RTX64 Vision Runtime

INSTALL GUIDE

IntervalZero

RTX64

RTX64 Vision Runtime Install Guide   IZ-DOC-X64-0265-R1

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Contents

1

Requirements

This guide describes system requirements and provides installation and setup instructions for RTX64 4.1 Vision Runtime.

Hardware Requirements

This section lists hardware requirements for RTX64 4.1 Vision Runtime.

Hardware Considerations

RTX64 Vision requires at least one GigE camera and a dedicated Network Interface Card (NIC) supported by RTX64. See the *RTX64 Supported NICs* document for a detailed list. RTX64 Vision supports GigE Vision and GeniCAM standards but not all GigE cameras will work out of the box. See the *RTX64 Vision Supported Cameras* document for a list of cameras we've tested. Cameras not tested by us might require additional setup — either through the RTX64 Vision Camera Setup tool or another — before it can be used with RTX64 Vision.

Software Requirements

This section lists software requirements for the RTX64 4.1 Vision Runtime.

Operating System Requirements

The RTX64 4.1 Vision Runtime is supported on any 64-bit operating system supported by RTX64 4.x.

NOTE: The RTX64 4.1 Vision Runtime cannot be installed on a 32-bit operating system. Attempts to do so will result in an error.

RTX64 Requirements

RTX64 4.1 Vision Runtime requires these RTX64 components:

- RTX64 4.1 Runtime with the NAL enabled

- RTX64 RT-TCP/IP Stack for the installed Runtime version

Administrator Privileges

Administrator privileges are required for installing and uninstalling the RTX64 4.1 Vision Runtime product.

Supported Cameras

See the *RTX64 Vision Supported Cameras* document for a complete list.

Tested OpenCV Modules

RTX64 4.1 Vision Runtime has been tested with these OpenCV 3.4.6 modules:

- Core

- imgproc

- videoio

- objdetect

2

End User Installation

Before You Begin

Before you begin the installation, do the following:

- Verify that your configuration meets the requirements described earlier in this document.

- Install the RTX64 4.1 Runtime and the RTX64 RT-TCP/IP Stack for your installed version of the RTX64 Runtime.

- Enable the Network Abstraction Layer through the RTX64 Control Panel.

- You must have administrator privileges on your system.

Installation Instructions

NOTE: You can also install RTX64 Vision Runtime silently. For instructions, see Installing RTX64 Vision Runtime from the Command Line.

TO INSTALL RTX64 4.1 VISION RUNTIME:

1. Place the zip file `RTX64_4.1_Vision_Runtime.zip` in a location of your choice.

2. Extract all files to a directory of your choice.

3. Run the file `RTX64_4.1_Vision_Runtime_Setup.exe` and follow the prompts to complete the installation.

4. Click **Finish** in the installation Completed screen.

Product Activation and Configuration

The Activation and Configuration dialog appears once the RTX64 Vision Runtime has been successfully installed. You can activate and lock the RTX64 4.1 Vision Runtime component to a specific machine or IntervalZero-provided dongle.

NOTE: Licenses for RTX64 3.7 will not work with RTX64 4.1 Vision. You must purchase a new license to activate RTX64 4.1 Vision.

⚠️ This warning symbol appears in the Activation and Configuration utility whenever an issue is encountered. When the warning symbol appears, hover the mouse over it for more information.

Activating RTX64 4.1 Vision Runtime to a Machine

Follow the appropriate steps below to license the RTX64 4.1 Vision Runtime component to a specific machine.

NOTE: The steps required to activate the RTX64 4.1 Vision Runtime will depend on whether or not the machine is connected to the Internet.

TO ACTIVATE RTX64 4.1 VISION RUNTIME TO A MACHINE:

1. Launch the **RTX64 Activation and Configuration** utility from **Start > All Programs > RTX64 4.1 Runtime > RTX64 Activation and Configuration**. The product components activated by your current key are indicated by a check mark.

2. Choose the appropriate activation option:

🔒	Activate over the network	Activate immediately using a valid activation key. This option requires a network connection with access to the IntervalZero License Server.
📄	Activate with a fingerprint file	Create a fingerprint file with a valid activation key which you can then convert to a license file and import using the Activate with a license file option.

	Activate with a license file	Activate by importing a valid license file.

Activate Over the Network

Use this option to activate immediately using a valid activation key.

NOTE: This option requires a network connection with access to the IntervalZero License Server.

TO ACTIVATE OVER THE NETWORK:

1. Click **Activate over the network**.

2. Make sure your machine is connected to the Internet with access to the IntervalZero License Server.

Icon:		
Status:	Network connection established	Unable to establish a network connection
Next steps:	Continue with activation	Make sure all network cables are plugged in and click the Network icon to refresh. If a network connection cannot be established, you can do one of the following: • Try to configure a Proxy Server. • Follow the steps under Activate with a fingerprint file.

3. Enter a valid activation key.

> **NOTE:** You can find your activation key in the email you received from IntervalZero Sales upon purchase of RTX64 products.

4. Click **Activate**. The product components activated by this key are added to the Components box on the right side of the Activation and Configuration dialog.

Configuring a Proxy Server

Follow the steps below to configure a proxy server. You may need to do this if a network connection cannot be established.

TO CONFIGURE A PROXY SERVER:

1. Click **Configure proxy server**.

2. Provide the requested settings:

   - Server

   - Port

   - User Name

   - Password

   NOTE: This information can be provided by your IT department.

3. Click **OK**.

Activate with a Fingerprint File

Use this option to create a fingerprint file with a valid activation key which you can then import using the Activate with a license file option.

TO ACTIVATE WITH A FINGERPRINT FILE:

1. Click **Activate with a fingerprint file**.

2. Enter a valid activation key and then click **Save As**.

   NOTE: You can find your activation key in the email you received from IntervalZero Sales upon purchase of RTX64 products.

3. In the **Save As** dialog, name the file `fingerprint.rfp`. By default, the file will be saved to the desktop.

4. Navigate to the desktop, and then copy and paste the file `fingerprint.rfp` to an external device.

5. Connect the device to a machine with Internet connectivity.

6. Launch a web browser, and navigate to http://Activation.IntervalZero.com.

7. Browse for and open the file `fingerprint.rfp`.

8. Click **Activate** to generate a license (`.lic`) file.

9. Click **Save** if your browser prompts you to save the license file. Some browsers automatically save the downloaded license file without prompting.

10. Copy the file `License.lic` to the external device, and transfer it to the machine on which RTX64 is installed.

11. Activate with a license file (see below).

NOTE: Once a fingerprint file is saved, this section collapses, and the Activate with a license file section expands automatically.

Activate with a License File

Use this option to activate by importing a valid license file, such as a license file created from a fingerprint file created by the above option.

TO ACTIVATE WITH A LICENSE FILE:

1. Click **Activate with a license file**.

2. Click **Import...** and then browse for and open the file `License.lic`.

Activating RTX64 4.1 Vision Runtime to a Dongle

This topic walks you through the steps required to activate RTX64 product components to an IntervalZero-provided dongle. This is a small form factor dongle on which the license resides.

NOTE: The steps required to activate the components will depend on whether or not the machine is connected to the Internet.

NOTE: RTX64 4.1 Vision does not support standard dongles. Only small form factor dongles can be used.

Activation Options

You have three options when purchasing an IntervalZero-provided dongle and a product license at the same time:

- **Option 1 (default)** – IntervalZero activates the dongle for you when you purchase the software and a small form factor dongle. Simply plug in the dongle to use RTX64.

- **Option 2** – Request that IntervalZero not activate the dongle for you when you purchase the software and a small form factor dongle. You will then need to activate the product to the dongle yourself, following the steps below.

- **Option 3** – Use an existing small form factor dongle. You will need to activate the product the dongle yourself, following the steps below.

NOTE: You can also license RTX64 components to an IntervalZero-provided dongle using the Dongle Activation Utility. The IntervalZero-provided Dongle Activation Utility can be used to activate licensed components on other machines similar to the pre-activation service you can

request from IntervalZero. You can download the Dongle Activation Utility from the IntervalZero website at http://www.intervalzero.com/rtx-downloads/tools-utilities/.

IMPORTANT! You cannot license RTX64 components to a dongle when more than one dongle is connected to the machine.

Follow the appropriate steps below to license RTX64 components to an IntervalZero-provided dongle. If you have a dongle that has already been activated, jump to step Using a Pre-Activated Dongle.

TO ACTIVATE THE RTX64 4.1 VISION RUNTIME TO A DONGLE:

1. Launch the **RTX64 Activation and Configuration** utility from **Start > All Programs > RTX64 4.1 Runtime > RTX64 Activation and Configuration**.

2. Check the status of the dongle icon in the **Activation and Configuration** dialog:

Icon:			
Status:	Dongle connected and active	Dongle not connected / not active	Multiple dongles detected
Next steps:	Choose the appropriate activation option to lock the RTX64 component(s) to the dongle.	Make sure it is securely connected to your machine. If the dongle still isn't recognized, the RTX64 component(s) will be locked to the machine. Choose the appropriate activation option only if you want to license to the machine.	You cannot license RTX64 components to a dongle when more than one dongle is connected to the machine. Remove all additional dongles until there is only one connected to the machine.

IMPORTANT! Once components are locked to a dongle, that dongle must be connected in order to use RTX64 components on that machine.

3. Choose the appropriate activation option:

	Activate over the network	Activate immediately using a valid activation key. This option requires a network connection with access to the IntervalZero License Server.
	Activate with a fingerprint file	Create a fingerprint file with a valid activation key which you can then convert to a license file and import using the Activate with a license file option.
	Activate with a license file	Activate by importing a valid license file.

Activate Over the Network

Use this option to activate immediately using a valid activation key.

NOTE: This option requires a network connection with access to the IntervalZero License Server.

TO ACTIVATE OVER THE NETWORK:

1. Click **Activate over the network**.

2. Make sure your machine is connected to the Internet with access to the IntervalZero License Server.

Icon:		
Status:	Network connection established	Unable to establish a network connection

Next action: Continue with activation	Make sure all network cables are plugged in and click the Network icon to refresh. If a network connection cannot be established, you can do one of the following:

- Try to configure a Proxy Server.

- Follow the steps under Activate with a fingerprint file.

3. Enter a valid activation key.

    NOTE: You can find your activation key in the email you received from IntervalZero Sales upon purchase of RTX64 products.

4. Click **Activate**. The product components activated by this key are added to the Components box on the right side of the Activation and Configuration dialog.

    IMPORTANT! Once components are locked to a dongle, that dongle must be connected in order to use RTX64 components on that machine.

Configuring a Proxy Server

Follow the steps below to configure a proxy server. You may need to do this if a network connection cannot be established.

TO CONFIGURE A PROXY SERVER:

1. Click **Configure proxy server**.

2. Provide the requested settings:

    - Server

    - Port

- User Name

- Password

  NOTE: This information can be provided by your IT department.

3. Click **OK**.

Activate with a Fingerprint File

Use this option to create a fingerprint file with a valid activation key which you can then import
using the Activate with a license file option.

TO ACTIVATE WITH A FINGERPRINT FILE:

1. Click **Activate with a fingerprint file**.

2. Enter a valid activation key and then click **Save As**.

   NOTE: You can find your activation key in the email you received from IntervalZero Sales upon
   purchase of RTX64 products.

3. In the **Save As** dialog, name the file `fingerprint.rfp`. By default, the file will be saved to
   the desktop.

4. Navigate to the desktop, and then copy and paste the file `fingerprint.rfp` to an external
   device.

5. Connect the device to a machine with Internet connectivity.

6. Launch a web browser, and navigate to http://Activation.IntervalZero.com.

7. Browse for and open the file `fingerprint.rfp`.

8. Click **Activate** to generate a license (`.lic`) file.

9. Click **Save** if your browser prompts you to save the license file. Some browsers automatically
   save the downloaded license file without prompting.

10. Copy the file `License.lic` to the external device, and transfer it to the machine on which RTX64 is installed.

11. Activate with a license file (see below).

NOTE: Once a fingerprint file is saved, this section collapses, and the Activate with a license file section expands automatically.

Activate with a License File

Use this option to activate by importing a valid license file, such as a license file created from a fingerprint file created by the above option.

TO ACTIVATE WITH A LICENSE FILE:

1. Click **Activate with a license file**.

2. Click **Import...** and then browse for and open the file `License.lic`.

   IMPORTANT! Once components are locked to a dongle, that dongle must be connected in order to use RTX64 components on that machine.

Using a Pre-Activated Dongle

If the dongle you have received has been pre-activated, follow the steps below:

TO USE A DONGLE THAT HAS ALREADY BEEN ACTIVATED:

1. Plug in the dongle (the license file is already on the dongle).

2. Connect the dongle to a USB port on the machine.

3. Open the **Activation and Configuration** dialog. This dialog appears once RTX64 has been installed. You can also launch it from **Start > All Programs > RTX64 4.1 Runtime > Activation and Configuration**.

4. Make sure the Activation and Configuration utility recognizes the dongle:

Icon:			
Status:	Dongle connected and active	Dongle not connected / not active	Multiple dongles detected
Next steps:	Choose the appropriate activation option to lock the RTX64 component(s) to the dongle.	Make sure it is securely connected to your machine. If the dongle still isn't recognized, the RTX64 component(s) will be locked to the machine. Choose the appropriate activation option only if you want to license to the machine.	You cannot license RTX64 components to a dongle when more than one dongle is connected to the machine. Remove all additional dongles until there is only one connected to the machine.

Proceed once you see the Dongle Active icon.

NOTE: The license is locked to the dongle. The dongle must be connected to the machine in order to use RTX64 components.

Next Steps

Once you've installed RTX64 4.1 Vision Runtime, you must setup and configure it before you can begin using the product. See Configuring the System for RTX64 Vision for more information.

Uninstalling

Follow the steps below to uninstall the RTX64 4.1 Vision Runtime from your machine.

STEPS:

1. From the *Start* menu, choose **Control Panel**.

2. Under *Programs*, click **Uninstall a Program**.

3. Select the **IntervalZero RTX64 4.1 Vision Runtime** program and click **Uninstall**.

4. Click **Yes** to confirm.

3

Installing RTX64 4.1 Vision Runtime from the Command Line

The silent installer provides the ability to install the RTX64 4.1 Vision Runtime from the command line. This makes it possible to install the RTX64 4.1 Vision Runtime within another product installation. Take note of the following information before you begin.

- **Administrator privileges are required** — Installation must be done from an account that has administrator privileges. This can be done in one of several ways:

Before You Begin

Before you begin the installation, do the following:

- Verify that your configuration meets the requirements described earlier in this document.

- Install the RTX64 4.1 Runtime and the RTX64 RT-TCP/IP Stack for your installed version of the RTX64 Runtime.

- Enable the Network Abstraction Layer through the RTX64 Control Panel.

- You must have administrator privileges on your system.

Installing RTX64 Vision Silently

You can install the RTX64 Vision Runtime silently using a response file. The response file contains information on the data and system customizations selected by the user at run time.

IntervalZero-Provided Response File

IntervalZero provides a default response file for silent installation of the RTX64 Vision Runtime, available from the ResponseFiles folder.

- `RTX64_4.1_Vision_Runtime_Install_Response_File.iss` – installs RTX64 4.1 Vision Runtime product to the default location and includes all features.

Creating a Custom Response File

Follow these instructions to create a new response file called `Setup.iss`. This file is similar to an INI file.

TO CREATE A NEW RESPONSE FILE:

Run this command:

```
RTX64_4.1_Vision_Runtime_Setup.exe /r
```

This launches the RTX64 Vision Runtime installer, records the selections and customizations you make, and saves the data to a custom .iss file called `Setup.iss` in the system's Windows folder.

TO SPECIFY A NEW NAME AND LOCATION:

To specify an alternative response file name and location, use the */f1* option.

For example, to create a response file named `RTX64VisionRuntime.iss` in the `C:\temp` directory, you would run:

```
RTX64_4.1_Vision_Runtime_Setup.exe /r
/f1"C:\temp\RTX64VisionRuntime.iss"
```

TO CUSTOMIZE FEATURES:

The sections of a response file must be ordered as follows:

1. Dialog Sequence Section

2. Dialog Data Sections (one per dialog)

Data entries consist of <name=value> pairs, as in the following example:

```
Dlg0={35FFCE40-6B78-422A-8012-85C8B466D941}-SdWelcome-0
```

For more information on manually creating a response file, visit
https://helpnet.flexerasoftware.com/installshield22helplib/helplibrary/CreatetheResponseFile.htm

Installing with a Response File

TO SILENTLY INSTALL WITH THE INTERVALZERO-PROVIDED DEFAULT RESPONSE FILE:

Run `RTX64_4.1_Vision_Runtime_Setup.exe /s /f1"<path to the ResponseFiles folder>\RTX64_4.1_Vision_Runtime_Install_Response_File.iss"`

TO SILENTLY INSTALL WITH A CUSTOM RESPONSE FILE:

Run `RTX64_4.1_Vision_Runtime_Setup.exe /s /f1"<path to your custom response file>"`

For example:

```
RTX64_4.1_Vision_Runtime_Setup.exe /s
/f1"C:\temp\RTX64VisionRuntime.iss"
```

NOTE: The InstallShield icon appears on the system Task Bar during silent installation.

Log Files

When running an RTX64 installation in silent mode (using the *⁄s* option), the log file `Setup.log` is created in the same directory as the response file. To specify an alternative log file location and/or file name, use the *⁄f2* option.

For example:

```
RTX64_4.1_Vision_Runtime_Setup.exe /s /f2"C:\Setup.log"
```

Silent Activation and Configuration

You can silently activate and lock your product to a specific machine or IntervalZero-provided USB dongle.

TO ACTIVATE YOUR PRODUCT (INTERNET CONNECTION REQUIRED):

1. Navigate to the `C:\Program Files\IntervalZero\Common\bin` directory and run `RTX64ActivationUtil.exe` as Administrator.

2. Type the `-a` flag, and then provide your activation key. For example:

   `RTX64ActivationUtil.exe -a IZVIS64-111-2222-3333-4444-5555`

   NOTE: You can find your activation key in the email you received from IntervalZero Sales.

3. If running from a command prompt, the activated components are displayed.

4. If you want to force activation to an IntervalZero-provided dongle, you can use the `-dongle` flag. If you want to force activation to ignore a dongle, use the `-nodongle` flag. For example:

   `RTX64ActivationUtil.exe -a IZVIS64-111-2222-3333-4444-5555 -dongle` (forces activation to dongle)

   `RTX64ActivationUtil.exe -a IZVIS64-111-2222-3333-4444-5555 -nodongle` (forces activation to machine)

5. `RTX64ActivationUtil.exe -a IZVIS64-111-2222-3333-4444-5555` (attempts to locate an IntervalZero-provided dongle first, and activates to the machine if a dongle is not found)

BATCH FILE EXAMPLE

You can install RTX64 components silently via a batch (`.bat`) file. Below are examples of typical commands that might be used:

Command	Result
`cd C:\Program Files\IntervalZero\Common\bin`	Changes the directory to the location where `RTX64ActivationUtil.exe` resides
`RTX64ActivationUtil.exe -a <license number>`	Activates the components included in the activation key

Uninstalling Using the Command Line

You can uninstall the RTX64 Vision Runtime silently using a response file. The response file contains information on the data and system customizations selected by the user at run time.

IntervalZero-Provided Response File

IntervalZero provides a default response file for silent uninstall of the RTX64 Vision Runtime, available from the ResponseFiles folder.

- `RTX64_4.1_Vision_Runtime_Uninstall_Response_File.iss` – uninstalls RTX64 4.1 Vision Runtime.

Uninstalling with a Response File

TO SILENTLY UNINSTALL WITH THE INTERVALZERO-PROVIDED DEFAULT RESPONSE FILE:

Run `RTX64_4.1_Vision_Runtime_Setup.exe /s /f1"<path to the ResponseFiles folder>\RTX64_4.1_Vision_Runtime_Uninstall_Response_File.iss"`

TO SILENTLY UNINSTALL WITH A CUSTOM RESPONSE FILE:

Run `RTX64_4.1_Vision_Runtime_Setup.exe /s /f1"<path to your custom response file>"`

For example:

```
RTX64_4.1_Vision_Runtime_Setup.exe /s /f1"C:\temp\RTX64Runtime.iss"
```

NOTE: The InstallShield icon appears on the system Task Bar during silent installation.

The same system configuration changes will result when performing a silent install as would occur when using the Windows Add/Remove program utility. For more information, see Uninstalling.

NOTE: Silent uninstall of RTX64 results in an automatic reboot of the system. To install silently without forcing a reboot of the system, use the `/norestart` command.

For a list of the format strings for previous versions of pre-4.x RTX64 Vision Runtimes, see Appendix B: RTX64 Runtime Uninstall IDs.

4

Configuring the System for RTX64 Vision

Follow these steps to configure the target system for RTX64 Vision.

Convert a Supported Device to RTX64 Control

Convert a supported Network Interface Card (NIC) from Windows control to RTX64 control. See the topic Converting a Windows Device to an RTX64 Device in the RTX64 Help for instructions.

The NICs supported by the following drivers have been tested with RTX64 Vision. However, all supported NICs should work. See the *RTX64 Supported NICs* document for the complete list.

- RtNalIGB

- RtNalIPCH

- RtNalI10GB

Configure the RTX64 Subsystem

Use the RTX64 Control Panel to configure the Subsystem for RTX64 Vision use.

TO CONFIGURE THE RTX64 SUBSYSTEM:

1. Open **RTX64 Control Panel**.

2. Navigate to **Configure the RTSS Subsystem > Manage memory** and make the following changes:

   a. Set the Subsystem and application memory allocation default to *Request from local memory pool (deterministic)*.

   b. Under **Process Memory Allocation Space**, increase the **Minimum size for external MSpace** based on your application's memory requirements.

   c. Select **Auto expand** and **Auto shrink** if you are unsure of the amount of memory you require. Note that both settings are selected by default.

3. Navigate to **Manage Interfaces** and do the following:

   a. Add a new RTX64 interface. For more information, see the topic Adding and Deleting RTX64 Interfaces in the RTX64 Help.

      NOTE: The RTX64 Vision sample and OpenCV code use the name *RtGigE_01_Nic*. If you specify a different name, you will need to manually replace *RtGigE_01_Nic* with that custom name in both the sample and OpenCV code.

   b. Configure the IPv4 address that you would want to use. For more information, see *Configuring IPv4 Address and Netmask Pairs* in the RTX64 Help.

   c. Enable a filter for the new interface and set the filter to `RtGigE_Filter.rtdll`, which can be found in `\RtVision\bin\`. For more information, see *Associating a Filter with an RTX64 Interface* in the RTX64 Help.

   d. Restart the RT-TCPIP Stack for your changes to take effect.

The system is now setup to run an RtVision application such as CannyTest (if OpenCV is being used).

NOTE: The RT-TCP/IP Stack must be started before you can run your RtVision application.

Getting Support

IntervalZero offers a number of support options for RTX64 users, including technical support and the IntervalZero website.

Third-Party Support

If you are a customer who purchased an IntervalZero product through a third-party reseller, contact the reseller for support.

Contacting Technical Support by Phone

Location	Number	Hours
United States	1-781-996-4481 At the prompt, press 3 for Support.	Monday - Friday, 8:30 a.m. – 5:30 p.m. US Eastern Time (GMT-500), excluding holidays.
R.O.C. Taiwan	+ 886-2-2556-8117	Monday - Friday, 9:00 a.m. – 5:00 p.m. Taipei Standard Time (GMT+8), excluding holidays.

Before Calling Technical Support

Please have the following information ready before calling IntervalZero Technical Support:

Your Support ID

Customers who purchase direct support receive an e-mail address and password for use when accessing the IntervalZero support website.

The Version Number of Your RTX64 Software

Before calling technical support, determine the version of the RTX64 Vision Runtime is installed on your system. Also, check to make sure you have a valid maintenance contract.

On the Website

The IntervalZero Customer Support Web page is located at:

http://www.intervalzero.com/technical-support/

The IntervalZero support web pages provide electronic access to the latest product releases, documentation, and release notes. With a valid e-mail address and password, you can access the online problem report database to submit new issues or to obtain the status of previously reported issues.

Appendix A:

RTX64 Vision Runtime Uninstall IDs

You can uninstall pre-4.x versions of the RTX64 Vision Runtime via command line using the format string in the table below. For information on uninstalling RTX64 Vision Runtime version 4.0 and later, see Uninstalling Using the Command Line.

RTX64 Vision Runtime Version	Complete Format of the Uninstall Command Line Interface
RTX64 3.7 Vision Runtime	msiexec /qn /x {72C3F80E-724E-4A1A-9E6A-C6CF8EF788CF}

Index