

OPTOSCAN EXTERNAL CONTROL

Quick Start

This guide details how to control the OptoScan Monochromator via external (analogue and digital) signals. This is a secondary control method often used when the chosen imaging software does not include USB drivers for OptoScan control.

Please do not hesitate to contact us if you have any issues with externally controlling your OptoScan.

Hardware Connections

Analogue Inputs:

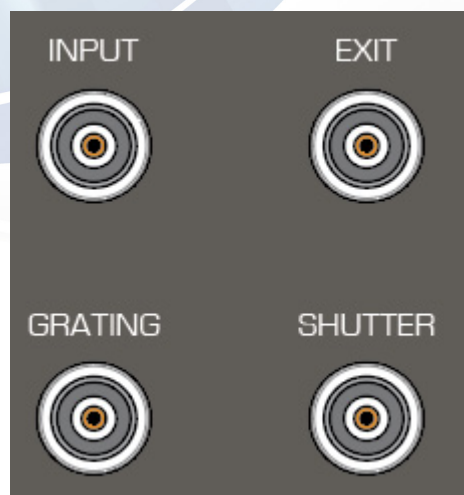
- INPUT : Input Slits (Bandwidth) 0 - 5 volts MAX
- EXIT : Exit Slits (Bandwidth) 0 - 5 volts MAX
- GRATING : Grating (Centre Wavelength) 0 - 5 volts MAX

Digital Inputs:

- SHUTTER : Shutter (0 volts CLOSED) (5 volts OPEN)

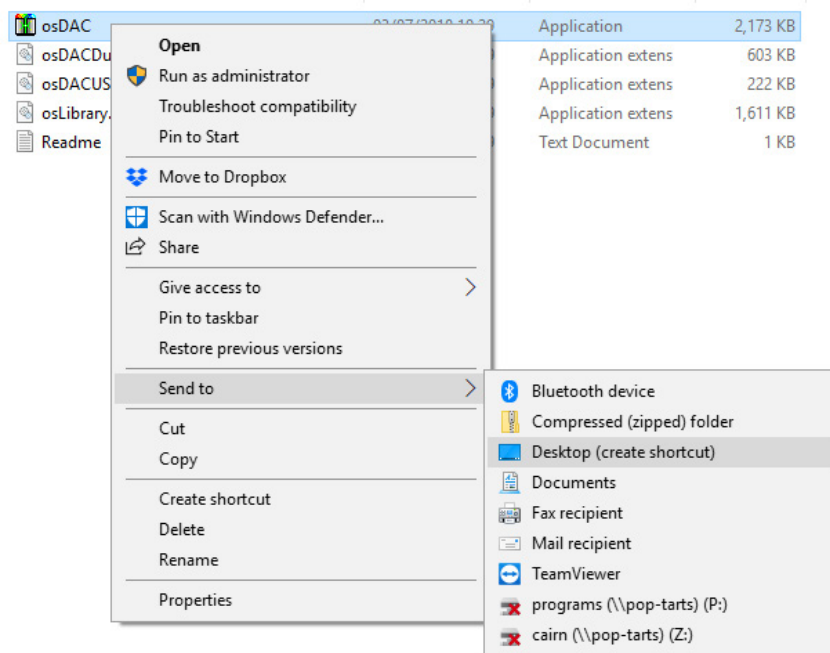
Please note, you will need to connect your OptoScan to the "DAC Monochromator" connection on the back of the unit.

DO NOT EXCEED 5V INPUT AS THIS MAY CAUSE SIGNIFICANT DAMAGE TO THE UNIT



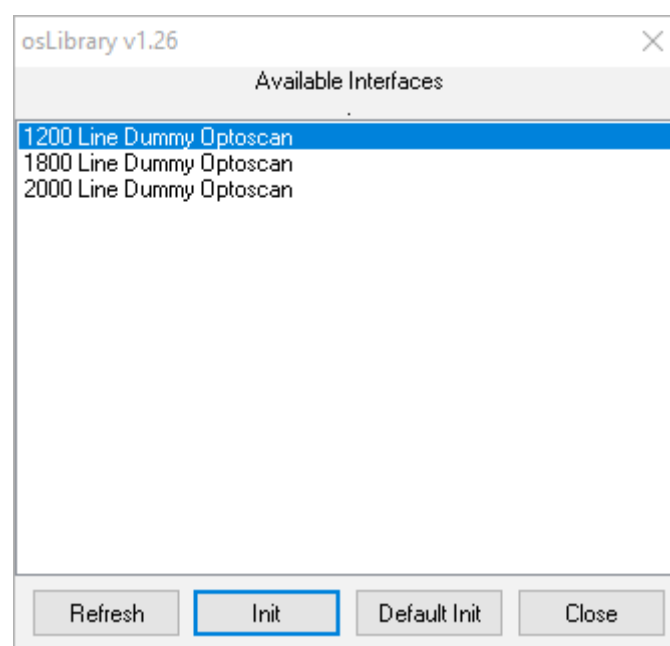
Determining the voltages required for operation in the dummy osDAC program

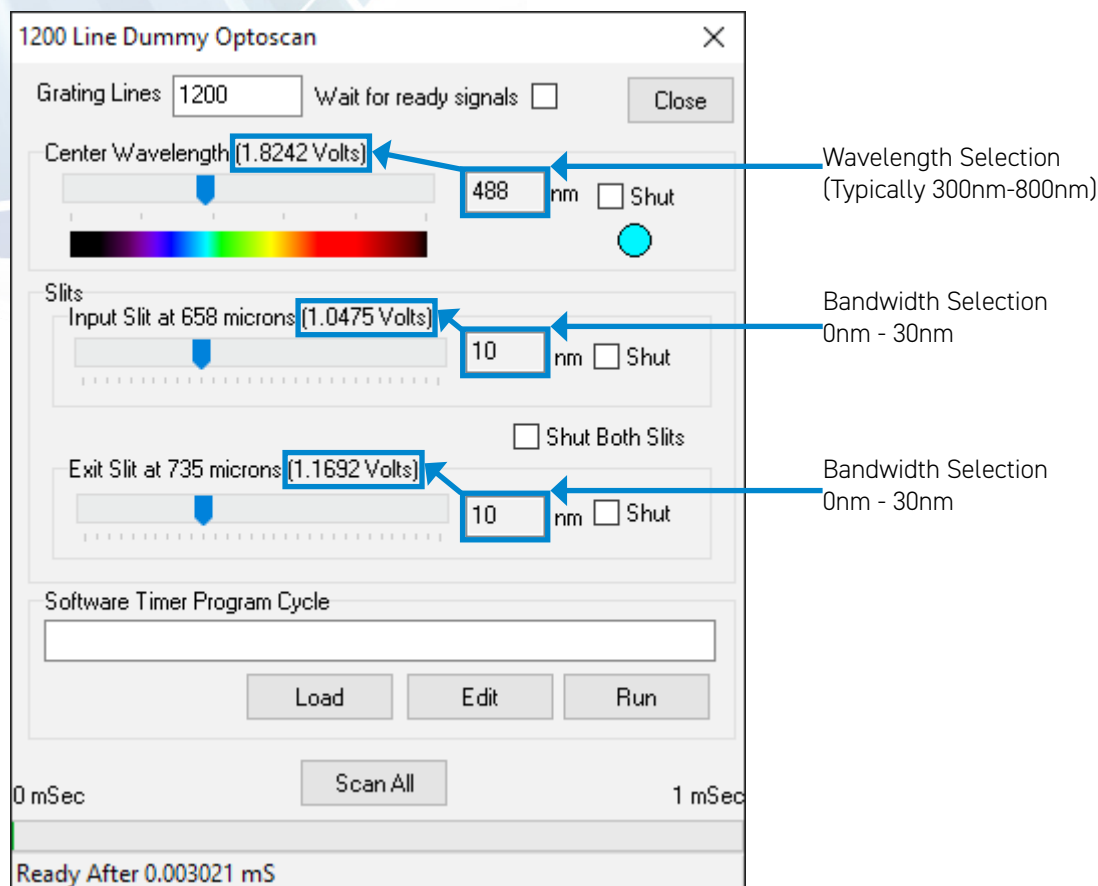
- Locate the osdac software - you will receive this with your order on a USB memory stick. Alternatively this can be downloaded from our support page www.cairn-research.co.uk/support/software
- Create a folder named "osdac" in C:\Program Files and unzip the contents of the download folder into the new directory.
- Find the software called "osdac" and create a shortcut onto the desktop.



Using osDac to calculate the required voltages for slit widths and wavelength

- Once opened you will see three dummy interfaces. The standard Cairn OptoScan contains a 1200 line grating, select this and then "init". We also sell 1800 and 2000 line gratings as a special request. (if you are unsure on which grating you have, please contact tech@cairn-research.co.uk and someone will be able to advise.)





- Input the desired wavelength, and bandwidths for the grating, input slits and exit slits.
- Note down these voltages for each parameter.
- Relay the corresponding analogue voltages to the grating, input and exit slits, and 5 volts to the shutter connection for modulation of the shutter.

Please note: the formulae used to calculate these voltages for specific parameters are detailed in the OptoScan technical manual "principles of operation". Please contact us to obtain a copy of this document.

For further assistance, please do not hesitate to contact our Tech support team:

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