Upload SRV1 Firmware Modified for OPEN-ROBOT

Prerequisites

Download the appropriate OPEN-ROBOT modified SRV1 Firmware from Abe Howell's Robotics. You must match the modified firmware baud rate with the current firmware that is installed on your SRV1. For example, if your SRV1 was purchased with a firmware running 115,200 bps then you need to use the srv1.ldr.115k firmware. These files were built from a 10-19-08 SRV1 firmware and will not work with earlier versions.

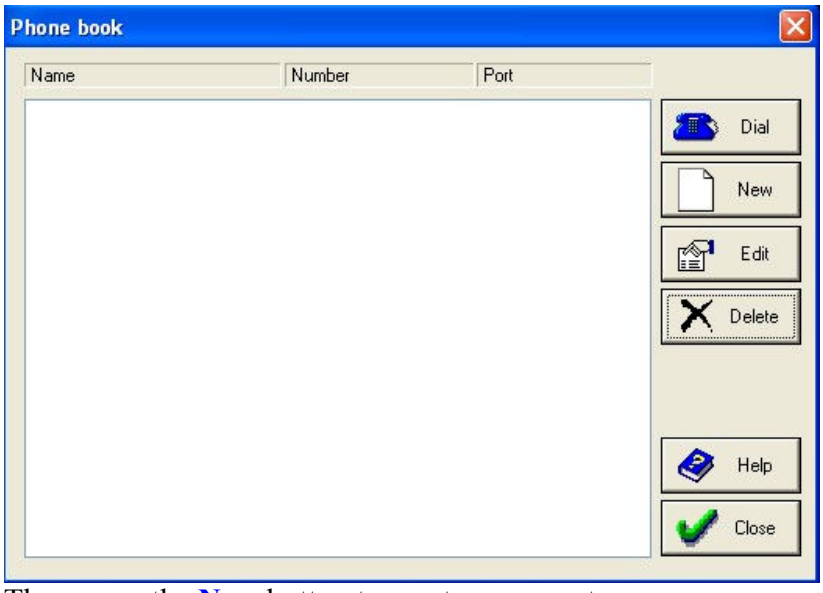
http://www.abotics.com/OPEN_ROBOT_Software/srv1_openrobot_firmware.zip

After downloading the firmware zip file, go ahead and unzip the contents to a known location. If you are running Windows® XP I would suggest that you download a suitable Terminal program like Tera Term Pro or ShamCom. I will be using ShamCom in this tutorial.

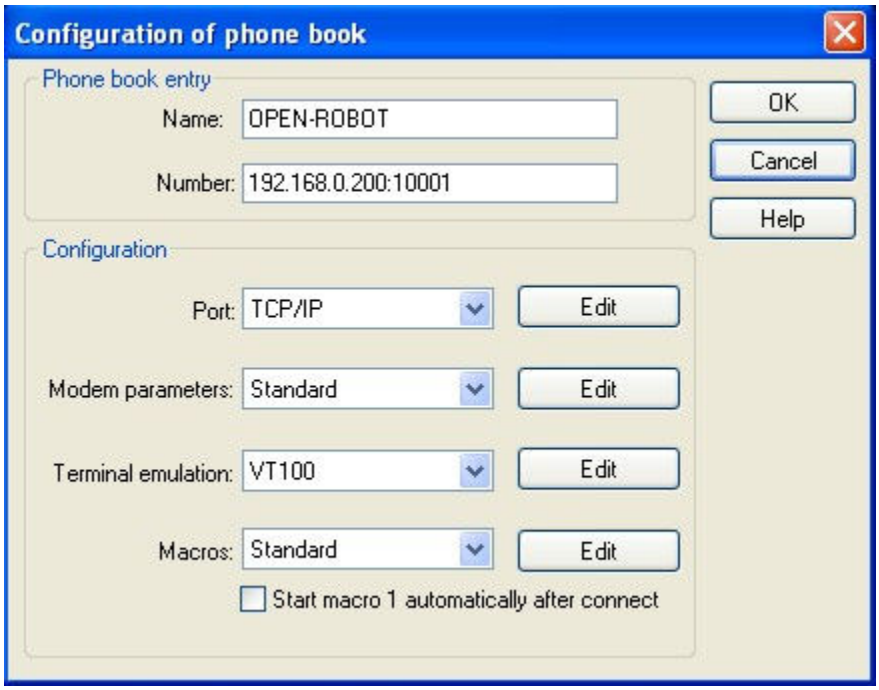
http://www.shamrock.de/tools.htm
http://hp.vector.co.jp/authors/VA002416/teraterm.html

Uploading Firmware Using ShamCom Terminal and XModem

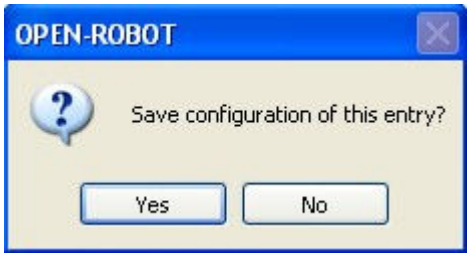
The SRV1 firmware has to be uploaded using XModem and the **'X'** SRV1 command. Once the firmware has been uploaded to the flash buffer then it needs to be written to the boot sectors of flash memory using the **'zZ'** SRV1 command. First you need to go ahead and connect to your SRV1. Run the ShamCom program and select Dial from the Connection menu.



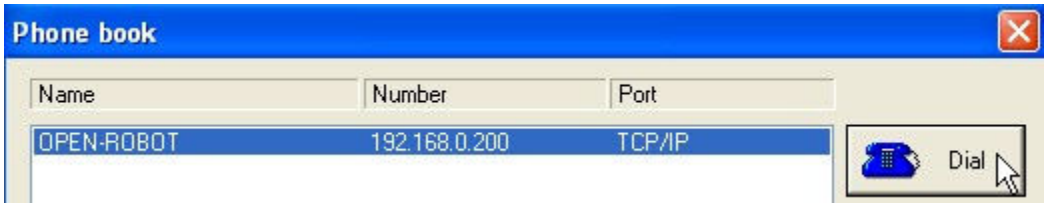
Then press the **New** button to create a new entry.



I will be naming my entry with OPEN-ROBOT, but you can name yours anything. You need to enter the IP Address of your robot's MatchPort b/g in the **Number:** field. Don't forget to add **:10001**, which is the MatchPort b/g port number. There is no need to change the other settings, so simply click the **OK** button.

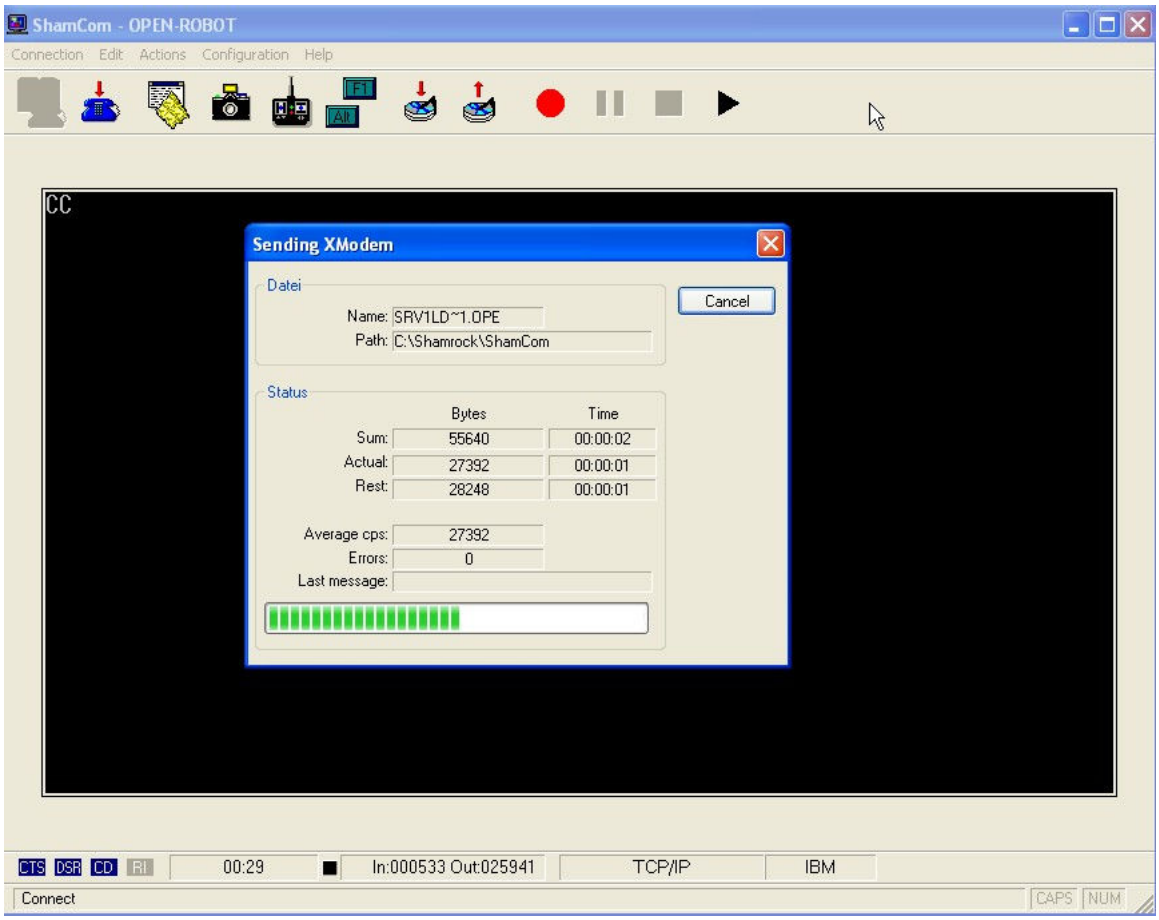


Be sure to press **Yes** when you are asked to save the entry.

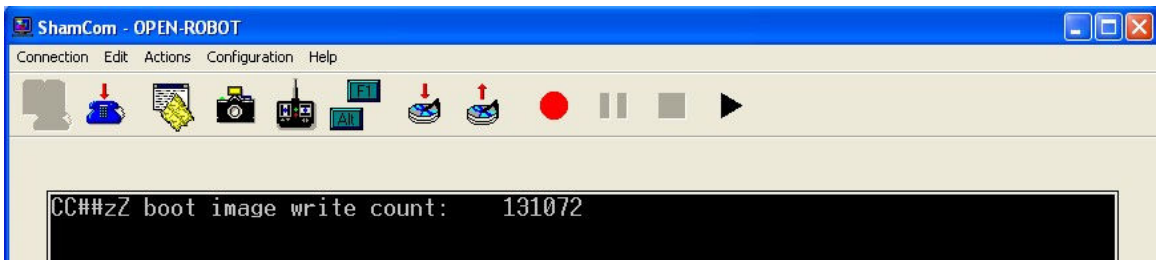


Now you can go ahead and power up your robot and click on the **Dial** button. The ShamCom program will now attempt to connect to your robot. At this point I would suggest copying the appropriate srv1.ldr file to the ShamCom folder, which should be located at **C:\Shamrock\ShamCom**. This way the file will be readily accessible for when you upload using XModem. Go ahead and type the SRV1 XModem receive

command, **X**. You should start to see CCCC printed in the ShamCom window. This means that the SRV1 is waiting to receive a file upload via XModem. Click on the Action menu and select **Upload** then **XModem…** Quickly browse for the correct SRV1 firmware file, which should be any of the following: **srv1.ldr.115k, srv1.ldr.921k, or srv1.ldr.2500k**. The file upload should only take a minute or so.



Once the upload is complete, you need to write the flash buffer to boot sectors of flash memory using the **zZ** SRV1 command. Type the **zZ** command in the ShamCom window and you should receive a message similar to the one shown below. Your new firmware has been loaded.



You will now be able to command the SRV1 camera board, but also send and receive commands from your OPEN-ROBOT. Now all your OPEN-ROBOT commands have to

be preceded by the tilde (~) character. This lets the SRV1 firmware know that the following command is for the OPEN-ROBOT. For example, to retrieve the analog-to-digital sensor readings we would type the following: **~A** and then press the Return or Enter button. To command OPEN-ROBOT to drive forward using open-loop velocity we would type the following: **~MO25,25** and then press the Return or Enter key.