



ADDAC207 INTUITIVE QUANTIZER
GUIDE TO FIRMWARE UPDATE

Revision.04 July.2017

ADDAC System

ADDAC207 Firmware Update

Revision.05 February.2018

Requirements

For the Firmware Update process you'll need:

ADDAC207 Module

Download either OSX or Win firmware packages

ADDAC Firmware Update Kit:

<http://addacsystem.com/product/addac-accessories/addac0016>

*Our Kit contains all necessary parts for the update process:

A Serial to USB adapter board and required jumper wires

If you already have one Serial to USB adapter or an older Arduino board with removable Atmega IC then you won't need the Firmware Kit and can use your own.

Notes on Serial Adapters:

There are lots of diferent options of USB to Serial Adapters, if you're looking to get your own ebay has very cheap ones, look for those mentioning something like:

FT232RL USB To Serial Adapter Module

USB TO 232 For Arduino



If you're getting them this way don't forget to also get some male to female jumper wires.

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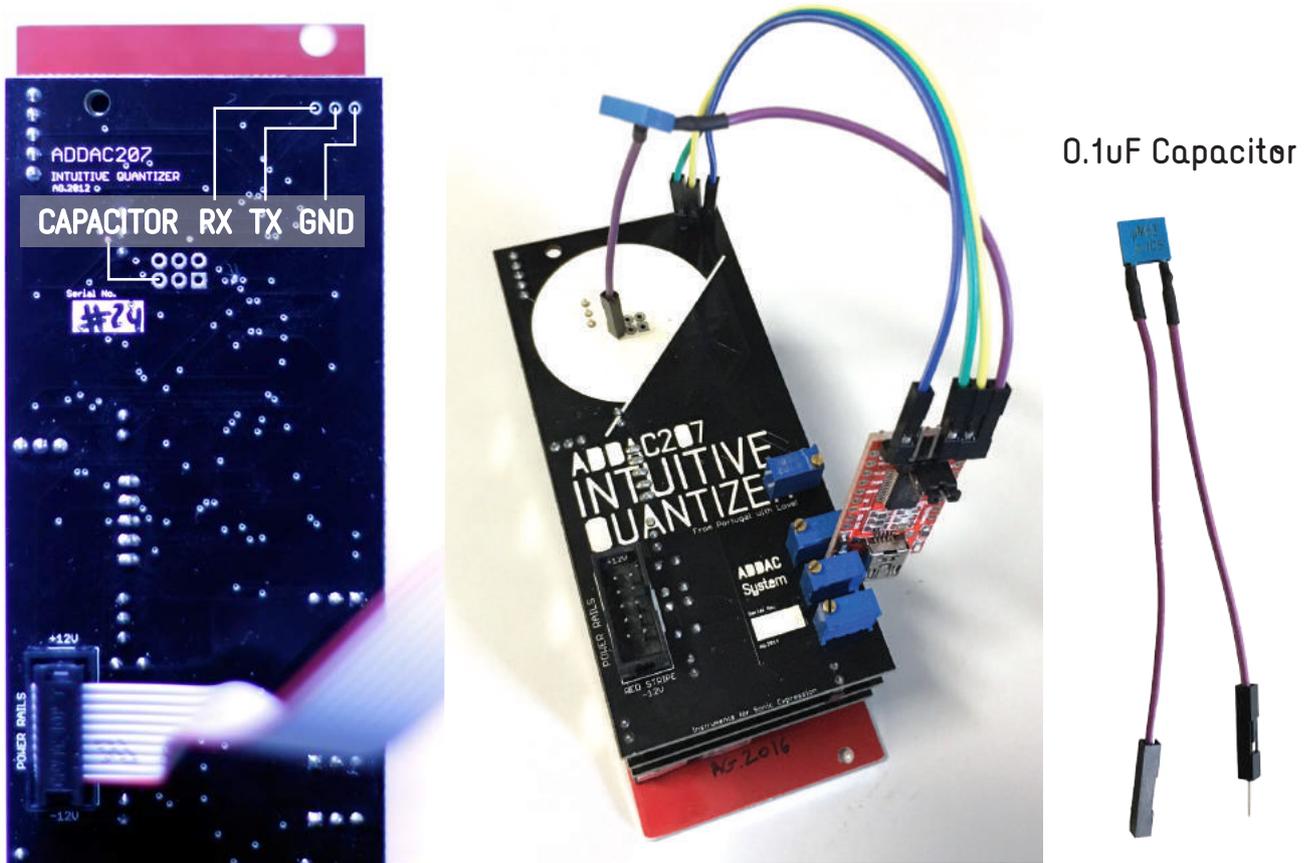
Upgrading Firmware Physical Setup

The Upgrade Process:

In the following pages we'll describe the upload method.

Note that there are 2 versions of the upgrade process one for Serial Numbers below #265 and a second one for all quantizers above Serial Number #265

Older Versions (black Pcb): Below Serial Number #265



Initial Setup:

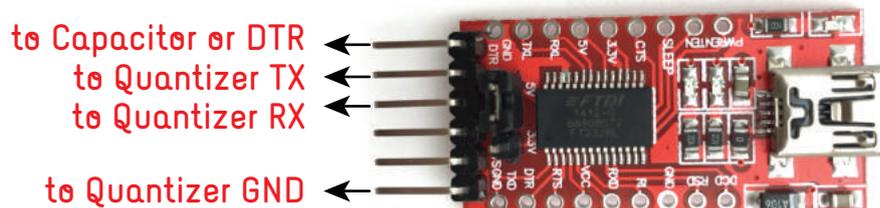
1. Have your Modular turned off and do not plug the USB-Serial adapter yet.
2. Detatch your Intuitive Quantizer from the frame, nevertheless keeping the ribbon power cable connected to a bus board. An advice is to plug it to a bottom row and leave it standing on your desk with easy access to its back.

Connections:

3. Using a standard (FTDI, rs232) USB-to-Serial adapter, locate the pins RXI, TXO and GND.

Connect both GND together, and the RX and TX pins to the inverse matching pins of the Quantizer, i.e. RX->TX and TX->RX.

Also connect DTR pin to the female leg of the 0.1uf Capacitor and the other leg to the Quantizer Capacitor Pin



New versions (green Pcb): Above Serial Number #265



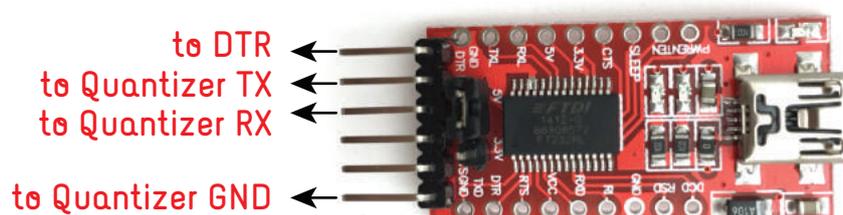
Initial Setup:

1. Have your Modular turned off and do not plug the USB-Serial adapter yet.
2. Detach your Intuitive Quantizer from the frame, nevertheless keeping the ribbon power cable connected to a bus board. An advice is to plug it to a bottom row and leave it standing on your desk with easy access to its back.

Connections:

3. Using a standard (FTDI, rs232) USB-to-Serial adapter, locate the pins DTR, RXI, TXO and GND.

Connect both DTRs and GNDs together, and the RX and TX pins to the inverse matching pins of the Quantizer, i.e. RX->TX and TX->RX



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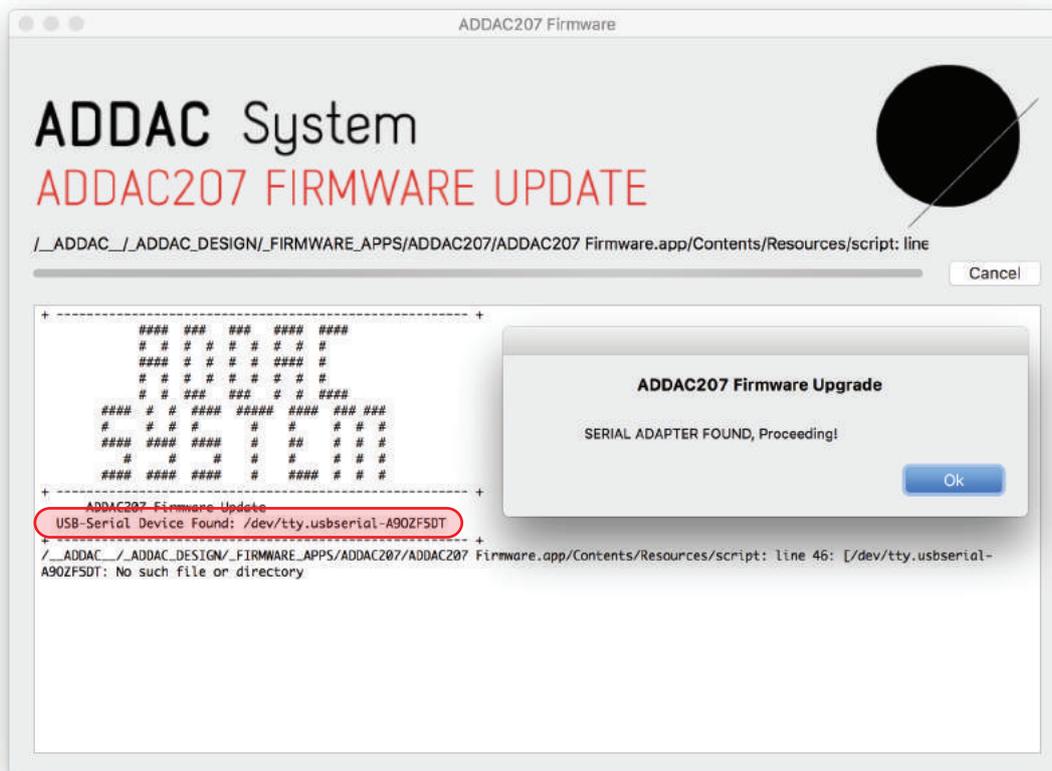
Upgrading Firmware on OSX

Requirements

- Download Latest Firmware App: http://media.addacsystem.com/firmwares/ADDAC207_FIRMWARE_OSX.zip
- Download Serial to USB Adapter Driver: <http://www.ftdichip.com/Drivers/VCP.htm>

Firmware upgrade process:

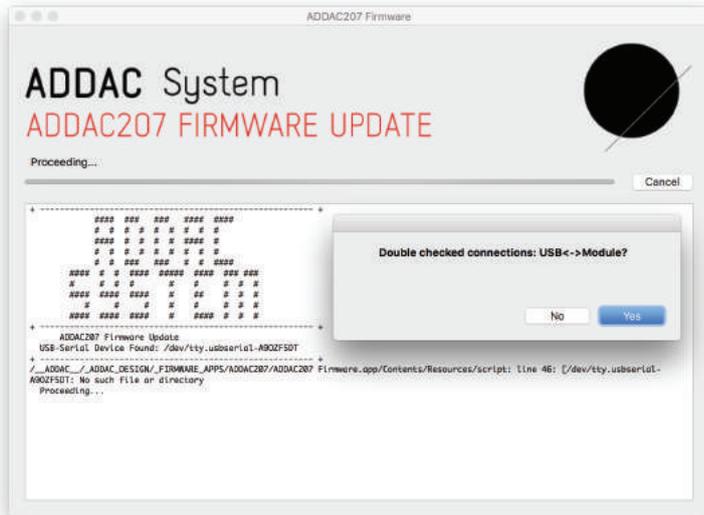
1. Make all connections required like described in previous pages and keep your modular Off.
2. Download the latest firmware app file and unzip it.
3. If you never used the Arduino software before please download and install the appropriate driver.
4. Plug your Serial-USB adapter to your computer and open the App provided.



5. This is the App initial screen. Notice that, if all is well, the App will detect and show your USB-Serial Device, in this case: "/dev/tty.usbserial-A90ZF5DT". Every USB to Serial adapter have it's own unique ID so yours will have a different name but will follow the same type of name format. If no device appears here then most probably you're missing the driver installation. To proceed just click the Ok button.

Upgrading Firmware on OSX

6. The App will then flash onemore pop-up dialog boxes alerting you to make sure you made the right connections, press Ok when you're sure.

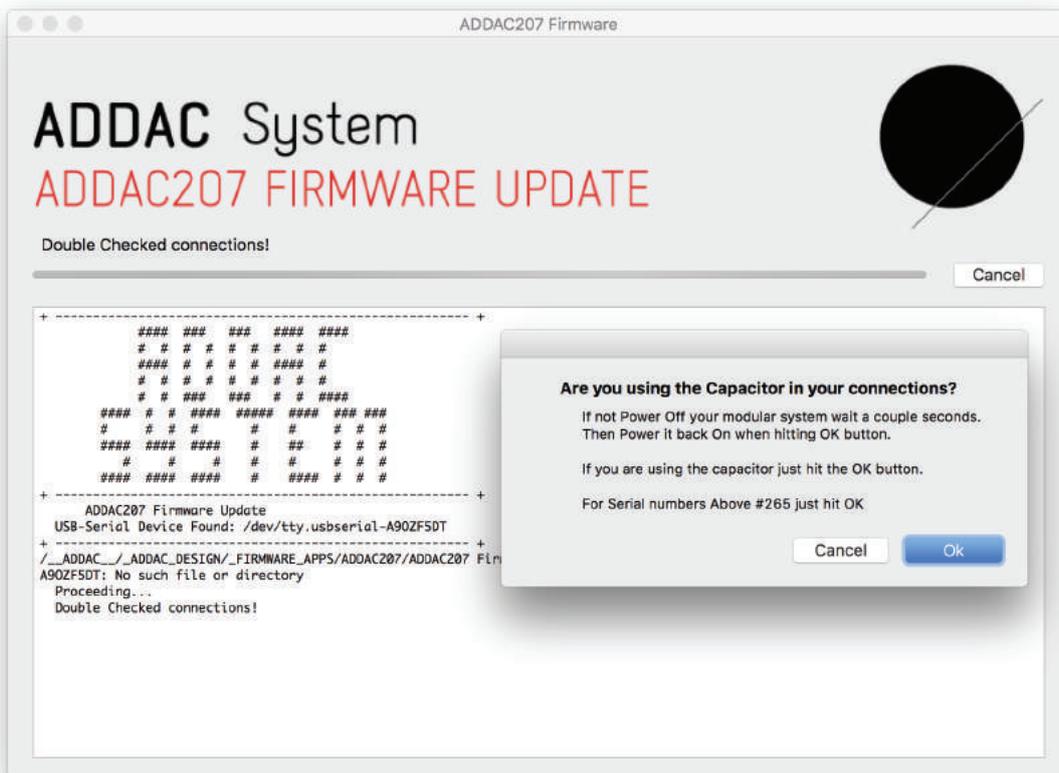


7. The next pop-up dialog box will check for the capacitor use.

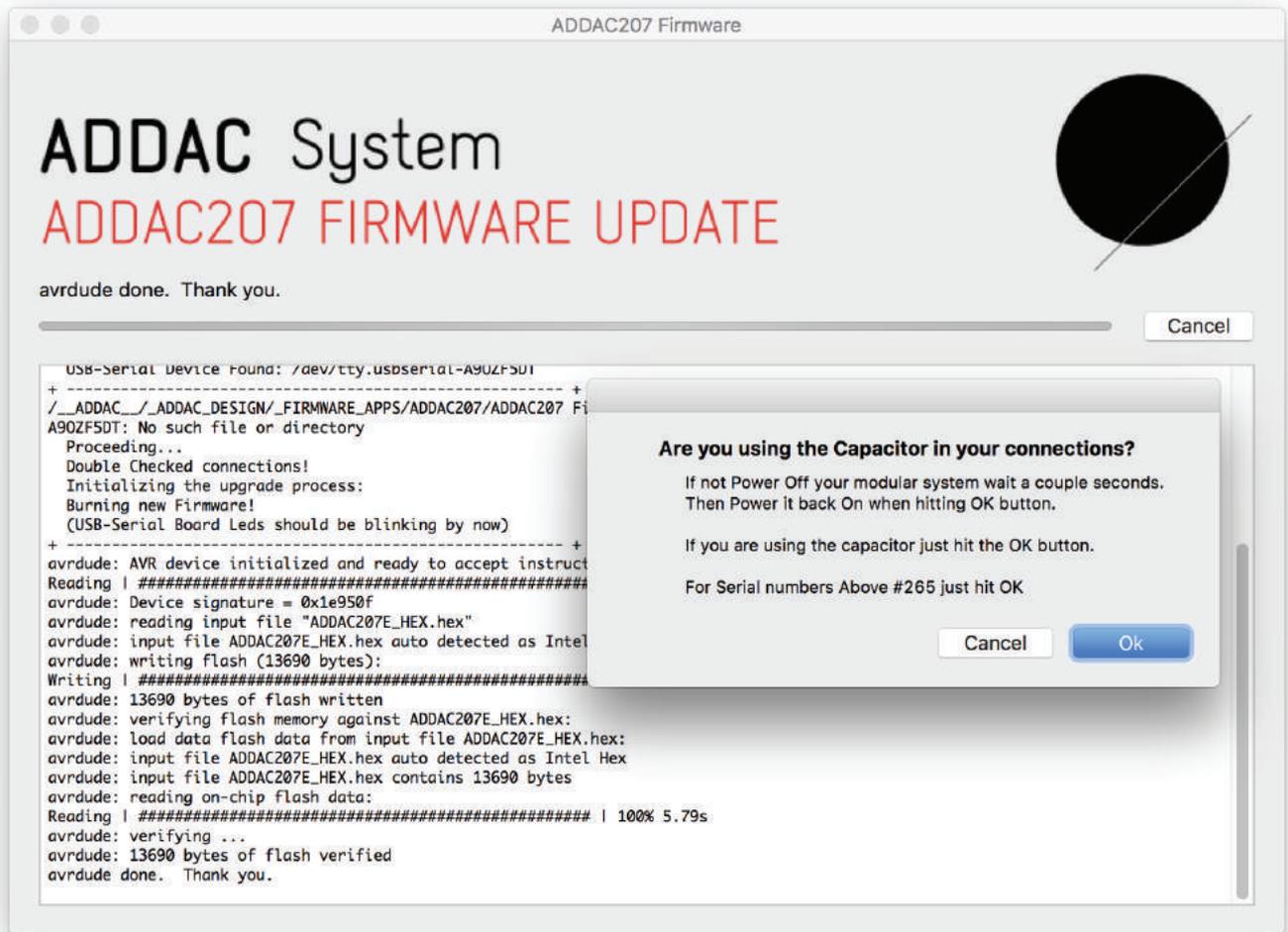
7.A Serial #265 and above: apply some steady pressure on the jumper wires and press Ok.

7.B. Serial #264 and below: at this point prepare to upload the firmware, apply some steady pressure on the jumper wires connecting to the Module, click OK and, half a second after, Turn On the power of your modular.

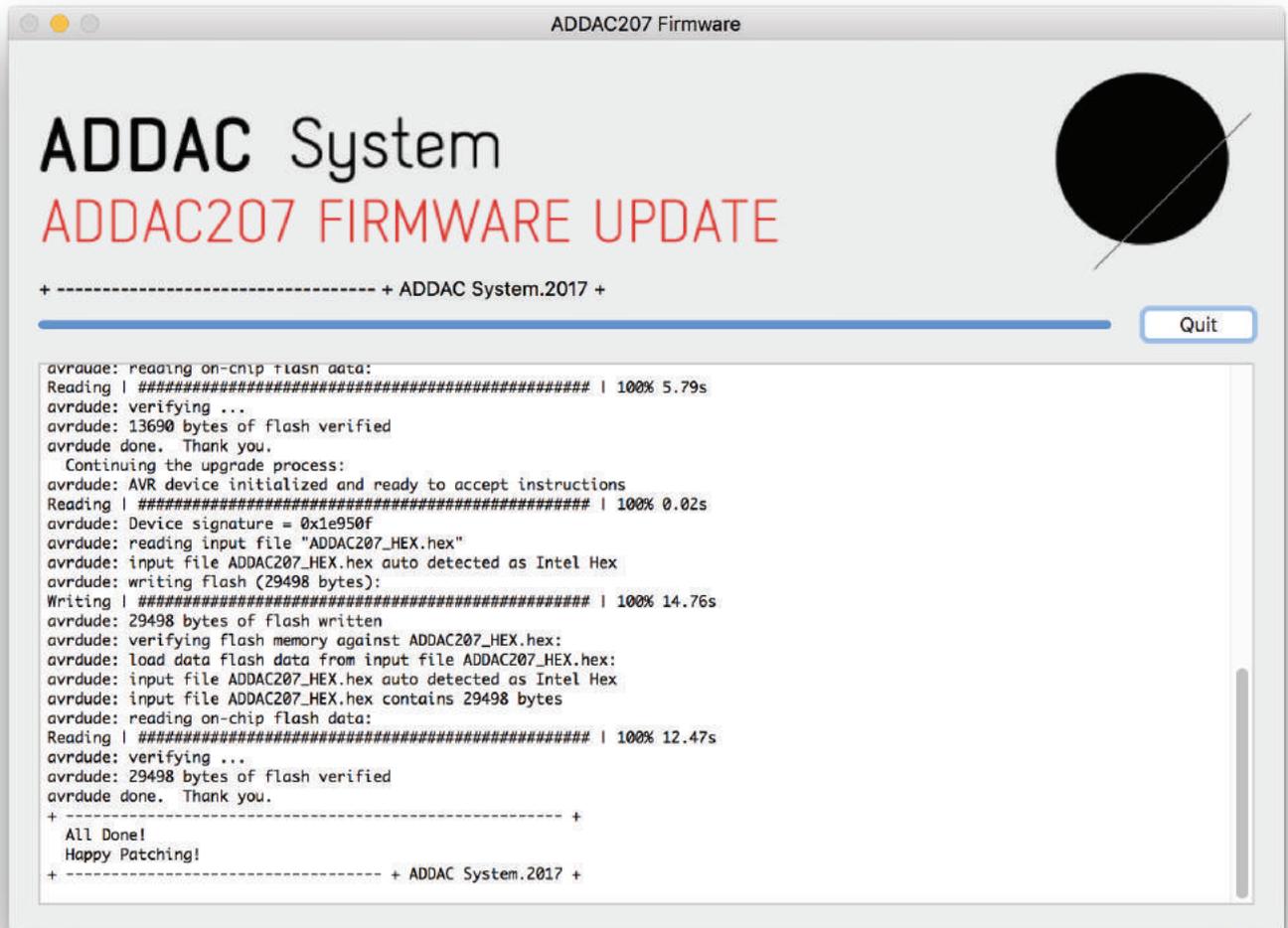
The timing of turning your modular On is crucial for the process to complete.



8. The upload process will take two steps and will take about 60 seconds each to complete. While uploading two leds in the USB to Serial adapter board should be blinking. Once the first process is complete another pop-up dialog box will appear. Follow the instructions just like the previous step and press Ok.



9. Once the second process finishes the console should state: "All Done! Happy Patching!"



USING THE 0.1uF CAPACITOR:

Our firmware kits now include the 0.1uF Capacitor, if you have one connected then you don't need to power your modular On at the upload button, just leave your modular On throughout the process.

DEBUG:

Check your console against the image above, if they don't match or an error is reported make shure your connections between the Module and USB - Serial Adapter are correct.

If it keeps failing, test diferent timings on powering on your modular system from 0 to 1 second after pressing the Upload button.

Contact us if the Upload keeps failing after a few tries.

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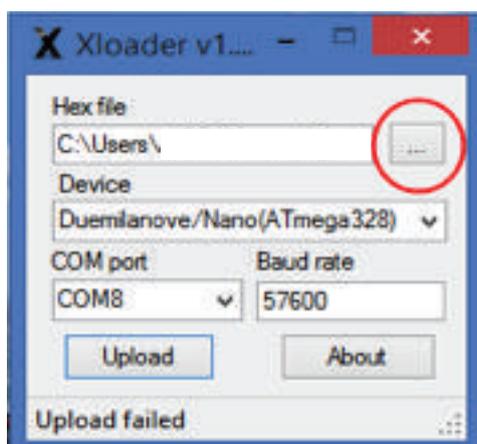
Upgrading Firmware on Windows

Software Requirements

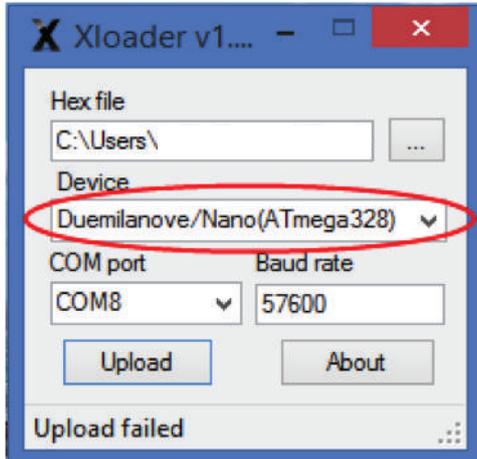
- Lastest Firmware File http://media.addacsystem.com/firmwares/ADDAC207_FIRMWARE_WIN.zip
- Download Serial to USB Adapter Driver: <http://www.ftdichip.com/Drivers/VCP.htm>
- XLoader Software <http://media.addacsystem.com/firmwares/XLoader.zip>

Firmware upgrade process:

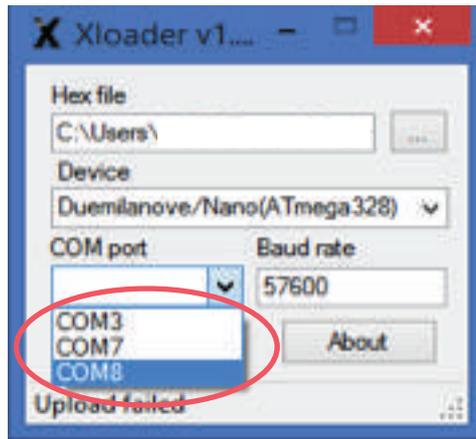
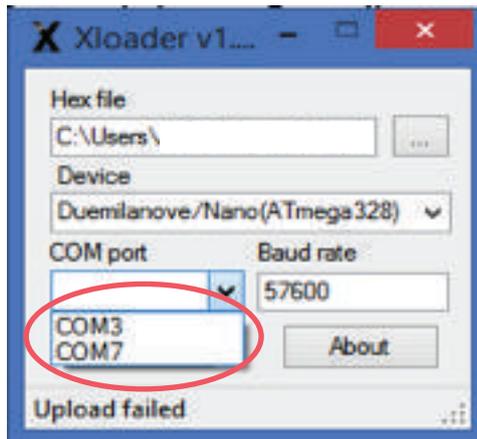
1. Download and Install the corrrect Serial to USB Driver according to your Operating System.
2. Download and Extract XLoader.zip
3. Open Extracted Folder
4. Double Click on file avrdude (this will run a configuration file)
5. Open XLoader App
6. Unzip ADDAC207_FIRMWARE_HEX.zip, 2 .hex files will appear.
7. Click on "...” button to choose .hex file
Choose ADDAC207E_HEX.hex file



8. Click on Device Box and choose Duemilanove/Nano(ATmega328)



9. Take note of your available COM Ports, Plug in the USB Cable for the USB-Serial adapter and select the new COM port available



10. Now we'll upload the new firmware, apply some steady pressure on the jumper wires connecting to the Module, click Upload and, half a second later, Turn On the power of your modular. The timing of turning your modular On is crucial for the process to complete. Ignore the power On routine if you're using the capacitor or have a Serial Number above #265.

11. The upload process will take about 60 seconds to complete. While uploading two leds in the USB to Serial adapter board should be blinking. Once the process is complete the console on the bottom should state: "Upload Successful."

12. Go to step 6 and repeat the upload process for file ADDAC207_HEX.hex

USING THE 0.1uF CAPACITOR:

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DEBUG:

If this does not happen make shure your connections between the Module and USB - Serial Adapter are correct, power off your modular and try once again. If it keeps failing, test diferent timings on powering on your modular system from 0 to 1 second after pressing the Upload button.

For feedback, comments or problems please contact us at:
addac@addacsystem.com