POINT GREY
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UpdatorGUI

Firmware Updater User Manual

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1 Overview

The *UpdatorGUI* program is primarily an interface for users to upload new firmware versions onto their PGR IEEE-1394 digital hardware (except *Firefly2* and *Digiclops*). The program allows users to upgrade / downgrade to later / earlier versions of firmware, which is useful for users looking for the latest bug fixes and feature enhancements. To determine the changes made in a specific firmware version, consult the firmware Release Notes.

UpdatorGUI can also be used to upload camera calibration (.cal) files for *Ladybug2* and *Bumblebee* models to the camera. This allows users to run software that is dependent on the calibration information without having the calibration text file on their system.

1.1. UpdatorGUI Driver Compatibility

UpdatorGUI is designed to work with PGR cameras installed using proprietary PGR drivers or 3rd party drivers, as described in the table below.

Driver	Graphical Interface	Command Line Interface
PGR1394b-PRO (pgr1394b.sys)	Yes[1]	Yes[1]
PGRCAM (pgrcam.sys)	Yes	Yes
FlyStream (pgrstrm.sys)[2]	Yes	No
3rd party driver[2]	Yes	No

Table 1: UpdatorGUI Driver Compatibility Chart

[1] Requires the camera to be power cycled (unplugged) before updating other cameras on the bus
[2] Requires a 1394 Virtual Driver to be installed on every 1394 card in the system

The Virtual Driver cannot be installed if the PGR1394b-PRO *driver is intalled, which prevents cameras on the system that are installed using the* FlyStream *or 3rd party drivers from being detected by* UpdatorGUI.

1.2. Consecutive Firmware Updates

It is possible to update camera 1, then camera 2, etc. without power cycling (unplugging) the camera, provided the cameras are not using the PGR1394b-PRO driver. In cases where the camera is using this driver, the camera must be power cycled after each update.

2 Updating Firmware

Before beginning the update process:

1. Make sure the device(s) to be upgraded are plugged in and detected by Device Manager.

2. Extract all of the contents of the downloaded .zip file to a directory of your choice, including all contents of the UpdatorGUI .zip file.

2.1. Using the Graphical User Interface

1. Double-click UpdatorGUI.exe to start the program.

    a. When trying to update devices that are using a third-party driver (versus than the standard PGR FlyCapture driver), you will be prompted to install a 1394 Virtual Driver (see figure below). Click “OK” to agree to this.

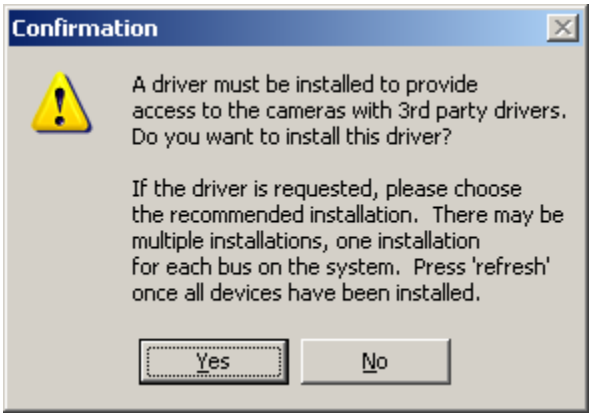

Figure 1: 1394 virtual driver installation prompt

    b. A message box will appear confirming successful installation of the virtual driver to the WINDOWS\system32\drivers directory. Click “OK”.

    c. The *Found New Hardware Wizard* will appear. Follow the prompts to automatically install the “PGR Virtual Driver”. After a short period of time, the UpdatorGUI window will automatically refresh and list all detected devices.

    NOTE: A Virtual Driver will be installed for every 1394 card installed on the system. In this case, the *New Hardware Wizard* will appear multiple times.

2. Select the device(s) to be upgraded. Multiple devices can be updated at the same time. The first device in the list is selected by default.

3. Click “Browse” and set the “Files of type” to the appropriate type (.zim or .ezm).

4. Browse to the directory created in Step 2 and select the .zim or .ezm firmware file. Click "Open".

5. Check the "Downgrade" checkbox only if the version used for updating is an earlier version than that already on the device. For information on interpreting version numbers, consult www.ptgrey.com/support/kb/index.asp?a=4&q=96.

6. Click "Update". A progress bar should appear and the update should begin. It may take several minutes for an update to complete, depending on the number of devices to update, difference in firmware versions, and other processes happening on the computer. A message box notifying the user of the update's success should appear.

During the update, the program may appear to hang or freeze for several minutes. Do not unplug the device(s) while the update is taking place. This can cause the update to fail. If this occurs, repeat the steps above.

7. Unplug the device. Unplugging the device power cycles the device and causes the on-board processor to reboot with the new firmware.

2.2. Using the Command Line Interface

The Command Line Interface is recommended for advanced users, or for OEM customers interested in bundling the UpdatorGUI program with their own custom applications.

2.2.1. General Usage

```
UpdatorGUI <firmware_filename> <options>
```

2.2.2. Firmware Update Options

`-N` (device ID number 0..n – this is different from the node ID)
`-P` (display progress dialog)
`-U` (downgrade)

A command line option to upgrade all cameras on the bus does not currently exist, but should appear in a future release.

2.2.3. Example Usage

```
UpdatorGUI firmware.ezm –N 2      (upgrade camera 2)
UpdatorGUI firmware.ezm –U        (downgrade the only camera on the bus)
```

3 Errors and Troubleshooting

This section attempts to address some of the errors that can occur during a firmware update. In all cases, ensure the host computer being used to update the device(s) has a supported operating system and the latest Service Packs installed. Consult the following knowledge base article for supported operating systems:

KB Article 27: www.ptgrey.com/support/kb/index.asp?a=4&q=27

Also, try to avoid performing updates on any systems that are discussed in the following article:

KB Article 21: www.ptgrey.com/support/kb/index.asp?a=4&q=21

If the steps outlined below do not resolve the error, please contact Technical Support.

3.1. "Data rd / write"

In cases where the update fails due to a general error in reading or writing the firmware, repeat the steps above. Continue using the firmware version that was originally specified during the update process. Attempting to upgrade or downgrade to a different version than the one that was originally specified can cause the firmware to become corrupted. A second or third attempt generally results in a successful update. Ensure that the device is power cycled (unplugged) after each failed upgrade.

3.2. "Data mismatch"

Follow the steps outlined in the *"Data rd / write"* section.

3.3. "Invalid flash address"

This error is sometimes caused by using a version of UpdatorGUI that is incompatible with the device or firmware. To resolve this issue, use the version of UpdatorGUI and the associated .dll files that are bundled in the .zip file containing the firmware version being used for updating.

3.4. "Bad FPGA"

This error is sometimes caused by trying to load a version of firmware that is incompatible with one of the hardware components of the device. Contact Technical Support to resolve this issue.

3.5. "Can't verify hardware info"

This error has been known to occur on some Windows 2000 systems. In some cases, performing the update on a Windows XP system has resolved this problem.

3.6. "Bad file: filename.zim"

This error occurs when a file has been selected that is not a firmware .zim or .ezm file. To resolve this error, select an appropriate .zim or .ezm file.

3.7. "Error in Decryption: Error during CryptAcquireContext"

This error can occur when loading an .ezm (encryted zim) firmware file. In some cases, following the steps outlined in the *"Data rd / write"* section has resolved this error.

3.8. "Fatal Error: FF020000: can't restart monitor: checksum mismatch"

This error has been known to occur on some Windows 2000 Service Pack 4 systems. In some cases, performing the update on a Windows XP Service Pack 1 system has resolved this problem.

3.9. Device not detected after update

In some rare cases, a device is no longer detected by Windows Device Manager or UpdatorGUI after a failed update. If this occurs, try the following:

1. Plug the 1394 cable into the device half-way (not to the point where it "clicks" and is fully seated) until the LED turns on, indicating that the device is receiving power.
2. Fully insert the cable and see if it is recognized by Device Manager. A slight variation to this is to try inserting the cable at different angles during the half-plug. If the device is detected, repeat the update following the steps outlined in the *"Data rd / write"* section.

4 Contacting Technical Support

For any questions, concerns or comments please contact us via the following methods:

Email: For all general questions about Point Grey Research please contact us at info@ptgrey.com.

For technical support (existing customers only) contact us at http://www.ptgrey.com/support/contact/.

Knowledge Base: Find answers to commonly asked questions in our knowledge base at http://www.ptgrey.com/support/kb/.

Downloads: Users can download the latest manuals and software from http://www.ptgrey.com/support/downloads/

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