



## SDA 2000 Firmware Update Instructions

### Intro:

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Reprogramming the controller can be a bit challenging, especially if the computer has trouble recognizing the controller as a device. If you are unable to update the firmware, contact [support@steppir.com](mailto:support@steppir.com) and we can assist you with the update. Windows XP seems to have the least trouble.

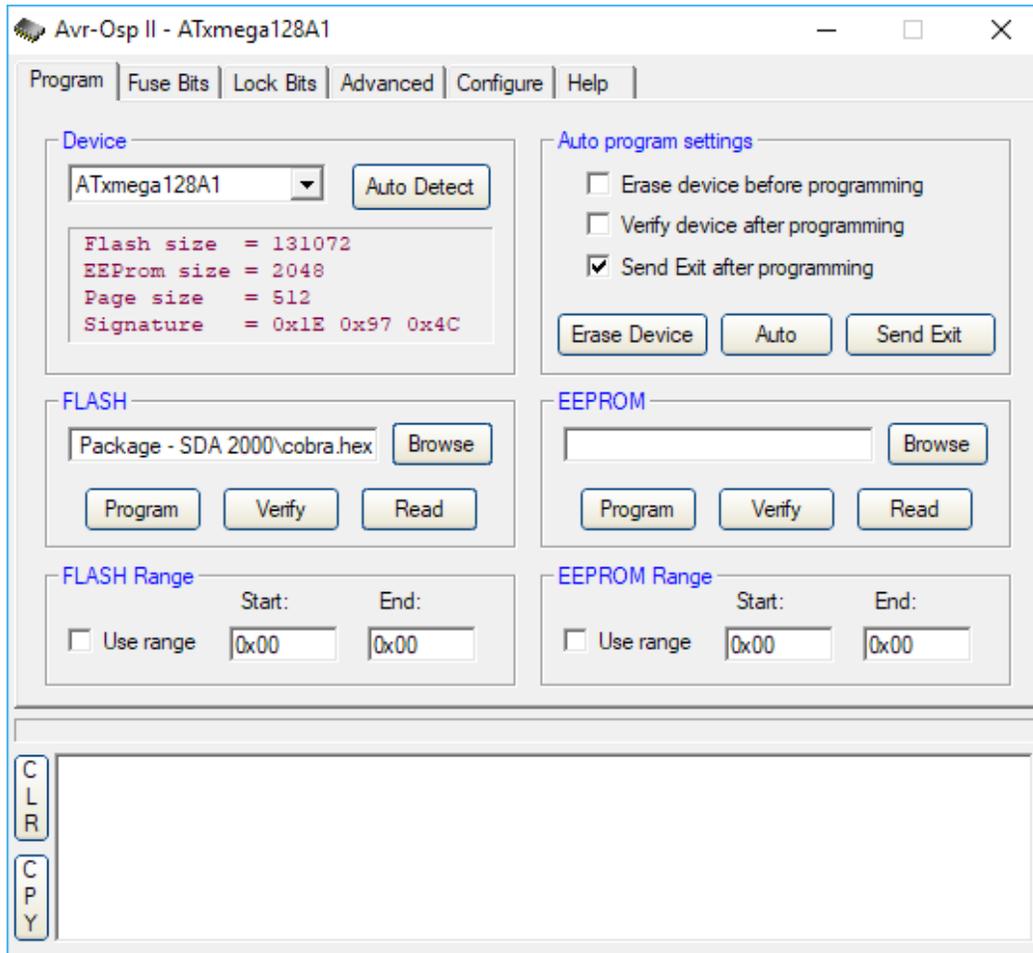
### Instructions:

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#### **Step 1: Install AvrOspII software on your computer.**

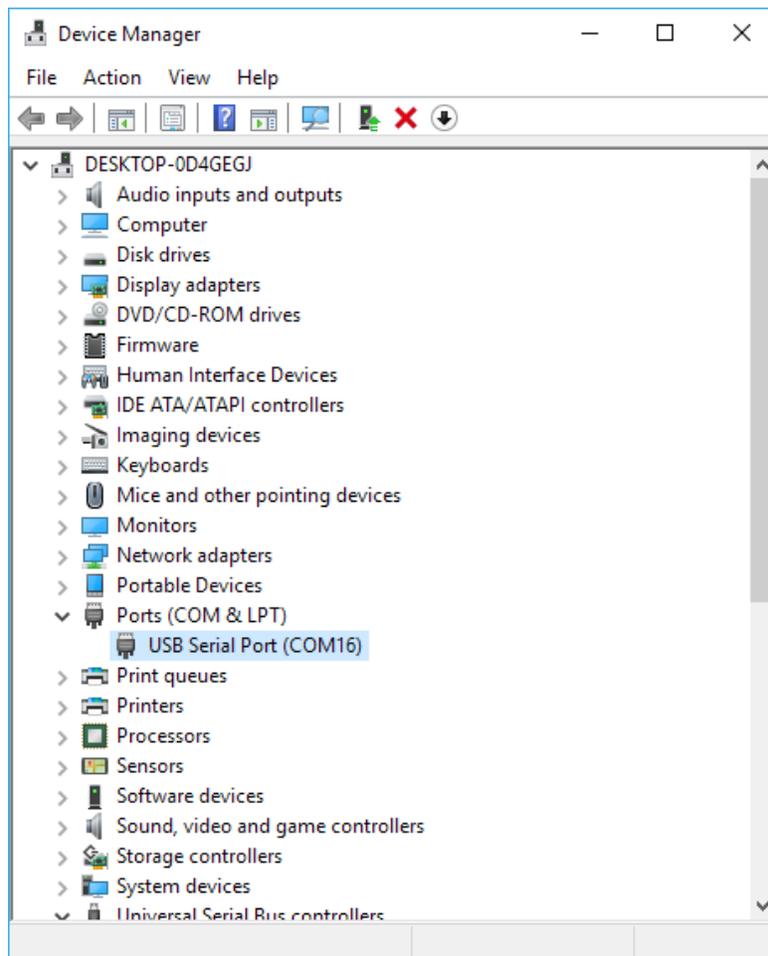
1. The software program that you will use to install the new firmware on your controller is called AvrOspII. The program is included in the firmware upgrade package. Extract the files from the firmware upgrade package and copy the AvrOspII folder to your PC.

2. Open the AvrOspII folder and run the application.

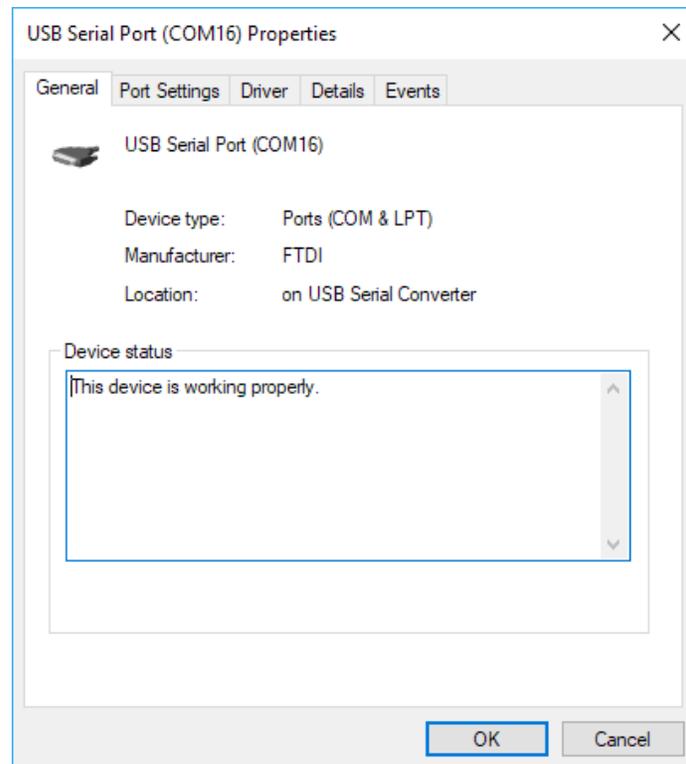


## Step 2: Connect your SDA 2000 to your computer.

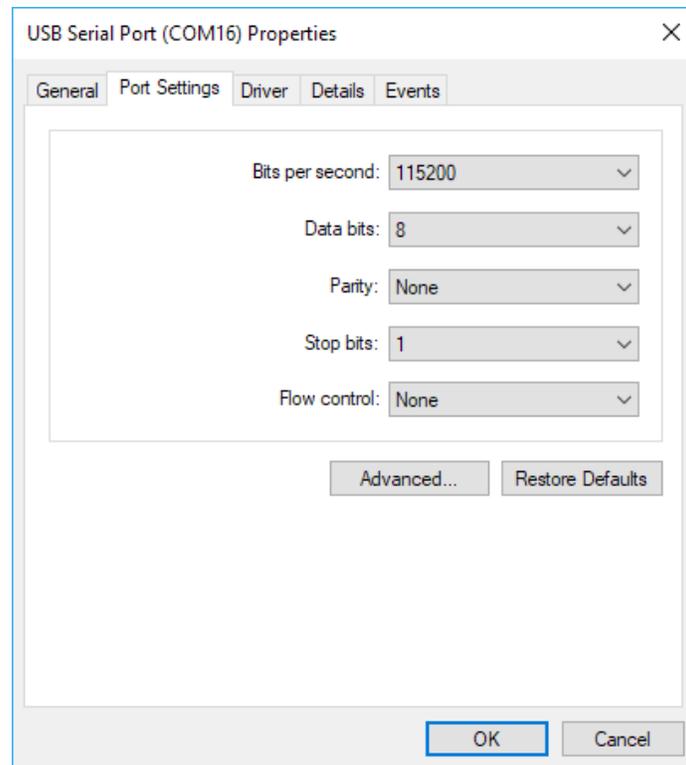
1. Turn off the SDA 2000 controller.
2. Connect the USB cable from the SDA 2000 rear mini-USB port to a PC USB port.
3. Open the device manager by pressing the Windows key and typing "device manager".



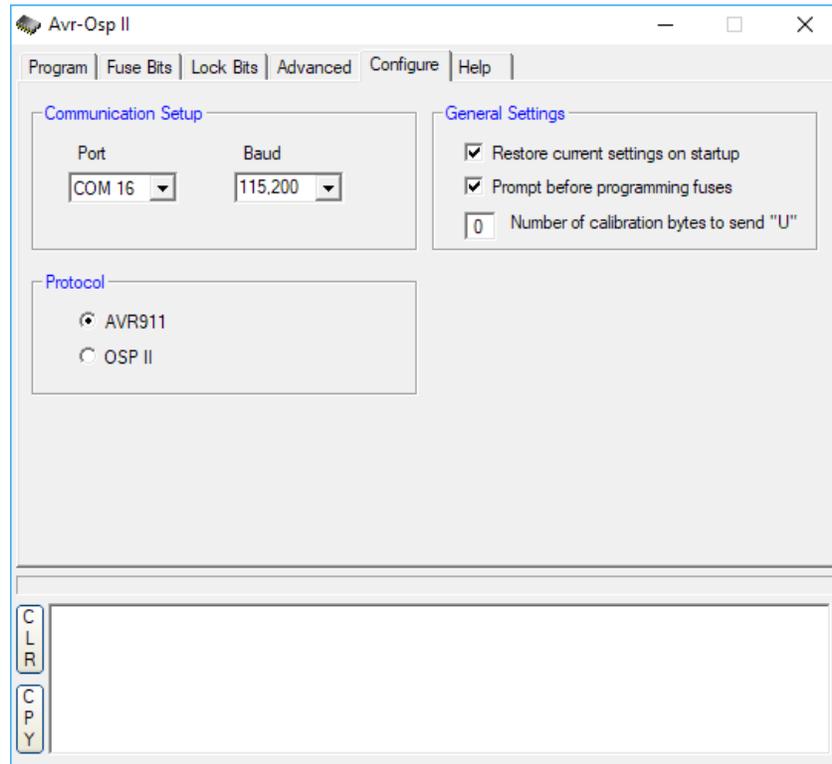
4. Determine which USB serial device corresponds to the SDA 2000. It will be the “new” one that appears if you have the Computer Management tool open with the Ports section expanded.
5. To confirm the correct port – double click the port line item to check the Device Type. It should read FTDI in the manufacturer line. If you have other USB to serial converters plugged in, this is not a definitive test.



6. Adjust the communication parameters to allow the AvrOsppl application to communicate properly with the SDA 2000. It appears that the baud rate must be set at 115,200 for the application to connect. This must be done in both the programming application and the Port Properties under the Device Management plug-in.
7. Set the Port Baud rate and communication parameters as shown under the Port Settings box.



8. Configure the Communication Setup within the AvrOspII application by using the "Configure" tab. Make sure the Port set matches the port from the Device Manger plugin and set the baud rate to 115,200.



### **Step 3: Install the firmware file to the controller.**

1. Go to the "Program" tab on the AvrOspll application and press the "Auto Detect" button in the Device Box. If the communication is working properly it will auto detect the device type as "ATxmega 128A1" and give you messages in the logging window at the bottom.
2. Browse for the updated firmware flash file "cobra.hex" that you unzipped in step 2. This is done with the "Browse" button located in the "FLASH" section of the application.
3. To update the firmware – press the "Program" button located within the "FLASH" section. Messages will appear in the logging window.
4. You will see the programming started in the lower window of the tool. Once the message "Leaving programming mode" appears, it is all done.

### **Step 4: Setup the SDA 2000 controller for your antenna.**

Unplug the power for a few seconds to reboot the SDA 2000. Also remove the USB cable. Reconnect the power supply. The device should return to the standby state with the Power/Tuning LED light orange.

With the new firmware now installed you will need to verify the antenna type is correct. If not use the Setup → Antenna Selection menu to select the correct antenna.

The firmware update will also reset any settings you might have selected so make sure that your transceiver settings and options are correct.

You can check your firmware version by navigating to Setup → Software Version.

Enjoy your new firmware!

*Thanks to Chuck KI5YK who put together the firmware update procedure that this manual is derived from.*