SPD programming tips

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The SPD series of power supplies feature remote programming capabilities and can be controlled via USB or LAN connection.

In this note, we will use Python and PyVISA to create a program that will connect to an SPD, enable the output, delay, and then disable the output.

There are two areas that differ from some other instrumentation:

- The SPD requires “\n” termination only. Additional characters will cause failure.

NOTE: SPDs will make an audible “beep” if there is a remote communications error

- Delays, here using the Python “time.sleep” command, are helpful in sequencing and allow the instrument time to respond. 10-100 ms should do for most commands.
- Use single-action “Write” commands to send the string to the instrument, a set delay of 10-100 ms, and “Read” commands to retrieve data from the instrument. Bundled operation commands, like “Queries” that perform a Write-then-read operation without a delay may cause issues with programming.

**

```
#Dependencies:
#Python 3.7 32 bit
#PyVisa 1.7

import visa
import time # for sleep
import binascii

def main():

    rm = visa.ResourceManager()
    instadd = 'USB0::0x0483::0x7540::SPD3XGB4150080::INSTR'
    inst = rm.open_resource(instadd)
    inst.write_termination='\n' #Modify termination character
    inst.read_termination='\n' #Modify termination character
    #print (rm.list_resources()) #List USB resources
    time.sleep(0.04) #Wait
    inst.write('OUTP CH1,ON') #Turn on output
    time.sleep(2) #Wait
    inst.write('OUTP CH1,OFF') #Turn off output
    time.sleep(2) #Wait
    inst.write('*IDN?') #Write instrument and ask for identification string
    #print ("here")
    time.sleep(1) #Wait
    qStr = inst.read() #Read instrument response
```

```
        print (str(qStr)) #Print returned string
        inst.close() #Close instrument VISA session

if __name__ == '__main__':

        main()
```

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