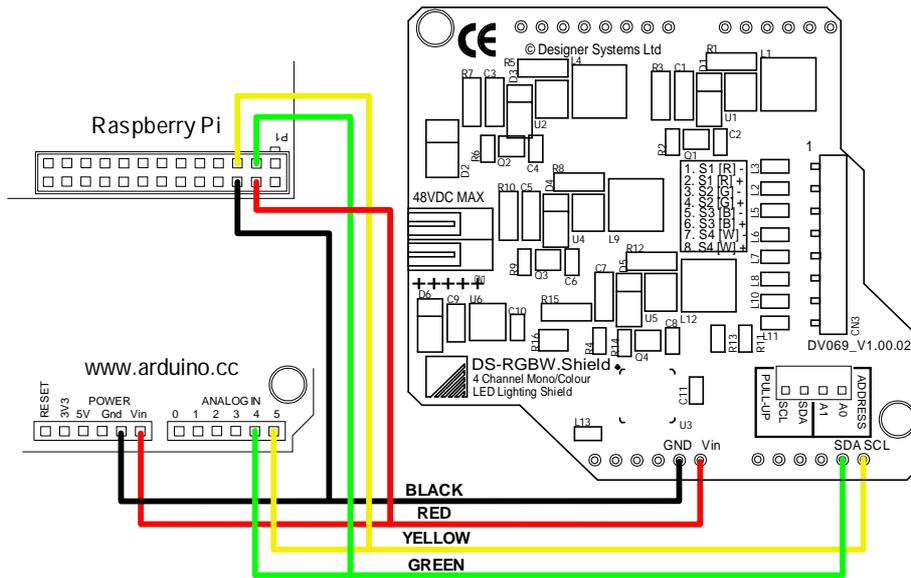# DS-RGBW.S quick start guide

Connection:

The DS-RGBW.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the RGBW.S board [not supplied]. The wiring diagram below shows the connections that need to be made:


Arduino demo software application:

After downloading and installing the open-source Arduino environment from http://arduino.cc/hu/Main/Software also download the DS-RGBW.S application sketch from http://www.designersystems.co.uk/download/RGBW.S_Disk.zip and unzip and load this sketch file into the Arduino environment.
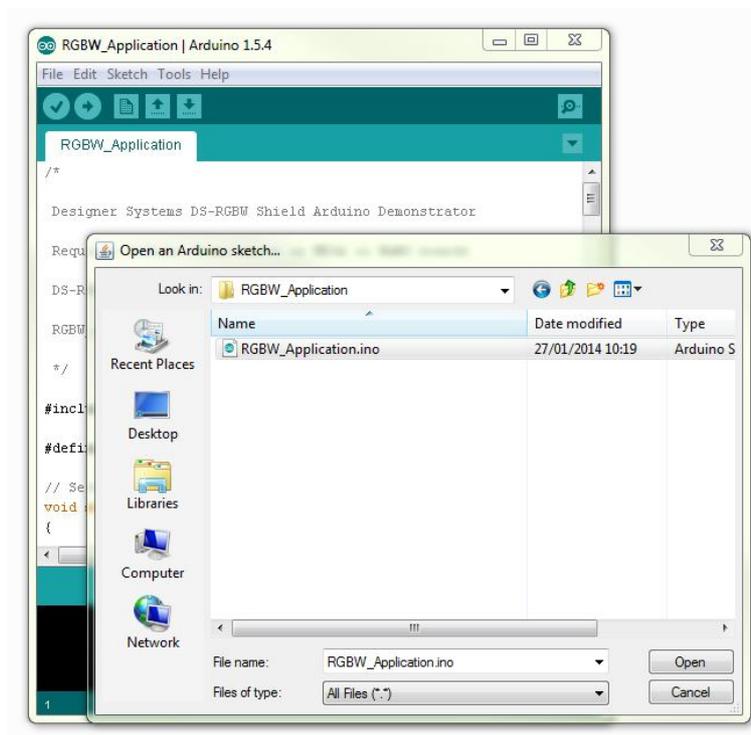
Connect the Arduino board to the computer using a USB cable and power up the board with an external power adaptor. Within the Arduino environment click on 'File' then 'Upload'. (Note: This assumes that you have already selected the Arduino board and COM port using 'Tools', 'Board' or 'Port')
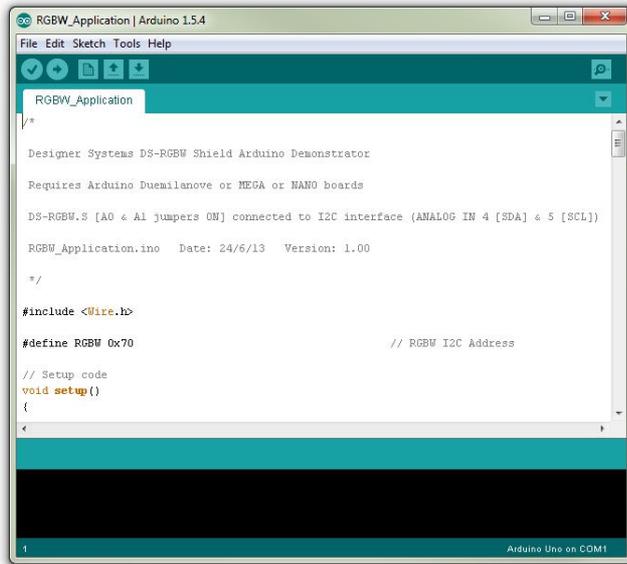
When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the RGB, HSB or RAW registers, display other colours or access the aquarium lighting control and time registers within the RGBW.S. Standard routines are provided within the demo program that can be used in your own programs.

Raspberry-Pi demo software application:

After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from http://www.raspberrypi.org/downloads start the Raspberry-Pi, log in (default username 'pi', password 'raspberry') and start the desktop using the command 'startx'.
Click on the start menu icon in the bottom left-hand corner of the desktop and select 'Internet' and 'NetSurf Web Browser'.
Navigate to http://www.designersystems.co.uk/download/RGBW.S_Disk.zip and confirm that you want to save this file.
Close the NetSurf browser and click on the start menu icon, 'Accessories' and 'File Manager', you should then see the RGBW.S_Disk.zip file listed under the /home/pi directory as below:
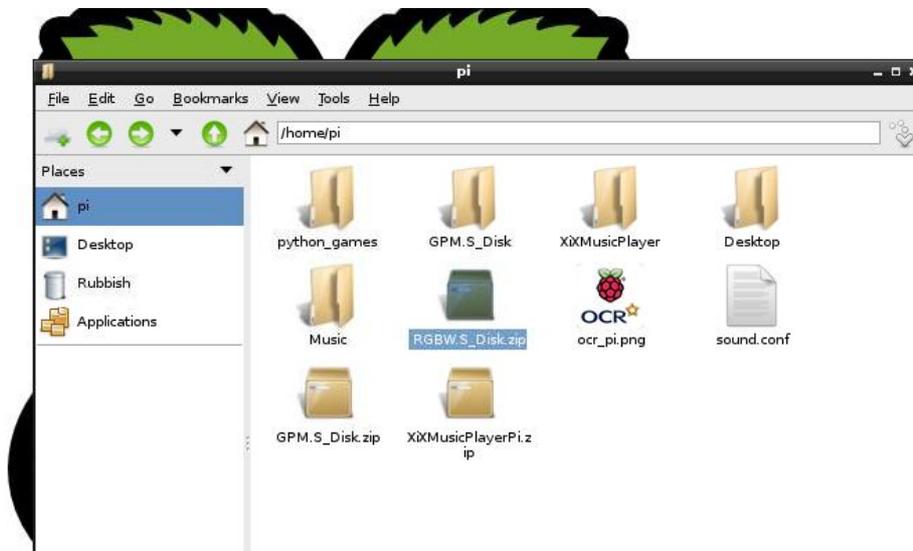
Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:
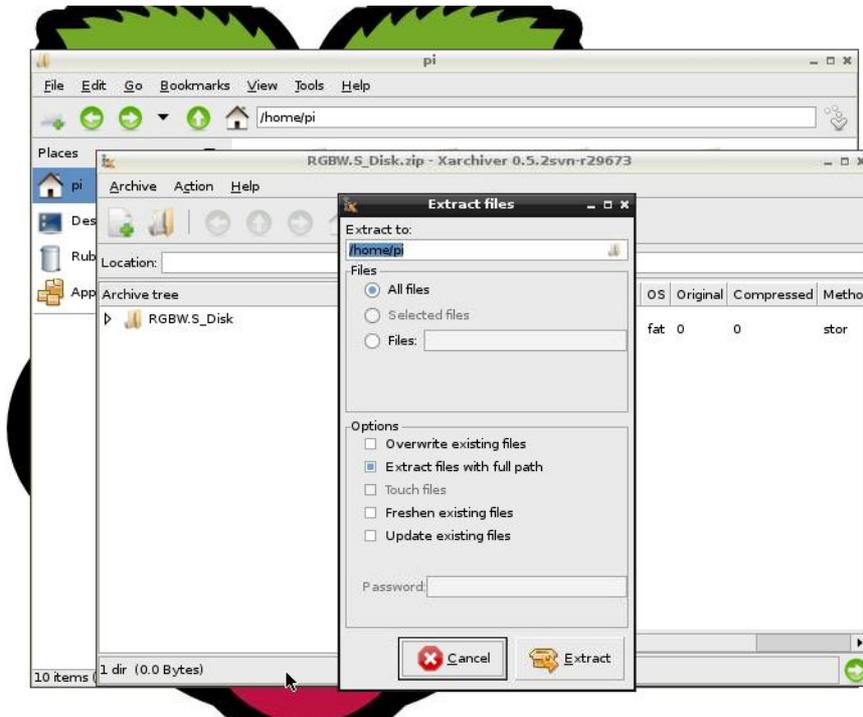
Close the XArchiver window and file manager window should now contain a directory called 'RGBW.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'RGBW.S R-PI setup.txt' file and double click to open this file so that it can be read.

You now need to start the LX Terminal window to run the demo program, so close the file manager window and double click the 'LXTerminal' icon on the desktop. Type in 'cd /home/pi/RGBW.S_Disk/R-PI' and then 'ls' to list the files. You should now have a desktop that looks similar to the below:
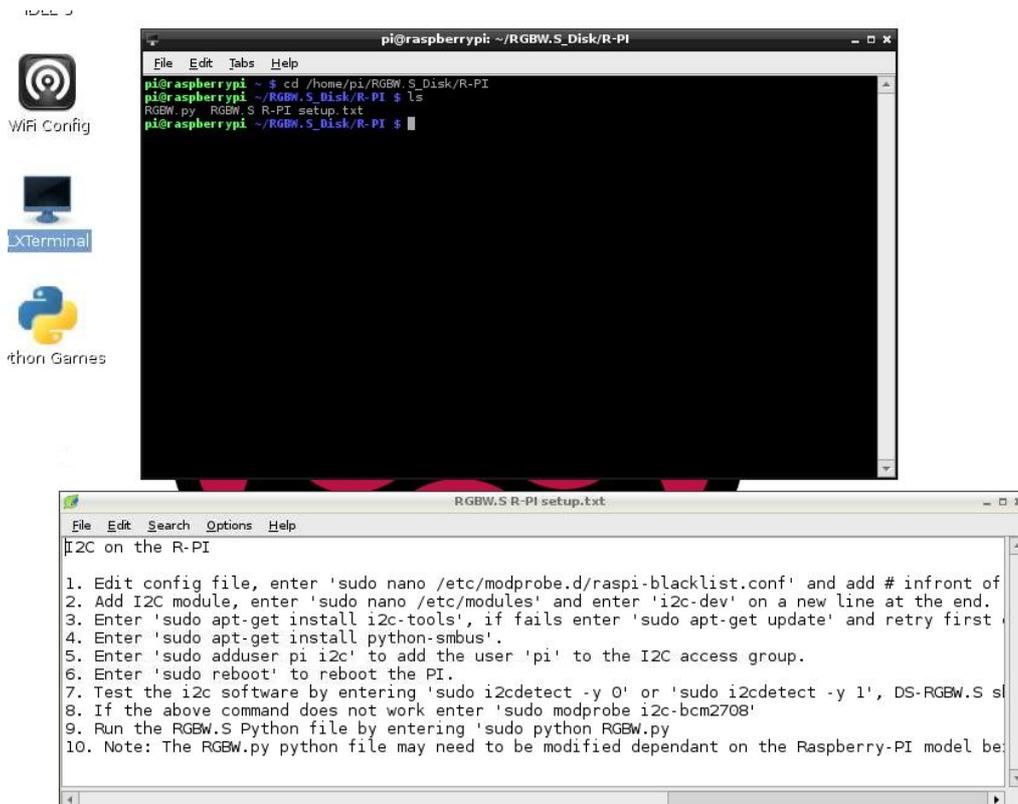
If you have not run any I^{2}C connected devices on your Raspberry-Pi before then follow the procedure listed in the RGBW.S R-PI setup.txt file. A reboot will be required to bring you back to desktop.

Restart the LXTerminal, if required, and enter 'sudo python RGBW.py' to start the DS-RGBW.S application, you should then see the lamp on the RGBW.S start its demonstration.

The RGBW.py program can be customised to display other colours using the RGB, HSB or RAW registers or access the aquarium lighting control and time registers by editing the RGBW.py file using the command line 'sudo nano RGBW.py'. Standard routines are provided within the demo program that can be used in your own programs.

More information:

For a PDF of this quick start guide or a full technical datasheet please visit:
http://www.designersystems.co.uk/RGBW.S_info.htm

WEEE Consumer Notice
This product is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on Waste of Electrical and Electronic Equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal/public waste. Please utilise your local WEEE collection facilities in the disposition and otherwise observe all applicable requirements. For further information on the requirements regarding the disposition of this product in other languages please visit www.designersystems.co.uk

RoHS Compliance
This product complies with Directive 2002/95/EC of the European Parliament and the Council of the European Union on the Restriction of Hazardous Substances (RoHS) which prohibits the use of various heavy metals (lead, mercury, cadmium, and hexavalent chromium), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

Eye Safety
The RGBW LED's are very bright. DO NOT look directly at the LED's when they are active. Turn the RGBW lamp away from you, or others, when operating or use a diffuser to prevent possible eye damage.

Declaration of Conformity   Copyright © 1997-2014 Designer Systems Limited
Apparatus name / model number   DS-RGBW.S   **Manufacturer** Designer Systems, 11 Castle Street, Truro, Cornwall
Conformity via   Generic Standard EN50081-1   TR1 3AF, United Kingdom
                          Generic Standard EN50082-1   **Description of apparatus** Robotic interface peripheral
Conformity criteria For use only within commercial, residential and light industrial applications
We certify that the apparatus identified above conforms to the requirements of Council Directive 2004/108/EC & 2006/95/EC

Signed.   **Date** 20/6/13

Having made this declaration the CE mark is affixed to this product, its packaging, manual or warranty.

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