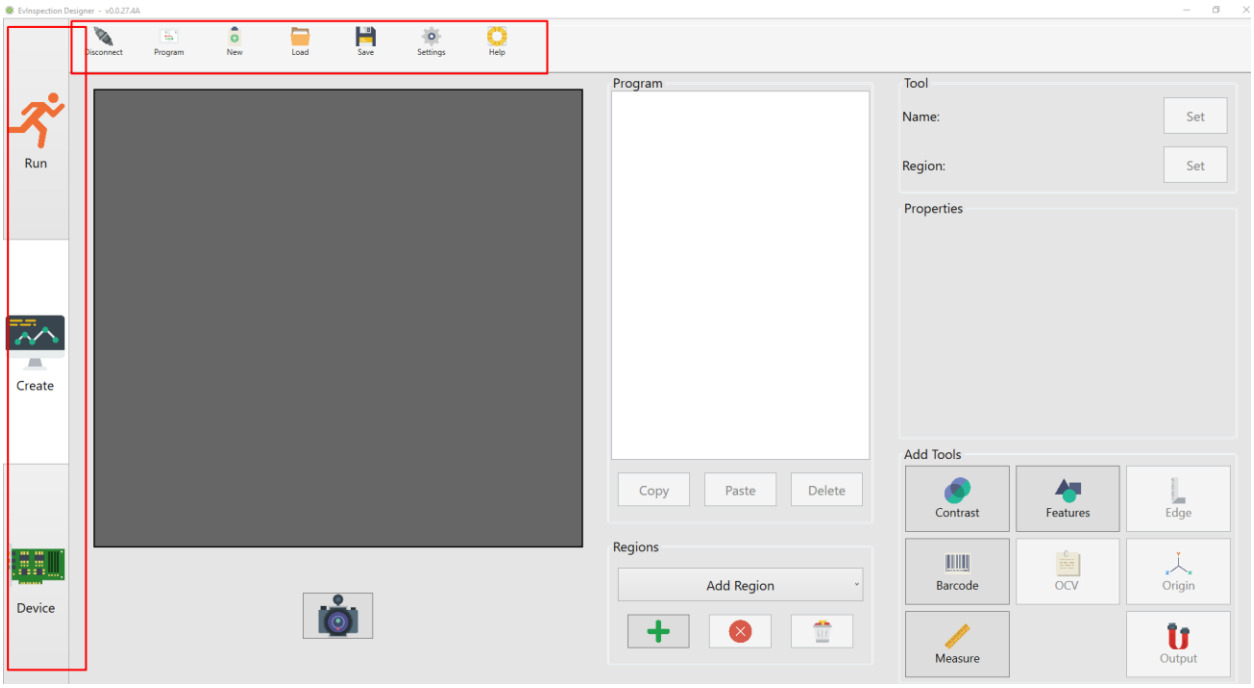
Quick Start Guide

EVDesigner Software

Manual Version 1.1

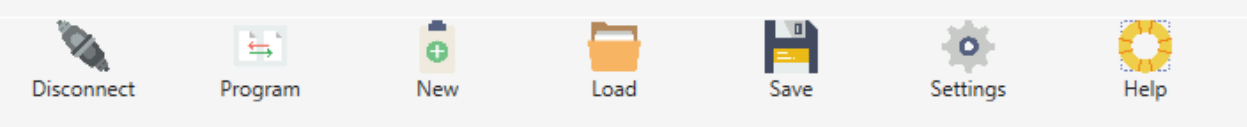
The EvDesigner application allows a user to create and test vision programs for use with the EvInspection embedded vision system.

Navigation



The navigation bar on the left side of the screen allows you to switch between the three programming modes.

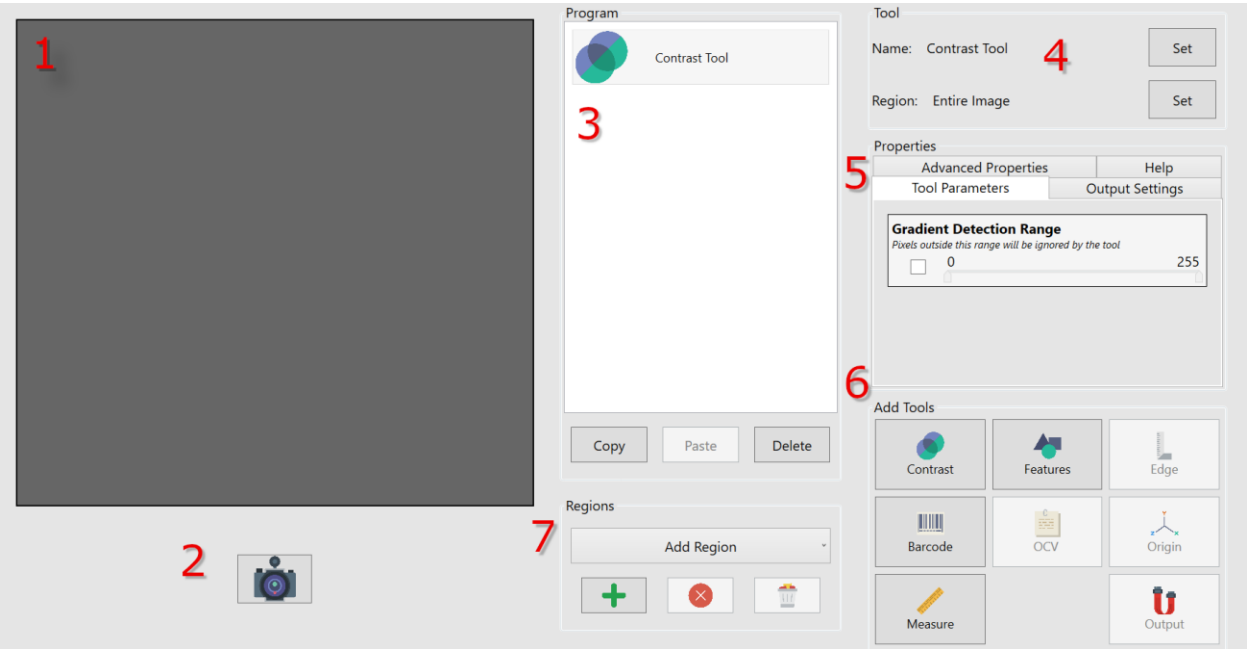
The program menu at the top provides easy access to some of the application's functions.



Connect/Disconnect: Connect to or Disconnect from a Vision Device or Emulator
Program: Send the current program to the connected device
New: Create a new Vision Program
Load: Load an existing Vision Program
Save: Save the current program to disk
Settings: Application settings and Emulator Management
Help: Information about the EvDesigner Application

Create Mode

'Create Mode' allows you to create a vision program



1 - The Image Window will display the current image from the connected device

2 - The Trigger Button will trigger the device, causing it to take an image and run the loaded program

3 - The current program. Tools will execute in the order they are added. Selecting a tool will bring up the tool information and properties

4 - Selected Tool Details: allows you to set the tool name and region of the image the tool will run on

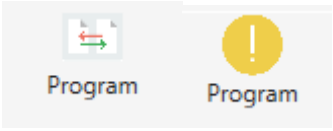
5 - Selected Tool Properties: allows you to set the tool running parameters and output settings. The ‘Help’ tab also contains detailed descriptions of each tool property and how to use them

6 - Add a tool to the program by clicking the corresponding tool button here. Not all tool types are currently available.

7 - Add regions to the Vision Program by clicking the ‘+’ button. Using regions is highly recommended (when possible) as it can greatly reduce processing time for individual tools.

Notes on Device Programming

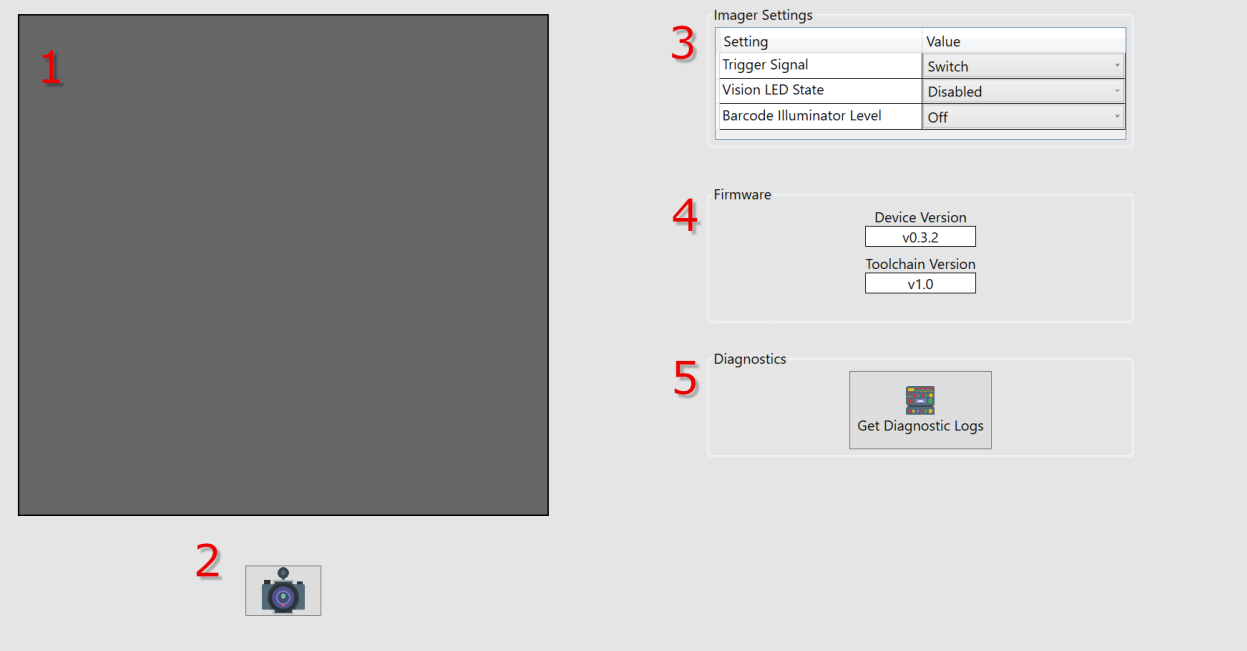
Since the program is executed entirely on the remote device, any time changes are made to the program, they must be synced to the device before they will take effect. The ‘Program Device’ icon will indicate unsynced changes



LEFT: indicates a synced program
RIGHT: indicates an unsynced program

Device Mode

Device Mode allows you to view and change settings related to the connected device. This mode is only available when a device is connected.



1 - The Image Window will display the current image from the connected device

2 - The Trigger Button will trigger the device, causing it to take an image and run the loaded program

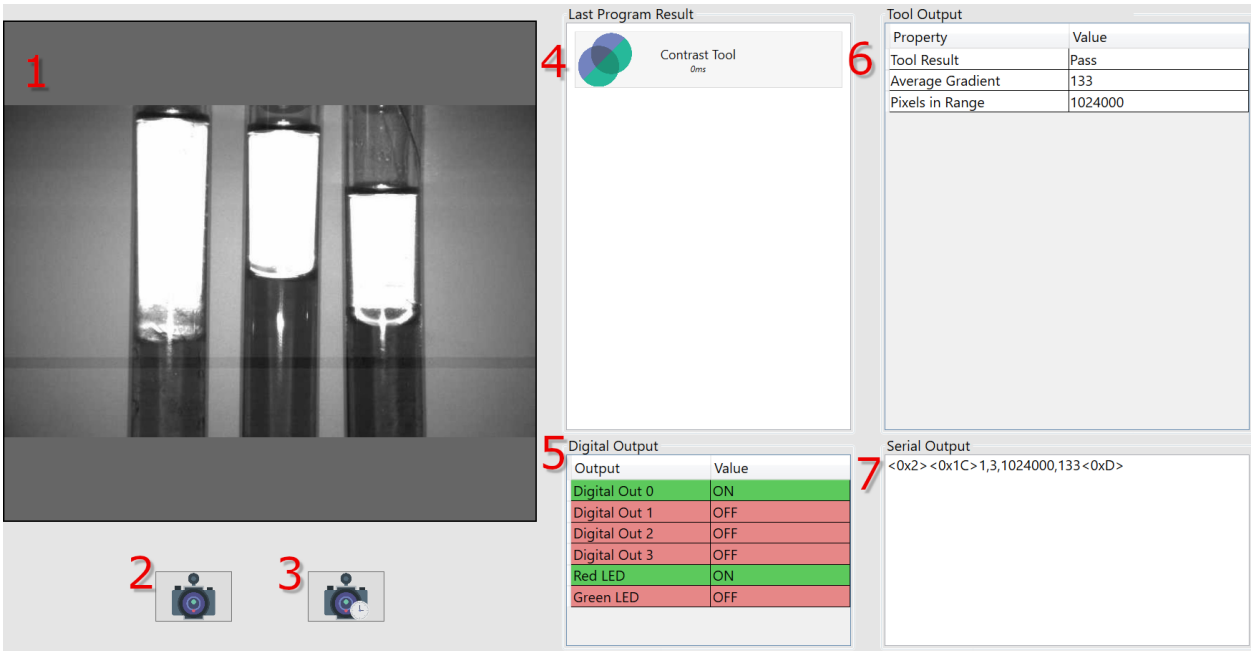
3- View and change settings related to the imager. These settings are not related to the currently loaded Vision Program. The options available depend on the type of Vision Device connected.

4 - Details about the firmware running on the connected device. When connected to a Hardware Device (not an emulator) the option to update the firmware from a local file is also available

5 - Diagnostic logs can be downloaded from the device or emulator program. These logs can be provided to Diamond Technologies for diagnostic and support purposes.

Run Mode

Run Mode allows you to see results of a currently running inspection, as well as some other runtime information about the device. Run Mode is only available when a device is connected. This mode should only be used for evaluation of Vision Programs. A device in a ‘production’ setting should never be connected to the EvDesigner program, as this significantly slows the device operation.



1 - The Image Window will display the current image from the connected device

2 - The Trigger Button will trigger the device, causing it to take an image and run the loaded program

3 - The Auto Trigger button will cause the device to periodically trigger while in Run Mode

4 - The Results List shows the individual results from each tool in the program from the last run cycle. Tools that have reported *Pass* condition will appear in white, tools reporting a *Fail* condition in red and tools that encountered an error will appear in orange. Selecting a tool will cause the specific tool outputs to appear in the Tool Output window (6)

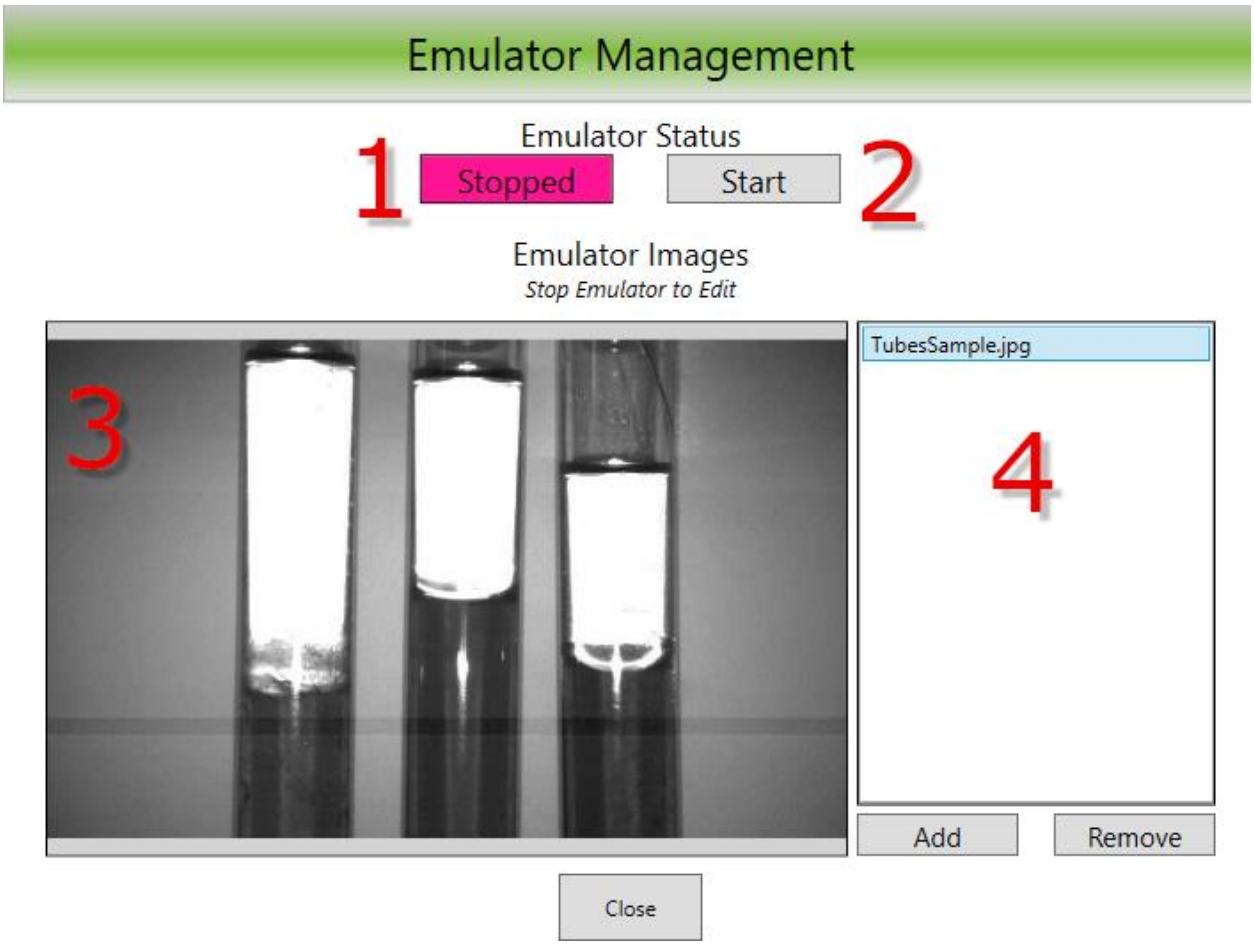
5 - The Digital Output Indicators display the state of the devices digital outputs after the last run cycle

6 - The Tool Output window shows the specific output data items for each tool.

7 - The Serial Output windows shows the serial message that would have been sent to the host program after the last run cycle.

Emulator Management

The Emulator Management Window can be accessed through the ‘Settings’ item on the menu bar (top of screen)



1 - Current emulator state

2 - Button to toggle emulator state

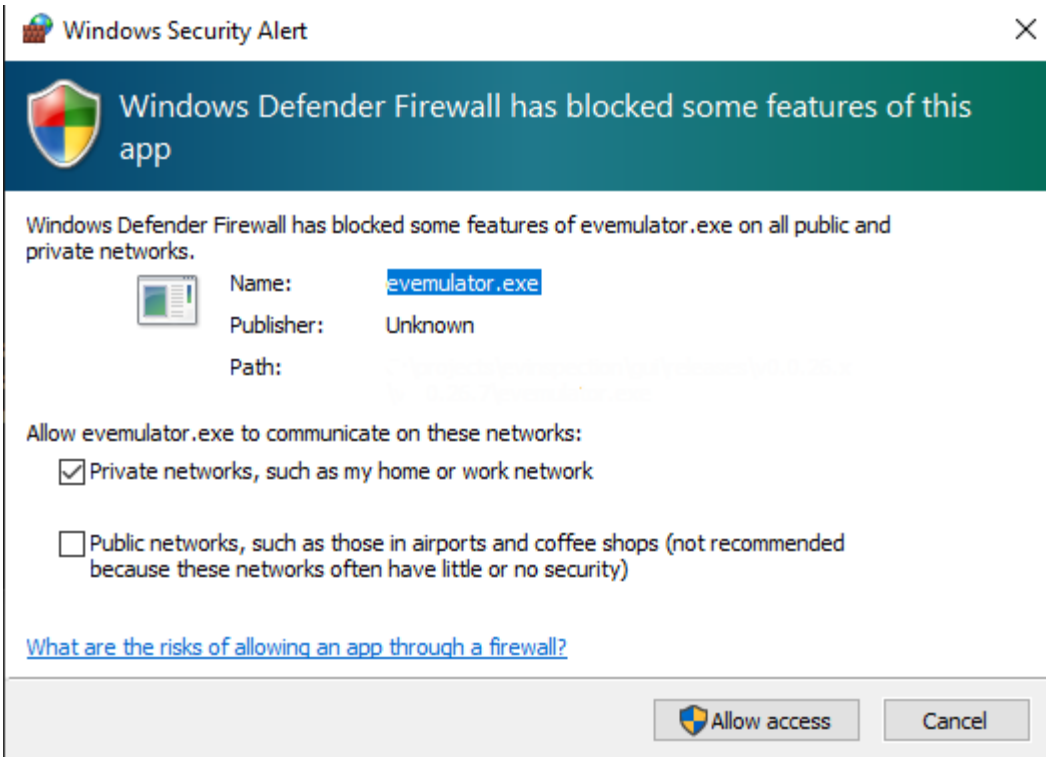
3 - Emulator Image Display, shows the image currently selected in the image management list (4)

4 - The image management list allows the user to add or remove images from the emulator. When triggered the emulator will cycle through images in this list. Images can only be added or removed when the emulator is stopped.

Notes on Running the Emulator

Only one emulator instance can be running at once. Attempting to open another emulator will cause the new instance to fail.

On some systems, the Emulator may need to be granted permission to run:



In order to run the emulator, you must press ‘Allow Access’ so the Emulator program can open a TCP port and receive connections from the EvDesigner software.

Emulator Limitations

Note that at this time the emulator itself cannot read barcodes, as this functionality exists completely on-board the EvInspection devices. When a barcode tool is loaded into the emulator, the emulator will always ‘find’ two barcodes within the image (UPC-A and Data Matrix), regardless of what is actually in the image. This serves as a demonstration of the barcode functionality.

Sample Programs

Several Sample programs are provided with the EvDesigner application. These are meant to be used with the Emulator and demonstrate the functionality of each tool. Each sample has a corresponding image to load into the emulator when running the sample program.

These are distributed with the EvDesigner application and located in the ‘Sample Programs’ and ‘Emulator Images’ directories respectively.