

PLEORA TECHNOLOGIES INC.



eBUS Player User Guide



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1.0	Release with eBUS SDK 7.0.1, reference to “eBUS Player Quick Start Guide” added and duplicate information removed.	June 2026

1 About this Guide

This chapter describes the purpose and scope of this guide and provides a list of complementary guides.

Refer to the “[eBUS Player Quick Start Guide](http://supportcenter.pleora.com)” available on the Pleora Technologies Support Center at <http://supportcenter.pleora.com> for the following information:

- GigE Vision and USB3 Vision Support
- Installing and Launching eBUS Player
 - System Requirements
 - Installing eBUS SDK
- Installing the eBUS SDK for Windows
 - Launching eBUS Player
 - Firewall Considerations for GigE Vision Devices
- Using the eBUS Driver Installation Tool
 - Comparing Drivers
 - Using the eBUS Driver Installation Tool
 - Configuring the Network Adapter
- eBUS Player Overview
- Device Connections
- Connecting to a Device
 - Configuring a Valid IP Address for a GigE Vision Device (If Required)
- Acquiring Images
- Reviewing the Acquisition Status
- Configuring eBUS Player as a Controller or Data Receiver
- Configuring the Stream Destination for GigE Vision Devices: Unicast or Multicast
- Configuring a Persistent IP Address for a GigE Vision Device (If Required)
- Accessing the Controls Menu
 - Controlling GigE Vision and USB3 Vision Devices
- Saving Your Device Configuration Settings to its Flash Memory
 - UserSet Quick Access

1.1 What this Guide Provides

This guide provides in-depth details about setting up and using the eBUS Player software application to control your GigE Vision or USB3 Vision-compliant video transmitters (cameras) and receivers.

1.2 Related Guides

eBUS SDK Related Documents

Guides are complemented by the following Pleora Technologies documents, which are available on the Pleora Technologies Support Center (supportcenter.pleora.com):

- [C++ API Quick Start Guide](#)
This guide provides you with the information you need to install the eBUS SDK (which lets you use the eBUS SDK C++ API) and an overview of the system requirements.
- [Docker Support for eBUS User Guide](#)
This guide provides instruction on how to get started with using eBUS SDK in a Docker environment. It also provides basic instruction on how to set up Docker on a Ubuntu-based system.
- [Getting Started with eBUS Edge](#)
The eBUS Edge API (introduced in eBUS SDK 7.0) allows developers to create a software-based GigE Vision transmitter device. eBUS Edge is fully compliant with GigE Vision and GenICam and will work with any GigE Vision and GenICam compliant third-party image processing systems or software.
- [eBUS SDK 7.0 \(and later\) Licensing](#)
This knowledge base article explains the eBUS SDK license structure, explains how to obtain a license, and provides activation instructions. If you are experiencing difficulty activating your license, please review the troubleshooting steps at the end of this publication.
- [Linux Quick Start Guide](#)
This guide provides you with the steps to use the eBUS SDK on the Linux operating system, on a Linux x86_64, or ARM platform. This guide is intended for novice Linux users, although advanced Linux users may be interested in some of the eBUS SDK-specific elements of this guide.
- [.NET API Quick Start Guide](#)
This guide provides you with instructions for compiling and using the sample code are provided, along with an overview of the basic calls that can be used to build custom applications using the eBUS SDK .NET API.
- [eBUS Player User Guide](#)
This guide provides in-depth details about setting up and using the eBUS Player software application to control your GigE Vision or USB3 Vision compliant video transmitters (cameras) and receivers.
- [eBUS Player Quick Start Guide](#)
This quick start guide provides you with the information you need to start using the eBUS Player application, which lets you control the parameters of your GigE Vision or USB3 Vision compliant device and lets you view imaging video and data.
- [Python API Quick Start Guide](#)
This guide provides you with the information you need to install the eBUS SDK (which lets you use the eBUS SDK Python API) and an overview of the system requirements.
- [Supported Software Ecosystem](#)
This support summary provides an overview of the supported protocols, operating systems, ARM platforms, development environments, and drivers. Pleora is currently supporting eBUS SDK 7.0 and later.

2 About eBUS Player

eBUS Player 7.0 is the next generation of eBUS Player, an application that displays the functionality of Pleora Technologies eBUS™ SDK. This application allows you to control the parameters of GigE Vision and USB3 Vision-compliant devices by providing access to the GenICam-compliant XML files built into all GigE Vision and USB3 Vision-compliant devices. The XML file provides access to the GigE Vision and USB3 Vision device features, which are controlled with the GenICam API and a GenICam node map.

eBUS Player 7.0 contain all the features of the legacy eBUS player and much more. See the feature list table for details.

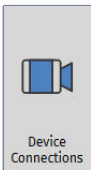
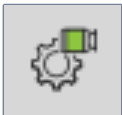
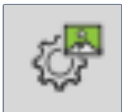
As you become more familiar with GigE Vision, USB3 Vision, and GenICam, you can continue to control your GigE Vision and USB3 Vision devices using eBUS Player, or you can build your own software application using the eBUS SDK. Information about eBUS SDK licensing can be found in "*eBUS SDK 7.0 (and later) Licensing*" on Pleora support center website at <https://supportcenter.pleora.com>.

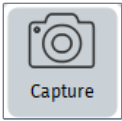
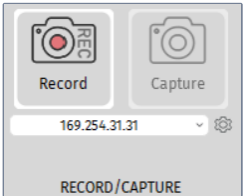
3 eBUS Player Overview

All following sections are valid for Windows and Linux x86_64 systems.

The main screen of eBUS Player consists of dockable dialogs. Dockable dialogs are dialog boxes that can be attached to and detached from the main application window, often by dragging them to different locations. They can be docked to the edges of the main window or even docked as tabs within existing panels. This allows users to customize their workspace and optimize screen real estate.

eBUS Player has a toolbar to provide quick, convenient access to frequently used commands, tools, and functions. The following table describes briefly each of them:

Device Connections		Allow you to detect, select, connect and acquire images for several GigE Vision or USB3 Vision devices.
File		Allow you to save or load a configuration of all connected devices.
Preferences		Allow you to customize eBUS Player.
Stream Setup		Allow you to configure the role for a device and specifies the stream destination for a GigE Vision device.
Communication		Allow you to access the GenICam communication features for a connected device.
Device		Allow you to access the GenICam device features for a connected device.
Image Stream		Allow you to access the GenICam data receiver configuration features and the stream features for a connected device.

Event Monitor		Allow you to configure, list and save events from a connected device.
Console		Allow you to configure, list and save errors and SDK events for a connected device.
Record		Allow you to start the record of a sequence of images when the selected device is streaming.
Capture		Allow you to capture a single image for a device when the selected device is streaming.
Record/ Capture configuration		Allow you to configure the settings to record a sequence of images or capture a single image.
Device Serial Communication		Allow you to send and receive serial data through the serial port of a connected device.
RGB Filtering		Allow you to apply RGB filtering on received color images.
Histogram		Allow you to view a live histogram of pixel intensities and apply range filtering on the image stream.
Image Interpolation		Allow you to apply image filtering on the received Bayer or BiColor images for the selected device in the dropdown control.

Right Arrow		Scroll on the right to visualize other buttons in the toolbar.
Up Arrow/ Line		To quickly collapse and restore the toolbar.
Save GenICam XML		Allow you to save the GenICam XML for a connected device.
GenICam Firmware Updates		Allow you to update the firmware for a selected device supporting GenICam Firmware Update feature.
GenICam File Transfer		Allow you to transfer (upload or download) file for a selected device supporting GenICam File Transfer feature.
Buffer Options		Allow you to customize the received data buffers.
Chunk Data		Allow you to toggle the display of chunk data overlaid on the image stream.

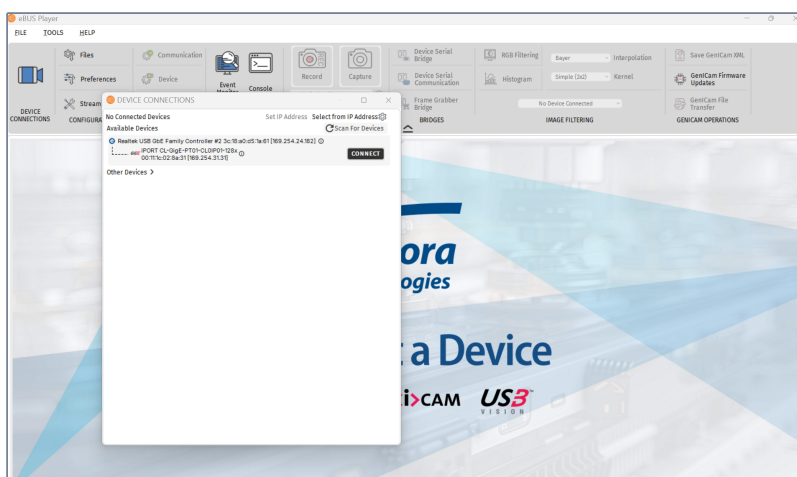
4 Tools Docking Location

Automatically when a tool is open it will dock on the left side of eBUS Player's window.

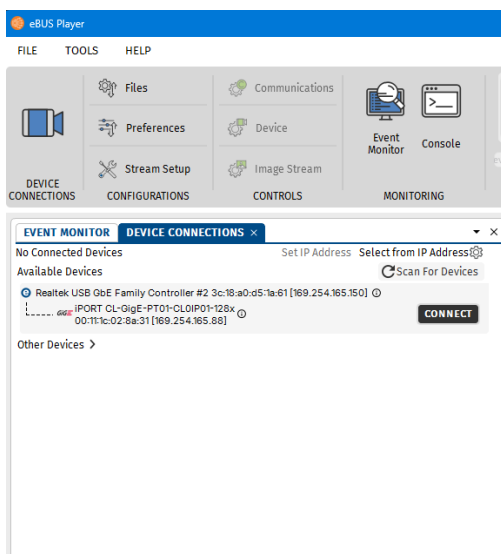
How to customize the Tools docking location.



Click on the top bar of the tool and drag it to top, right, bottom or left indicator.



To create a tab format, drag the tool window on top of another.



5 Controlling GigE Vision and USB3 Vision Devices

After you have assembled and powered up the GigE Vision and USB3 Vision devices in your video system, you can connect to and adjust the settings of the devices using eBUS Player.

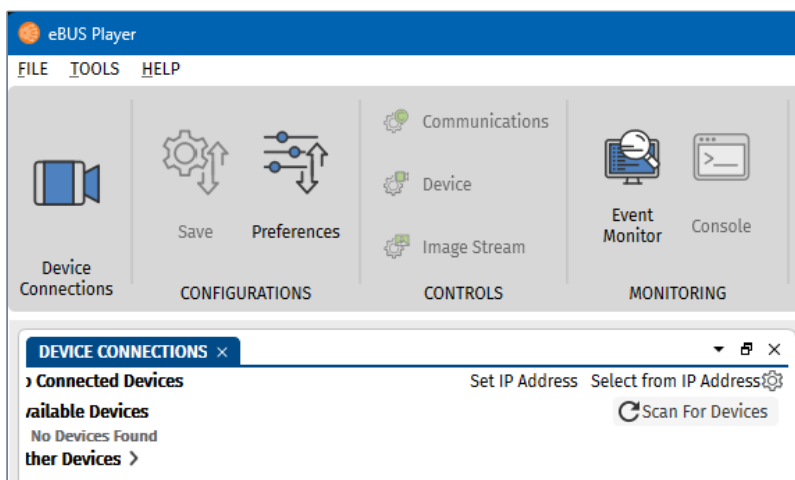
5.1 Connecting to a Device

 Only GigE Vision and USB3 Vision are supported.

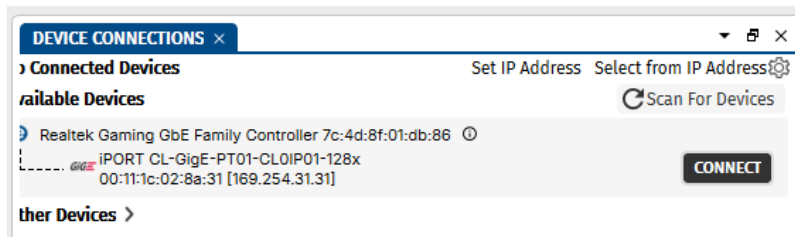
To connect to a device

Upon start-up, the Device Connections will be docked in the top left of your screen. If this dialog is closed, it can be reopened by clicking the Device Connections icon in the top left corner of the screen.

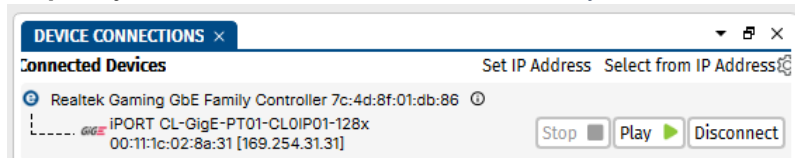
 All dialogs are resizable, dockable anywhere on the screen, and can be made floating.



1. Plug in your GigE Vision or USB3 Vision device to your system.
2. Your device should be listed under **Available Devices**, if not then click on **Scan For Devices**.
3. Click on **CONNECT**.

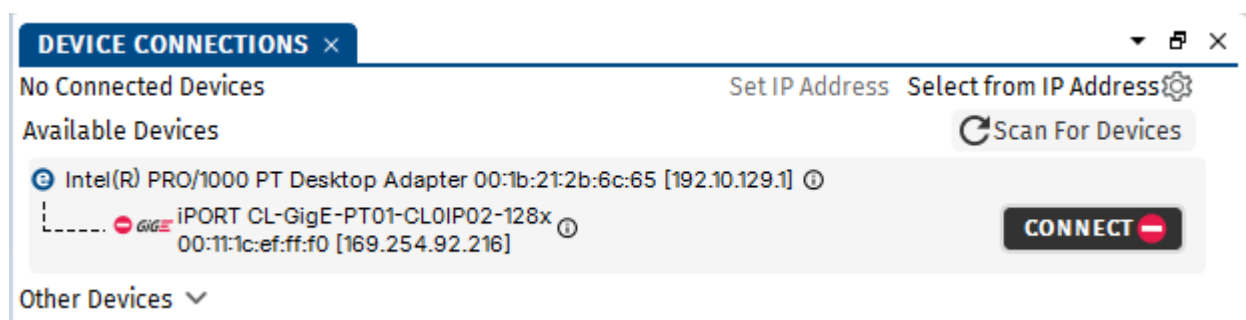


4. **Stop**, **Play** and **Disconnect** are now available and your device is now streaming on eBUS Player.



5.2 Configuring a Valid IP Address for a GigE Vision Device (If Required)

If the GigE Vision device does not have a valid IP address, an error message appears, as shown in the following image.



To enter the correct IP of your device.

1. Click on **CONNECT** button. The application will automatically display a new dialog to set a new IP address.

2. In IP address field of GigE Vision IP Configuration section, enter the final number to complete the new value IP address.

Set IP Address

Network Interface Configuration

Network Interface: *Intel(R) PRO/1000 PT Desktop Adapter*

MAC Address: 00:1b:21:2b:6c:65

IP Address: 192 . 10 . 129 . 1

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 0 . 0 . 0 . 0

GigE Vision IP Configuration

Device Selected: *iPORT CL-GigE-PT01-CL0IP02-128x*

MAC Address: 00:11:1c:ef:ff:f0

IP Address: 192 . 10 . 129 . |

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 0 . 0 . 0 . 0

Cancel Set

3. Click **Set**. The window will close automatically. The device will appear in the available devices without error.

To configure a valid IP address for a GigE Vision device

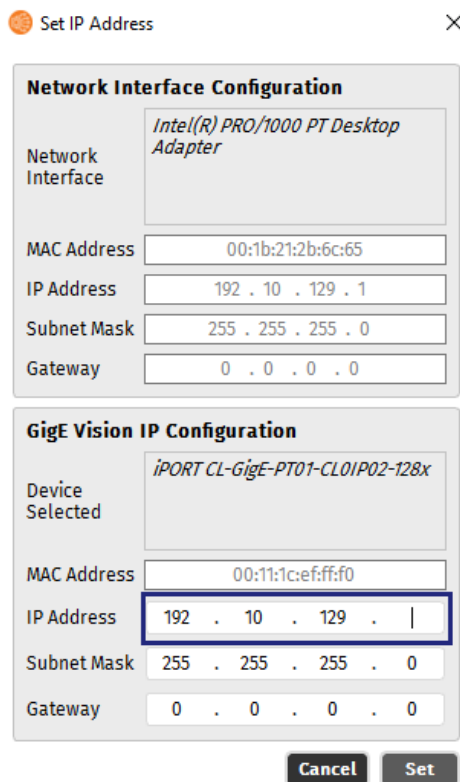
In the Device Connections Menu you have another option:

- Set IP Address



5.2.1 Set IP Address Steps:

1. Click on Set IP Address.
2. Make sure to select the right network interfaces associated with your device in the case that you have several network interfaces on your system.
3. The application will automatically populate the correct first 8 numbers of the IP, you need to enter the final numbers.



Set IP Address [X]

Network Interface Configuration

Network Interface: *Intel(R) PRO/1000 PT Desktop Adapter*

MAC Address: 00:1b:21:2b:6c:65

IP Address: 192 . 10 . 129 . 1

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 0 . 0 . 0 . 0

GigE Vision IP Configuration

Device Selected: *iPORT CL-GigE-PT01-CL0IP02-128x*

MAC Address: 00:11:1c:ef:ff:f0

IP Address: 192 . 10 . 129 . |

Subnet Mask: 255 . 255 . 255 . 0

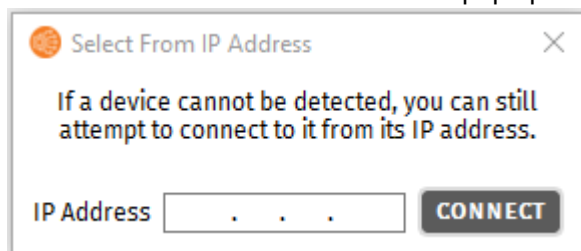
Gateway: 0 . 0 . 0 . 0

[Cancel] [Set]

4. Click Set.

5.2.2 You can still attempt to connect to it from its IP Address.

1. Click on Select from IP Address.
2. Enter the new device IP address in the pop-up message.



Select From IP Address [X]

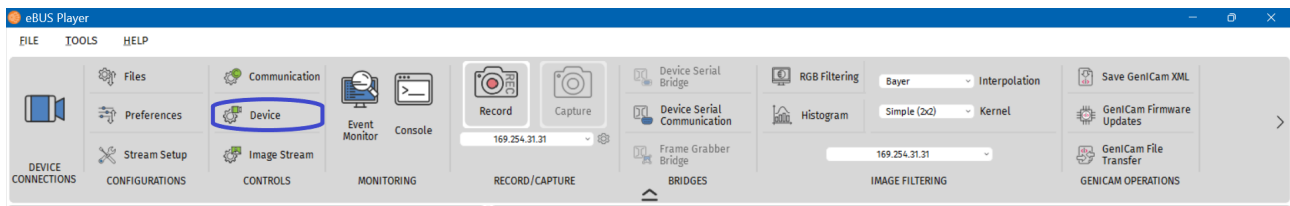
If a device cannot be detected, you can still attempt to connect to it from its IP address.

IP Address: . . . [CONNECT]

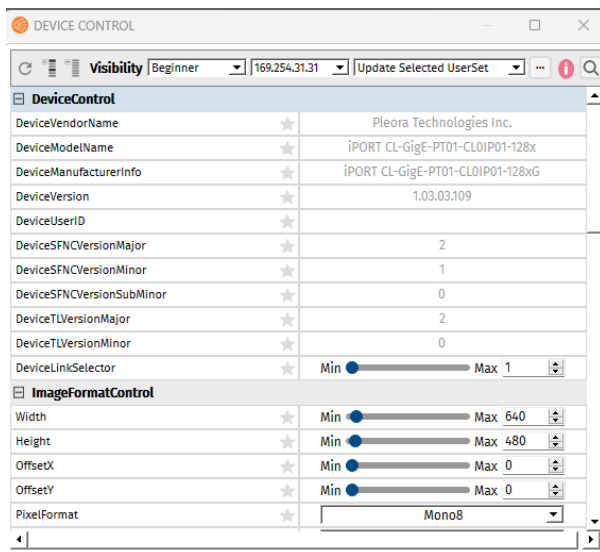
3. Click connect.

5.3 Accessing the Device Controls

To change the settings, you can access them by clicking on the eBUS Player Device Control icon, which opens the dialog box.

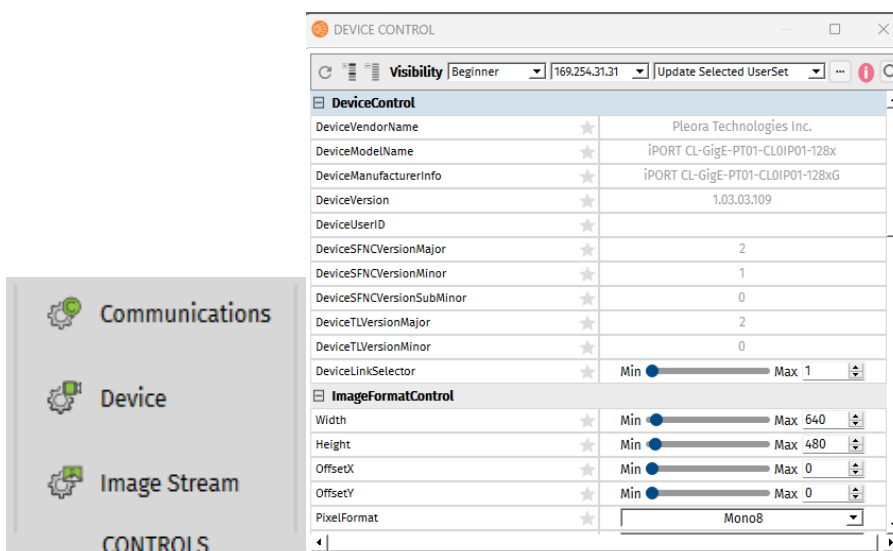


This dialog box lets you specify all of the settings related to your device, including transport layer settings, image processing settings, image mode and formatting settings, display timing settings, channel settings, autonomous control settings, and messaging settings.



To change the device settings

Click on **Device** in the top menu **Controls** section which will open the Device Control dialog box.



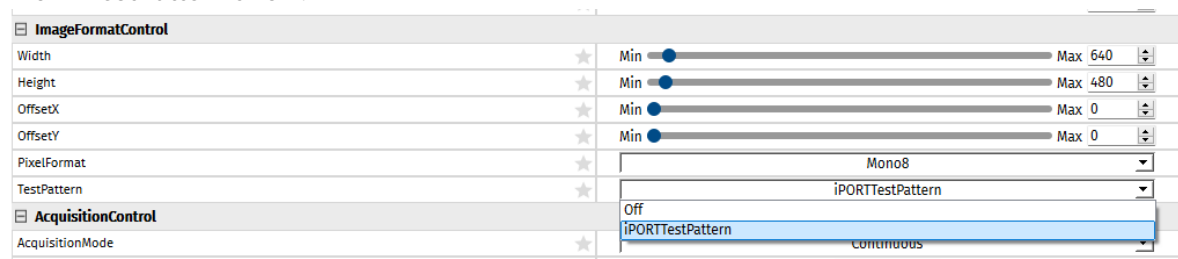
6 Acquiring Images

Because the GigE Vision standard and USB3 Vision standard require that compliant transmitters start up in a state that is ready to send images, you can start acquiring images as soon as you apply power and connect the transmitter to the network (for GigE Vision devices) or USB 3.0 port on your computer (for USB3 Vision devices with the USB3 Vision Driver installed). Pleora GigE Vision and USB3 Vision devices can transmit a test pattern (most devices transmit a test pattern by default). You can turn the test pattern on or off as required.

i If you are using eBUS Player to connect to a vDisplay HDI-Pro External Frame Grabber, this section does not apply. A vDisplay HDI-Pro External Frame Grabber acts as a controller and/or receiver, which means that it does not transmit video over the network. Instead, skip this section and go to [“Configuring eBUS Player as a Controller or Data Receiver”](#).

To turn the test pattern on or off

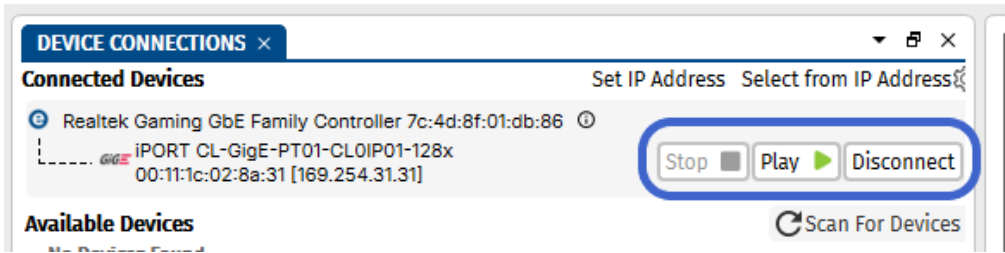
1. Start eBUS Player.
2. Click **CONNECT** on the device in the **Available Devices** list.
3. Click on **Device** in the top menu. A new dialog will appear under the existing Device Connections dock/panel. This dialog shows a table of all GenICam features available on the connected device.
4. Under **ImageFormatControl**, go to the TestPattern feature and click on the dropdown menu to select **iPORTTestPattern** or **Off**.



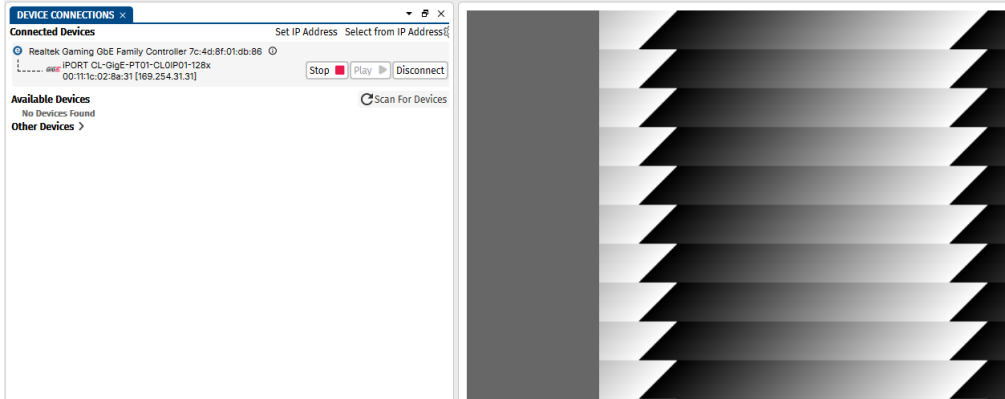
5. Close the **Device** Control dialog box.

To acquire images

1. Start eBUS Player.
2. Click **CONNECT** on the device in the **Available Devices** list.
3. For multi-source GigE Vision devices, click the source to which a camera is connected. If you do not have a camera connected, you can use the test pattern. For more information, see [“To turn the test pattern on or off”](#).
4. Click **Play**.



The images appear in the **Display** section.



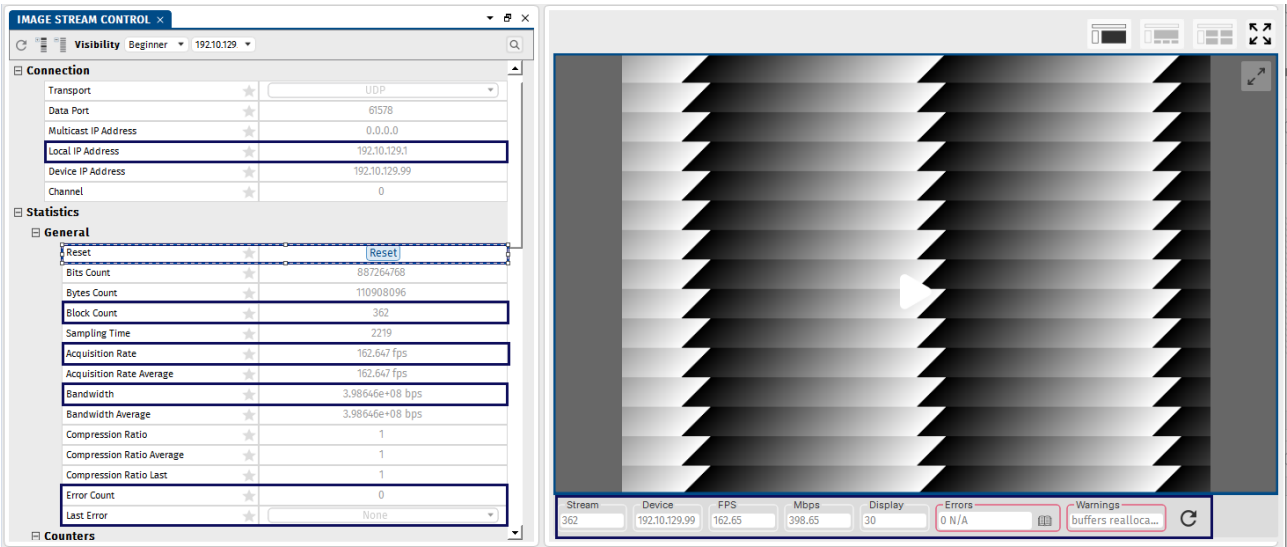
Configuring the eBUS Player Workspace View

The 'workspace' view can be configured and resized to suit your preference.

Icon	Term
	Standard mode
	Hybrid mode
	Tiled mode
	Expand streaming window to full screen
	Exit Full Screen

	Expand this stream to full screen
	Exit Full Screen

Display Status Bar



The following table shows the relationship between the information in the Device Control dialog box and the controls in the Display status bar.

Table 2: Display status bar Controls and Features

Display status bar information	Feature in the Image Stream Control dialog box	Description
Stream	Statistics / General / BlockCount	Number of blocks received from the device.
Device	Connection / DeviceIPAddress (for GEV device) Or Connection / DeviceGUID (for U3V device)	IP address of the GigE Vision transmitter from which the stream is receiving data.

FPS	Statistics / General / AcquisitionRate	Instant acquisition rate
Mbps	Statistics / General / Bandwidth	Instant throughput in bits per second. Note that this value is calculated based on a finite sequence of received blocks within a finite period of time.
Display	none	
Errors	Statistics / General / Error Count and Statistics / General / LastError	Count of RetrieveBuffer operation result errors since the last reset. and Last RetrieveBuffer operation result error.
Warnings	none	
	Statistics / General / Reset	Resets all stream statistics counters.



You can hide the Display status bar from eBUS Player's Tools menu using Stream Info Bar.

7 Configuring How Images are Acquired

Depending on the device you use, eBUS Player provides you with a list of image acquisition modes. The modes allow you to acquire images continuously or frame-by-frame. You can also save images to the device's onboard memory so that you can retrieve them later.

i The acquisition modes supported by a device are enumerated by the GenApi **AcquisitionMode** feature.

7.1 Streaming Modes on Most GigE Vision and USB3 Vision-Compliant Devices

Continuous, SingleFrame, and MultiFrame modes are usually standard for devices. Acquisition starts when the **Play** button is pressed (the **AcquisitionStart** command is executed).

Continuous Mode

This mode allows you to acquire images continuously and is the default mode for most devices.

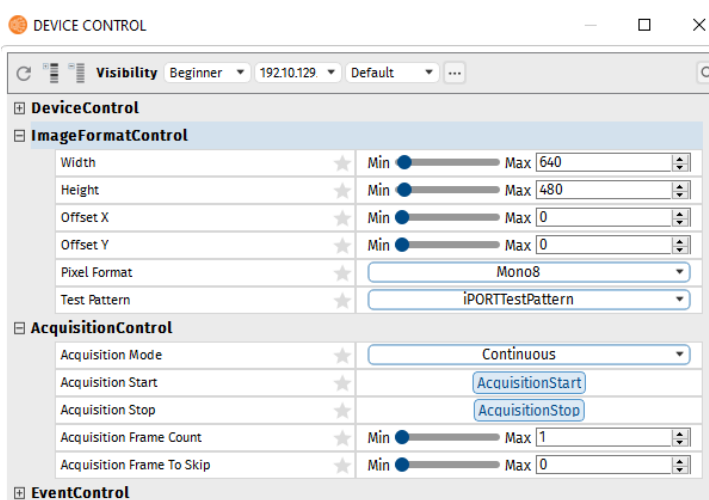
SingleFrame Mode

This mode allows you to acquire a single image.

MultiFrame Mode

This mode allows you to acquire a fixed number of images. To configure the number of images, set the device's **AcquisitionControl > AcquisitionFrameCount** feature.

You can set the **AcquisitionControl > AcquisitionFrameCount** feature in the **Device Control** dialog box, as shown in the following image.



7.2 Recording and Readout Modes, Available on Pleora Devices

The **recording** acquisition modes allow you to capture images from a camera and store them in the Pleora device's onboard memory. The **readout** acquisition modes allow images to be acquired from the device's memory at a slower rate, ensuring images are not lost.

These modes are helpful when you are working with a camera that transmits images at a rate that exceeds the connection between the Pleora device and the computer, resulting in dropped images. By using the recording and readout modes, you can capture and stream images from the camera without losing any images (as long as there is space in the onboard memory).

The recording acquisition modes (**ContinuousRecording**, **MultiFrameRecording**, and **SingleFrameRecording**) support back-to-back recording, which allows you to click the **Stop** and **Play** buttons multiple consecutive times without clearing the onboard memory.

Acquisition starts when the **Play** button is pressed (the **AcquisitionStart** command is executed) when one of the recording modes is selected.

For more information about how many images can be stored in the Pleora device's onboard memory and to understand when images will be removed, see the user guide that accompanies the Pleora external frame grabber or embedded video interface. User guides are available on the Pleora Support Center at <https://supportcenter.pleora.com>.

7.3 Reviewing the Acquisition Status

During image acquisition, information about the stream appears under the image, in addition to any errors or warnings that have occurred.

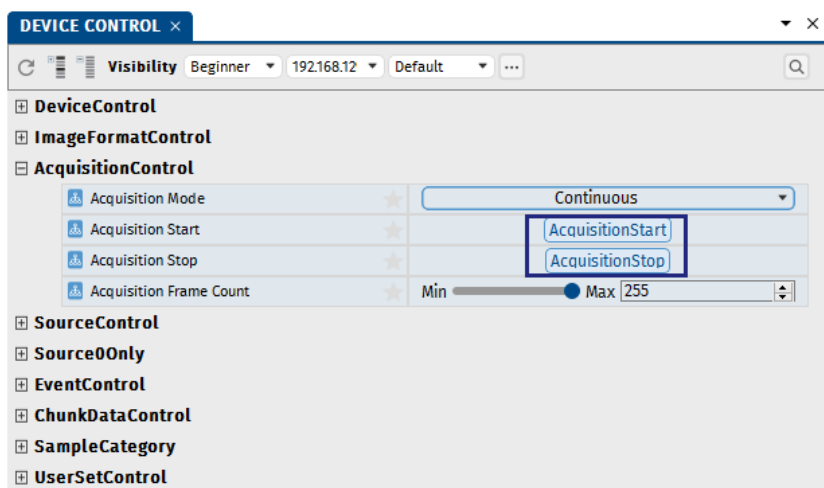
In most cases, errors will not appear if you are connecting to a device for the first time. If an error appears, click **Image Stream control** and review the information in the **Counters** section. If anything other than zero appears in the features within this section and you are using a GigE Vision device, consult the *Stream Control Technical Note*, available at the Pleora Support Center, to determine which feature is causing the error and for guidance on how to correct the error.

7.4 Acquisition Control

The following table shows the relationship between the controls in the Device Control dialog box and the controls in the Device Connections control.

Table 3: Acquisition Controls and Features

Device Connections control	Feature in the Device Control dialog box
Play button	AcquisitionControl / AcquisitionStart
Stop button	AcquisitionControl / AcquisitionStop



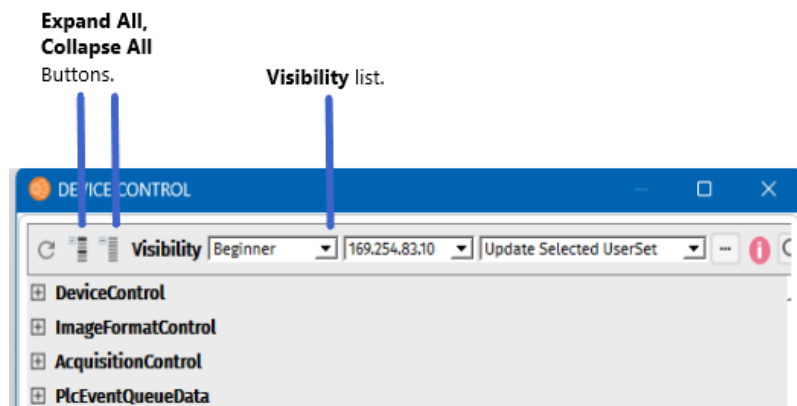
If you use the **AcquisitionStart** and **AcquisitionStop** features in the **Device Control** dialog box to start and stop streaming from a GigE Vision device, please note that the **TLPparamsLocked** feature is not activated, allowing you to change features that are normally locked during image streaming, such as width and height. This may cause unexpected results. Whenever possible, we recommend that you use the **Play** and **Stop** buttons to start and stop streaming.

8 Adjusting the Display of Features

You can adjust the display of features in the Device Control dialog box, such as the way the features are filtered and the features that appear.

To adjust the display of features

Perform any of the tasks listed in the following table to adjust the display of features.



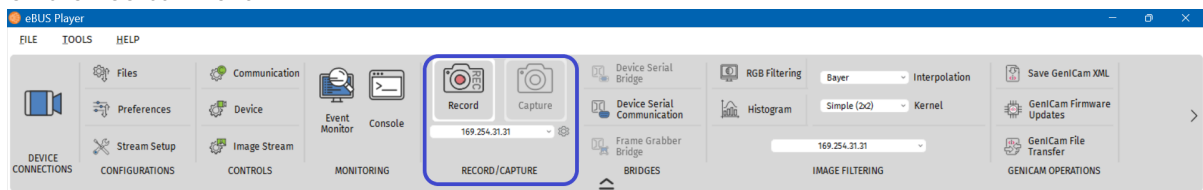
9 Capturing Images and Recording Video

eBUS Player allows you to save acquired images in image format (BMP, TIFF, PNG, RAW binary format or Pleora Decompressed) or MP4 video format.

- i** When saving H.264 video in an MP4 container on the Windows operating system, eBUS Player uses the Microsoft Media Foundation H.264 video encoder. The default video encoder settings are used, with the exception of the frame rate and average bit rate. The video is encoded at 30 frames per second. The average bit rate is set to the value specified in the eBUS Player **Capture Record** dialog box (see step 2 in the procedure below).

To save images and video periodically

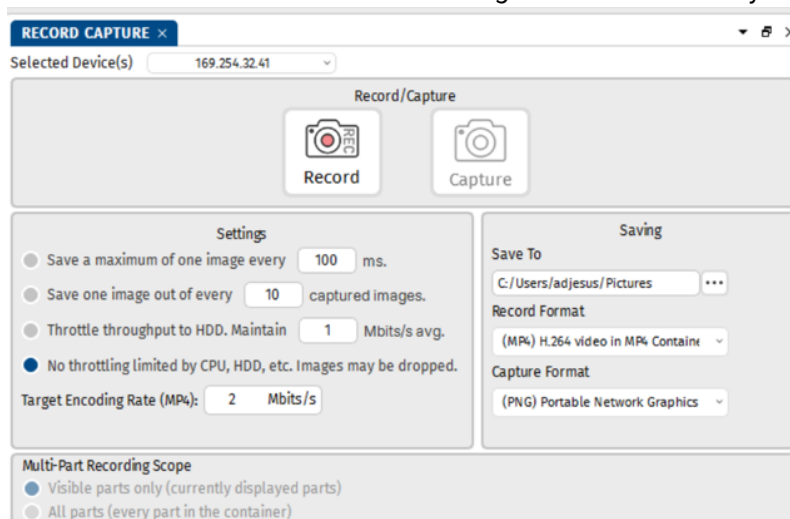
1. On the **Toolbar** menu



2. Click the settings button



to select a location and to format the images or video in which you want to save.



- Device independent bitmap (BMP)
This image format is converted to RGB before saving.
- Tagged Image File Format (TIFF),
This image format is converted to Mono16 before saving.

✓ When saving to TIFF format, 8-bit pixel types are saved as 8-bit TIFF monochrome images. 12, 14, and 16-bit monochrome images are saved as 16-bit TIFF monochrome images, and the data is normalized to 16-bit (the pixel data is shifted right of 6, 4, and 2, respectively) during conversion.

- Portable Network Graphics (PNG)
This image format is converted to 8-bits/channel before saving.

✓ All pixel formats in eBUS SDK are supported, however, they will be converted to either Mono8 or RGB8.

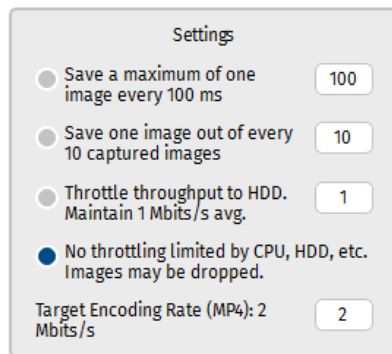
- Pleora Decompressed (BIN)
This image format decompressed to raw data before saving. This format should be used only when the incoming data payload is PTC compressed data. Otherwise, no image is saved.
- H. 264 video in MP4 container:
Video format



If you changed any of the options in the Image Filtering dialog box (Tools > Image Filtering), please note the following:

- TIFF, PNG, Pleora Decompressed or raw binary. The image filtering configuration is not used for the image files that you save. Images are saved without any modification, which is beneficial if you are performing image processing.
- BMP or MP4 video The image filtering configuration is used for video that you save, which can provide greater clarity.

3. If you selected **H.264 video** in **MP4 container** in step 2, specify the data rate of the video file in the **Target Encoding Rate** box.
4. Under **Settings**, specify when you want to save Images are saved in image format or MP4 video format in the location specified in 2.
 - **Save a maximum of one image every [] ms.** The display thread saves an image if at least X ms has elapsed since the last image was saved.
 - **Save one image out of every [] captured images.**
 - **Throttle throughput to HDD. Maintain [] Mbits/s avg.** The throughput of saved images is monitored to stay as close to X Mbits/s as possible.
 - **No throttling (Limited by CPU, HDD, Images may be dropped).** The display thread attempts to save every image.



The Display section changes to red, the word **RECORDING** appears, and statistics about the recording appear, including the image count, the size of the file, the frame rate, and the data rate.

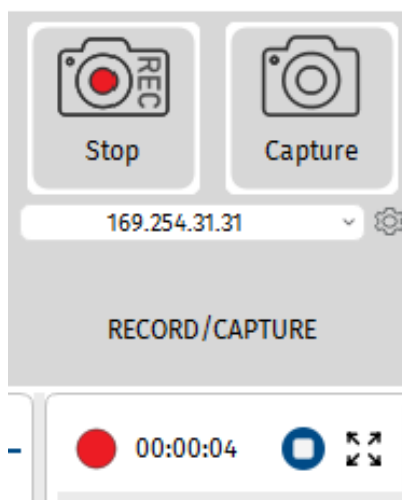
The file name of the saved image or video files contains the image index and the image timestamp. The timestamp reflects the number of milliseconds that have elapsed since the computer was started. The raw binary data format also includes the width, height, pixel format, and tap geometry (if applicable) of the image. This information is used by the eBUS Raw Image Viewer application to display raw binary data images properly. For more information about the eBUS Raw Image Viewer, see the *Using the eBUS Raw Image Viewer Application to View Raw Binary Images* knowledge base article at <https://supportcenter.pleora.com>.

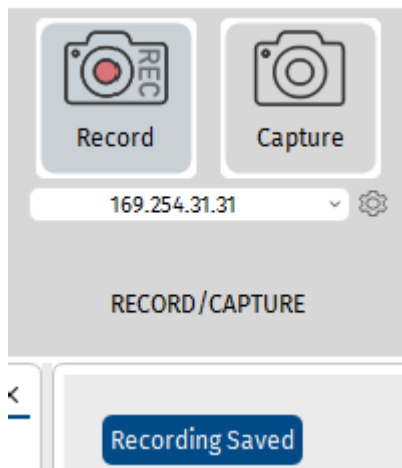
- i** If you are displaying chunk data, only the image is saved (because the chunk data is overlaid on top of the image, it is not part of the image or video).

- i** If you are saving images in MP4 format and have selected the **Save one image out of every [] captured images**, stopping recording before the entire image has been stored in the file will result in an incomplete MP4 file that cannot be played.

To save the current video

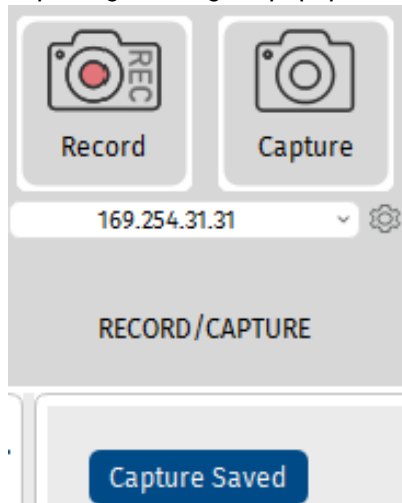
- Click **Record** to start recording video and then click **Stop**





To save the current image

- Click **Capture** to capture one image. **Capture** is enabled only when the device is streaming. When capturing an image, a popup will appear briefly to indicate an image has been captured.



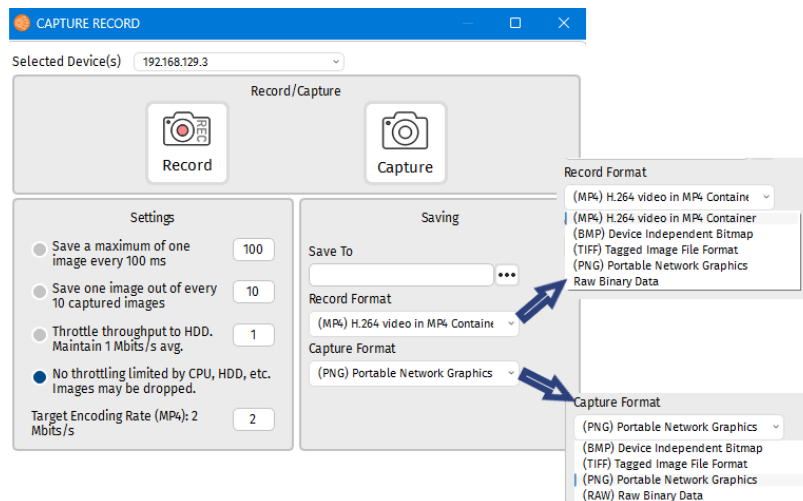
To change the location and format in which the current image is saved

On the **Toolbar** menu

- Click the settings button



To select a location and to format the images in which you want to save.



- Device Independent bitmap (BMP)
- Tagged Image File Format (TIFF)
- Portable Network Graphics (PNG)
- Raw binary data
- Pleora Decompressed (BIN) (not available for this eBUS Player's version)

You do not need to change the **Settings options**, as only a single image will be saved.



When you close and re-open eBUS Player, the default image format and save folder are used.

10 Configuring eBUS Player as a Controller or Data Receiver

Depending on your system, you may need to configure the eBUS Player role, which lets you specify whether you want to use eBUS Player to control a GigE Vision or USB3 Vision device, or receive images, or simply connect to a device to view its parameters and settings. The following roles are available:

Table 4: Roles

Role	Description
Controller and Data Receiver	Select this role if you are using eBUS Player to connect to and control a GigE Vision or USB3 Vision transmitter AND if you want eBUS Player to receive streaming video from the transmitter. This setting is ideal when you want to control an iPORT device and see streaming video with eBUS Player. This is the default setting.
Controller	Select this role if you are using eBUS Player to connect to and control a GigE Vision or USB3 Vision device. eBUS Player does not receive streaming video from the device if this option is selected. This setting is often used to connect eBUS Player to a receiver, such as the Pleora vDisplay HDI-Pro External Frame Grabber (for use with GigE Vision devices).
Data Receiver	Select this role if you are using eBUS Player to connect to and receive streaming video from a GigE Vision or USB3 Vision device. You cannot control the device if this option is selected.



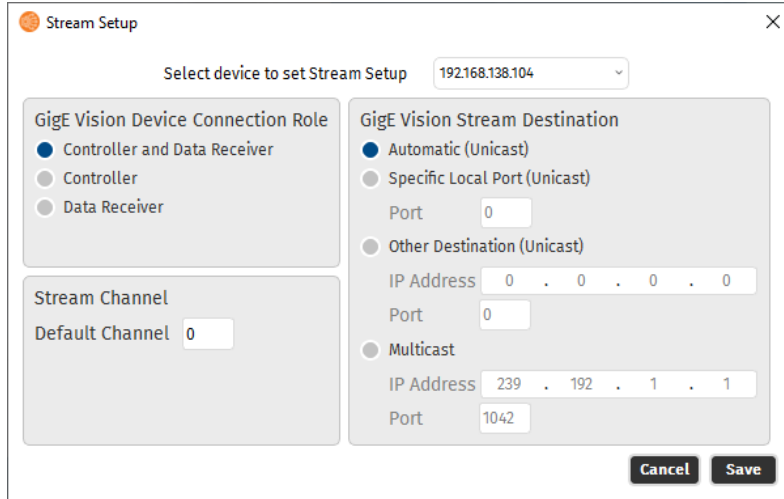
The vDisplay HDI-Pro External Frame Grabber receives video from the GigE Vision network and makes it available for display on an attached monitor.

To configure eBUS Player as a controller or data receiver

1. Start eBUS Player and click **Stream Setup** on the **Toolbar**.
2. Select a role.
3. For multi-channel GigE Vision devices, select the default channel under **Stream Channel**.

i For multi-channel GigE Vision devices, eBUS Player queries the GenICam interface of the device (in most cases) to determine which channel should be used with the source. In cases where eBUS Player cannot determine the channel to use, the default channel that you specify is used. This can occur when you are using a data receiver that does not have access to device control. If you are multicasting and want to set up a pure data receiver, you need to specify the channel on which to listen by typing the **Default channel**.

4. Click **Save**.



The **Stream Setup** dialog box is shown. At the top, it says "Select device to set Stream Setup" with a dropdown menu showing "192.168.138.104". Below this, there are two main sections:

- GigE Vision Device Connection Role:**
 - ☒ Controller and Data Receiver
 - ☐ Controller
 - ☐ Data Receiver
- GigE Vision Stream Destination:**
 - ☒ Automatic (Unicast)
 - Port: 0
 - ☐ Specific Local Port (Unicast)
 - Port: 0
 - ☐ Other Destination (Unicast)
 - IP Address: 0 . 0 . 0 . 0
 - Port: 0
 - ☐ Multicast
 - IP Address: 239 . 192 . 1 . 1
 - Port: 1042

At the bottom right, there are **Cancel** and **Save** buttons.

i If eBUS Player is already connected to a device, you must close the **Stream Setup** dialog box and disconnect from the device before you can select an eBUS Player role.

11 Configuring the Stream Destination for GigE Vision Devices: Unicast or Multicast

You can configure a GigE Vision stream destination to send images to a single location or to multiple locations.

Table 5: GigE Vision Stream Destination Options

Option	Description
Automatic (Unicast)	Select this option to configure the camera to stream video directly to the eBUS Player computer using an automatically selected port.
Specific Local Port (Unicast)	Select this option to configure the camera to stream video directly to a user-defined port on the eBUS Player computer.
Other Destination (Unicast)	Select this option to configure the camera to stream video directly to a computer or a vDisplay External Frame Grabber (a destination other than the eBUS Player computer).
Multicast	Select this option to configure the camera to join a multicast group (specified by the IP address and port), and to begin streaming to that group. The vDisplay External Frame Grabber or any other receiver (such as a computer), must be configured to receive streaming video at the same multicast address. If eBUS Player is configured as a multicast receiver, it allows you to view video from the camera streaming video to the same multicast address.

12 Accessing the Control Settings

Adjusting the control window features

The figure below shows the features of the **Device Control Window**. The same features apply for the **Communication Control Window** and Image **Stream Control Window**.

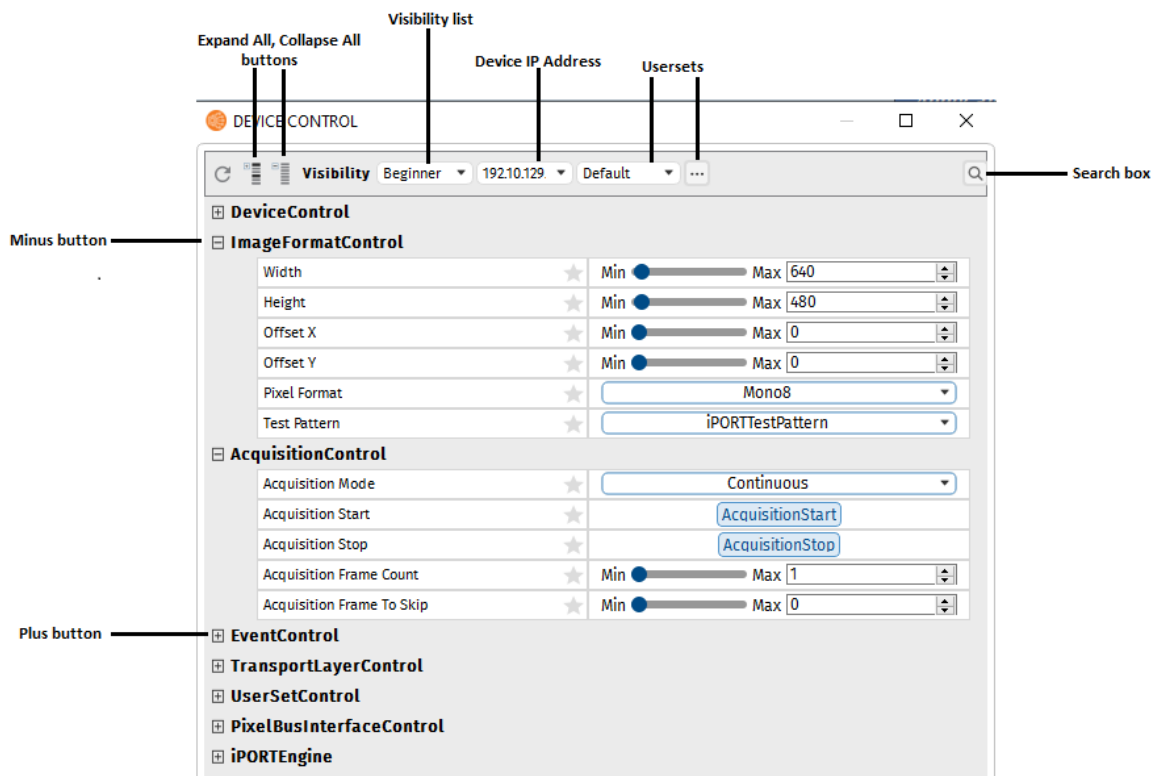


Table 6: Adjusting the Control Window Features

Adjustment tool	Description
Expand All button	Expands the headings
Collapse All button	Collapses the headings
Visibility list	Filters the list of features to suit your level of video network responsibility and understanding. There are more controls available for the Expert level than the Beginner level; some controls are not available in the Beginner level.

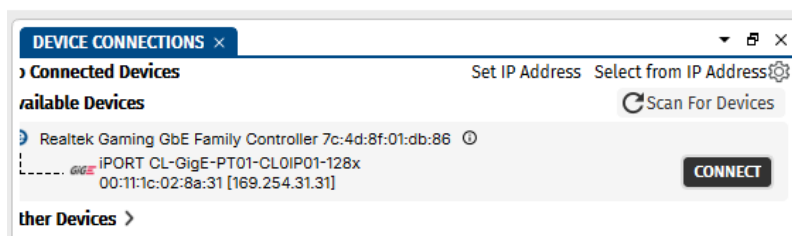
Refresh button	Refreshes the features of a GigE Vision or USB3 Vision device (such as a transmitter or receiver) that are displayed in the Device Control dialog box. The following refresh options are available in the Preferences dialog box under Control Dialog Browser Options : ? Polling . Features that are defined for polling are automatically refreshed (if the polling time configured for the feature has elapsed). ? Automatic . The features are automatically refreshed every few seconds. This is the default setting. ? Manual . You can manually refresh the features in the Device Control dialog box.
Minus button	Collapses a heading
Plus button	Expands a heading

12.1 Communications Control

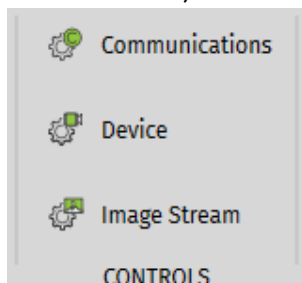
You can access the communication settings to adjust how the host computer connects to, and communicates with, GigE Vision or USB3 Vision devices.

To change the communication settings

1. Start eBUS Player.
2. If not open, click **Device Connections**.
3. Click the GigE Vision or USB3 Vision device in the **Available Devices** list.



4. Click **OK** in the bottom right corner.
5. On the **Toolbar**, click **Communications** control.



6. In the **Communication Control** dialog box, customize the communication settings as required by adjusting the features in the dialog box.

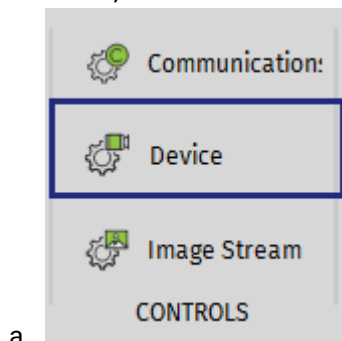


The **Communication** button is only available when eBUS Player is connected to a device.

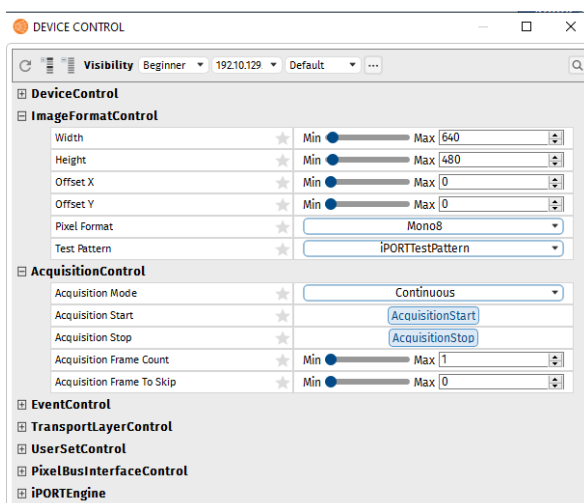
12.2 Device Control

To change the Device settings

1. Start eBUS Player.
2. In **Device Connections**, click **Connect** for the device you want to connect to.
3. Click the GigE Vision or USB3 Vision device in the **Available Devices** list.
4. In the toolbar, click **Device** under the **Controls** section.



5. The **Device Control** dialog box opens.
6. Customize the device settings as required by adjusting the features in the dialog box.

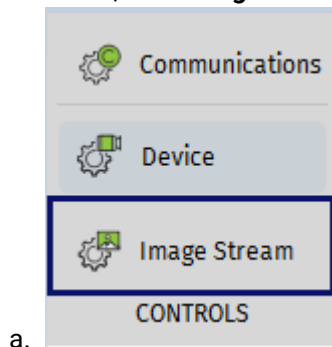


12.3 Image Stream

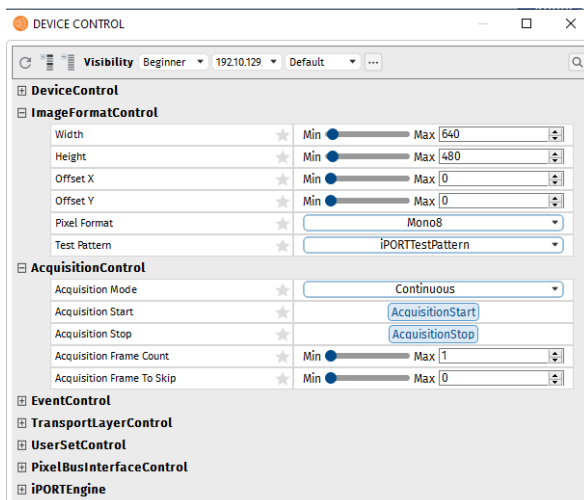
If the Image Stream Control settings are not saved when you click Save Preferences. The Image Stream Control settings do not meet your needs; you must configure them every time you connect to a device.

To change the Image Stream settings

1. Start eBUS Player.
2. In **Device Connections**, click **Connect** for the device you want to connect to.
3. Click the GigE Vision or USB3 Vision device in the **Available Devices** list.
4. In the toolbar, click **Image Stream** under the **Controls** section.



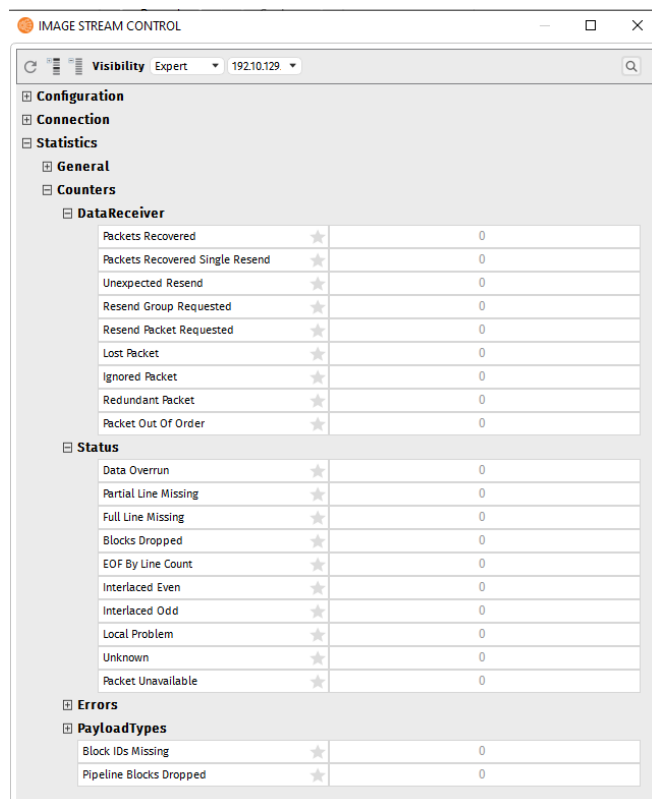
5. An **Image Stream Control** dialog box opens.
6. Customize the device settings as required by adjusting the features in the dialog box.



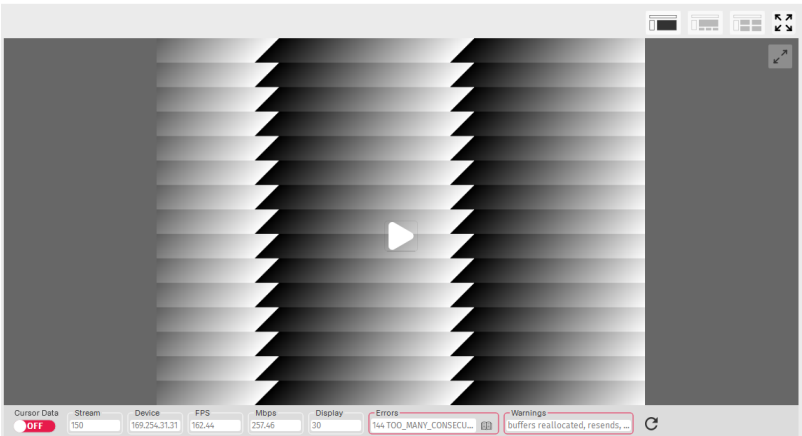
13 Monitoring Performance

As your device receives images from your camera and sends them to your computer, it keeps track of image errors (such as missing lines), network errors (such as lost packets), and other performance-related statistics.

You can view a complete list of error counts in the **Image Stream Control** dialog box. Performance metrics are grouped under **Statistics**.



You can view a summarized list of error counts at the bottom of the **Display** section. The **Display** section shows the total number of images displayed (**BlockCount**), the instantaneous frame rate (**AcquisitionRate**), and the instantaneous data rate (**Bandwidth**).



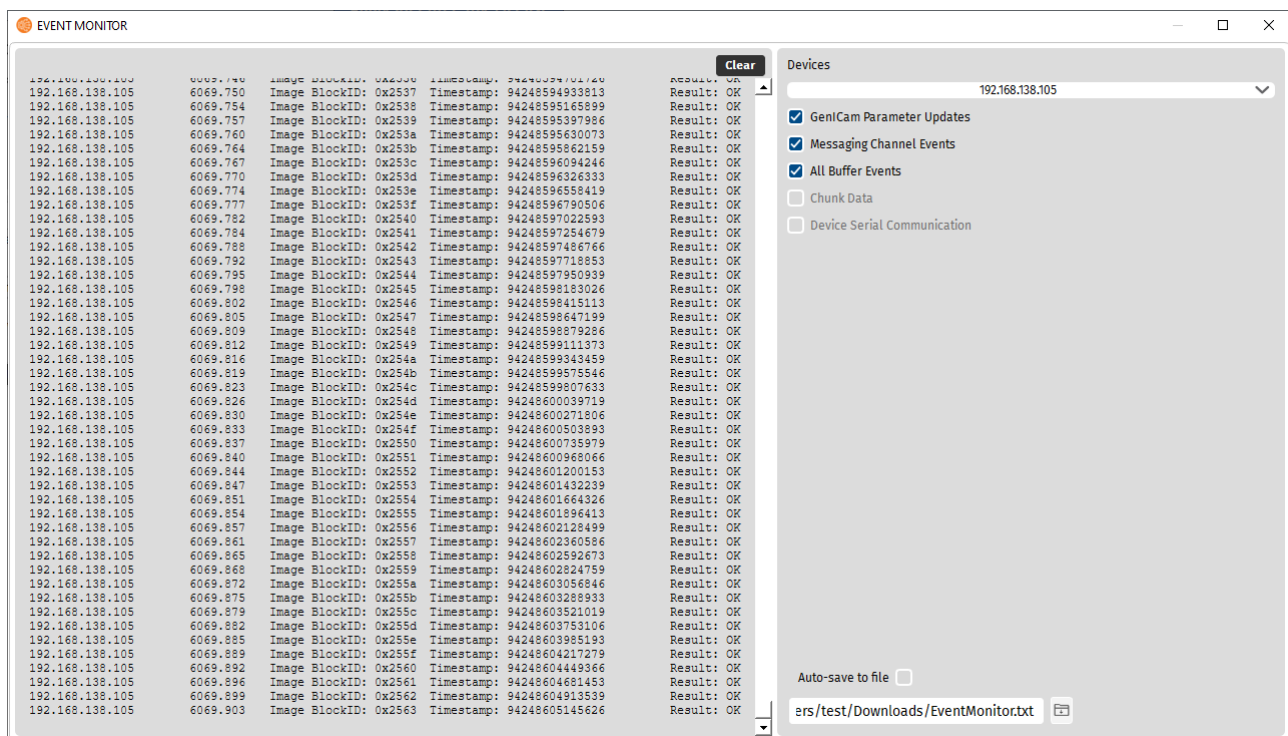
14 Using the Event Monitor



Event monitor logs will start to overwrite after 1024 lines.

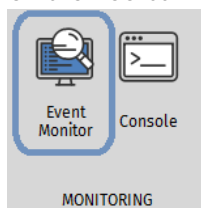
The Event Monitor is a valuable tool that you can use to determine causes of issues that may occur during the use of your device. When enabled, you can view time-stamped records of all GenICam parameter updates and PvStream buffer errors, as well as the successful PvStream buffers.

You can clear the log content, and you can save the content to your hard drive.



To access the Event Monitor

1. Start eBUS Player and connect to the device.
2. Click **Play**.
3. On the **Toolbar** menu, click **Event Monitor**.



4. Select the information that you want to display in the Event Monitor:

- **GenICam parameter** Reports all device GenICam parameter invalidation events (as triggered by GenApi) as event monitor log events.
- **Messaging channel** Reports all GigE Vision or USB3 Vision events to the Event Monitor before they are raised as GenICam parameter invalidation events. Please note that a large number of events will appear.
- **All buffer** Reports all buffers retrieved from the PvPipeline by the application display thread, regardless of the operation result. Please note that a large number of events will appear.
- **Chunk** Reports chunk data (when chunk data is enabled).
- **Device serial** Echoes all serial communication. For example, requests for parameter values and data that is sent through the **Device Serial Communication** dialog box.

To save events in the monitor

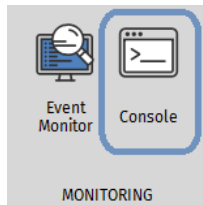
- In the **Event Monitor**, select the **Auto-save to file**. By default, a save path is available. But you can choose exactly which folder on your computer (like Desktop, Documents, or a specific folder) you want to store your data in. Clicking **Browse** button allows you to set a preferred folder, and all future files will automatically go there.
 - **Click the "Browse" Button:** This opens your computer's File Explorer .
 - **Navigate to Your Chosen Location:** Click through your folders to find the specific folder where you want to save your work.
 - **Set the Location:** Once you are in that folder, click "Save" to confirm this as the new destination.
 - **Future Saves:** eBUS Player will now remember this folder, and all future events will be saved in that exact spot.

15 Using Console

Console is used for outputting and saving eBUS SDK event monitor logs.

To access the Console

1. Start eBUS Player and connect to the device.
2. Click **Play**.
3. On the **Toolbar** menu, click **Console**.



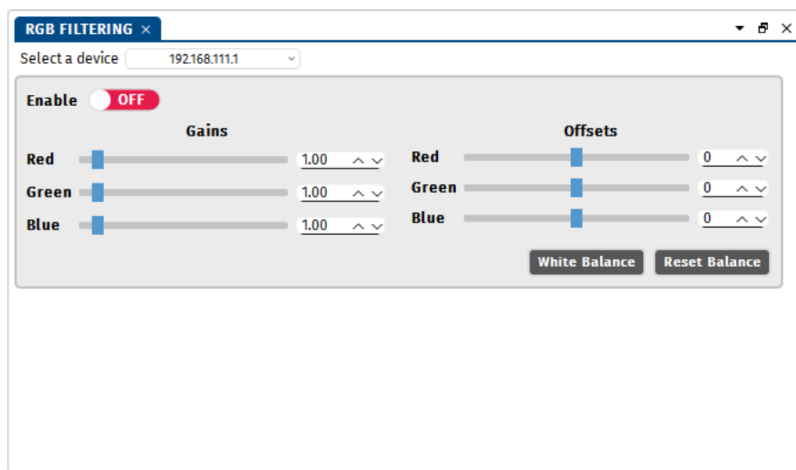
4. Select the information that you want to display in the Event Monitor:
 - **Buffer Errors** Reports all buffer errors returned from the PvPipeline by the application display thread,
 - **eBUS SDK Log Events** Reports all SDK logging events according to the configured severity/verbose level. The SDK records various technical details—such as network requests, state changes, warnings, and errors—during runtime. These reports are categorized by severity/verbose levels. To prevent overwhelming user with too much information in the **Console** dialog box during normal operation, the SDK is configured by default to show only **FATAL** errors. A fatal log indicates a system failure that stops core functionality. To see more than just fatal errors, you must adjust the SDK configuration to change the log level to a more verbose setting.

To save events in the monitor

- In the **Console**, select the **Auto-save to file**. By default, a save path is available. But you can choose exactly which folder on your computer (like Desktop, Documents, or a specific folder) you want to store your data in. Clicking **Browse** button allows you to set a preferred folder, and all future files will automatically go there.
 - **Click the "Browse" Button:** This opens your computer's File Explorer.
 - **Navigate to Your Chosen Location:** Click through your folders to find the specific folder where you want to save your work.
 - **Set the Location:** Once you are in that folder, click "Save" to confirm this as the new destination.
 - **Future Saves:** eBUS Player will now remember this folder, and all future events will be saved in that exact spot.

16 Histogram and RGB Filtering

16.1 RGB Filtering



The RGB Filtering tool adjusts the visual appearance of color images by modifying the red, green, and blue channel with gains and offsets. Settings are applied in real time. **RGB filtering with gain and offset** corrects color balance, adjusts brightness, and calibrates exposure using this linear equation:

$$\text{Output} = (\text{Input} \times \text{Gain}) + \text{Offset}$$

The tool allows independent adjustment of red, green, and blue channels to fine-tune images.

- **Gain:** Controls the brightness of the *highlights* (brightest areas). It acts as an amplifier. For example, increasing red gain warms bright areas.
- **Offset:** Controls the brightness of the *shadows* and *blacks*. It adds or removes a constant to all pixels, shifting the base level to avoid clipping at pure black.

Also, filter settings are maintained independently per stream. For multi-source devices, each source appears as a separate entry in the **Select a device** dropdown and has its own independent filter configuration. For devices streaming multipart buffers, all parts within a single buffer share the filter settings of their source.

To apply RGB filtering:

1. Click **RGB Filtering** in the toolbar.
2. Select a source from the **Select a device** dropdown.
3. Enable filtering using the **Enable** toggle.
4. Move each channel's **Gain** slider to adjust the brightest areas for display.
5. Move each channel's **Offset** slider to adjust the brightness of the *shadow areas* for display.
6. Optionally, click **White Balance** to compute automatically gains from the current image, or **Reset Balance** to restore defaults.

16.2 Histogram

The Histogram tool displays a live histogram of the image stream for a selected source and provides range filtering controls. The histogram is a graph showing the distribution of pixel intensities across an image (from pure black on the left to pure white on the right). When range filtering is enabled, pixels below the **Dark** threshold are clipped to black and pixels above the **Light** threshold are clipped to white.

Filter settings are maintained independently per stream. For multi-source devices, each source appears as a separate entry in the **Select a device** dropdown and has its own independent dark/light threshold configuration. For devices streaming multipart buffers, all parts within a single buffer share the range filter settings of their source.

Control	Description
Enable	Enables or disables range filtering for the selected source.
Dark	Lower intensity threshold (0–255)
Light	Upper intensity threshold (0–255)
Auto Configuration	Sets Dark and Light thresholds automatically from the current image data.

To use the Histogram:

1. Click **Histogram** in the toolbar.
2. Select a source from the **Select a device** dropdown.
3. Enable range filtering using the **Enable** toggle.
4. Adjust the **Dark** and **Light** sliders to constrain pixel values for display or click **Auto Configuration** button to move the sliders to the lightest and darkest points on the histogram.

 When enabling the histogram, it may initially be empty if streaming is not running. Start streaming before adjusting the filtering thresholds.

 When Record/Capture option is also active, it **does not apply** to save **raw binary** formats

17 Saving eBUS Player and Device Settings

The following table provides detailed information about how to save eBUS Player preferences and device settings.

	Format and location of saved settings:	
	<i>Saves to a .pvcfg file on your computer</i>	<i>Saves to the device's flash memory</i>
	eBUS Player procedure for saving:	
	<i>File > Save</i>	<i>Device Control > Usersets</i>
Settings saved:		
Default multiple source view	No	No
Camera control window displayed/not displayed upon device connection	No	No
Remember/do not remember previously connected devices	No	No
Auto-stream/do not auto stream devices upon connection	No	No
Customize Toolbar	No	No
*Persist last layout <i>Allow a user to always open the app with the dialog layout in the same format as when they last closed it. Tries to make it easy for user to start up where they were last quickly and efficiently.</i>	No	No
GigE Vision Stream Setup	Yes	No
Keyboard Shortcuts	No	No

Communications Control	*Yes, but only communication parameters.	No
Device Control	*Yes, but only device parameters.	Yes
Image Stream Control	*Yes, but only image stream parameters.	No
eBUS Player settings accessed from Toolbar or Tools menu : • Stream Setup: eBUS Player role and stream destination • Event Monitor • Console • Record/Capture: Image saving • Device Serial Communication • RGB Filtering • Histogram • Buffer Options • Chunk Data display	Yes	No
eBUS Player settings accessed from Toolbar only: • (Bayer/BiColor) Interpolation filtering	Yes	No
Control dialog browser options accessed from Preferences dialog box • View naming • View structure • Polling mode to refresh feature value • Visibility naming	Yes	No
Toolbar view	No	No
Display pixel information per video source	No	No

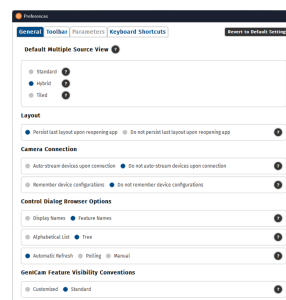
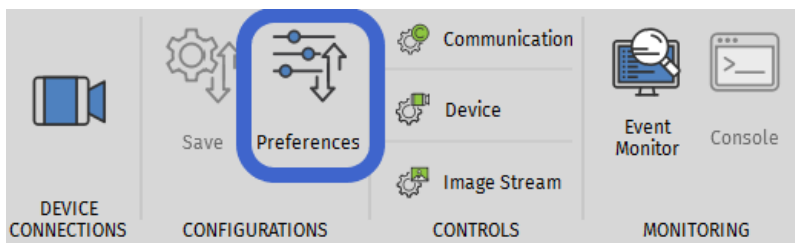
Stream Bar Info view toggled from Tools menu only	No	No
---	----	----

18 eBUS Player and Device Settings Saving Options



For more information about the settings and parameters shown in the table above, see the *eBUS Player for Windows and Linux User Guide*.

18.1 Preferences



- **General**

- This tab contains the core application behavior settings like
 - Layout
 - Camera Connection
 - Control Dialog Browser Options
 - GenICam Visibility Conventions

- **Toolbar**

- This tab provides checkboxes to show or hide grouping tool items in eBUS Player's toolbar.

- **Parameters**

- **Keyboard Shortcuts**

- This tab displays a grid of predefined keyboard shortcuts, each showing the key combination in a bordered box with the action name below

Shortcut	Action
Ctrl+Shift+R	Start/Stop Selected Device
Ctrl+Shift+D	Disconnect Selected Device
Ctrl+Shift+S	Start/Stop All Devices
Ctrl+Shift+A	Disconnect All Devices
Ctrl+W	Capture Image
Ctrl+C	Connect Device
F11	Open/Close Fullscreen
Ctrl+R	Start/Stop Recording
Ctrl+D	Open Device Control
Ctrl+I	Open Image Stream Control
Ctrl+Shift+C	Open Communication Control
Ctrl+Alt+R	Open Register Interface

18.2 Using User Sets: Saving Settings to the Device's Flash Memory

When you use the **UserSetSave** feature available in the **UserSetControl** section of the eBUS Player **Device Control** window, you are saving configuration changes to the flash memory of the device. These settings persist across power cycles. A user set can be configured to be the default settings for the device so that each time you start the device it starts with these settings applied, or you can start the device and then apply user set configurations.

Most iPORT devices support two user sets: **UserSet1**, which consists of the user-configured settings, and **Default**, which consists of the pre-configured settings, to which you can always revert. Settings identified as **Default** in the **Device Control** dialog box cannot be changed.

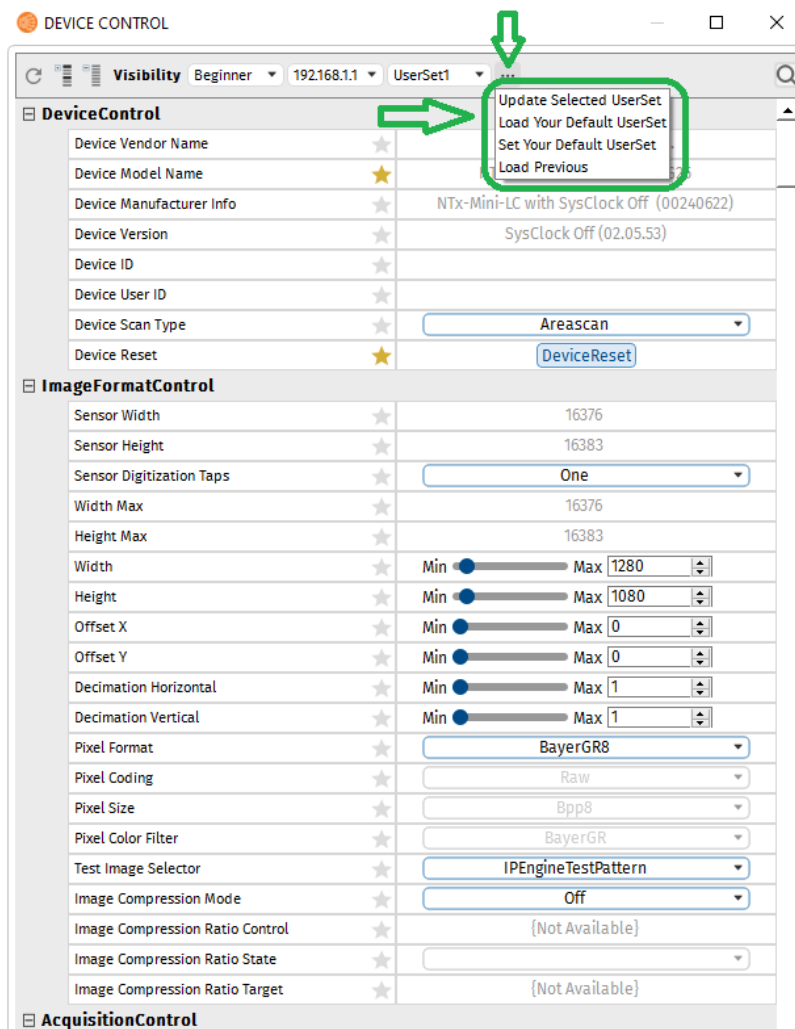


Not all device configuration changes can be saved to a user set. Features in the **Device Control** dialog box that can be saved to the device's flash memory have **Streamable: True** in the **Help** section at the bottom of the **Device Control** dialog box.

The following table describes the options available in **UserSetControl**.

Setting	Description
UserSetSelector	Selects the user set to load or save.
UserSetLoad	Loads the user set specified by UserSetSelector to the device and makes it active.
UserSetSave	Saves configuration data to the user set specified by UserSetSelector, which is part of the non-volatile memory of the device.
UserSetDefault / UserSetDefaultSelector (deprecated)	Selects the user set to load and make active when the device is reset.
UserSetLoadLastUserSet	Shows the last user set executed by the device from a UserSetLoad command, or as a result of a reset of the device.
UserSetLoadStatus	Indicates the success or failure of the last user set applied. The user set can be applied through a power cycle or through user selection.

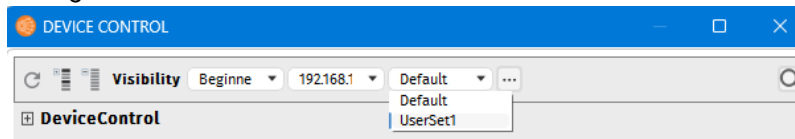
19 Saving Configuration Settings to a GigE Vision or USB3 Vision Device



To save the modified device settings

On the Visibility Taskbar:

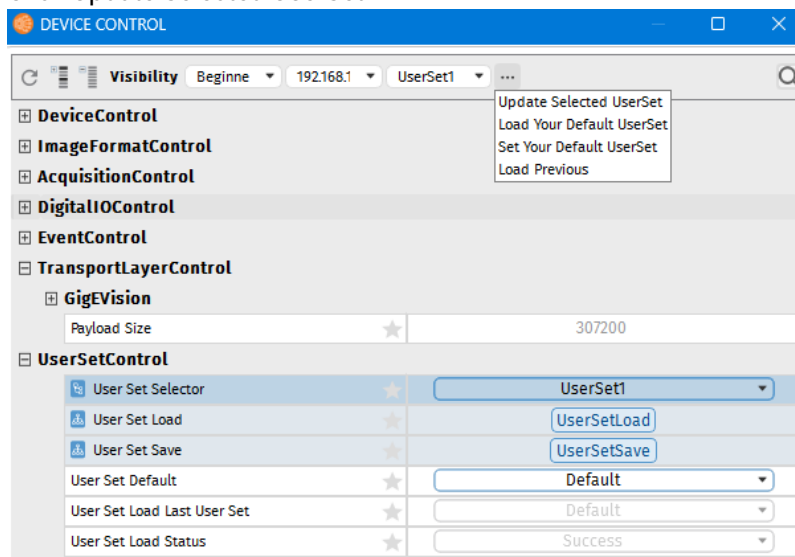
1. Change Default to UserSet1



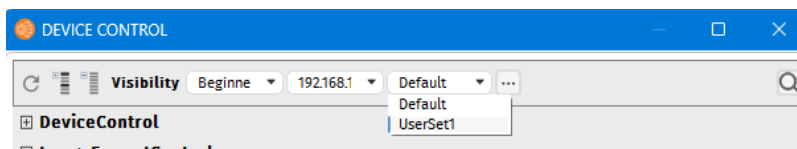
2. Click the More option



3. Click Update Selected UserSet



To access the new modification select UserSet1 from the dropdown menu.



To load the default configuration settings (one-time)

1. In the **UserSetControl** section of the **Device Control** dialog box, select **Default** in the **UserSetSelector** box.
2. Click the **UserSetLoad** setting and then click the **UserSetLoad** button that appears to the right.

The default settings are applied to the GigE Vision or USB3 Vision device.

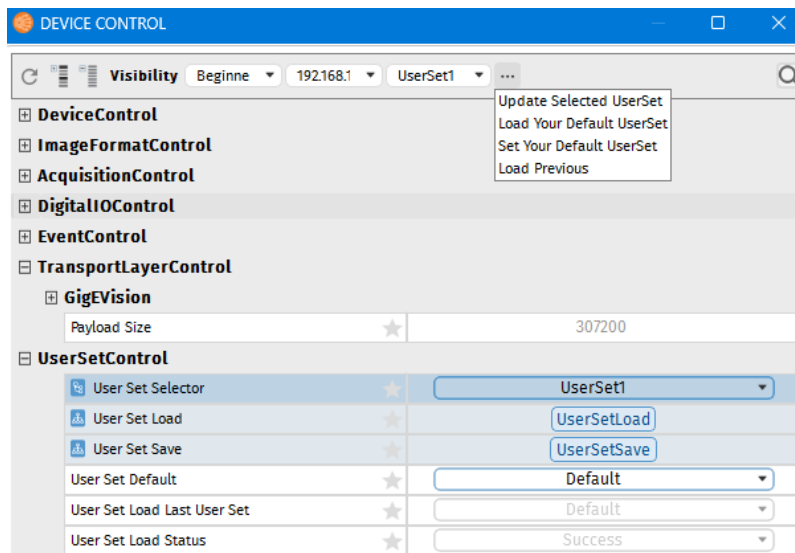
To change the Default UserSet

1. Click the More option

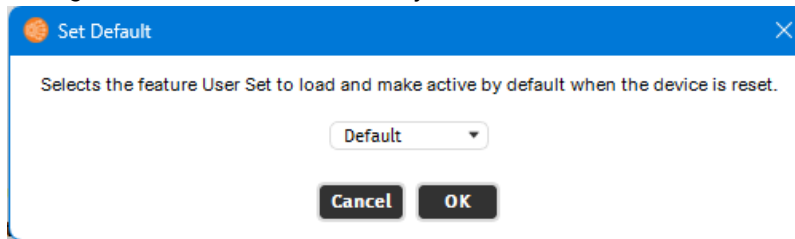


on the Visibility taskbar

2. Click on Set Your Default UserSet



3. Change the Default to the UserSet you intend to use and then click OK.



To specify the persistent settings that are loaded every time the device is reset

- In the **UserSetControl** section of the **Device Control** dialog box, select a user set in the **UserSetDefaultSelector** box and then close the **Device Control** dialog box.

The next time the GigE Vision or USB3 Vision device is reset, the user set that you selected is loaded.

19.1 Ensuring Configuration Settings are not Overwritten

When you choose a method to save eBUS Player and device settings, you could overwrite previously configured settings.

You should consider the following when saving settings.

- Each newly applied .pvcfg file overwrites all settings configured by a previously applied .pvcfg file.
- Each newly applied .pvcfg file overwrites the settings from a previously applied user set.
- When you apply device settings from a user set, device settings configured by a previously applied .pvcfg are overwritten.

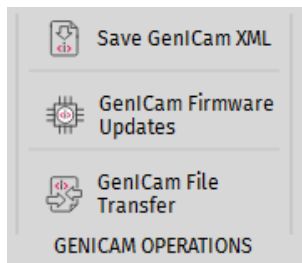
20 Saving the Camera XML File to your Computer

Saving a **GenICam XML file** allows to download or export the machine-readable descriptor that defines the camera's capabilities, features, and register maps. This file is typically stored inside the camera/device itself and used by software to understand how to control settings like exposure, gain, width and pixel format.

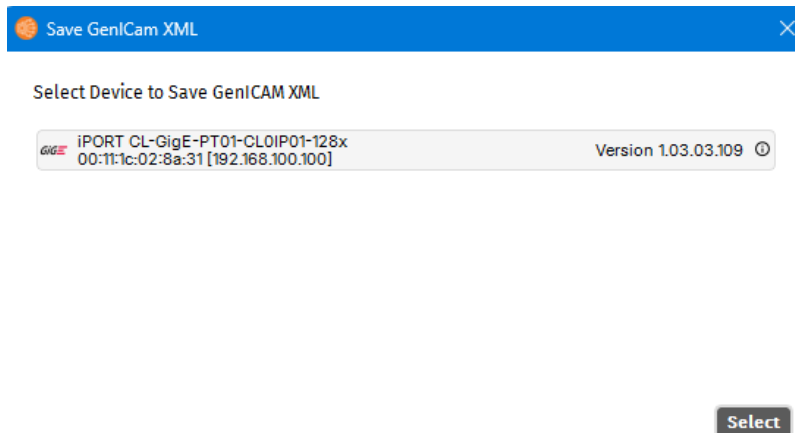
i Saving the GenICam XML file **does not** save your current operational settings (such as custom exposure or color balance). It only saves the *template* of what the camera is capable of doing.

To Save GenICam XML

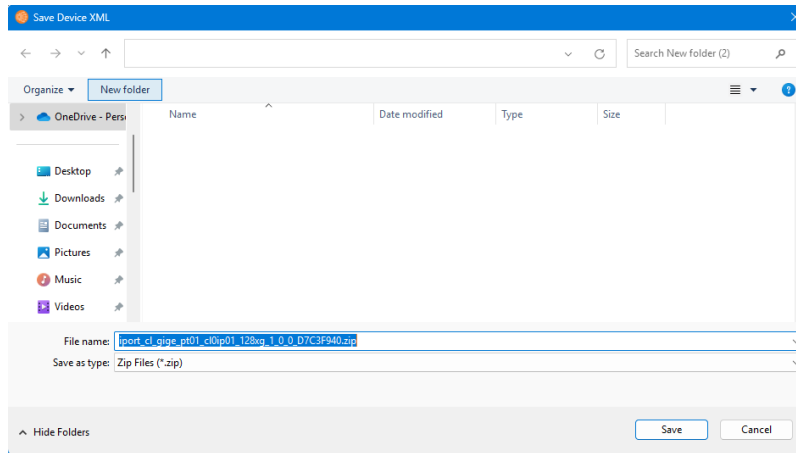
1. On the **Toolbar** menu click on **Save GenICam XML**



2. Click on the device and then click **Select**



3. Select the location where XML file will be saved



This functionality **does not** save a camera link's GenICam XML file. Only the frame grabber device can be saved.

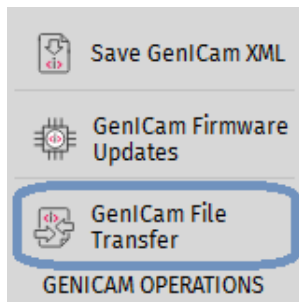
21 Transferring files to/or from your device

GenICam File Transfer is a standardized protocol used to upload or download files directly between a host computer and a connected camera/device. It is commonly used to update device **firmware**, install **LUTs** (Look-Up Tables), load custom device configuration files, or save user-defined device settings.

If the device supports this feature, you can use this dialog box to have a quick access to transfer file from or to the device.

To transfer GenICam File

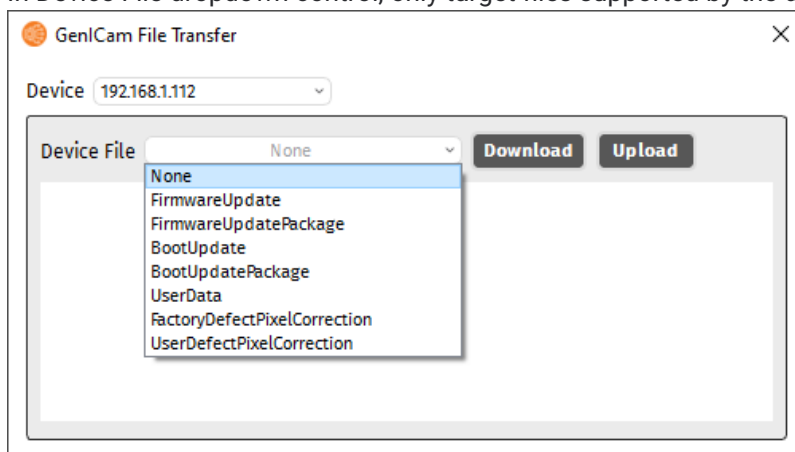
1. On the **Toolbar** menu click on **GenICam File Transfer**



2. When several devices are connected, make sure to select the right device in the dialog box.



3. In Device File dropdown control, only target files supported by the device are listed.



4. Select the target file.
5. According to the target file, click **Download** to read a file from the device and save on the computer (*Downloads* folder) or click **Upload** to write a file to the device.

Technical Support

On the Pleora Support Center, you can:

- Download the latest software and firmware.
- Log a support issue.
- View documentation for current and past releases.
- Browse for solutions to problems other customers have encountered.
- Read knowledge base articles for information about common tasks.

To visit the Pleora Support Center:

- Go to supportcenter.pleora.com.
- Most material is available without logging in to a Support Center account.
- To access software and firmware downloads, in addition to other content, log in to the Support Center.
- If you do not have an account, click Request Account.
- Accounts are usually validated within one business day.

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