

RoBoard RB-100/RB-110 Console Redirection How-To

DMP Electronics Inc

Robotic Division

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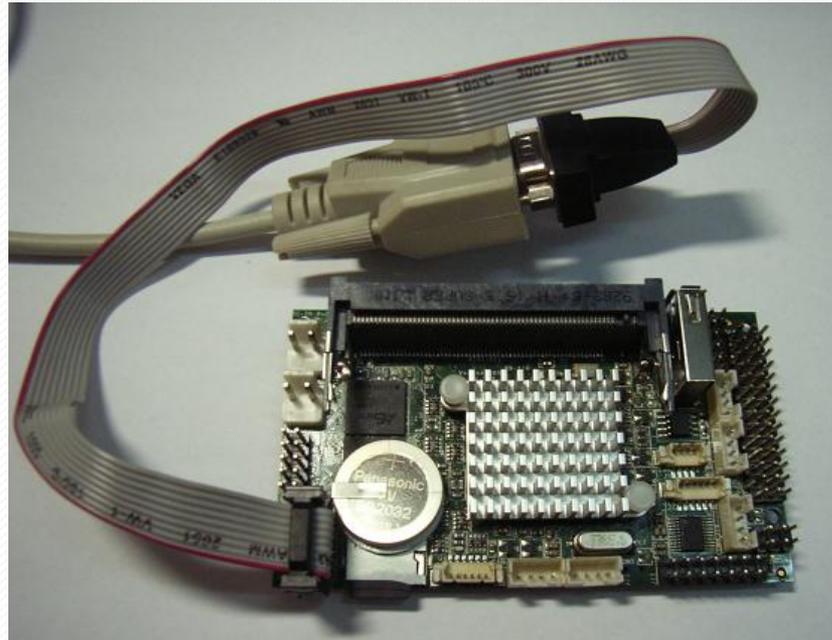
About RoBoard's Console Redirection Function

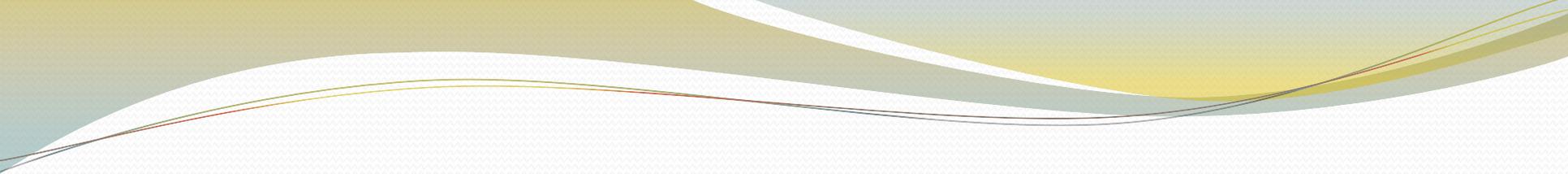
- When Console Redirection is enabled, RoBoard will redirect text screens (such as BIOS & DOS screens) to one of its native COM ports.
- By Console Redirection, you are able to manipulate RoBoard (of no VGA card) on any PC with serial (RS232) ports.
 - Note that Console Redirection will become invalid if RoBoard boots into WinXP, Linux, or any protected-mode OS.



Hardware Requirement

- RoBoard RB-100/RB-110
- Any PC with serial (RS232) ports

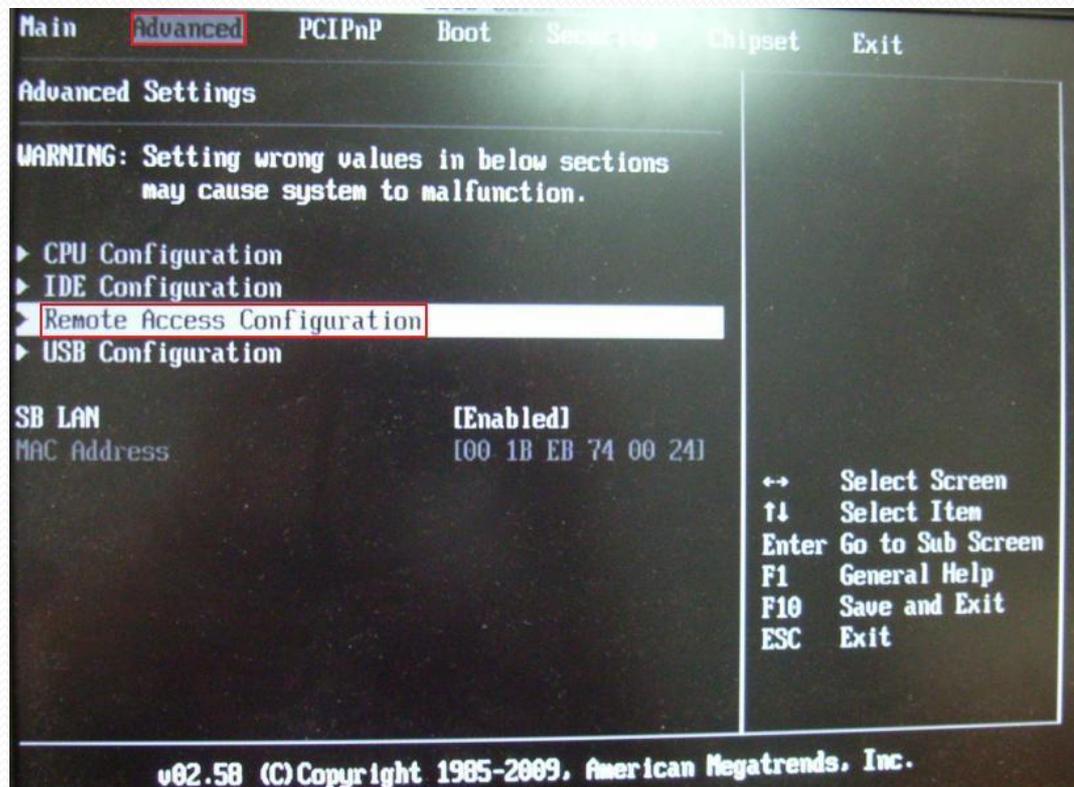




How to Enable RoBoard Console Redirection

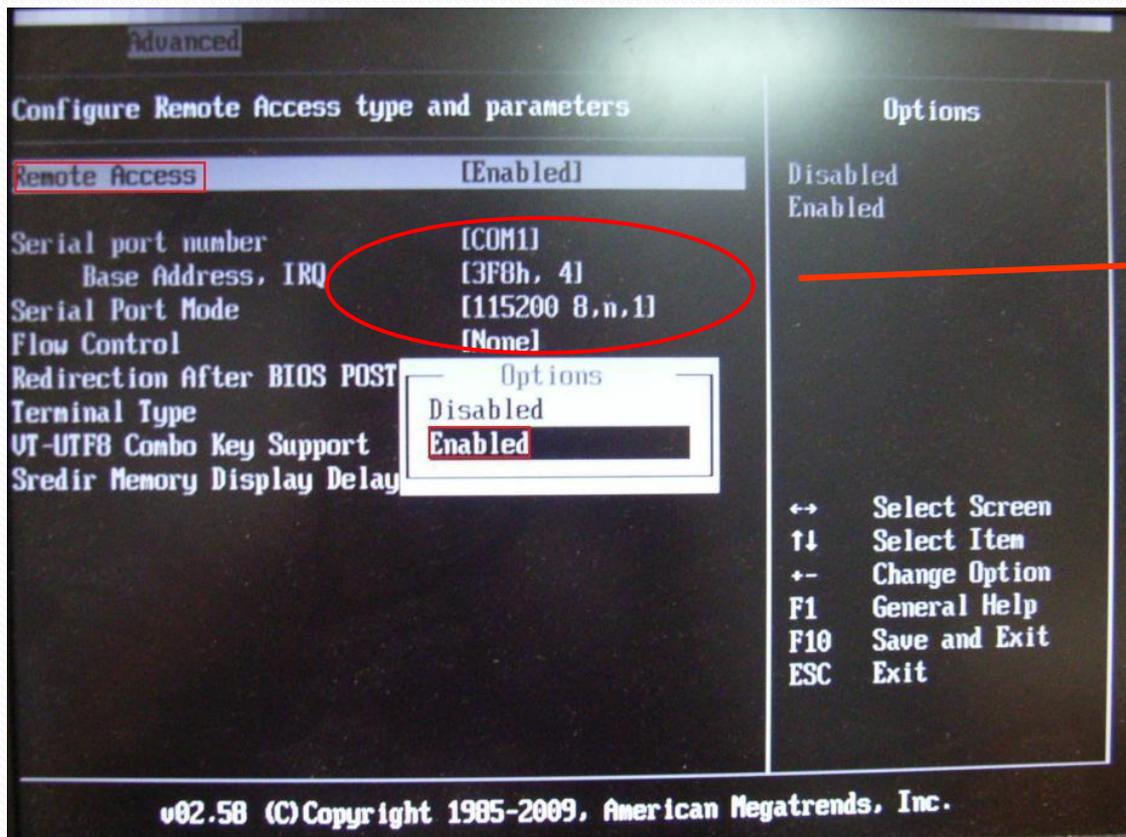
Method 1 (by BIOS)

- STEP 1: In BIOS, go to Advanced → Remote Access Configuration



Method 1 (by BIOS)

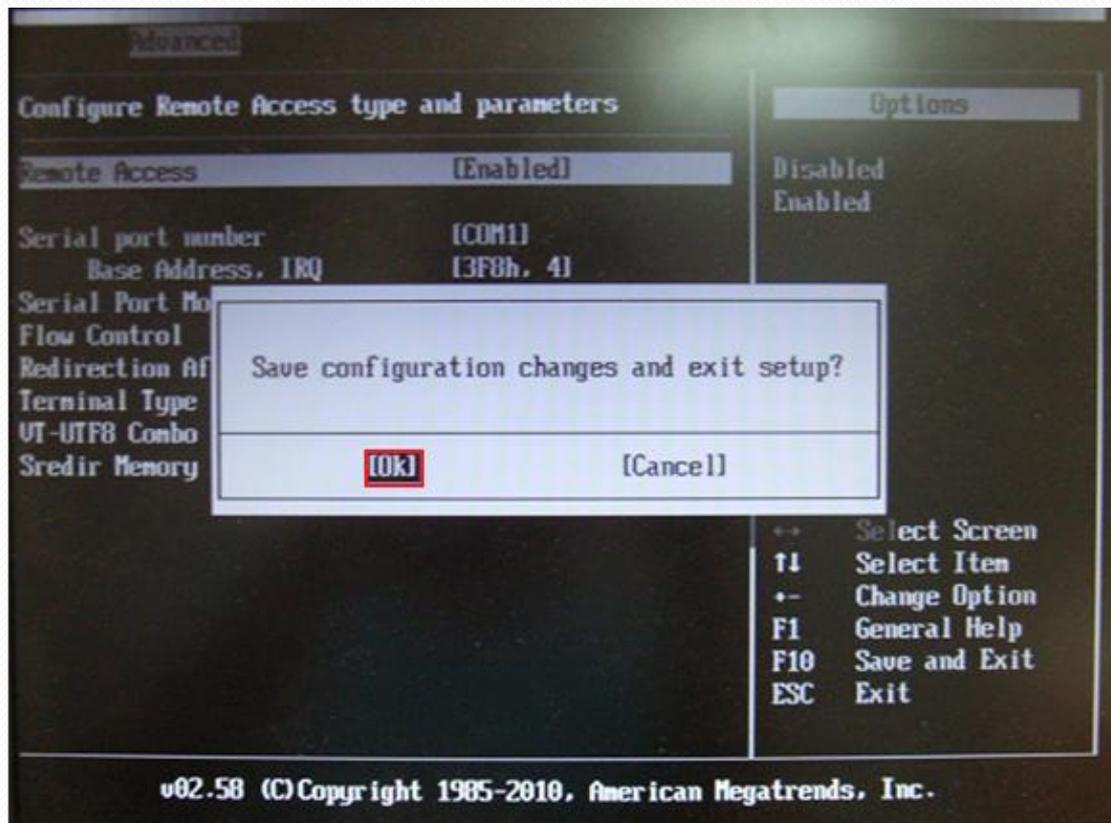
- STEP 2: Set “Remote Access” as [Enabled]



In this BIOS menu, you can also set the COM port that redirects the console.

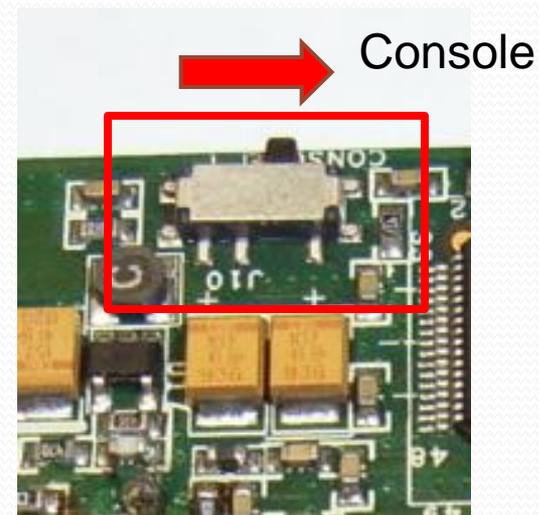
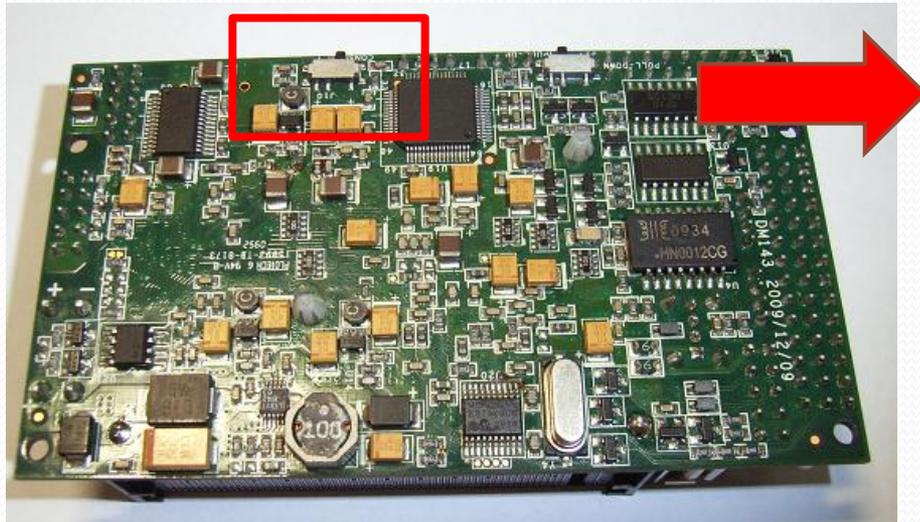
Method 1 (by BIOS)

- STEP 3: Save and exit the BIOS



Method 2 (by H/W switch)

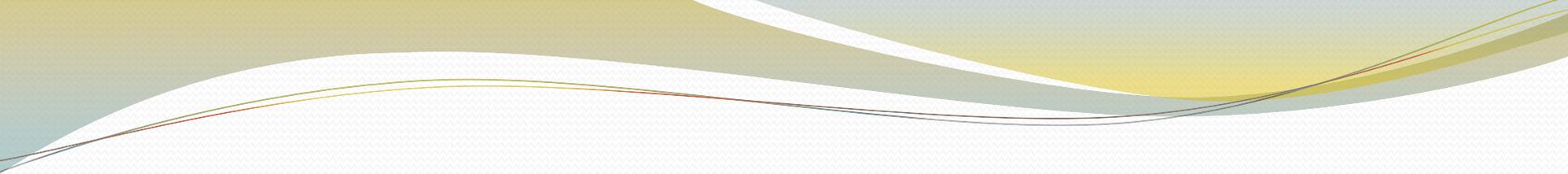
- Just turn Console Redirection switch to “Console Redirection enable” (see also H/W introd. Slide)



Note: The COM port (& baudrate) to redirect the console is set in BIOS (see the previous Method 1 pictures).

Remarks

- Console Redirection Function will occupy the COM port that is set to redirect the console (default COM1 at 115200bps).
- Console Redirection is valid only for Real Mode and the 80×25 text mode.
 - i.e., it doesn't work for any protected-mode OS and any graphic-mode DOS program.
- The Method 2 (H/W switch method) doesn't work on some early RB-100.



Connect PC to RoBoard via Console Redirection

(Use WinVista & PuTTY as an example)

STEP 1: Download PuTTY

- Download PuTTY from :

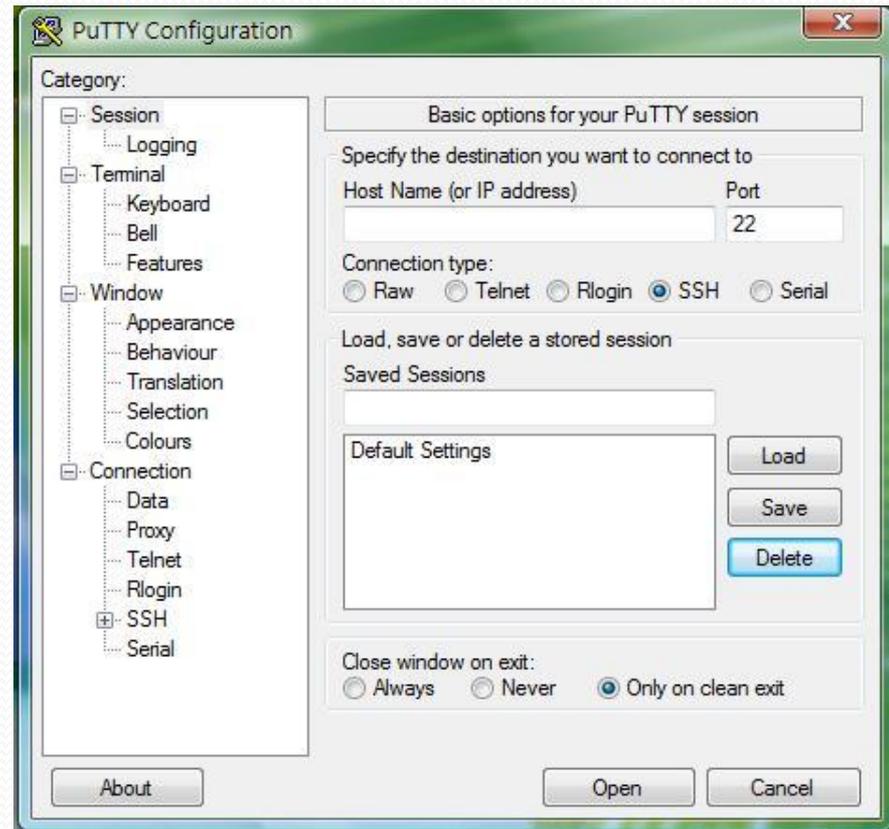
<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

For Windows on Intel x86

PuTTY:	putty.exe	(or by FTP)	(RSA sig)	(DSA sig)
PuTTYtel:	puttytel.exe	(or by FTP)	(RSA sig)	(DSA sig)
PSCP:	pscp.exe	(or by FTP)	(RSA sig)	(DSA sig)
PSFTP:	psftp.exe	(or by FTP)	(RSA sig)	(DSA sig)
Plink:	plink.exe	(or by FTP)	(RSA sig)	(DSA sig)
Pageant:	pageant.exe	(or by FTP)	(RSA sig)	(DSA sig)
PuTTYgen:	puttygen.exe	(or by FTP)	(RSA sig)	(DSA sig)

STEP 2: Configure PuTTY Serial Settings

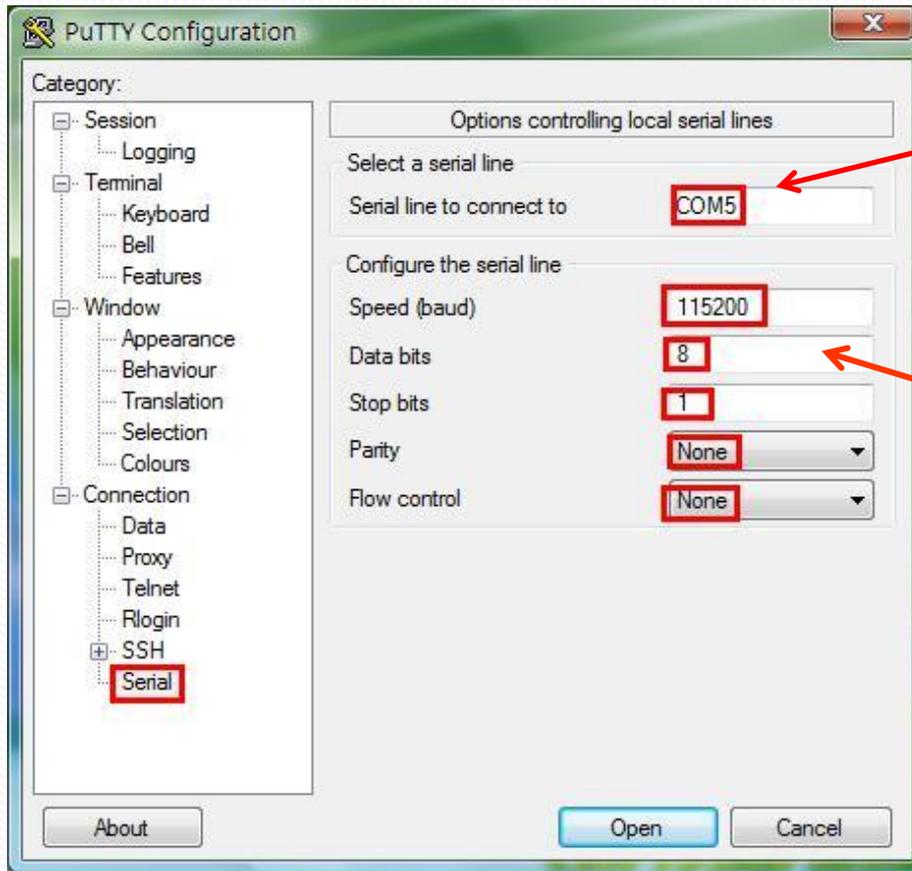
- STEP 2.1: Launch PuTTY



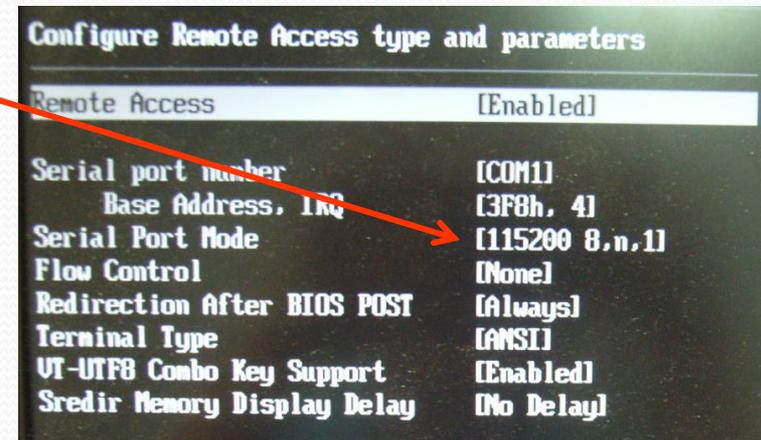
STEP 2: Configure PuTTY Serial Settings

- STEP 2.2: Set the correct serial configuration
 - Select your PC's serial port that will connect to RoBoard (COM5 in this example).
 - The baudrate, data/stop bits, parity, and flow control settings should coincide with RoBoard's console-redirectation port.
 - The default settings of RoBoard's console-redirectation port are 115200 bps, 8 data bits, 1 stop bit, no parity and no flow control.

STEP 2: Configure PuTTY Serial Settings

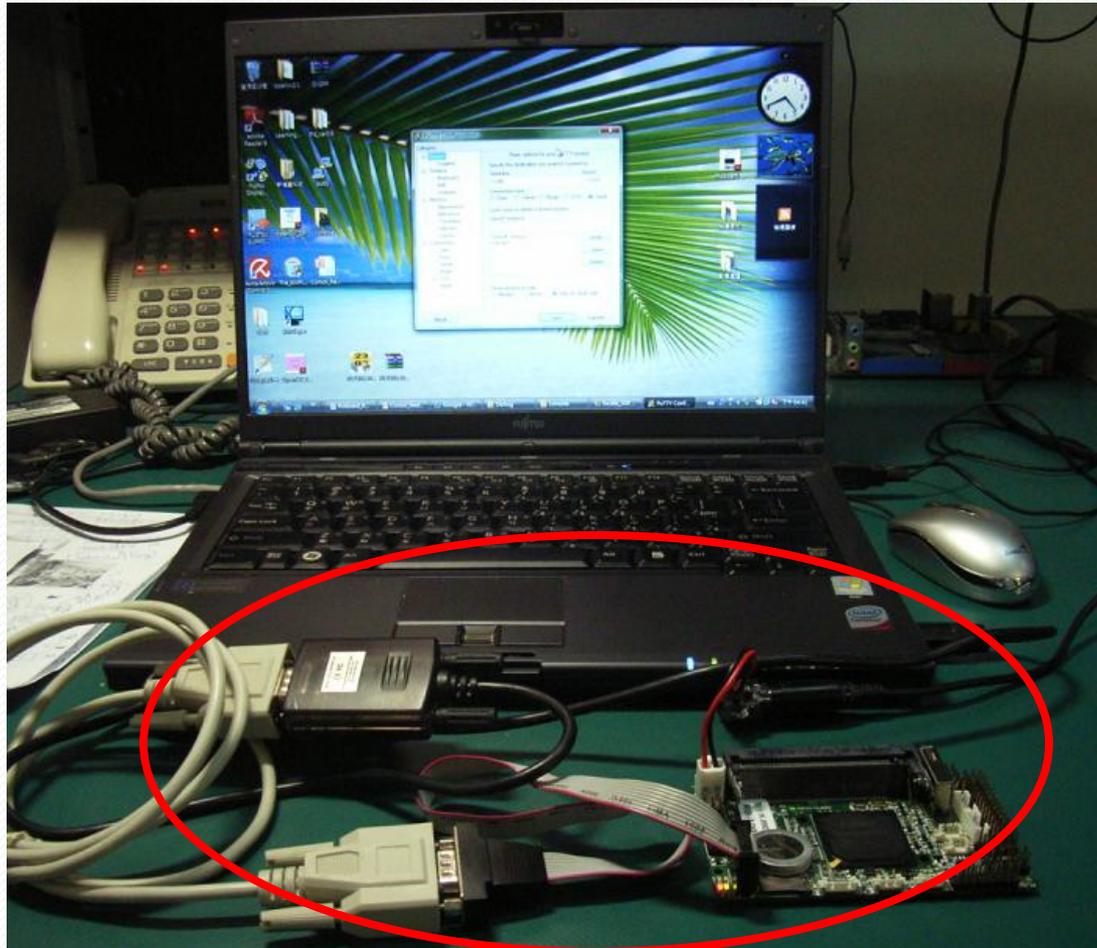


PC's serial port

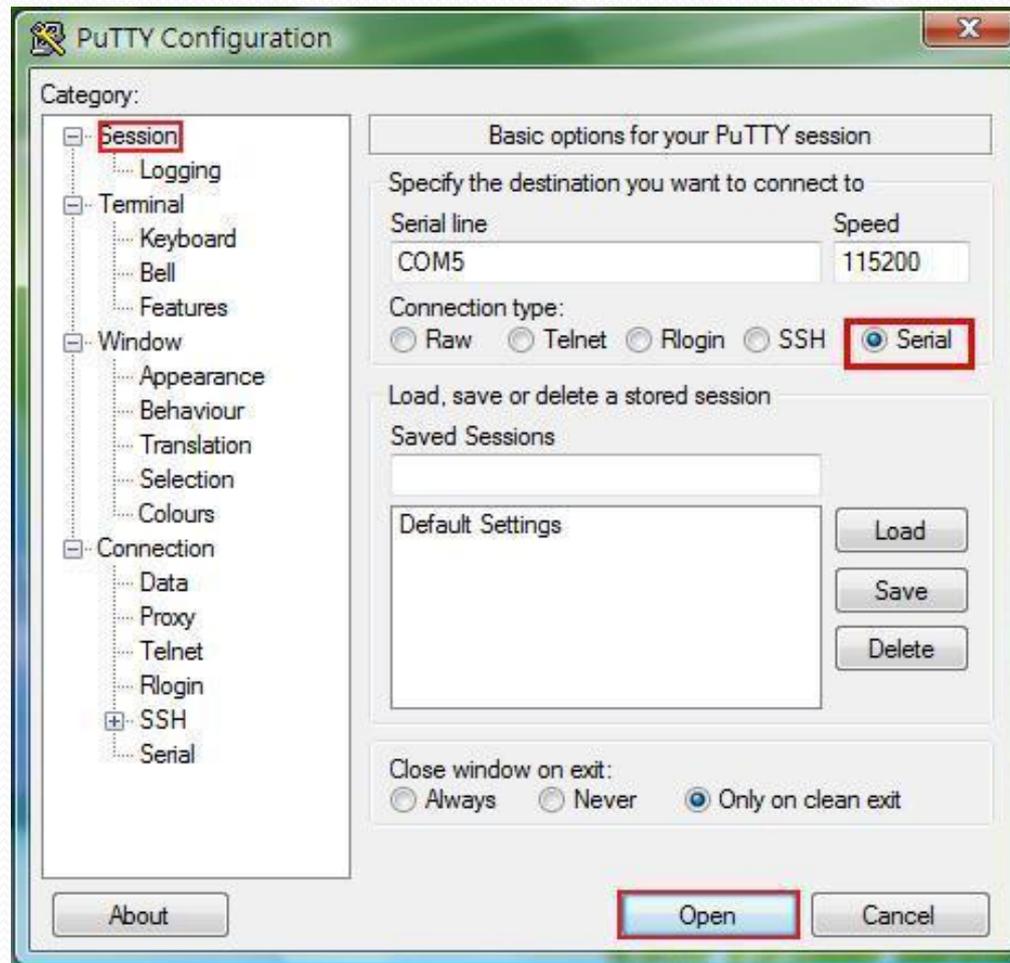


RoBoard BIOS settings

STEP 3: Connect Serial Ports of Your PC and RoBoard

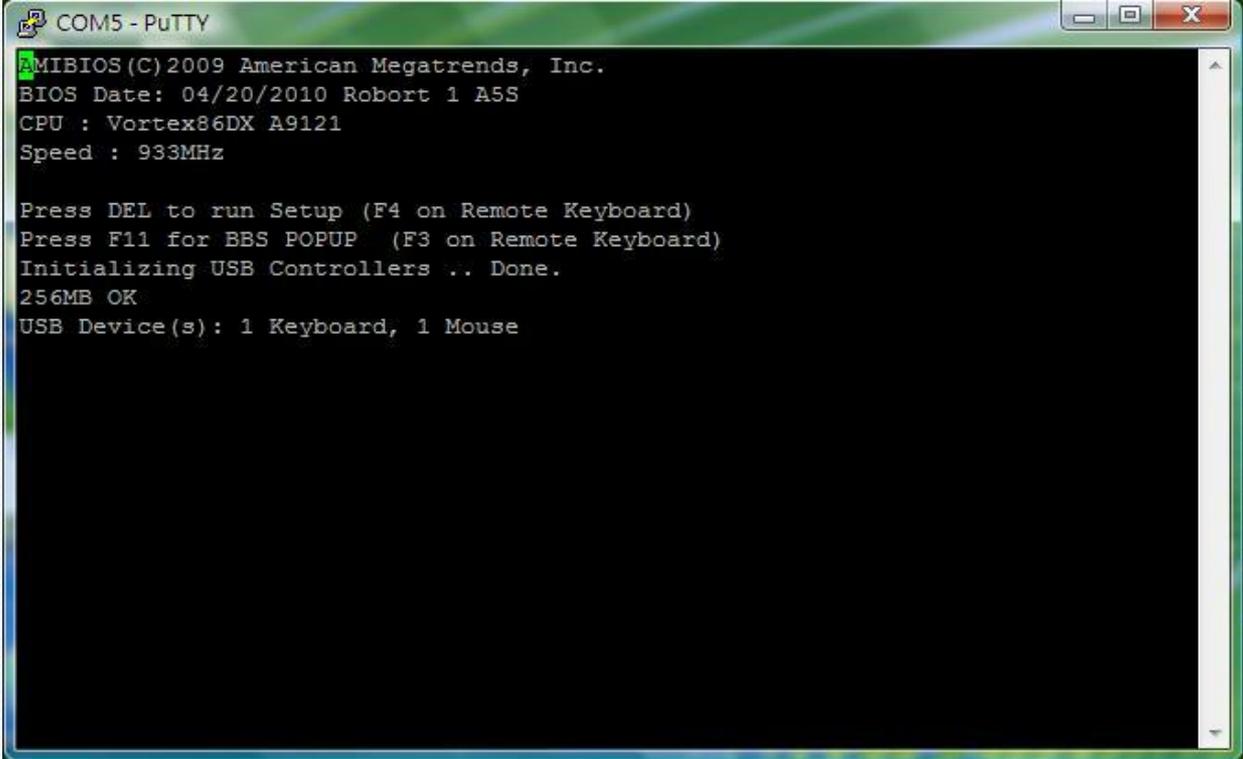


STEP 4: Open PuTTY Serial Connection



STEP 5: Power on RoBoard

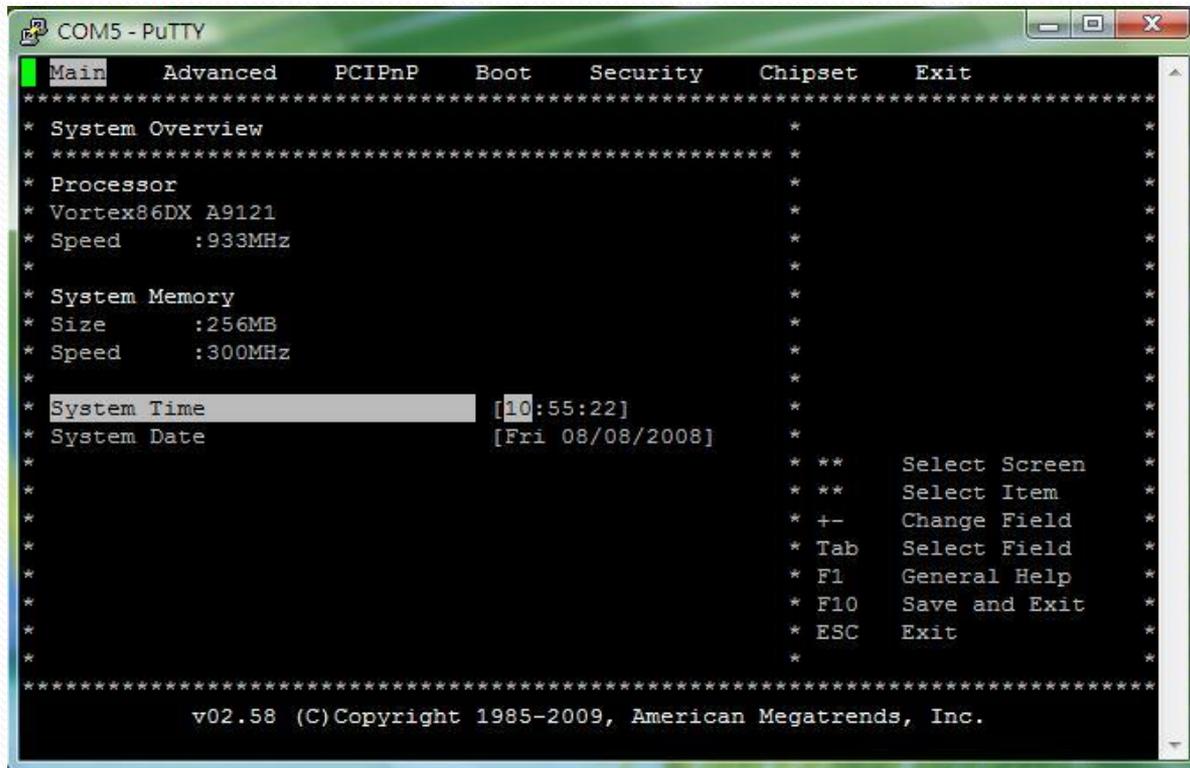
- Power on RoBoard; then you will see the RoBoard boot screen in PuTTY.

A screenshot of a PuTTY terminal window titled "COM5 - PuTTY". The window displays the following text:

```
AMIBIOS(C) 2009 American Megatrends, Inc.  
BIOS Date: 04/20/2010 Robort 1 A5S  
CPU : Vortex86DX A9121  
Speed : 933MHz  
  
Press DEL to run Setup (F4 on Remote Keyboard)  
Press F11 for BBS POPUP (F3 on Remote Keyboard)  
Initializing USB Controllers .. Done.  
256MB OK  
USB Device(s): 1 Keyboard, 1 Mouse
```

STEP 5: Power on RoBoard

- You can then press “F4” key of your PC (in the boot screen) to enter RoBoard BIOS and manipulate it.



The image shows a screenshot of a PuTTY terminal window titled "COM5 - PuTTY". The terminal displays the main menu of the RoBoard BIOS. The menu is organized into several sections: "Main", "Advanced", "PCIPnP", "Boot", "Security", "Chipset", and "Exit". The "Main" section is currently selected and highlighted. The menu items are as follows:

- System Overview
- Processor
 - Vortex86DX A9121
 - Speed :933MHz
- System Memory
 - Size :256MB
 - Speed :300MHz
- System Time [10:55:22]
- System Date [Fri 08/08/2008]

At the bottom of the screen, there is a legend for navigation keys:

- ** Select Screen
- ** Select Item
- + - Change Field
- Tab Select Field
- F1 General Help
- F10 Save and Exit
- ESC Exit

At the very bottom of the terminal, the copyright information is displayed: "v02.58 (C)Copyright 1985-2009, American Megatrends, Inc."

The heart of Robotics

THANK YOU

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<http://www.roboard.com>