

MAJOR Hardware Quickstart Guide

Important Note:

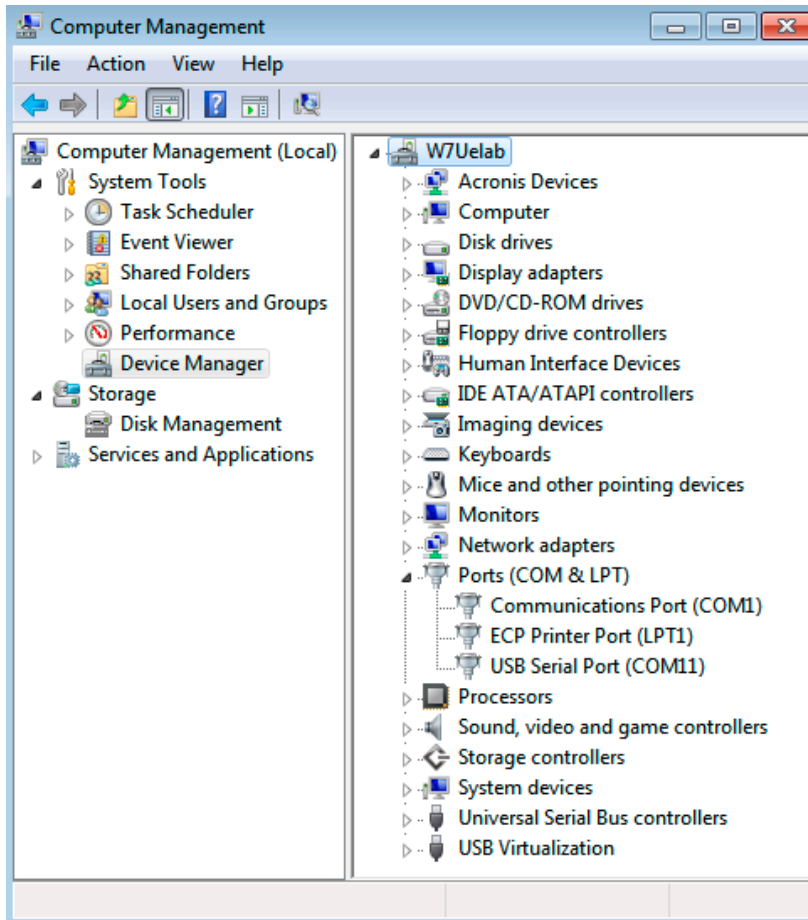
This guide is needed only, in case the ComLink Software Tool is not used. This tool is scheduled for October 2013. Additional help can be found under www.ansari-electronics.com.

In this post the user will be taken through the steps how to connect a hardware containing AMOS as its operating system like a PDS module to a PC and how to start communicating with the hardware using a terminal program.

It is assumed that the desired hardware is connected to a COM port or USB port of the PC. PDS modules can be connected directly to a COM port using a [PDS-to-Serial](#) cable, or it may be connected to an USB port using a USB-to-Serial or a [BSLcomLink](#) adapter. For more details see chapter 3 of the manual.

Before continuing, the user should know on which COM port the hardware is connected to the PC. The PC's device manager window can help to find this data out:





If the PC has DB9 COM-port interface(s), then Communications Port (COMx) will appear on the list. As shown in the figure above, if the hardware is connected directly to the COM port of the PC, then the only available option is the COM1. If the PC has more than one communication port, then the user must know to which one the hardware is connected.

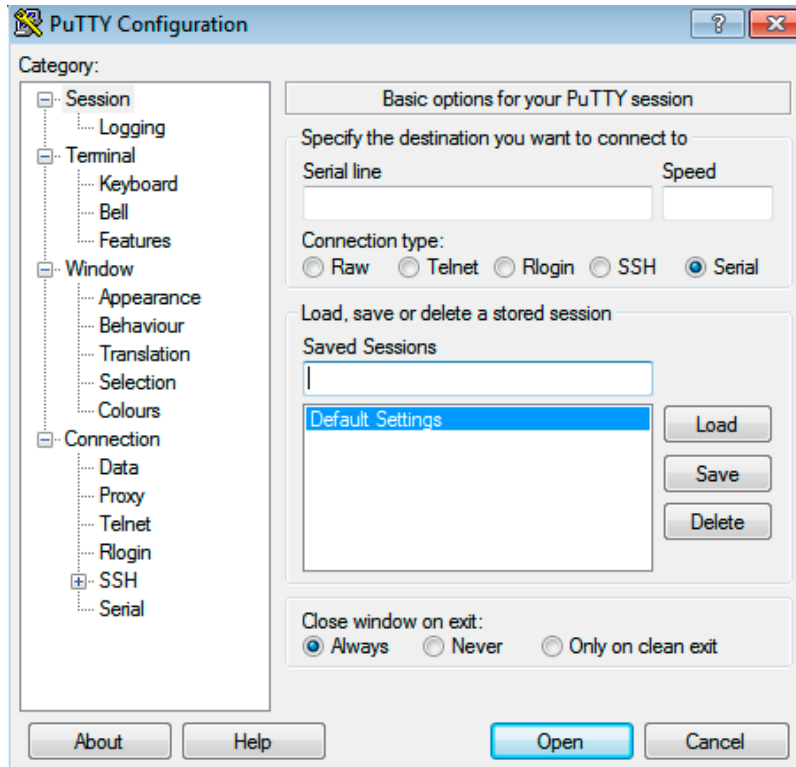
If a USB-to-Serial or the BSLcomLink adapter is used, then USB Serial Port (COMx) will appear in the list. As shown in the figure above, if the hardware is connected over USB to the PC, then the only available option is the COM11. Again if more than one USB Serial Ports are listed, the user has to find out to which one the hardware is connected.

Side Note:

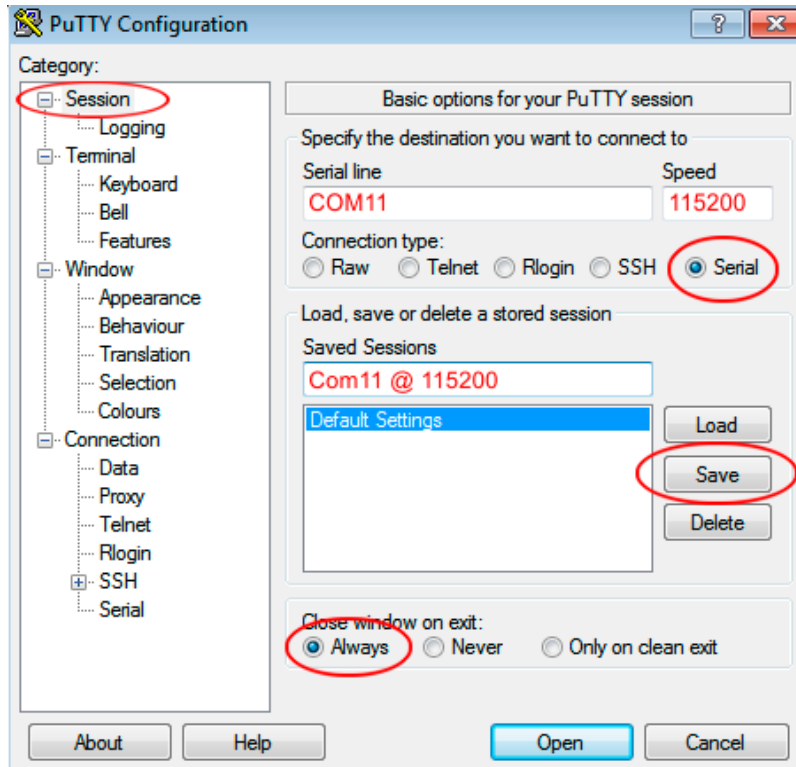
We strongly recommend the BSLcomLink adapter since this adapter also provides the power to the MAJOR.

Preparing the PC

A terminal program is needed to communicate with the hardware. In this example we use PuTTY as terminal application. If PuTTY is not installed already on the PC please [download PuTTY](http://the.earth.li/~Esgtatham/putty/latest/x86/putty.exe) (<http://the.earth.li/~Esgtatham/putty/latest/x86/putty.exe>) to your PC and run the application. Following window should appear on your screen:



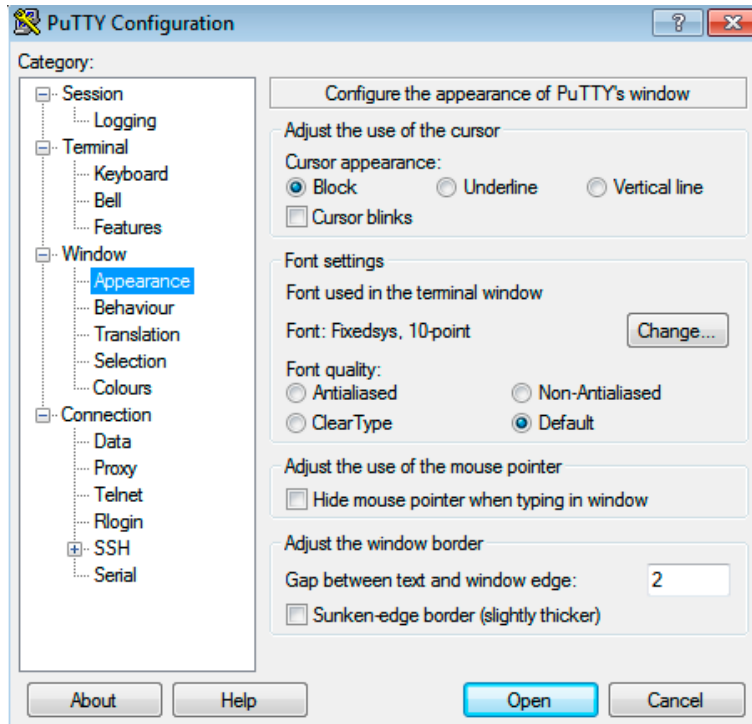
As shown in figure below, select first in the category windows on the left side the option "Session" if not already selected. Then fill the red information on your PC considering to use your COM port number not the one shown in the figure below! Check if "Serial" and "Always" options are selected as marked red, before saving this configuration.



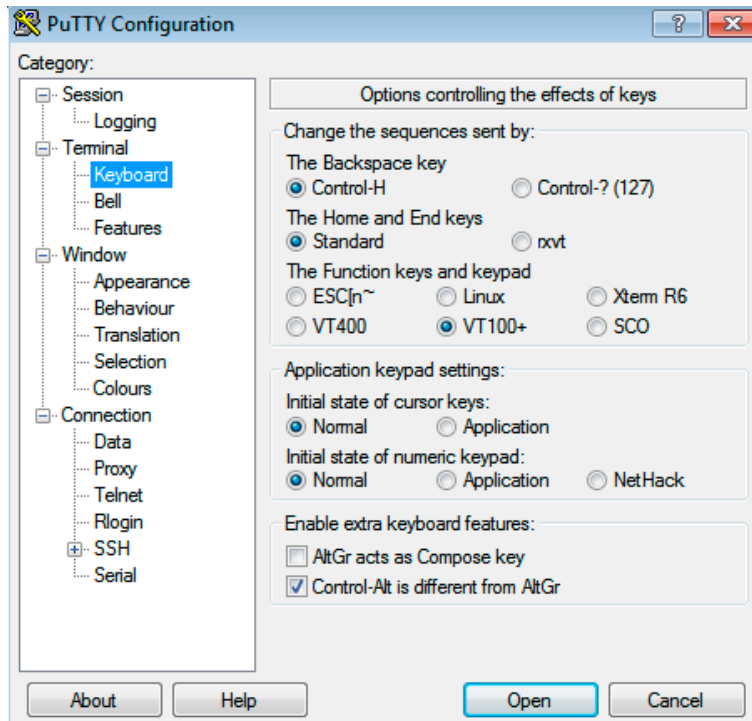
This was the minimum setting required to establish a communication link to the hardware. But you may optionally follow the configuration settings below if you experience difficulties or you prefer to have same look-and-feeling of the terminal program as shown later in examples in this post.

Optional Configurations

In the Category Appearance you should change the Font to Fixedsys, 10-point as shown below. If your system doesn't have the Fixedsys font, then use "Courier New, Regular, 10-point" as an alternative. Please check all other options to match the settings as shown below:

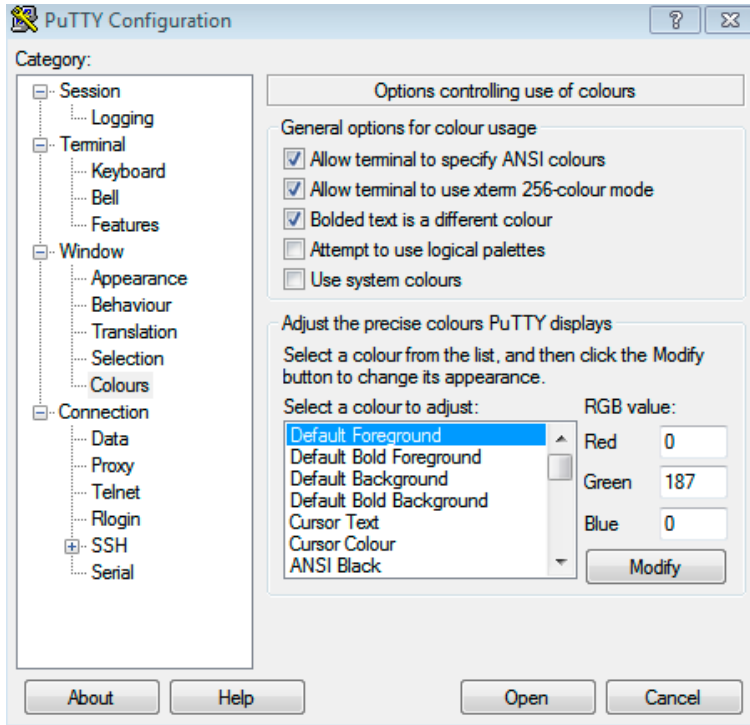


In the Category Keyboard please match all the settings same as shown below:

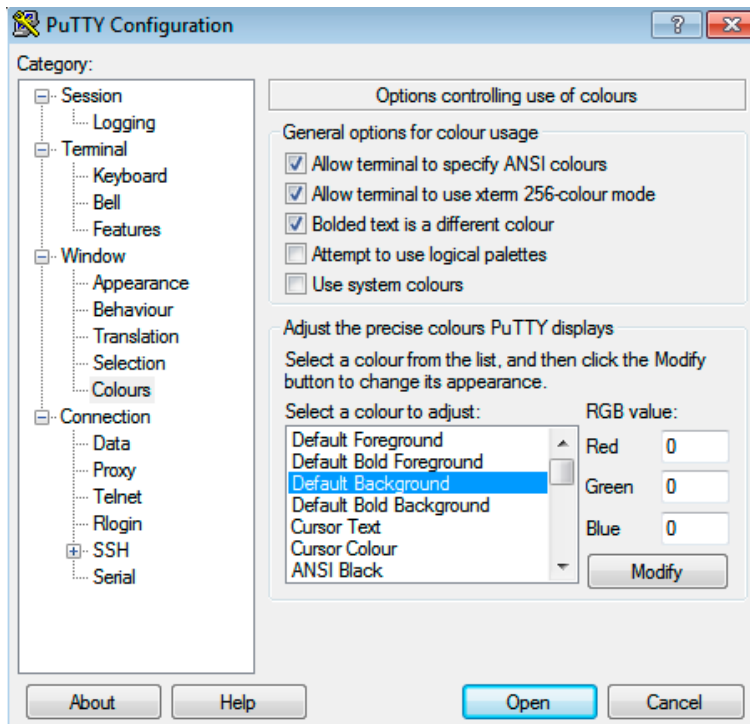


In the Category Colours follow the two screen-shots below configuring PuTTY on your PC:

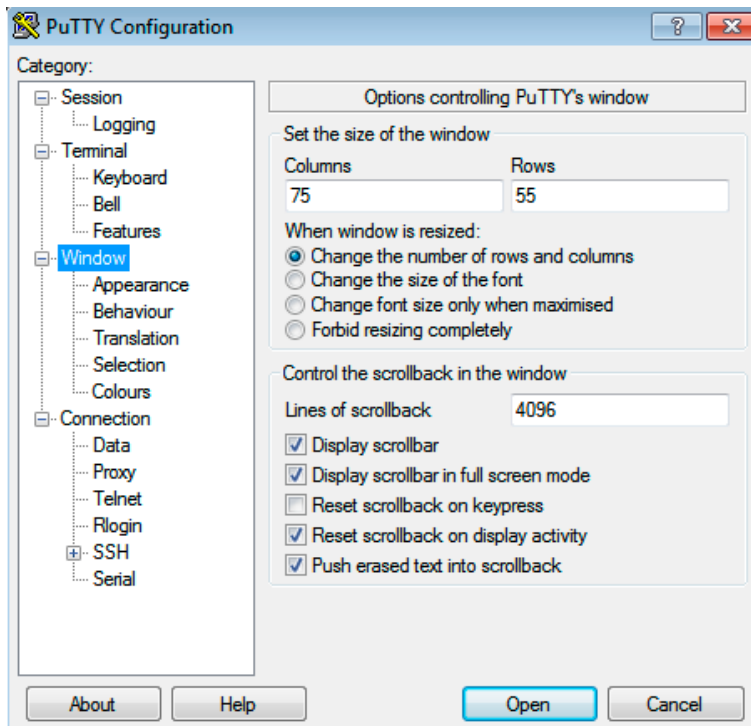
Foreground color:



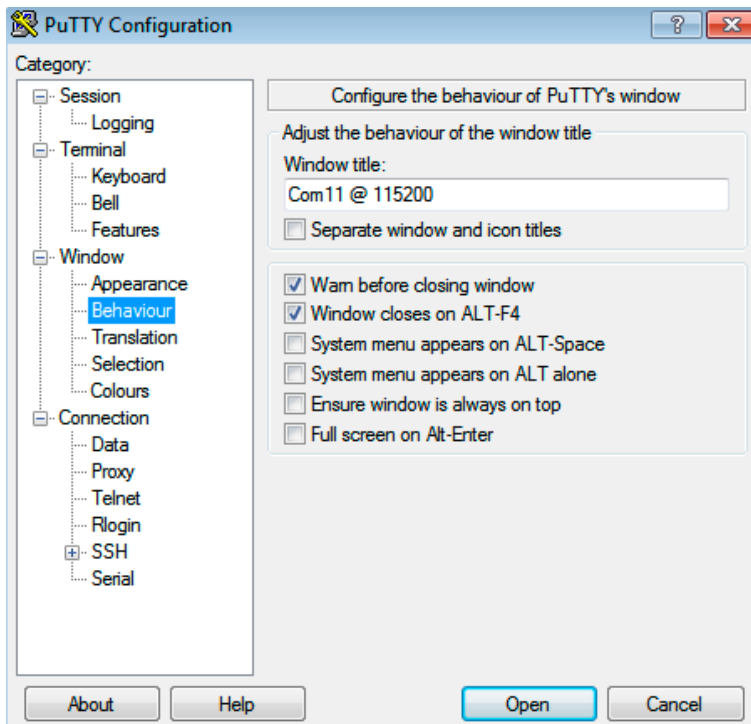
Background color:



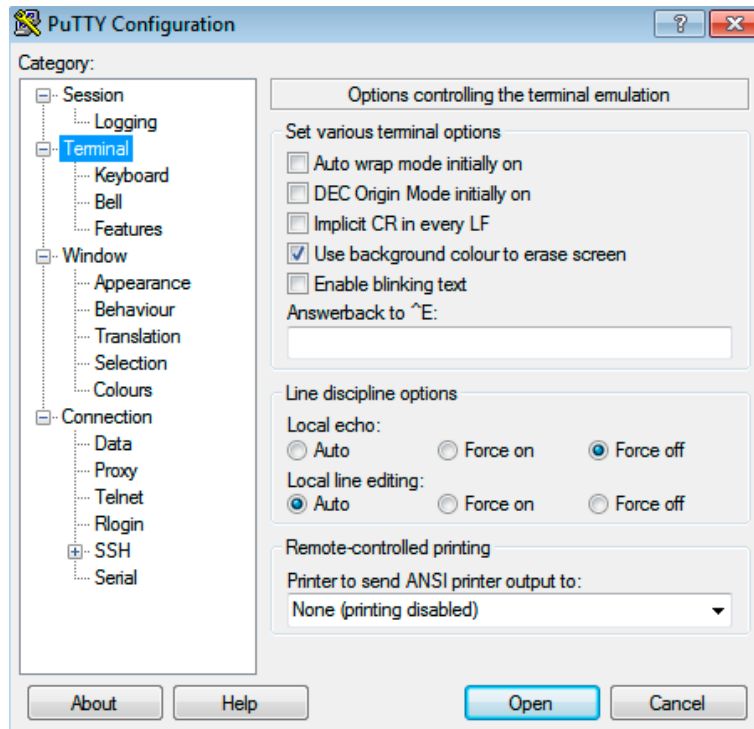
In the Category Window follow the settings below:



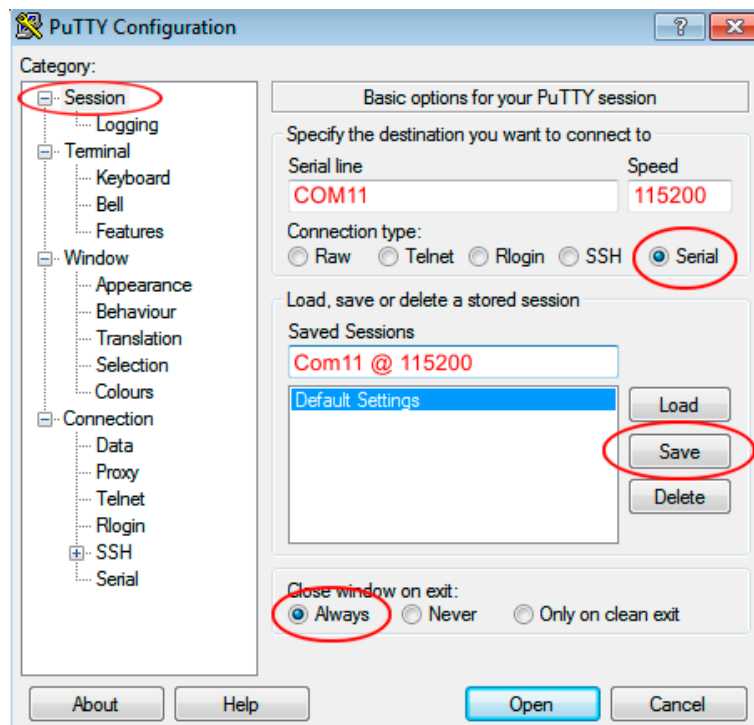
In the Category Behaviour follow the settings below. Please consider to use the COM port number your hardware is connected to and not the Com number shown below:



In the Category Terminal follow the settings below:



Then go back to the Category Session and save all changes. You should then see following screen-shot but with the COM port number, where your hardware is connected to:



Finally you are ready to open the terminal session. Click on the button "OPEN" to start the session.

You should now face into an empty terminal window. This can be changed easily! Just type reset into the terminal window. If everything was configured correctly you should see the welcome screen of AMOS with build version information and other actual system data:

```

Com11 @ 115200
>reset

      A      M      M      0 0 0      S S S
     A A     MM     MM     0 0 0      S
    A A A    M M    H M    0 0 0      S
   A A A A  H H    H H    0 0 0      S S S
  A A A A A H H H  H H    0 0 0      S
 A A A A A H H H  H H    0 0 0      S S S
  A      A  M      M      0 0 0      S S S

ANSARI Micro Operating System
HSP430-20130409 (12:41)
Compiled in DEBUG mode

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http://amos.ansari.de

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AMOS-CMDprocessor ----- AddOn 21
Version: 20130314 (11:41), RELEASE mode

I2C-Services ----- SRU 22

AMOS-SPI (HSP430F5328I2QE) ----- AddOn 33
Version: 20130314 (11:42), RELEASE mode

AMOS-GPIO (HSP430F5328I2QE) ----- AddOn 35
Version: 20130314 (11:42)

AMOS-ADC module (HSP430F5328I2QE) ----- AddOn 41
Version: 20130314 (11:41)

Automatic System Integration Module ----- APP 90
Version: 20130413 (15:44)

Resetting ASI
Analog Front End application ----- APP 36
Version: 20130413 (15:44)

Sensor Digital Data application ----- APP 37
Version: 20130413 (15:44)

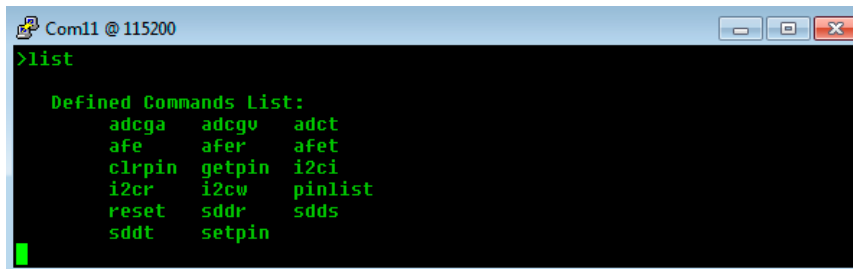
Resetting AFE
Resetting SDD

Actual Values:
-c: ADC Channel [dec] = 17
-g: Amp Gain [dec] = 3
-o: Amp Offset [dec] = 0
-a: ADC Average [dec] = 4
-agg: AGC Status [dec] = 0
-gm: Max Gain [dec] = 7
-r: ADC Vref- [dec] = 0

Resulting Analog Values:
Input Min = 1mV
Input Max = 313mV
Accuracy = 76µV/LSB

```

If you type list, then you will get a list of all actual available AMOS commands:



```
Com11 @ 115200
>list

Defined Commands List:
  adcga  adcgv  adct
  afe    afer   afet
  clrpin getpin  i2ci
  i2cr   i2cw   pinlist
  reset  sddr   sdds
  sddt   setpin
```

In the most cases when you type one of the listed commands without any parameters, you will get a brief help for the command you typed in and the syntax how to use the command. But this is not given for all listed commands; for example this is not true for the command reset.