SimpleDAQ UART Commands

Baudrate=115200

A) READ

Device countinously sends four string formated numbers (n_0-n_3) followed by a carriage return and line feed characters. Value are separated by semicolon (;) and correspond to A\D converter channels.

$$n_0;n_1;n_2;n_3\text{\textbackslash}r\text{\textbackslash}n$$

B) WRITE

Digital/PWM outputs

Command: **DIGxy**   x=[0,2], y=[0,255]
Functionality: Sets selected digital/PWM output value

x=0	=>	digital pin 0 (D0)
x=1	=>	digital pin 1 (D1)
x=2	=>	digital pin 2 (D2)
y	=>	value, duty cycle, [0,255] => [0, 100%]

Digital potentiometer

Command: **POTRESET**
Functionality: Resets digital potentiometer wiper position, reset position is 50 (in the middle)

Command: **POTSETx**   x=[0,99]
Functionality: Sets digital potentiometer wiper position

D\A Converter

Command: **DACx**   x=[0,4095]
Functionality: Sets D\A converter output voltage, reference voltage is power supplay voltage VCC

A\D Converter

Command: **ADCMODEx**   x=[0,1]
Functionality: Sets A\D operational mode

x=0	=>	single ended operational mode (ADC0-ADC3)
x=1	=>	differential operational mode (DIFF0-DIFF1)

Command: **ADCCHNSx**   x=0b$c_3c_2c_1c_0$=[0,15]
Functionality: Selects A\D converter channel

c_0 if set => ADC0 on / DIFF0 on in differential mode
c_1 if set => ADC1 on / DIFF1 on in differential mode
c_2 if set => ADC2 on
c_3 if set => ADC3 on

Command: **ADCGAINx**   x=[0,5]
Functionality: Sets A\D converter gain (FSR-Full Scale Range)

x=0	=>	Gain=2/3,	FSR=+/- 6.144V,	LSB=0.1875mV (default)
x=1	=>	Gain=1,	FSR=+/- 4.096V,	LSB=0.125mV
x=2	=>	Gain=2,	FSR=+/- 2.048V,	LSB=0.0625mV
x=3	=>	Gain=4,	FSR=+/- 1.024V,	LSB=0.03125mV
x=4	=>	Gain=8,	FSR=+/- 0.512V,	LSB=0.015625mV
x=5	=>	Gain=16,	FSR=+/- 0.256V,	LSB=0.0078125Mv

Function generator

Command: **:Fxy;**   x=[1,2], y=[0,10000000]
Functionality: Sets function generator frequency

x=1	=>	Channel 1
x=2	=>	Channel 2
y	=>	Frequency in Hz

Command: **:Pxy;**   x=[1,2], y=[0,3600]
Functionality: Sets function generator phase

x=1	=>	Channel 1
x=2	=>	Channel 2
y	=>	Phase in tens of degrees

Command: **:OSx;**   x=[O,S,T,Q]
Functionality: Sets function generator output signal

x=O	=>	OFF
x=S	=>	Sine
x=T	=>	Triangle
x=Q	=>	Square

Command: **:OFx;**   x=[1,2]
Functionality: Sets function generator output frequency channel

x=1	=>	Output frequency from Channel 1
x=2	=>	Output frequency from Channel 2

Command: **:OPx;**   x=[1,2]
Functionality: Sets function generator output phase channel

x=1	=>	Output phase from Channel 1
x=2	=>	Output phase from Channel 2