TMXEVM388 Quick Start Guide

This document provides a brief description of the purpose and construction of IP Network Camera (using component video input as source), along with hardware and software environment requirements in the context of IP Network Camera deployment.

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1 System Requirements

1.1 Hardware Requirements

IPNC RDK software is functional on DM38x EVM. The following components are required to install this system:

- DM38x EVM
- Power supply
- Serial port cable
- HDMI cables
- Ethernet cable
- YPbPr cable
- HDMI TV supporting 1080p60 (needed to view the preview video stream)
- Component input video player supporting 1080p60
- PC with windows for using GUI application

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1.2 Software Requirements

The following software component is required to install this system:

- Serial Terminal (Like Teraterm on windows, minicom on Linux). If “Teraterm”, use version 4.80 or higher.

1.3 Note on Windows PC Requirement

The following are the hardware or PC software requirements to view 1080p high quality video using Internet Explorer:

- Hardware:
  - Intel(R), Pentium(R), DUAL Core (D),CPU 3.0GHz or equivalent
  - 4 GB system memory or above
  - Sound Card: DirectX 9.0c compatible sound card
  - Video Card: 3D hardware accelerator card required – 100% DirectX 9.0c compatible
  - Ethernet network port/card
  - 10/100 Ethernet switch/hub
- Software:
  - Windows 7 Service Pack 2 or greater
  - Resolution of the PC screen setting: 1280x960 or higher for the display of 720P/1080P
  - ActiveX for web GUI

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2 Package Contents

2.1 Supplied Hardware

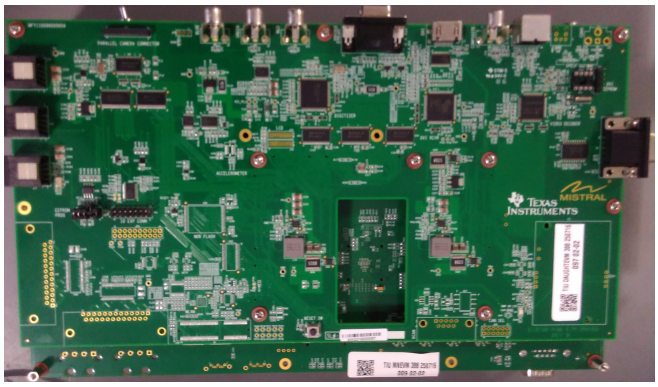


Figure 1. DM38x IPNC EVM



Figure 2. Power Cable X 1 PC



Figure 3. Ethernet Cable X 1 PC

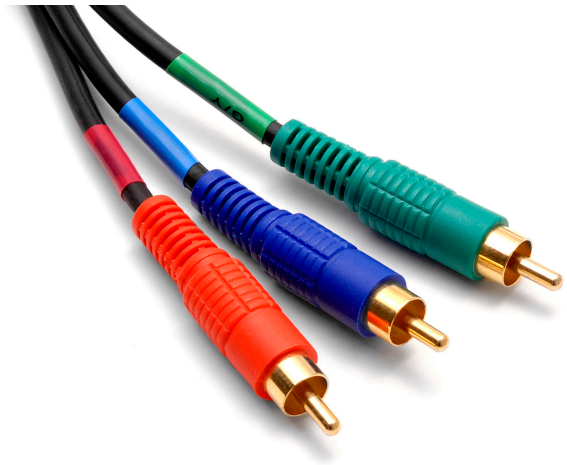


Figure 4. YPbPr Cable X 1 PC

2.2 Supplied Software

To download the release package, please contact your TI representative.

The release package has a tar ball that is self-sufficient and includes all the following packages:

- IPNC PSP (platform support package) source code – based on TI DM814x PSP with modification for IPNC hardware
- Tools and Components (syslink, IPC, Framework Components, CGTools, XDC, Codecs, HDVPSS drivers)
- IPNC reduced target file system

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- IPNC application software source code and object libraries – based on Multi Channel FrameWork (McFW)
- IPNC boot utilities source code – u-boot
- Pre-compiled u-boot, uImage, target file system (nfs) for IPNC hardware for quick installation

3 Running IPNC Application

3.1 Full System Setup Overview

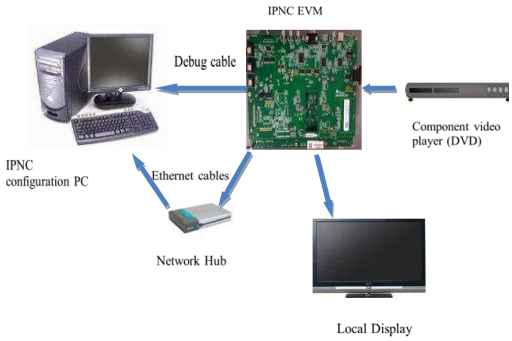


Figure 5. Full Setup Required for Testing With Component Video Input

Steps to setup testing environment with component video input source:

1. Connect analog component cable from component video player (DVD Player) to DM38x EVM as shown in Figure 5 and Figure 6.
2. Connect debug (serial) cable to the configuration PC as shown in Figure 5 and Figure 7.
3. Connect HDMI cable from base-board (on DM38x EVM) to 'Local Display' as shown in Figure 5.
4. Connect DM38x EVM and 'IPNC configuration PC' through Ethernet cable directly or using network hub as shown in Figure 5.
5. Make sure that 'IPNC Configuration PC' and EVM are connected in same network to ensure proper network connectivity between the two.

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3.2 Connecting Analog Component Video Cable and Serial Cable

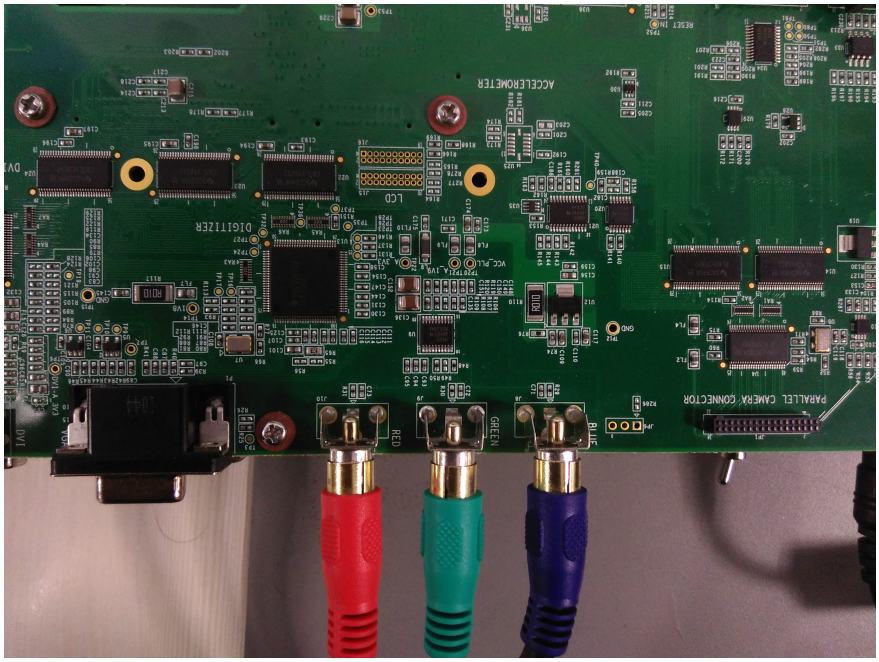


Figure 6. Analog Component Cable Connected to EVM



Figure 7. Serial Cable Connected to EVM

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3.3 Connecting to Console Window



Figure 8. Connecting to Console Window

Use the following steps to open a console window on 'IPNC Configuration PC' that allows you to watch and the interrupt hardware boot messages:

1. Connect a serial cable to the DM38x EVM and the serial port (for example, COM1) of a PC.
2. To boot with the SD card, make sure that the SD card with proper build image is inserted into the SD card slot on DM38x EVM's baseboard. (For flashing images to the SD card, follow software Installation steps in Section 3.4).
3. Run a terminal session (such as TeraTerm on Windows) on the workstation and configure it to connect to that serial port with the following characteristics: (make sure that the version 4.80 of the Teraterm is installed).
   (a) Bits per Second: 115200
   (b) Data Bits: 8
   (c) Parity: None
   (d) Stop Bits: 1
   (e) Flow Control: None

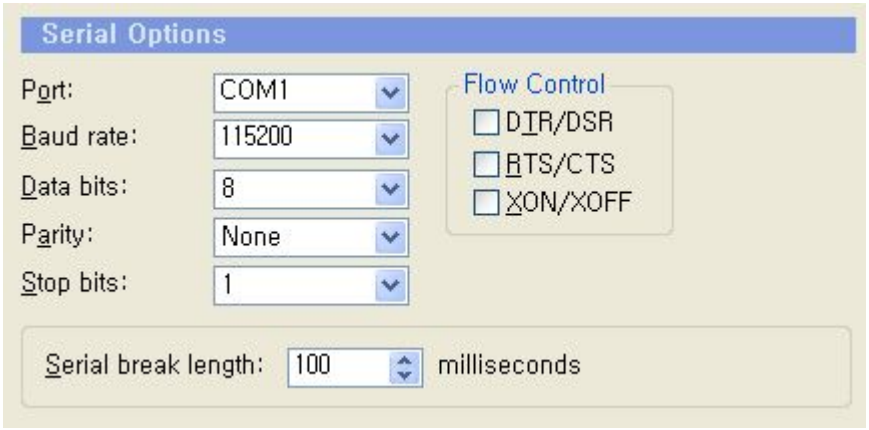


Figure 9. Connect to the Serial Port

4. When you power on the EVM, you will see boot sequence messages. You can press a key to interrupt the boot sequence and type commands in the U-Boot command shell. In this guide, commands to be typed in the U-Boot shell are indicated by:
   (a) DM388_IPNC # prompt

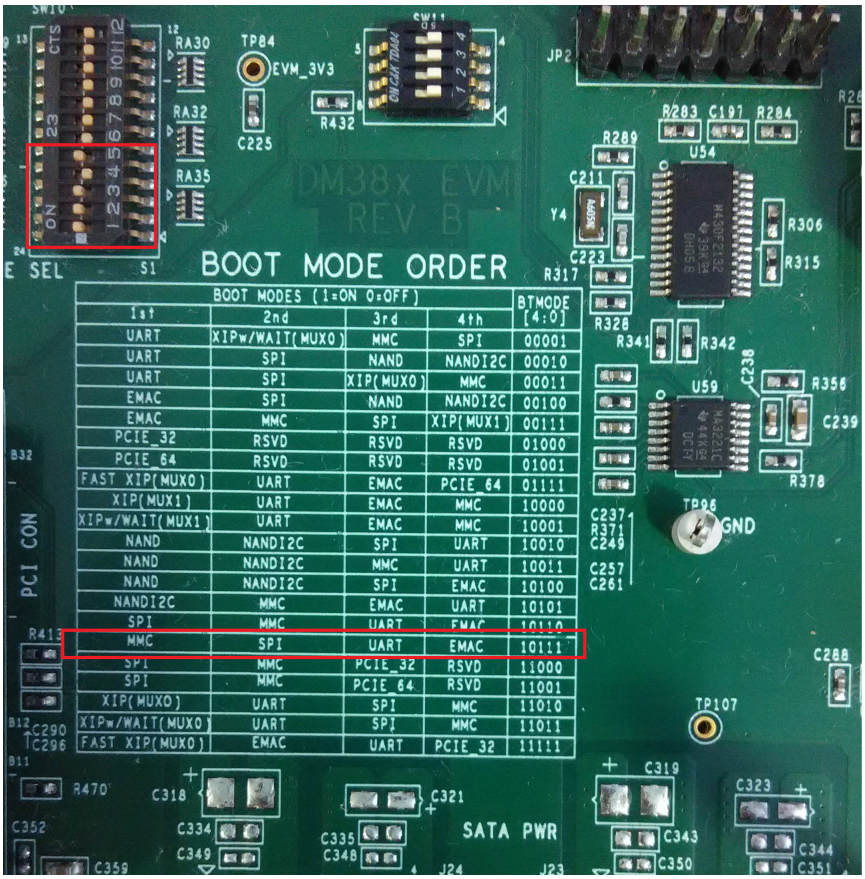
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3.4 Booting From the SD Card

Set Boot mode setting switch S1 as shown in Table 1. Insert the SD card on the EVM, then boot. (Boot switches are located below the baseboard.)

Table 1. Boot Mode Settings

[Switch Number]	[State]
[1]	ON
[2]	ON
[3]	ON
[4]	OFF
[5]	ON



The SD card will have all the correct files to complete boot, including MLO, U-boot, boot.scr, Linux, and Filesystem.

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4 Streaming Demo on Web Browser

By default, all the startup commands are part of /opt/ipnc/autorun.sh, which starts the video capture (from component video port) automatically after power ON.

Wait for the RSTP messages to indicate that the demo is streaming video to the board's IP address. It could take a moment.

See the Result on Windows Internet Explorer. Type the IP address of your device on the Windows IE as shown and press Enter.

```
http://<IP address>/
```

NOTE: You can get your IP address using the ifconfig command on your device.

For details on the exact sequence in which the commands need to be ran, refer to end of /etc/init.d/finish_ubifs.sh, located in filesystem.

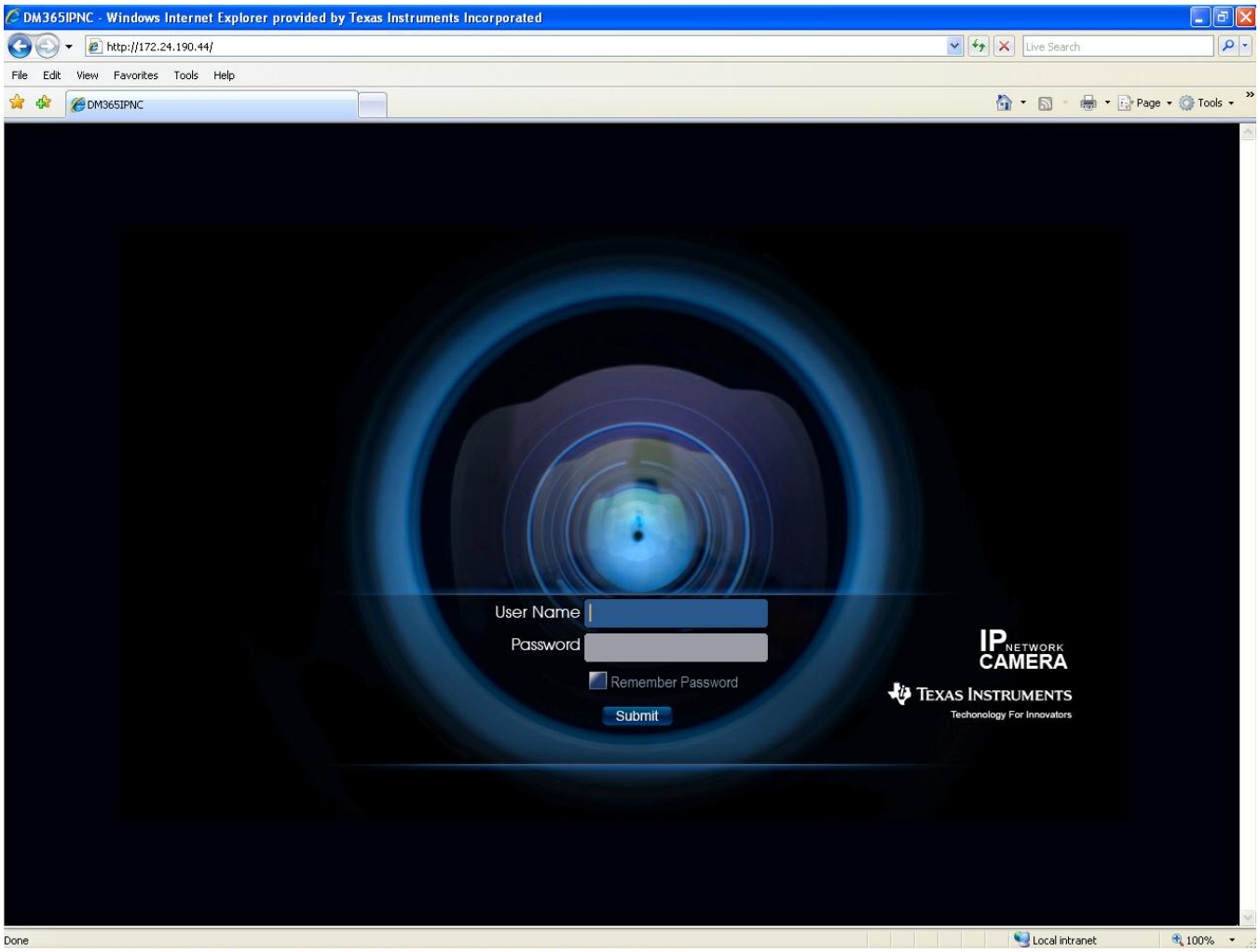
IPNC data is located in /opt/ipnc.

The Security Warning dialog box is displayed that asks if you need to install the ActiveX program.



Click Install to install the ActiveX program.

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Include the default User Name (admin) and Password (9999), and then click OK. The live video screen will be displayed as shown.

5 Do and Not-To-Do List

- Ensure that “Example” Option is set to NONE on Live Video Page
- Ensure that Mirror option is set to OFF on Video Settings Page
- Ensure that Face recognition, Face detection settings and Privacy Mask settings are set to OFF on Advance Settings Page
- Ensure that all the settings has default values on Camera Settings Page
- Ensure that External Triggers option is not checked on Alarm Settings Page
- If video streaming is not working, it may be due to config file corruption. Follow the steps below to recover from this error:
  - Try removing sysenv.cfg from the location “/mnt/nand” with the following command :rm /mnt/nand/sysenv.cfg.
  - Re-start the board

The above steps will fix any config file corruption issues.

6 References

For more information on the installation process, see IPNC Reference Design Kit Installation Guide.

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Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Original (August 2016) to A Revision **Page**

- Updates were made in Section 1.1. 1
- Updates were made in Section 1.3. 2
- Updated Section 2.1. 2
- Updates were made in Section 3.1. 4
- Updates were made to Section 3.3. 6
- Updates were made in Section 3.4. 7
- Added new Section 5. 9

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