



# **Firmware Upgrade for Generation 5 Products using the G5PcApp for Windows Software**

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## Contents

Introduction.....	3
Contact Information.....	3
Installing the G5PcApp onto a Windows PC.....	4
Firmware Upgrade .....	5
1. Select COM port .....	6
2. Select target component.....	6
3. Select File .....	6
4. Connect COM port.....	6
5. Upgrade Now.....	6

# Introduction

From time-to-time, PP Systems will release new versions of firmware to enhance and improve the operation of our products. For the 'Generation 5' products, a Windows PC based software application is used to easily upload the new firmware files to the product via a USB cable.

This document describes the steps to install the Generation 5 PC Application (G5PcApp) program onto a PC, and then the steps to actually upload files to the PP Systems instrument.

The current listing of Generation 5 products includes:

- WMA-5
- EGM-5
- SBA-5
- TARGAS-1
- CFLUX-1

Each product has multiple embedded microprocessors, each with its own firmware, and each of which can be upgraded independently of the other. For example, the EGM-5 product has a main controller component, a display component, and an IRGA component. It would be typical to upgrade just one of these components. But, the G5PcApp is designed to upload any component on any Gen 5 product. In addition, many PP Systems chambers and probes such as SRC-2 and STP-2 also have embedded microprocessors that can also be upgraded with the G5PcApp when connected to a Gen 5 product

## Contact Information

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# Installing the G5PcApp onto a Windows PC

The G5PcApp files can be downloaded from the User Area of the PP Systems website, or they may be found on recent versions of the PP Systems flash disk provided with each instrument.

There are two versions of G5PCApp installation files: one for 32 bit Windows computers and one for 64 bit Windows computers. To determine which version a particular computer needs, go to Start, then right-click on Computer or My Computer, then choose Properties. In the resulting window, look for System Type: – it will be either 32 bit or 64 bit.

The setup files are:

70010-1 setup32.exe for 32bit systems

70010-1 setup64.exe for 64bit systems

To install the software, simply double click on the appropriate setup file for your system type and follow the prompts. Older versions do not need to be uninstalled before installing a new version, unless otherwise instructed. Once the software is installed, a new G5PcApp icon will appear on the desktop



**Troubleshooting:** Occasionally with older Windows systems, the USB driver will not automatically install as it should. If the PP systems product is connected to a PC USB port, and the G5PCApp only reports a single COM port that is not the PP Systems product, then open Device Manager (Start > RightClick on Computer and select Properties > choose Device Manager). Look for a device named FT20X Basic UART under Other Devices. Double click on the name and choose Reinstall Driver, then allow it to search the internet for an updated driver. It may take 5 minutes, but it should find the appropriate driver and install it.

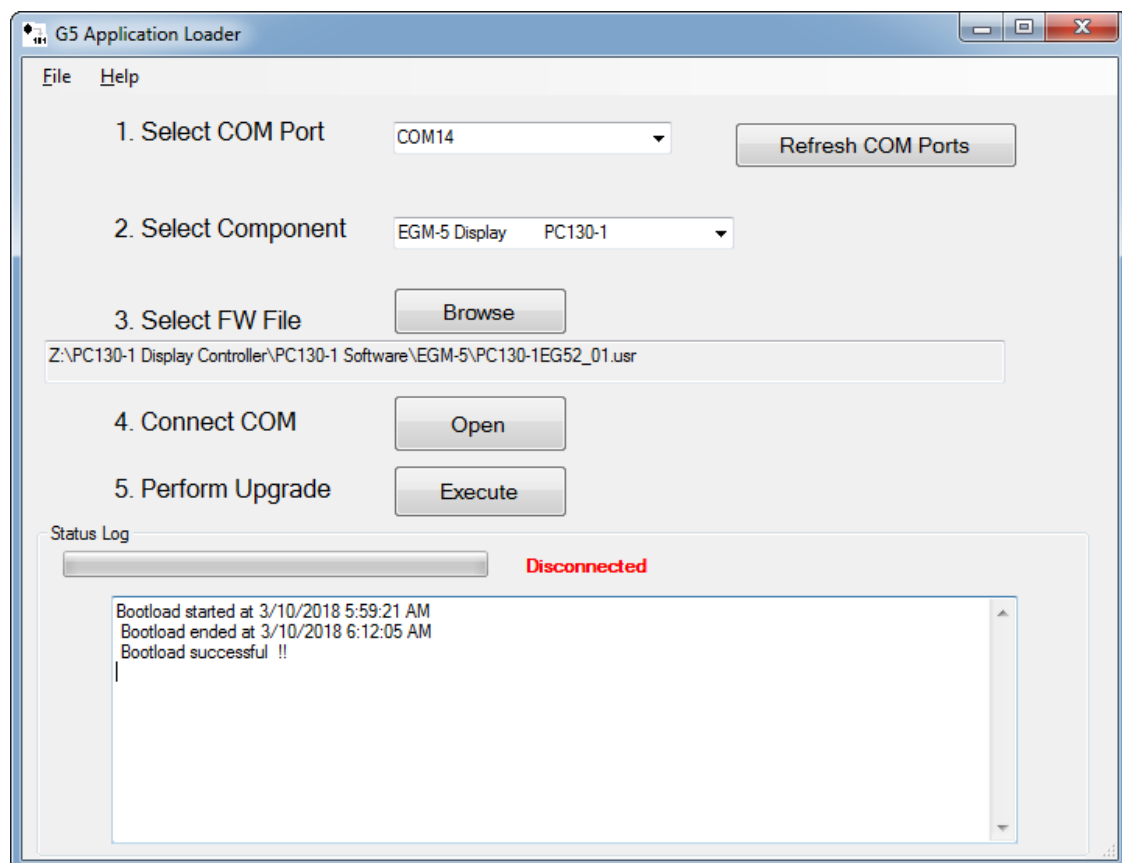
# Firmware Upgrade

The most recent firmware files are available from our web site and can be downloaded and copied to any folder on your PC. All PP Systems firmware files have standard names that identify the PCB board, the product, the firmware version number and all have the file extension ".usr". For example the file to upgrade the EGM-5 display component to version 2.01 is named: PC130-1EG52\_01.usr.

**Caution:** if you attempt to load new firmware into a component by using a ".usr" file that does not contain the instructions for that component, then that component may stop working. In that case you may restore the component by either loading a correct firmware file or by doing a power cycle. If neither of these actions work, then the unit will need to be returned to PP Systems for reprogramming.

There are five steps to upgrade a component that correspond to five buttons on the G5PcApp screen:

1. Select COM port
2. Select target component
3. Select firmware file
4. Connect COM port
5. Upgrade Now



## 1. Select COM port

Attach the USB cable from your instrument to your computer. For Windows Vista through Windows 10 and newer, the COM port number being used will be indicated in a Driver Software Installation windows that automatically pops up on the first connection. For Windows XP you will need to find the COM port number by using the Windows Control Panel App, Device Manager. After connecting the USB cable, launch the G5PcApp. Select the matching com port number in the G5PcApp combobox. If the USB port does not show up in the combobox, or if you connect the USB after launching G5PcApp, then choose the "Refresh COM Ports" button to repopulate the list of com ports that are available to the G5PcApp program.

## 2. Select target component

Select the component hardware that you wish to upgrade from the dropdown list. There are many options and be careful to choose the correct component that matches the instrument you have and the firmware file you downloaded. If you have any questions, please contact PP Systems Support

## 3. Select File

Choose Browse and navigate to the folder where you have stored the firmware file. Only those ".usr" files with names appropriate for the selected component will be displayed. Select the file you wish to use and then select "Open".

## 4. Connect COM port

Select the "Open" button. If an error occurs during the upgrade, then the port will be disconnected and need to be re-connected before trying again.

## 5. Upgrade Now

Select the "Upgrade Now" button. The start time will be shown in the status textbox. After about 1 second the progress bar should start incrementing. Do not turn off power to the PC or the instrument during upgrade process. Once 100 per cent is reached either a "Bootload success" or an error will be appended to the status textbox as appropriate and the ending time. Most upgrades take from six to 12 minutes.

If you have any questions related to firmware compatibility, please get in direct contact with PP Systems.

