

HAMAMATSU
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camera software

Release Notes • January 2023

1 Introduction

The TOKUPIC application is based on the new Hamamatsu Photonics Deutschland GmbH programming framework named Kaishin. The word TOKU is derived from the Japanese Kanji letters 得, とく. The meaning is like *gain*, *benefit* or *advantage*.

The TOKUPIC application was designed to control Hamamatsu camera devices. The main intention is to provide simple access to the device parameters and data acquisition. The TOKUPIC application offers a clean view where the user can change the user interface to fit their needs (dockable windows which can be placed even on different monitors).

2 Features

The following sections describe the available features.

2.1 User Interface

The *User Interface* can be highly customized. The users can arrange the available views in the application to fit their needs. This is done by providing a docking layout for the whole application. In addition, different themes are available.

2.2 2D Cameras

The main target for the TOKUPIC application is to support 2D image sensors and cameras

2.3 Line Sensors

The application also includes support for line sensors (based on underlying DCAM framework). The data can be displayed in a so-called "scrolling live view" which offers frame navigation forward and backward in time.

2.4 Device Discovery

TOKUPIC comes with a so-called *Device Discovery*. The user has to plug-in the desired devices to the local computer. Within the application, there is a *Device Discovery* view, which enables the user with a simple click to scan for all connected and supported devices. The found devices are presented in a clear view for further operations.

2.5 Manual Setup

In addition to the automatically detected devices, TOKUPIC also supports the use of devices that are manually configured and added by the user.

2.6 Device Parameters

After selecting a supported and connected device, the user can view and modify the available device parameters (e.g. exposure time, triggers, capture mode etc.).

2.7 Live Images and Recording

With TOKUPIC, it is possible to preview live image data from the connected camera devices as well as running high-speed recordings for long time periods. The acquired

image data can be saved on the hard disk and loaded on demand (several file formats are supported).

2.8 Acquisition Processing

The application offers basic image processing functionality during camera acquisition (e.g. image flip, rotation, average filtering etc.)

2.9 Data Analysis

In addition to the *Acquisition Processing*, TOKUPIC includes profile and basic data analysis functionality which can be performed based on ROIs (Regions of Interest).

2.10 Multithreading

Run data acquisition for multiple connected camera devices at the same time while viewing live image data. In addition, the connected camera devices do not have to be from the same model family. As an example, the user can acquire images from multiple connected DCAM cameras and DirectShow based devices simultaneously.

2.11 Context Sensitive Help

TOKUPIC offers a context sensitive help. This makes it easy for a user to become familiar with the different program capabilities and views. Pressing the well-known "F1" help key within the application will show up the documentation for the corresponding area.

2.12 Plug-in Concept

Based on the Kaishin programming framework, the TOKUPIC application comes with a plug-in concept, which makes it possible to extend the application with own developed software modules. For detailed information and support, please contact Hamamatsu Photonics Deutschland GmbH.

3 Supported Devices

As stated above, currently all DCAM related camera devices are supported. In addition, there is basic support for DirectShow based cameras (e.g. webcams), Pleora eBus based cameras (e.g. through GigE) and Pleora iPort Grabber. Furthermore, there is support for non-camera devices upon user request.

4 Version History

The following sections inform about the TOKUPIC version history. For every release, the release date and the changes are documented.

4.1 Version 1.0.0

Released in October 2021. This is the initial release of the software.

4.2 Version 1.1.0

Released in January 2023

- Added ROI (Regions of Interest) support for live data and measurements with basic analysis functionality.

- Added support for devices, which will not be discovered automatically (devices, which require manual configuration by the user).
- Added support for Pleora eBus based cameras (e.g. through GigE) and Pleora iPort Grabber.
- Acquisition processing filter (e.g. average filter, flip, rotate etc.)
- Support of multi-page TIFF format
- Support for non-camera devices upon request.

4.3 Version 1.1.1

Released in January 2023

- Fixed some localization issues with the Japanese language

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