



ADDAC207 INTUITIVE QUANTIZER
GUIDE TO FIRMWARE UPDATE

Revision.03 November.2016

ADDAC System

ADDAC207 Firmware Update

Revision.03 November.2016

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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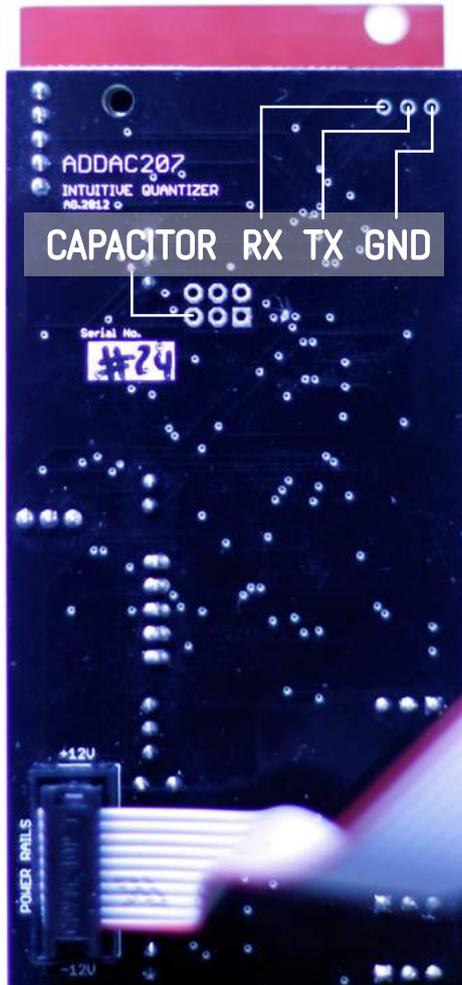
Upgrading Firmware Physical Setup

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 connect- ed 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. On the back of the 207 module, locate the following 4 pins: RX, TX, GND and CAPACITOR.

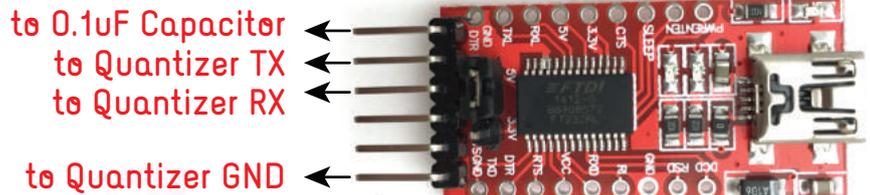


USB to Serial adapter way:

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

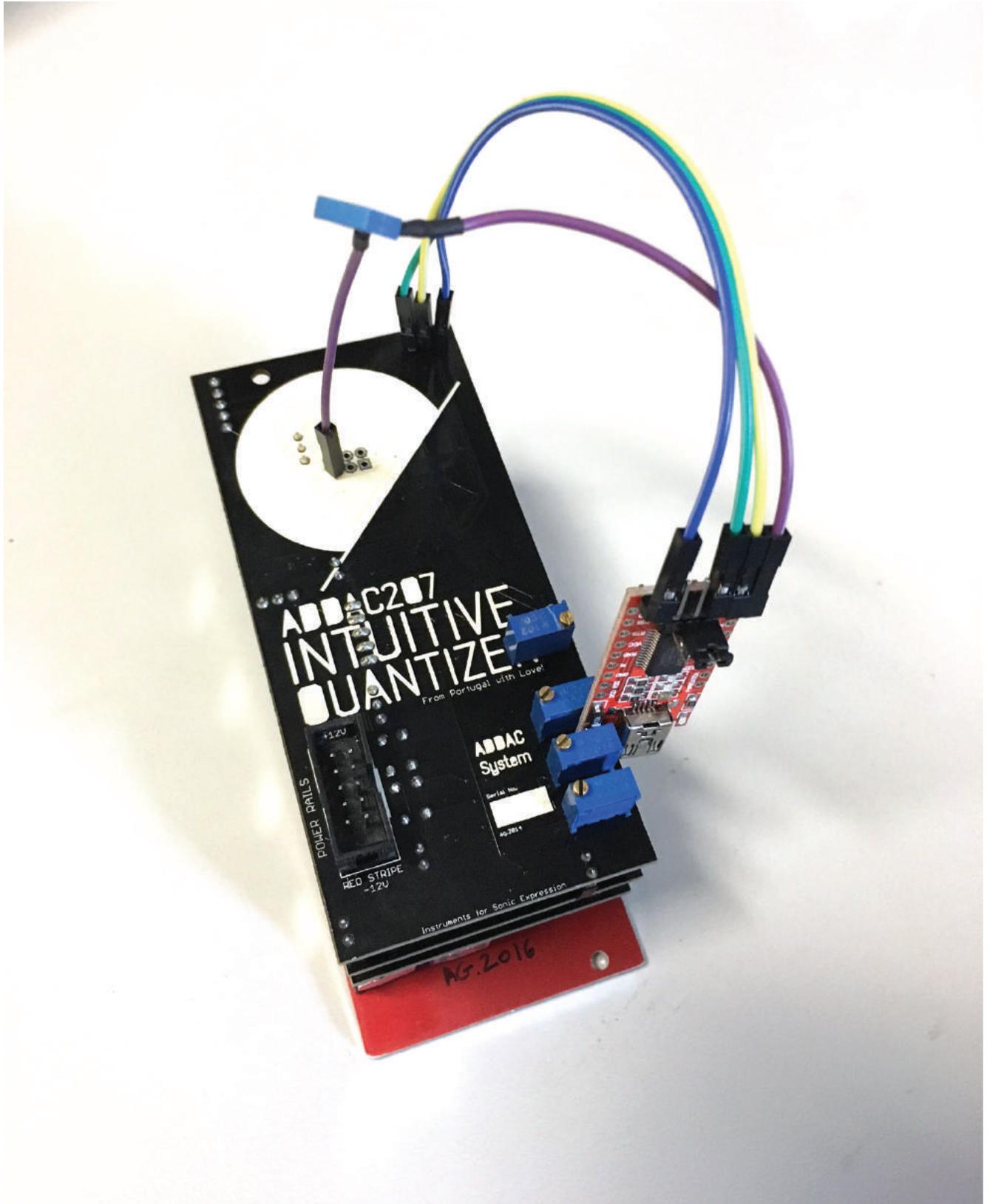
Connect both GND together, and the RX and TX pins to the inverse matching pins of the Quantizer, i.e. RX->TX and TX->RX.

Also connect DTR and one leg of the 0.1uf Capacitor (doesn't matter which leg) and the other leg to Quantizer Capacitor Pin



0.1uF Capacitor





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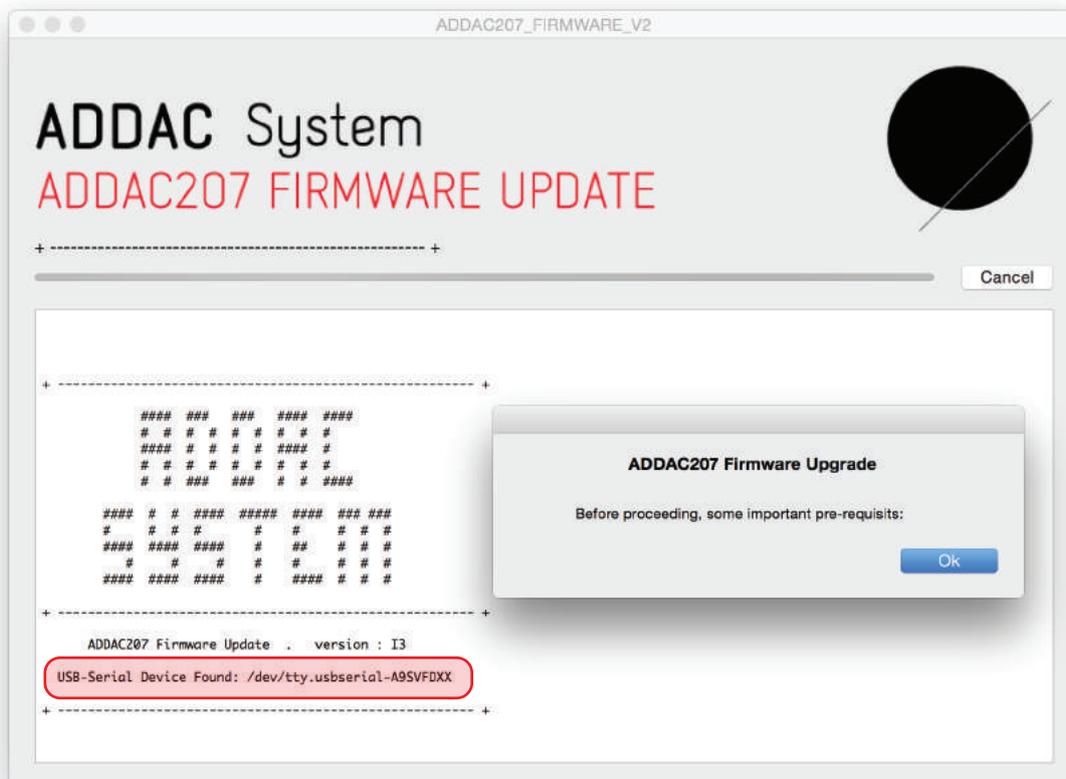
Upgrading Firmware on OSX

Requirements

- Download Latest Firmware App: http://addacsystem.com/firmwares/ADDAC207_FIRMWARE_OSX.zip
- Download Arduino Software <http://arduino.googlecode.com/files/arduino-1.0.5-macosx.zip>

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 it.
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, there will be A USB-Serial Device Found in this case: /dev/tty.usbserial-A9SVFDXX.

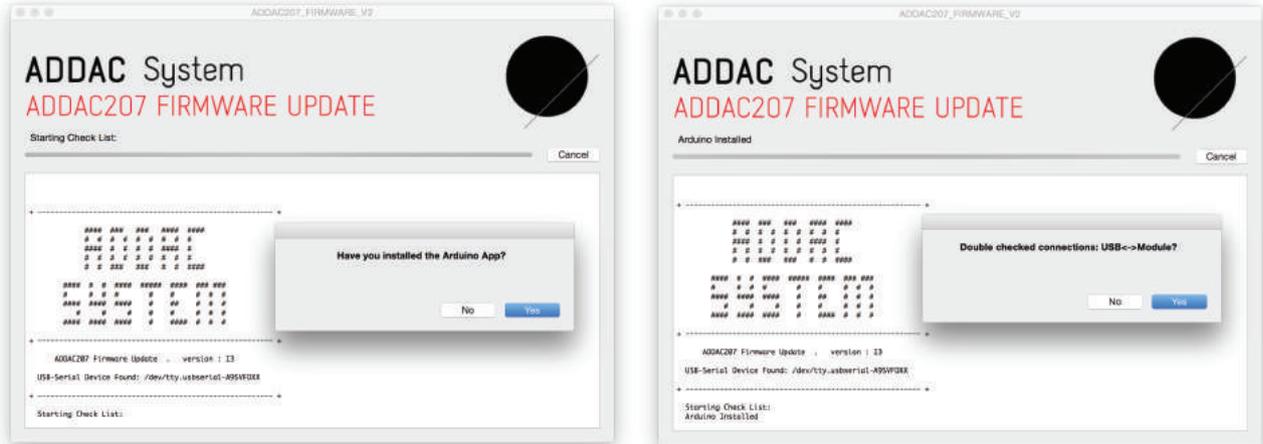
Every USB to Serial adapter have it's own unique ID so yours will have a different name but will follow the same type of name format.

If no device appears here then most probably you're missing the Arduino software installation.

6. After checking that the USB to Serial device is detected by the App click the Ok button.

Upgrading Firmware on OSX

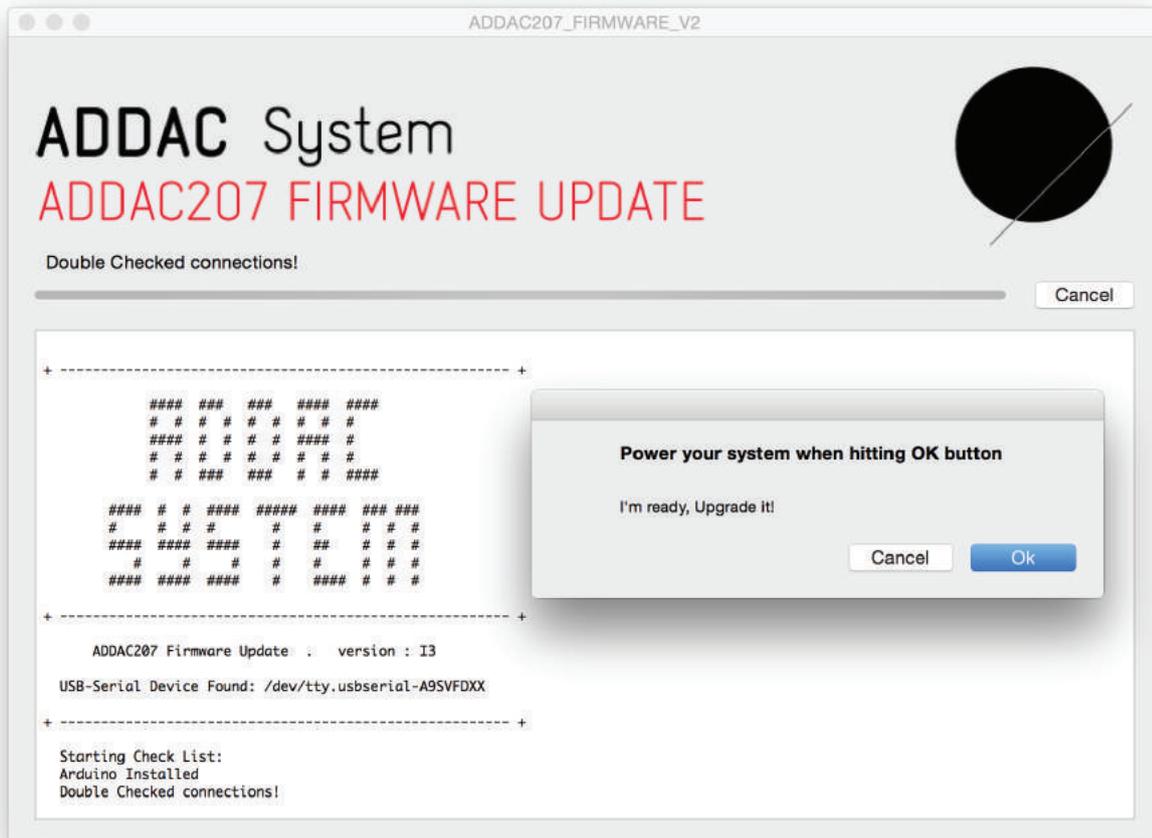
7. The App will then flash two more pop-up dialog boxes alerting you to make sure you followed the previous steps, press Ok through these.



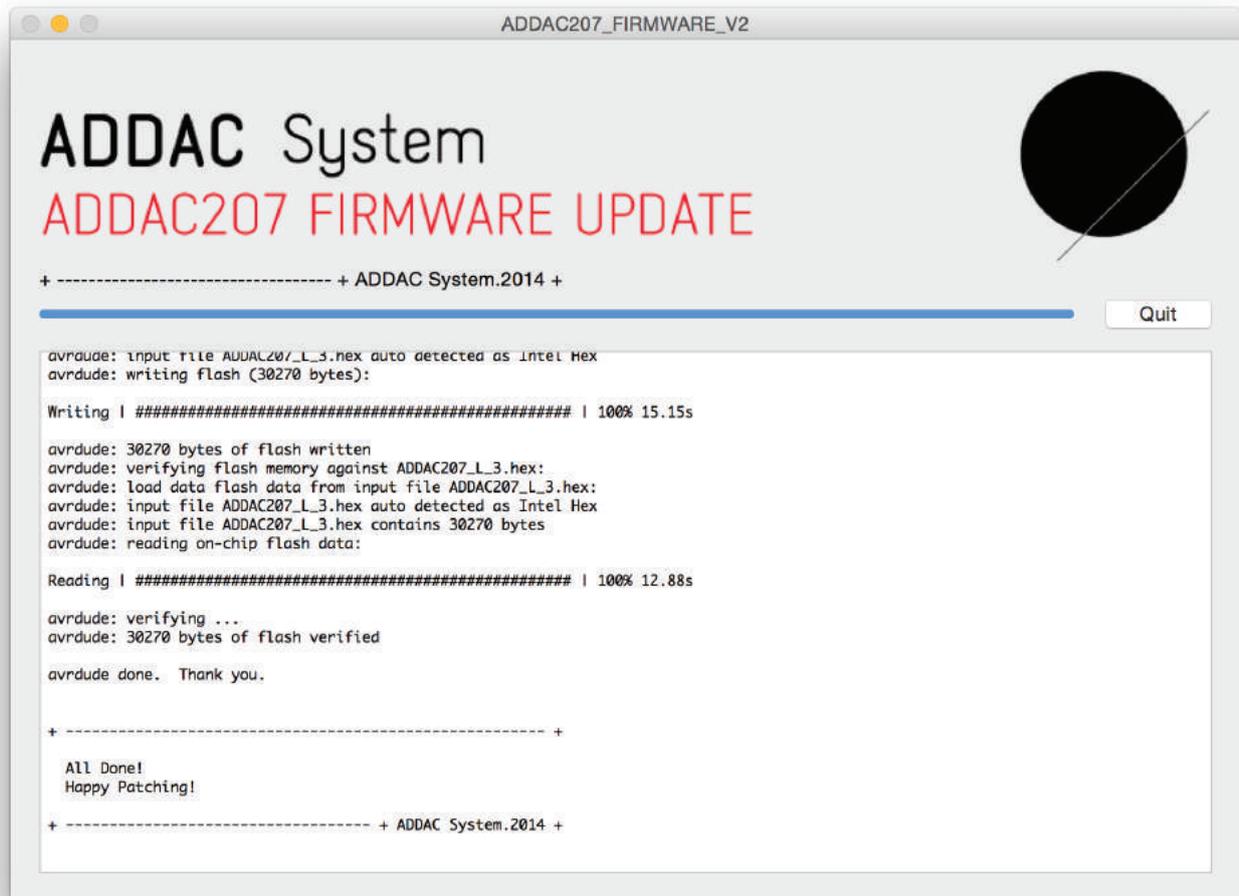
8. The last pop-up dialog box will state: "Power your system when hitting OK button"

9. At this point prepare to upload the firmware, apply some steady pressure on the jumper wires connect 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.



10. The upload process will take about 40 seconds to complete. While uploading two leds in the USB to Serial adapter board should be blinking. Once the process is complete the console should state: "All Done! Happy Patching!"



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.

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

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Upgrading Firmware on Windows

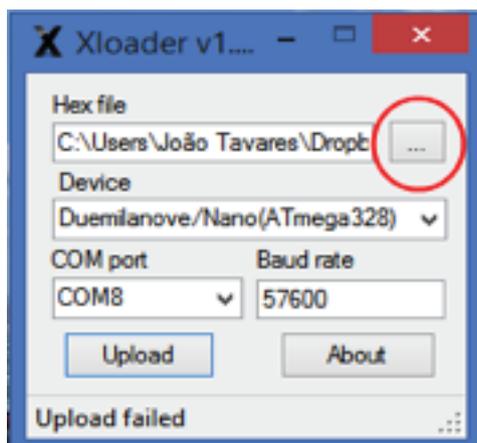
Software Requirements

- Lastest Firmware File
- Arduino Software
- XLoader Software

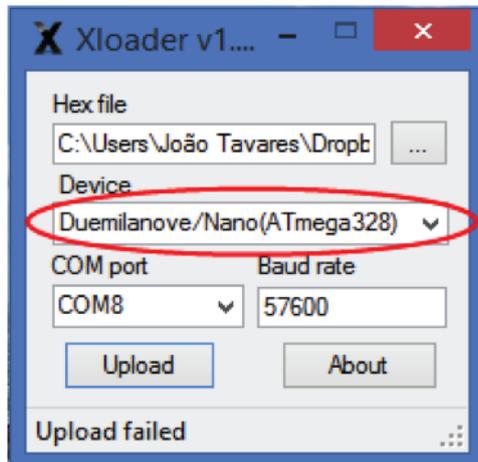
http://addacsystem.com/firmwares/ADDAC207_FIRMWARE_HEX.zip
<http://arduino.googlecode.com/files/arduino-1.0.5-r2-windows.zip>
<http://russemotto.com/xloader/XLoader.zip>

Firmware upgrade process:

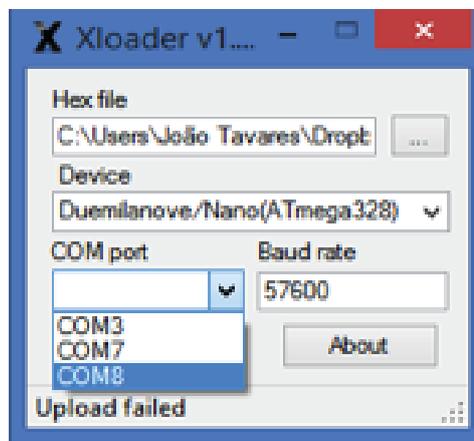
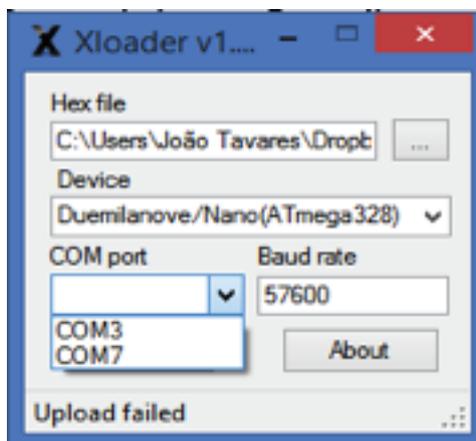
1. Download and Install Arduino IDE Software
2. Download and Extract XLoader.zip
3. Open Extracted Folder
4. Double Click on file avrdude (this will run a configuration file)
5. Open XLoader App
6. Click on "..." button to choose .hex file



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



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



9. 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 after, Turn On the power of your modular. The timing of turning your modular On is crucial for the process to complete.

10. The upload process will take about 40 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."

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.

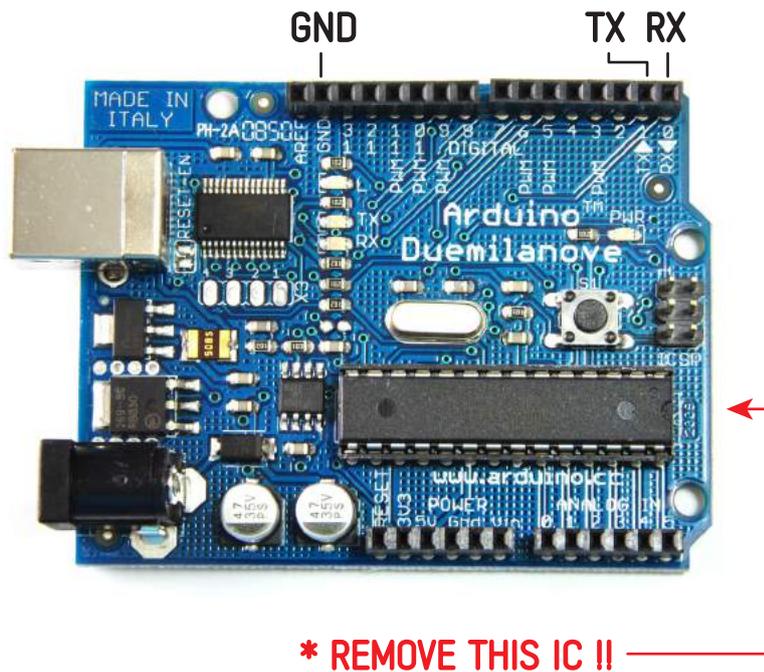
Contact us if the Upload keeps failing after a few tries.

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

Arduino way:

3.2 Connecting to the Quantizer can be done with any Arduino board where the ATMEGA IC may be removed.

To do so, gently remove the IC using a flat screwdriver, then connect the respective pins using male to male jumper wires.



3.3 Connect the 3 aforementioned pins using male-to-female jumper wires.



During the data upload apply some steady pressure on the jumper wires connected to the Quantizer, making sure that contact is taking place. While uploading you should see 2 leds blinking on the serial adapter board until the process is finished.

