



Image Sensor Edition Quick Start Guide

Instructions for Installation and Startup

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Introduction

Imatest is the digital imaging industry's leading software package for measuring key image quality factors such as sharpness, color quality, noise, lens distortion, and much more.

Along with all the features of Imatest Master, the Image Sensor Edition also offers the ability to load images directly from image sensor configuration and control software. Including DevWare from Aptina Imaging, OVTATool2009 from Omnivision, and ImaTuning from Toshiba. This eliminates the need to capture images separately and load them individually into Imatest Master, dramatically improving productivity.

Setup

Following is a series of steps required to download, install, configure and prepare the Image Sensor Edition for operation on your computer.

Download Software

To download Imatest software, go to <http://www.imatest.com/devware>

Create an account, or use your current login.

Download the self-extracting executable. It will install the Image Sensor Edition, and the Matlab Component Runtime (MCR), required for the Image Sensor Edition to run. Even if the MCR is already installed check "Matlab Libraries" to ensure you have the version of MCR (7.7) corresponding to the Imatest build (Matlab 7.5). When it installs, check "Modify". This will ensure a complete installation.

Follow the directions for registration.

For additional Image Sensor software, please refer to the appropriate support and quick start guides for Image Sensor Edition supported software. For example, to install Aptina's DevSuite software, including DevWare, go to <http://www.aplina.com/support/Devsuite.jsp>

Follow the directions for registering Aptina's DevSuite. The registration process will take 1 business day, after which you receive an Email with login instructions. Again, additional sensor interface software is available through each company's website or representative.

Install Software

Follow the directions included in both the Imatest and proprietary image sensor software installation downloads.

Purchase Image Sensor Edition

To purchase, visit: <http://imatest.com/devware/purchase>

To upgrade Imatest Master to Image Sensor Edition, go to:

<http://imatest.com/devware/upgrade>

Software Startup Procedure

The Image Sensor Edition is designed to work with multiple proprietary software and hardware image sensor interfaces. This section will provide a detailed walk through for setting up the Image Sensor Edition to work with your specific sensor hardware.

Using Image Sensor Edition with Aptina DevWare

Imatest invites Aptina DevSuite users to take advantage of the Image Sensor Edition, which supports Aptina DevWare in the Rescharts and Multicharts analysis modules.



1. Start DevWare. For Imatest to acquire an image, it must connect to an existing instance of DevWare.
2. Start the Image Sensor Edition. IS will install Desktop and Start Menu shortcuts if the corresponding check boxes are selected during installation.
3. Imatest defaults to file processing, not image acquisition. To configure it to acquire images from DevWare, go to either the **Rescharts** or **Multicharts** analysis modules.
4. In either the **Rescharts** or **Multicharts** analysis modules, go to the **Settings** menu, there will be an expandable menu labeled **Image from Device**, expand this menu and select **Aptina DevWare**.
5. This sets the specific source for image data acquisition, in this case Aptina DevSuite's DevWare Image Sensor program.
6. This will also automatically select the checkbox **Acquire from Device** located next to the **Chart type** drop-down box in the main Rescharts or Multicharts window.
7. When your imaging system is ready, Click **Acquire image**, and perform useful analysis right way.
8. Image acquisition is currently available in **Rescharts** and **Multicharts** only; this functionality will be supported in other Imatest modules in a future release.

Please refer to both the Imatest and Aptina DevWare Help files and associated usage guides for additional information.

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Using Image Sensor Edition with Omnivision OVTATool2009

Imatest invites Omnivision users to take advantage of the Image Sensor Edition, which supports Omnivision's OVTATool2009 in the Rescharts and Multicharts analysis modules.

1. Start OVTATool2009. For Imatest to acquire an image, it must connect to an existing instance of OVTA.
2. Start the Image Sensor Edition. IS will install Desktop and Start Menu shortcuts if the corresponding check boxes are selected during installation.
3. Imatest defaults to file processing, not image acquisition. To configure it to acquire images from OVTATool2009, go to either the **Rescharts** or **Multicharts** analysis modules.
4. In either the **Rescharts** or **Multicharts** analysis modules, go to the **Settings** menu, there will be an expandable menu labeled **Image from Device**, expand this menu and select **Omnivision OVTATool**.
5. This sets the specific source for image data acquisition, in this case Omnivision's OVTATool2009 Image Sensor program.
6. This will also automatically select the checkbox **Acquire from Device** located next to the **Chart type** drop-down box in the main Rescharts or Multicharts window.
7. When your imaging system is ready, Click **Acquire image**, and perform useful analysis right way.
8. Image acquisition is currently available in **Rescharts** and **Multicharts** only; this functionality will be supported in other Imatest modules in a future release.

Please refer to both the Imatest and Omnivision OVTATool2009 Help files and associated usage guides for additional information.

Using Image Sensor Edition with Toshiba ImaTuning

Soon, Imatest invites Toshiba ImaTuning users to take advantage of the Image Sensor Edition, which will support ImaTuning in the Rescharts and Multicharts analysis modules. Stand by as we complete this integration milestone.

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Support

This section outlines support issues and considerations for the Image Sensor Edition. For specific support related questions concerning any of the hardware interface software including Aptina's DevWare, Omnivision OVTATool2009, or Toshiba ImaTuning, please see their help files, guides, and contact the proprietary software vendors for additional support.

Contact

Support for the Image Sensor Edition is available at support@imatest. Please report problems using this mailbox, with complete text of error messages. For additional contact regarding product questions, features, or purchasing issues please also write support@imatest.

Matlab Component Runtime

Imatest and image Sensor Edition are Matlab r2007b compiled applications. To operate, it requires that the corresponding Matlab Component Runtime Library, MCR Version 7.7 be installed on your system.

If another version of Matlab or the MCR is installed on your system, you may see an error:

```
The procedure entry point svDoubleSclarRemW could not be located
in the dynamic link library libmwservices.dll
```

To correct this, give MCR 7.7 paths priority in the System path variable. Guidance is available at: http://www.imatest.com/docs/api_exe_instructions.html

Known Issues

Very occasionally, an error-out may occur that closes the DOS window. In this case, run Imatest from a new DOS window in the executable directory with the following syntax:

```
imatest > err.txt
```

This will stop the window from closing, allowing you to read, mark, and copy the exact text of the error message, which may include the location of relevant log files. Please provide this text when reporting problems.

Some systems require configuration of the Java VM and report an error to a log file that is identified easily using the method above. The text of the message is:

```
Error occurred during initialization of VM
Could not reserve enough space for object heap
```

Mathworks provides a solution to this problem at:

<http://www.mathworks.com/support/solutions/data/1-1812C.html?solution=1-1812C>

and more guidance at: <http://www.mathworks.com/support/bugreports/details.html?rp=398525>

Appendix A: Requirements

Hardware and Software requirements for Image Sensor Edition. Additional hardware and software requirements may be necessary for any of the Image Sensor Edition supported hardware interface programs, such as Aptina DevWare, Omnivision OVTATool2009, or Toshiba ImaTuning.

Hardware Requirements

- Pentium III 450 MHz or higher (a faster processor will improve the displayed frame rate on the PC).
- 512MB RAM minimum.
- USB 2.0 host controller with an available USB 2.0 port.

Software Requirements

- Windows XP with a minimum of Service Pack 2.
- Latest USB 2.0 host controller drivers.