



Driver User Guide

EuroDome ASCOM Driver 2.1

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Preface

This User Guide is intended to help you operate the EuroDome ASCOM dome driver for controlling an EuroDome astronomical dome using ASCOM.

Before remotely controlling your dome, however, please ensure that:

- you have read and understood the dome hardware manual
- you know how to operate the dome with the hardware controls
- you have checked that the dome hardware is in an appropriate condition for operation
- you have checked that nobody near the remotely operated dome is in harm's way, the manufacturer cannot be held liable for injuries caused by a negligent operator!

If you have completed all these and any further precautionary steps to ensure a safe operation, you can follow this guide to operate your dome from the convenience of your PC desktop.

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ASCOM compliance

All ASCOM standard dome functions are implemented in the EuroDome dome controller hardware and all can be accessed through this ASCOM driver.

For a detailed list of accessible ASCOM functions and properties please see the ASCOM Dome interface specification.

Conformance checker used:

ASCOM Device Conformance Checker Version 3.0.0.17 running on ASCOM Platform 5.5 using EuroDome 1.0 hardware.

Please feel free to test the driver's conformance on other your hardware and to report your test results to the manufacturer.

This driver also provides access to EuroDome special features that are not part of the ASCOM dome standard, see "Accessing extra functions".

Procedures

All the procedures you may encounter during installation and usage of this software are discussed in details below.

Installing

The ASCOM compatible driver and client program can be installed with a single installer file, which can be downloaded from the www.eurodome.hu website.

Requirements

For successful installation the following are required:

Windows XP or newer version operating system.

ASCOM platform 5.5 or 6.0.

Previous versions of EuroDome driver or control software uninstalled

Please make sure before running the installer that the target system meets the requirements, otherwise the installation might fail.

Installation process

Run the installer program named “EuroDomeSetup_xy.exe”, where xy refers to the program version. Then follow the instructions of the installer.

Components installed

The installation process provides you with the following:

EuroDome ASCOM driver dlls

EuroDome Client 2.1 ASCOM dome control client software

Uninstaller program

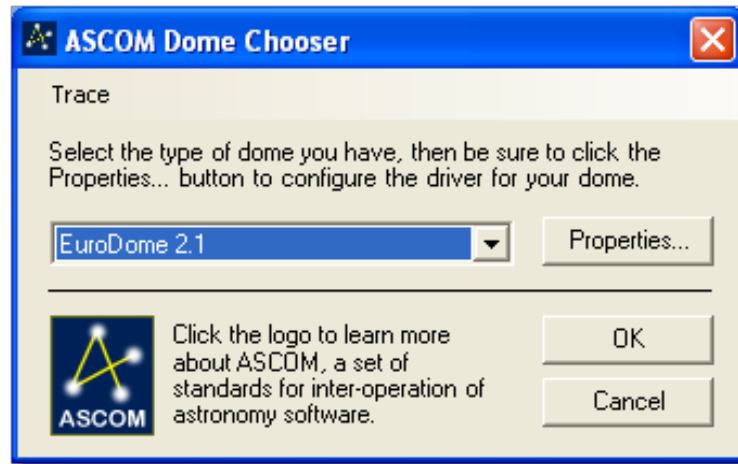
User Guide for driver (this document) and client software

Uninstalling

Before installing a newer version of the software it is recommended to uninstall the previous version. For uninstalling, run the uninstaller that was placed on the target system during the installation of the previous version and follow its instructions.

Loading the driver

When using the ASCOM Dome Chooser for loading the driver, look for the name “EuroDome x.y” where x.y refers to the driver version:



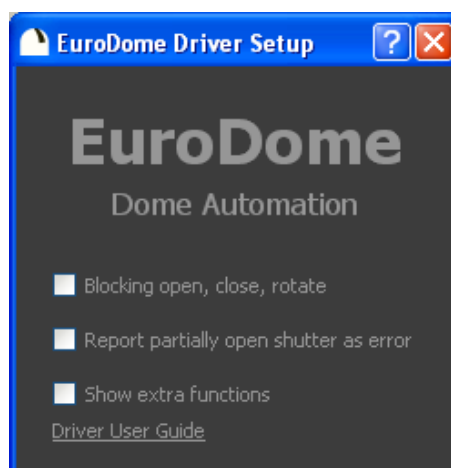
When loading the driver for scripting use the registered program name “DAS08.Dome”, like in this example in javascript:

```
var x = new ActiveXObject(“DAS08.Dome”);
```

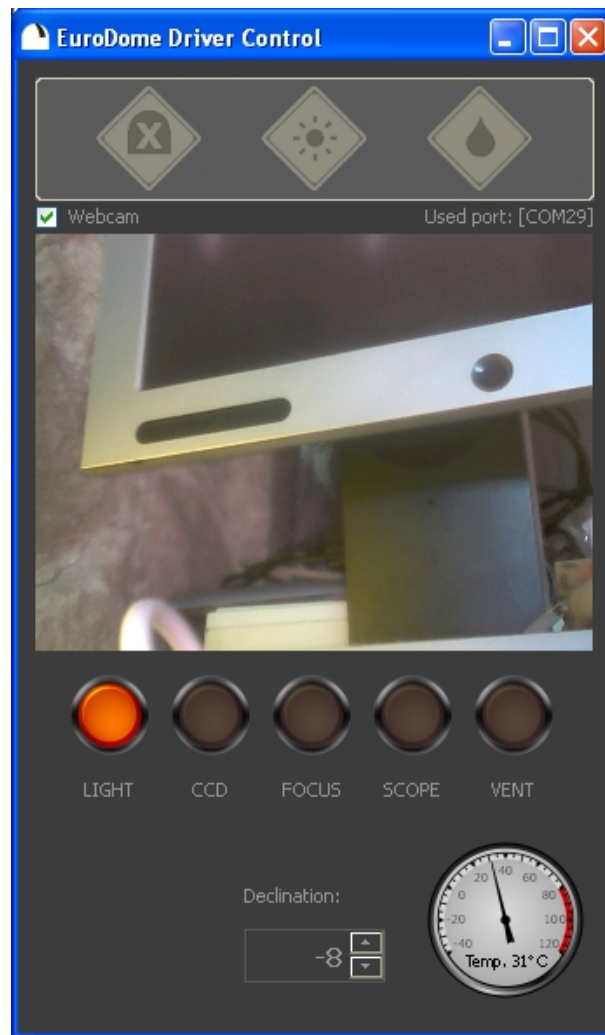
After connecting the driver is ready to use.

Overview of the interface

The user interface of the driver is split into two panels as advised in the corresponding ASCOM standards. There is an initial setup panel for controlling the fundamental behaviour of the driver:



For full explanation of the controls on this panel see the corresponding procedures below. This interface provides a switch (“Show extra functions”) for displaying those driver functions that are not accessible through the standard ASCOM interface:



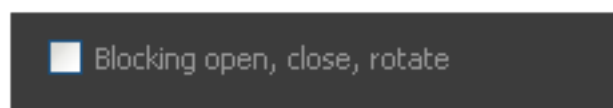
For full explanation of these extra controls see the corresponding procedures below.

Driver Setup

ASCOM standard dome interface provides a unified way to access the setup of the drivers. The setup interface of this dome driver provides some switches that fundamentally affect the behaviour of the driver.

Blocking open, close, rotate

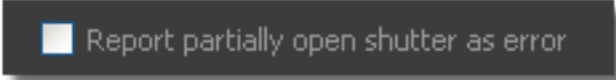
When used in a scripting environment blocking execution of movement commands improves performance by eliminating the need for polling the device for slew states:



When used with an ASCOM client program operated by a user, blocking should be switched off to allow threaded execution of the GUI.

Report partially open shutter as error

Partially open shutter can be used in windy environments, and can be reported to ASCOM as open, or as error:



Report partially open shutter as error

Show extra functions

If this option is on when the driver is loaded then the driver displays an interface (titled “EuroDome Driver Control”) for the Eurodome extra functions that are not accessible through the standard ASCOM interface:



Show extra functions

Accessing the user guide

You find a link to the installed User Guide at the bottom of the program:



[Driver User Guide](#)

Clicking the caption opens this guide.

Accessing extra functions

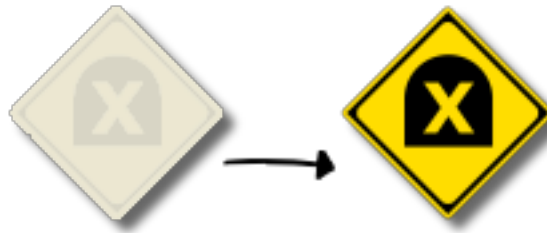
The following functions can all be accessed through the EuroDome Driver Control interface that can be set up to be displayed in the driver setup.

Checking the status

Dome status

USB connection

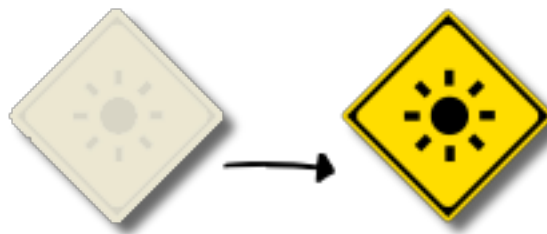
After the driver is loaded and “connected” it scans for the physical communication port used by the dome control unit. If the process was successful then the **communication** icon changes from alert (yellow) to normal (grayed out):



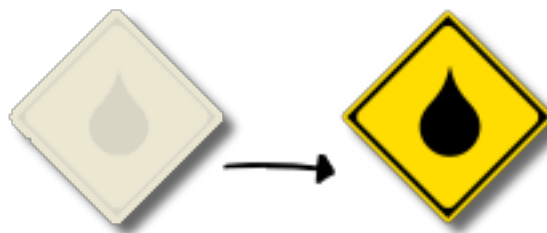
Light and Rain emergencies

If the control unit is equipped with the optional sensor unit it is able to receive light and rain alerts from the sensors. Once an alert is received by the control unit it enters into emergency operation mode, and the program indicates this by turning the corresponding icon to the alert (yellow) status.

Light emergency, emergency procedures are underway:



Rain emergency:



Thermometer

After communication is successfully established with the control unit, you can check the temperature measured inside the control unit on the **temperature gauge** of the driver:



Operating the control unit outside its specified temperature envelope can cause damage to the unit and can lead to safety risks, thus it should be avoided!

Relay status

The on/off status of relays in the control unit can be seen on the **Relays** panel of the driver, where a red light indicates on, gray means off state:



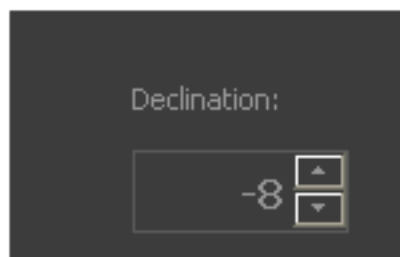
Communication port in use

The driver displays the name of the communication interface it uses for commanding the dome control unit:



Declination used for auto follow sky

The driver displays the **Declination** value currently set to be used for auto following the sky:



The value can be adjusted using this control. This value, along with the current dome azimuth is used to indicate the visible object in the sky to be followed. Auto follow can be initiated through the standard ASCOM slaving command.

Viewing the camera

If the optional camera unit is connected to the computer, then you can switch on the camera with its IR light using the **Webcam** switch:



When the camera is switched on, its images are displayed in the camera panel of the interface:



The camera images may appear tinted purple due to the IR sensitivity of the camera.

Switching relays

Use the buttons in the relay panel to switch the corresponding relays in the control unit. The buttons will indicate the switched state of the relays with light (red means on):



IMPORTANT: the labels of the buttons are only wiring suggestions for the user, only the light connection is hardwired into the control unit (in hardware version 2.0).

Troubleshooting

If you have any problem operating the dome using this driver, please first check here if we already have an answer for your questions. If not, then please contact the manufacturer for further support.

Shutter will not fully open in partially open state

This behaviour can be caused by a setting in the dome driver software.

Explanation

The shutter actuator is not using positional feedback, only limit switches. Thus, when a movement is aborted in a partially open state then the driver may still report it as open, depending on the driver setting “Report partially open shutter as error“ (see chapter “Setup”). In such a case the program will not respond to the open command, which is an intended behaviour (and is available mainly for scripting purposes, see the relevant ASCOM documentation).

Solution

Change the setting “Report partially open shutter as error“ to true for the driver.

Also, in any case you can always use the remote control unit to open the shutter, because it does not have this limitation.

Auto following the sky does not start

This behaviour can be caused by an inappropriate dome position.

Explanation

Auto follow will not start if the initial positions of the dome does not correspond to a visible point on the sky.

The azimuth of the point to follow is determined by the current dome position, so before starting tracking the point the dome should be positioned to the required azimuth direction.

The declination of the point to follow is taken from the **Declination** field of the program. However, not all declinations are visible for a given latitude, longitude and azimuth.

Solution

Change the initial tracking parameters to ones that describe a visible object over the horizon. If auto follow still does not start please check if the dome is set up correctly (latitude, longitude, true azimuth values are all OK).

FAQ

If you have further questions to the manufacturer please send them to the supplied contact addresses. Thank you.

Can this driver control dome hardwares besides EuroDome?

No, this driver is only compatible with EuroDome hardware.

What EuroDome hardware versions are supported?

The driver supports all previous versions of EuroDome Hardware up to 2.0.