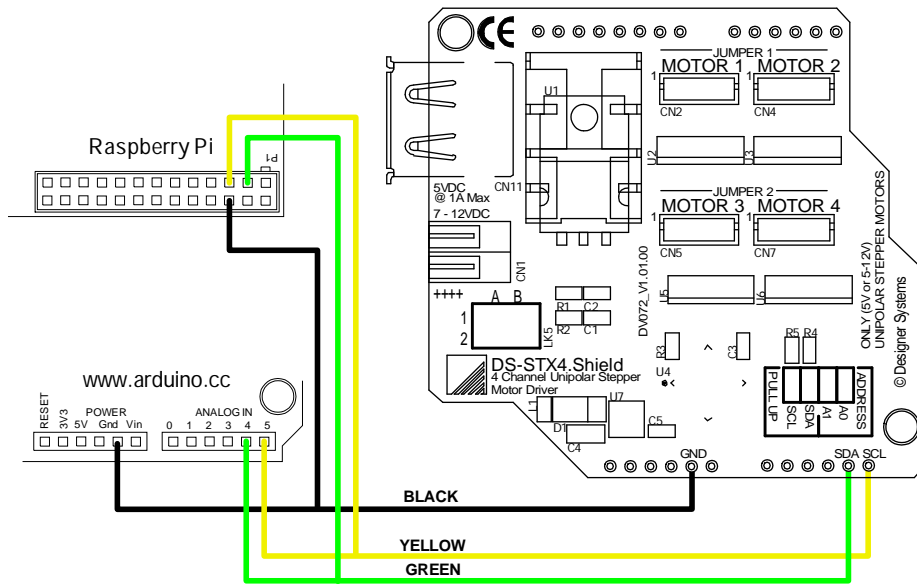


DS-STX4.S quick start guide

Connection:

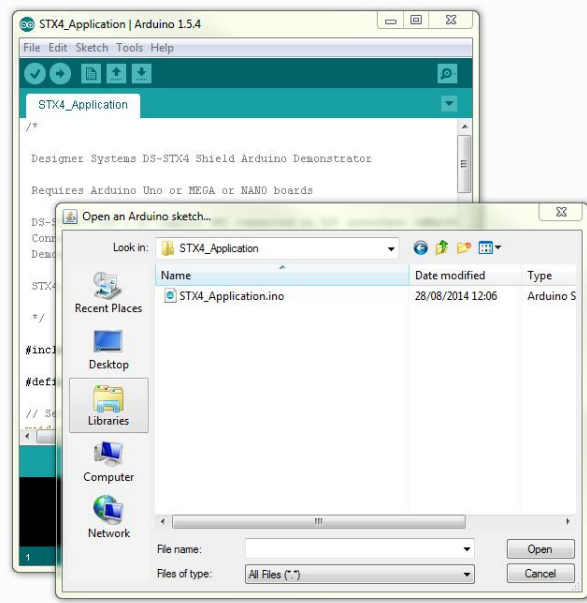
The DS-STX4.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the STX4.S board [not supplied]. The wiring diagram below shows the connections that need to be made:



Connect a unipolar stepper motor (ie. DS-STMOT1) to the MOTOR 1 output, ensuring that the motor connection is pinned, from pin 1, /A, /B, A, B & V+. Ensure that the jumper links 1 & 2 are on position A. Connect a battery or power supply of 5 to 12Volts (depending on motor voltage) to the stepper power terminal block (ENSURE THAT POSITIVE ON THE BATTERY/POWER CONNECTS TO THE TERMINAL MARKED WITH ++++).

Arduino demo software application:

After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.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')



```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
-----
1 Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. 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:

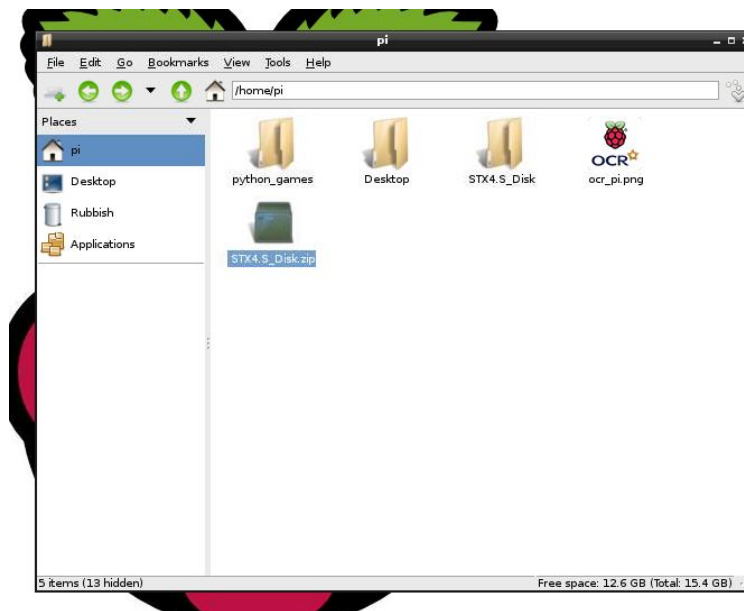
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

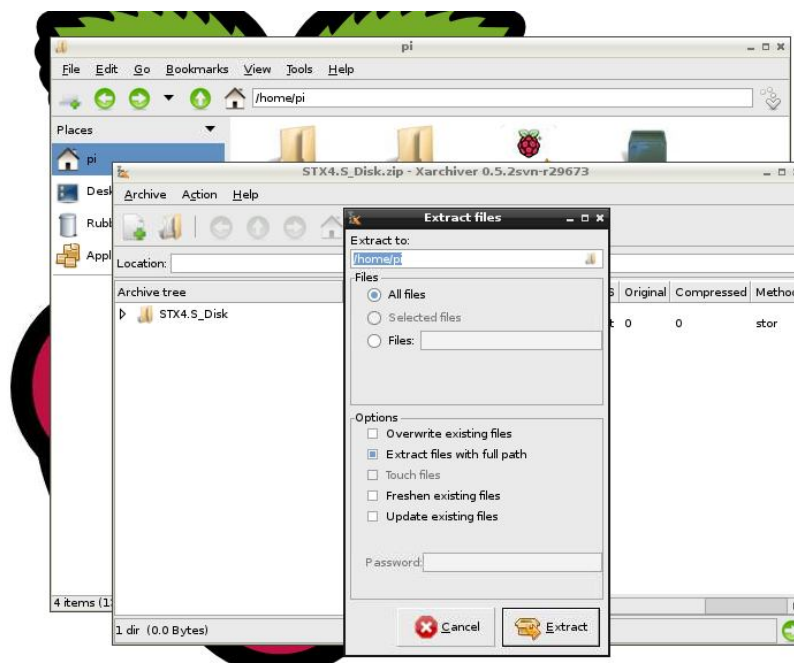
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

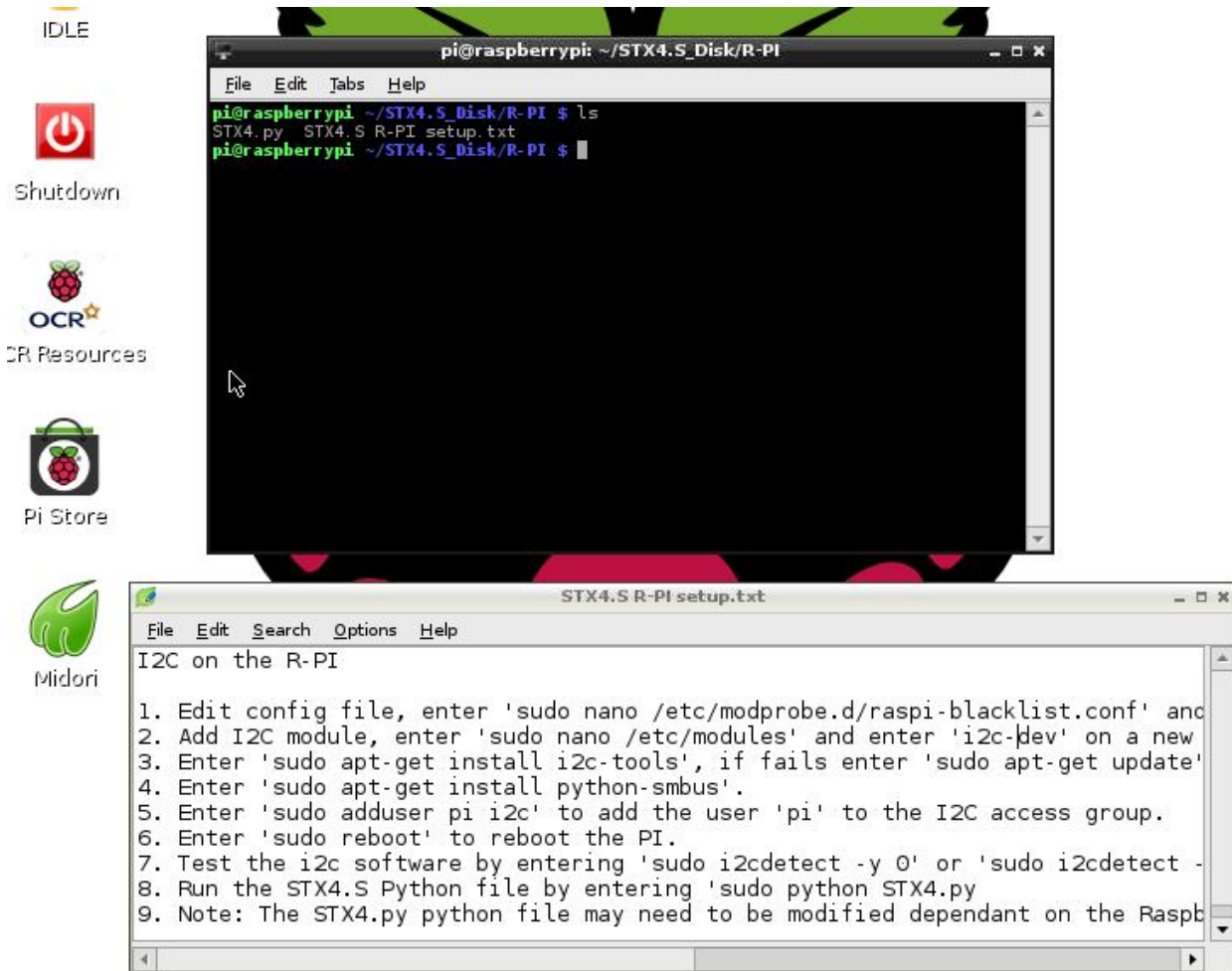


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

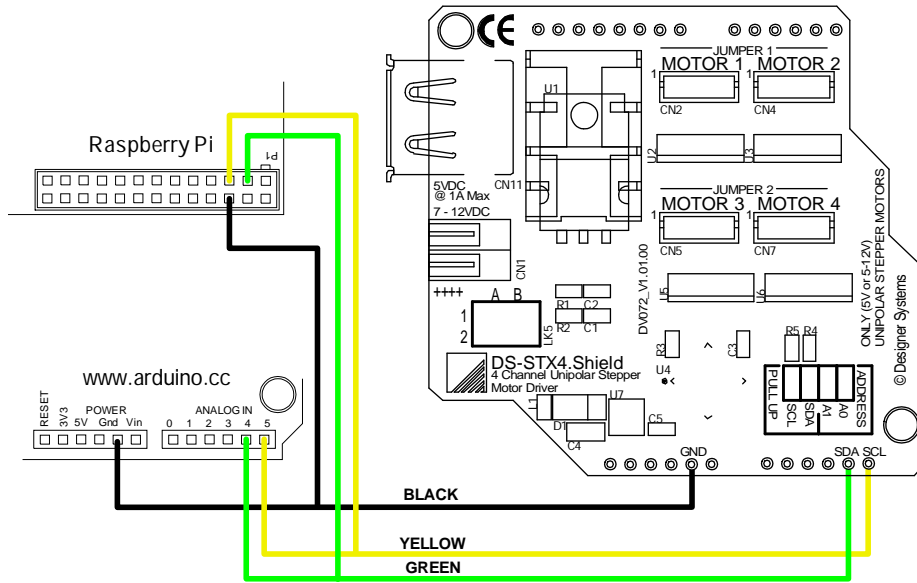
More information:

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DS-STX4.S quick start guide

Connection:

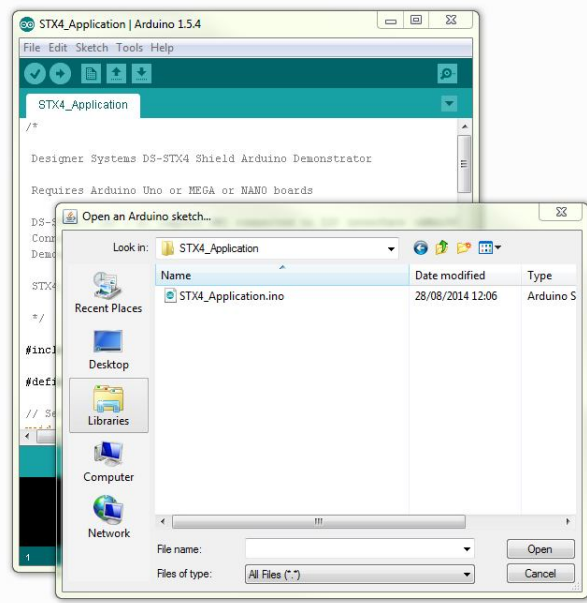
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```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
// -----
1
Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

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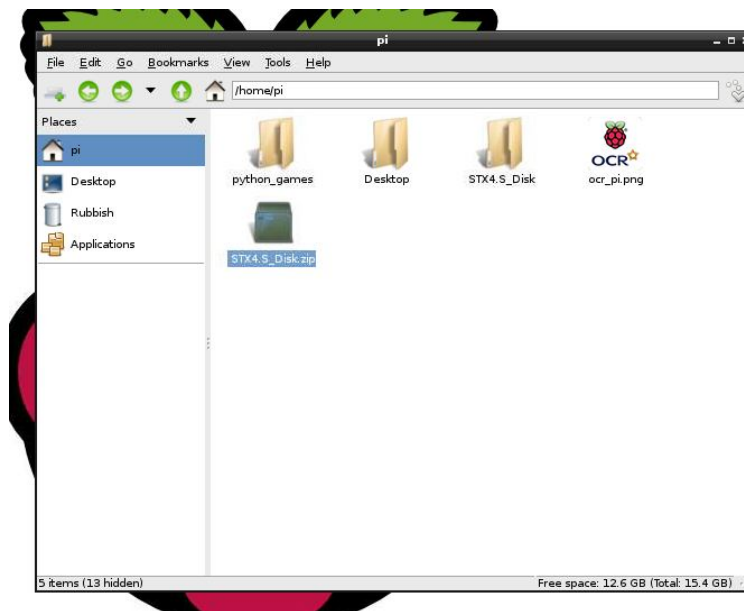
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

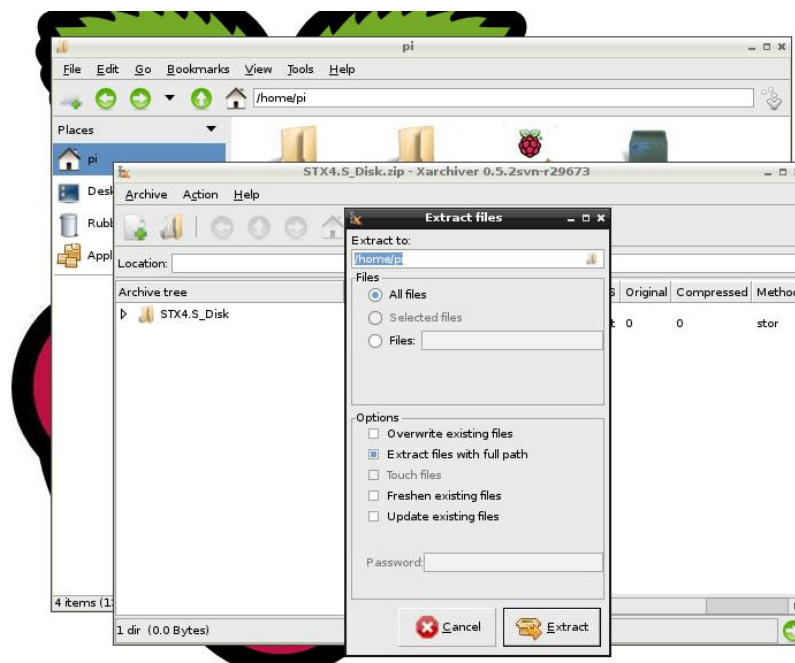
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

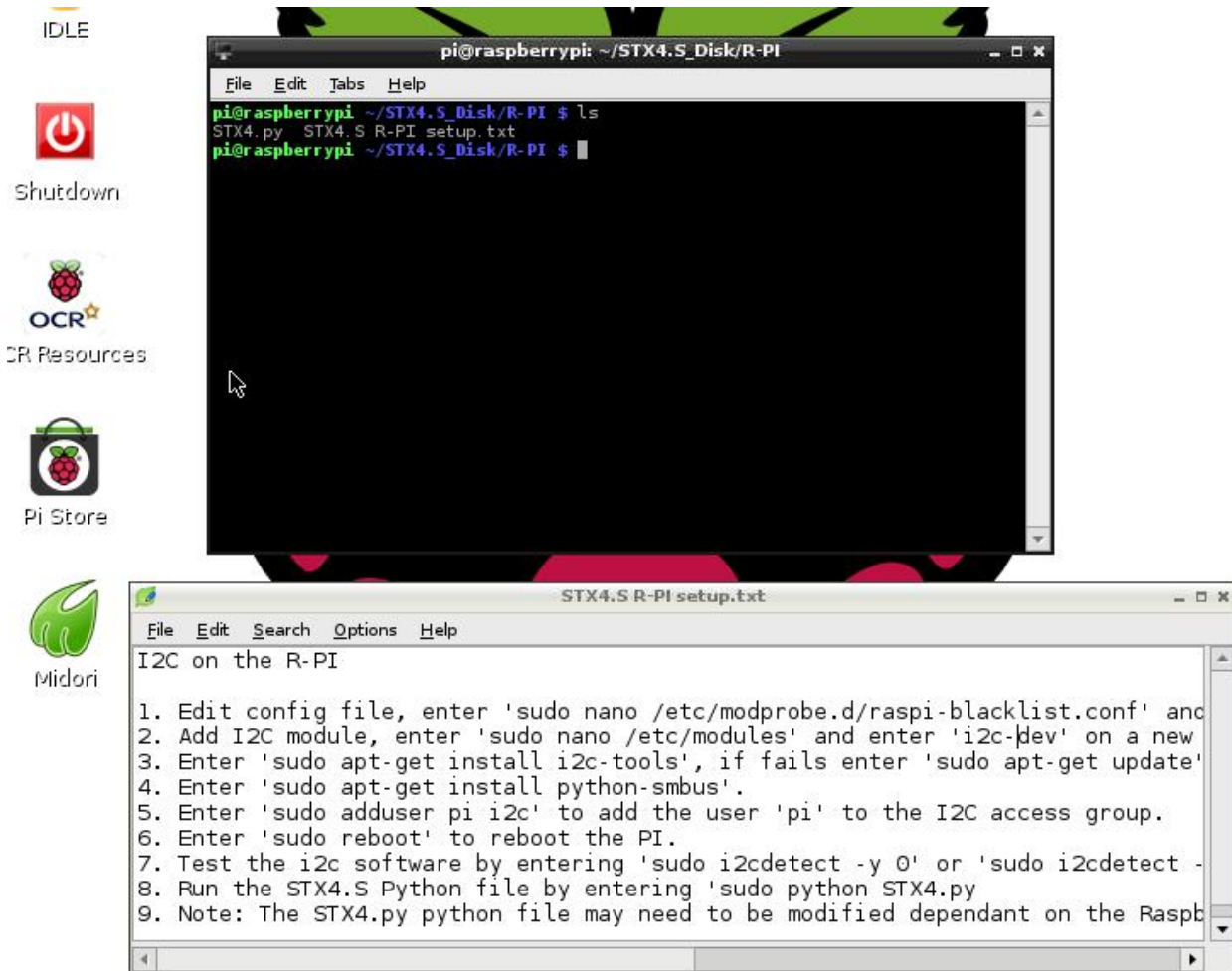


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

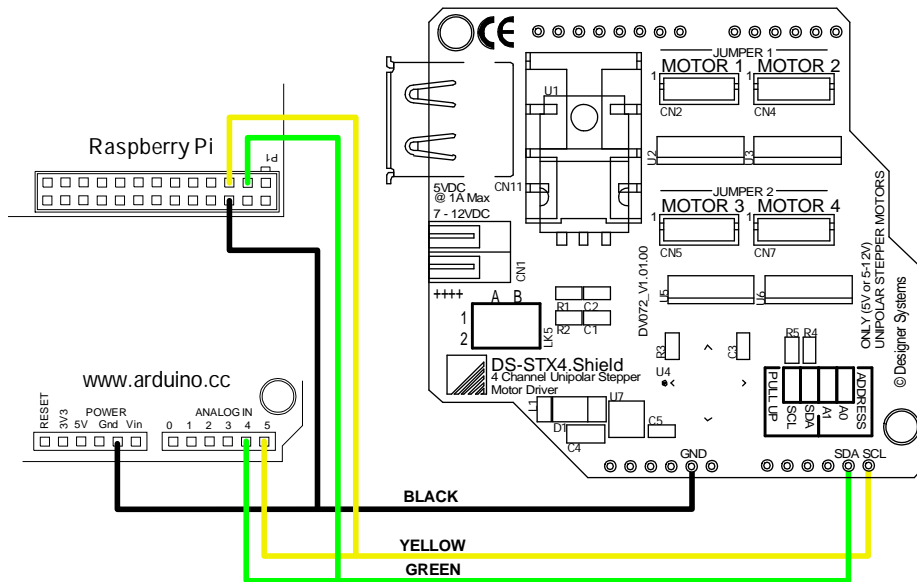
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DS-STX4.S quick start guide

Connection:

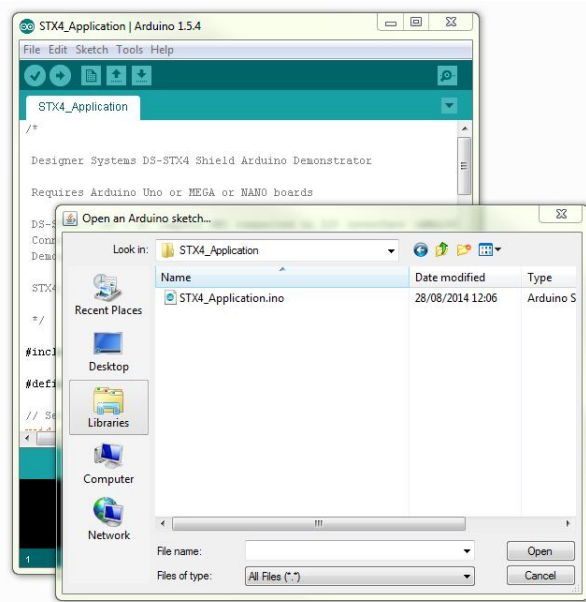
The DS-STX4.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the STX4.S board [not supplied]. The wiring diagram below shows the connections that need to be made:



Connect a unipolar stepper motor (ie. DS-STMOT1) to the MOTOR 1 output, ensuring that the motor connection is pinned, from pin 1, /A, /B, A, B & V+. Ensure that the jumper links 1 & 2 are on position A. Connect a battery or power supply of 5 to 12Volts (depending on motor voltage) to the stepper power terminal block (ENSURE THAT POSITIVE ON THE BATTERY/POWER CONNECTS TO THE TERMINAL MARKED WITH ++++).

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After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.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')



```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
-----
1 Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

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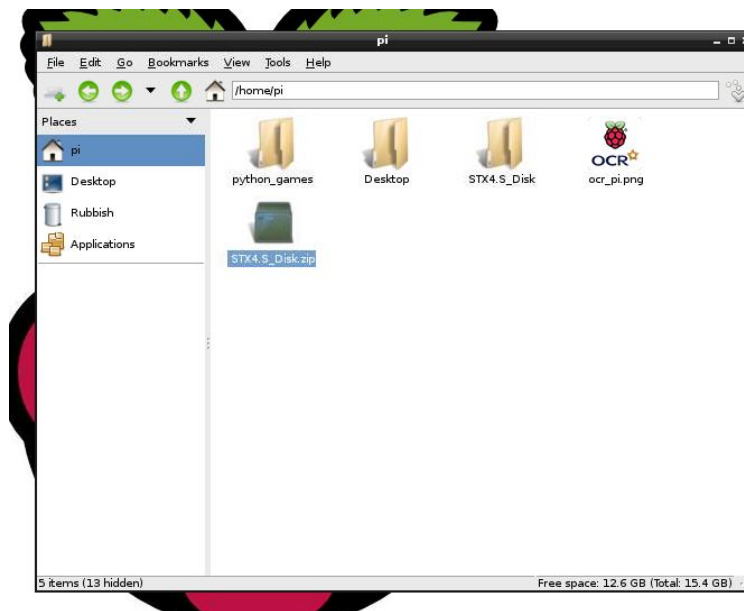
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

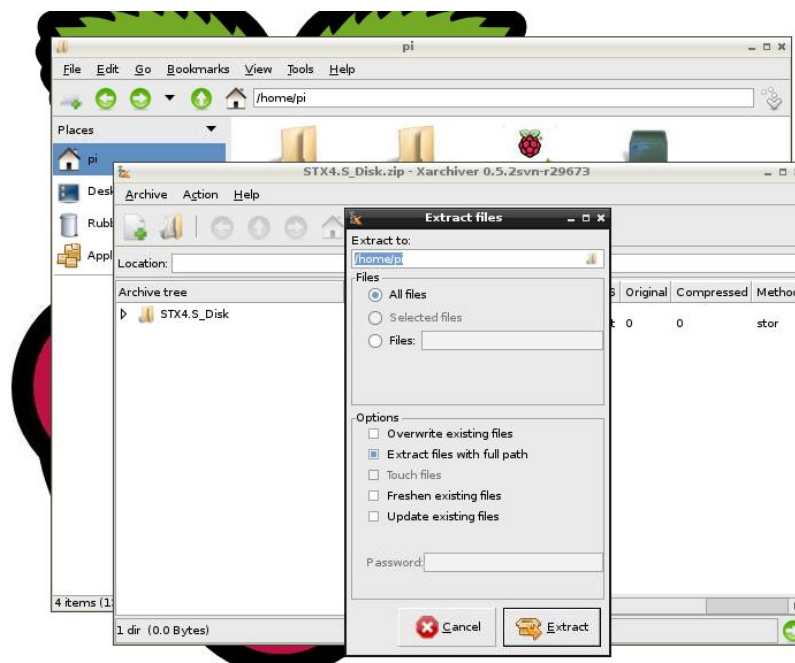
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

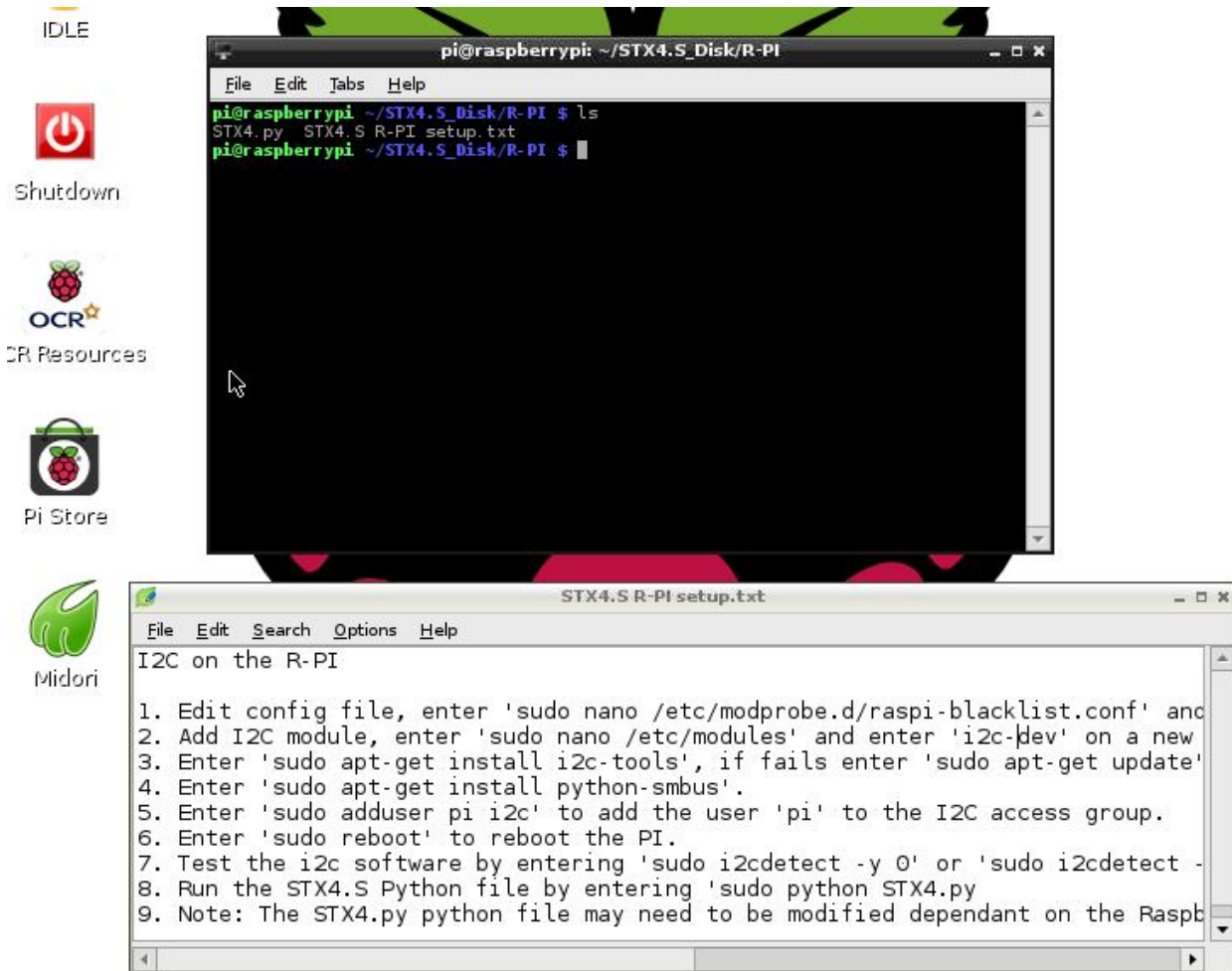


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

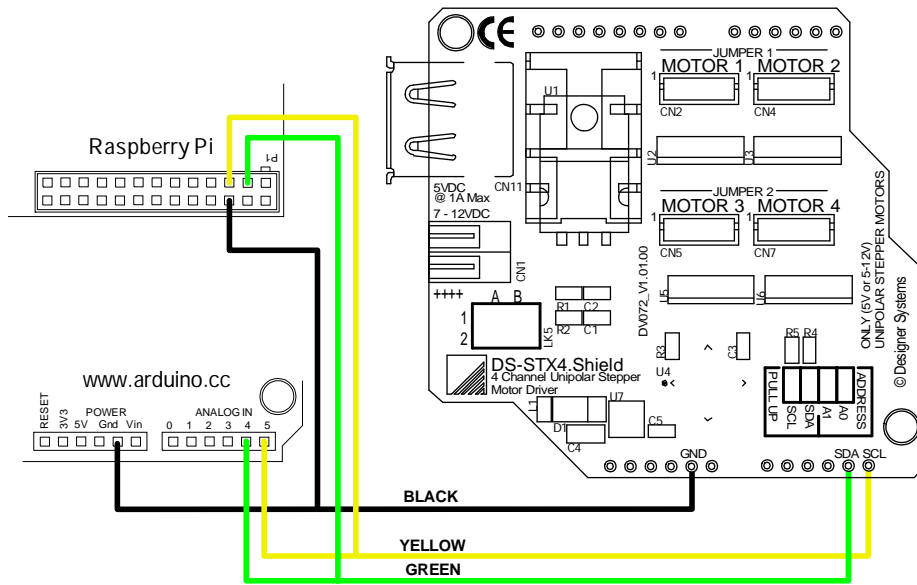
More information:

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DS-STX4.S quick start guide

Connection:

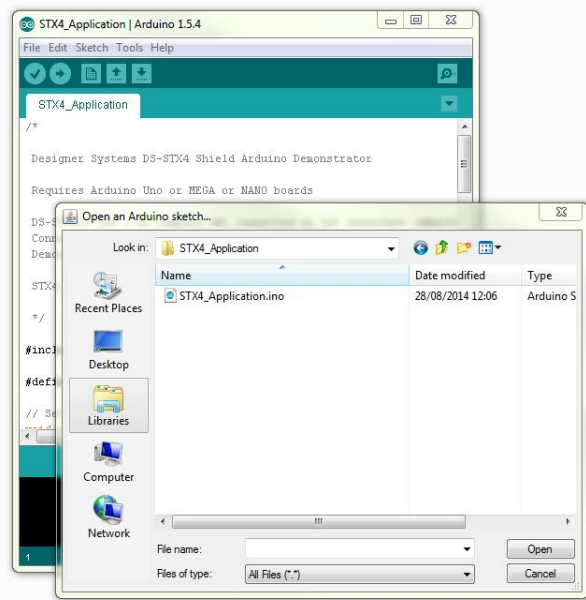
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When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

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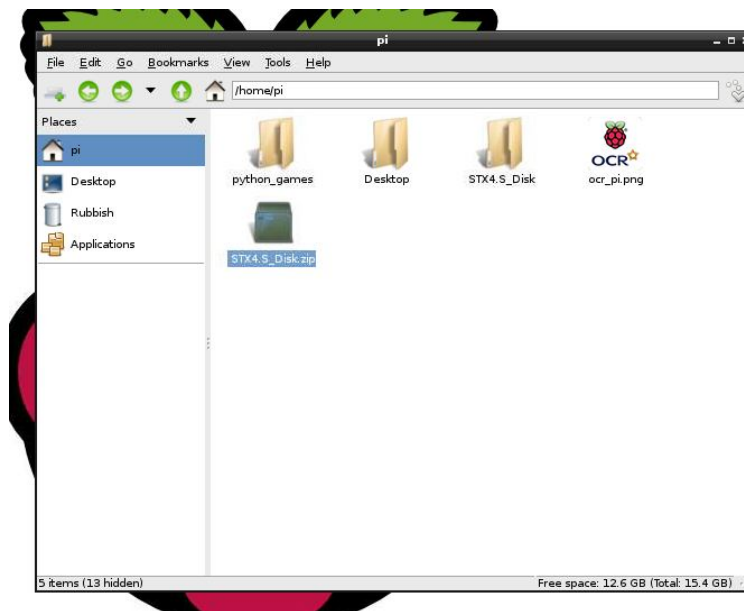
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

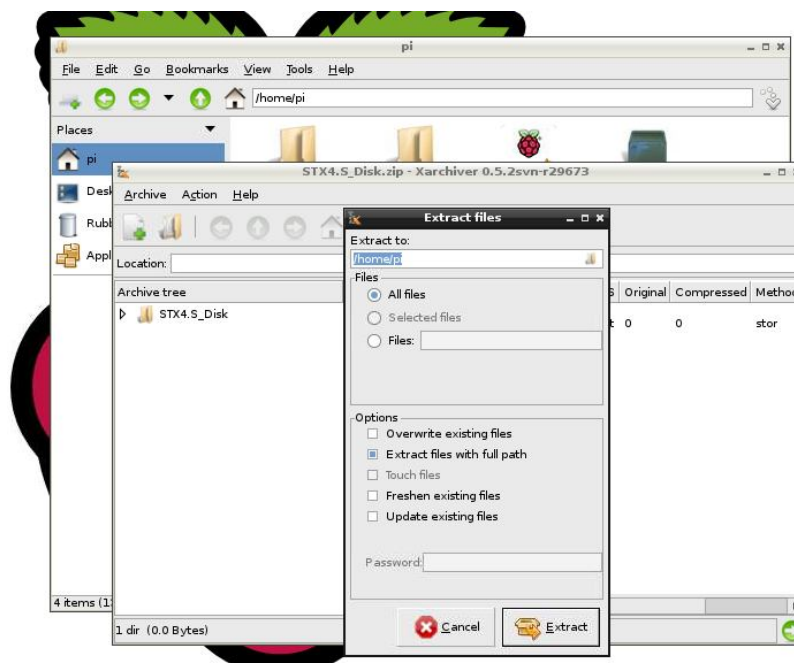
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Click on the start menu icon in the bottom left-hand corner of the desktop and select 'Internet' and 'NetSurf Web Browser'.

Navigate to http://www.designersystems.co.uk/download/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

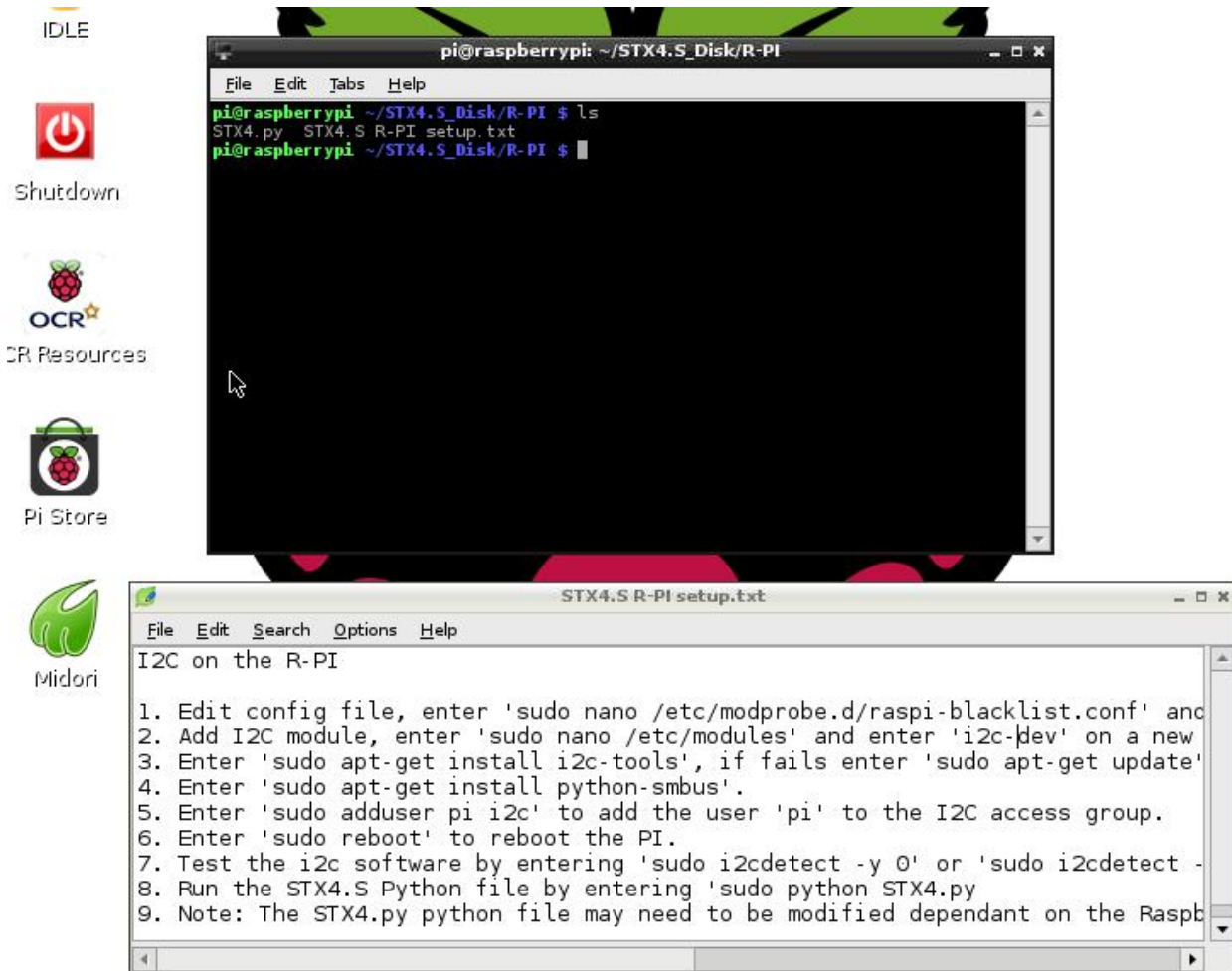


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You now need to start the LX Terminal window to run the demo program, so close the file manager window and double click the 'LXTerminal' icon on the desktop. Type in 'cd /home/pi/STX4.S_Disk/R-PI' and then 'ls' to list the files. You should now have a desktop that looks similar to the below:



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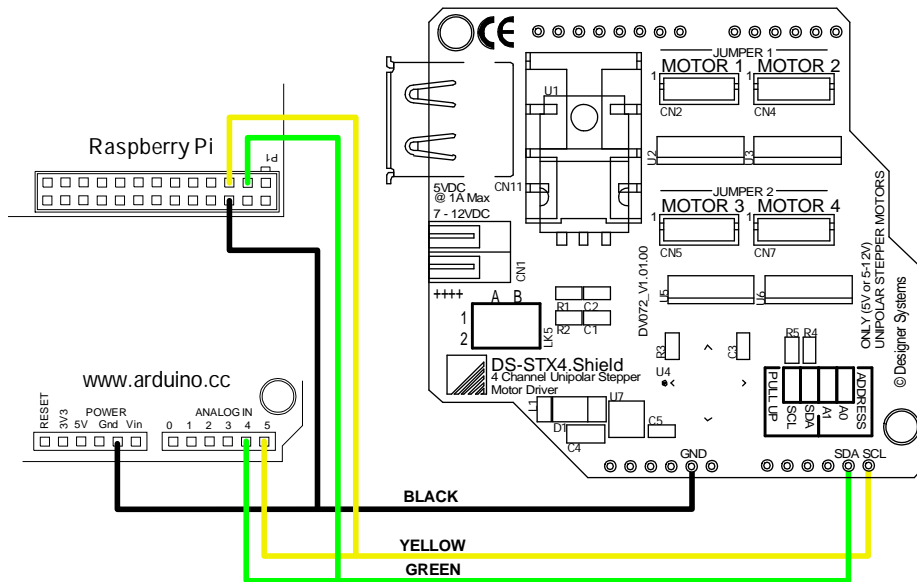
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DS-STX4.S quick start guide

Connection:

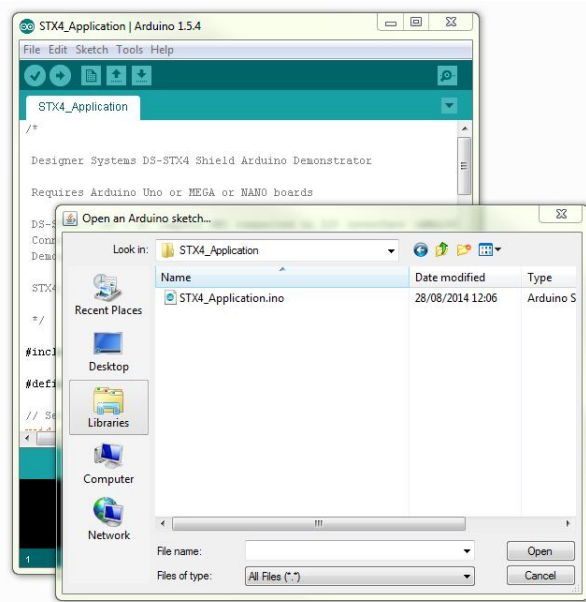
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STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
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  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

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// Setup code
-----
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When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

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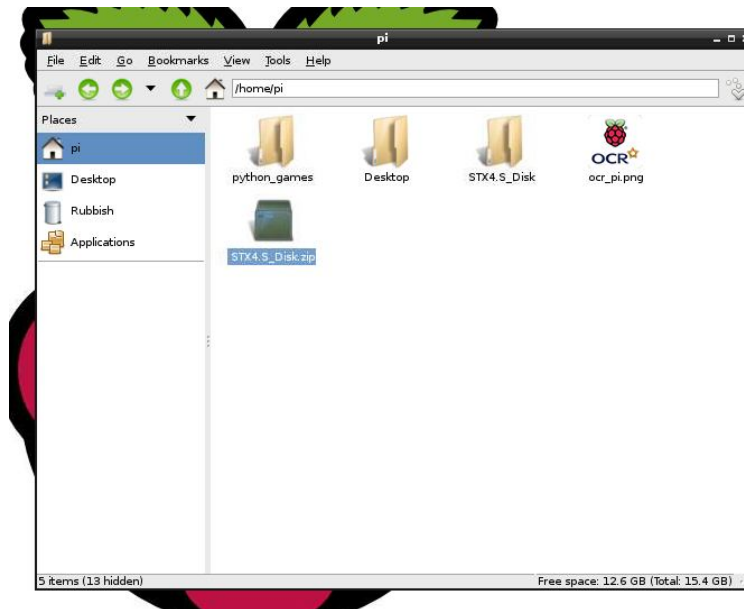
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

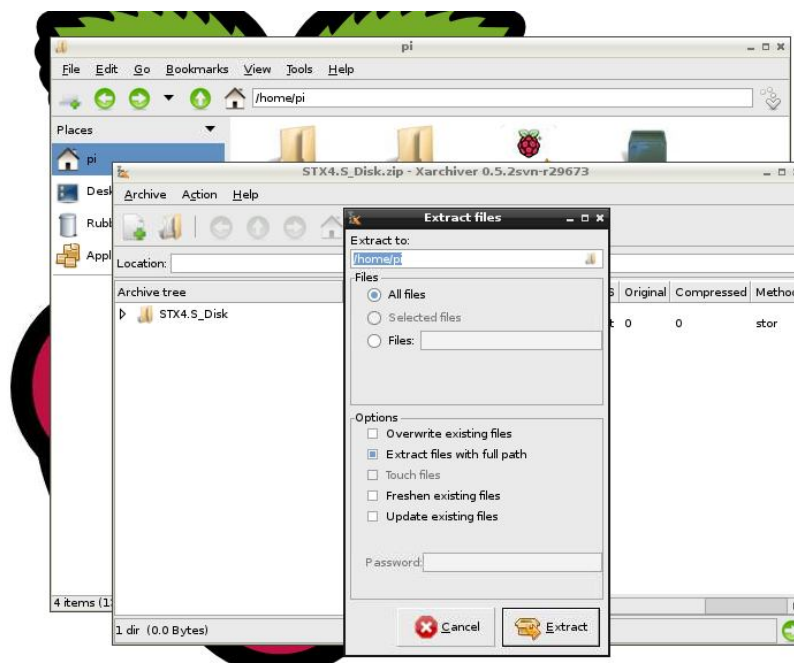
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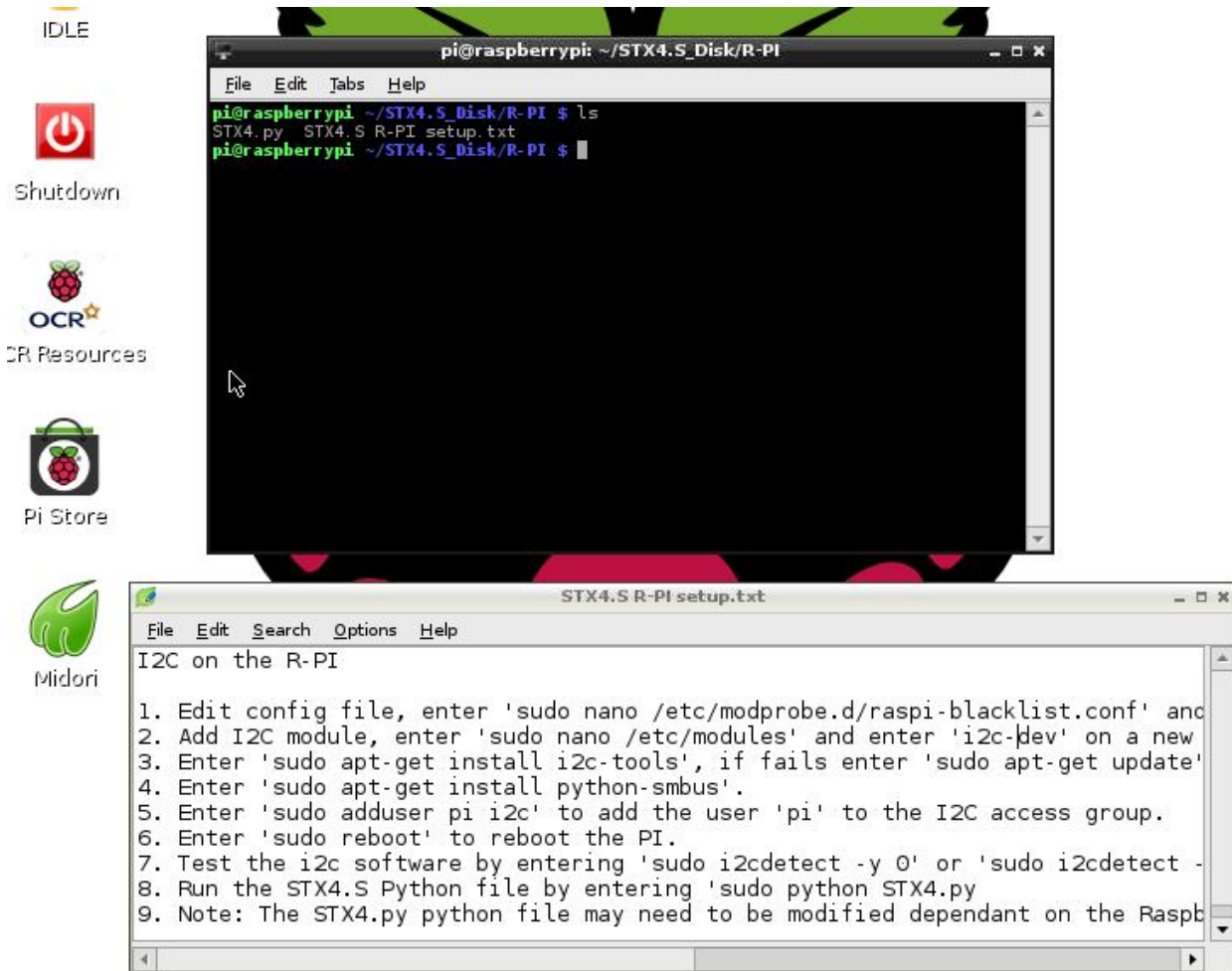


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

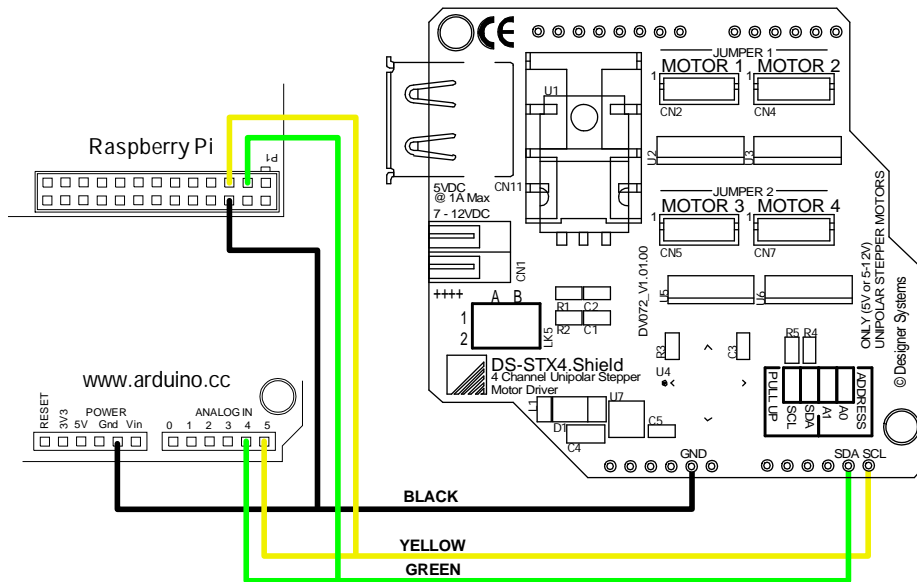
More information:

For a PDF of this quick start guide or a full technical datasheet please visit:
http://www.designersystems.co.uk/STX4.S_info.htm

DS-STX4.S quick start guide

Connection:

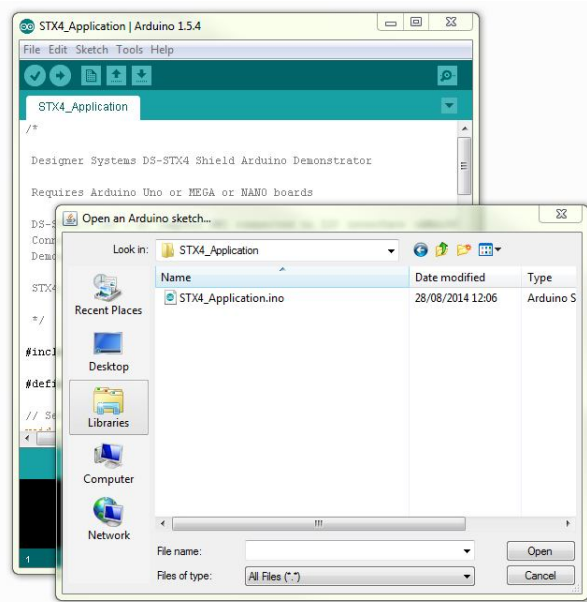
The DS-STX4.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the STX4.S board [not supplied]. The wiring diagram below shows the connections that need to be made:



Connect a unipolar stepper motor (ie. DS-STMOT1) to the MOTOR 1 output, ensuring that the motor connection is pinned, from pin 1, /A, /B, A, B & V+. Ensure that the jumper links 1 & 2 are on position A. Connect a battery or power supply of 5 to 12Volts (depending on motor voltage) to the stepper power terminal block (ENSURE THAT POSITIVE ON THE BATTERY/POWER CONNECTS TO THE TERMINAL MARKED WITH ++++).

Arduino demo software application:

After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.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')



```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
-----
1 Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

More information:

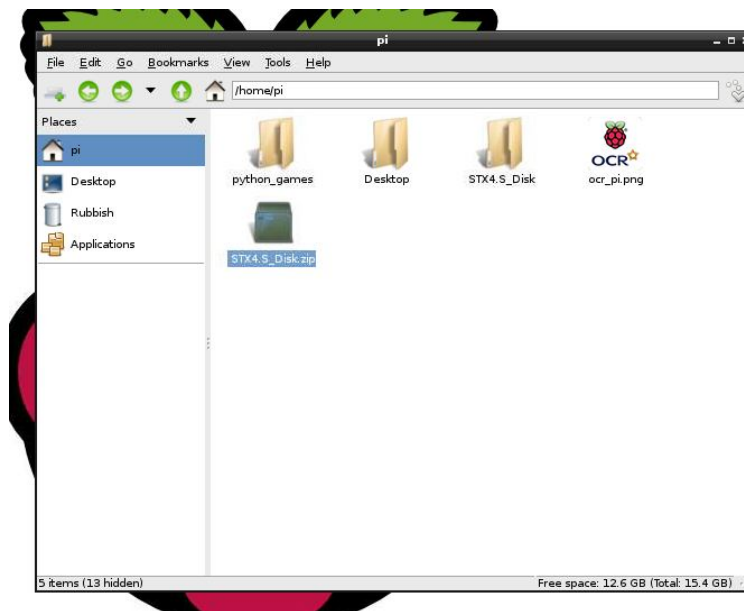
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Raspberry-Pi demo software application:

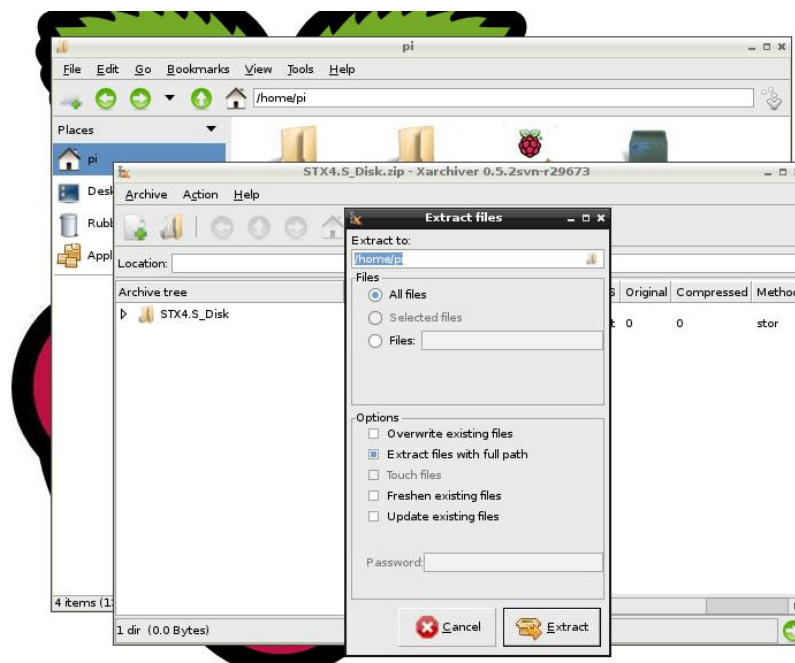
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.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 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

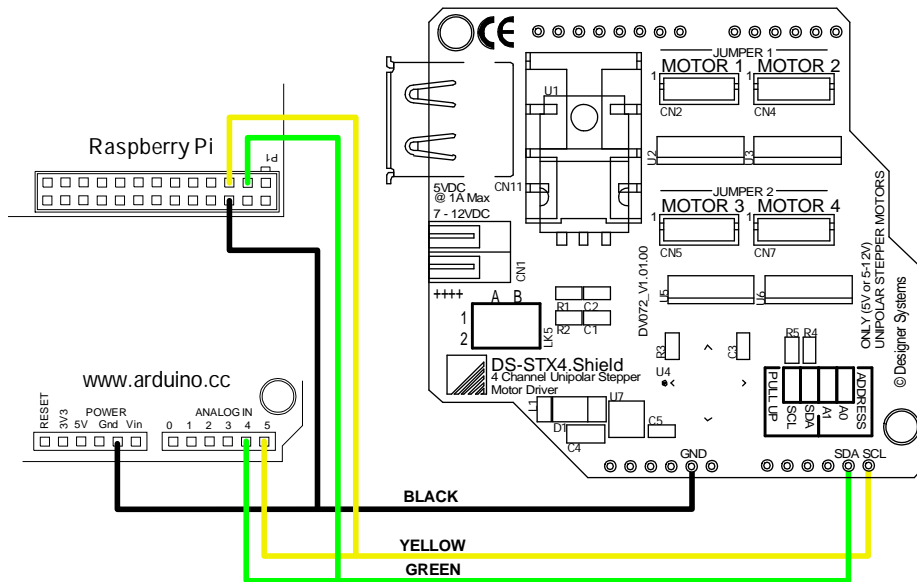
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DS-STX4.S quick start guide

Connection:

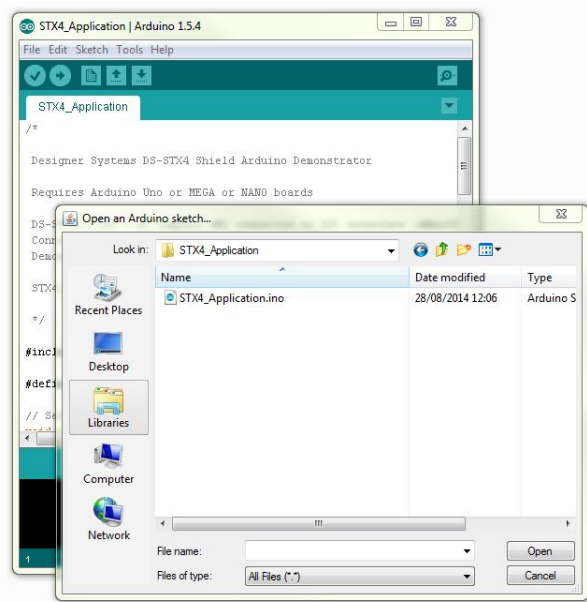
The DS-STX4.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the STX4.S board [not supplied]. The wiring diagram below shows the connections that need to be made:



Connect a unipolar stepper motor (ie. DS-STMOT1) to the MOTOR 1 output, ensuring that the motor connection is pinned, from pin 1, /A, /B, A, B & V+. Ensure that the jumper links 1 & 2 are on position A. Connect a battery or power supply of 5 to 12Volts (depending on motor voltage) to the stepper power terminal block (ENSURE THAT POSITIVE ON THE BATTERY/POWER CONNECTS TO THE TERMINAL MARKED WITH ++++).

Arduino demo software application:

After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.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 other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. 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:

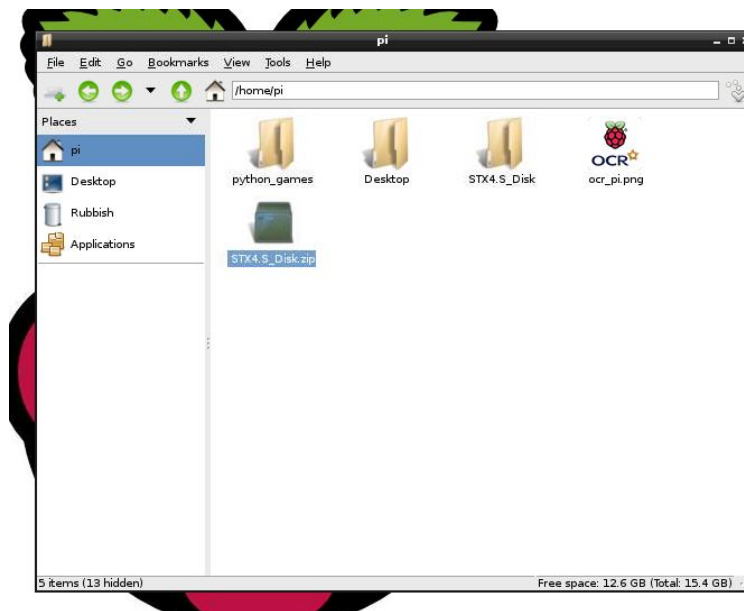
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

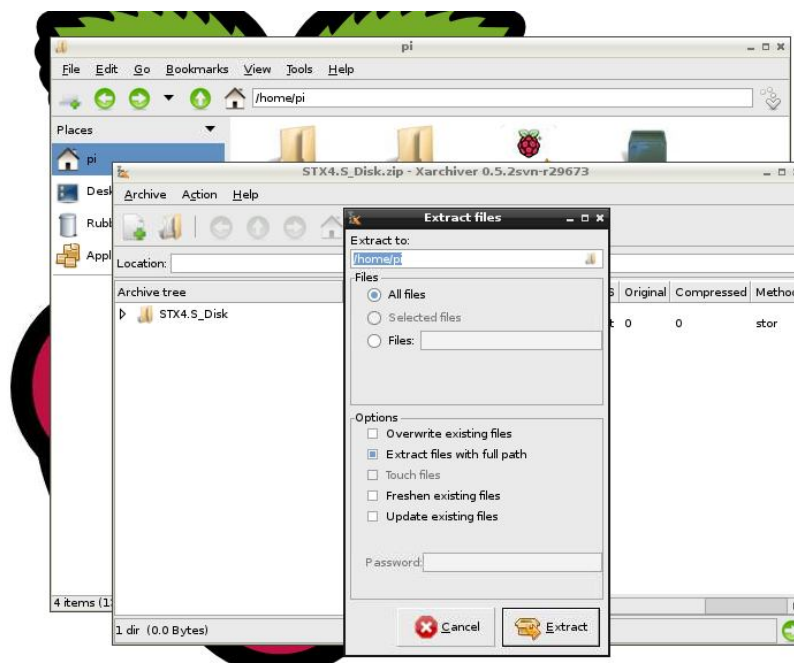
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

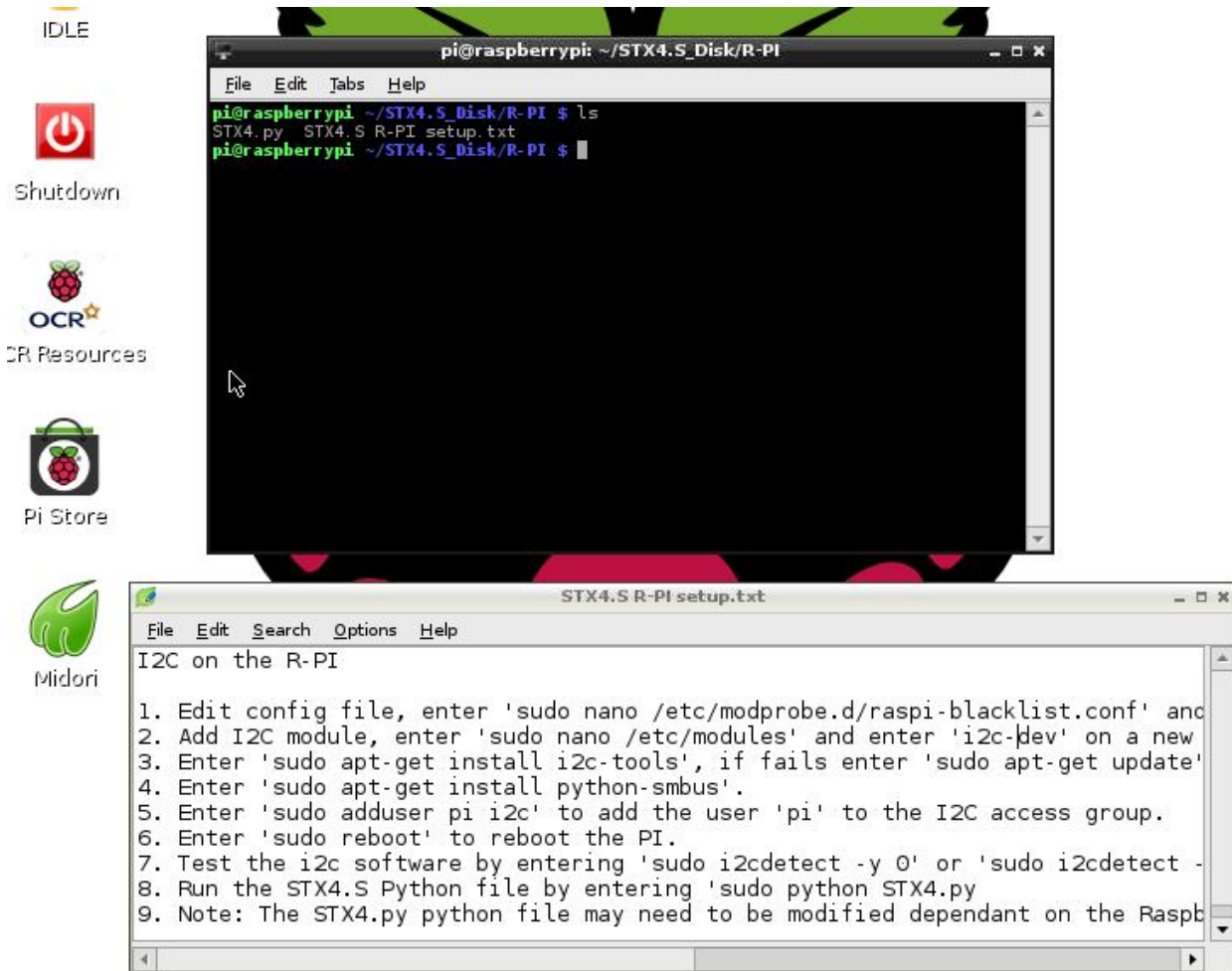


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

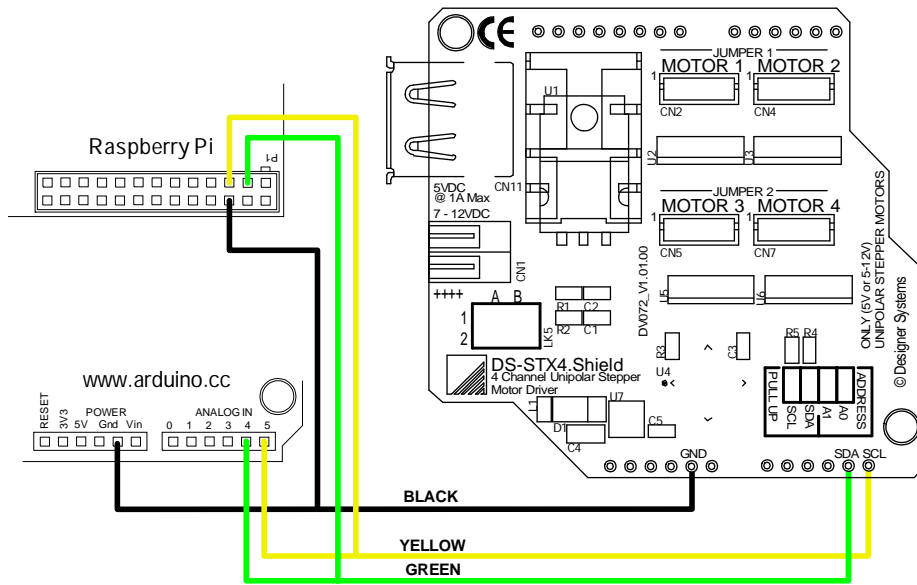
More information:

For a PDF of this quick start guide or a full technical datasheet please visit:
http://www.designersystems.co.uk/STX4.S_info.htm

DS-STX4.S quick start guide

Connection:

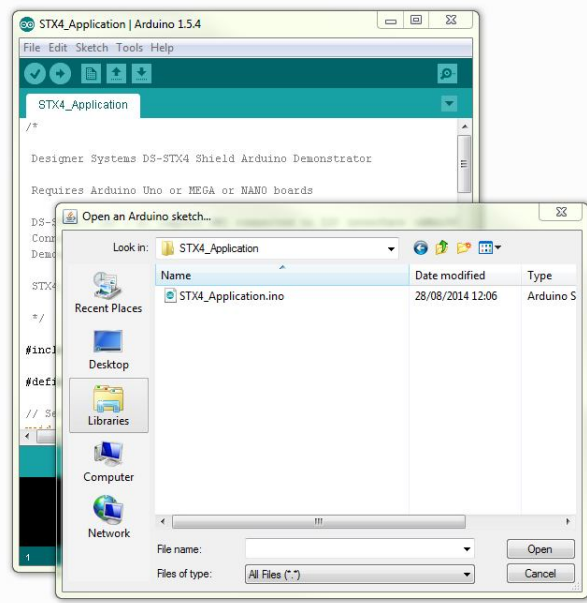
The DS-STX4.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the STX4.S board [not supplied]. The wiring diagram below shows the connections that need to be made:



Connect a unipolar stepper motor (ie. DS-STMOT1) to the MOTOR 1 output, ensuring that the motor connection is pinned, from pin 1, /A, /B, A, B & V+. Ensure that the jumper links 1 & 2 are on position A. Connect a battery or power supply of 5 to 12Volts (depending on motor voltage) to the stepper power terminal block (ENSURE THAT POSITIVE ON THE BATTERY/POWER CONNECTS TO THE TERMINAL MARKED WITH ++++).

Arduino demo software application:

After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.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')



```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
-----
1 Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. 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:

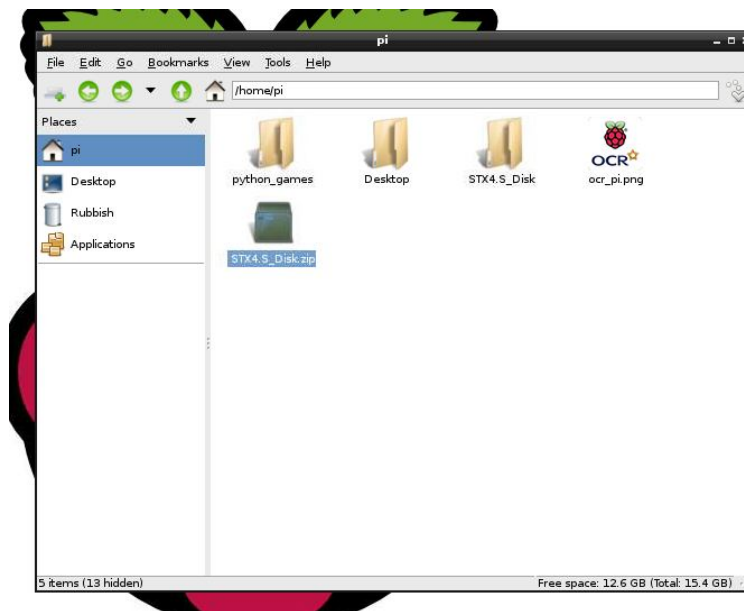
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

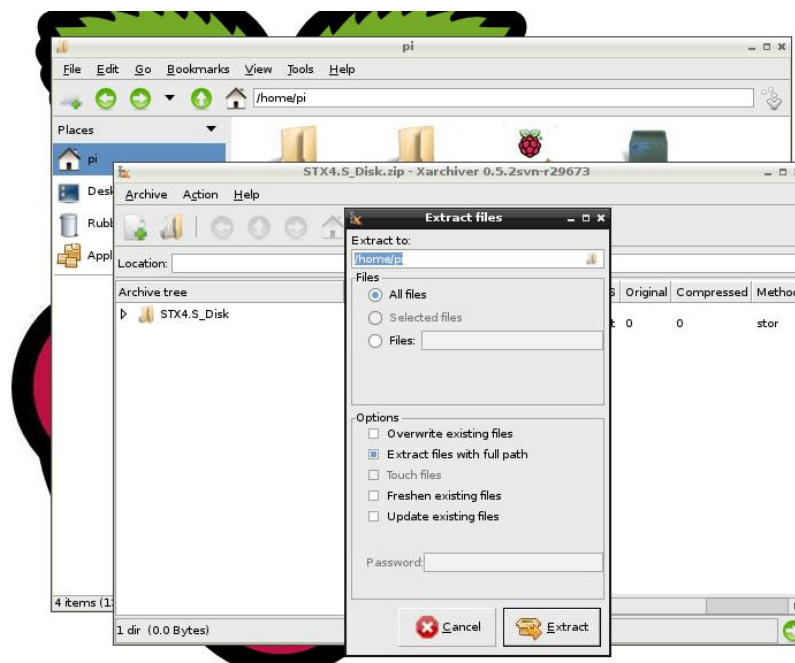
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

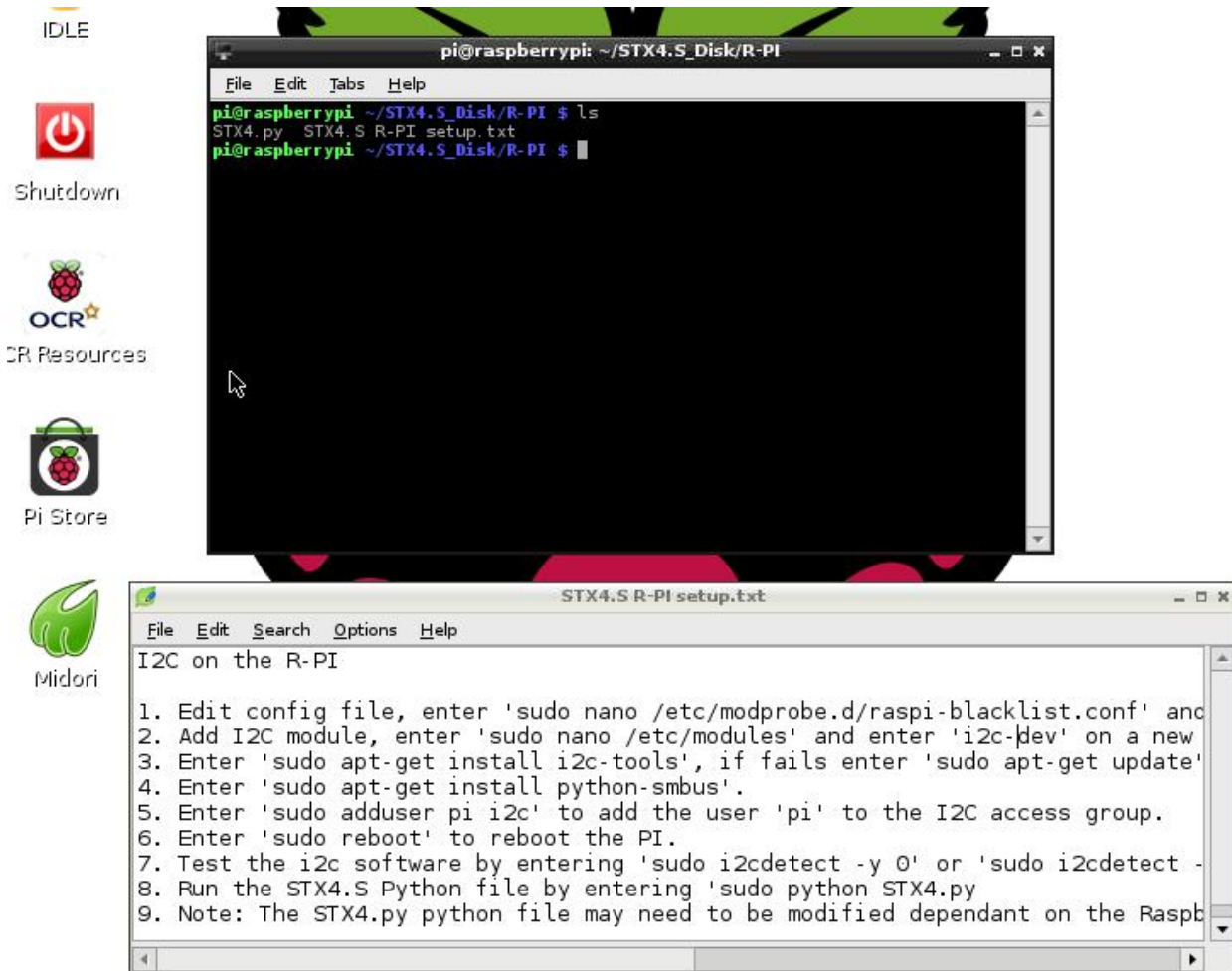


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.py'. Standard routines are provided within the demo program that can be used in your own programs.

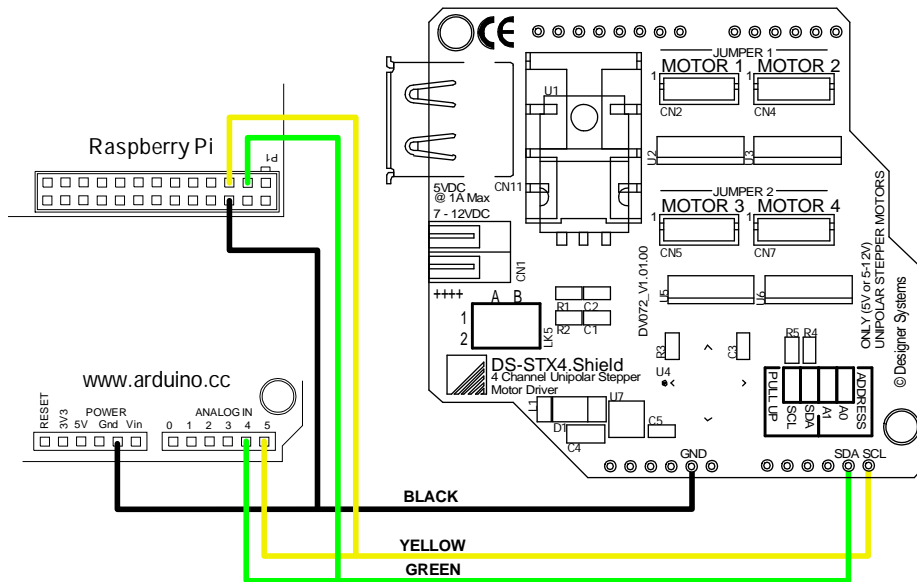
More information:

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DS-STX4.S quick start guide

Connection:

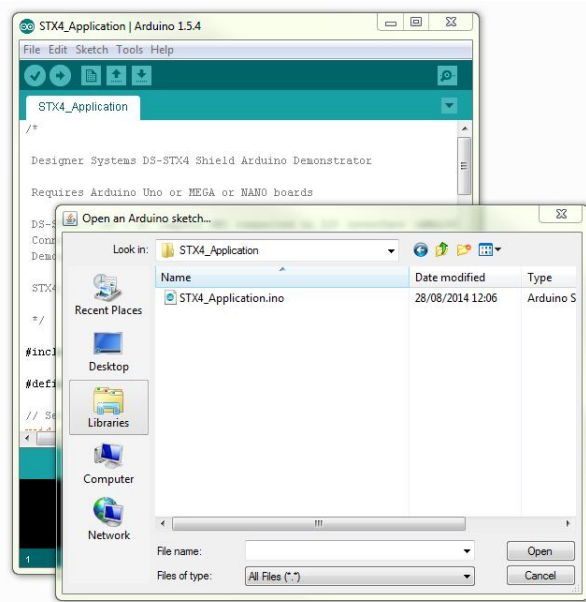
The DS-STX4.S should be connected to the Arduino or Raspberry-Pi boards using the supplied wires or plugged into the Arduino board after soldering pin headers into the STX4.S board [not supplied]. The wiring diagram below shows the connections that need to be made:



Connect a unipolar stepper motor (ie. DS-STMOT1) to the MOTOR 1 output, ensuring that the motor connection is pinned, from pin 1, /A, /B, A, B & V+. Ensure that the jumper links 1 & 2 are on position A. Connect a battery or power supply of 5 to 12Volts (depending on motor voltage) to the stepper power terminal block (ENSURE THAT POSITIVE ON THE BATTERY/POWER CONNECTS TO THE TERMINAL MARKED WITH ++++).

Arduino demo software application:

After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.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')



```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00

  */

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
-----
1 Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

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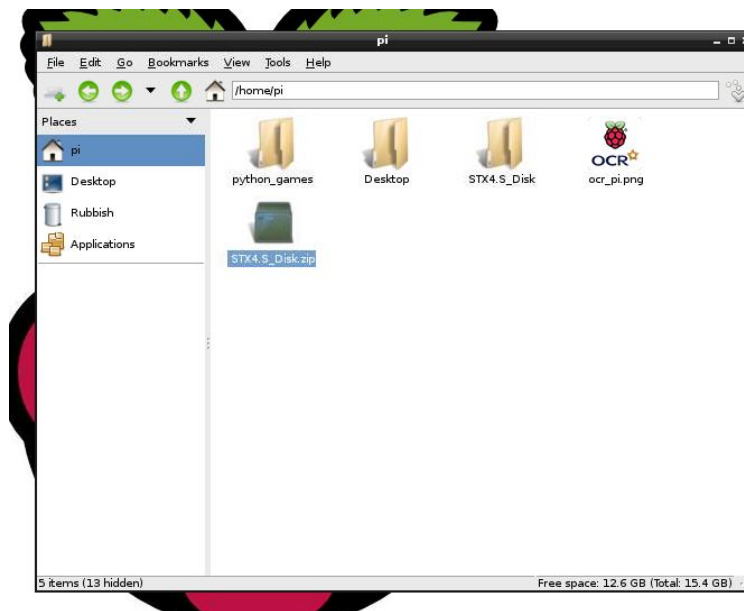
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

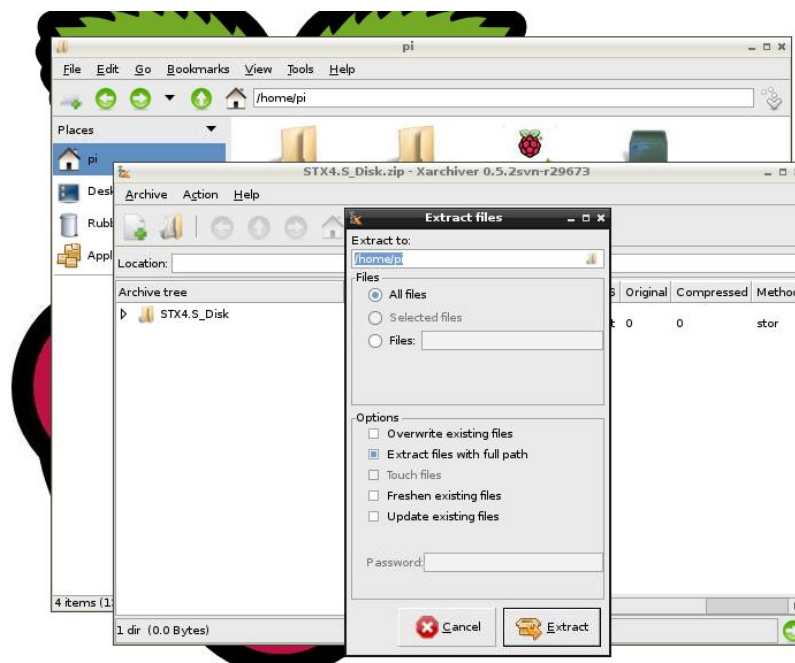
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.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 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

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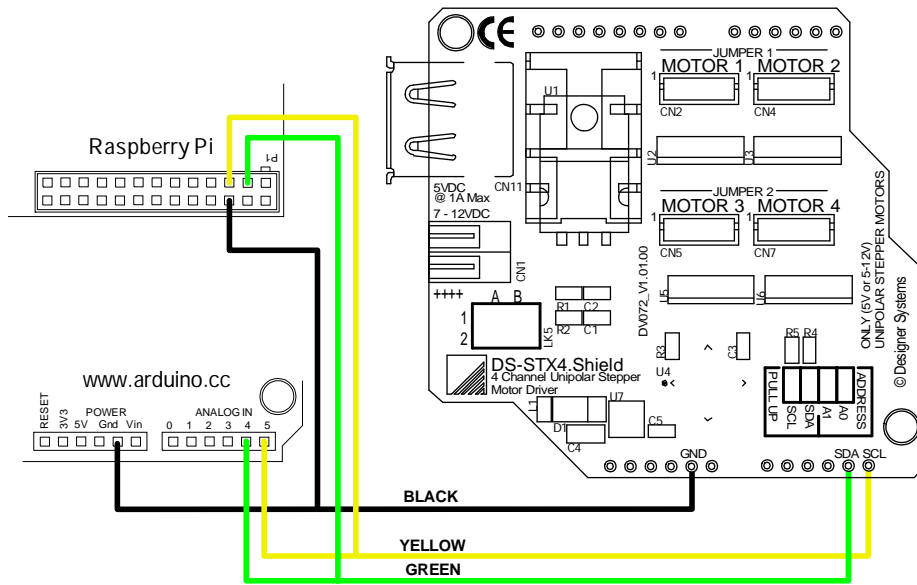
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DS-STX4.S quick start guide

Connection:

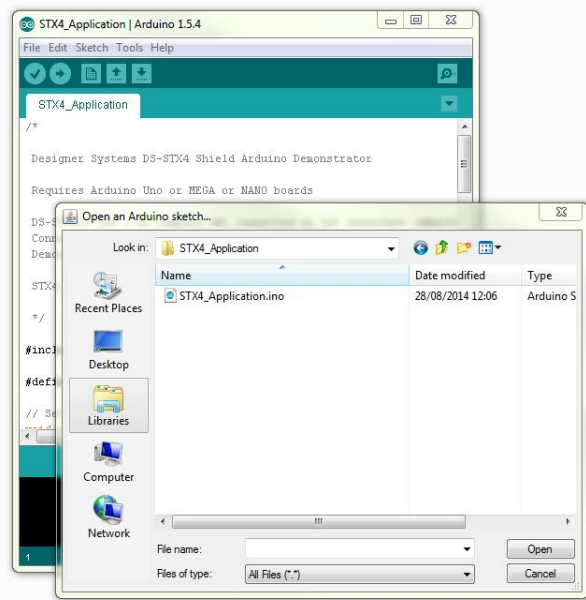
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After downloading and installing the open-source Arduino environment from <http://arduino.cc/hu/Main/Software> also download the DS-STX4.S application sketch from http://www.designersystems.co.uk/download/STX4.S_Disk.zip and unzip and load this sketch file into the Arduino environment.



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```
STX4_Application | Arduino 1.5.4
File Edit Sketch Tools Help
STX4_Application
/*
  Designer Systems DS-STX4 Shield Arduino Demonstrator

  Requires Arduino Uno or MEGA or NANO boards

  DS-STX4.S [A0 & A1 jumpers ON] connected to I2C interface (ANALOG IN 4 [SDA] & 5 [SCL])
  Connected to 5V 1:16 ratio unipolar stepper motor
  Demonstrates speed control and global enable

  STX4_Application.ino   Date: 14/7/14   Version: 1.00
*/

#include <Wire.h>

#define STX4 0x6C           // STX4 I2C Address

// Setup code
-----
1 Arduino Uno on COM1
```

When the application has been uploaded it will start the demonstration. You can modify the demonstration code to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse within the STX4.S. Standard routines are provided within the demo program that can be used in your own programs.

More information:

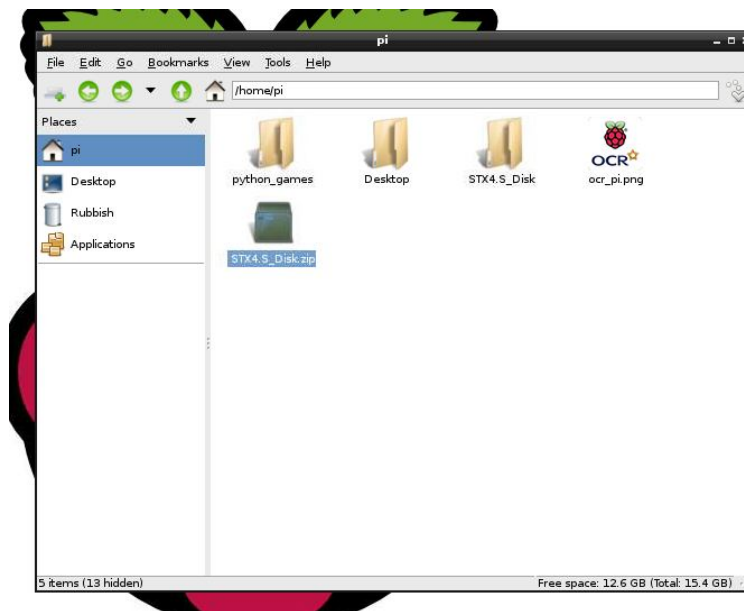
For a PDF of this quick start guide or a full technical datasheet please visit:
http://www.designersystems.co.uk/STX4.S_info.htm

Raspberry-Pi demo software application:

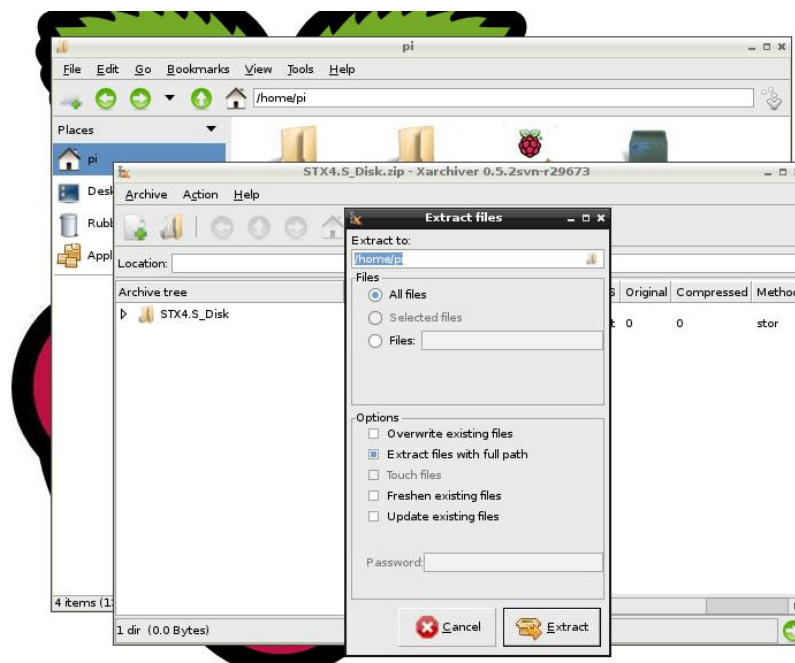
After preparing an SD card with the latest release of the NOOBS (New Out Of Box Software) downloaded from <http://www.raspberrypi.org/downloads> start the Raspberry-Pi, log in (default username 'pi', password 'raspberrypi') and start the desktop using the command 'startx'.

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/STX4.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 STX4.S_Disk.zip file listed under the /home/pi directory as below:

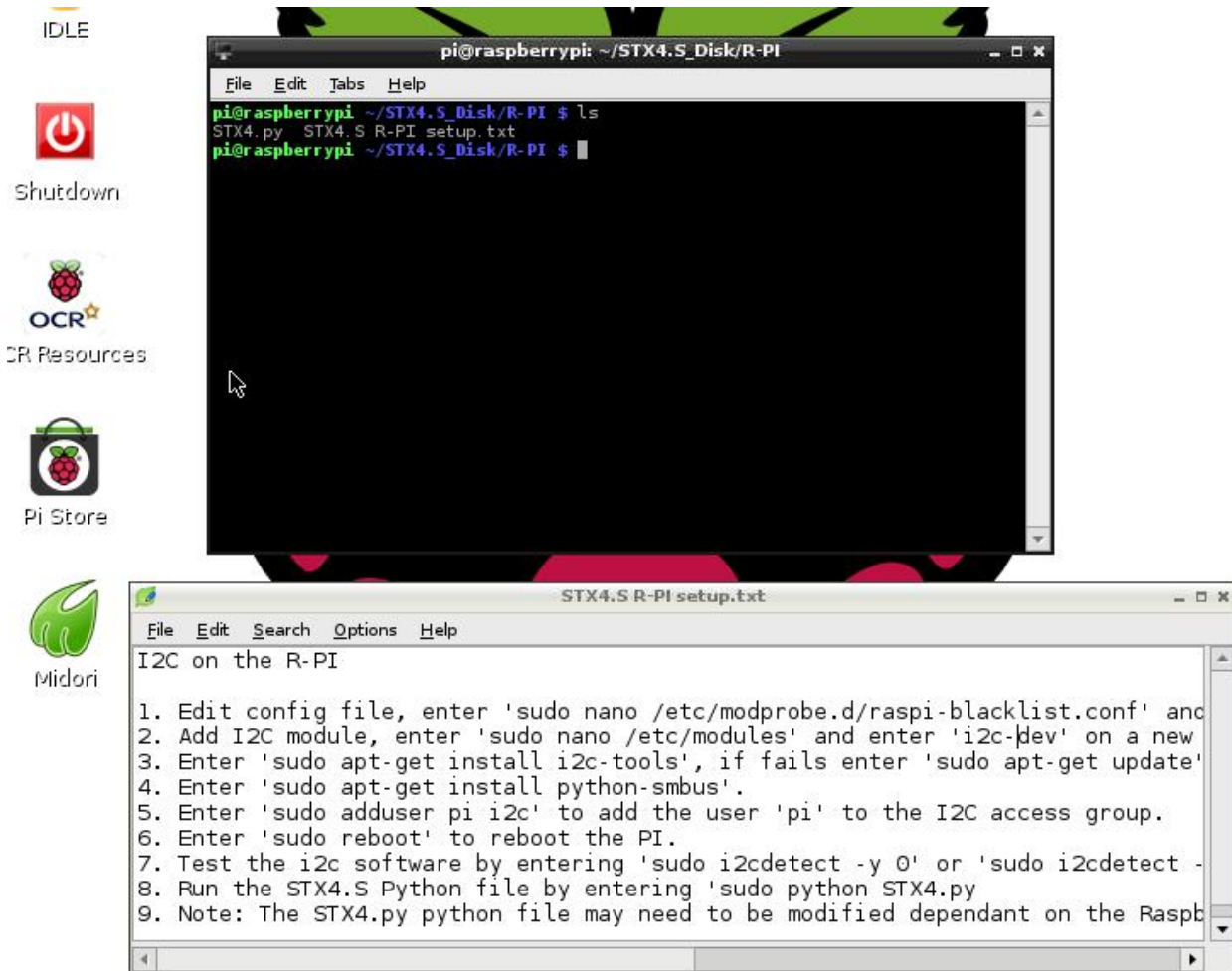


Double click on this file to start the zip extractor and then go the 'Action', 'Extract' and click on the 'Extract' button as below:



Close the XArchiver window and file manager window should now contain a directory called 'STX4.S_Disk'. Double click on this directory, then 'R-PI' and locate the 'STX4.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/STX4.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 I²C connected devices on your Raspberry-Pi before then follow the procedure listed in the STX4.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 STX4.py' to start the DS-STX4.S application, you should then see the motor connected to the STX4.S start its demonstration.

The STX4.py program can be customised to access the other motors (2-4), experiment with the speed control, constant rotation, half and full stepping & reverse by editing the STX4.py file using the command line 'sudo nano STX4.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/STX4.S_info.htm