August 19, 2012

Impact 10.6.0 Readme file

Welcome to Impact, a complete range of software and hardware to solve your machine vision needs. Impact is the most complete product line with the same software used throughout. Impact reduces your cost of ownership and provides you with the flexibility that today's quickly changing manufacturing environment requires.

This Readme file describes the software, firmware, and documentation installed by IMPACTSetup*.exe.

Check our website at http://www.pptvision.com/ for possible releases newer than this release and for information on other Impact software and hardware products.

This Readme file is divided into the following sections:

Software, Firmware and Documentation in IMPACTSetup*.exe

Shortcuts to the software and documentation listed below are located in your computer's Start folder. For Impact software prior to version 8.3.0, select Start, All Programs, Inspection Builder. For Impact software version 8.3.0 and later, select Start, All Programs, Impact.

Software

Vision Program Manager (VPM)

You can do all your software work with VPM.

- Configure your Intelligent Camera with the Settings tab – Camera setup.
- Program your machine vision inspections with the Design tab.
- Create an Operator Interface with the Display tab.
- **Or**

You can use VPM to program your machine vision inspections and then use the following software to do the rest.

Control Panel Manager (CPM)
Create custom Operator Interfaces for controlling and monitoring all of your PPT Intelligent Cameras.

Control Panel Manager Runtime Environment (CPMRE)
Deploy your custom Operator Interface to your production line with CPMRE. CPMRE runs the custom Operator Interfaces created in CPM but does not provide the ability to edit them.

Impact Settings
Configure device parameters on your Intelligent Camera.

Emulator
Run multiple Emulators on your PC to create, test, and demonstrate your inspections without using hardware.

Translation

Impact Language Resource File
PPT VISION provides a file (IMPACT.properties) that you can use to create a language resource file so that Impact user-interface text will display in a language other than English. For more information about Impact translation, check our website http://www.pptvision.com or contact your distributor.

Firmware

Impact Vision Device firmware
IMPACTSetup*.exe installs firmware on the PPT A-Series, T-Series, and C-Series Intelligent Cameras.
IMPACTMDevice*.msi installs Impact M Device software on the M-Series Processor.

Documentation

Readme
This Readme file describes the software and documentation in the IMPACTSetup*.exe.

Reference Guide
This manual documents how to configure, program, control, and monitor PPT Intelligent Cameras with VPM, CPM, Settings, and CPMRE. The Reference Guide also provides a Quick Setup to get a PPT Intelligent Camera configured, connected to a network, and calibrated so you can start using it.

Sample Programs Guide
This manual contains an overview of the sample Impact vision programs, images, and Control Panels, as well as information about how to implement and learn from each of them.

A-Series Hardware Guide
T-Series Hardware Guide
C-Series Hardware Guide
M-Series Hardware Guide
These manuals describe the various parts of PPT Intelligent Cameras and the M-Series Embedded vision system, including the inputs and outputs available to integrate your system into a production line.

System Requirements for the A, T, and C-Series

System Requirements for the Client Computer

- Intel®, AMD®, or VIA® x86-class processor -minimum 1.2 GHz; 64-bit processors are supported with Windows Vista and Windows 7
- Microsoft® Windows XP SP3, Vista, or Windows 7
- 1 GB or more of RAM, 2 GB recommended
- 800MB or more of available hard disk space
- 10/100Mbps Ethernet connection
- Monitor display resolution of 1024 x 768 or greater
- A PDF reader is required to read the software and hardware manuals

System Requirements for the PPT Vision Device

- The PPT device and client computer must have the same version of PPT software installed.
- This release will NOT install on an A10 camera. The latest release to support the A10 is Impact 8.1.7.2.

System Requirements for the M-Series

System Requirements for the M-Series Processors

- Monitor display resolution of 1024 x 768 or greater (for local programming and during first boot)
- Keyboard and Mouse (for local programming and during first boot)
- The PPT or third-party camera must be compatible with the version of PPT software installed on the processor.

Enhancements in this release

Key enhancements in this release include support for a Windows 7 user-interface look in VPM, CPM, and Settings, image averaging capabilities in the Image Math tool, legacy and Windows 7 look for buttons and toggle buttons in control panels, the ability to overlap camera images,

availability of a 64-bit operating system on the M-Series processors (including a 64-bit installer for the MX-80), and support for Dalsa line scan cameras.

VPM

1. **VPM was updated to reflect the Windows 7 look**
   All PPT software has been updated to reflect the look of the Microsoft Windows 7 operating system. (3730)
2. **The Image Math tool can now perform image averaging**
   Multiple images of the same stationary object can now be combined and averaged to reduce image noise. (3821)

CPM

1. **Controls can now display with two types of coloring**
   Buttons and Toggle Button controls can now have either a solid background color or the new Windows 7 look. (3753)

General

1. **Camera images can now be overlapped**
   Lines from the bottom of the previous image can now be copied and added to the top of the current image. This feature is available only on M-Series cameras and is primarily used with line scan cameras. (3795)

M-Series

1. **A 64-bit software installer is now available**
   This installer will better utilize the larger amount of memory available on the MX80 processor. (3828)
2. **Dalsa Spyder 3 (SG-14) line scan camera**
   Support was added for the Dalsa Spyder 3 line of cameras. (3857)

Bug fixes in this release

Here is a list of key bug fixes in this release.

VPM

1. **Changing desktop settings caused VPM display problems**
   When the Windows desktop settings were changed, either through remote access or locally, the VPM display was garbled. (1390)
2. **Unable to copy and paste files to and from multiple vision devices**
   Copying and pasting files between the host PC and multiple vision devices failed. (1961)
3. **Setup error and Communication Failure error occurred**
   Under certain conditions, when the setup tab was selected and a file was unloaded, an error would occur when setup was closed. (3482)
4. **The device incorrectly handled a communications failure error from the TCP/IP Out tool**
   When an error occurred, it was treated as a catastrophic error instead of a recoverable error. A regular communications error code is now returned. (3505)
5. **Summary Display column adjustment was difficult**
   The Task Summary header would scroll with the summary display making column adjustment difficult. (3724)
6. **An incorrect prompt screen was displayed**
   Selecting the Display tab incorrectly displayed the orange tutorial screen. (3749)

7. **Images were not saved after being enabled**
   After changing preferences to save failed images, the images were not saved in the target folder. (3752)
8. **The Communication panel did not display correctly**
   When a Custom font was selected, the Communication panel displayed incorrectly. (3760)
9. **Two tools were deprecated**
   The Contour and Correlation Pattern Find tools were deprecated. The Pinpoint Pattern Find tool replaces them. (3770)
10. **The Display tab "control" column did not display correctly**
    Under certain conditions, the controls did not fit in the column. (3772)
11. **The outlines around the tools in the tool box were not drawn completely**
    The outlines around the tools in the tool box were not drawn completely. (3774)
12. **The Data Transfer tool now has a "Passed" output**
    The output will fail if the control panel is not connected to receive the transferred data or the transfer fails for any other reason. (3783)
13. **Offline tool now automatically locks for editing**
    VPM automatically locks for editing when the Offline tool puts the vision device offline. (3787)
14. **Tool setting was incorrectly restored**
    The Barcode tool incorrectly restored the "Verify Optional Check Character" setting when a vision program file was loaded. (3813)
15. **An error occurred after tasks were reordered**
    If tasks were reordered by dragging, then the file was unloaded and loaded using FileManager, an error occurred. (3814)
16. **Calibration failed on certain images**
    Calibration failed on images with noisy edges because the oblongness test failed. (3818)
17. **Connecting to an online vision device would cause an error**
    The error occurred with the first connection made while the display tab was selected and the device was online. (3820)
18. **Under certain conditions, selecting a tool in a task could take a long time**
    The time to select the tool in that task has been reduced over 90%. (3829)
19. **The incorrect origin was displayed for the Blob tool**
    Tool origins were not being updated on the tool runtime panel. (3831)
20. **The Barcode tool reported incorrect results**
    Under certain conditions, the tool would report the incorrect results for a code 128. (3852)
21. **The auto-lock for editing feature caused an error**
    Under certain conditions, the auto-locking feature would cause a Java exception error. (3858)
22. **The Color Blob tool timeout was not accurate**
    The time it takes the tool to time out now more accurately correlates to the maximum task timeout value. (3860)

CPM
1. **The Button control was not displayed correctly under certain conditions**
   When a range control was adjusted, and the action caused a Button control press, the Button was not painted properly. (3713)
2. **An Invalid Connection error occurred when a link was broken**
   When a Load Vision Program or Save Vision Program control was copied and pasted, if the Impact Connector control was not copied also, the link was not handled correctly. (3723)
3. **There was a memory leak caused by CPM**
   When a control panel file was closed, references to objects were not released. (3789)
4. **The Chart control in an older control panel caused an error**
   The error "XML Decoder Setting…Chart Framework error" would be displayed when the file was saved. (3790)

Documentation
1. **Some hyperlinks in the Reference Guide did not work**
   Some of the hyperlinks did not make the jump to the intended section. (3026)
2. **The Line Scan camera documentation was incomplete**
   The explanation for the several of the camera parameters needed more details. (3629)
3. **A monitor, keyboard, and mouse are required**
   The documentation did not state that a monitor, keyboard, and mouse were required to approve the license agreement when an M-Series processor is first powered on. (3727)
4. **A Scriptor control command line was incorrect**
   The Scriptor control's Scriptor.setProperty command was incorrect in the documentation. (3851)

General
1. **Installer downloads from the website sometimes failed**
   Software files downloaded from the website were sometimes corrupted during the operation. A checksum file was added to verify the file's integrity. (3083)

Known Issues

General
- You cannot directly downgrade to a version older than version 10.2.1 after you install this release due to a format change in one of the PPT device system files.
  You must first uninstall this release before you downgrade to a version prior to 10.2.1. If you install an older version onto a system that already has this version installed, the install will fail and the camera will become unresponsive. To recover, restart the camera, uninstall this version, then install the older version.
  This requirement to uninstall before downgrading has always been part of Impact software.
- C:\I386 folder on the M-Series Processor contains additional Windows® install files
  This folder aids installs of additional features and Windows components without requiring an install disk. For example, to add additional East Asian language support, select Start – Control Panel and open the Regional and Language options icon. Click on the Languages tab and check the Install files for East Asian languages check box. Click OK and follow the prompts.
  If you are asked for the location of a file, browse to the folder shown in the "Copy Files

From" field, except locate the indicated folder on the C: drive.
For example, if the folder shown is
>"D:\I386\lang
you should browse to the folder
>"C:\I386\lang
After you have selected the correct folder, click OK.

Emulator

- If VPM is connected to an Emulator, and that Emulator is closed (accidentally or on purpose), you should NOT manually start another Emulator instance.
  Instead, take the following steps.
  1. When VPM tries to communicate with the stopped Emulator, the "Connection Problem" message box is displayed.
  2. The "Connection Problem" dialog is then displayed with the message "Attempting to reconnect to the Impact device."
  3. Click the "Cancel" button on the dialog. This sets VPM to a disconnected state.
  4. Click the Connect button on the VPM main toolbar.
  5. Click the "Connect to Emulator" button. A new Emulator instance will be started and VPM will connect to it.

VPM, CPM

- The transport method for the Send Message and Wait For Message tools was changed from EIP to UDP to improve performance. This means that these tools running on a system using Impact release 10.1 will not interoperate with tools running on a system using earlier Impact releases and no backward compatibility mode is supported.
- It is suggested that you increase the amount of system memory allocated for VPM, and CPM in their shortcut command lines. The maximum recommended value is calculated as 40% of the memory size of your computer, in megabytes (MB). Refer to the Impact Reference Guide for more details.
- You must log on to the operating system with administrator privileges to run Impact software.

M-Series Bandwidth Restriction

- Some MX40 processors shipped prior to November, 15, 2011, have exhibited a problem of restricted bandwidth performance. These processors contain an older version of the basic input/output system (BIOS) with a Build Date prior to 11/08/11 and an ID ending in a number less than 07. The problem occurs when the system is restarted by using the Reset button or the Windows Restart command rather than using Window Shutdown followed by cycling power. Contact PPT or your distributor for more details about updating the BIOS.
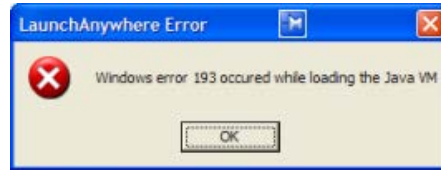
Installation Instructions

Operating System Type

This release of Impact Software is available in two separate versions, one for a 32-bit operating system and one for a 64-bit operating system. Refer to your computer documentation if you are unsure which operating system your computer uses. If you are installing to a system other than an M-Series processor, we recommend that you install the appropriate version for your operating

system. If you are installing to an M-Series processor, you **must** use the software version that matches your operating system.

If you attempt to install the 64-bit version on a 32-bit operating system, the following dialog is displayed:

Updating a previous release

If you are updating an existing installation, you cannot install a 32-bit version into the same directory as an existing 64-bit version or a 64-bit version into the same directory as an existing 32-bit version. If you attempt this type of installation, a dialog similar to the following is displayed:
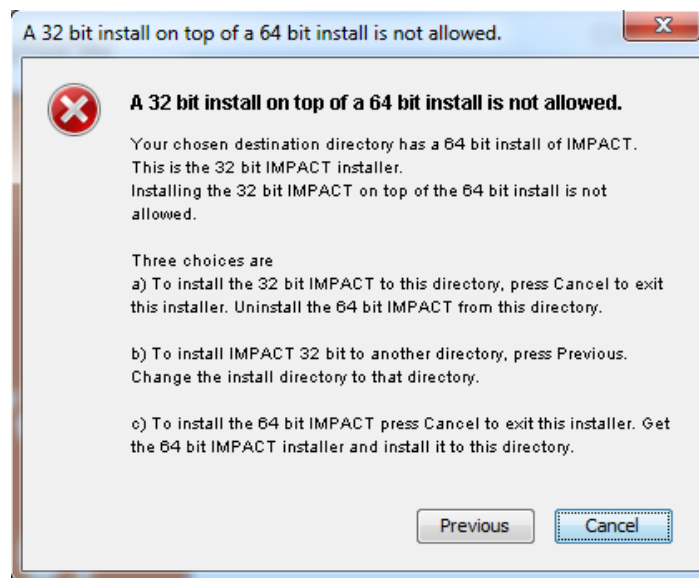
Important Notes

If security is enabled on the vision device, you will not be able to install new software on it. Before you start the installation program, you must disable security. Go to the VPM Settings tab, click on the General System Object, and select the Administration panel.

Once you have installed this Impact release, you should not install any Impact release earlier than 8.3.0.159 into the same directory unless you uninstall this release first. The older release will not function if you install it into the same directory as this release.

If you are using this software on an M-Series Processor, you must install it directly on the processor you intend to use. You cannot install on an M-Series Processor remotely like you can on an A-Series, C-Series, or T-Series device.

Installing Impact software (PC and/or PPT vision device)

To install the Impact software:

1. You may need to turn off automatic virus checking during install if it causes installation problems.
2. You must have administrative privileges to install Impact software. Insert the Impact Software Installation CD in the drive and the installation program should start.
3. Click Next to display the End User License Agreement. You must click the radio button to accept the License Agreement to continue with the installation.
4. Click Next to display the Choose Install Set dialog. You can click Cancel to quit the installation at any time during the installation.
    Select the desired type of installation from the menu, and then click Next.

    Typical - This option installs all the Impact software modules on the client computer and updates the firmware and vision programs on one or more PPT vision devices. All programs (VPM, CPM, CPMRE, Impact Settings stand-alone, and Emulator) are installed on the client computer, but only the VPM shortcut icon will appear on the desktop after the installation.

    Custom - This option installs all the Impact software modules on the client computer and/or updates the firmware and software on one or more PPT vision devices. You can also uninstall client settings and vision device firmware with this option. **A special installation selection exists to create the CPM desktop icon during client installation.** You need to select either the "WITHOUT CPM" or "WITH CPM" option. If both are selected, the CPM shortcut will not be created.

    Uninstall Client Settings and Device(s) - This option uninstalls the client settings from the computer and the vision device firmware from PPT vision devices. It does not install any software or remove a user's vision programs.

5. Select the default directory for the Impact software, click Choose to browse to the desired directory, or type in the directory name. Click next when you are done. See "Updating a previous release" on page 8 if you are updating an existing release.
6. Select the default directory for the Impact software data files (Root directory) or click Choose to browse to the desired directory. You can put the Root directory on the client computer or on a network device so multiple clients can share it. Click next when you are done.
7. If you have selected Typical, or Custom with a vision device installation, you must select one or more PPT devices from the list of devices. Click Refresh to update the device list. If the device does not appear in the list, check its power and Ethernet connections. (The default IP address for each vision device is 192.168.0.128 when it is shipped.) Click Next when you are done selecting devices.
    The installation will fail if the client computer and vision device IP addresses are not correctly configured or the indicated vision device is not connected to the client computer.
    Note: If security is enabled on the vision device, you will not be able to install new

software on it. You must exit the install program, disable security on the device, and restart the installation program.

8. When the Pre-installation Summary is displayed, click Next and the installation will begin.

9. When the installation has completed, cycle power on A-Series devices to complete their install. Next you can start Impact software. Refer to the Impact Reference Guide for more details.

Uninstalling Impact software

To downgrade software on an A-Series, T-Series, or C-Series

1. Copy the following folder to a safe location (this will back up some of your existing Impact files):

    C:\PPT VISION\IMPACT\Applications\Root

2. Run the Impact Setup executable for the currently installed version (e.g. IMPACTSetup_10_3_0_nn.exe).

3. Select the Custom option.

4. Check the option: "Uninstall Impact Settings and Impact Device(s)."

5. From the list of devices, select the device(s) that you want to downgrade.

6. Delete the files named "settings.xml" from the following default directories, if they are present there:

    C:\PPT VISION\IMPACT\Applications\Emulator\IMPACTEmulator\cf
    C:\PPT VISION\IMPACT\Application\Emulator\IMPACTEmulator 2\cf
    C:\PPT VISION\IMPACT\Applications\Emulator\IMPACTEmulator 3\cf
    C:\PPT VISION\IMPACT\Applications\Emulator\IMPACTEmulator 4\cf

7. Run the IMPACTSetup executable to install the desired earlier version (full or device install) of Impact software you want on the PPT device you are downgrading.

To downgrade software on an M-Series processor

1. Copy the following folders to a safe location (this will back up some of your existing Impact files):

    C:\PPT VISION\IMPACT\Applications\Device
    C:\PPT VISION\IMPACT\Applications\Root

2. From the Windows Control Panel, select Add or Remove Programs.

3. From the list of Currently Installed Programs, select "Impact M Device" and click the Change/Remove button.

4. Delete the files named "settings.xml" from the following default directories, if they are present there:

    C:\PPT VISION\IMPACT\Applications\Device\IMPACTDevice\cf\
    C:\PPT VISION\IMPACT\Applications\Device\IMPACTDevice 2\cf\
    C:\PPT VISION\IMPACT\Applications\Device\IMPACTDevice 3\cf\
    C:\PPT VISION\IMPACT\Applications\Device\IMPACTDevice 4\cf\

5. Run the IMPACTMDeviceSetup and IMPACTSetup executable files to install the desired earlier version of Impact software that you want on the M-Series processor.

Configure PC firewall and antivirus software

PC Firewall

Impact software requires the PC's firewall software to be configured to allow network connections to IMPACTEmulator.exe and javaw.exe. The default install locations for these programs is one of these locations:

    C:\PPT VISION\IMPACT\Inspection Builder\ Emulator
    C:\PPT VISION\IMPACT\Inspection Builder\ jre\bin
    OR
    C:\PPT VISION\IMPACT\Applications\ Emulator
    C:\PPT VISION\IMPACT\Applications\ jre\bin

PPT Vision Devices, including the Emulator, appear as network devices to Impact software. Often, configuring the firewall only requires pressing the Unblock button once or twice during the first run of Impact software. At other times, configuring the PC's firewall software to allow connections must be done explicitly.

The PC's firewall software can leave Impact software waiting forever to connect. You can fix waiting to connect issues by adding firewall exceptions for the Emulator (IMPACTEmulator.exe) and javaw.exe, or disabling the firewall. Microsoft warns that turning off the firewall is not recommended. Firewall exceptions are preferred.

Here are the steps to add exceptions when the PC uses Windows Firewall as part of Microsoft Windows XP Professional with Service Pack 2. Go to Start, Control Panel, Windows Firewall, "Add Program...".

"Add Program..." exceptions for IMPACTEmulator.exe and javaw.exe. The default install locations for these programs is one of these locations:

    C:\PPT VISION\IMPACT\Inspection Builder\ Emulator
    C:\PPT VISION\IMPACT\Inspection Builder\ jre\bin
    OR
    C:\PPT VISION\IMPACT\Applications\ Emulator
    C:\PPT VISION\IMPACT\Applications\ jre\bin

Antivirus and anti-malware settings

Restrictive settings in antivirus or anti-malware software on the PC can block communication ports that Impact uses. There are several symptoms of this problem, including one or more of the following:

*   The Impact software installation fails
*   An error (Error registering online callback) is displayed when you try to connect to the device
*   The device is not displayed in the Device Connection list

You may be able to resolve some of these problems by adjusting the antivirus or anti-malware settings to work well with the ports that Impact uses. Refer to the Troubleshooting section of the Impact Reference Guide for more details.

General Notes about this release

With Impact software, you can comply with FDA 21 CFR Part 11 requirements.

To meet these requirements, your inspection applications can interface with a Supervisory Control and Data Acquisition (SCADA) database.

A PDF reader is required to open Impact software PDF manuals and online help

A PDF reader is required to open documentation PDF manuals and online help. Adobe Reader can be downloaded from Adobe's website at http://www.adobe.com/ . Other free and open source PDF readers are available elsewhere.

Vision device and strobe power supply grounding

Some customers have reported problems with inconsistent strobe pulse lengths on the PPT device. We have found that these problems resulted from insufficient power supply grounding. You must be sure that strobe and power supply grounds are connected securely to earth ground through the appropriate connector. Refer to the appropriate Hardware Guide or QuickStart Reference Guide for wiring diagrams.

To run Impact software, you must have file modification permission.

To run any Impact software module, you must have permission to modify files in the installation directory.

Errata

1. **IMPORTANT NOTE for A10 installation**:
   Due to operating system changes in the A-Series camera, we can no longer support the A10 Intelligent camera with upgrades.
   This release will not install on an A10 camera. The latest release to support the A10 is Impact 8.1.7.2.
   We apologize for any inconvenience this may cause.
2. Software that operates as a server on the host PC may interfere with PPT Device communications. These may include, among others, Windows Internet Information Services (IIS) and CoDeSys™ ENI Server.
3. A-Series Intelligent Cameras running this firmware will connect to 1 Gigabit / 100 Mbps Ethernet switches at the 100 Mbps rate.
4. The A20 Camera and T3xR Series Cameras will not support 10 Mbps communication.
5. In the VPM AB PCCC Server system object, when the Character file type (A9) data is sent as type "SINT" by the PLC, it is not written in the Server register correctly. Only one-half the correct number of bytes are written to the registers.
6. Because of an enhancement to the OCR tool in a previous release, the OCR tool scoring has changed. The scores are now more consistent and somewhat higher.
   When you upgrade to this release from any release prior to 8.1.5, you will probably need to adjust fixed threshold values in any existing OCR tools. The approximate new threshold values, based on the old threshold can be calculated as follows:

new threshold = 100 – 0.6*(100-old threshold)

For example, if the old threshold value was 50, the new value can be calculated:

New threshold = 100 – 0.6 * (100-50)

New threshold = 100 – 0.6 * 50

New threshold = 100 – 30

New threshold = 70