



# **JetCam**

## **High Speed Camera Quick Start Guide**



**(Part-No. KY-JetCam)**

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### Revision History

Version	Date	Notes
1.0	25/07/17	Initial Release
2.0	09/05/18	Minor corrections
2.1	08/01/19	Minor corrections

#### 3.1 Safety Precautions

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

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



**Caution**

**In the event of a failure, disconnect the power supply.**

If the product is used as is, a fire or electric shock may occur. Disconnect the power supply immediately and contact our sales personnel for repair.

**If an unpleasant smell or smoking occurs, disconnect the power supply.**

If the product is used as is, a fire or electric shock may occur. Disconnect the power supply immediately. After verifying that no smoking is observed, contact our sales personnel for repair.

**Do not disassemble, repair or modify the product.**

Otherwise, a fire or electric shock may occur due to a short circuit or heat generation. For inspection, modification or repair, contact our sales personnel.

**Do not touch a cooling fan.**

As a cooling fan rotates in high speed, do not put your hand close to it. Otherwise, it may cause injury to persons. Never touch a rotating cooling fan.

**Do not place the product on unstable locations.**

Otherwise, it may drop or fall, resulting in injury to persons or failure.

**If the product is dropped or damaged, do not use it as is.**

Otherwise, a fire or electric shock may occur.

**Do not touch the product with a metallic object.**

Otherwise, a fire or electric shock may occur.

**Do not place the product in dusty or humid locations or where water may splash.**

Otherwise, a fire or electric shock may occur.

**Do not get the product wet or touch it with a wet hand.**

Otherwise, the product may break down or it may cause a fire, smoking or electric shock.

**Do not touch a connector on the product (gold-plated portion).**

Otherwise, the surface of a connector may be contaminated with sweat or skin oil, resulting in contact failure of a connector or it may cause a malfunction, fire or electric shock due to static electricity.

**Do not use or place the product in the following locations.**

- Humid and dusty locations
- Airless locations such as closet or bookshelf
- Locations which receive oily smoke or steam
- Locations close to heating equipment
- Closed inside of a car where the temperature becomes high
- Static electricity replete locations
- Locations close to water or chemicals

Otherwise, a fire, electric shock, accident or deformation may occur due to a short circuit or heat generation.

**Do not place heavy things on the product.**

Otherwise, the product may be damaged.

**Be sure to drain static electricity from body before you touch any electronics component**

The electronic circuits in your computer and the circuits on Komodo board are sensitive to static electricity and surges. Improper handling can seriously damage the circuits. In addition, do not let your clothing come in contact with the circuit boards or components.

Otherwise, the product may be damaged.

### 3.2 Disclaimer

This product should be used for capturing and processing images. KAYA Instruments assumes no responsibility for any damages resulting from the use of this product for purposes other than those stated.

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

- Earthquake, thunder, natural disaster or fire resulting from the use beyond our responsibility, acts caused by a third party or other accidents, the customer's willful or accidental misuse or use under other abnormal conditions.
- Secondary impact arising from use of this product or its unusable state (business interruption or others).
- Use of this product against the instructions given in this manual or malfunctions due to connection to other devices.

KAYA Instruments assumes no responsibility or liability for:

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

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

### 4.1 System Components

The JetCam system configuration includes the following parts:



JetCam Camera



Integrated lens



3G SDI output for local monitor



Komodo Fiber Frame Grabber



12V Power Supply



QSFP+ Modules



Fiber Cable

Vision Point Software and SDK

Table 1 : JetCam Camera system components

Example of the system connectivity is described in Figure 1.

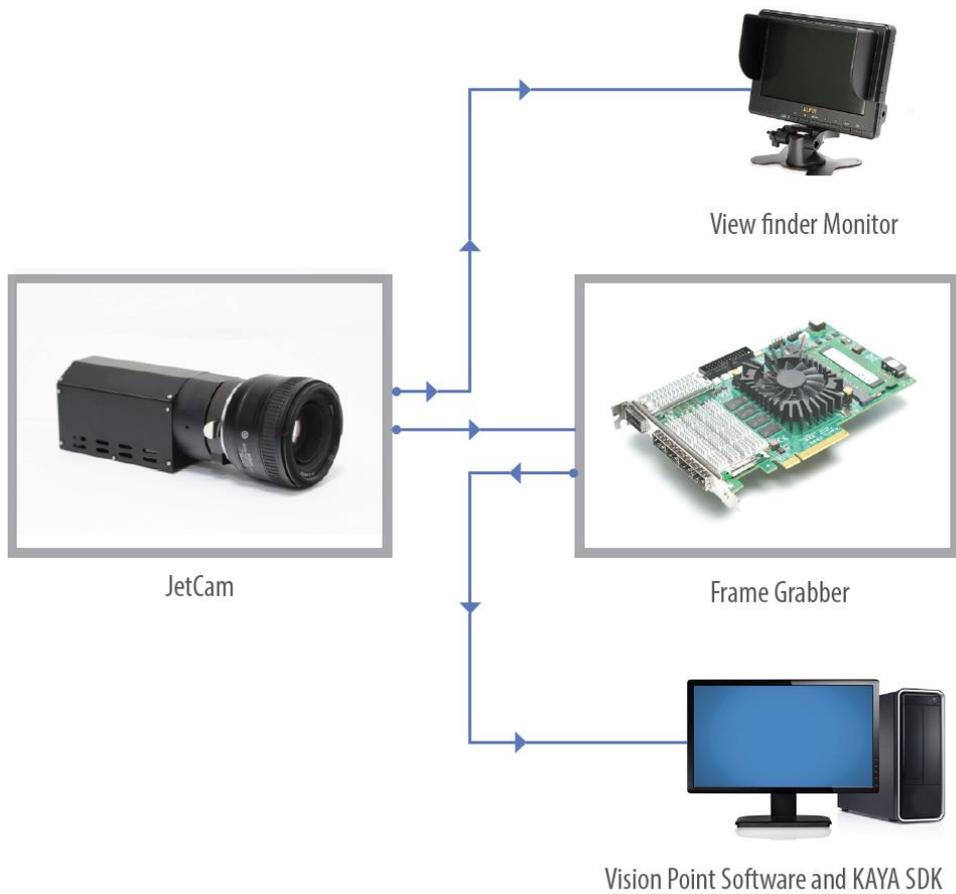


Figure 1 : JetCam Camera system structure diagram

The following steps will guide you through the system installation and configuration.

### 5.1 Essentials to get started

To begin using your JetCam system, you must have the following:

- ✓ A computer with the following:
  - Processor with an Intel 64-bit architecture, or equivalent.
  - An available x8 (or x16) PCIe slot. Gen 3 support is recommended for faster data transfer.
  - Vision Point Application installation
- ✓ JetCam camera
- ✓ Komodo Fiber board
- ✓ Fiber QSFP+ Modules
- ✓ Fiber optic cable

NOTE: KAYA Instruments doesn't guarantee compatibility with all computers that have the above specifications. Please, consult KAYA representative for any specific issue.

### 5.2 Komodo board installation

1. Before installing the Komodo Board, turn off the power of the computer and its peripherals.
2. Firmly insert the Komodo board to PCIe connector of the motherboard, using the motherboard's 8 lanes and up PCIe connector.
3. Verify the Komodo board inserted correctly to the PCIe slot.
4. Anchor the PCIe bracket to the computer chassis using M3 screw.

NOTE: The Frame Grabber should be installed before you install your software.

For more detailed information please refer to Komodo Fiber Reference Guide documentation.

### 5.3 QSFP+ installation and connectivity

1. Before connecting the QSFP+ module, make sure there is no dirt inside the QSFP+ module, or any other foreign matter blocking any of the connectors.
2. Make sure that the male connectors on the QSFP+ module will align with the female connectors inside the cage.
3. Insert the QSFP+ modules into the *JetCam Camera* and *Komodo Fiber board*.
4. Insert the fiber cables into the QSFP+ modules as described in Figure 2 and Figure 3.



Figure 2 : QSFP+ Module

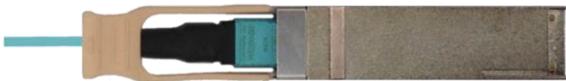


Figure 3 : QSFP+ Module with fiber cable inserted

For detailed information about QSFP+ installation please refer to JetCam User Guide documentation.

### 5.4 JetCam installation and connectivity

Connect the Power Adaptor to the *JetCam* power supply connector as shown in Figure 4.

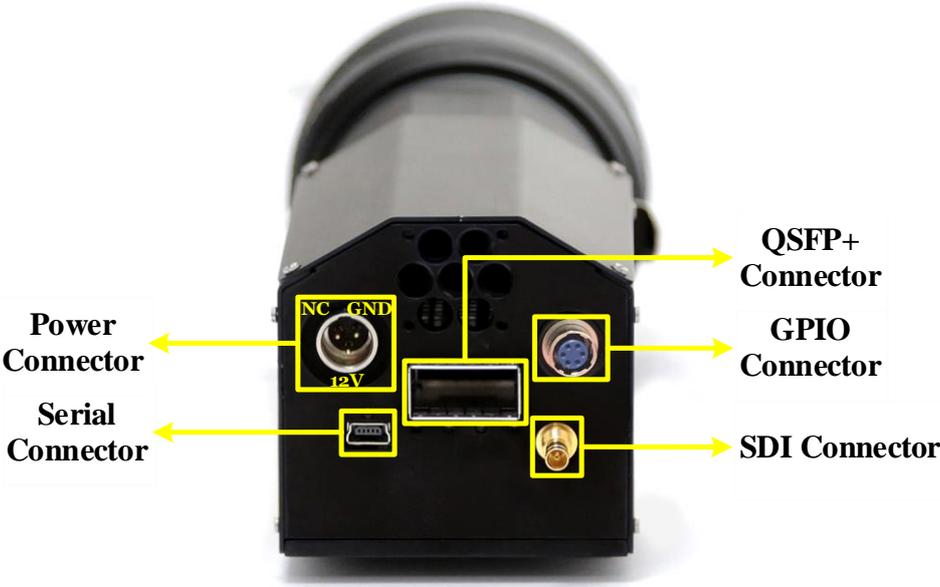


Figure 4 : JetCam camera power connector

NOTE: Powering up the camera will automatically start SDI transmission for local camera configuration. Detecting the camera using Vision Point application will turn off the SDI output and the image will be displayed only via Vision Point application interface. For SDI output, the camera should be powered cycle.

A typical *JetCam* system is connected as described in the figure below.

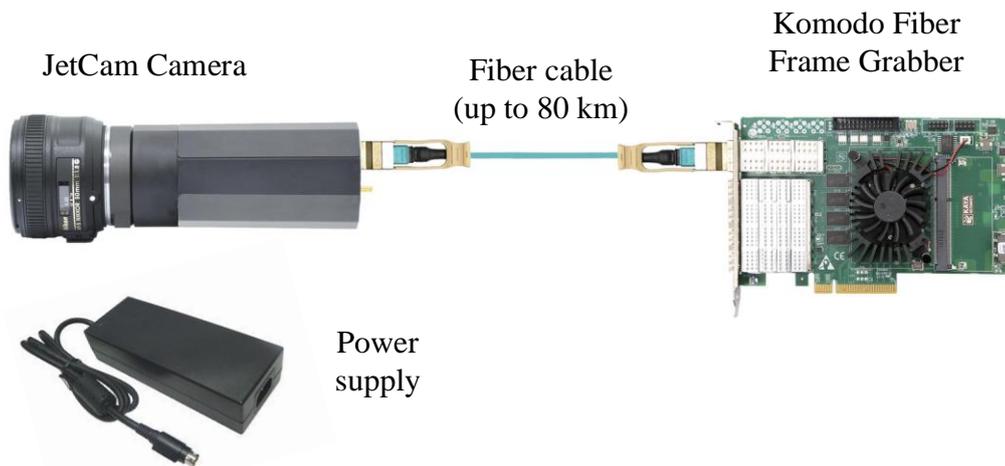


Figure 5 : JetCam Camera system connection diagram

### 5.5 Vision Point Application installation

1. Power up the computer.
2. After OS is up, you will be asked to install a driver for new Multimedia Device. At this stage, you should cancel the installation.
3. Run the *Vision Point Application* installation and follow the steps.

NOTE: Under Windows and Linux the compatible drivers for Komodo board will be installed during installation of Vision Point App software.

For more detailed information please refer to Vision Point Software Installation Guide documentation.

The Vision Point application is the main interface for all JetCam camera setting and configurations.

The basic steps include:

1. Selecting a grabber board
2. Opening, creating and closing a project
3. Adjusting the grabber parameters
4. Scanning and adjusting the camera parameters
5. Starting and controlling acquisition

### 6.1 Selecting a Grabber board

1. Open Vision Point application.
2. Click the ▼ button of the grabber selection combo box located on the Toolbar Menu.
3. When the list of available target boards will open, select the required board/demo mode from the list, as shown in Figure 6.
4. Click “Create new project” to create new project from scratch or “Open existing project...” to open an existing one.

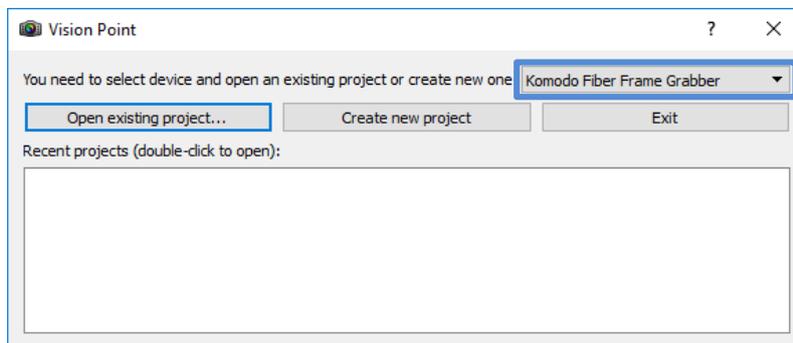


Figure 6 : Selecting a Frame Grabber

### 6.2 Detecting the JetCam camera

After a Frame Grabber was chosen and a project was opened, use the  Toolbar Menu button, or click “Detect cameras” in the “Grabber Control” menu, to initiate a camera scan.

A successful camera detection will display JetCam camera parameters in the “Cameras” tab, showing camera vendor, model, resolution and format, as shown in Figure 7.

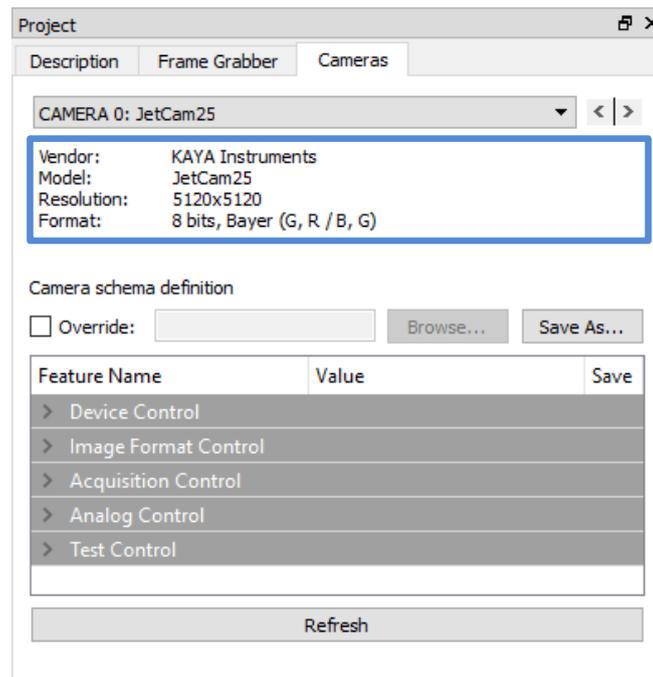


Figure 7 : JetCam description parameters

### 6.3 Starting and controlling acquisition

After JetCam camera was detected, the stream acquisition can commence.

In order to start the acquisition, press the  button, located in the main toolbar. At this point the picture window will open, showing the current stream parameters in the bottom of the window, and the stream will commence. An example is shown in

To stop the acquisition, press the  button located in the main toolbar or the picture window. Acquisition can also be controlled from "Device Control" located in window menu and "Acquisition Control" category, located in the "Camera" tab.

The Vision Point App main window with all of its components shown in Figure 8.

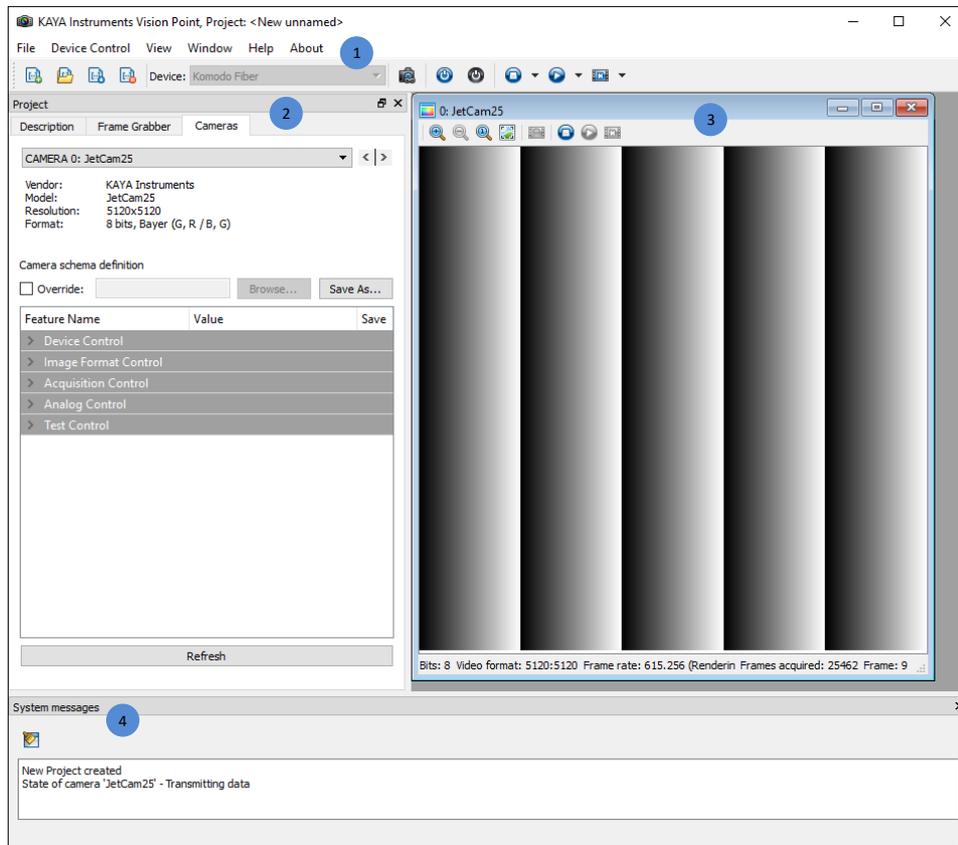


Figure 8 : Vision Point App main window

The basic components of the application are:

1. The toolbar Menu:

Includes project operation buttons, hardware selection and stream acquisition control buttons.

2. The project navigator:

Allows configuring and controlling the camera via standard GenCam interface.

- a. A Description tab, used to specify the project name and description.
- b. A Frame Grabber tab, describing FG related information and configurations, e.g. I/O control and hardware information. These are controlled using GenCam interface.
- c. A Camera tab enables configuring the camera GenCam parameters listed in the camera XML file. An external XML file may be loaded in the absence of a native one from the camera.

3. The acquisition picture window:

Displays the last frame that has been grabbed. Information on frame rate and image format can be found at the bottom of the picture window.

4. The system messages window:

Displays general, runtime informational and error messages regarding the state of stream grabbing and changes to various components. If not needed, the message window can be hidden/shown via View tab of the Vision Point App menu bar.