Thank you for choosing the Vision Development Kit from Critical Link.

In this Quick Start Guide you will be guided through the initial steps of setting up your Vision Development Kit. A Linux Operating System is pre-loaded onto the SD card and will start a demonstration application automatically showcasing the base vision processing algorithms that have been included.

The Vision Development Kit contains the following:

Provided Hardware:
- Industrial IO development Kit Baseboard with:
  - MityDSP-L138F System on Module (SoM)
  - Audio Output
  - DVI Video Output
  - 10/100Networking
  - CAN Bus Interface
  - UART Expansion Port (RS232 or RS485)
- Industrial Camera Expansion Board
  - Provides interface to Included Sensor
- One of Five Camera Sensors with 26-Pin Cable
  - MT9V032 – Monochrome WVGA
  - MT9V032 – Color WVGA
  - MT9M001 – Monochrome XGA
  - MT9P021 – Monochrome 5 MP
  - MT9P021 – Color 5 MP
- Serial cable
- Tripod for Vision Sensor Camera
- AC/DC 12V 1.2A adapter
- SD Card pre-loaded with Linux Operating System and demonstration/development application
- DVD with Linux Software Development Kit including Virtual Machine
- DVD with Vision Development Kit Documentation and Software Files for Development

Printed Documents:
- Vision Development Kit Quick Start Guide (this document)

Software and documentation:
- Linux Software Development Kit (SDK) with DSP, ARM and FPGA projects
- Vision Development Kit Overview
- Industrial IO and Industrial Camera Expansion Board Datasheets
- Industrial IO and Industrial Camera Expansion Board Schematics, Bill of Materials and Gerbers
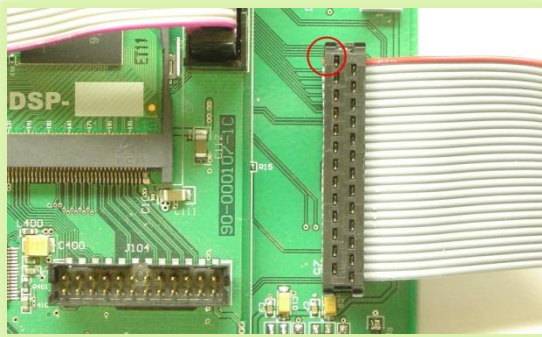
Suggested Hardware (not provided):
- VGA (800x600) Capable DVI display
- DVI Cable
- USB to Serial adapter if PC does not have a serial port
- Spectrum Digital JTAG for TI ARM and DSP Debug (optional)
- Xilinx JTAG pod for FPGA debug (optional)
- USB Mouse (for interaction with Demo)

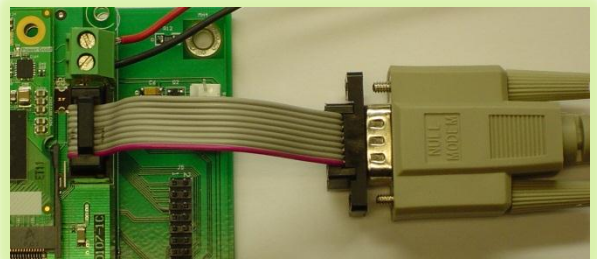## Default Setup (Boot from SD card)
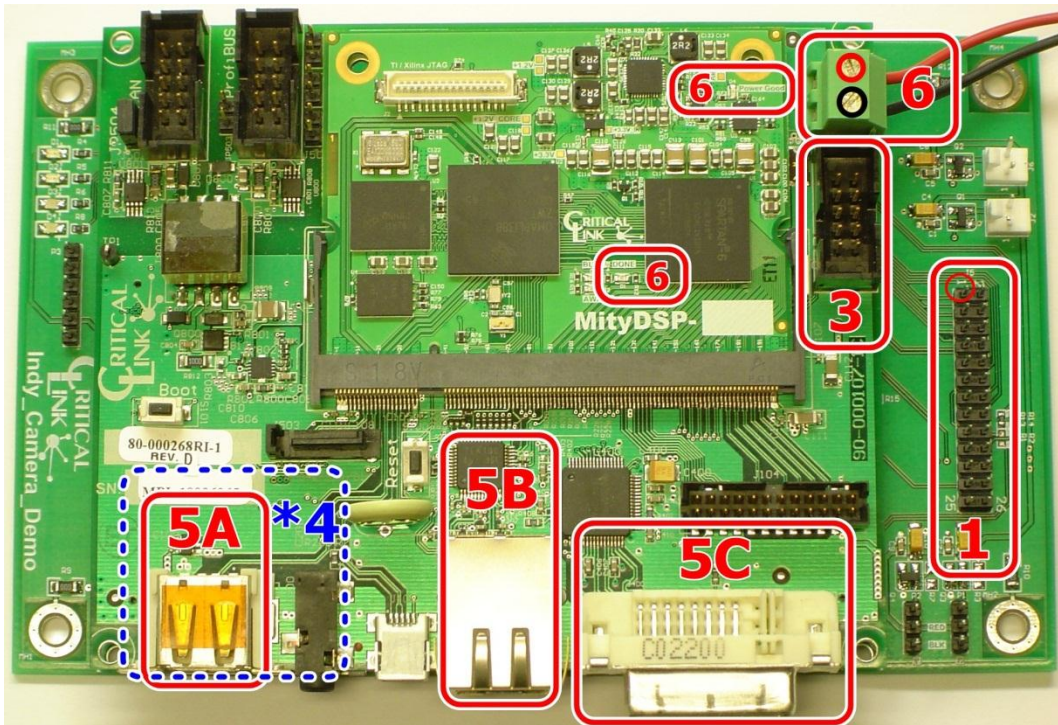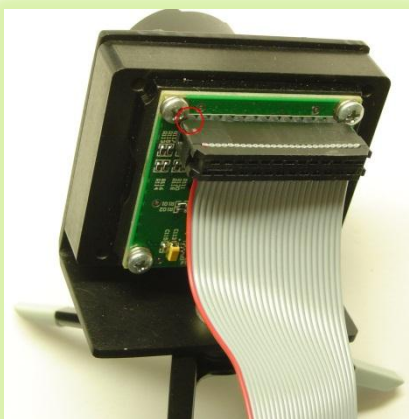

*4: SD Card is on the bottom side of the board

1) On the Industrial Camera Board (80-000322) attach the 26-pin camera cable to J5. The red line on the cable goes to "Pin-1" of the connector as shown.


2) Connect the other end of the 26-Pin cable to the Vision Camera as shown with the red stripe towards the top left. Attach the tripod (varies) to the camera as well.

3) Connect the supplied Null Modem serial cable and 10-pin to the header near the power input. Configure your PC serial port application with: 115200 baud rate, 8 data bits, no parity, 1 stop bit and no flow control.
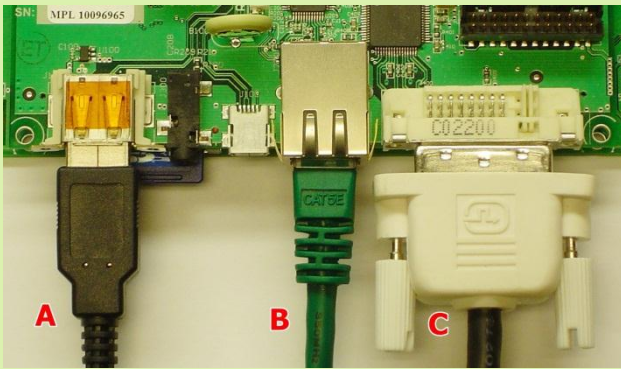

4) Make sure that the SD card has been inserted fully into the SD card slot on the bottom side of the board.
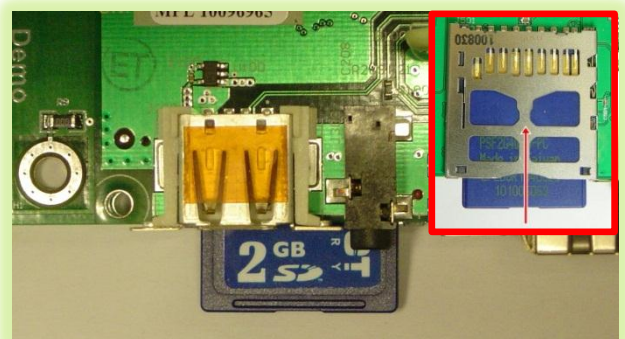
5) Connect a USB Mouse **(A)** to the USB 2.0 Type A port, J102. An Ethernet cable **(B)** to the RJ45 port, J200 and then to a network with a DHCP server. A DVI cable **(C)** to J400 for video output to a monitor.

6) Connect the 12V power input to the 6" flying lead jack. At this time the module should boot from the SD card. Note: LED D1 (Done LED ~5sec) and D4 (Power Good LED) on the MityDSP-L138F SoM should light and stay lit once power is applied.
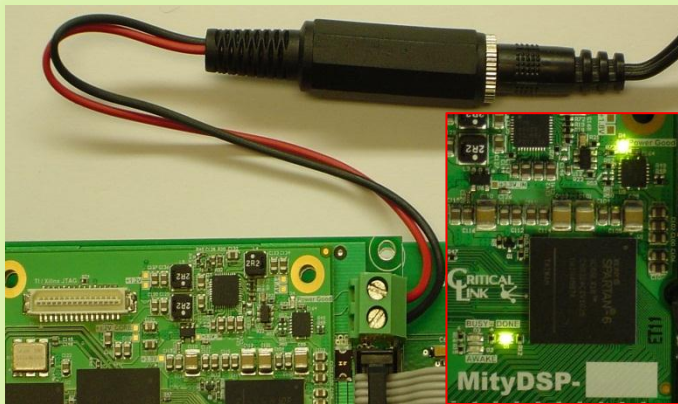
7) On the serial port you should see boot messages appearing and after approximately 30 seconds there should be an Angstrom prompt shown.

8) At this time if a monitor has been connected you should see the following demonstration screen displayed.
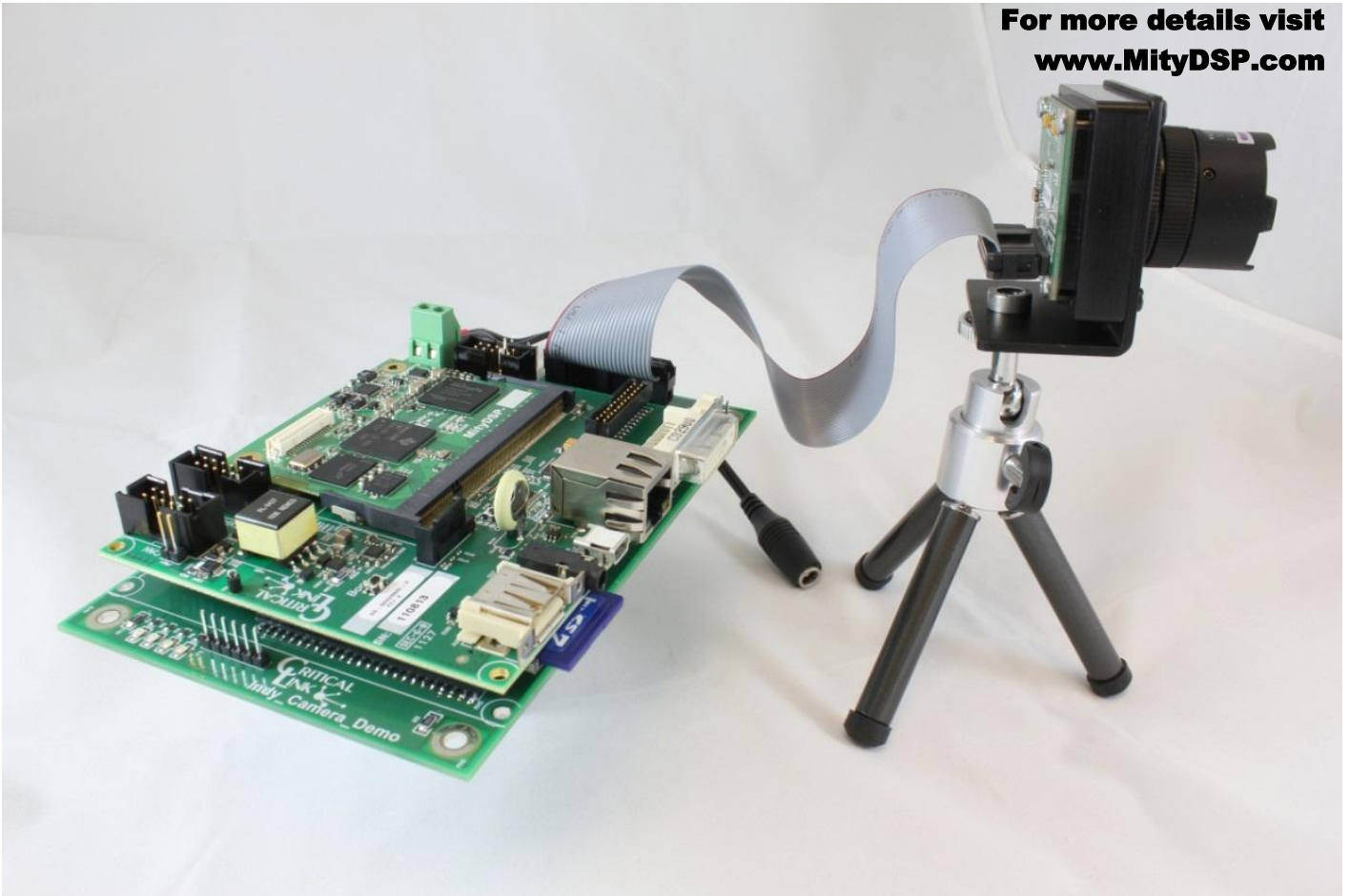

9) At this point you may now explore the demonstration applications using your USB mouse.

10) Insert the Vision Development Tools DVD into your PC and follow the instructions outlined in the "VDK Environment Setup.pdf" to learn how to setup your Development Environment

11) For support, updates and further information concerning Vision Development Kit please visit us at: http://support.criticallink.com/redmine/projects/indio/wiki

12) Please check the "Supplemental" folder on the VDK Tools DVD for any additional files that you may need during development.

Thank you!

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