Zebra Aurora Design Assistant

FLOWCHART-BASED DEVELOPMENT ENVIRONMENT

Zebra Aurora Design Assistant™ integrated development environment (IDE) is a flowchart-based platform for building applications, with templates to speed up development and bring vision applications online quicker.

Aurora Design Assistant operates independent of hardware, allowing users to choose any computer with CoaXPress (using a Zebra Rapixo CXP frame grabber), GigE Vision or USB3 Vision cameras. Aurora Design Assistant works with multiple cameras all within the same project, or per project running concurrently and independently from one another, platform permitting. The software also works with Zebra vision controllers or Zebra Iris GTX smart cameras. Once development is complete, the project—with flowchart(s) and operator interface(s)—is deployed either locally or remotely.

The software communicates over Ethernet networks, enabling interaction with programmable logic/automation controllers. Aurora Design Assistant supports OPC UA communication for interaction with manufacturing systems and direct communication with select robot controllers for 2D vision-guided robotic applications.

Project Templates for Quicker Start-Up

Aurora Design Assistant includes project templates and video tutorials to help new developers get up and running quickly. Templates are either functional applications or application frameworks intended as a foundation for a target application; they can be modified dynamically so users can tweak functionality at runtime and immediately see the outcome. Project templates address typical application areas, such as:

- Barcode and 2D code reading
- Measurement
- Presences/absence
- Recipes
- Robot guidance (pick-and-place)
- Dot-matrix text reading (SureDotOCR)
- Color checking

More information on templates can be found on the Quick Start page of Aurora Design Assistant software.

Why Choose Aurora Design Assistant?

FLOWCHART-BASED DEVELOPMENT

Build and configure applications using provided flowchart steps to fast-track development without the need for traditional coding. The IDE also lets users design a custom web-based operator interface.

FLEXIBLE DEPLOYMENT OPTIONS

Choose your platform with a hardware-independent environment that supports branded and third-party smart cameras, vision controllers, and PCs with CoaXPress, GigE Vision, or USB3 Vision cameras.

STREAMLINED COMMUNICATION

Communicate actions and results to other automation and enterprise equipment easily and in real-time with discrete I/Os and a range of supported communication protocols.

INCREASE PRODUCTIVITY AND REDUCE DEVELOPMENT COSTS

Vision Academy online and on-premises training lets users can seek out training on specific topics of interest so they can get the most out of Aurora Design Assistant software.

Key Features

Solve machine vision applications

efficiently with flowcharts instead of coding, using field-proven tools for analyzing, classifying, locating, measuring, reading and verifying

Use a single program

for creating both application logic and operator interface

Leverage deep learning for visual inspection

through image classification and segmentation tools

Rely on a common underlying vision library

for the same results with an Iris GTX smart camera, vision system or third-party computer

Work with multiple cameras

all within the same project or per project running concurrently and independently from one another, platform permitting

Interface to Zebra AltiZ and third-party 3D sensors

to visualize, process and analyze depth maps and point clouds

Communication options

include discrete Zebra I/Os, RS-232, and Ethernet (TCP/IP, CC-Link IE Field Basic, EtherNet/IP, Modbus, OPC UA, and PROFINET, and native robot interfaces)

Maximize productivity

with instant feedback on image analysis and processing operations

Receive immediate, pertinent assistance

through an integrated contextual guide

Maintain control and independence

through the ability to create custom flowchart steps

Test communication with PLC

using the built-in PLC interface emulator

Protect against inappropriate changes

with the Project Change Validator tool

Capabilities

- Pattern Recognition
- Shape Finding
- Feature Extraction and Analysis
- Classification

- 1D and 2D Measurement
- Color Analysis
- Character Recognition
- 1D and 2D Code Reading and Verification

- Photometric Stereo
- HDR
- 2D Calibration
- Basic Image Processing

- 3D Acquisition and Display
- 3D Analysis and Processing
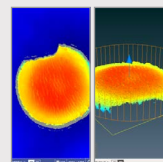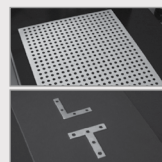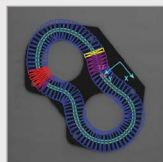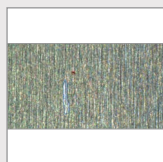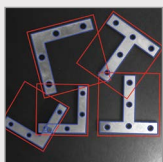
Utilities

Aurora Design Assistant has several useful utilities, including a runtime monitor that collects performance statistics to aid with troubleshooting and optimization, the Aurora Profiler utility for to post-analyze the execution of a vision project for performance bottlenecks and timing issues, the Aurora Capture Works utility for verifying and testing connections/acquisitions to and from one or more GenICam-based cameras or 3D sensors, a project change validator for ensuring that changes made to a deployed project are not detrimental to the function of that project, and a PLC interface emulator to test communication in instances when a physical device is not connected.

Supported Environments

64-bit Windows 10 (versions 1809 to 22H2) and Windows 11 (version 21H2 and 22H2)

Vision Academy

Available to customers with valid Aurora Design Assistant maintenance subscriptions, as well as those evaluating the software, users can seek out training on specific topics of interest. Vision Academy aims to help users get the most out of Aurora Design Assistant, increase productivity, reduce development costs, and bring applications to market sooner.

Aurora Design Assistant Maintenance Program

Aurora Design Assistant users have access to a Maintenance Program, renewable on a yearly basis. This maintenance program entitles registered users to free software updates and entry-level technical support from Zebra, as well as access to Vision Academy.

Flowchart-based development environment. Experience the difference with Aurora Design Assistant. For more information, visit
www.zebra.com/aurora-design-assistant

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