

# **The ArtemisHSC plugin for MaximDL**

**For the Artemis 11002 High Speed USB 2.0 camera**

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## Introduction

Maxim DL is a powerful astronomical program, from Diffraction Limited. It is able to control most of the equipment used in astronomical imaging, as well as processing the captured images. In order to allow Maxim DL to communicate with a new piece of hardware, a driver is required to be installed in a location known to Maxim DL.

## Installation

The driver file for the ArtemisHSC camera is called CCDPlugArtemisHSC.dll and installation is performed by the SetupArtemisUniversal installer. If you specify that you want to install the Maxim DL plugin you will be prompted for the location of the Maxim DL base directory. For a default installation of Maxim DL version 4, this is:

C:\Program Files\Diffraction Limited\MaxIm DL V4

You can identify the correct directory because it will already contain many files named CCDPlug?????.dll - these are the drivers for the various other types of CCD camera supported by Maxim DL.

## Using the Plugin

Once the CCDPlugArtemisHSC.dll file has been copied to the correct directory, you can start up Maxim DL and open the CCD Control Window - either by pressing Ctrl+W or by selecting menu option View|CCD Control Window. There may be a short pause while Maxim DL build up a list of available camera drivers, and then you will see the camera setup dialog.

In the box headed 'Main CCD Camera', click the 'Setup' button, and in the dialog which appears scroll down the 'Camera Model' list until you find the ArtemisHSC camera. click 'OK', and then click the 'Connect' button to start using the camera. If you see the message 'Could not initialize camera (1)' then you need to check that the camera is correctly powered up and connected to the USB, and be certain that you have uploaded the correct firmware onto the camera if required. Assuming all goes well, you should now be ready to take an image with the Artemis camera.

## Temperature Control

The ArtemisHSC provides software control over the Peltier cooler. Once you have connected to the camera, you can configure the temperature regulation using the 'Cooler On', 'Cooler Off' and 'Warm Up' buttons. Switching the cooler on will enable the 'Cooler' button which allows you to set the target CCD temperature. When you switch the cooler off it will gradually be returned to ambient temperature, in order to reduce any thermal shock to the CCD. During this time the temperature will be displayed as 'warming up', and you cannot re-enable cooling until it has returned to ambient.

Once the CCD has reached the desired temperature you can start imaging - click on the 'Expose' tab to take a test image - select an exposure time and click the 'Expose' button. After a while a window will open up containing your Artemis image.

If you need to find out more about how to use Maxim DL for imaging there is plenty of information, including tutorials, available from the Maxim DL 'Help' menu.