PAC Project 8.2 Release Notes

Welcome to PAC Project 8.2

Welcome to version 8.2 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 SNAP PAC controller and can also be freely downloaded from our website, www.opto22.com. PAC Project Basic is all you need for most monitoring and control needs. It includes three software applications:

- **PAC Control**™ for developing control programs (*strategies*) to automate processes, monitor equipment, and acquire data from processes and equipment.

- **PAC Display**™ for creating HMIs (human-machine interfaces) for technicians and operators to use.

- **PAC Manager**™ for configuring hardware and troubleshooting.

PAC Project Professional

PAC Project Professional is designed for more complex projects, especially those requiring OLE for Process Control (OPC), database connectivity, multiple PAC Display seats, multiple protocols, multiple networks, or legacy hardware support.

PAC Project Professional can be purchased as a suite or as individual applications to suit your needs. The suite includes the following software applications:

- **PAC Control Professional** for developing control programs

- **PAC Display Professional** for creating HMIs

- **PAC Manager** for configuration

- **OptoOPCServer**™, an OPC 2.0-compliant server for serving SNAP PAC System I/O and variable data to OPC clients, including PAC Display. OptoOPCServer is strongly recommended for multiple seats of PAC Display.

- **OptoDataLink**™ for exchanging SNAP PAC System data with databases (including Microsoft SQL Server, Microsoft Access, and MySQL), text files, and email systems

More Information on PAC Project Basic and Pro

Free product support is included with both PAC Project Basic and PAC Project Professional. Free training and free pre-sales engineering help are also available. For product support, see "For Help" on page 9. For training, see our website under Support➞Training or email training@opto22.com. For pre-sales engineering, call 1-800-321-6786 or 1-951-695-3000.

All PAC Project software runs on Microsoft® Windows® 2000 and Windows XP workstations. See "Installation Requirements" on page 7.

PAC Project works with all SNAP PAC controllers, SNAP PAC brains, SNAP PAC racks, and SNAP I/O modules.

For more information about PAC Project Basic and Professional, see the following documents. The easiest way to find a document on our website, www.opto22.com, is to search on its form number.

*   *PAC Project Software Suite Data Sheet*, Opto 22 form #1699

*   *PAC Project Basic and Professional Comparison Chart*, form #1681

*   *SNAP PAC System Migration Technical Note*, form #1688 (for customers moving to the SNAP PAC System from older SNAP systems)

*   *FactoryFloor to PAC Project Migration Technical Note,* form #1692

Notes for ioProject and FactoryFloor Customers

PAC Project is the latest in the line of Opto 22 automation software suites extending back to Cyrano® in the 1980s. PAC Control, PAC Display, and PAC Manager are very similar to the previous ioControl®, ioDisplay®, and ioManager®. These applications and the ioProject™ software suite were renamed and new features added when we introduced the SNAP PAC System in 2006.

Therefore, if you are an **ioProject customer**, because PAC Control, PAC Display, and PAC Manager are so similar to their ioProject cousins, you'll already know how to use them, and they will open your ioControl strategies, ioDisplay projects, and ioManager configuration files without requiring conversion. For important information on moving to PAC Project from ioProject, see form #1688, the *SNAP PAC System Migration Technical Note*.

Similarly, if you are a **FactoryFloor customer**, you should already be familar with many of the features in PAC Control and PAC Display, which are similar to OptoControl® and OptoDisplay®. However, you will need to use PAC Control Pro to convert OptoControl R4.1 strategies and PAC Display Pro to convert OptoDisplay R4.1 projects. Before you begin moving to PAC Project 8.2 from FactoryFloor, see the important information in form #1692, the *FactoryFloor to PAC Project Migration Technical Note*.

Installation Notes for ioProject Customers

If you are upgrading to PAC Project 8.2 from ioProject 7.0 or 7.1, the installer will keep the ioProject versions intact. If you wish to uninstall them, you can do so using the Add or Remove Programs function on your PC.

If you are upgrading to PAC Project 8.2 from a version of ioProject older than 7.0, do NOT uninstall ioProject before running the PAC Project version 8.2 installation. *If you uninstall first, you will lose all configured control engines. The* PAC Project version 8.2 installer automatically saves ioProject control engines and then uninstalls ioProject versions 6.x and older.

Usage Notes for ioProject Customers

Please note that strategies, subroutines, and exported charts saved in PAC Control cannot be subsequently opened in any version of ioControl. Also, charts exported from a version of ioControl prior to 7.1 cannot be imported into PAC Control 8.2.

If your system includes older Ethernet-based controllers and brains (such as SNAP-LCE controllers and SNAP Ultimate, Ethernet, and Simple I/O), you can still use them with PAC Project. However, you should **not** upgrade to PAC Project 8.2. Instead you should continue to use PAC Project 8.0 and control engine firmware 7.2. These older controllers and brains do not support many of the new features, nor do they support new I/O modules.

If you're working with these older systems, be sure to do the following:

- **Choose the Legacy Editions of PAC Project user's guides** to see all legacy hardware and commands.

- **Read the *SNAP PAC System Migration Technical Note*,** form 1688. This technical note is on our website, www.opto22.com. The easiest way to find it is to search on the form number.

- **See also the *Legacy and Current Product Comparison and Compatibility Charts,*** form 1693, to compare the features and product compatibility of the PAC Project, ioProject, and Opto 22 FactoryFloor® software suites.

New Features and Enhancements

PAC Control Basic and Professional

PAC Control version 8.2 adds the following new features and improved functionality compared to PAC Control version 8.1:

- Using Secure Strategy Distribution (SSD), strategies can now be downloaded and stored on a controller in a secure manner using encryption. For more information, see "PAC Utilities" on page 6.

- (Pro only) Added Interrupt chart support for *mistic* serial brains. An Interrupt chart handles interrupts from *mistic* serial brains specially wired to a SNAP PAC S-series controller for critical events requiring immediate action.

- (Pro only) Added an option to PAC Control to use the *mistic* ASCII protocol for serial I/O port communication, so that a SNAP PAC S-series controller can talk to all I/O units on that port in the *mistic* ASCII mode. This is required when accessing *mistic* serial I/O units via modem.

- The Add Module dialog box now presents more module information, including the number of channels per module and the possible ranges supported for the module.

- A new report has been added to show information on the location and mappings of I/O points. This can be useful with some commands that use different point mappings, such as Move I/O Unit to Numeric Table Ex.

- Subroutines are now faster.

New Commands (Pro Only)

The following commands were added to support *mistic* interrupts:

- – Clear I/O Unit Interrupt
- – Disable Interrupt on Event
- – Enable Interrupt on Event
- – Generating Interrupt?
- – Get Active Interrupt Mask
- – Interrupt Disabled for Event?
- – Interrupt Enabled for Event?

New Firmware Support (Pro Only)

The following **digital point feature types** have been added for the SNAP-PAC-R2 controller and SNAP-PAC-EB2 and SB2 brains.

- On Totalizer

Commands affected:

- – Get & Restart On-Time Totalizer
- – Get On-Time Totalizer
- – IVAL Set On-Totalizer

- Off Totalizer

  Commands affected:

  - – Get & Restart Off-Time Totalizer
  - – Get Off-Time Totalizer
  - – IVAL Set Off-Totalizer

- TPO

  Commands affected:

  - – Set TPO Period
  - – Set TPO Percent
  - – IVAL Set TPO Period
  - – IVAL Set TPO Percent
  - – Pulse Generation

The following **pulse generation** commands now support SNAP-PAC-R2 controllers and SNAP-PAC-EB2 and SB2 brains:

- Generate N Pulses

- Start Continuous Square Wave

- Start On-Pulse

- Start Off-Pulse

PAC Display Basic and Professional

PAC Display 8.2 has the following new features:

Configurator

- There are enhanced log-in features, including:

  - – The user permissions information may now be saved to a global location and a backup location, so that other PAC Display Configurator nodes can read in the saved information without the need to reconfigure the information again.

  - – A user may be configured to allow up to four specific log-in periods.

  - – A user may be configured to be automatically logged out of PAC Display Runtime if no activity has occurred for a specified amount of time.

– A user may be configured to be required to change his or her password after a specified amount of time.

- A user can now be required to log in when Runtime starts.

- A PAC Display project can now be archived and emailed to Opto22 Product Support.

- In the Find and Replace dialog box, you can now use a table or bit index offset to select one or several graphics and change the index easily.

- Now data sent to the control engine from a table control can be password protected such that each of the four tables in a table control can be configured to require a password to be entered in Runtime to allow a write to be performed from the table control.

- Table control data can now be configured for left, center, or right-justified data. Previously all data was left-justified.

- The new Scale Window tool allows you to resize a window and the graphics inside at the same time. Note: In order to work properly, this requires changing a setting in the Windows Display Properties dialog box.

- Now you can configure Runtime to start with the Event Log hidden.

Runtime

- A user may now change his or her password.

PAC Manager

Two enhancements were added to PAC Manager in version 8.2.

Digital Events - Expanded is now much more flexible. In the past, digital events had two triggers and two possible reactions: the first had to be a digital state and the second a Scratch Pad bit. Now you can use either digital or Scratch Pad states for both the first and second triggers and reactions.

In Inspect Mode, the **Generic Read/Write** dialog box now offers the ability to modify 64-bit Integers.

PAC Utilities

A new version of PAC Terminal called *PAC Terminal SSD* provides Secure Strategy Distribution capability, which allows strategies to be downloaded and stored in a secure manner using encryption. PAC Terminal SSD is available for purchase from Opto 22's website or a member of the worldwide network of Opto 22 authorized distributors and partners.

Bug Fixes

Several bug fixes have been made in the 8.2 version of PAC Project. For a complete list, see the PAC Project Readme file or the Readme file for individual products (PAC Control, PAC Display, and so on). Product Readme files are installed in each application's directory.

In addition, see the Readme file for your control engine or brain firmware, available on our website at www.opto22.com. To find firmware, click Support➞Downloads➞Firmware.

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

- **OptoSupport Blog**—The OptoSupport Blog on our website provides the latest information about bug updates and workarounds. To view or subscribe to this blog, visit www.opto22.com. Click on the word *Blogs* at the bottom of any page.

- **OptoKB Article Search**—Click the Support tab on our website and then click Search the OptoKnowledgeBase to find articles by Article No, Article Title keywords, Article Text keywords, or even by Product application.

- **OptoSubscriptions**—Go to Company➞Opto 22 Subscriptions on our website to keep automatically up to date on OptoKB articles as well as Opto 22 news and updates to website resources you use, such as downloads and documents.

Installation

CAUTION: If you are upgrading to version 8.2 from a version of ioProject older than 7.0, do NOT uninstall ioProject before running the PAC Project version 8.2 installation. If you uninstall first, you will lose all configured control engines. The PAC Project version 8.2 installer automatically saves ioProject control engines before uninstalling old versions of the software.

Installation Requirements

Here's what you need to install and run PAC Project 8.2 software:

- A computer with at least the minimum processor required for your version of Microsoft Windows (single or dual core, 1 GHz Pentium®-class or better recommended) and Ethernet capability.

- VGA or higher resolution monitor (Super VGA recommended). Minimum size: 800x600 with small fonts.

- Mouse or other pointing device

- Installed Windows printer (optional)

- Microsoft Windows Vista® Business (32-bit), Windows XP (with Service Pack 2 or higher), or Windows 2000® (with Service Pack 4) workstation operating system. Microsoft Windows server, 64-bit versions of Windows workstation, and embedded operating systems are not supported.

- At least 1 GB RAM for Windows Vista, or at least 512 MB for Windows XP or Windows 2000

- Available hard disk space as shown in the following table:

Application	PAC Project Professional	PAC Project Basic
PAC Control	65.2 MB	65.2 MB
PAC Display	60.2 MB	57 MB
OptoOPCServer	14.2 MB	(not included)
OptoDataLink	9.6 MB	(not included)
PAC Manager	25.3 MB	25.3 MB
PAC Utilities	10 MB	10 MB
Total	184.5 MB*	157.5 MB*

 * Installing both Pro and Basic requires a total of 192 MB of hard disk space.

Important Note for Windows XP Users

Due to a Microsoft bug involving how Themes are handled in Windows XP (either with Service Pack 2 or with no Service Pack), a resource leak may eventually cause PAC Project applications to crash.

To resolve this problem, you should install Windows XP Service Pack 3. Or, you can set the Windows XP Desktop Theme to Windows Classic. See Opto 22 KB49838 for details. KB49838 is a KnowledgeBase article on our website. The fastest way to find it is to search on the article number, KB49838, inc luding the KB without any spaces.

Obtaining Updated Firmware

For PAC controllers and brains, use 8.2 firmware with PAC Project 8.2. To find new firmware, go to www.opto22.com. Click the Support tab, click Downloads at the upper left, click Firmware, and enter the part number for your controller or brain in the search field.

Opto 22 hardware is shipped with the most recent firmware, but you should check the website for additional updates that may be available. *Firmware should match the hardware and the PAC Control version.* Look for "8.2" in the firmware filename, and choose the firmware file for your hardware.

For complete information on changes and updates to firmware, see the README files available for download with the firmware on the Opto 22 website.

NOTE: If you are using older controllers and brains, do not upgrade to PAC Project 8.2. Use PAC Project 8.0 instead. For SNAP-LCE and SNAP Ultimate controllers, use 7.2 firmware. For SNAP Ethernet controllers, use 7.0 firmware.

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 (835-6786)
	951-695-3080
	(Hours are Monday through Friday,
	7 a.m. to 5 p.m. Pacific Time)
Fax:	951-695-3017
Email:	support@opto22.com
Opto 22 website:	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 **OptoSupport Blog** provides the latest information on support issues and workarounds. Visit www.opto22.com and click on the Support tab for more information.

Check the Opto 22 Website for Product Updates

Opto 22 software, firmware, and documentation are continually updated and improved. Check the Support➞Downloads section of the Opto 22 website at www.opto22.com regularly to see if new releases or patches are available for your system.

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Also, we recommend signing up at my.opto22.com to receive news about Opto 22 products. My.Opto 22.com lets you subscribe to receive notification of software and firmware upgrades and new or revised documentation such as data sheets, OptoKB articles, and white papers. My.Opto22.com also provides a quick and easy way to subscribe to OptoNews, Opto 22's email newsletter, delivered every two weeks.