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PARKER Control Products
Parker Automation Manager 1.2.1 to 1.3.0
A Guide to Migrating from Parker Automation Manager and PAC firmware Rev 1.2.1 to 1.3.0

Effective: May 2017
Version 1.0

About this Guide

Beginning May 8th 2017, all Parker Automation Controllers (PAC) will begin shipping with the new 1.3.0 firmware by default. All new applications should use the latest Parker Automation Manager software (PAM) 1.3.0 with the new firmware.

Both the latest PAM 1.3.0 software and firmware, as well as the previous generation software and firmware can be downloaded from the PAC Product Page on the "Product Support" tab:

parker.com/emn/pac

The following guide provides both an overview of the combability between the new PAM 1.3.0 software and PAC 1.3.0 firmware and the old PAM 1.2.1 software and PAC 1.2.1 firmware as well as how to update from one to the other. In addition, this guide provides a summary of the major features and bug fixes in PAM 1.3.0.

Along with the release of PAM 1.3.0 and PAC 1.3.0 firmware comes the release of the PAC Terminal (PT). This guide briefly discusses the differences in using PAM 1.2.1 and PAM 1.3.0 with the PT versus the previous generation PAC Terminal Interim (PTI).
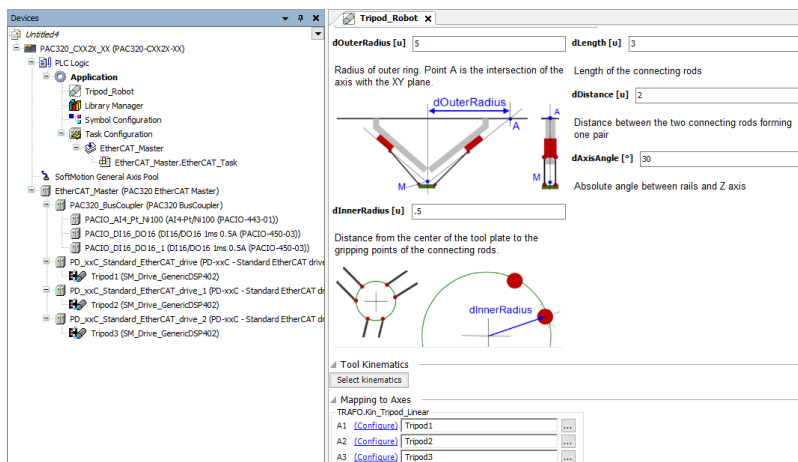
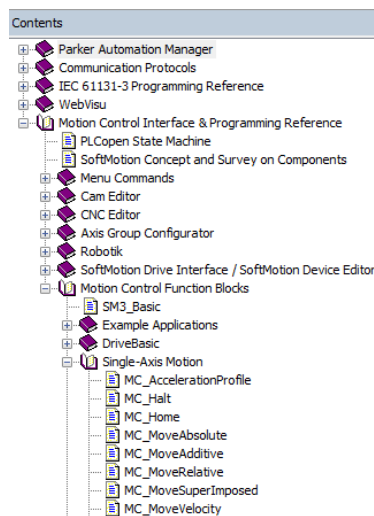# Contents

New in Parker Automation Manager 1.3.0

Below simply provides a list of the major firmware features and bug fixes.

New Major Features

- Support for Windows 10
- PLCOpen4 Support for the following coordinated move commands:
  - MC_GroupHalt
  - MC_GroupStop
  - MC_MoveDirectAbsolute
  - MC_DirectRelative
  - And function blocks for Axis Group and Administrative tasks
- New robotic (inverse kinematic) function blocks supported
- Inverse Kinematics Helper

- New defaults make getting started easier and faster
  - No more setting the EtherCAT_Master to an external clock!
- FTP server is available in both embedded Xpress and WebVisu HMI options
- Changes in documentation tree for easier navigation

- Both Ethernet/IP Adapter and Scanner now comes standard with Ethernet/IP option

Major Bug Fixes

- P-series drives scan and are added with SoftMotion axis
- Retentive variables now consistently stored after reboot
- Slider and momentary push button bugs fixed in WebVisu
- Alarm Manager is now a part of the PAC Description file
- Embedded Xpress applications experience performance increase, see PT and PTI Compatibility with PAM 1.2.1 versus PAM 1.3.0 for more details.
- Profinet can now support up to 80 devices
- And many more

PAM 1.2.1 and 1.3.0 Software and PAC Firmware Compatibility

Any application built in PAM 1.2.1 project can be updated to a PAM 1.3.0 project by following the instructions listed in the Steps to Updating a PAM 1.2.1 Project to a 1.3.0 Project section below. Likewise, PACs running 1.2.1 firmware can be updated to the latest PAC 1.3.0 firmware by downloading the flashback tool from the PAC product page. PAM 1.3.0 projects must be downloaded to a PAC running 1.3.0 firmware.

Users can still open and edit PAM 1.2.1 projects in PAM 1.3.0 without updating the project or PAC firmware, but there is some added complexity. This process is fully described in Steps to Open a 1.2.1 Project (without updating) in PAM 1.3.0. Without updating a PAM 1.2.1 project, it must be downloaded to a PAC running 1.2.1 firmware even though it can be open and edited in PAM 1.3.0. Alternatively, users who are choosing not to update their project or firmware can still use PAM 1.2.1 to avoid this nuance.
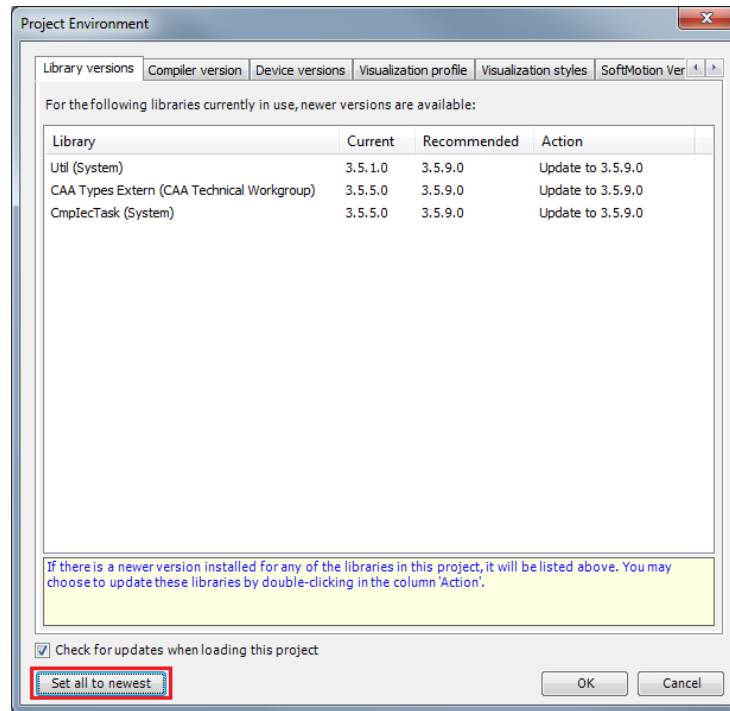
To summarize:

IMPORTANT	Users using PAM 1.3.0 projects must download to a PAC running 1.3.0 rev firmware. Likewise, users using PAM 1.2.1 projects must download to a PAC running 1.2.1 firmware. Any PAM 1.2.1 projects can be updated to a 1.3.0 project when opening them in PAM 1.3.0. Once updated, the project will then have to be downloaded to a PAC running 1.3.0 firmware. If a user opens a 1.2.1 .projectarchive in PAM 1.3.0 and chooses not to update they must ensure that they're downloading the project to a PAC running 1.2.1 firmware.

Users who are choosing not to update their projects have a few options to remain on 1.2.1 firmware, if desired:
1. After receiving a new PAC with 1.3.0 firmware, a user can use the flashback tool to downgrade to 1.2.1 firmware. A 1.2.1 project can then be downloaded onto the PAC using either PAM 1.2.1 or PAM 1.3.0.

2. Contact the factory about a custom or "CP*" option so that the PAC will be shipped with the desired firmware revision. This will require a part number change.

Steps to Updating a PAM 1.2.1 Project to a 1.3.0 Project
1. All your 1.2.1 projects should be saved either as ".project" or ".projectarchive" files.
2. Uninstall PAM 1.2.1 and restart your computer.
3. Install PAM 1.3.0 and restart your computer.
4. When opening a PAM 1.2.1 project in PAM 1.3.0, the user will eventually be prompted with the "Project Environment" screen as a final step.
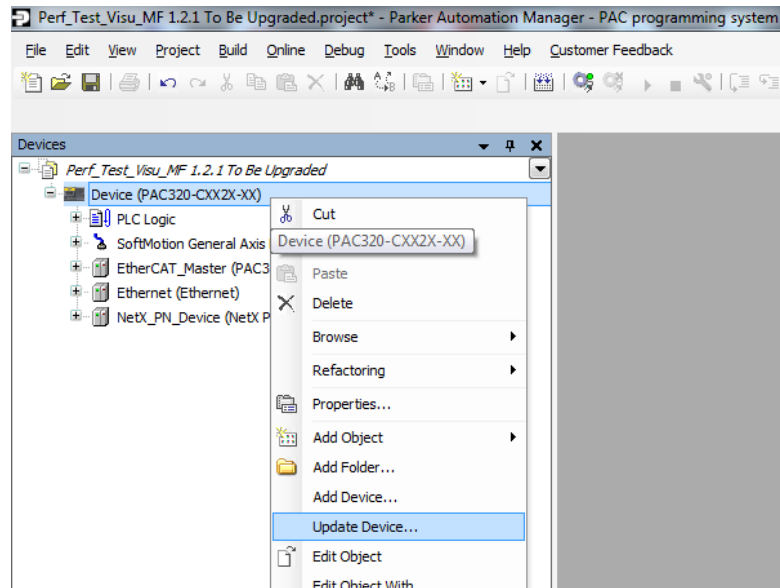
5. Table 1 describes the various library, compiler, device, visualization, and SoftMotion versions associated with PAM 1.2.1 versus PAM 1.3.0. Note: By default, PAM 1.3.0 does not update these to the latest versions.

	PAM 1.2.1	PAM 1.3.0
Library versions		
Util	3.5.1.0	3.5.9.0
CAA Types Extern	3.5.5.0	3.5.9.0
CmplecTask	3.5.5.0	3.5.9.0
Compiler Version	3.5.5.20	3.5.9.0
Device versions		
SM_Drive_Virtual	3.5.7.0	4.0.0.0
SM_Drive_ETC_PARKER	3.5.7.0	4.0.0.0
SMC_ENCODER_ETC_Parker	3.5.5.0	4.0.0.0
Visualization profile	V3.5 SP5 Patch 2	V3.5 SP9 Patch 1
Visualization styles		
Default	3.5.7.0	3.5.9.0
SoftMotion	3.5.5.0	4.0.0.0

Table 1: Library, Compiler, Device, Visualization, and SoftMotion versions associated with PAM 1.2.1 and PAM 1.3.0

6. To update select "Set all to newest" and hit "OK".
   You must update all to newest. Only updating some and not others may cause combability issues.

7. In the devices tree, if you double clicked on the PAC Device and go to the "Information" tab, it is still referencing the version "**Version** 3.5.5.21" This is part of the old 1.21 device description file.

8. To be rid of this, right click the PAC Device and select "Update Device."
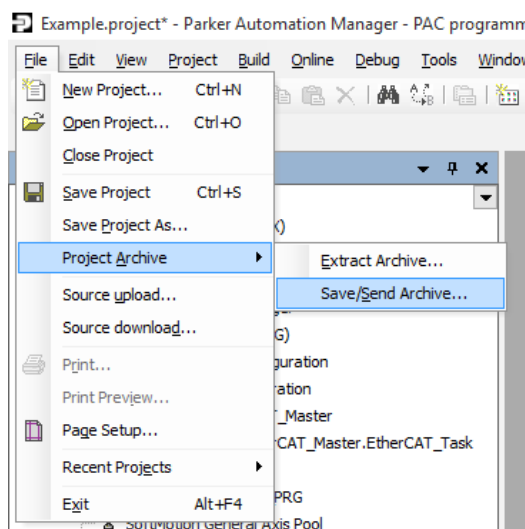
9. A new window will open asking you to select the PAC device to update it to. Generally, this will be the same PAC device already in your project. To be cautious, make sure the physical part number on your PAC matches what you select here then hit "OK"

10. Update any other device in the tree to make sure the latest Device Description is used in the project. This includes all Drives, Ethernet and other devices.

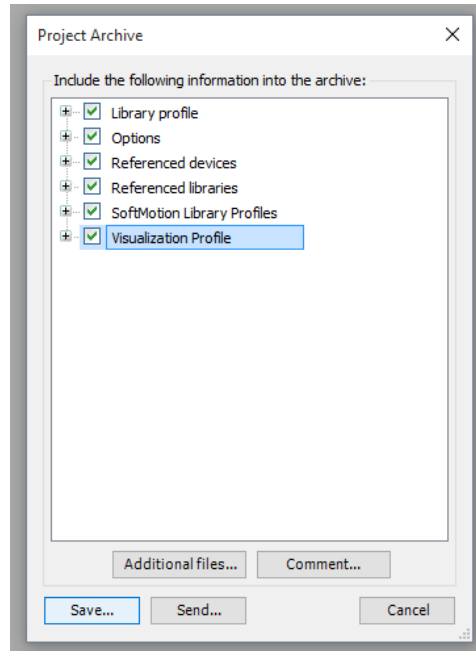## Steps to Open a 1.2.1 Project (without updating) in PAM 1.3.0

Before downloading and installing PAM 1.3.0 be sure that all desired 1.2.1 projects are saved as ".projectarchive." Saving projects this way ensures that all 1.2.1 device description files and libraries are included with the project. Failing to import as a ".projectarchive" may cause library and device description conflicts. It is **not recommended** to open 1.2.1 projects in PAM 1.3.0 from ".project" files.

1. Within PAM 1.2.1 go to "File" -> "Project Archive" -> "Save/Send Archive…"
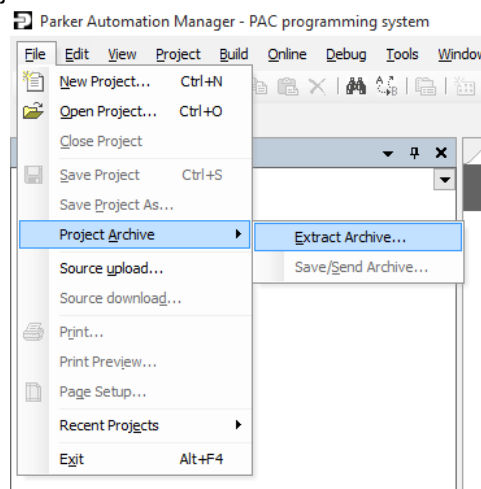

2. A new "Project Archive" menu screen will open. Make sure all boxes (except for Options) are selected when creating a .projectarchive. Options simply saves the current users settings—
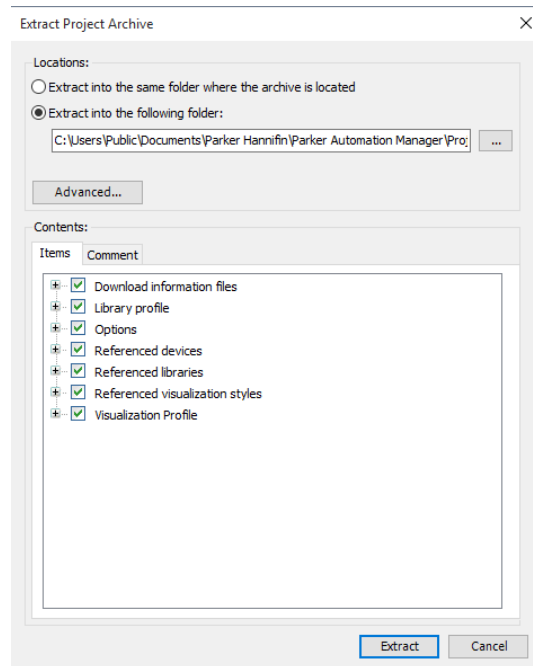
such as layout and other programming preferences, such as starting screen behavior, what POUs and tabs are currently open during saving, and SmartCoding. General rule of thumb, options is usually left out. Then select "Save…"

3. You will then be given the option of giving the .projectarchive a name and location to save it in.
4. Once you have saved all the PAM 1.2.1 projects desired, uninstall PAM 1.2.1.
5. Restart your computer.
6. Install PAM 1.3.0.
7. Restart your computer.
8. Open PAM 1.3.0
9. Go to "File" -> "Project Archive" –> "Extract Archive…"

10. Go to the directory where you have saved your 1.2.1 ".projectarchive" files
11. A new window will open asking what components you'd like to extract. Extract them all (perhaps except for Options, see note in step 2.)

12. A few prompts may ask you about overwriting previous files. Read these carefully and answer as needed.
13. Once opened, a new Project Environment window will open asking if you'd like to upgrade to the latest libraries, compiler, devices, visualization, and SoftMotion versions. Table 1 describes the various versions associated with PAM 1.2.1 versus PAM 1.3.0. Note: By default PAM 1.3.0 does not update to the latest.
14. Although unnecessary, you can go through the tabs to double-check that the action is set to "**Do not update**". When satisfied, select OK to exit the window.
    Note, you must either "update all" to PAM 1.3.0 or ensure that you do not update any. Picking and choosing between versions may cause incompatibility issues.
15. You're now ready to edit and modify the program the same way you did in PAM 1.2.1.
16. **Note: Without updating you can only download this project to PACs running 1.2.1 firmware even though you are using PAM 1.3.0 to program and edit**.

PT and PTI Compatibility with PAM 1.2.1 vs PAM 1.3.0

The PT (PAC Terminal) is a direct replacement to the PTI (PAC Terminal Interim). Both screens act as a thin-client or terminal which displays the targeted embedded HMI from either the PAC (embedded Xpress or WebVisu) or XT (Xpress). Inversely it takes the touch screen inputs from the user and sends it down to the PAC or XT Xpress units for further logical processing. The PTI was only offered as a 7" prototyping screen while the PT was undergoing final development. Upon the release of the PT, the PTI will be phased out as the PT offers both a superior cost and technical advantage and a direct migration path for all users. The following guide provides a summary of both hardware and software considerations when migrating between the two models.

Hardware Differences

The 7" PT aluminum option (PTA-007-….) can be directly inserted into the cut out of a 7" PTI-007-… and even use the same mounting clamps. Once mounted, the front bezel appears identical between the two units. Although there are some mechanical differences between the units, the 7" PT is considered a drop-in replacement for the PTI.

	PTI	PT
Sizes	7" widescreen only	7", 10", 15" widescreen
Chassis & Bezel Type	Aluminum only	7" available in plastic and aluminum 10" and 15" aluminum only
Operating System	Windows 7 running a variation of Remote Manager	Android running PAC Terminal App (Variation of Remote Manager)
Processor	1.6 GHz Intel N2807	1 GHz Freescale iMX6
Ports	2x RJ-45, 1 x USB 2.0, 1 x USB 3.0, 1 x RS232, 1 x RS232/RS485/RS422	1 x RJ45, 2x USB 2.0

Compatibility Table

It is recommended for all customers to migrate to the next generation PT as the PTI begins phasing out. For all new applications, it is recommended to use the latest PAM 1.3 software and PAC 1.3.0 firmware whereas existing applications can continue to use PAM 1.2.1. There are some performance differences between the different combinations of PT versus PTI, used to target embedded Xpress versus embedded Webvisu, and if the PAC waws programmed with PAM 1.2.1 versus PAM 1.3. To concisely summarize these differences, refer to the table and footnotes below.

PAM/PAC Project & Firmware Rev	embedded HMI	PTI	PT
1.2.1	Xpress	Yes[1]	Yes[2]
1.3	Xpress	No	**Yes – recommended**
1.2.1	WebVisu[3]	Yes	Yes
1.3	WebVisu	Yes	**Yes – recommended**

[1] The PTI and embedded Xpress do not always connect during restart of the PTI or PAC. This may require the user to intervene by logging back in. Upgrading to the PT will ensure that upon restart the PT will continue to attempt to reconnect.

[2] It is recommended that all users who are upgrading from the PTI to the PT also convert to PAM 1.3, but is not required. Embedded Xpress 1.2.1 projects with large quantities of tags or a high object-per-screen ratio may experience performance degradation when connected to a PT versus the PTI. Upgrading to PAM 1.3

will significantly increase performance for these projects. Small tagged or low object-per-screen 1.2.1 projects may see no difference in performance between PTI and PT.

[3] It is recommended that all WebVisu projects be upgraded to PAM 1.3, but is not required. WebVisu projects built on 1.2.1 have known bugs which include several tools not working as expected including but not limited to momentary push buttons and sliders.

Please see the PTI to PT Migration Guide on the PT product page, here: parker.com/emn/pt.

Email: emn_support@parker.com
Phone: 1-800-358-9070