AN02

(Proposed by Alex, HB9DRI)

Step by Step guide

How to upload the firmware on DRIACS-G2

OE5JFL Antenna Control System

What do you need?

- Flip program latest version from ATMEL, download from: http://www.atmel.com/dyn/products/tools_card.asp?tool_id=3886
- PC running Windows 98/Me/2000/XP/Vista/7 with Serial port (COM) or USB-Serial adapter installed.
- Latest firmware downloaded from: http://www.qsl.net/oe5jfl/ant_cont.htm
- Serial cable to interconnect your Antenna controller with the PC with 1 connector DB9-male and 1 connector DB9-female)
- Your OE5JFL antenna control system.

STEP 1: INSTALL FLIP IN YOUR PC

It's a straight forward setup, just follow the GUI.

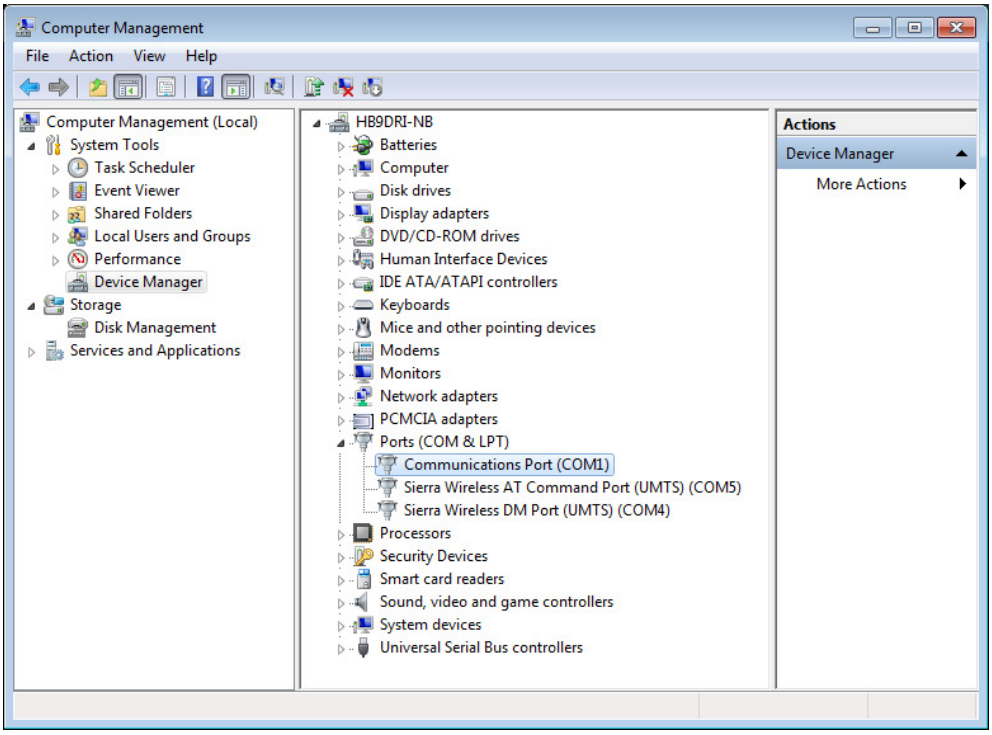
STEP 2: COPY THE FIRMWARE ON YOUR HARDISK

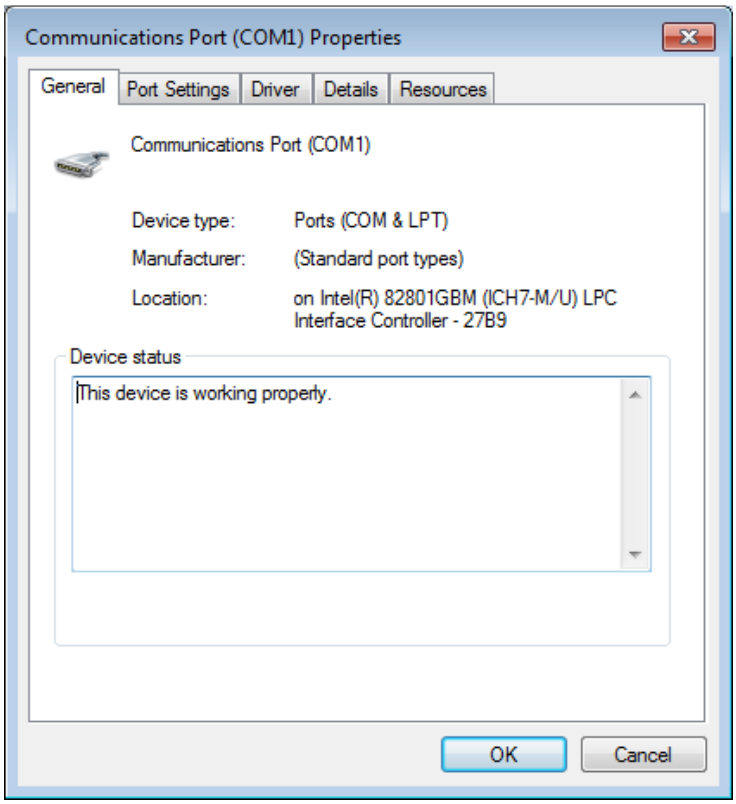
Create a folder like C:\ACS and copy the firmware there.

STEP 3: CONFIGURE YOUR COM PORT IN YOUR PC

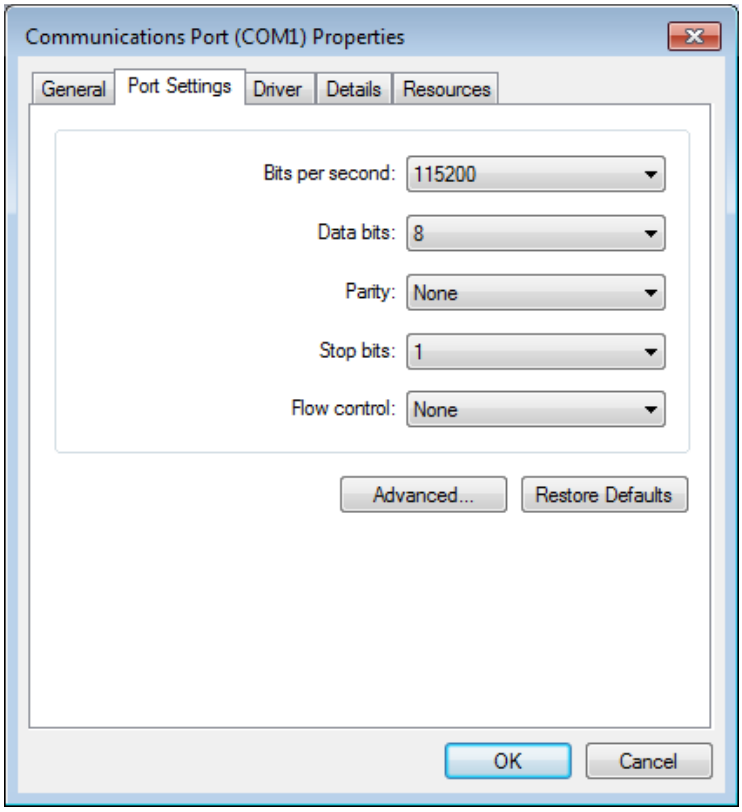
By default your Com port is not configure for high speed, for that reason is better to configure your COM port to support high transfer rate:

Go to your device manager and right click on your COM port in this case COM1 and select “properties”





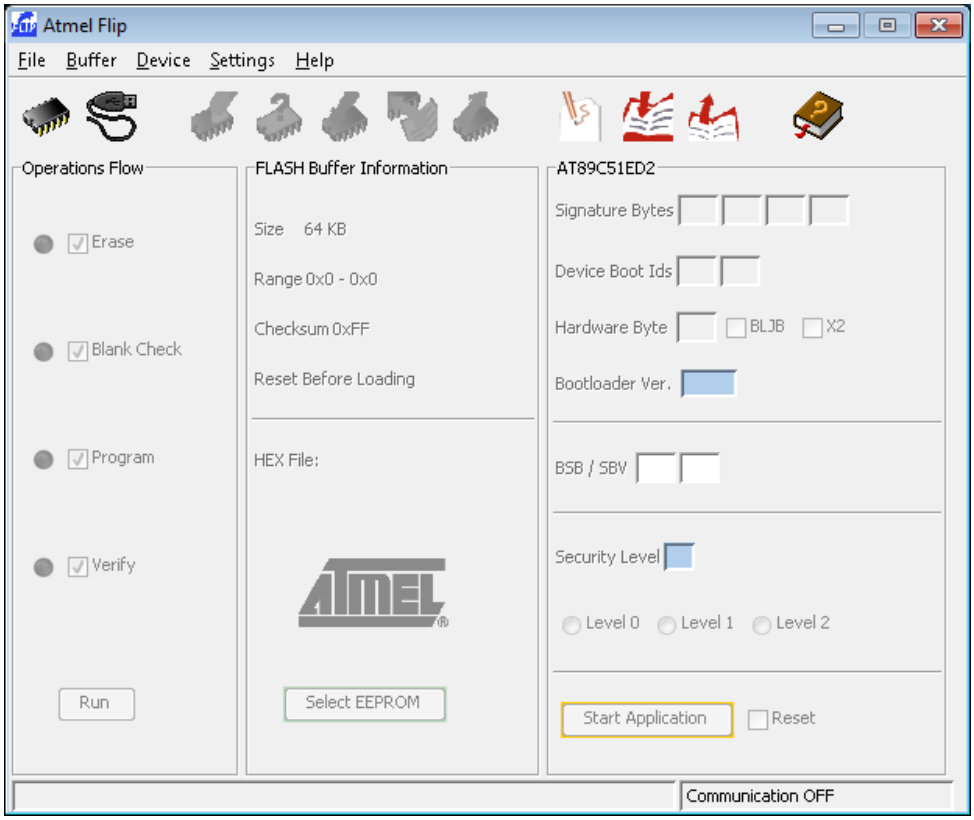
Click on Port settings and adjust parameters like that:



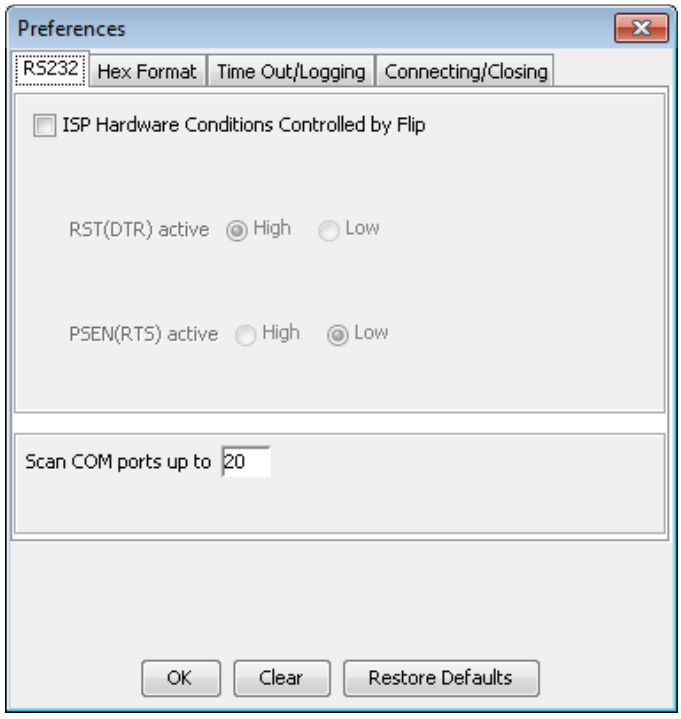
Click OK and close Device manager.

STEP 4: PRE-CONFIGURE FLIP

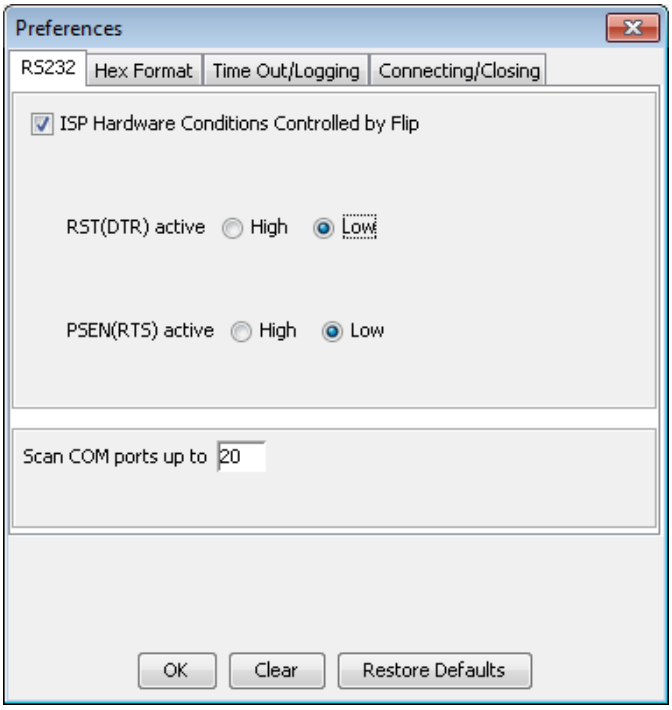
Start your Flip program (if you run Flip under Vista or windows 7 you need to "run as Administrator")



In the upper bar click "Settings" and then select "Preferences" :



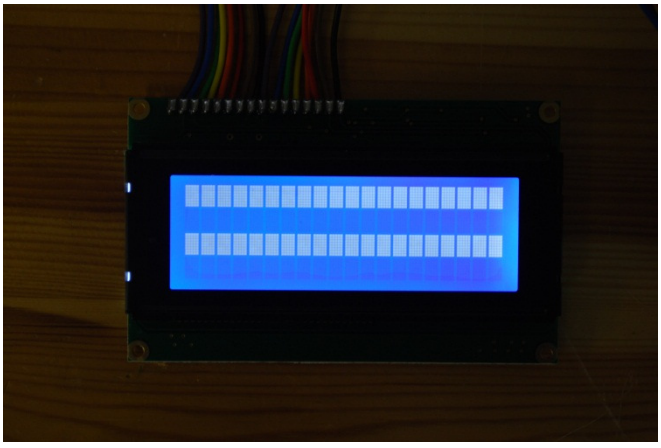
On **RS232** tab select **“ISP Hardware Conditions Controlled by Flip”** and then select **RST(DTR) active** “**Low**” :



Click OK, now your Flip program is ready to be used.

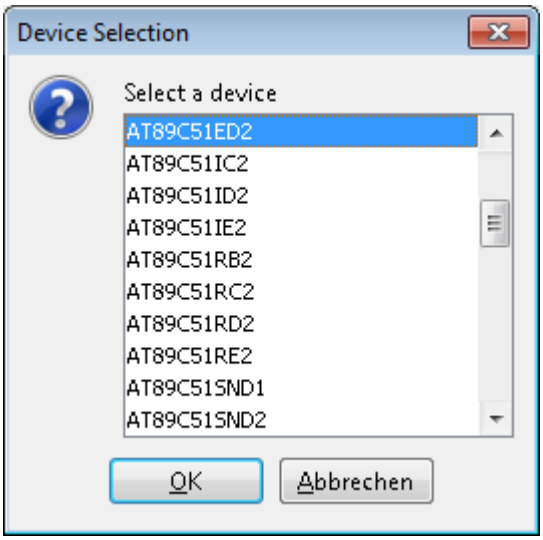
STEP 5 PREPARE YOUR ANTENNA CONTROL SYSTEM

With the Microcontroller board switch off (you don’t need to have the interface, splitter and encoders connected) install jumpers JP1 and JP2 , connect the serial cable from the PC COM port to the microcontroller COM port. When you turn on the Microcontroller the display will show two lines:

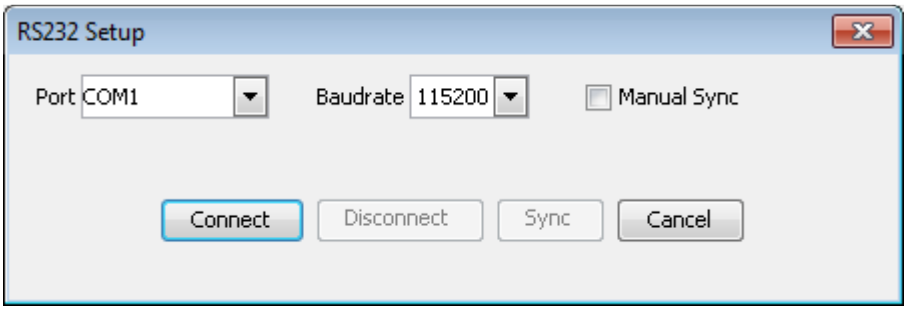


STEP 6: CONFIGURE FLIP and CONNECT WITH THE ANTENNA CONTROLLER

Now start Flip and select the appropriate Target device clicking  , select from the list the device **AT89C51ED2** and the click OK.

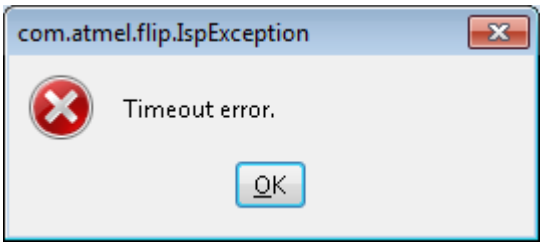


Now click the “Select a communication medium” icon  and select **RS232**, a **RS232 Setup** window will appears:



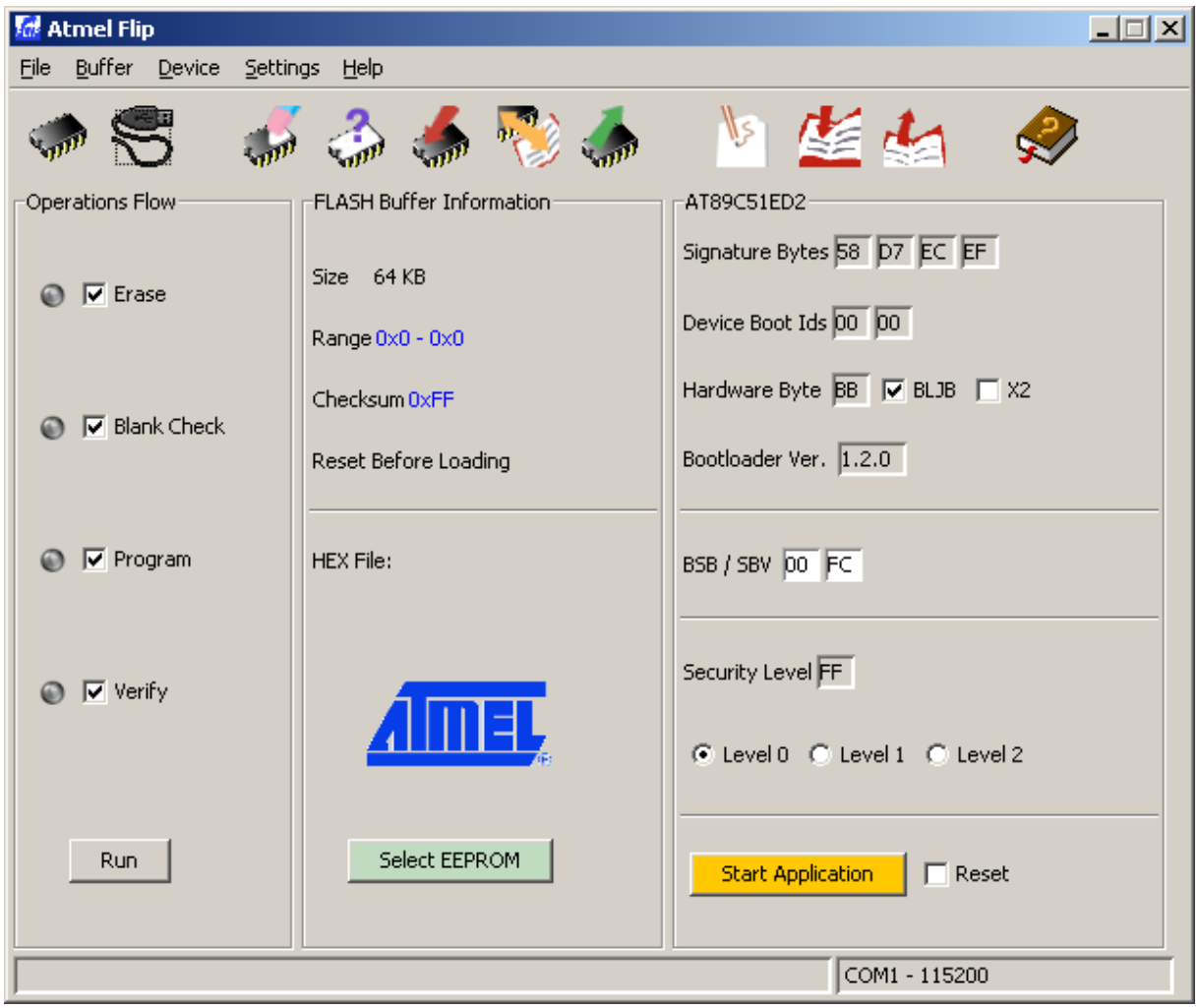
Select the correct port number and Baud rate to 115200 then click 

If you receive the error:



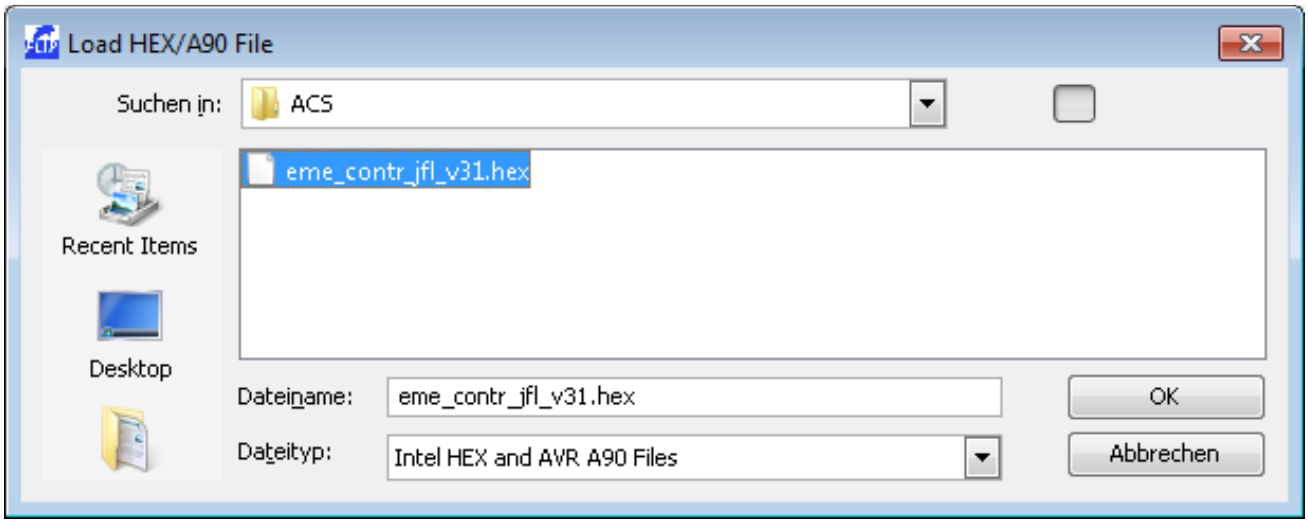
Means the PC is not talking with the microcontroller, verified the cable connection, com port number and settings.

If the connection is established you will see now all the option not dimmed any more:

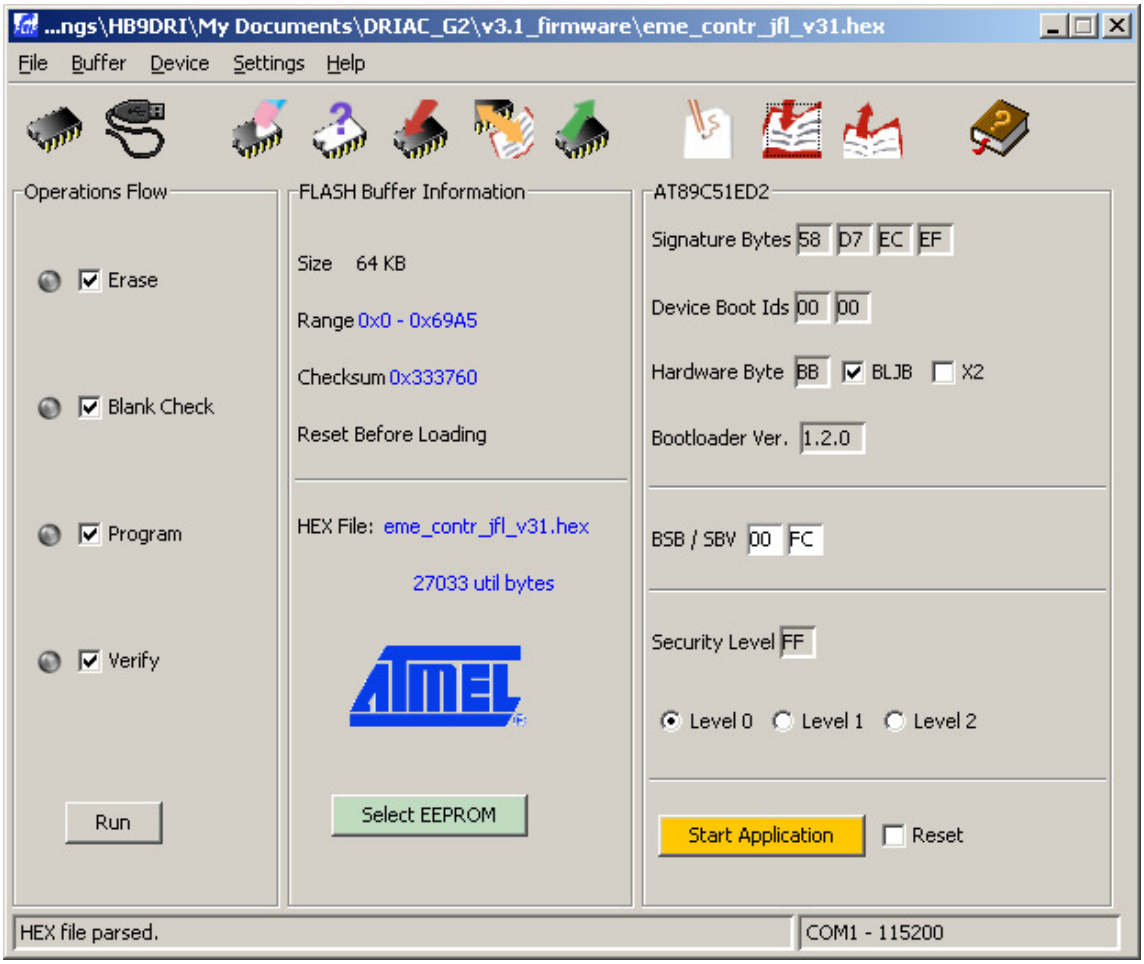


STEP 7: SELECT THE FIRMWARE

Now you need to select the appropriate firmware, click  "Load HEX file" and select the firmware you save on C:\ACS and then press OK

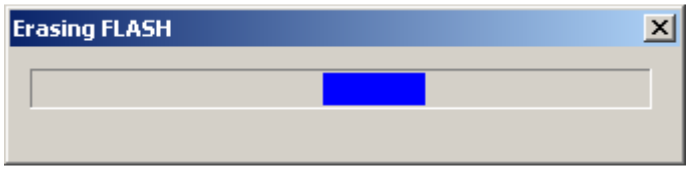


Now you are ready to upload the firmware, verified if your FLIP GUI looks like the next picture, otherwise you need to review some missing steps:

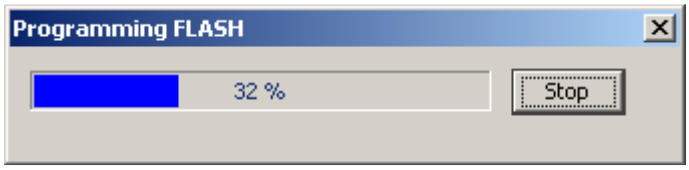


STEP 8: UPLOAD THE FIRMWARE

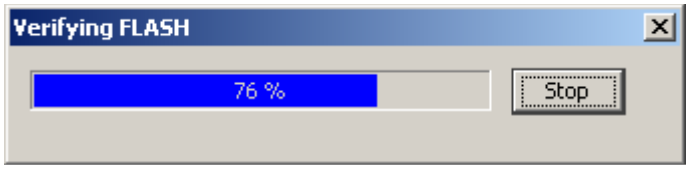
Now you can press RUN on the lower left and you will see the Erasing FLASH progress:



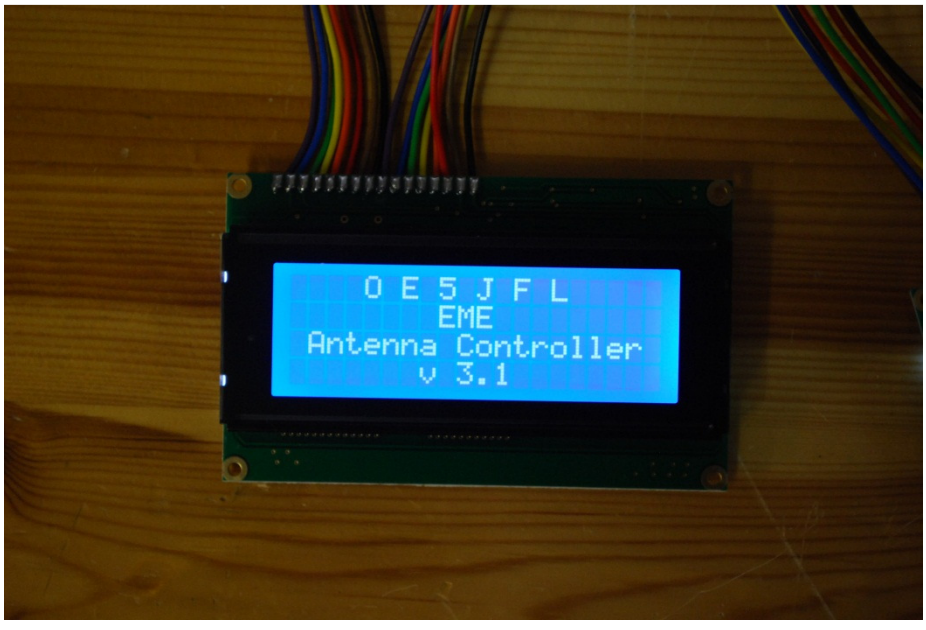
After that you will see the Programming FLASH progress, at that moment the Firmware you select is uploaded in to your ATMEL Microprocessor:



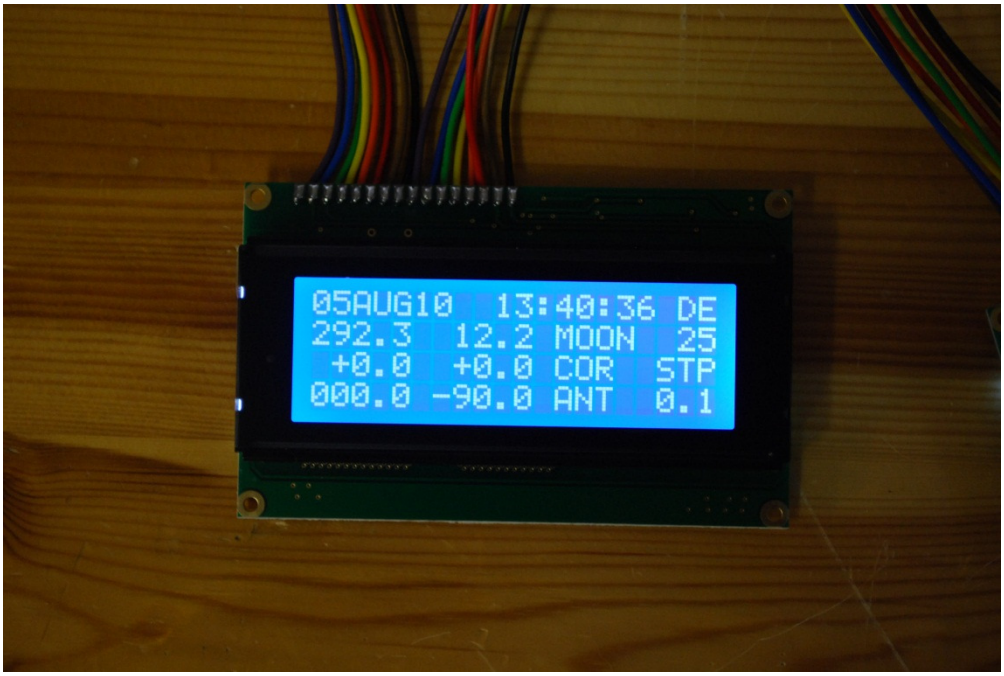
When the upload finishes the Verifying FLASH process will confirm the upload.



At the end you will back to the initial FLIP GUI, switch off your controller, close FLIP, remove the jumpers JP1 and JP2 and remove the COM cable and turn on. You will receive the Welcome page:



Two seconds later (after the booting process) your controller show up running:



NOTE: The antenna in this example show AZ=000.0 and EL=-90.0 because the interface board and the encoders are not connected during the photo.

73 de Alex, HB9DRI