

ioProject™ 7.1 Release Notes

Welcome to ioProject Version 7.1

Welcome to version 7.1 of Opto 22's ioProject software suite for industrial automation, remote monitoring, and data acquisition applications. Version 7.1 introduces support for the new SNAP PAC R-series on-the-rack controllers.

ioProject Basic and ioProject Professional

ioProject 7.1 comes in two forms: ioProject Basic and ioProject Professional.

ioProject Basic is suitable for most projects. ioProject Basic provides the following full-featured control and HMI software:

- ioControl™ Basic for developing control programs, or *strategies*
- ioDisplay™ Basic for developing operator interfaces (human-machine interfaces, or HMIs)
- ioManager™ for configuration

ioProject Basic comes with your purchase of a SNAP PAC S-series or R-series, SNAP Ultimate, or SNAP-LCE controller. It can also be downloaded at no cost from our website, www.opto22.com. Full documentation is provided in Adobe® Acrobat® PDF format.

ioProject Professional is designed for more complex projects, especially those requiring OLE for Process Control (OPC), multiple ioDisplay seats, multiple protocols, multiple networks, or legacy hardware support. ioProject Professional is designed for use with SNAP PAC controllers and takes advantage of their features, including dual independent Ethernet network interfaces for redundant Ethernet links or segmented networking. ioProject Professional includes the following:

- ioControl Professional for developing control strategies
- ioDisplay Professional for developing operator interfaces (HMIs)
- OptoOPCServer™ for communicating with OPC 2.0 clients
- ioManager for configuration

ioProject Professional can be purchased as a complete suite or as individual applications. It can be downloaded from our website (password required for full installation) and is also shipped to you on a CD with complete documentation in both PDF and printed form.

More Information on ioProject Basic and Pro

Free product support is included with both ioProject Basic and ioProject Professional, and free training is available. For product support, see “[For Help](#)” on page 4. For training, see our website under Support→Training or email training@opto22.com.

All ioProject software runs on Microsoft® Windows® XP and Windows 2000® workstations.

For more information about ioProject Basic and Professional, see the following documents. Some are on the ioProject CD, and all are available on our website. The easiest way to find a document on the website is to search on its form number.

- *ioProject 7.0 Release Notes*, Opto 22 form #1599 (helpful information from the last major release. This document is on the ioProject CD.)
- *ioProject Software Suite Data Sheet*, Opto 22 form #1473 (detailed product information)
- *ioProject and FactoryFloor Comparison Chart*, form #1603 (compares features in ioProject Basic, ioProject Pro, and the legacy FactoryFloor software suite)
- *FactoryFloor to ioProject Migration Technical Note*, form #1596 (essential for anyone moving from FactoryFloor to ioProject. This document is also on the ioProject CD.)

New Hardware Support

ioProject version 7.1 supports the new on-the-rack controllers from Opto 22, the SNAP-PAC-R1 and SNAP-PAC-R2.

Both the SNAP-PAC-R1 and the SNAP-PAC-R2 are mounted on a standard SNAP M-series mounting rack along with up to 4, 8, 12, or 16 SNAP I/O modules. Modules can include digital, analog, serial, and high-density digital modules. The SNAP PAC controller provides I/O processing power for the modules on the rack, runs ioControl strategies and controls other I/O units, and communicates over two independent Ethernet network interfaces. With the two interfaces, the new controllers take advantage of the Ethernet link redundancy and network segmenting features in ioProject Professional.

The difference in the two controllers lies in their digital capability and the position of standard SNAP digital modules on the rack.

- The **SNAP-PAC-R1** provides full digital features, including high-speed counting (up to 20 kHz, depending on the module), quadrature counters, time-proportional output (TPO), and pulse generation and measurement. Note that with the R1, standard SNAP digital modules can be placed only in the first eight positions on the larger M-series racks.
- The **SNAP-PAC-R2** provides simple digital features (on/off status, latching, and watchdog timer, but no high-speed counting, quadrature counters, TPO, or pulsing). With the R2, standard SNAP digital modules can be placed in any position on the M-series rack.

For more information on SNAP PAC R-series controllers, see Opto 22 form #1594, the *SNAP PAC R-Series Controller Data Sheet*.

Installation

CAUTION: *If you are upgrading to version 7.1 from a version older than 7.0, do NOT uninstall previous versions of ioProject before running the version 7.1 installation. If you uninstall first, you will lose all configured control engines. The ioProject version 7.1 installer automatically saves control engines before uninstalling old versions of the software.*

Installation Requirements

Here's what you need to install and run ioProject 7.1 software:

- A computer with at least the minimum processor required for your version of Microsoft Windows (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 XP or Windows 2000® (with SP4) workstation operating system
- At least 128 MB RAM (256 MB recommended)
- Available hard disk space as shown in the following table:

Application	ioProject Professional	ioProject Basic
ioControl	30 MB	29 MB
ioDisplay	44 MB	36 MB
OptoOPCServer	10 MB	(not included)
ioManager	13 MB	13 MB
ioUtilities	11 MB	11 MB
Total	108 MB	89 MB

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 ioProject applications to crash.

To resolve this problem, follow these steps to set the Windows XP Desktop Theme to Windows Classic:

1. Right-click on an empty part of the Desktop and choose Properties from the pop-up menu.
2. Click the Themes tab. Choose the Windows Classic theme and click OK.

Obtaining Updated Firmware

New firmware is strongly recommended for all hardware that will be used with ioProject 7.1. 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 posted. *Firmware should match the hardware and the ioControl version.* Look for "7.1" in the firmware filename, and choose the firmware file for your control engine.

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

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 Web site:	support.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.

Also, we recommend signing up at my.opto22.com to receive news about Opto 22 products.

New Features and Enhancements

ioControl

Version 7.1 of both ioControl Basic and Professional add support for SNAP PAC R-series controllers.

IMPORTANT: *Strategies, subroutines, and exported charts saved in ioControl Professional cannot be subsequently opened with ioControl Basic. In addition, you cannot copy and paste items between the two applications. Also note that charts created in a version of ioControl prior to 7.0 cannot be imported into ioControl 7.0 or newer.*

New and Changed Commands

Two new commands have been added to ioControl 7.1. These commands work for all I/O units that support digital points:

- Set I/O Unit from MOMO Masks
- IVAL Set I/O Unit from MOMO Masks

The two new commands replace several older commands, which still work (for the purpose of backwards compatibility) but are not recommended for new development. These older commands have been moved to a command group called *Deprecated*:

- Set Digital I/O Unit from MOMO Masks (ioControl Professional only)
- Set Digital-64 I/O Unit from MOMO Masks
- Set Mixed I/O Unit from MOMO Masks
- Set Mixed 64 I/O Unit from MOMO Masks
- Set Simple 64 I/O Unit from MOMO Masks
- IVAL Set Digital Binary (ioControl Professional only)
- IVAL Set Digital-64 I/O Unit from MOMO Masks
- IVAL Set Mixed I/O Unit from MOMO Masks
- IVAL Set Mixed 64 I/O Unit from MOMO Masks
- IVAL Set Simple 64 I/O Unit from MOMO Masks

Changed Names for I/O Units

The generic names for I/O units have been replaced with specific part numbers for clarity.

Old I/O Unit Name	New I/O Unit Name
SNAP Mixed Ultimate I/O	SNAP-UP1-ADS
SNAP Mixed 64 Ultimate I/O	SNAP-UP1-M64
SNAP Mixed 64 Simple I/O	SNAP-ENET-S64
SNAP Mixed Ethernet I/O	SNAP-B3000-ENET, SNAP-ENET-RTC
SNAP D64 Ultimate I/O	SNAP-UP1-D64
SNAP D64 Ethernet I/O	SNAP-ENET-D64
B3000 SNAP Digital	B3000 (Digital portion)
B3000 SNAP Analog	B3000 (Analog portion)
SNAP Remote Simple Digital	SNAP-BRS
G4 Digital Multifunction I/O Unit	G4D16R
G4 Digital Remote Simple I/O Unit	G4D32RS
G4 Analog Multifunction I/O Unit	G4A8R, G4RAX
B100 Digital Multifunction I/O Unit	B100
B200 Analog Multifunction I/O Unit	B200

ioDisplay Basic and Professional

- ioDisplay adds support for SNAP PAC R-series controllers.
- Metafile drawing code has been enhanced to minimize the appearance of random lines on some metafiles.

Runtime

- Trend scaling has now been modified as follows: If the Y-Axis "Label Position" is set to "None," all pens are displayed and are scaled proportionally to the height of the Trend graphic; if the "Label Position" is set to any other setting, only pen data falling in the Y-Axis "Label Range" of values is displayed.
- A menu item under the View menu lets you synchronize all control engines to the PC time. Note that this command syncs all controllers and control engines to the time of the PC that is running OptoOPCServer, not the PC that is running ioDisplay Runtime (if different). This command is not available in Monitor-only Runtime (ioDsrX.pro.exe).
- (ioDisplay Professional) Failure to remove groups or items from OptoOPCServer now only displays error messages in the Event Log if ioDisplay is able to communicate with the server.

Configurator

- (ioDisplay Professional) “Sync All Control Engines to PC Time” is now available under the “Execute Menu Item” Operator Driven Dynamic Attribute. Note that this command synchronizes all controllers and control engines to the time of the PC that is running OptoOPCServer, not the PC that is running ioDisplay Runtime (if different). This command is not available in Monitor-only Runtime (ioDsrX.pro.exe).
- The AutoCorrect Tags feature now uses substantially less memory and fewer GDI resources.
- (ioDisplay Professional) The application executables have been renamed to:
ioDisC.pro.exe
ioDisR.pro.exe
ioDsrX.pro.exe
- (ioDisplay Professional) Performing an Operator Driven Discrete Set now mimics previous versions of ioDisplay in setting an integer value to a +1 instead of a -1 where no bit index was specified.

OptoOPCServer

OptoOPCServer 7.1 is part of ioProject Professional only; it is not included in ioProject Basic. This version adds support for SNAP PAC R-series controllers.

ioManager

- ioManager adds support for SNAP PAC R-series controllers. Follow instructions in the *ioManager User's Guide* (form #1440) to assign primary and secondary IP addresses to these controllers. Assigning the primary IP address is similar to assigning an address for a SNAP-PAC-S1, SNAP-LCE, or SNAP Ultimate I/O. The secondary IP address is assigned separately, after the primary, using ioManager's Inspect window.
- PPP Commands in the PPP Status Inspect mode dialog can now be used with UIO and LCE devices.
- Control Engine port has been added to the IP Security Inspect mode dialog box. The default value is 22001. A value of 0 disables the control engine.
- Trap Version has been added to the SNMP Agent configuration. v1 Trap and v2 Notification are the supported settings.
- An informational dialog box is now displayed before attempting to install firmware via a serial connection.
- The Previous Command information has been removed from the Status Read page.
- All Compatible File Types is now the default mask when installing firmware in the Maintenance window.
- Scratch Pad floats and integers were increased by 7168 to a new total of 10,240 elements.
- PPP Commands were added to the PPP Status Inspect mode dialog box for SNAP PACs.

- Communication Port Control data for the third serial port on SNAP PAC S-series controllers was added.
- The secondary interface IP information on SNAP PAC controllers can be set in the Status Write Inspect mode dialog box.
- SNAP-AIMA2-i, SNAP-AIVRMS-i, and SNAP-AIARMS-i modules are now supported.
- Information in the Find Opto 22 MMP Devices dialog box can be copied to the clipboard.

ioUtilities

- ioTerm's command line options now return an error code to indicate success or failure. A -q option is also provided to prevent any dialog boxes from being shown.
- In the Inspect Control Engine dialog box, user confirmation was added to the Run and Stop buttons.

Bug Fixes

Several bug fixes have been made since the release of ioProject 7.0. For a complete list, see the ioProject Readme file or the Readme file for individual products (ioControl, ioDisplay, 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. Click the Support tab.

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.