Dome Observatory Control

Paul Stewart is a New Zealand resident with his very own 2.3 diameter dome observatory in his back yard. Paul takes some truly amazing pictures with his setup (see below). iViewer 4 is used on an iPad to control the observatory dome and monitor important information.


2 Way Control

CommandFusion iViewer 4 [http://www.commandfusion.com/software/iviewer] talks to a custom made ATMega1281 [http://www.atmel.com/devices/ATMEGA1281.aspx] board through an Olimex ENC28J60 ethernet module [https://www.olimex.com/Products/Modules/Ethernet/MOD-ENC28J60/].

The controller has various inputs and outputs for:

- rotation
- shutter
- cooling fans
- etc

It also has an encoder for dome position.

Voltage, current, position, temperature, etc data is sent in a comma delimited format using UDP protocol to an iPad were the iViewer app displays this in a graphical format (see below image).
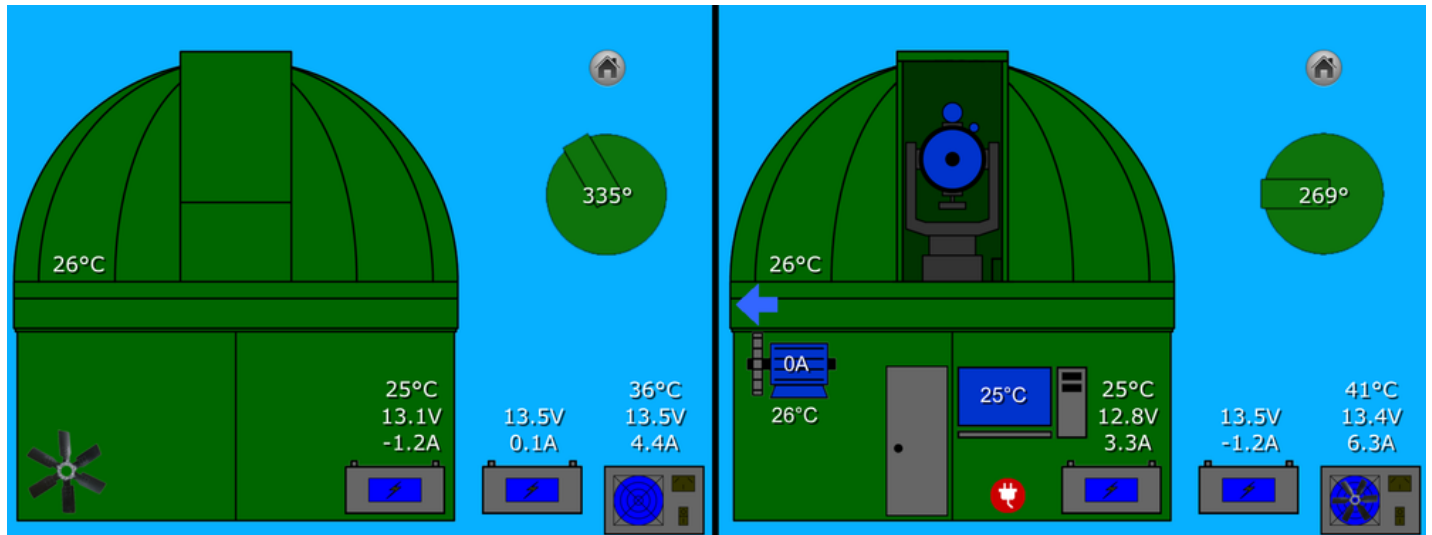
The GUI also features warnings for temperature/current levels and fire alarms.

The app can also send commands back to the dome using the same format for manual rotation and shutter control.

The graphical elements of this GUI have purposely been kept simple, this is all that is required to control the system and makes it very easy to control the dome setup.
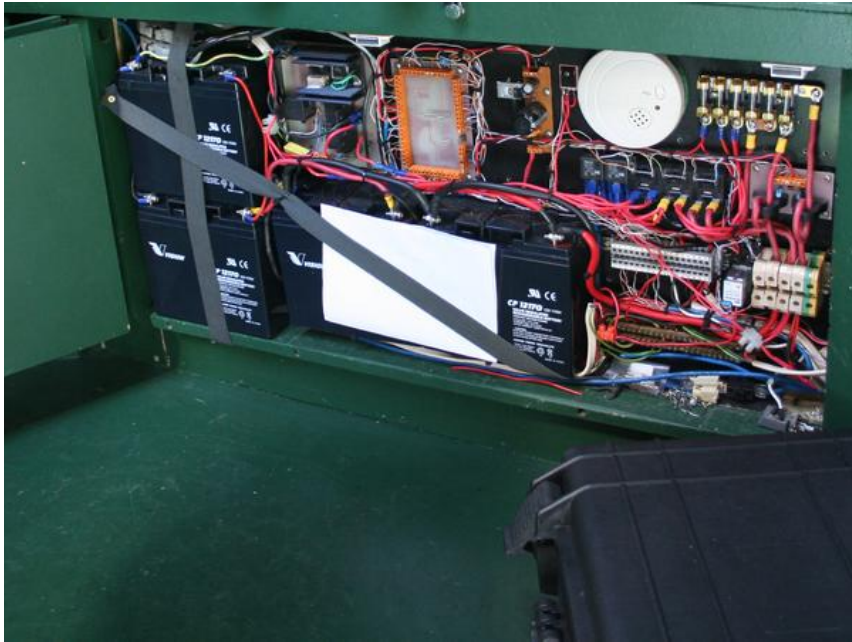
More Images

Dome rotation motor

Shutter motor and drive chain

Control Electronics

One of Paul's Amazing Photos

More Information

For more information on Paul's setup, you can find his website here: http://upsidedownastronomer.wordpress.com/ [http://upsidedownastronomer.wordpress.com/]

It goes into a lot of detail about the components of the setup, and how the dome was made.

We also highly recommend following Paul on Google+ [https://plus.google.com/u/0/b/116759659677519116739/+PaulStewartNZ/posts] where you will find a constant stream of amazing photos.