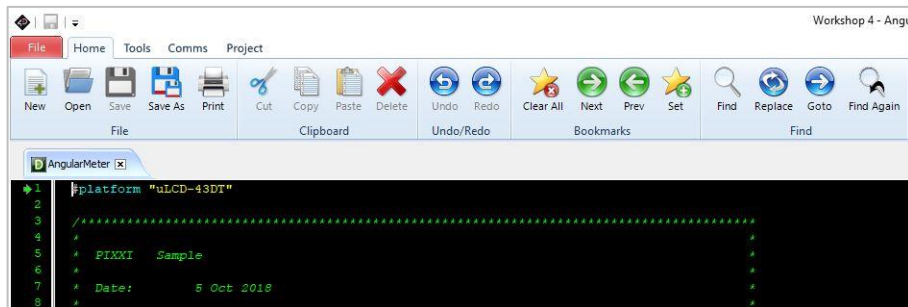
Select **Pixxi Designer**



A standard Open window appears. Select and open the desired project. In here **AngularMeter.4dg** is chosen.



The sample project now opens.



For instructions on how to connect the target display to the PC, how to select the program destination, and how to compile and download a program, please refer to the section “**Run the Program**” of any of the following application notes:

- **ViSi-Genie Getting Started - First Project for Pixxi**
- **ViSi Getting Started – First Project for Pixxi Display Modules**

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