



# MVE™ Evaluation Kit V3.0 Quick Set-up Guide

## for Bi-i™ V401X users

Thank you for choosing the Multi-core Video Analytics Engine (MVE™) Evaluation Kit V3.0 from Eutecus, Inc.

The MVE™ Evaluation Kit V3.0 is a self-contained system for conducting high-performance video analytics on either live or pre-recorded video. The kit demonstrates the video event detection capabilities and performance of MVE™, which is a unique combination of image processing IP cores and software algorithms, all embedded in a single low-cost and low-power FPGA chip. In this kit, MVE™ runs inside the Spartan-3A DSP 3400 FPGA from Xilinx, embedded in the Bi-i™ V401X Video Analytics module from Eutecus. Video event detection can be set up and controlled via a user-friendly GUI running on a PC connected to the Bi-i™ V401X VA platform. Also contained in the package is the FPGA content for the Xilinx Xtreme DSP Video Starter Kit (VSK), which allows MVE™ to run on the VSK (not included) controlled via the same GUI.

This Quick Set-up Guide provides step-by-step instructions to rapidly configure and install the MVE™ Evaluation Kit V3.0. More detailed information on configuring and using MVE™ can be found in the MVE™ Evaluation Kit V3.0 User's Guide.

The diagram below shows and describes the components of the kit:



**Bi-i™ V401X**  
Video Analytics Module



**Micro SD Card**  
Firmware upgrade for the Bi-i™ V401X Module



**Compact Flash Card**  
Firmware for VSK users only



**CD**  
Installation CD

( Please find the following complement of components in the small box: )



**Power Supply**  
Power Supply for the Bi-i™ V401X Module



**VGA to DVI Adapter (A1)**  
Displays VGA Output on DVI Display



**DVI to HDMI Adapter (A2)**  
Transfers Video Input from Desktop instead of Laptop



**USB to RS232 Adapter (A3)**  
Serial Adapter to connect Serial Cable to PC if needed



**Video Cable - VGA out (C1)**  
Connects Bi-i™ V401X VA Module to Display



**Video Cable - HDMI in (C2)**  
Transfers Video Input from Laptop



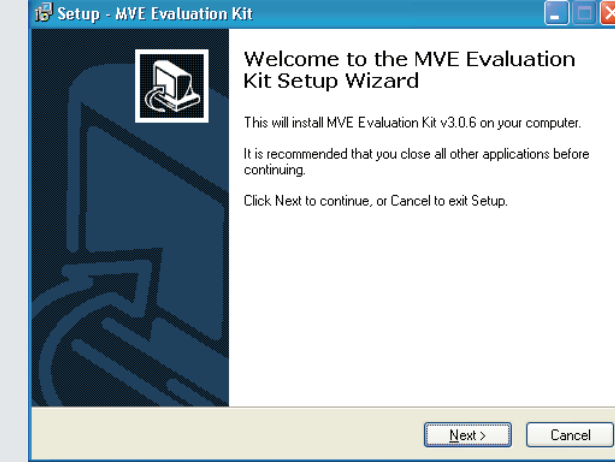
**RS232 Serial Cable (C3)**  
Connects Bi-i™ V401X VA Module to PC



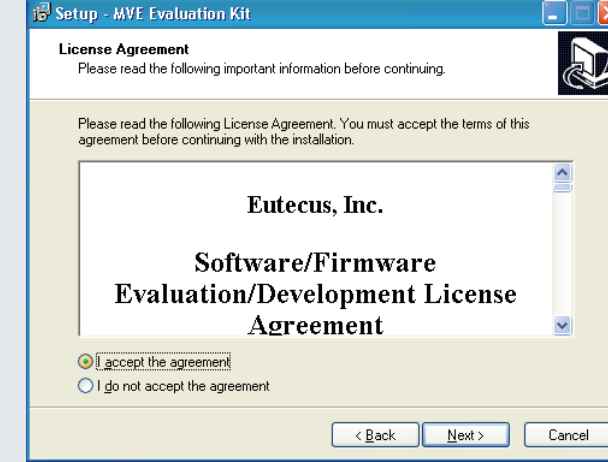
**Video Cable - NTSC in (C4)**  
Connects Video Input to the Bi-i™ V401X Module

### I. Software installation for the PC

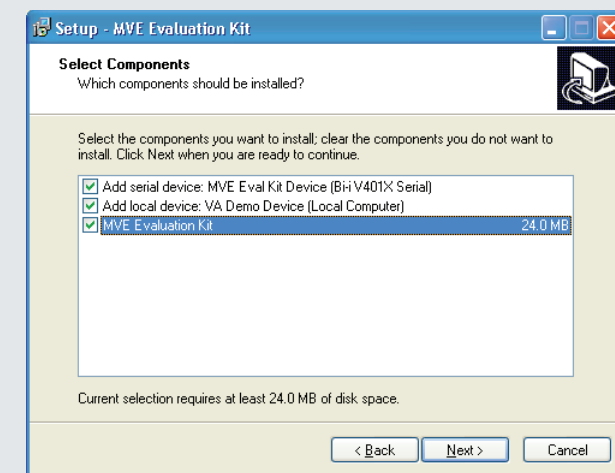
1. Insert the Installation CD into the PC and open the installation file: MVE\_EK\_VSK\_3\_0\_X.exe (where 'X' is the build number).



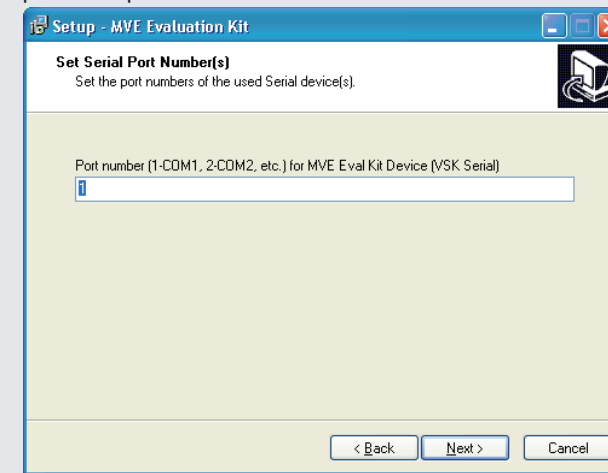
2. Read the license agreement and click on "I accept the agreement" and "Next".



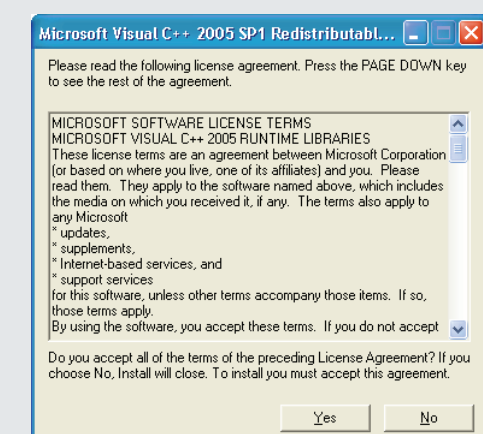
4. Select all components to be installed. Install with all checkboxes checked.



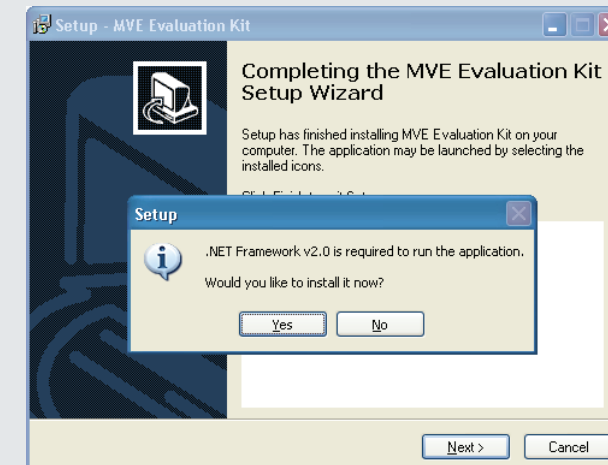
5. Select the serial port on the PC that you will use for attaching the Bi-i™ V401X module. If you are not sure which serial port to choose, select the default and configure the serial port in Step 10.



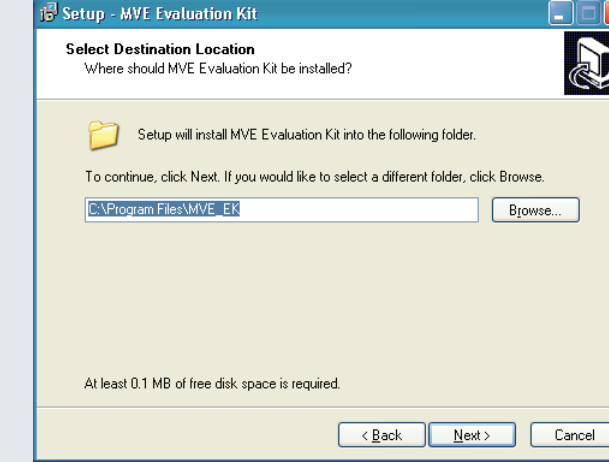
7. As installation of the MVE™ Evaluation Kit finishes, click "Yes" on the window that appears to accept the terms and conditions of Microsoft Visual C++ 2005 SP1 Redistributable. Another window will open indicating that Microsoft Visual C++ Redistributable is being installed. This process can take a few minutes.



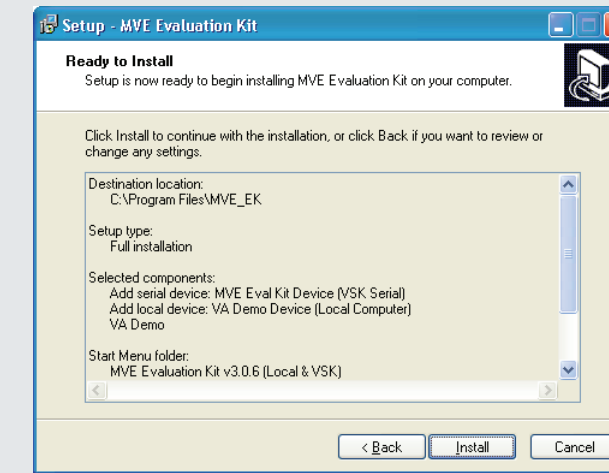
8. If the system detects that .NET components are not installed on your PC, a separate installer will appear. Follow the directions in the .NET components installer. When .NET components has finished installing, you will be able to finish the MVE™ Evaluation Kit installation.



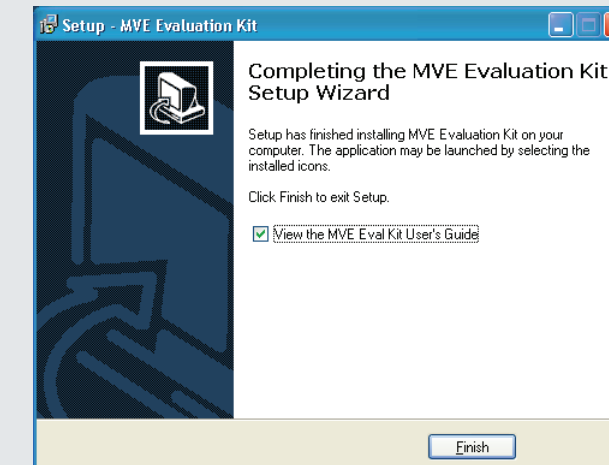
3. Select the default folder (C:\Program Files\MVE\_EK), or choose a different folder to install to.



6. Configure standard Windows start menu shortcuts and desktop icon in the following two windows, and click the Install button in the third.



9. Click the "Finish" button to complete installation.



### II. Setting up the Bi-i™ V401X VA module

When evaluating pre-recorded videos, the Bi-i™ V401X VA module runs video analytics on a real-time video stream supplied by the PC, which must support a secondary display. The PC runs the GUI and provides a flexible interface for configuration and control. The results of the video analytics (event detection) are shown on the second monitor connected to the output of the Bi-i™ V401X module. The following step-by-step guide shows you how to set up the system and run your first video analytics demonstration (the camera shown in the diagram is not required for evaluating built-in videos stored on the hard drive of the PC).

10. Make sure that you have the correct serial port configured for connecting the Bi-i™ V401X module to the PC. If you are not sure, see Section 3.3 in the User's Guide for instructions to configure it. Only proceed after the serial port is configured correctly.

11. Connect the serial port of the PC that you selected in Step 5 or Step 10 to the COM 1 connector of the Bi-i™ V401X module via the RS232 serial cable (C4). (If your PC supports only USB ports, use the USB to RS232 adapter (A3).)

12. Connect the HDMI output port of the PC to the HDMI input port of the Bi-i™ V401X module via the video cable - HDMI in (C2). (If your PC supports only DVI out, use the DVI to HDMI adapter (A2).)

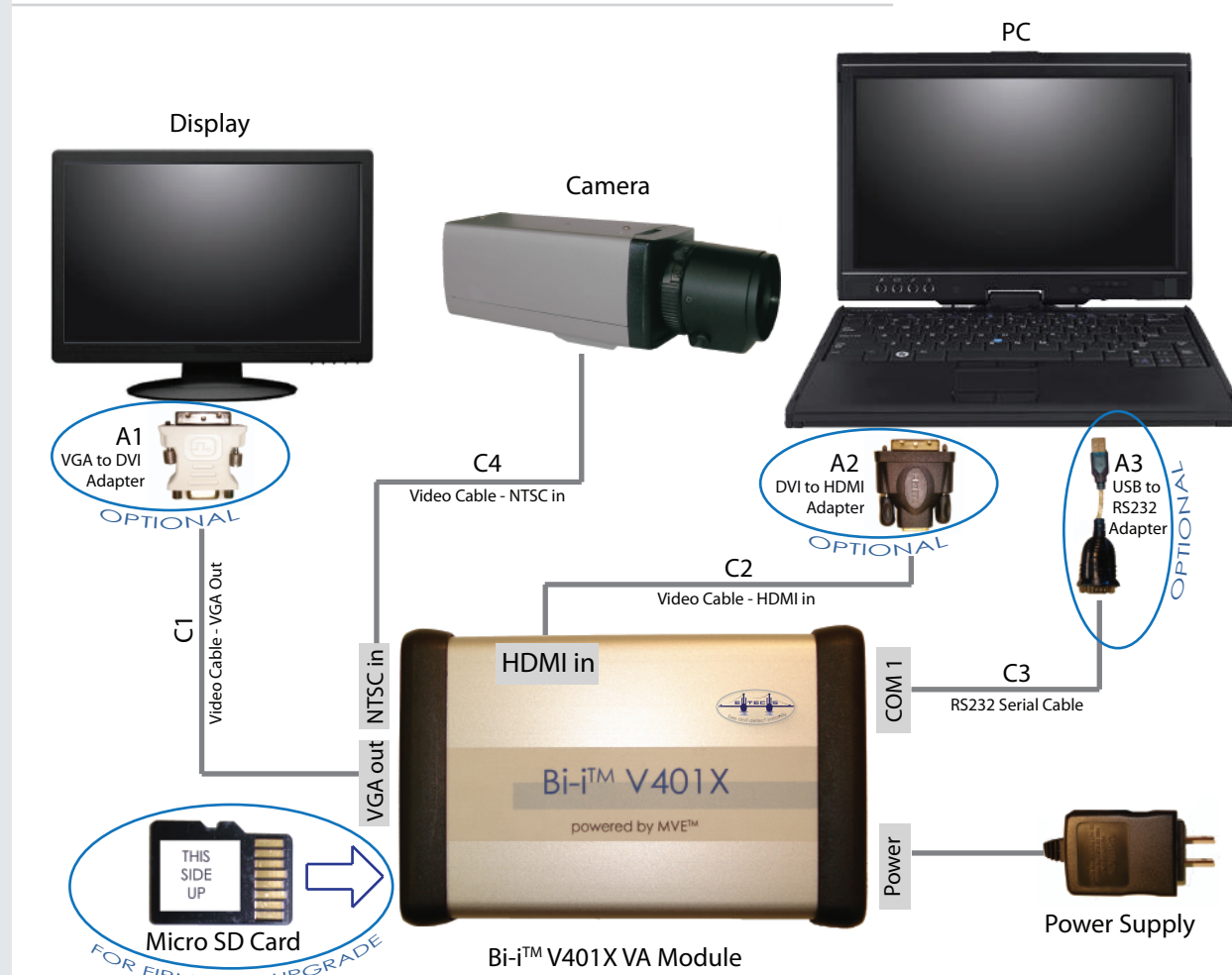
13. Connect the VGA output port of the Bi-i™ V401X module to the secondary monitor via the video cable - VGA out (C3). (If the secondary monitor supports only DVI in, use the VGA to DVI adapter (A1).)

14. Connect the Bi-i™ V401X module to the local AC power with the power supply.

15. Switch on the Bi-i™ V401X module. The green LED will indicate that it is powered on.

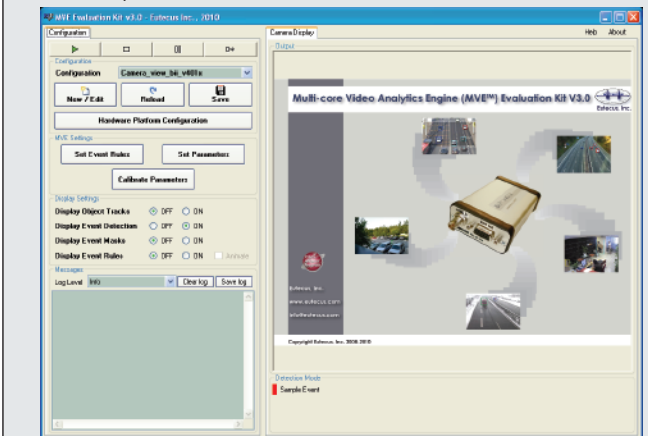
16. Power up the PC and the two monitors. The MVE™ Evaluation Kit's start-up screen should appear on the secondary monitor while MS Windows boots up on the primary display, as usual.

Typical system configuration for the MVE™ Evaluation Kit V3.0

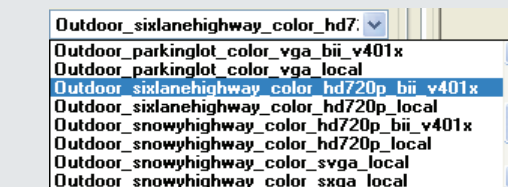


### III. Starting the Video Analytics demo

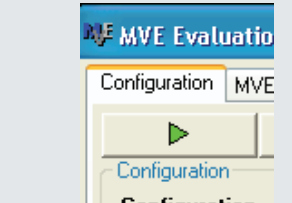
17. Start the MVE™ Evaluation Kit's GUI in the Start menu on your PC. (If a "Device Not Found" error occurs, please consult Section 3.3 in the User's Guide to select the correct serial port number.)



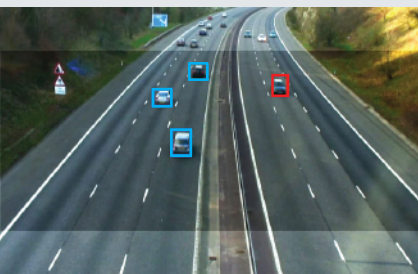
18. In the Configuration Drop-Down Menu in the Configuration Tab of the GUI, select Outdoor\_sixlanehighway\_color\_hd720p\_bii\_v401x. If your secondary display does not support HD720p resolution, then choose one of the other configurations ending with "\_bii\_v401x" where the preceding string indicates a resolution that the secondary display does support.



19. Click on the green Start arrow.



20. The video should begin to play in the secondary display - colored bounding boxes around the vehicles indicate that video analytics are being performed. If the video does not play, consult Section 7.1. (Troubleshooting) in the User's Guide.



Avoid operating the Bi-i™ V401X module in higher than room temperature for an extended period of time. See the User's Guide for more details about proper handling.