Vision Point Software

Installation Guide

May 2019

Contents

1 Figures and Tables

Index of Figures

Index of Tables

Version	Date	Notes
1.0	08/2014	Predator APP release 1.0.0 • Initial release
2.0	10/2015	Predator APP release 2.0.0 • Minor changes
3.0	03/2016	Visio Point APP release 3.0.0 • The product line "Predator" has been renamed to "Vision Point"
4.0	11/2016	Visio Point APP release 4.0.0 • Installation for Ubuntu was added
4.1	07/2017	Visio Point APP release 4.1 • Documentation improvements
4.2	09/2017	Visio Point APP release 4.2 • New installation notes section
4.3	4/2018	Visio Point APP release 4.3 • Added contact and support information section
4.4	9/2018	Visio Point APP release 4.4 • Documentation improvements
5.0	3/2019	Visio Point APP release 2019.1/API 5.0 • Additional installation steps and instructions were added for Windows OS users • Documentation improvements
5.0.1	5/2019	Visio Point APP release 2019.1/API 5.0.1 • Review and minor documentation corrections

Table 1 : Revision History

3.1 Safety Precautions

With your *KAYA board* in hand, please take a minute to read carefully the precautions listed below in order to prevent unnecessary injuries to you or other personnel or cause damage to property.

- **Before using the product, read these safety precautions carefully to assure correct use.**
- **These precautions contain serious safety instructions that must be observed.**
- **After reading through this manual, be sure to act upon it to prevent misuse of product.**

⚠ Caution

In the event of a failure, disconnect the power supply.
If the product is used as is, a fire or electric shock may occur. Disconnect the power supply immediately and contact our sales personnel for repair.
If an unpleasant smell or smoking occurs, disconnect the power supply.
If the product is used as is, a fire or electric shock may occur. Disconnect the power supply immediately. After verifying that no smoking is observed, contact our sales personnel for repair.
Do not disassemble, repair or modify the product.
Otherwise, a fire or electric shock may occur due to a short circuit or heat generation. For inspection, modification or repair, contact our sales personnel.
Do not touch a cooling fan.
As a cooling fan rotates in high speed, do not put your hand close to it. Otherwise, it may cause injury to persons. Never touch a rotating cooling fan.
Do not place the product on unstable locations.
Otherwise, it may drop or fall, resulting in injury to persons or failure.
If the product is dropped or damaged, do not use it as is.
Otherwise, a fire or electric shock may occur.
Do not touch the product with a metallic object.
Otherwise, a fire or electric shock may occur.
Do not place the product in dusty or humid locations or where water may splash.
Otherwise, a fire or electric shock may occur.
Do not get the product wet or touch it with a wet hand.
Otherwise, the product may break down or it may cause a fire, smoking or electric shock.
Do not touch a connector on the product (gold-plated portion).
Otherwise, the surface of a connector may be contaminated with sweat or skin oil, resulting in contact failure of a connector or it may cause a malfunction, fire or electric shock due to static electricity.

Do not use or place the product in the following locations.
● Humid and dusty locations
● Airless locations such as closet or bookshelf
● Locations which receive oily smoke or steam
● Locations close to heating equipment
● Closed inside of a car where the temperature becomes high
● Static electricity replete locations
● Locations close to water or chemicals
Otherwise, a fire, electric shock, accident or deformation may occur due to a short circuit or heat generation.
Do not place heavy things on the product.
Otherwise, the product may be damaged.
Be sure to drain static electricity from body before you touch any electronics component
The electronic circuits in your computer and the circuits on KAYAs boards are sensitive to static electricity and surges. Improper handling can seriously damage the circuits. In addition, do not let your clothing come in contact with the circuit boards or components.
Otherwise, the product may be damaged.

3.2 Disclaimer

This product should be used for acquisition of video streams. KAYA Instruments assumes no responsibility for any damages resulting from the use of this product for purposes other than those stated.

Even if the product is used properly, KAYA Instruments assumes no responsibility for any damages caused by the following:

- Earthquake, thunder, natural disaster or fire resulting from the use beyond our responsibility, acts caused by a third party or other accidents, the customer's willful or accidental misuse or use under other abnormal conditions.

- Secondary impact arising from use of this product or its unusable state (business interruption or others).

- Use of this product against the instructions given in this manual or malfunctions due to connection to other devices.

KAYA Instruments assumes no responsibility or liability for:

- Erasure or corruption of data arising from use of this product.

- Any consequences or other abnormalities arising from use of this product, or damage of this product not due to our responsibility or failure due to modification.

Repair of this product is carried out by replacing it on a chargeable basis, not repairing the faulty devices. However, non-chargeable replacement is offered for initial failure if such notification is received within two weeks after delivery of the product.

4.1 Purpose

The purpose of this document is to describe software installation procedure required for proper functionality of the product.

In any case of malfunction or unexpected results during installation, please, contact KAYA Instruments' representative.

Please refer to section 7.4 for contact and support information.

5.1 System Requirements

Prior to start of installation process, please, make sure your system meets the following requirements:

- Intel x64 processor or compatible.
- At least 4 GB of system memory.
- One of the following operating systems:
  - Windows 7 32/64 bit OS
  - Windows 10 32/64 bit OS
  - Ubuntu 14.04
  - Ubuntu 16.04
  - Linux Red Hat 7
  - Linux CentOS 7
- Hard drive with 200 MB of free space
- At least one of KAYA Instruments boards installed
- Internet connection

Notes:

1) Vision Point 2019.1 will be the <u>last version</u> to support Windows 7 OS. We encourage our customers to switch to Windows 10 OS in order to support our latest updates and hotfixes.

2) During the installation process, please pay attention to the difference between Windows 7 and Windows 10 OS installation dialogs and follow the relevant instructions. Two additional dialogs will appear for Windows 7 installation, these dialogs described in steps 9, 12 and 13.

3) In order for Windows OS to support the latest version of Vision Point, please make sure your Windows is up to date and all the latest updates and hotfixes are installed

   a. In case your computer hardware does not support Windows 7 latest updates, please consider using Vision Point 4.4 software version.

   b. In order to downgrade Vision Point application from version 2019.1 to 4.4, please refer to troubleshooting section.

4) Genicam and OpenCV libraries will no longer be installed nor registered in user directory path. During application installation, those will be installed for internal use only and won't be accessible for the user, thus if needed by users application, it should be installed separately.

5) User will be able to link to Visual Studio 2017 flavor on runtime. The functionality will remain without change and 2012 flavor will remain for backup compatibility. Added libraries: KYFG_vc141.lib, KYFGLib_vc141.dll, clserkyi_vc141.dll

5.2 Installation Procedure

1. Within the Explorer window, open the folder that contains the installation file: KAYA_Vision_Point_Setup.exe and execute with administrator privileges.

2. After the Installation Utility starts follow the instructions as described below.

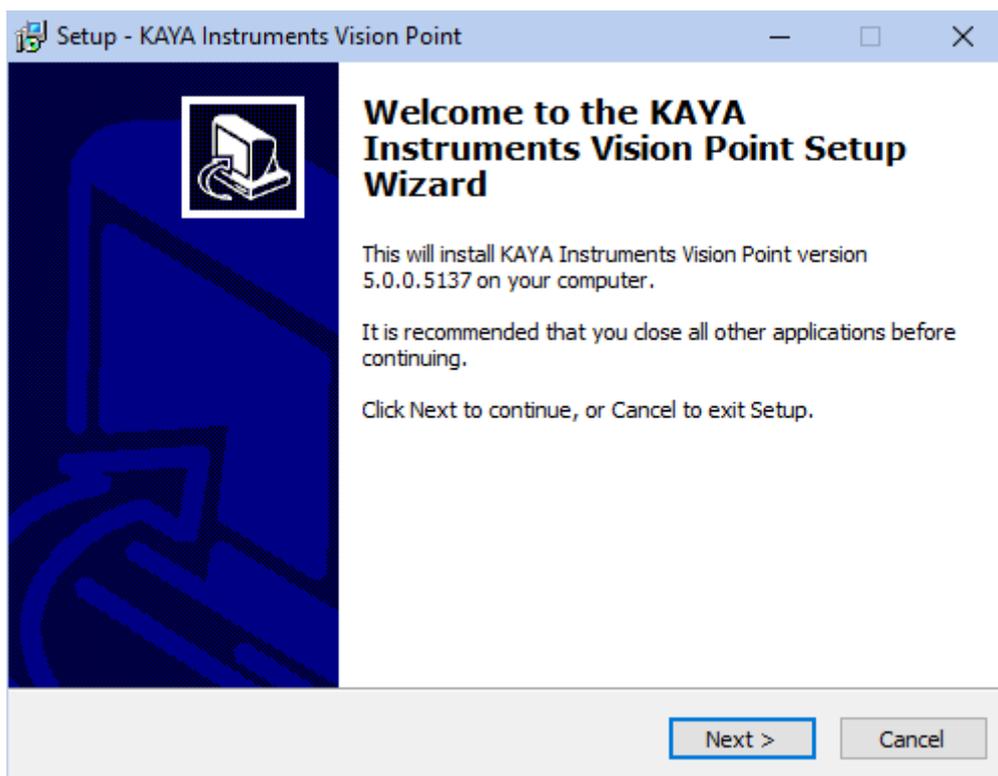3. At Welcome screen click on "Next".

Figure 1: Vision Point Welcome screen

4. At this stage you will have to define target folder for the installation. It is recommended to keep the default folder. After you select the installation folder, click the "Next" button.
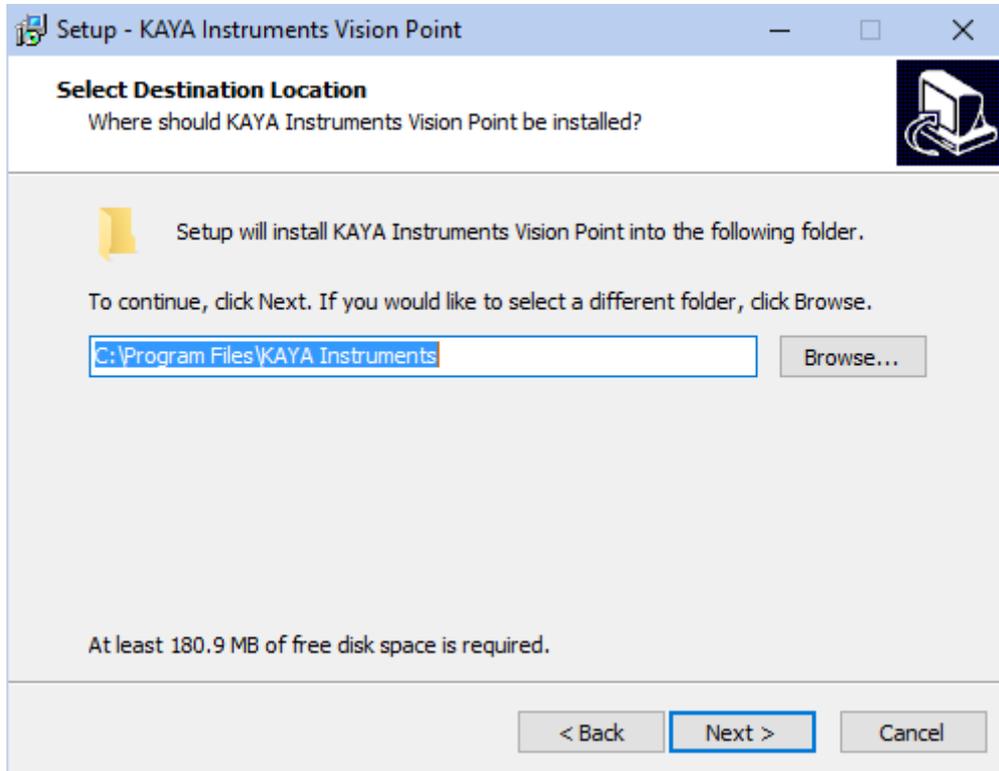

Figure 2: Vision Point installation location

5. Install serial communication Virtual COM Port driver. The interface is available only for supported Frame Grabber devices.

    Note: Serial communication interface, which doesn't require the Virtual COM Port, will still be available for supported devices.
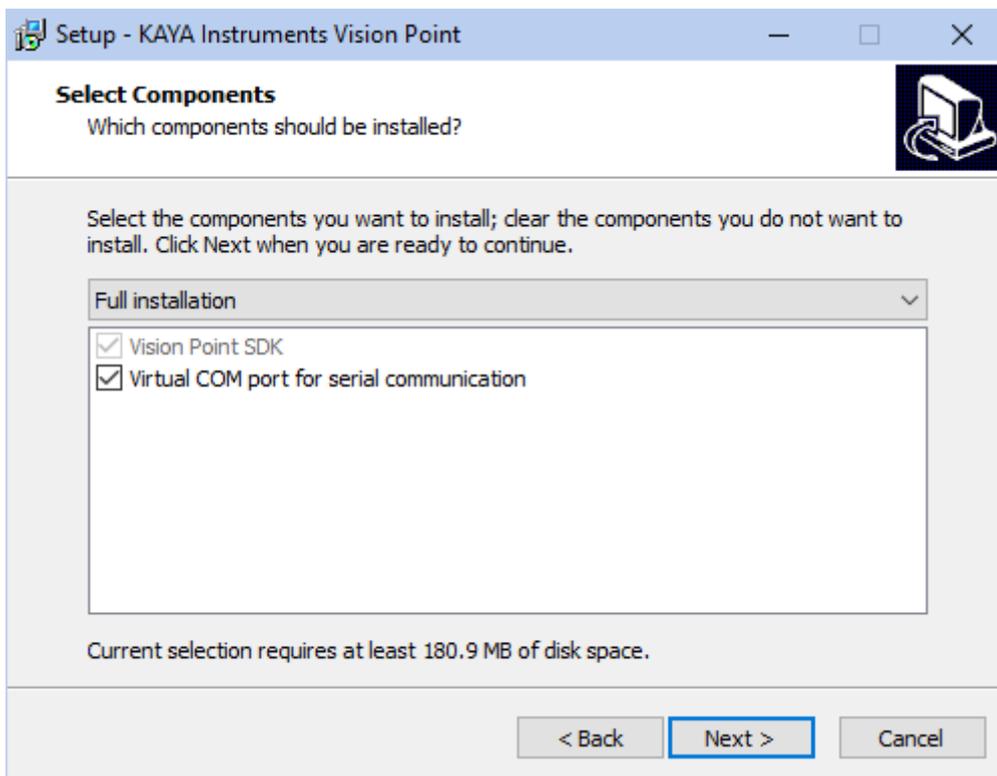
Figure 3: Installation components checkbox

6. Now you will have to select the Start Menu folder for the software installation. It is recommended to keep the default location. Click the "Next" button to proceed.
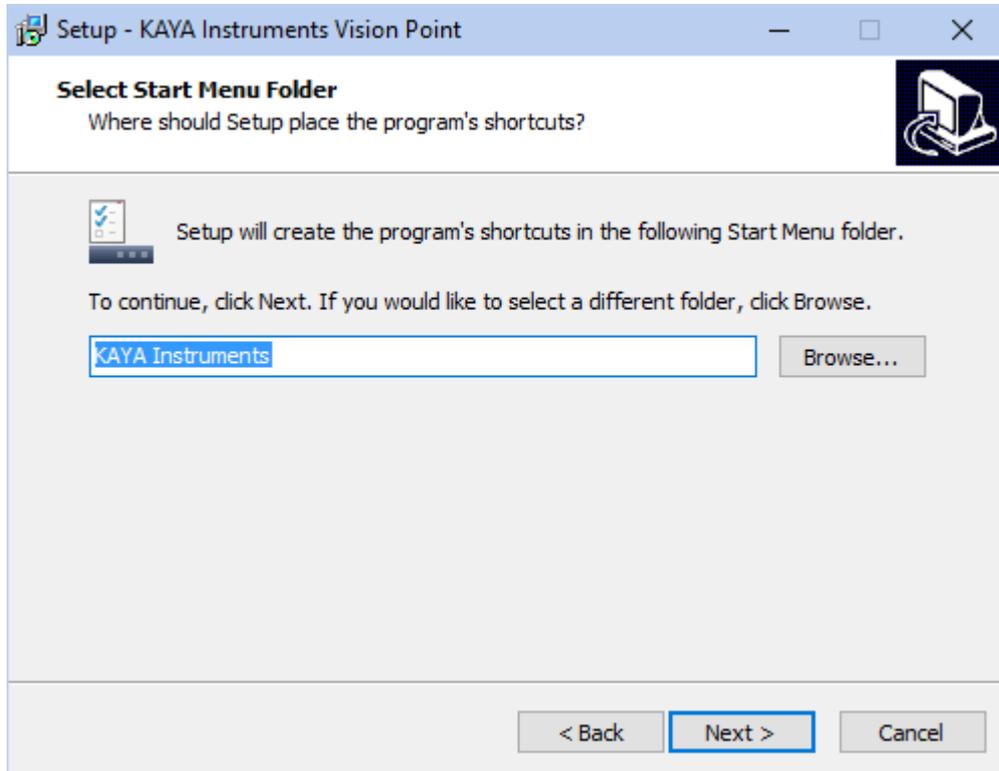

Figure 4: Start Menu shortcut folder

7. At this stage you will have the chance to review the settings prior to actual software installation. After you click "Install", the installation procedure will start. It will take a few minutes for installation to complete. Few pop-up windows will appear during the installation.
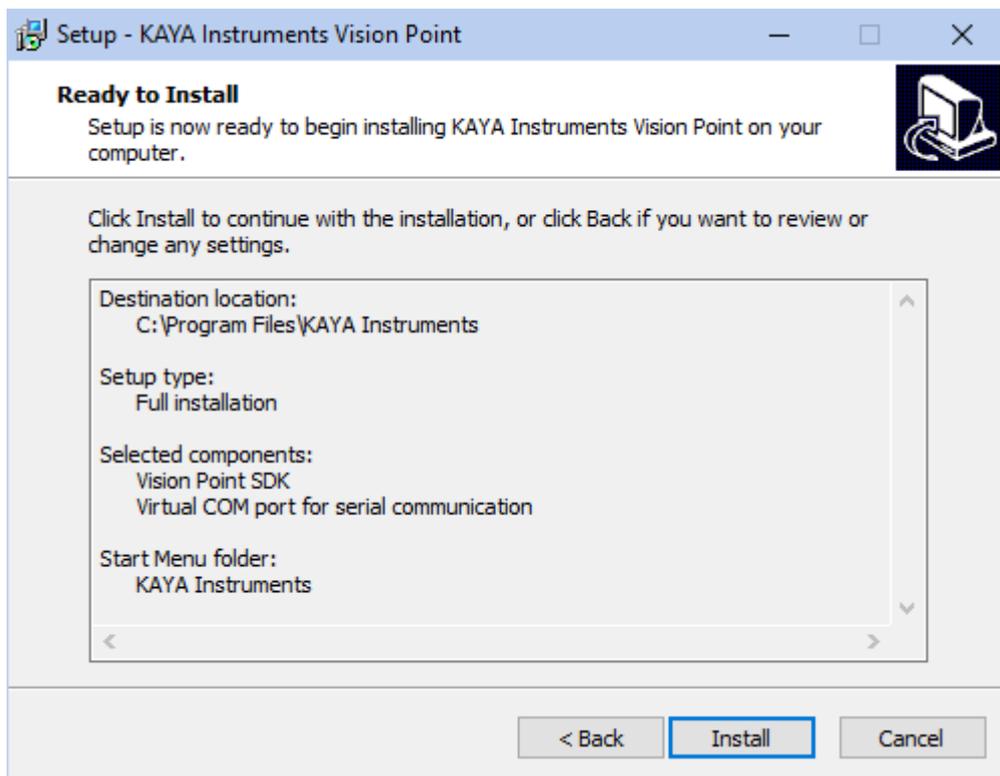

Figure 5: Pre installation review

8. During the installation procedure a few pop-up windows will appear. Please follow the instructions listed in the next installation steps.

Figure 6: Installation process bar

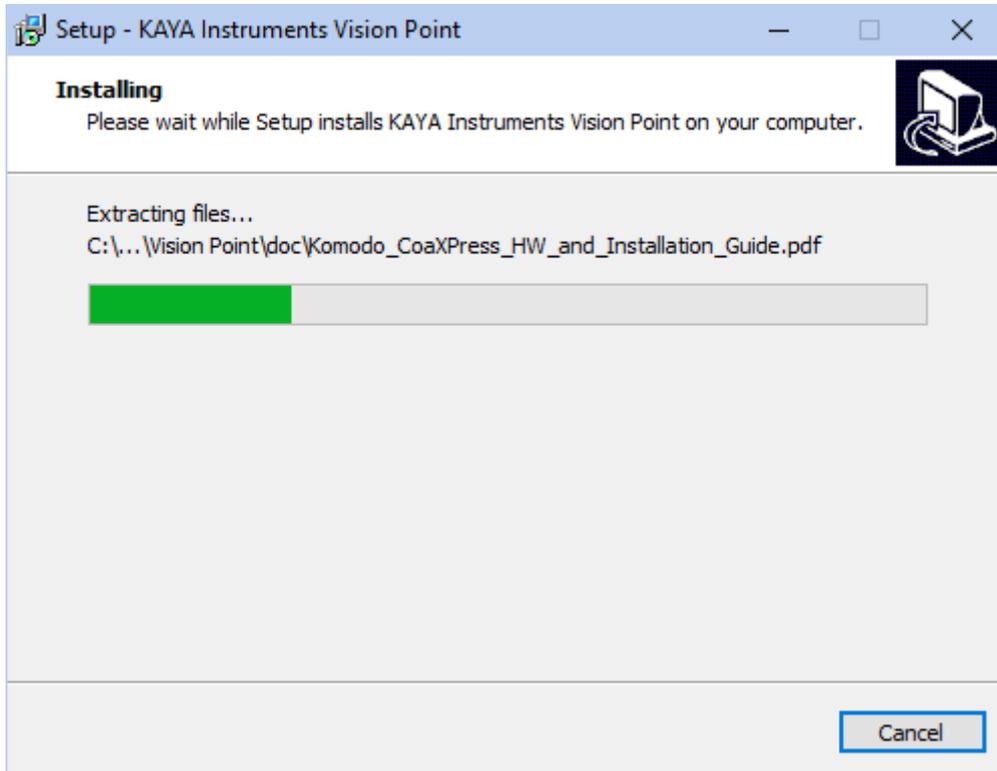9. <u>Windows 7 ONLY:</u> During KAYA PCI Driver installation, Windows security alert window appears. This window will appear only in Windows 7 OS. Please press "Install". This alert may pop up a couple of times unless the checkbox "Always trust …" is checked.

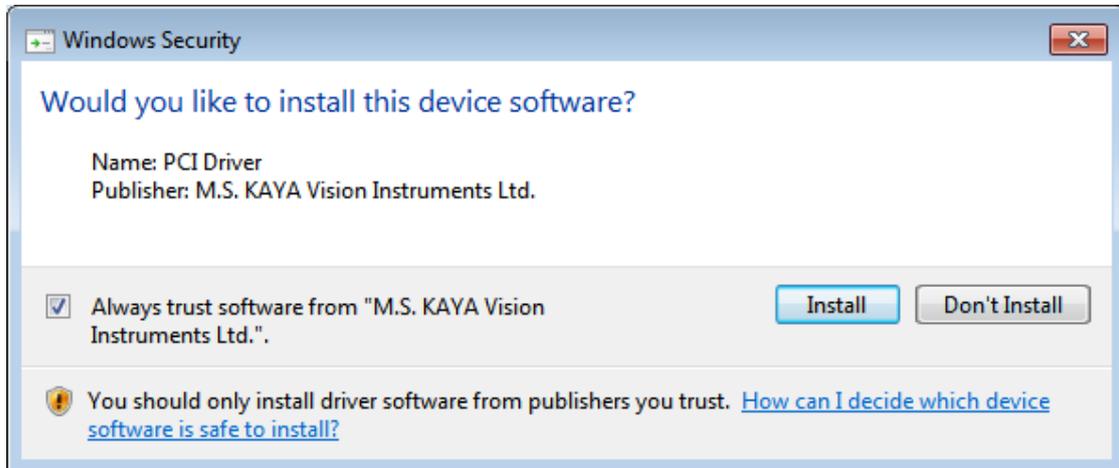Figure 7: Windows 7 PCI Driver installation alert

Note: This window appears only with Windows 7 and in case of a clean installation.

10. Please accept the following dialog in order to access the driver installation wizard.
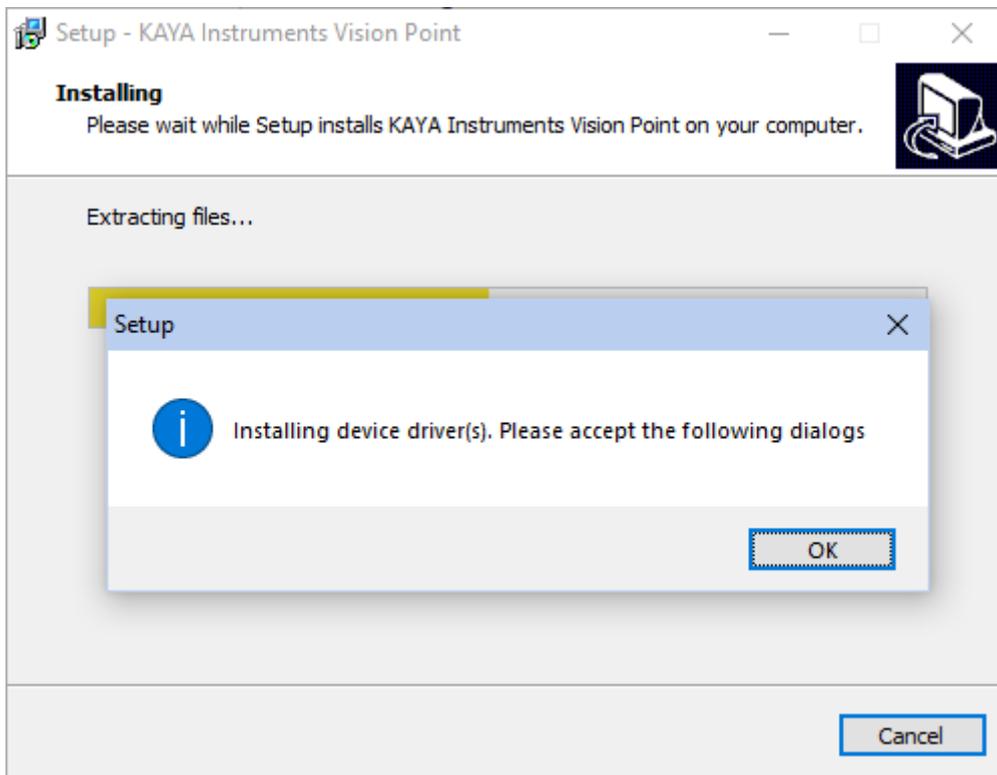
Figure 8: Device driver wizard access dialog

11. Click the "Next" button to proceed to the device driver installation wizard.
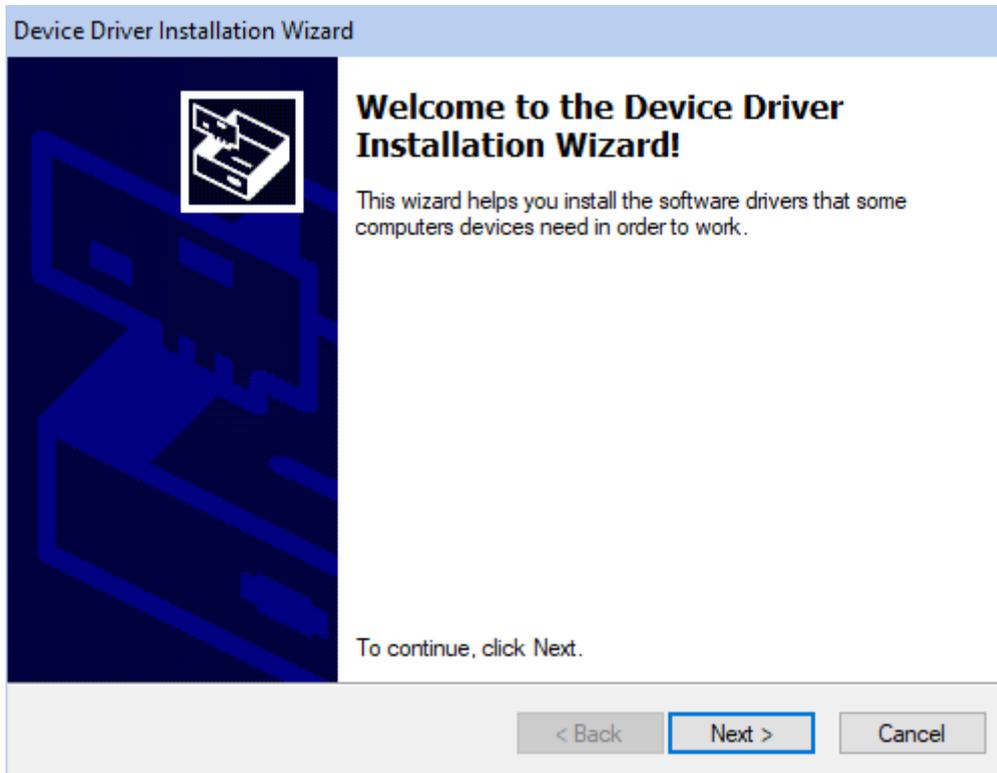
Figure 9: Device driver installation wizard

12. The following dialog window will appear differently for Windows 7 and Windows 10 OS. Click "Finish" in order to finalize the device driver installation wizard.

Note: After pressing "Finish" a few popup windows will appear and disappear immediately.

Windows 7:

Figure 10: Completing the device driver installation wizard for Windows 7

Note: Windows 7 requires a reboot of the computer in order to complete the installation of the driver.

Windows 10:
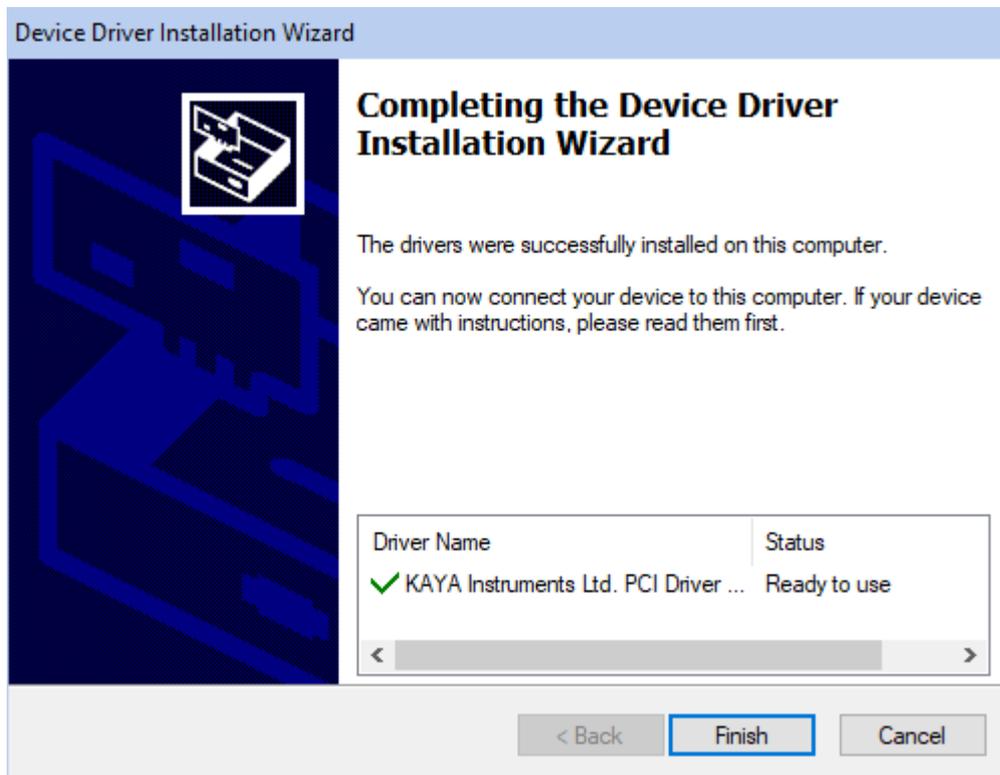
Figure 11: Completing the device driver installation wizard for Windows 10

13. <u>Windows 7 ONLY:</u> Windows 7 requires a reboot of the computer in order to complete the installation of the driver. At this point, click "**Restart Later**", in order for the installation to be completed.
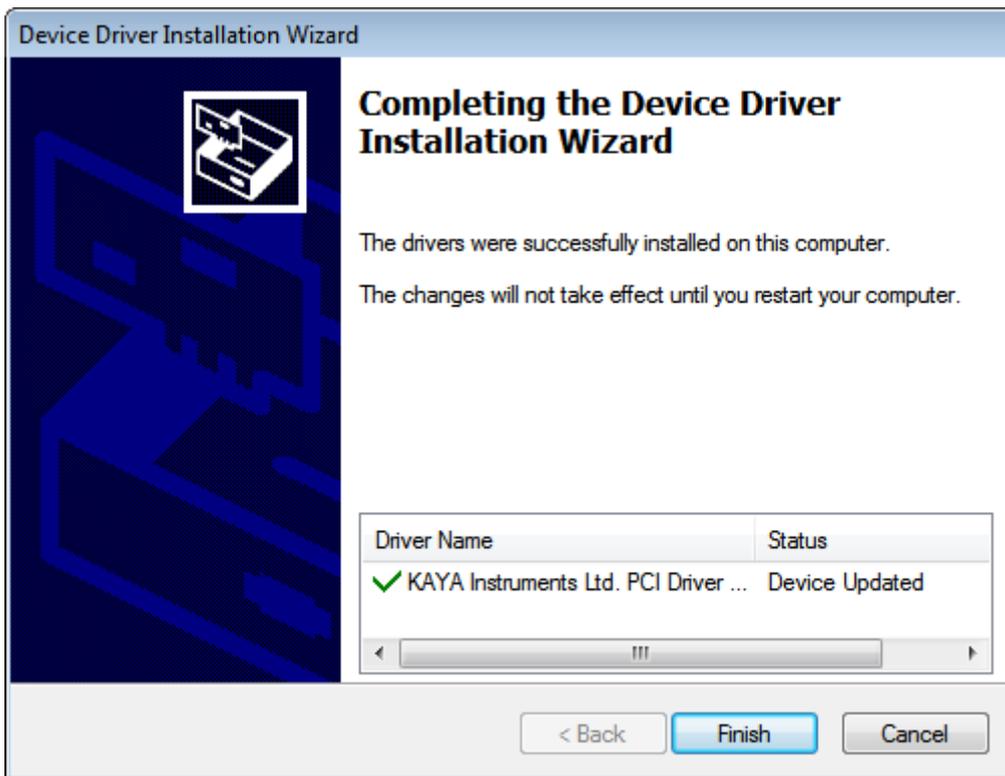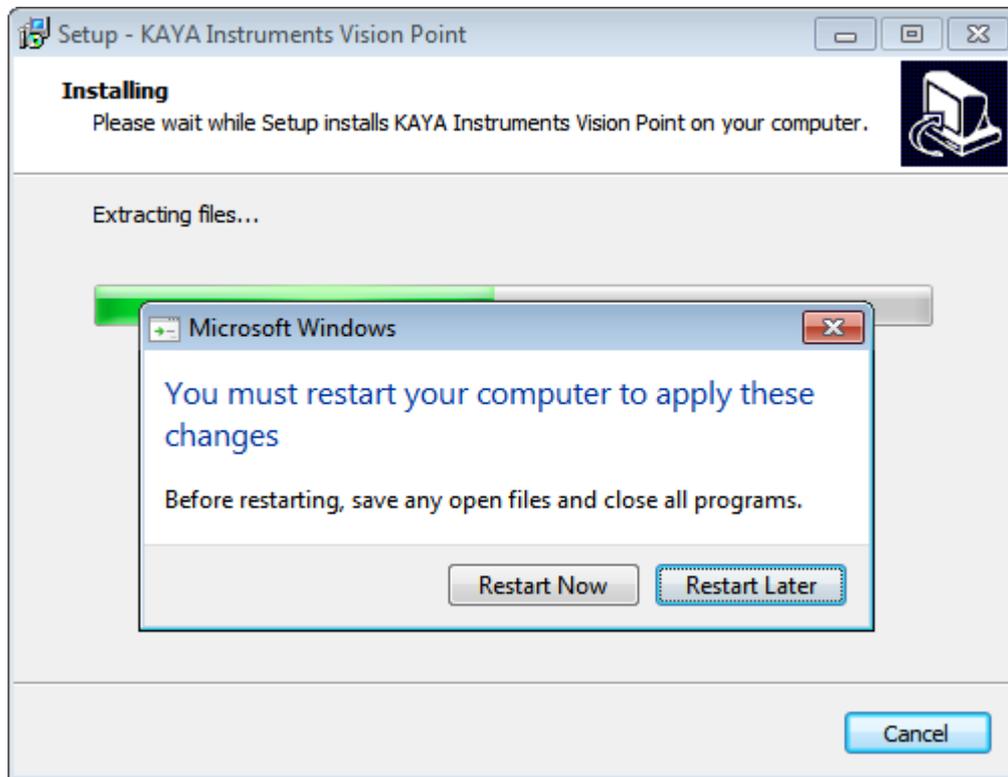

Figure 12: Completing the device driver installation for Windows 7

14. Now, after the installation has finished, you are welcome to start Vision Point Application or open API examples
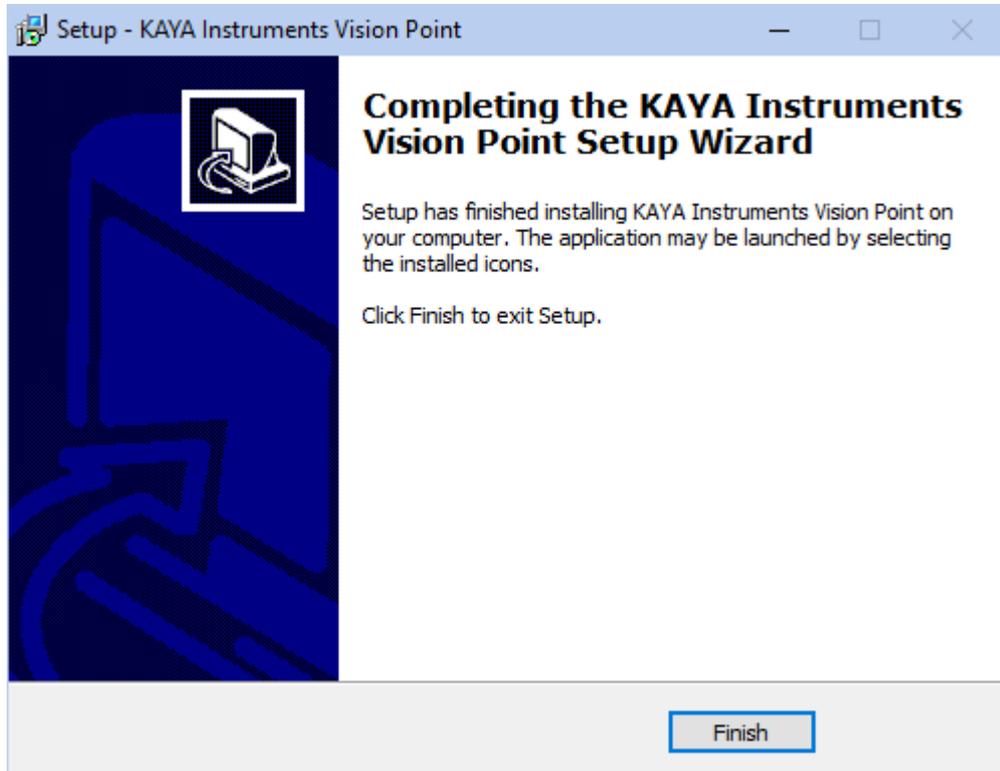
Figure 13: Completing the installation

For more detailed information on Vision Point application, please refer to Vision Point Application User Guide for Simulation and Acquisitions modes.

Installation log:

The Vision Point application installation log files folder can be found under user's main driver: C:\Program Files\KAYA Instruments\Log\Installer folder.

6.1   Installation instruction for CentOS and RedHat

6.1.1   System Requirements

Prior to start of installation process, please, make sure your system meets the following requirements:

1. CentOS 7 / RedHat 6.5 64-bit Operating System installed
2. 4 GB of RAM or more
3. 200 MB available disk space for default install
4. Internet connection

6.1.2   Installation Procedure

1. Extract the provided .tar.gz file using the following terminal command:

```
tar –zxvf Vision_Point_setup.tar.gz
```

  *Installation archive name may vary

2. Enter the "KAYA_Vision_Point" folder from terminal using:

```
cd KAYA_Vision_Point_v3
```

  NOTE: "KAYA_Vision_Point_v3" may contain a suffix specifying OS name, version, architecture, etc., for example – "KAYA_Vision_Point_v3-RedHat_6.5_x64"

3. Run the installation script with the following command:

```
sudo sh install.sh
```

  This will install the Vision Point software and all required components and drivers for supported hardware

4. Reboot your machine
5. Vision point Application can be found in subfolder "/opt/KAYA_Instruments/bin" and launch icon is placed on desktop
6. API usage sample can be found in subfolder "/opt/KAYA_Instruments/Examples"

6.1.3 Building hardware driver

1. Enter subfolder "KAYA_Vision_Point /PCI_drv_Linux" and run

```
sh make_all.sh
```

This step should produce a new driver file named "predator_driver.ko"

2. Install newly built driver with the following command:

```
sudo sh kaya_driver_install.sh
```

3. Reboot machine

6.2 Installation instruction for Ubuntu

6.2.1 System Requirements

Prior to start of installation process, please, make sure your system meets the following requirements:

1. Ubuntu 14 64-bit Operating System installed
2. 4 GB of RAM or more
3. 400 MB available disk space for default install

6.2.2 Installation Procedure

1. Extract the provided .tar.gz file using the following terminal command:

```
tar -zxvf Ubuntu_pkg.tar.gz
```

*Installation archive name may vary

2. Enter the "KAYA_ Vision_Point " folder from terminal using:

```
cd KAYA_Vision_Point
```

NOTE: "KAYA_Vision_Point" may contain a suffix specifying OS name, version, architecture, etc., for example – "KAYA_Vision_Point _v3-Ubuntu_14.04_x64"

3. Run the installation script with the following command:

```
sudo sh install.sh
```

This will install the Vision Point software and all required components and drivers for supported hardware

NOTE: Installation package includes hardware drivers for several different versions of Linux kernel and will try to select one that corresponds to you currently running kernel. If a version for you current kernel is not yet included into package you will see message "No suitable pre-built driver was found for your current kernel …" Please refer to section "Building hardware driver" below.

4. Reboot machine
5. Vision Point Application can be found in subfolder "/opt/KAYA_Instruments/bin" and launch icon is placed on desktop
6. API usage sample can be found in subfolder "/opt/KAYA_Instruments/Examples"

6.2.3 Building hardware driver

4. Enter subfolder "KAYA_Vision_Point /PCI_drv_Linux" and run

```
sh make_all.sh
```

This step should produce a new driver file named "predator_driver.ko"

5. Install newly built driver with the following command:

```
sudo sh kaya_driver_install.sh
```

6. Reboot machine

7.1 How to downgrade Vision Point application from version 2019.1 to 4.4

Please follow these steps for proper reinstallation of the Vision Point application:

1. Open the installation directory: "C:\Program Files\KAYA Instruments\Common\bin"
2. Execute stop service command by double clicking the "KYService_stop.bat" file
3. Execute unregister service command by double clicking the "KYService_unregister.bat" file
4. Uninstall Vision Point application by accessing: "C:\Program Files\KAYA Instruments\Vision Point" directory and executing "unins000.exe" file
5. Download Vision Point 4.4 version and perform full installation.

7.2 Driver installation for Windows

KAYA's drivers are digitally signed according to latest Microsoft driver signing policy and procedure. The digital signatures certificate can be found in KAYAKERN.sys driver properties. For a successful driver signature verification, please make sure your Windows is up to date and all the latest updates and hotfixes are installed.

7.3 Software and firmware upgrade for Windows

The new Vision Point software no longer supports devices, which do not use device ID 0x1000, this includes all devices with any firmware below 4.0.

Devices with Hardware ID below 0x1000 won't be recognized in Windows 10, thus Hardware ID conversion won't be available.

The new software contains numerous bug fixes and improvements so I advise you to update the software to the latest version.

Please follow the instructions below:

1. Update the device firmware to the newest version.

Note: PC power cycle is required after performing the firmware update (shut down, not restart).

2. Please make sure the Hardware ID in Device manager shows the following:

PCI\VEN_1D2A&DEV_1000&SUBSYS_YYYY1D2A&REV_07 (when the 1000 is the four-character identifier for the device and the YYY four-character subsystem identifier).

3. Please update the software to the latest version.

Note: The order of the steps is important. It is necessary to update the device firmware to 4.0 version or higher, before installing new Vision Point software. In case the software is updated first, the device won't be detected (in this case one should downgrade the software and perform steps 1-2).

7.4   Technical Support and Professional Services

If you searched Vision Point API Data Book document and could not find the answers you need, contact KAYA Instruments support service. Phone numbers for our office are listed at the front of this document.

7.5   Submitting a support request

Before opening support request, one should prepare the following information:

- PC configuration
- Operation System
- Card part number or full name
- Firmware in use
- Software in use

International Distributors