

Triggering an external device through MetaMorph[®] software

Abstract

This technical note will describe how to trigger an external device using the journaling function of MetaMorph software. It will describe using either a pin from a Parallel port (LPT) or a digital channel from a DA board (DAQ or DDA0 series) to send a 5 volt signal to an external device.

Confirm software option is present

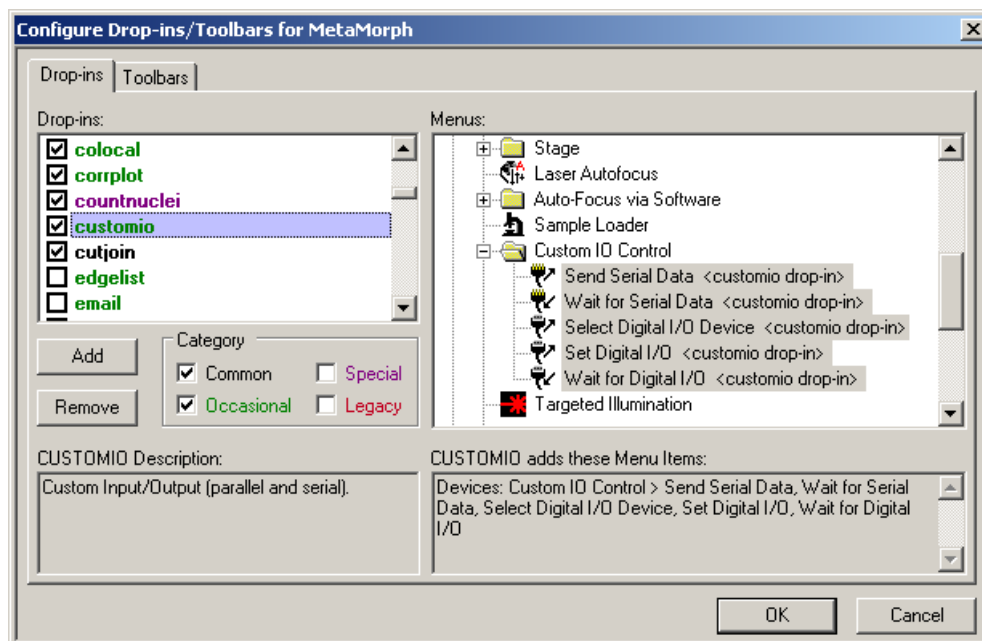
In the Meta Imaging series Administrator, confirm that the CUSTOM IO dropin is checked (enabled).

ARTICLE #
T20134

PRODUCTS
MetaMorph[®]
MetaFluor[®]
MetaVue[®]

CREATED
22-January-2010

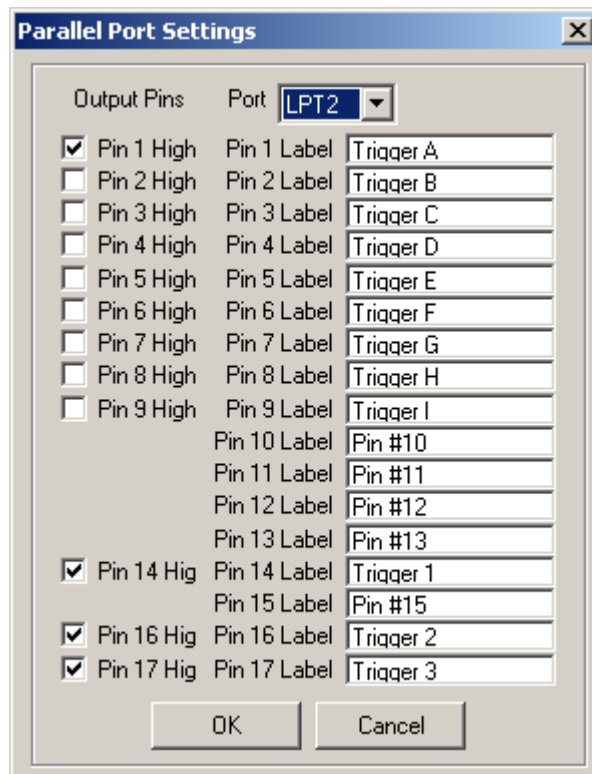
LAST UPDATED
02-March-2010



If the dropin is not present make sure that you are showing the category *Occasional*. If it is still not present you are either using an offline version of the software or you do not have the Digital IO option on your software license.

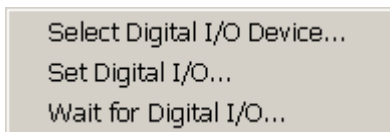
Confirm a digital output device is present

In the Meta Imaging Series Administrator make sure that the appropriate digital input/output device is installed as a system device and is part of the hardware setting. If you are adding a parallel port make sure that you specify which port you will be using and if you want any pins to start high click. If you want to rename a pin to make referring to a trigger easier you can change its label in the dialog below:

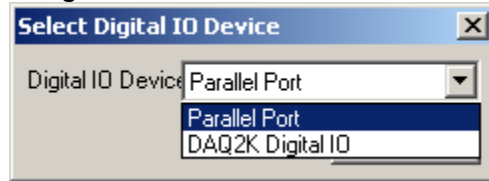


Using the digital trigger

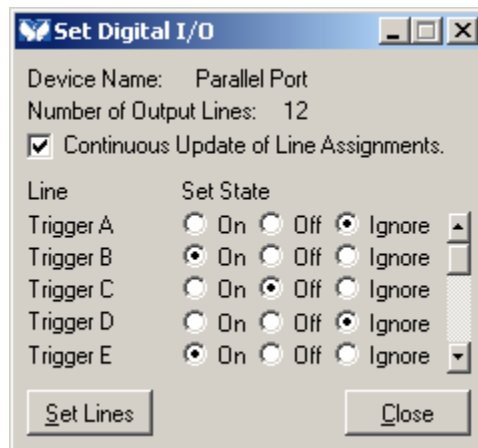
Within MetaMorph in the Devices menu will be a sub-menu Custom IO Control. Within the Custom IO Control sub-menu there will be three commands referring to digital I/O devices:



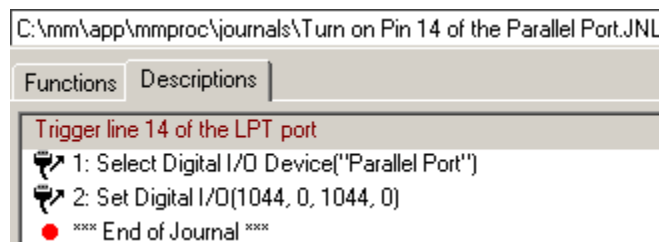
Before doing any digital triggering you must tell the software which digital device you are referring to. Use Select Digital IO Device to choose the appropriate device:



Once the digital I/O device has been chosen you can set the individual lines on the device using the Set Digital I/O function. For each line there are three options: On, Off, Ignore. If a line is set to On or Off the line will be set high or low. If a line is set to Ignore the software will not change its setting whether it is high or low. Continuous Update of Line Assignments indicates that the line changes occur automatically interactively without clicking the **Set Lines** button.

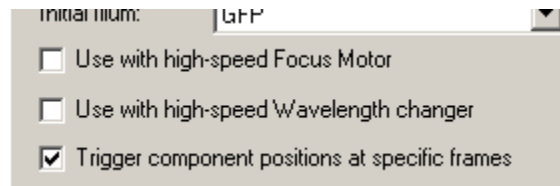


Given this procedure a typical journal run from a taskbar or within a Multi Dimensional Acquisition experiment would look like the journal shown below:

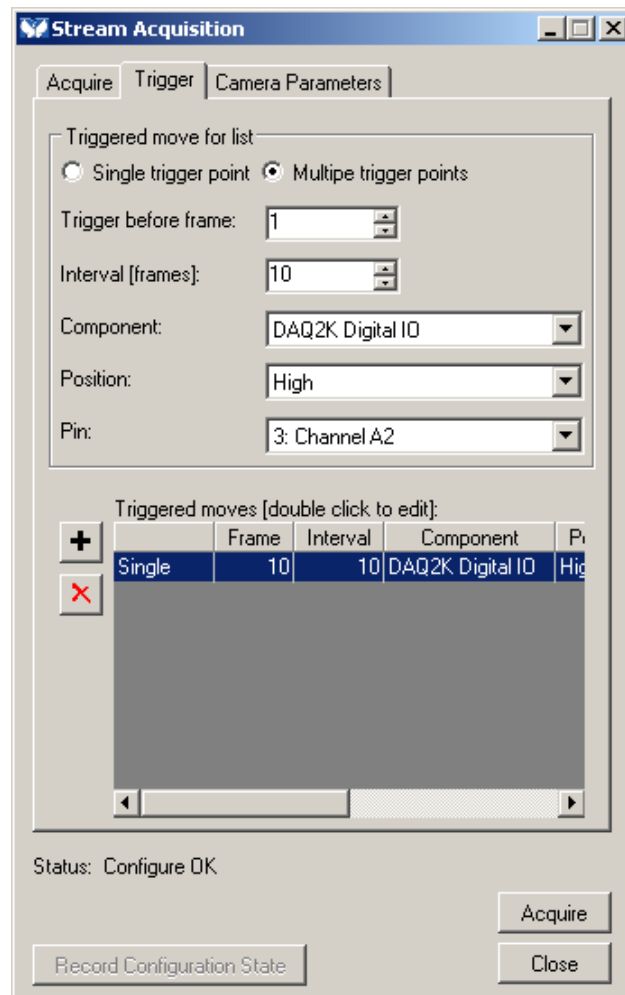


Using the digital triggers during stream acquisition

One of the most common uses for triggering external devices is during Stream Acquisition. To do this turn on the option *Trigger component positions at specific frames* at the bottom of the Acquire tab of Stream Acquisition.



When the *Trigger component positions at specific frames* option has been enabled the Trigger tab appears in the dialog. Choose whether to send one or more triggers, and when to send the trigger(s). Choose a Digital IO component and set the particular pin High or Low. Once this is set click the **+** button to add the trigger to the stream protocol.



If there are any further issues, please contact Technical support at 800-635-5577 x1820 or support.dtn@moldev.com.