Loading MMJoy2 Firmware on the Arduino Pro Micro
(and clones)
v1.00 – February 27th, 2015
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If you don't yet have the MMJoy2 firmware and JoySetup program, go here: https://drive.google.com/folderview?id=0B2zIeYwbAIHOMFlzSkNPZ1NXV1k&usp=sharing#list.
Select the most current release directory and download the RAR file you'll find there. As of this writing, the most current release is labeled [v20150121]

Loading the MMJoy2 firmware on a Pro Micro is a very simple task and doesn't require any special programming hardware. The only things you'll need for this task is the Pro Micro (or clone) and two jumper wires. A small breadboard will make the task a bit easier and I show that in these instructions.

First, set your Pro Micro into a small breadboard and attach two jumper wires. The first should go to the GND (ground) and the second should go to the RST (reset) pin as shown below:
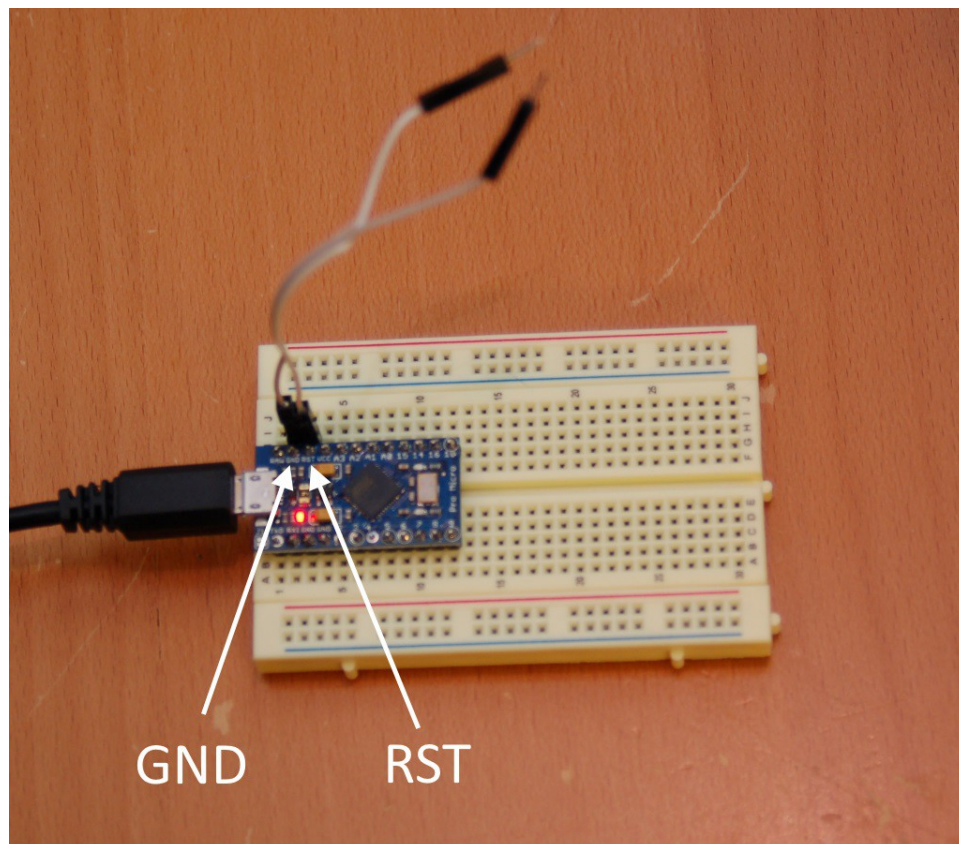
When you power up the Pro Micro and short the GND and RST lines together twice, the firmware goes into "Arduino Leonardo Bootloader" mode. This is how the JoySetup software can upload the MMJoy2 firmware into the Pro Micro without requiring an external programmer.

Connect your Pro Micro to your computer and then open up Device Manager. I want you to practice putting the Pro Micro into bootloader mode before you do it "for real". The bootloader mode is only active for 8 seconds, so it helps to do it a few times to make sure you get it right when you're ready to upload the MMJoy2 firmware.

Once you have Device Manager open, touch the GND and RST wires together twice, with a heartbeat or two between the first and second touch. When the Pro Micro goes into bootloader mode, you should see the following in Device Manager:
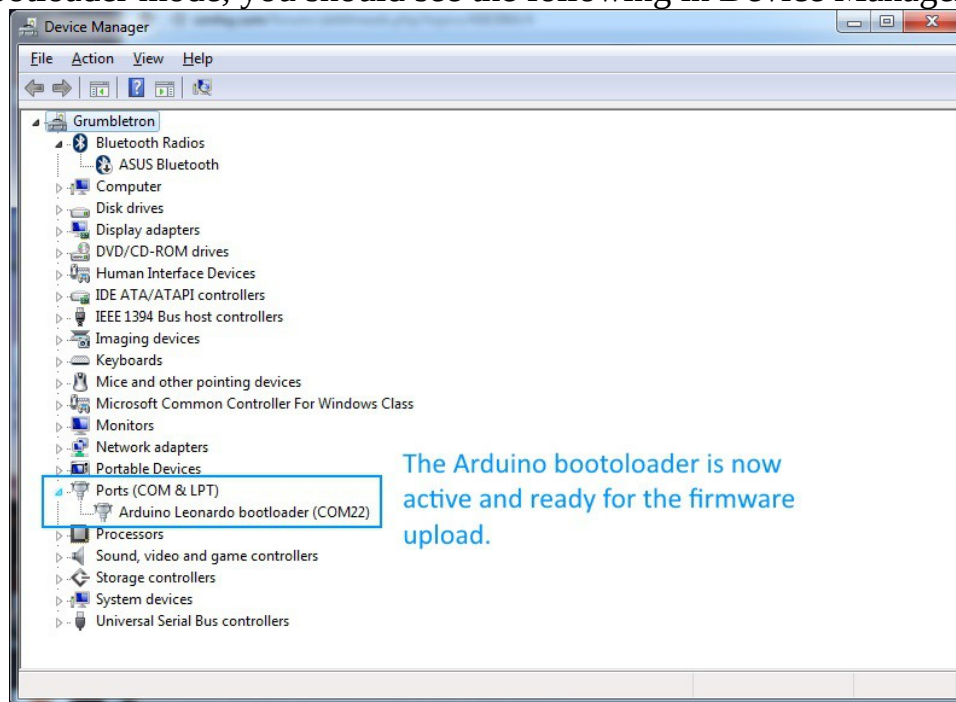
As you can see, it appears under the Ports tree as "Arduino Leonardo Bootloader (COM??) where ?? is the port number that Windows has assigned to the device. Make sure you write down the port number it assigns – you'll need it for the next step.

After 8 seconds, the device will revert to "run" mode and the bootloader entry in the Port tree will disappear.

Now start up JoySetup and we'll do a firmware upload! If you've never run JoySetup before, it will likely be using Russian as the default language. You can change the default language by choosing it from the language dropdown:
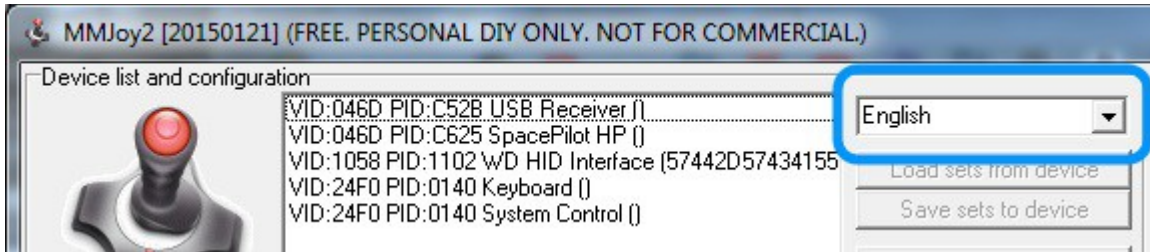
Currently the only languages available are English, German and Russian.

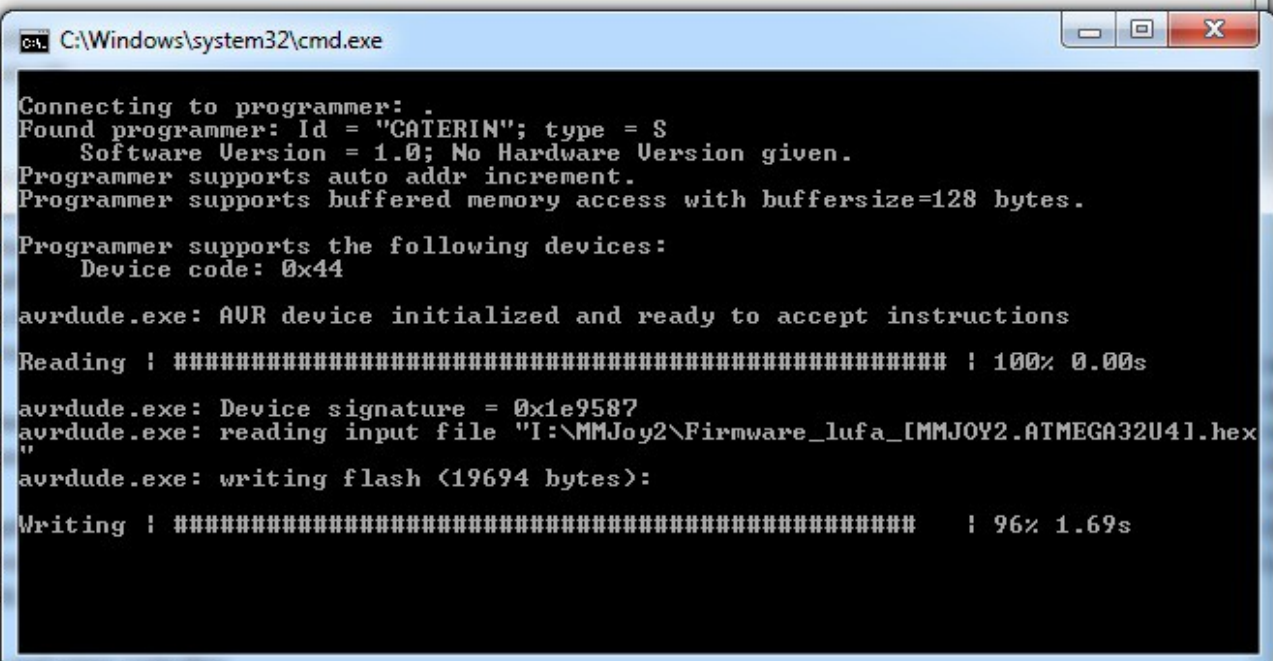Click on the Firmware tab and we'll get started!
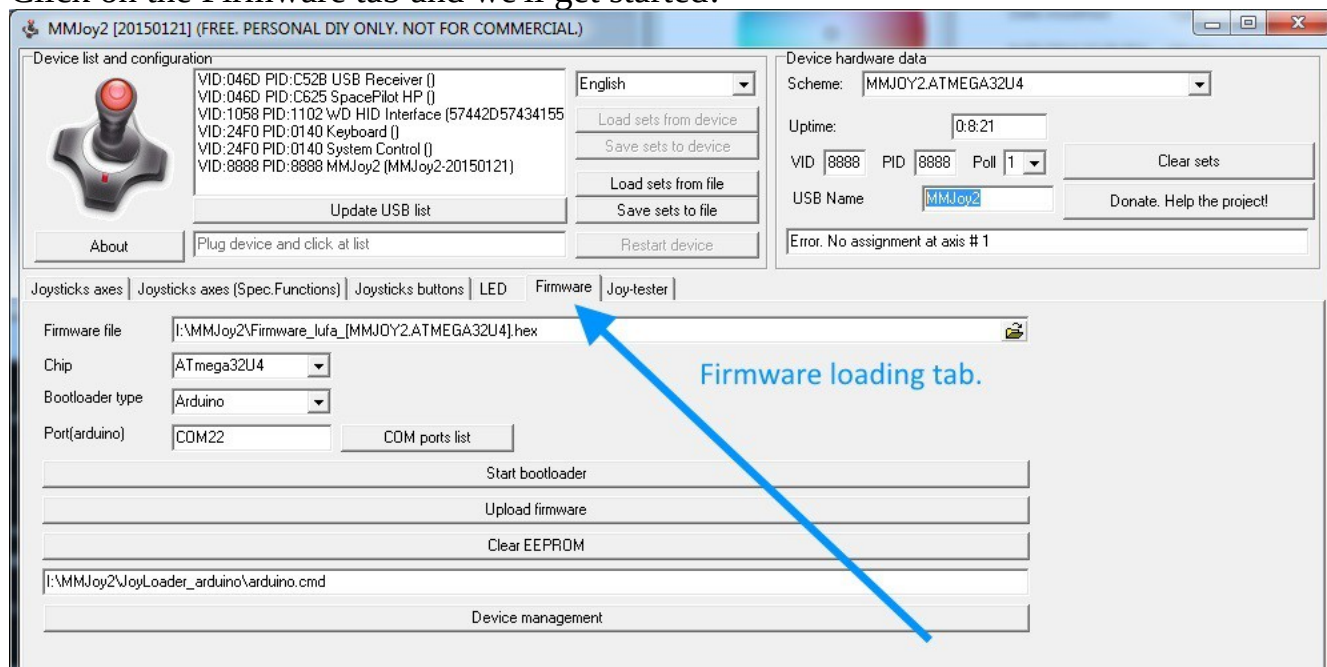
In order to do the upload, you'll first need to select the .hex file that you're going to upload. In the case of the Pro Micro, you need to select the file that contains "ATMEGA32U4" in the filename. In my example above, the file name is "Firmware_lufa_[MMJOY2.ATMEGA32U4].hex"

Click in the **Chip** drop-down and choose the ATmega32U4 – that's the CPU that the Pro Micro uses. **Bootloader Type** should be set to "Arduino".

In the input field marked **Port(arduino)**, enter in "COM" followed by the port number that appeared when you put your Pro Micro into bootloader mode.

Now all you need to do is put the Pro Micro into bootloader mode as you have before and click on the **Upload firmware** button. When you do this, a window similar to the one below will appear. It will close automatically when the upload is completed.

When the firmware upload is finished, the Pro Micro is ready to be configured! Note that until at least one axis or button is assigned in the configuration, it will not appear as a game device under Windows.

That's all there is to it! If you have any questions, comments or error corrections, please contact me at geneb@deltasoft.com.