

# OASIS-XA1 Instruction Manual



## **Introduction**

The XA1 module is designed to increase the drive capability of the OASIS-4i board from four motors up to five. Software control of this 5<sup>th</sup> axis is very similar to that used for controlling the F-axis, usually used for driving filter-wheels, although it should be noticed that there are a few differences which will be described later. The XA1 module fits to the OASIS-4i board in place of the Video Processor (Auto Focus) module, therefore it is not possible to have both the XA1 and Video Processor modules fitted at the same time.

## **Installation**

With the OASIS-4i board removed from its host PC and on the workbench (please observe anti-static precautions), remove the OASIS-AF module (if fitted), which attaches to connectors SK2, SK3 and SK4, and fit the XA1 module firmly in its place. Take care to line up the pins of the XA1 connectors with the holes of the mating connectors on the OASIS-4i. The OASIS-4i and XA1 module may now be replaced in the PC. (Please refer to the

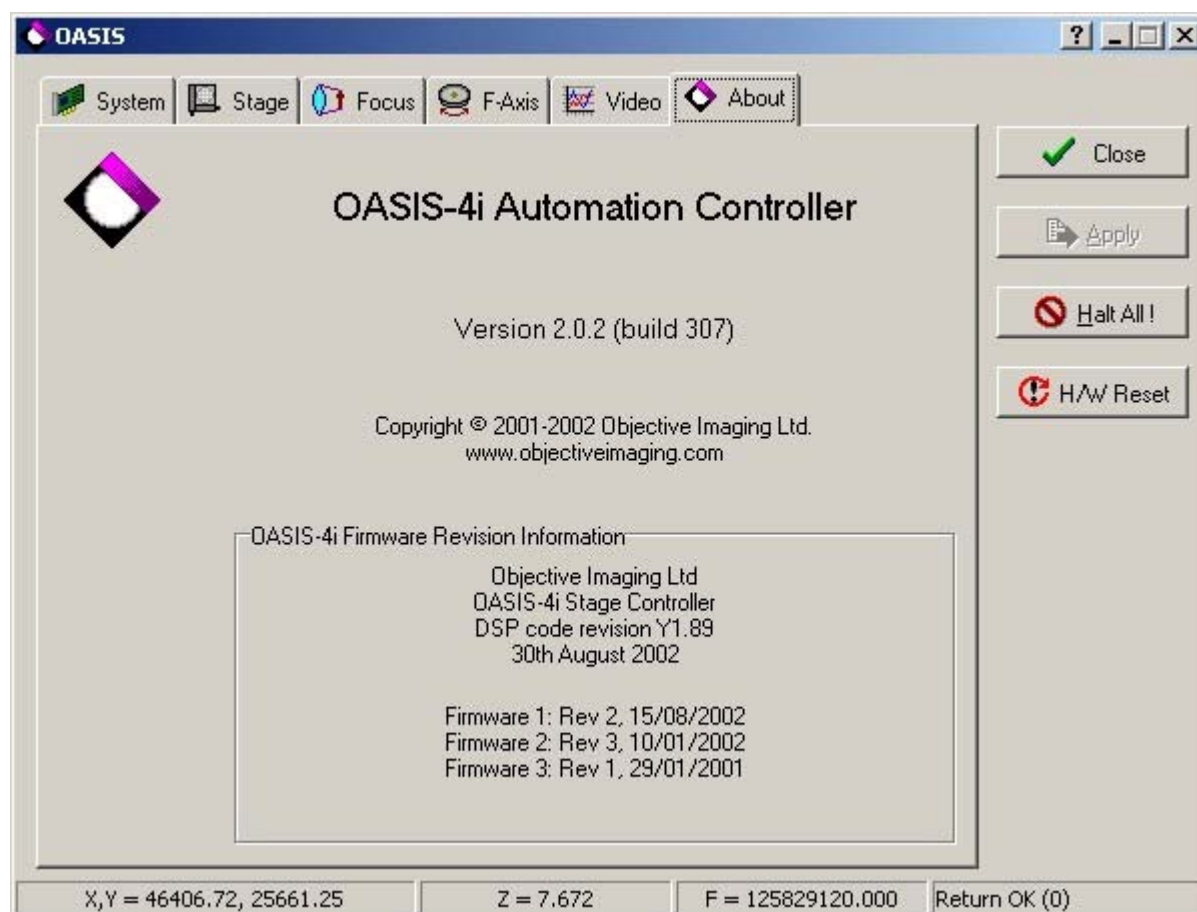
OASIS-4i Installation Guide, on the CD-ROM as necessary).

Power for the 5<sup>th</sup> axis motor is provided via a separate connector than that used for the other 4 axes. Usually a spare lead from the PC power supply is available which has two of the appropriate four pin connectors in series. These connectors should be plugged in to PL5 on the OASIS-4i and PL2 on the XA1 module, respectively.

The motor itself plugs into PL4 on the XA1 module, usually via a 9-pin female d-type to 10-pin IDC female header cable (OI part no. OIC-9002). This connector is polarised so it should not be possible to fit it the wrong way round or out of line.

## **Configuration**

In order for the software to be able to use the XA1 hardware, the OASIS-4i firmware and DSP code need to be of a certain revision. You can check the appropriate revision codes by looking at the 'About' tab of the OASIS.exe application utility.



In the OASIS-4i Firmware Revision Information section, the DSP code revision should be Y1.89 or later, and Firmware 1 should be Revision 2 or later.

With the other four axes it is possible to configure some operational parameters in non-volatile Flash memory, using the OIFlashCfg.exe utility. At this time there are no equivalent

settings for the 5<sup>th</sup> axis. The main difference between the 5<sup>th</sup> axis and the other four is that the micro-step resolution is fixed at 3200/rev. In practice this should be more than adequate for controlling filter-wheels etc. The ramp profile is also fixed at the equivalent of a 'normal' ramp profile for the other axes. Otherwise the functionality is the same as for the F-axis, with a 'home' switch input available for the initialisation of filter-wheels, along with positive and negative limit switch inputs.

## **Software**

Please refer to the OASIS4i.dll documentation for information about the 5<sup>th</sup> axis related commands.

## **Wiring Information**

When using the 10-pin IDC to 9-pin female D-type internal cable (OIC-9002), use the following information to connect the 9-pin D connector to a 15-pin female D connector for use with a Ludl Filter-wheel:-

9-pin male D-type (5 <sup>th</sup> -axis)		15-Pin Female D-type (to Ludl)	
1	-	10	(A+)
6	-	12	(A-)
2	-	13	(B+)
7	-	15	(B-)
3	-	3	(GND)
9	-	4	(Home)
5	-	7	(+5V)



Objective Imaging Ltd.  
The Bury, Newmarket Road  
Stow cum Quy  
Cambridge CB5 9AQ  
Great Britain  
+44 (0)1223 813777  
www.objectiveimaging.com