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Quick Start Guide for TWR-MPC5125

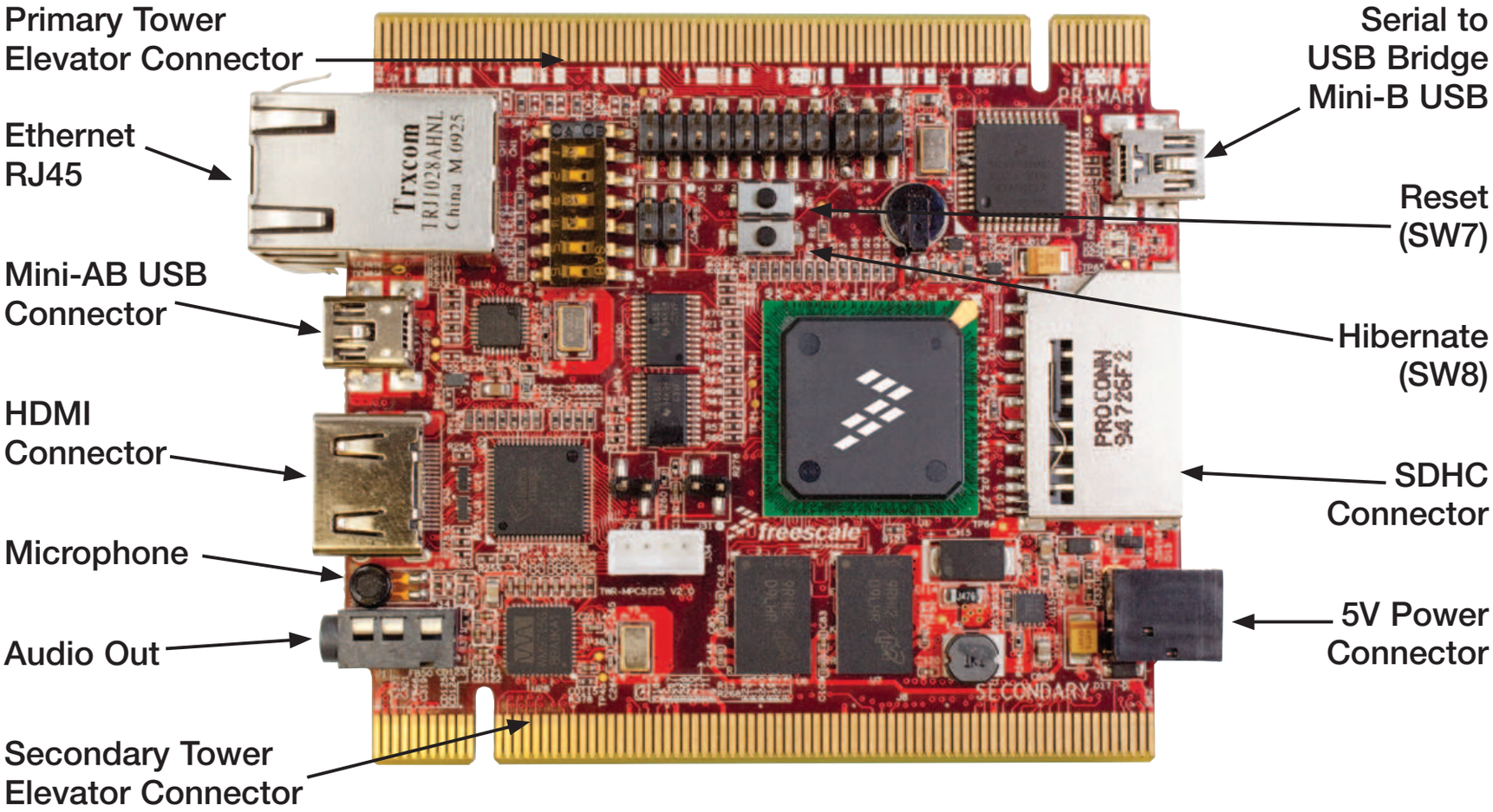
TOWER SYSTEM

TWR-MPC5125

For high-resolution display applications

freescale semiconductor

Get to know the TWR-MPC5125



Freescale Tower System

The TWR-MPC5125 module is a single board computer as well as a part of the Freescale Tower System, a modular development platform that enables rapid prototyping and tool re-use through reconfigurable hardware. Take your design to the next level and begin constructing your Tower System today.

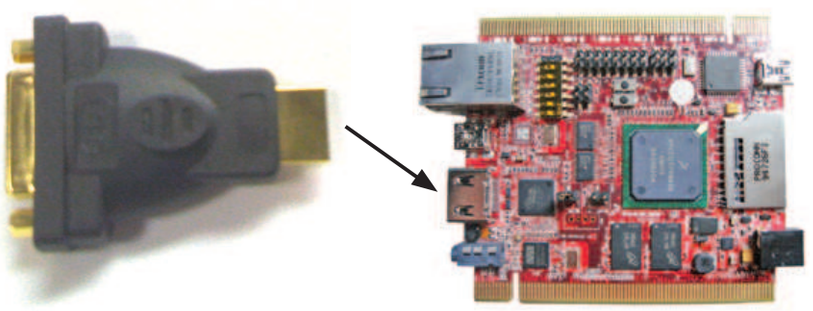
Step-by-Step Installation Instructions

In this Quick Start Guide, you will learn how to set up the TWR-MPC5125 module and run the default demonstration software. The following instructions are for Windows® XP.

STEP 1 Connect the HDMI cable

Using the HDMI-to-DVI-D cable provided, connect the HDMI port on the TWR-MPC5125 to a DVI-D port on a display monitor. (Alternatively, connect the HDMI port to an HDMI port on a monitor. Cable not provided.)

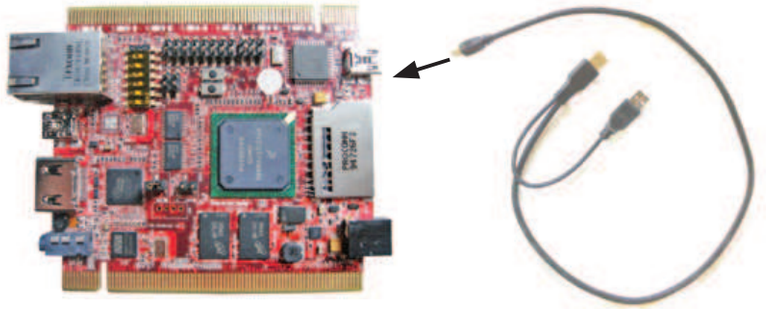
Note: DVI –to–VGA is not supported.



STEP 2 Connect the USB cable for the Serial-to-USB bridge to provide power

Power the board from a host computer by plugging in the dual-port USB cable. Insert the two Standard-A plugs into two USB ports a host computer. Then insert the Mini-B side of the cable into the Mini-B connector (J19) which is next to the SDHC card slot.

(Alternatively, the board can be powered by a 5V barrel jack from a wall supply. The supply must be a center-hot configuration 2.1 mm jack and the voltage must be 5V. Cable not provided).

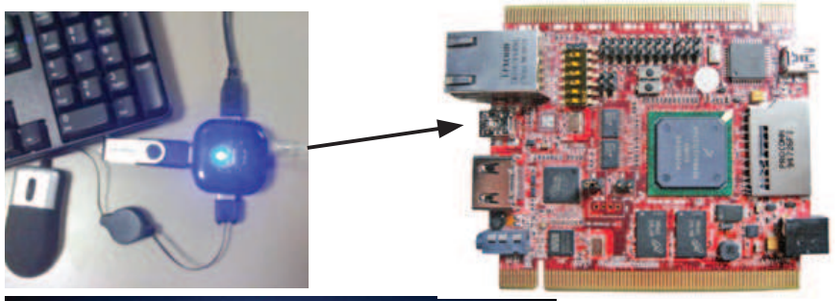


STEP 3 View video on the display

The board comes pre-programmed to automatically boot the LimePC™ Linux operating system with video demonstration application. *Stop Here or Continue on to LimeOS™ Linux desktop*

STEP 4 Connect a USB mouse and keyboard

Connect a USB mouse and USB keyboard to a USB hub and connect the hub to the Mini-AB connector (DOWN4) which is next to the RJ45 port.



STEP 5 Press Q on the keyboard or right-click on the mouse

The video demonstration application will close, revealing the LimeOS graphical desktop. Explore with the USB mouse and keyboard input.

STEP 6 Using the Serial-to-USB bridge

The Freescale MC9S08JM60 Serial to-USB bridge solution provides a RS-232 equivalent connection to the host computer through the USB communications device class. When plugged in and powered the USB connection will enumerate as a COM port on the PC.

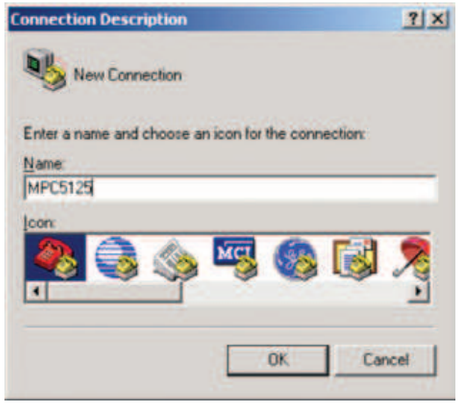
To determine the COM port # for the connection, right click on the **My Computer** icon and select “Manage,” click **Device Manager**, find and expand ports (COM and LPT).

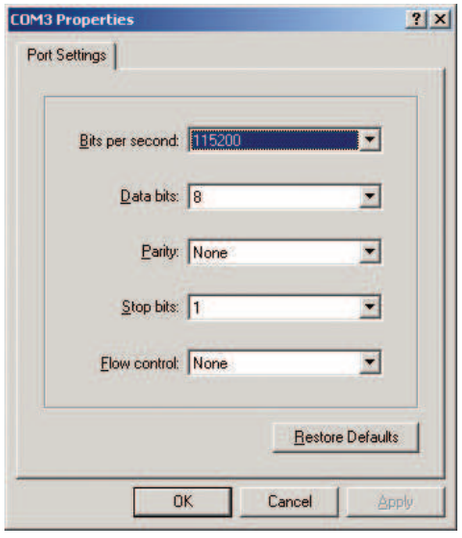
STEP 7 Install software driver

When the cable is plugged in the first time, the Found New Hardware Wizard will start. Select the option Install from a list or specific location (Advanced), then select “Next.” Browse for the file Freescale_CDC_Driver.inf which is available on the DVD. Select “Next,” then “Finish.”

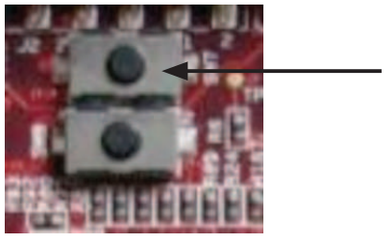
STEP 8 Open Microsoft® HyperTerminal or a terminal program of your choice

Select File > New Connection. Type a name for the new connection. Pick the COM port number for the connection found in step 4. Choose the following port settings: Bits per Second: 115200, Data bits: 8, Parity: None, Stop bit: 1, Flow control: None.





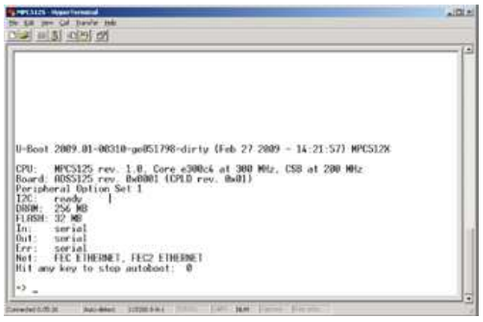
STEP 9 Press the reset button on the board



STEP 10 Find the U-Boot prompt on the terminal

Quickly press a key (on the host computer keyboard) to stop automatic booting. The U-Boot bootloader is pre-flashed in the on-board NAND flash memory. At system start up, U-Boot initializes the system and allows the user to choose an operating system to run.

Note: The default operating system that automatically boots is LimeOS. To select another operating system such as MQX, press a key within three seconds to stop automatic booting (autoboot).



STEP 11 Booting Freescale MQX RTOS with digital sign demo application

At the U-Boot prompt, type **"run mqxboot"**. The MQX RTOS with demo application loads into the SDRAM from the NAND flash and executes.

```
=> run mqxboot
```

STEP 12 View images on the display

The Freescale MQX RTOS with digital signage demonstration software is preloaded on the board. This example application shows how information, advertising or other messages can be displayed on screens in retail stores, corporate buildings and other public places.

To make this the auto-boot option, type **“set bootcmd run mqxboot”** and press “Enter.” Then type **“save”** to save this change to the U-Boot environment variables in the nand flash.

```
=> set bootcmd run mqxboot
=> save
Saving Environment to NAND...
Erasing Nand...
Writing to Nand... done
=>
```

To change back to autoboot Linux, replace **“mqxboot”** with **“nandboot.”**

Booting LimeOS Linux from the U-Boot terminal

Press the Reset button and type **“run nandboot”** at the U-Boot prompt

For more information, view the following documents:

- MQX Lab: How to build and load MQX applications
- Linux Lab: How to run pre-loaded applications in the LimeOS Linux demonstration software
- TWR-MPC5125 User’s Manual: Hardware configuration, U-Boot and Linux information
- MPC5125 Reference Manual and Data Sheet: MPC5125 information

For more information about other mobileGT families, visit **www.freescale.com/mobilegt** to get the latest lab tutorials, application notes, other supporting documents and learn about other training opportunities.

For more information on Tower System controllers and peripheral modules, visit **www.freescale.com/tower**. To become a member of the online Tower Geeks community, visit **www.towergeeks.org**.

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Agile Number: 926-78413 / REV A

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