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WOW-SH7203 µCLinux Demo Quick Start Guide

1 Introduction

This Quick Start guide is aimed at helping you get up and running on the µClinux demonstration. The flash memory on the board has been prepared with the Demo image prior to issue.

It is assumed that you have the following;

- RSKSH7203 development board & supplied PSU.
- A network connection to a PC (either direct using the supplied crossover cable or via an Ethernet hub)
- Renesas USB 128MB Stick

Optional (not supplied)

- Serial 9-way cable (for terminal connectivity to the SH device).

Connections

Insert the power connector into the board, plug the power supply into a mains socket and switch on the power at the mains socket.

Booting µClinux

Once powered on the boot loader program will check some basic settings, and display a splash screen.

Once the boot loader has completed it will pass handling of the boot sequence to the Linux decompressor. The decompression process will take around 30 seconds.
When the Linux decompressor has completed, the LEDs on the RSK board will begin to cycle. This indicates the first phase of the boot sequence is complete.
The QVGA screen will then clear and display a black screen with the Linux Tux Penguin. This indicates that the QVGA driver has successfully loaded, and boot is nearly complete.

Finally when the Linux load process has completed, a welcome screen will be presented to the viewer.

At this stage you will be able to cycle through the images on the board using push buttons SW2 & SW3.

Webserver demonstration

Now connect the Ethernet cable and follow the guidance below on configuring the PC for correct operation.

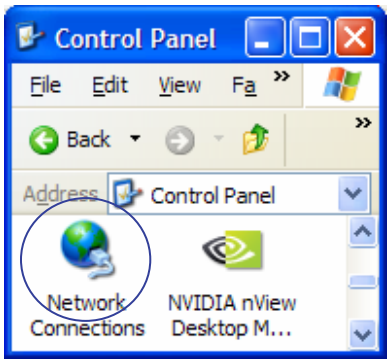
Configuring the Ethernet interface

Ensure that you are logged on with Administrator privileges.

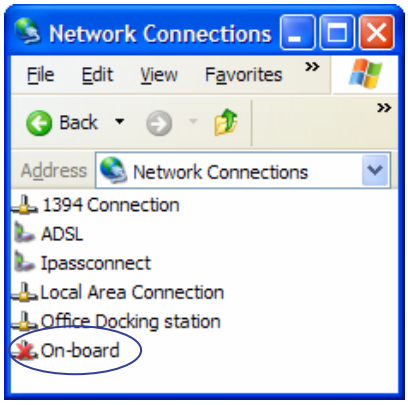
Configure the IP address

From the Start menu open the Control Panel.

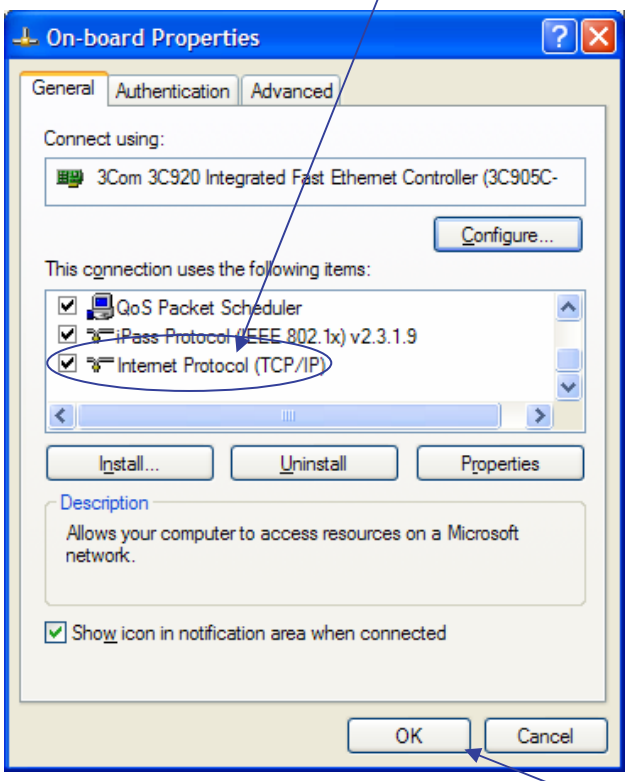
Double-click on Network Connections.



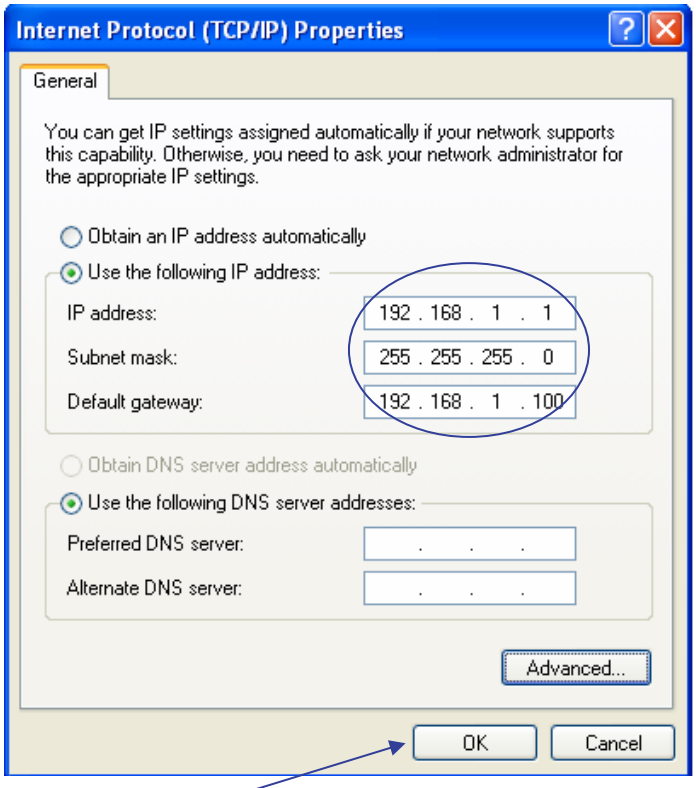
Double-click on the connection that will be used (an example is shown).



Scroll to and double-click on the Internet Protocol (TCP/IP) item.



Enter the details as shown below.

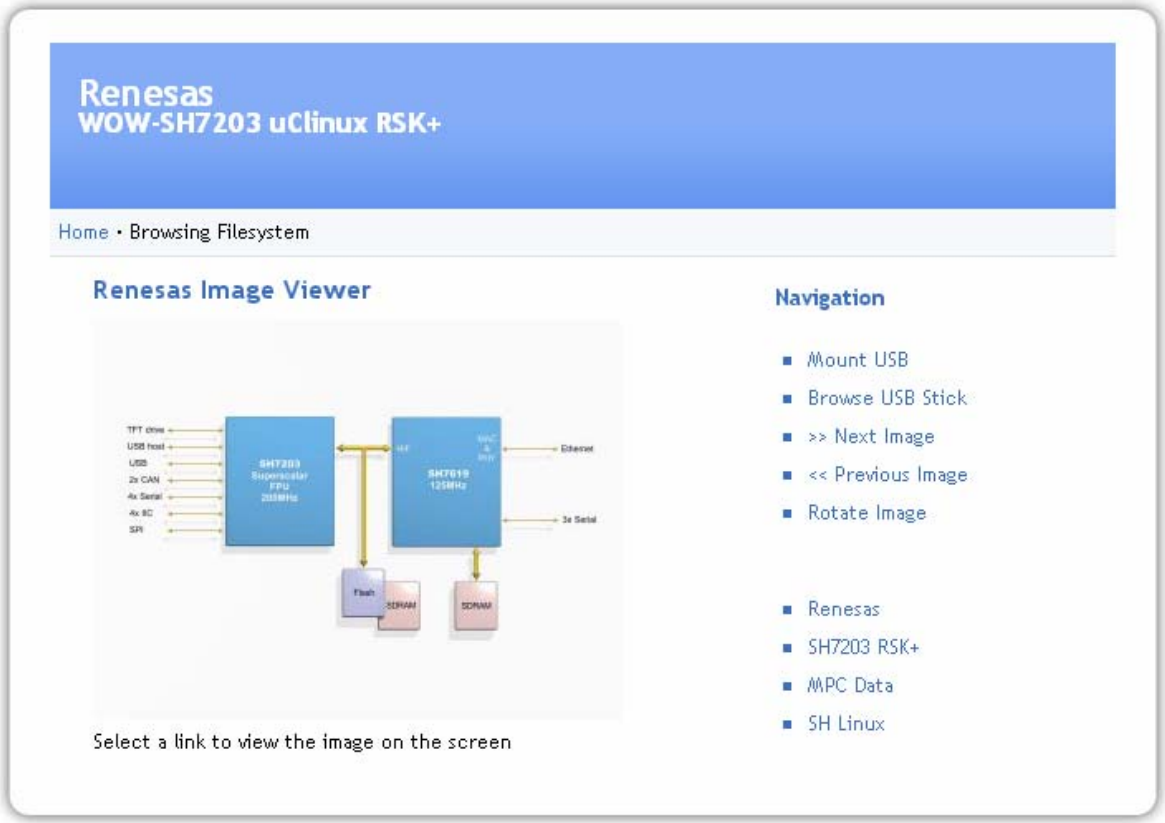


Click on OK to close the window.

When the IP address details have been input, click on OK to close this window and apply the new IP address settings.

Web Front End

To connect to the web front end, enter the board's IP address (http://192.168.1.100/) into a Web browser. The home page (shown below) should appear. If it does not then Firewall settings may also need to be changed. Contact an IT Administrator for help.



Navigation Options:

Mount and **Unmount**:

When a USB Pen Drive is plugged in to the RSKSH7203 board, use this option to mount the file system from it. The Web Front End will detect whether the system was successfully mounted, and change the option to show "Unmount USB". If the system continues to show "Mount USB", it may be necessary to unplug the USB stick and re-insert. Allow the board at least 5 seconds to try to load the driver before trying to mount the USB stick.

If the USB stick is pulled out without un-mounting the device, it will leave the system in an unknown state, and it will not be able to remount. Power cycle the board to recover from an unknown state.

Browse USB Stick:

When the device has been mounted, use the Browse USB stick command to change the working directory of the image browser.

The Web Front End will search for images in a folder called /imgs on the USB memory stick.

>> Next Image

<< Previous Image:

These options will allow you to cycle through the images available on the current file system

Rotate Image:

This option will allow you to rotate the current image clockwise on the board.

Changing Images stored on the Board

To view and modify the images that are stored on the file system of the demo, the board can be attached to a PC via USB, and will appear as a Mass Storage Device. This is done by the following.

- Power down the board.
- Alter SW4-4 to Off and SW4-5 to On for correct USB Host operation.
- Power on the board and wait for the screen to turn black, indicating that the Linux Kernel is loading.
- At this point, press and hold the SW3 button. Keep this button firmly held until the board has completed booting. When the board completes loading, it should detect the presence of the button press, and will load in USB Function Mode.
- This will be indicated by the screen displaying a USB logo instead of the usual welcome screen.
- Insert the USB cable between the PC and the RSKSH7203 board.

Note: Never connect both the USB cable and a USB pen drive at the same time

- The Host PC should detect the presence of the SH7203 as a mass storage device and load drivers as appropriate.
- In Windows, there should be a new drive letter under "My Computer".
- You can browse this drive, change, replace or add images to the board.
- Please remember to use the Safely Remove Hardware feature to disconnect the drive before removing the cable or power cycling the RSK+ board.
- Once disconnected, power down the board.
- Alter SW4-4 to On and SW4-5 to Off for correct USB Function operation.
- Power on the board. The Web Front End and Slide Show should reflect any changes you have made.

Note: The image viewer used for this demonstration supports only JPG and BMP files.

Optional – Debugging / Terminal Output

You can connect the board to a development machine with a serial terminal emulator (e.g. Hyperterminal).
Set the port configuration details to 19200 baud, no parity, 8 data bits, 1 stop bit and no flow control (19200 8-N-1).

Board Setup

In case the board configuration switches have been altered, the correct settings for this demonstration are:

Switch	1 10
SW4	1011001111
SW5	0010100110
SW6	1010100101
SW7	0101010110

Settings: 1=ON, 0=OFF in order 1-10 according to the legend on the switches.

More information

For more information on modifying the contents of Flash or changing the images, please refer to the Wow SH7203 User's Manual (use Start → All Programs → Renesas → High-perfomance Embedded Workshop → Manual Navigator).