The Raspberry Pi
and the Arduino
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Raspberry PI camera

Raspberry Pi Camera Board (5MP, 1080p, v1.3)

£19.99
Ex Tax £16.66

https://www.modmypi.com/raspberry-pi-camera-board?filter_name=picamera

Raspberry Picamera

Python library with almost full control of all aspects of the camera - open source

http://picamera.readthedocs.org/en/release-1.8/

Brief technical sheet
http://www.ovt.com/download_document.php?type=sensor&sensorid=66

Full camera specifications
http://www.seeedstudio.com/wiki/images/3/3c/Ov5647_full.pdf

RioRand Stepper Motor 5V DC 4-Phase 5-Wire with ULN2003 Driver Board

Driver Board

by RioRand

★★★★½ ▾   20 customer reviews

RRP: ~~£5.99~~
Price: **£1.38**
You Save: £4.61 (77%)

In stock.

Dispatched from and sold by Hielec(Ship from China).

7 new from £1.38

- This is 5 Line 4 phase can be driven by ordinary ULN2003 chip can also be connected in phase 2 development board used for supporting the use of a direct plug and easy to use stepper motor used in the development board
- ULN2003 Darlington using high-power stepper motor driver chip A, B, C, D four-phase LED indicates the status of the stepper motor work Stepper motor with a standard interface, when used directly pluggable
- 1x 28YBJ-48 DC 5V 4 Phase Motor
- 1x Driver Board ULN2003

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- ☑ Ultrasonic Module HC-SR04 Distance Sensor For Arduino £1.18

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Welcome to RepRap.org

RepRap is humanity's first general-purpose self-replicating manufacturing machine.

RepRap takes the form of a free desktop 3D printer capable of printing plastic objects. Since many parts of RepRap are made from plastic and RepRap prints those parts, RepRap self-replicates by making a kit of itself - a kit that anyone can assemble given time and materials. It also means that - if you've got a RepRap - you can print lots of useful stuff, and you can print another RepRap for a friend...

RepRap is about making self-replicating machines, and making them freely available for the benefit of everyone. We are using 3D printing to do this, but if you have other technologies that can copy themselves and that can be made freely available to all, then this is the place for you too.

Reprap.org is a community project, which means you are welcome to edit most pages on this site, or better yet, create new pages of your own. Our community portal and New Development pages have more information on how to get involved. Use the links below and on the left to explore the site contents. You'll find some content translated into other languages.

RepRap was the first of the low-cost 3D printers, and the RepRap Project started the open-source 3D printer revolution. It has become the most widely-used 3D printer among the global members of the Maker Community.

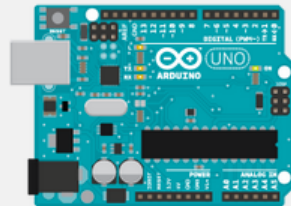# The Arduino

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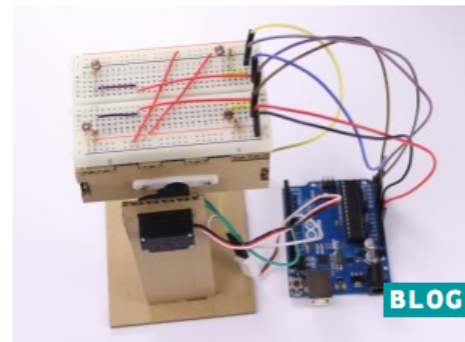
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Arduino

COMMUNITY

The community of Arduino enthusiasts is vast, and includes region specific groups and special interest groups.

The official multi-language Forum is the place to start with questions of all kinds. Check out the Playground for a collection of Arduino knowledge, tutorials, and instructions provided directly by Arduino users.
For information on the development of Arduino, see the Arduino project on GitHub.

LOGGING INTO YOUR RASPBERRY PI, RUNNING THE PICAMERA FROM A PYTHON PROGRAM AND EDITING THE SETTINGS AND PROGRAM.

1) Once your Raspberry Pi has completed the boot process, a login prompt will appear. The default login for Raspbian is **username: pi** with the **password: raspberry**. Note you will not see any writing appear when you type the password. This is a security feature in Linux.
2) After you have successfully logged in, you will see the command line prompt pi@raspberrypi~$
3) To load the graphical user interface (GUI), type **startx** and press Enter on your keyboard.
4) Once the GUI is running - double click on the terminal program to run it.
5) In the terminal window at the prompt (unix command line prompt) type: **cd microscoPi** (to change to the microscoPi director).
6) To run the microscoPi program (written in python using the picamera and pygame libraries for capturing images in a GUI). at the prompt type: **python microscoPi.py**
7) Once the program runs type **p** to get a preview window. Press again to remove the window (toggle). Press **c** to capture an individual image as image.jpg. type **t** to start time lapse with a default interval of 5 seconds.
8) Try altering some settings in the settings.py programme. And ps3.py contains the settings for controlling the RSPI from a PS3 controller.
9) To edit the files use the editor nano, that understands python syntax. e.g. type **nano settings.py**

For help: ilan.davis@bioch.ox.ac.uk / darragh.ennis@bioch.ox.ac.uk / douglas.russell@bioch.ox.ac.uk / ian.dobbie@bioch.ox.ac.uk

Thanks