# Getting Started Guide

for CVB 2011 CameraSuite MultiOS

# ► Copyright

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## Welcome to CVB CameraSuite - your license to independent GigE Vision technology!

CVB CameraSuite is based on the most comprehensive implementation of the GigE Vision and GenICam standards and is certified by the standards committee. This fully featured manufacturer-independent SDK is the preferred engine for acquisition from any GigE Vision compatible camera delivered by STEMMER IMAGING.

With CVB CameraSuite you receive a powerful 32-bit, 64-bit Windows or Linux SDK that allows the benefits of GigE Vision technology to be fully exploited. This independent toolkit replaces all GigE Vision manufacturer SDKs, offers unprecedented versatility in camera interfacing and includes everything you need to develop an imaging application quickly and easily.

**Licensing**
CVB CameraSuite is licensed to the individual MAC address of each GigE Vision device by means of an individual activation code and is not bound to the computer hardware or to special dongles.

**Support**
STEMMER IMAGING is committed to providing you with the very best support possible. In case you need help, either during the installation or when using CVB CameraSuite, just contact our support team or send an email to support@commonvisionblox.com.

## 1. Getting started

This guide is designed to help you during the installation of CVB CameraSuite and will show you how to get your GigE Vision device e.g. a GigE camera up and running.

After you have installed CVB CameraSuite, the comprehensive online help along with the CVB GenICam user guide will guide you through the initial steps needed to develop your first application. The online help contains detailed descriptions of all available functions and gives you step-by-step advice on program development using the different supported programming environments. The help system also covers different compiler specific information you will need to start the development of your application.

You will also find a number of tutorial programs in source code. Not only do they show you the power of CVB CameraSuite, but they can also be adapted to give you a basic starting point for your own application.

**Note on the use for different operating systems:** The actual appearance of the screenshot pages may differ slightly between different operating system (this document shows the Windows x64 version of the CVB CameraSuite), but the concepts are transferable between the different supported platforms. Only the setup and handling for Linux users is different. They will find an extended readme file with installation, configuration and all other necessary instructions that are not covered by this Getting Started Guide.

## 2. Installing CVB CameraSuite

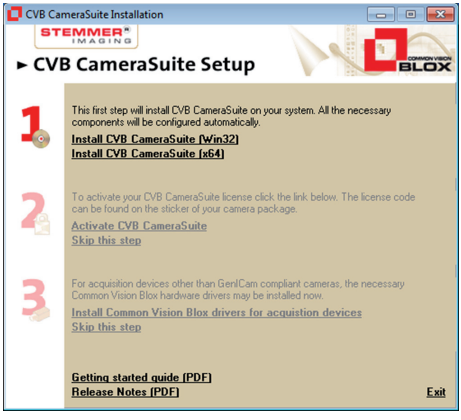
After you insert the CVB 2011 CameraSuite MultiOS DVD into your DVD drive, the installation should begin automatically. If not, please select the Autorun.exe from the disc to start the installation manually. You will then be greeted with the setup screen, where you will be invited to install CVB CameraSuite.

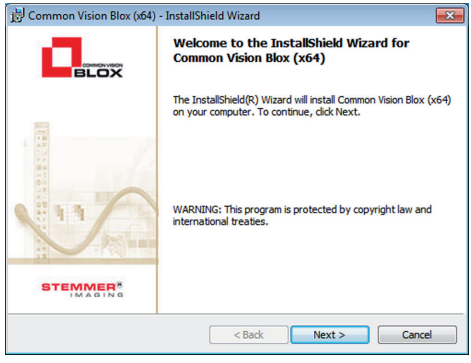
The CVB CameraSuite installation process is divided into two stages:
2.1 Installing the CVB CameraSuite components.
2.2 Licensing CVB CameraSuite

## 2.1 Installing CVB CameraSuite (Stage 1)

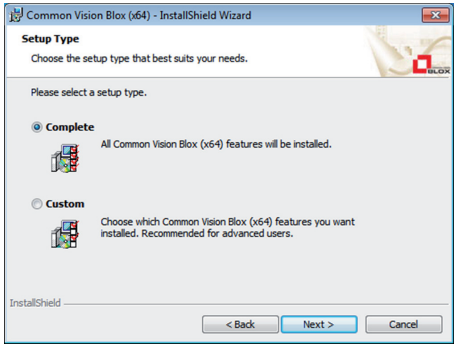
To start the installation, just click the link and the installation program will guide you through the whole process.

**Note for Windows 7 64 bit users:** It is strongly recommended to install the CVB CameraSuite (x64), not the Win 32 version.






When the welcome screen is shown, click 'Next' to continue. You will then be asked where you wish to install the software.




Once you have chosen a location for CVB CameraSuite, you will be asked to choose what type of installation you require. It is recommended to select the default 'Complete' setting. If you wish to develop your own applications, you should choose either 'Complete' or 'Custom'.

If you are already familiar with CVB CameraSuite and you select 'Custom' at this point, you will be able to choose which components you require. For example, if you don't want to install the developer resources please select 'Custom'.

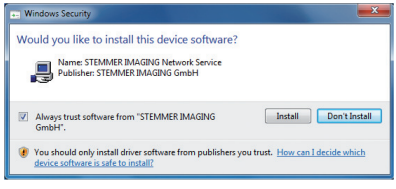
Once you have made your selection, click the 'Next' button to continue.

You are now ready to install CVB CameraSuite, just click the 'Install' button.

CVB CameraSuite comes with a lot of samples and therefore it may take a while to completely install all of the necessary files. Please be patient while the installation completes this stage.

You may also see Windows command windows appear at various stages during the installation – this is a perfectly normal part of the installation.

The CVB CameraSuite setup will need to install some device drivers as well and, depending on the operating system of your computer, you may see Windows security message dialogue boxes like the ones shown below. You will need to click 'Install' or 'Continue Anyway' for the setup to continue correctly. You may also tick the box marked 'Always trust software from STEMMER IMAGING GmbH' if you wish, as this will speed-up any further driver installations from STEMMER IMAGING.



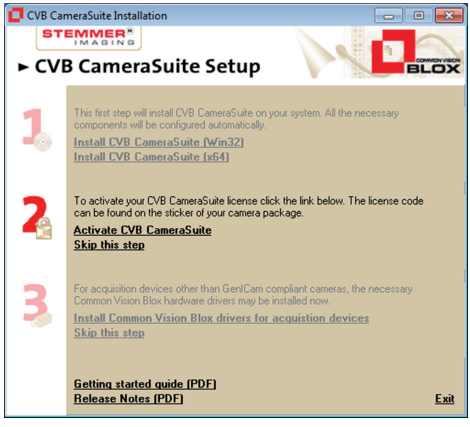

When the installation has finished, click on the 'Finish' button to continue with the next stage. The next stage in the installation process will now begin automatically.

## 2.2 Licensing CVB CameraSuite (Stage 2)

Having installed CVB CameraSuite, you are now ready to license the software.

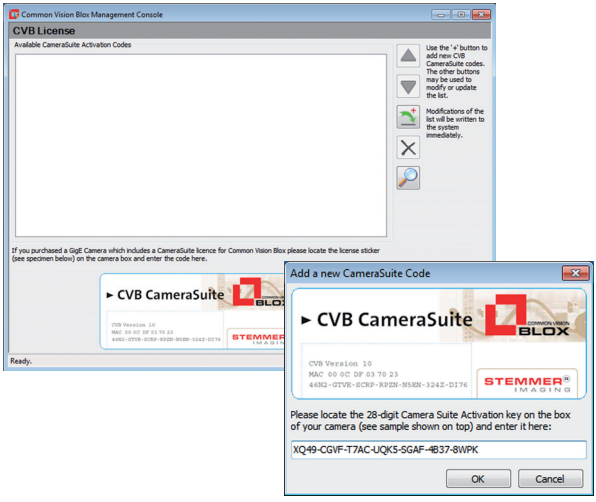
To do this, please connect the GigE camera into power and to a Gigabit Ethernet port on the PC. Depending on your settings it may take up to a minute for the camera to be discovered. Please wait until this process is finished.

Please choose 'Activate CVB CameraSuite' from Stage 2 of the setup as shown here.




Having clicked on the 'Activate CVB CameraSuite' the Common Vision Blox Management Console will load the CVB CameraSuite license panel. Clicking the '+' button will open the text line for entering the activation code that you found on the sticker of your GigE camera.

**Note:** In case you are connecting a CVC GE camera, nothing has to be entered, as the camera is already delivered pre-configured. In this case please continue as described under chapter 3.




After entering a proper activation code for your camera, it will appear in the list with an icon indicating presence or absence. If at least one of the cameras is reachable, you can use the functionality provided by CVB CameraSuite for this camera.

After activating the CVB CameraSuite license, it will still be necessary to configure your device for image acquisition. For details concerning the configuration of your camera(s) please have a look at chapter 3.

If you don't want to license the CVB CameraSuite during the setup process in Stage 2 it is always possible to do this step afterwards via the CVB Management Console. Please refer to chapter 4.

As the GenICam driver is already installed please feel free to skip step 3 “Install common Vision Blox drivers for acquisition devices” which allows to install additional acquisition drivers or interfaces.

Congratulations! CVB CameraSuite is now correctly installed on your system and you are ready to go!

## 3. How to start working with CVB CameraSuite

With CVB CameraSuite it is easy to take full advantage of the unparalleled performance and reliability GigE Vision technology offers. The CVB CameraSuite allows you easy to get up and running with your GigE camera and to configure it as desired. The sophisticated hardware-independent toolkit includes everything you need to develop your own application (SDK, sample applications and extensive documentation).

## 3.1 Configuring for live image acquisition

Once CVB CameraSuite is installed, it is necessary to properly configure your camera. As each acquisition device has it's particular capabilities and properties, configuration is a very hardware specific topic and therefore only the basic steps are covered within the scope of this document.

Helpful documentation is to be found in the respective CVB user guide for the GenICam driver (quickstart, FAQ, example configurations) and in the device manufacturer's manuals. The GenICam user guide is to be found in the CVB start menu under documentation/hardware.

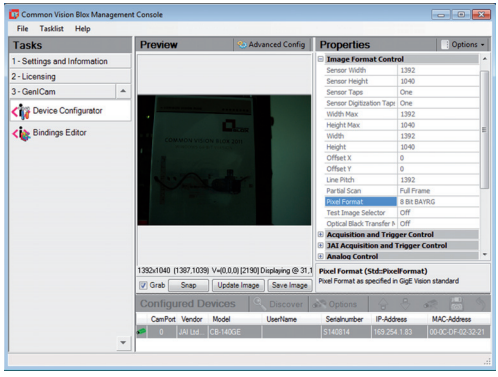
### 3.1.1 Device Configurator

Please verify that the GigE camera has power and is connected to a Gigabit Ethernet port on the PC. Depending on your settings, it may take up to a minute for the camera to be found.

The Device Configurator configures any GenICam device that is accessible to the application via the GenICam.vin driver.

Please open the CVB Management Console which is located in the start menu under STEMMER IMAGING - Common Vision Blox.

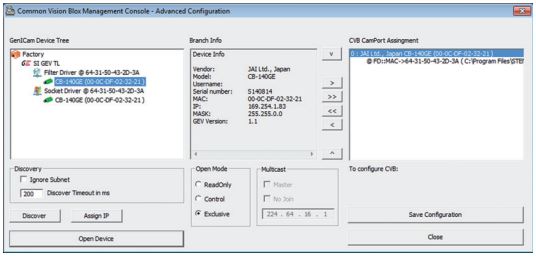
When you open the Device Configurator for the first time, any available devices which have a compatible IP address on the network, will be automatically discovered and you should see a live image from the first device as soon as you enable the grab checkbox.




On the right side you will see the GenICam properties of the attached camera. They are displayed via the CVB GenApi Grid and it is possible to change the camera settings directly here.

When your camera is configured please close the Management Console and start a CVB example program or your CVB application and load the GenICam.vin driver as described in the next chapter.

If your camera is not visible in the device list, please open the Advanced Configuration with the 'Advanced Config' button in the top of the preview display. Enable the 'Ignore Subnet' checkbox and search your device again with the 'Discover' button. If necessary, assign an IP address to the device using the 'Assign IP' button.

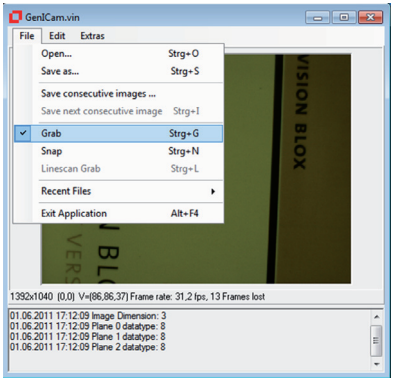


If your camera is correctly configured, please close the Advanced Configuration to return to the Device Configurator.

### 3.1.2 Get an image in a CVB CameraSuite tutorial program

To use a GigE/GenICam image acquisition device with CVB CameraSuite, it is necessary to load what is called the GenICam.vin file. It is located in the CVB sub-folder drivers. Usually .vin files are loaded from within any application created with CVB CameraSuite (including the tutorial applications that come with the setups). Loading the .vin driver will display an image from the image acquisition device to which that .vin driver interfaces.

Double-clicking a .vin file will open it in the 'CVB Viewer' and you will see an image from your camera. Enabling the 'Grab' item from the 'File' menu of the 'CVB Viewer' activates live acquisition from the camera.



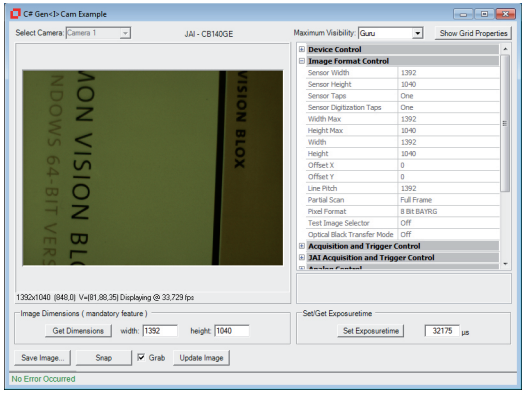
## 3.2 How to create your vision application

Sample applications and tutorials with source code in all of the supported programming languages are installed together with CVB CameraSuite. They can be used as a basis for your own applications.

The powerful SDK also includes programming examples and instructions on generating an application for all supported compilers (Microsoft Visual C++, Microsoft Visual C# and Microsoft VB.Net). This enables you to create a basic framework for a CVB CameraSuite application in a very short time. Please refer to the dedicated chapters in the online help, which shows how to build an application using each different compiler.

There are example programs with source code using the GenICam driver, the GenICam library and the CV GenApi Grid control. They are available via the start menu entry Common Vision Blox - Hardware - GenICam or via the file explorer in the directory ..\Common Vision Blox\Tutorial\Hardware\GenICam.

In case of upcoming questions you can always consult the comprehensive online help system. Here you will find a great deal of additional information and advice on how to create your own applications.



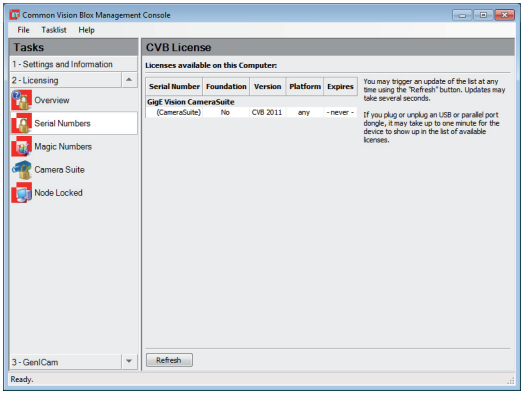
## 4. CVB Management Console and CVB CameraSuite licensing

The CVB Management Console serves as a modular configuration and information frontend for CVB. It is accessible through the CVB start menu. Using the CVB Management Console you can...

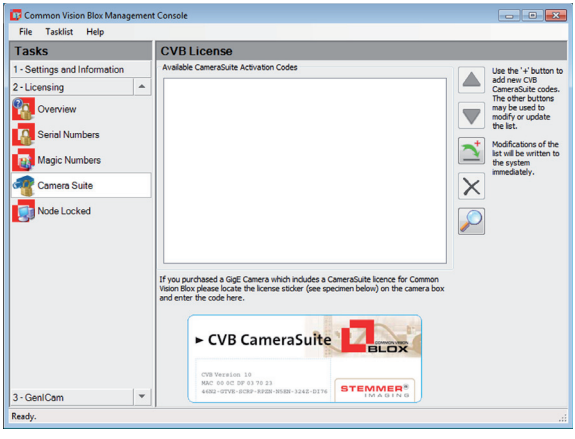
- access general system-wide CVB configuration settings
- get detailed information about the hardware in your computer as well as the file versions of your CVB installation
- check your CameraSuite license or activate a CameraSuite license
- configure your GenICam compliant hardware for image acquisition and manage the GenICam registry

Depending on what you installed on your system, a different set of tasks may be accessible in the CVB Management Console. For detailed descriptions about individual tasks and settings please refer to the documentation of the CVB Management Console (easily accessible by pressing 'F1').

To verify if the CVB CameraSuite is licensed please open the CVB Management Console and go to 'Task 2 - Licensing' and to the panel 'Serial Numbers'. In case of a successful licensing there you will find an entry 'CVB GigE Vision CameraSuite' with additional information.



If you did not license the CVB CameraSuite already during the setup process in Stage 2 it is always possible to do this step afterwards. Therefore please choose 'Task 2 - Licensing' and the panel 'CameraSuite' to add the cameras activation code as described in chapter 2.2.



For additional information or in case of upcoming questions, please contact STEMMER IMAGING or send a mail to **support@commonvisionblox.com**.

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