

## WELCOME TO PAC PROJECT R10.3

Welcome to version R10.3 of Opto 22's PAC Project™ software suite for industrial automation, remote monitoring, and data acquisition applications.

PAC Project comes in two forms: PAC Project Basic and PAC Project Professional.

### PAC Project Basic

PAC Project Basic is included in your purchase of a *groov* EPIC® processor or SNAP PAC controller, and can also be downloaded for free from our website, [www.opto22.com](http://www.opto22.com). PAC Project Basic is all you need for most monitoring and control purposes. It includes:

- **PAC Control Basic™** for developing control programs (*strategies*) to automate processes, monitor equipment, and acquire data from processes and equipment.
- **PAC Display Basic™** for creating a Microsoft® Windows® HMI (human-machine interface) for technicians and operators to use.
- **PAC Manager™** for commissioning and maintaining SNAP PAC controllers, brains, and I/O. (To configure and maintain *groov* EPIC processors and I/O, you use *groov* Manage, which is installed on the processor.)

### PAC Project Professional

PAC Project Professional is designed for more complex projects, especially those requiring OPC (OLE for Process Control), database connectivity, redundant networks, controller redundancy, and legacy hardware support.

PAC Project Professional can be purchased as a suite, or you can purchase its components individually:

- **PAC Control Professional™** for developing control programs (*strategies*).
- **PAC Display Professional™** for creating HMIs.
- **PAC Manager™** for commissioning and maintaining SNAP PAC hardware.
- **OptoOPCServer™**, an OPC DA 2.0-compliant server for serving I/O data and controller information from *groov* EPIC and SNAP systems to OPC clients, including PAC Display and OptoDataLink. OptoOPCServer is strongly recommended for multiple seats of PAC Display and OptoDataLink communicating with the same controller(s).
- **OptoDataLink™** for exchanging data between databases (including Microsoft SQL Server®, MySQL®, and Microsoft Access®), text files, and ODBC-compliant applications such as Microsoft Excel®.
- **SoftPAC™**, a software-based programmable automation controller for PC-based control

*You can download SNAP PAC Sim Control Engine Simulator (PAC Sim) from our website, [www.opto22.com](http://www.opto22.com), which is a demonstration version of SoftPAC. It runs for only 12 hours, after which you can restart it.*

- **PAC Project Tools**, a set of utilities that includes OptoVersion, OptoDisplay Converter, PAC Message Viewer, PAC Terminal, and the PAC Project Installer.

### More Information on PAC Project Basic and Pro

PAC Project works with all *groov* EPIC processors, *groov* I/O modules, *groov* RIO® units, SNAP PAC controllers and brains, and SNAP I/O modules. Free product support is included with both PAC Project Basic and PAC Project Professional. Free online training and free pre-sales engineering help are also available.

- For product support, see ["For Help" on page 4](#).
- For training, see our website at [www.opto22.com](http://www.opto22.com).

- For pre-sales engineering, [contact us](#) through our website or call 1-800-321-6786 (toll-free in the U.S. and Canada) or 1-951-695-3000.

For computer memory and operating system requirements, see “[Installation Requirements](#)” on page 3.

For more information about PAC Project Basic and Professional, see:

- [PAC Project Software Suite Data Sheet](#) (form 1699)
- [PAC Project Basic and Professional Comparison Chart](#) (form 1681)

### Notes for Customers with Older Systems (ioProject and FactoryFloor)

PAC Project is very similar to older Opto 22 software, but there are important things to know **before you install** and use it. If you’re moving to the SNAP PAC System from legacy systems, be sure to read these documents first:

- [PAC Project 8.0 Release Notes](#), form 1680. See the section, “Notes for Current ioProject Customers.”
- [SNAP PAC System Migration Technical Note](#), form 1688.
- (FactoryFloor customers only) [FactoryFloor to PAC Project Migration Technical Note](#), form 1692.

*NOTE: If you are using a SNAP-LCE or Ultimate controller, do not upgrade to PAC Project R10.3. Instead, use either PAC Project 8.0 or ioProject. In order to use these controllers with PAC Project 8.0, use controller firmware version 7.2 and Ethernet brain firmware version 7.0 or higher.*

*If you want to use PAC Project software version 8.1 up to version 10.0, you must use SNAP PAC controllers. If you want to use PAC Project software version 10.0 or higher, you must use SNAP PAC controllers or groov EPIC processors.*

## NEW FEATURES AND ENHANCEMENTS

### Support for groov RIO Units

PAC Project now supports the new [groov RIO family](#) of remote I/O units when used with a [groov EPIC](#) processor and PAC Project. The first product in this family is the **GRV-R7-MM1001-10**, a compact unit consisting of a communications processor plus 10 multi-signal, multifunction, software-configurable I/O channels. You can power the unit and I/O with power over Ethernet (PoE) or a 10–32 VDC power supply.

Like [groov EPIC](#), RIO uses browser-based [groov Manage](#) for web-based commissioning, configuration, maintaining, and troubleshooting. (In addition to being used as remote I/O with a [groov EPIC](#) processor, [groov RIO](#) can also be used as a standalone I/O unit communicating data directly between field devices and data destinations.)

For more information, see the [groov RIO Data Sheet](#), form 2317.

### New PAC Control Commands

**Get I/O Unit Module States.** Using this new command, you can move all discrete (digital) states from all modules on one I/O unit to a table, enabling the efficient transfer of large amounts of discrete I/O. This command is especially useful for [groov EPIC](#), where discrete modules contain 12–24 channels, or any I/O unit with high-density digital modules. Each element in the table contains the channel data for one module.

**Get Available File Space Ex.** This new command reports the free space on a system with a capacity greater than 2 GB, for example a microSDHC card used for file storage on a SNAP PAC controller.

For details on the new commands, see the [PAC Control Command Reference](#).

## Other Enhancements

- On **SNAP PAC** controllers, the firmware installation procedure can better handle installing the firmware on controllers running low on internal file storage.
- The **PAC Terminal Command Line Tool** (TermCL.exe) can now upload a strategy archive with a specified path.
- In **PAC Display Configurator**, the Quick Tag entry method for the Field/Bit field (when you are adding a discrete tag) and the Field/Index field (when you are adding an analog tag) has been updated to pre-select the first item in the list.

## BUG FIXES

For a complete list of bug fixes in the R10.3 version of PAC Project, see the [PAC Project Readme](#) file.

In addition, for a complete list of bug fixes in the latest version of your control engine or brain firmware, see the readme file for your controller or brain. Visit our website at [www.opto22.com](http://www.opto22.com) and search on your part number and include the word "firmware". Click on the search result for your controller or brain **firmware**. Look for the link to the firmware Readme file in the description section.

Here are some other useful sources of bug information on our website:

- **OptoKB Article Search**—Click the Support tab on our website, and then click KnowledgeBase to search for articles by title, description, KB number, or product.
- **OptoForums**—Use your [MyOpto](#) account to find answers and post messages to OptoForums subscribers.

## INSTALLATION

**CAUTION:** *If you are upgrading to version R10.3 from a version of ioProject older than 7.0, do NOT uninstall ioProject before running the PAC Project version R10.3 installation. If you uninstall first, you will lose all configured control engines.*

### Installation Requirements

Here's what you need to install and run PAC Project R10.3 software:

- A computer with a standard or mainstream processor and (at least) the minimum memory required for your version of Microsoft Windows. (Low-end CPUs are not recommended.) Additional memory may be required for some configurations.
- One of the following operating systems:
  - Microsoft® Windows® 10 Professional (32-bit or 64-bit)
  - Windows 7 Professional (32-bit or 64-bit)
  - (OptoOPCServer and OptoDataLink only) Windows Server® 2012 R2 and Windows Server 2008 R2

*NOTE: PAC Project cannot be installed on Windows XP or older Windows operating systems. Embedded operating systems are not tested or supported.*

- Ethernet capability
- VGA or higher resolution monitor. Minimum size: 800x600 with small fonts
- Mouse or other pointing device
- (Optional) Installed Windows printer

## Important Notes on Firmware

Opto 22 hardware is shipped with the version of firmware available at the time the hardware was manufactured. You should check the [Support > Downloads](#) page for additional updates that may be available.

For details on the features each firmware version includes, see the following documents:

- For *groov* EPIC processors, see the [GRV-EPIC-PR1 Firmware Readme](#) file.
- For *groov* RIO units, see the [groov RIO Readme](#) file.
- For SNAP PAC controllers and brains, see the [SNAP PAC Controllers and Brains Firmware Readme](#) file for your device.

To find the readme, follow the link above or go to [www.opto22.com](http://www.opto22.com) and search on the part number for the *groov* EPIC processor, RIO unit, PAC, or brain. When you get to the product page, look under the Documents tab for the readme. (All readme document names start with "RM\_", which makes them easier to find on the page.)

### Legacy controllers

If you are using a SNAP-LCE or Ultimate controller, do not upgrade to PAC Project R10.3. Instead, use either PAC Project 8.0 or ioProject. In order to use these controllers with PAC Project 8.0, use controller firmware version 7.2 and Ethernet brain firmware version 7.0 or higher.

If you want to use PAC Project software version 8.1 up to version 10.0, you must use SNAP PAC controllers. If you want to use PAC Project software version 10.0 or higher, you must use SNAP PAC controllers or *groov* EPIC processors.

For additional compatibility information, see the [Legacy and Current SNAP Product Comparison and Compatibility Charts](#) (form 1693). To obtain this form, click the link or go to the Opto 22 website, [www.opto22.com](http://www.opto22.com), and search on the form number, 1693.

## PAC Project Examples on Your Hard Drive

In order to comply with Microsoft's rules regarding directory structure, the installation process copies all PAC Project application examples to this folder on your hard drive:

C:\Users\Public\Documents\Opto 22\PAC Project R10.3

## For Help

If you have any difficulty using software, documents, or firmware, contact Opto 22 Product Support by email or phone:

**Phone:** 800-TEK-OPTO (800-835-6786 toll-free in the U.S. and Canada)  
951-695-3080  
Monday through Friday,  
7 a.m. to 5 p.m. Pacific Time

**Fax:** 951-695-3017

**Email:** [support@opto22.com](mailto:support@opto22.com)

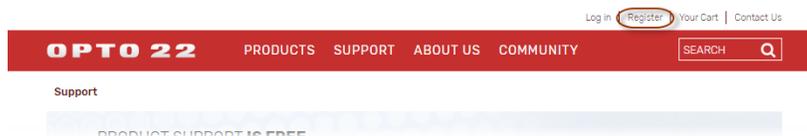
**Opto 22 website:** [www.opto22.com](http://www.opto22.com)

*NOTE: Email messages and phone calls to Opto 22 Product Support are grouped together and answered in the order received.*

In addition, the Opto 22 KnowledgeBase (KB) provides the latest information on support issues and workarounds. For more information, go to the [www.opto22.com](http://www.opto22.com) website, and then click Support > KnowledgeBase.

## Sign Up for My Opto

With a MyOpto account, you can purchase products online, subscribe and post to our OptoForums, sign up for training classes, check on the latest firmware versions for your *groov* EPIC system, and more. To sign up, go to the [Opto 22](http://www.opto22.com) website and click Register.



## Get the Latest News from OptoBlog

Subscribe to the [OptoBlog](http://blog.opto22.com) for instant access to the latest information from Opto 22. The OptoBlog gives you industry trends plus news about products, videos, and training. Sign up for the blog at <http://blog.opto22.com/optoblog>.

## Checking for Updates Manually

Use these links in the Opto 22 website menu bar to manually check for new releases, updates, and patches:

Software and Firmware	<a href="#">Support &gt; Downloads</a>
Documentation	<a href="#">Support &gt; Documents</a>