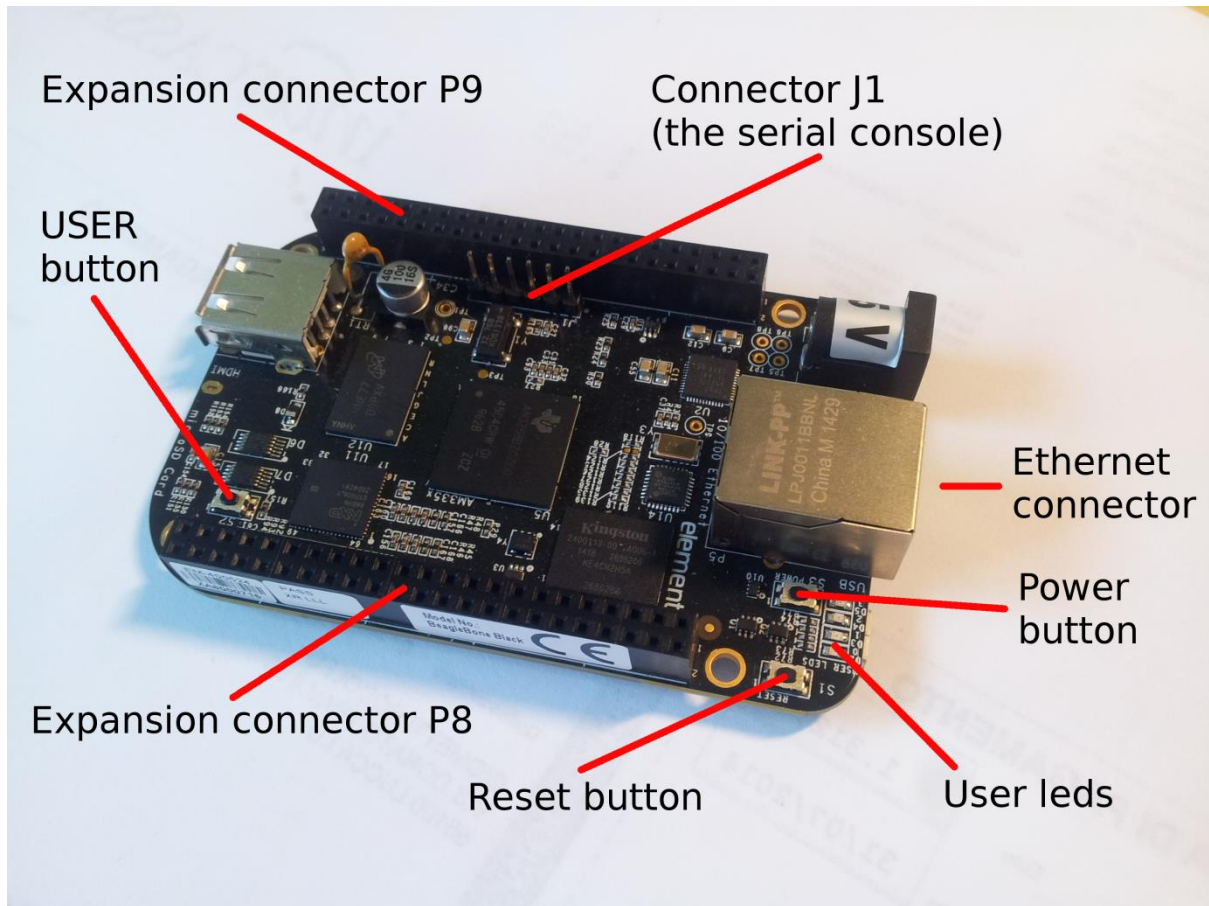
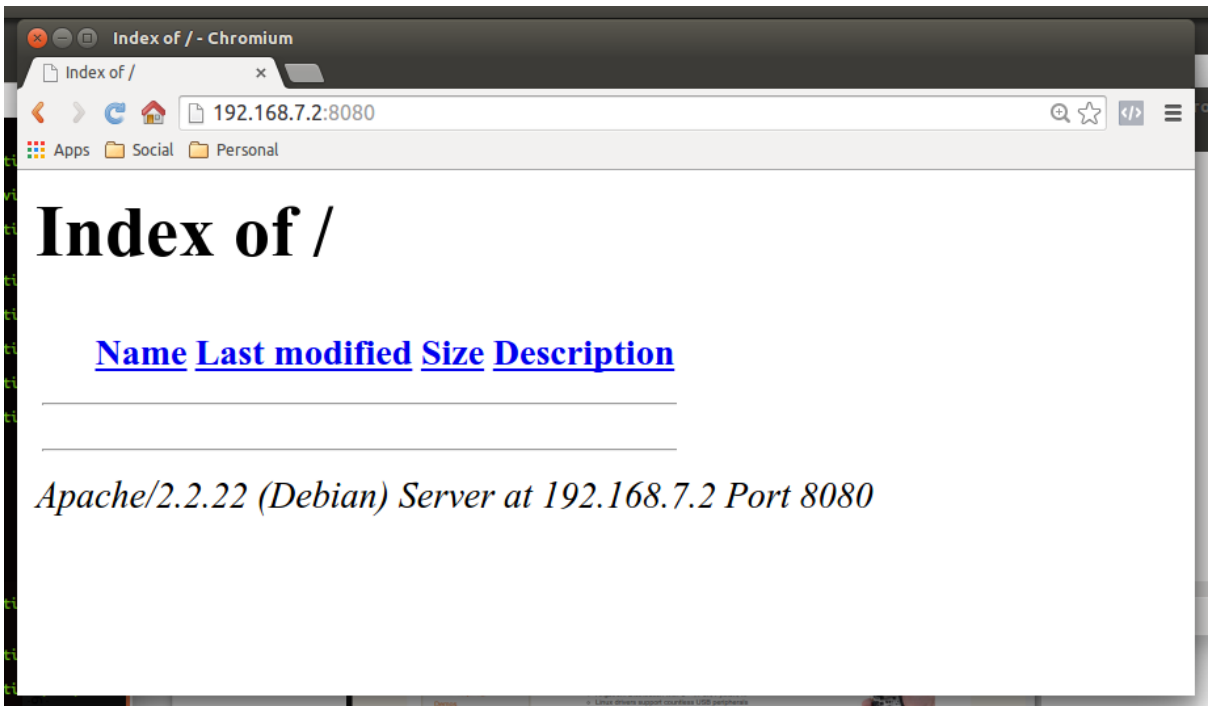
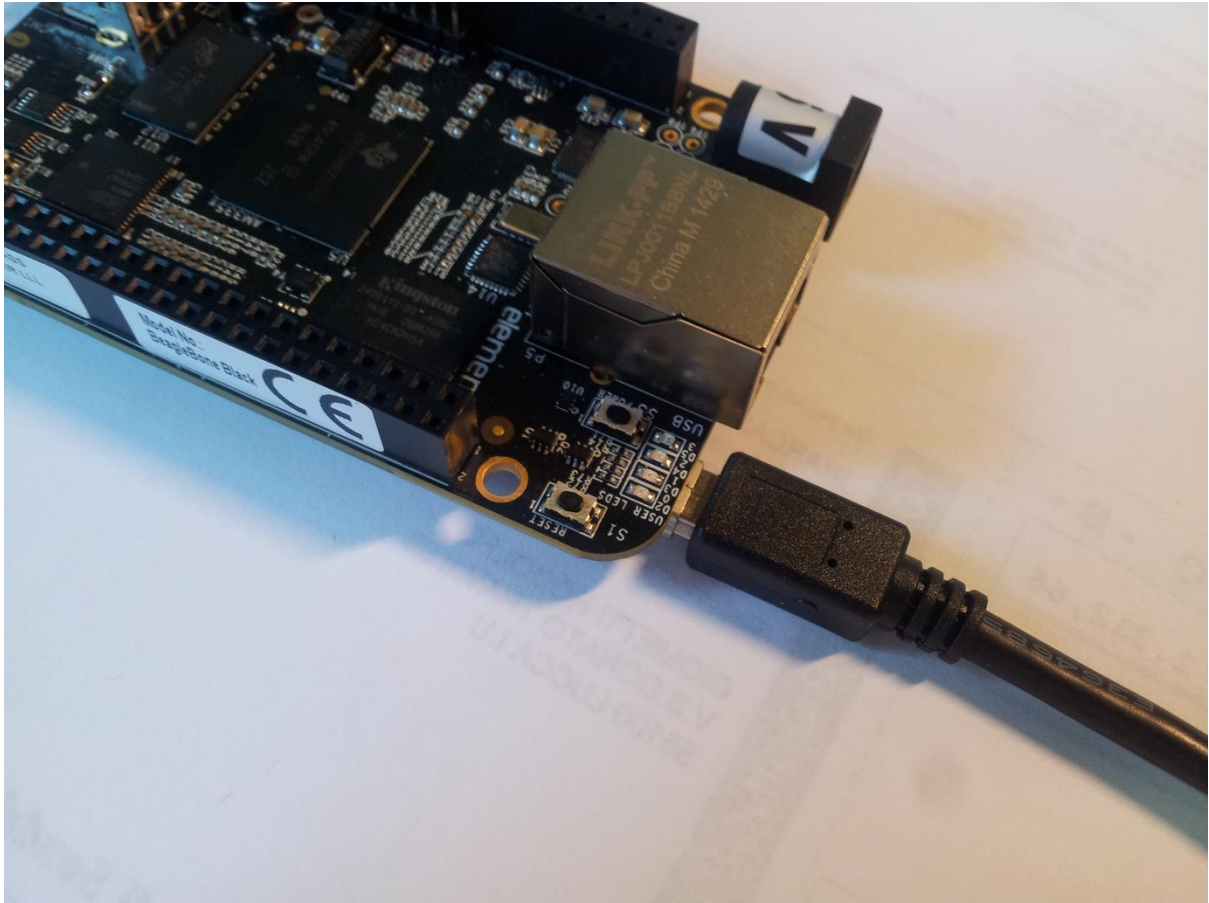


## Chapter 1: Installing the Developing System










BeagleBoard.org - bone101 - Chromium

BeagleBoard.org - bone101 | 192.168.7.2/Support/bone101/

Apps Social Personal

     [Fork me on GitHub](#)

## BeagleBone 101

**BeagleBone 101**

**Software**

- Update image
- Cloud9 IDE

**Hardware**

- Headers
- Capes

**BoneScript**

**Functions**

- getPlatform()
- pinMode()
- getPinMode()
- digitalWrite()
- digitalRead()
- shiftOut()
- analogWrite()
- analogRead()
- attachInterrupt()
- detachInterrupt()
- readTextFile()
- writeTextFile()

**JavaScript**


- console()
- setTimeout()
- clearTimeout()
- setInterval()
- clearInterval()
- typeof operator

**Libraries**

- require()

**Demos**

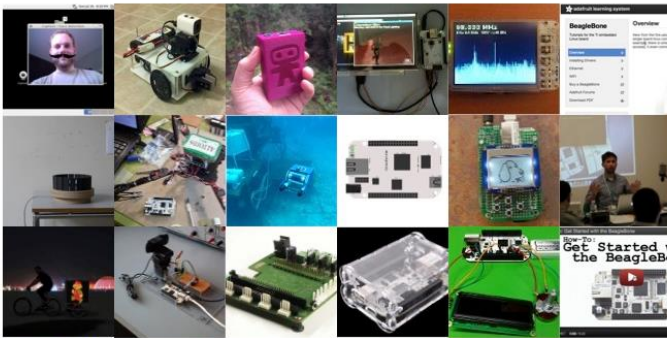
- Blink on-board LED
- Blink external LED
- Push button
- Potentiometer
- Joystick
- Ultrasonic sensor

 **Your board is connected!**  
BeagleBone Black rev 00C0 S/N 3214BBBK0716 running BoneScript 0.2.4 at 192.168.7.2

## BeagleBone: open-hardware expandable computer


Artist-tested, engineer approved

The left-hand navigation bar will help you explore your board and learn how to program it.



### Latest ARM open source focused on easy hardware experimentation

- Ships ready to use
  - Angstrom Distribution with C++, Perl, Python, ...
  - Linux drivers support countless USB peripherals
  - Interactive tutorial to start learning about capabilities
- Open source means options
  - Texas Instruments releases: Android, Linux, StarterWare (no OS)
  - Linux: Angstrom Distribution, Ubuntu, Debian, ArchLinux, Sabayon, Buildroot, Erlang, Fedora
  - Other: QNX, FreeBSD
  - Projects page
- SD card images like get-out-of-jail-free card



Wav32 Disk Image

Image File Device

Page 4 / 10 | 4525 words, 28415 characters | Default Style | English (India)

phpinfo() - Mozilla Firefox

phpinfo()

192.168.32.30/test.php

Google

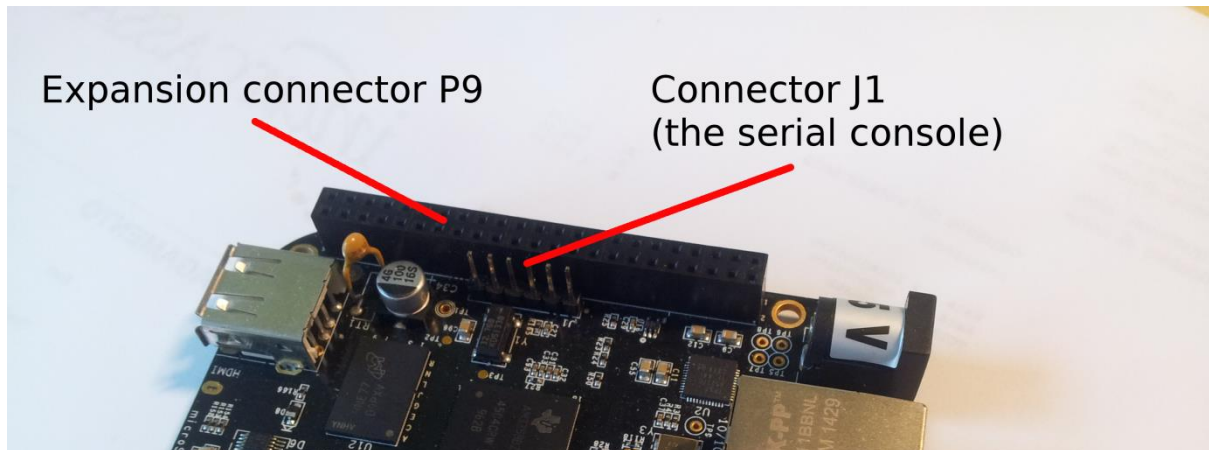
Most Visited Getting Started Latest Headlines Personal

Netcraft Services [Bia-Ratings](#) Since: [March 2000](#) Rank: [21 PES](#) [Site Report](#) [US] [Google Inc.](#)

## PHP Version 5.4.4-14+deb7u14

<b>System</b>	Linux beaglebone 3.8.13-bone47 #1 SMP Fri Apr 11 01:36:09 UTC 2014 armv7l
<b>Build Date</b>	Aug 21 2014 10:28:51
<b>Server API</b>	Apache 2.0 Handler
<b>Virtual Directory Support</b>	disabled
<b>Configuration File (php.ini) Path</b>	/etc/php5/apache2
<b>Loaded Configuration File</b>	/etc/php5/apache2/php.ini
<b>Scan this dir for additional .ini files</b>	/etc/php5/apache2/conf.d
<b>Additional .ini files parsed</b>	/etc/php5/apache2/conf.d/10-pdo.ini
<b>PHP API</b>	20100412
<b>PHP Extension</b>	20100525
<b>Zend Extension</b>	220100525
<b>Zend Extension Build</b>	API220100525,NTS
<b>PHP Extension Build</b>	API20100525,NTS
<b>Debug Build</b>	no
<b>Thread Safety</b>	disabled
<b>Zend Signal Handling</b>	disabled
<b>Zend Memory Manager</b>	enabled
<b>Zend Multibyte Support</b>	provided by mbstring
<b>IPv6 Support</b>	enabled
<b>DTrace Support</b>	disabled

## Chapter 2: Managing the System Console







## Chapter 3: Compiling versus Cross-compiling

```
Terminal
File Edit View Search Terminal Help
.config - Linux/arm 3.13.10 Kernel Configuration

Linux/arm 3.13.10 Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty
submenus ----). Highlighted letters are hotkeys. Pressing <Y>
includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to
exit, <?> for Help, </> for Search. Legend: [*] built-in [ ]

[*] Patch physical to virtual translations at runtime
  General setup --->
  [ ] Provide system-wide ring of trusted keys
  [*] Enable loadable module support --->
  [*] Enable the block layer --->
  System Type --->
  Bus support --->
  Kernel Features --->
  Boot options --->
  CPU Power Management --->

+ (+)

<Select> < Exit > < Help > < Save > < Load >
```

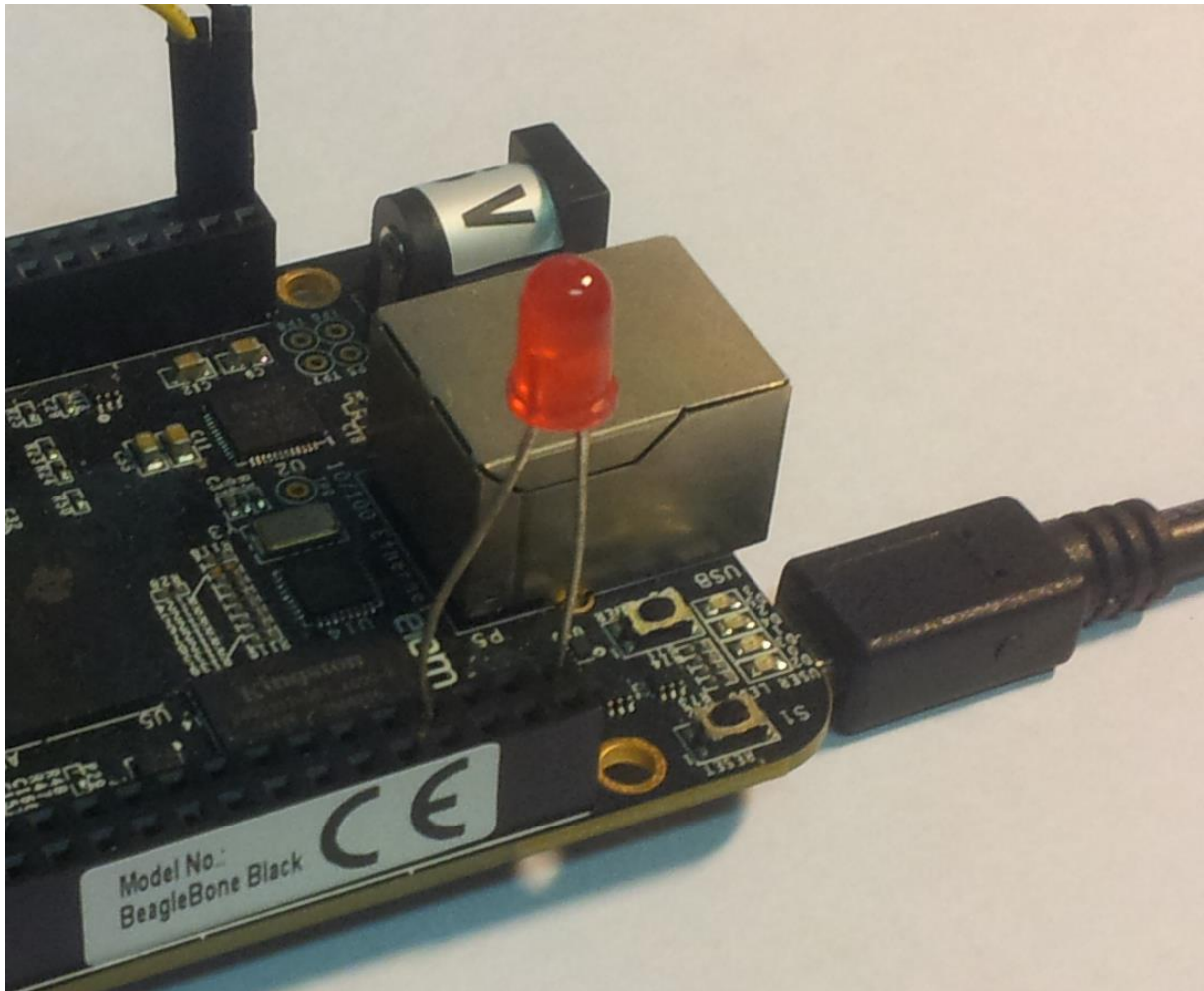
```
Terminal
File Edit View Search Terminal Help
.config - Linux/arm 3.13.10 Kernel Configuration
> Device Drivers > Character devices

Character devices
Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty
submenus ----). Highlighted letters are hotkeys. Pressing <Y>
includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to
exit, <?> for Help, </> for Search. Legend: [*] built-in [ ]

* (-)
< > Atmel Random Number Generator support
<*> OMAP Random Number Generator support
<*> OMAP3 ROM Random Number Generator support
< > VirtIO Random Number Generator support
< > EXYNOS HW random number generator support
<*> TPM HW Random Number Generator support
< > /dev/nvram support
< > Siemens R3964 line discipline
< > RAW driver (/dev/raw/rawN)
<*> TPM Hardware Support --->

<Select> < Exit > < Help > < Save > < Load >
```

## Chapter 4: Quick Programming with Scripts



Turing a led on/off using PHP - Chromium

Turing a led on/off using x

192.168.7.2/turn.php?led=0

Apps Social Personal

# Turning a led on/off using PHP

Current led status is: off

Press the button to turn the led on

Turn on



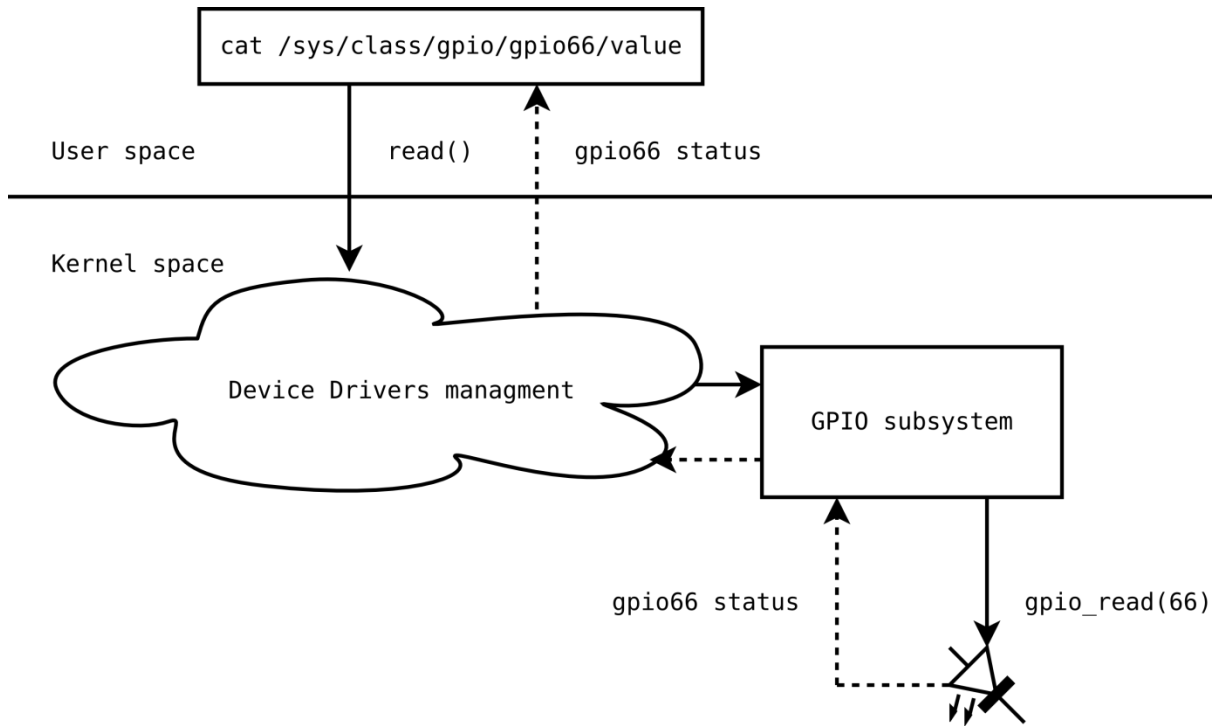
```
192.168.7.2:8080/?led=1 - Chromium
192.168.7.2:8080/?led=1 x
192.168.7.2:8080/?led=1
Apps Social Personal

CLIENT VALUES
client_address -> ('192.168.7.1', 45170) (hulk.local)
command -> GET
path -> /?led=1
real path -> t/
query -> led=1
request_version -> HTTP/1.1

SERVER VALUES
server_version -> BaseHTTP/0.3
sys_version -> Python/2.7.3
protocol_version -> HTTP/1.0

HEADERS RECEIVED
accept ->
text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;
q=0.8
accept-encoding -> gzip,deflate,sdch
accept-language -> en-US,en;q=0.8,it;q=0.6
cache-control -> max-age=0
connection -> keep-alive
host -> 192.168.7.2:8080
referer -> http://192.168.7.2:8080/?led=0
user-agent -> Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36
(KHTML, like Gecko) Ubuntu Chromium/38.0.2125.111
Chrome/38.0.2125.111 Safari/537.36
```

## Chapter 5: Device Drivers



## Chapter 6: Serial Ports and TTY Devices

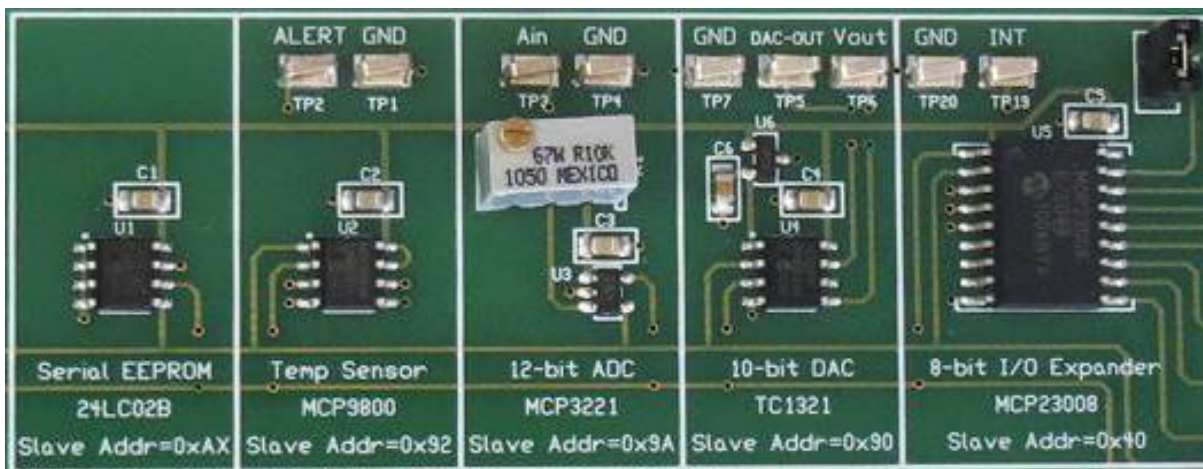
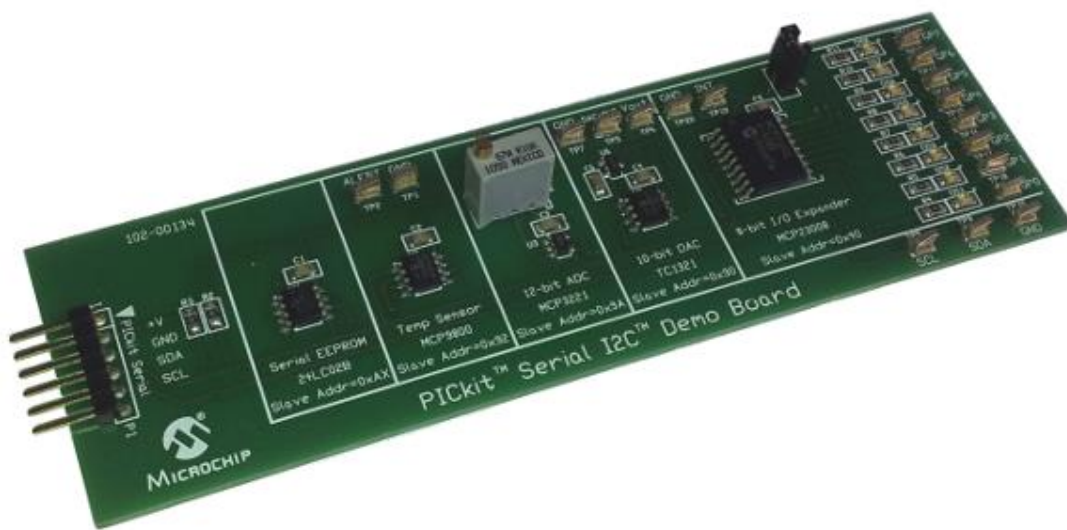
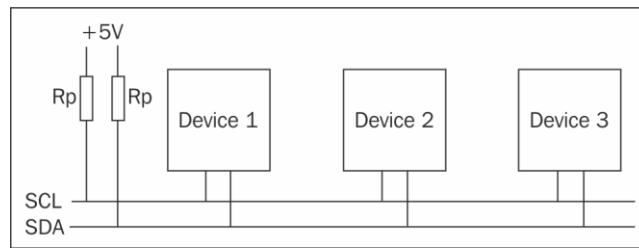


## Chapter 7: Universal Serial Bus – USB



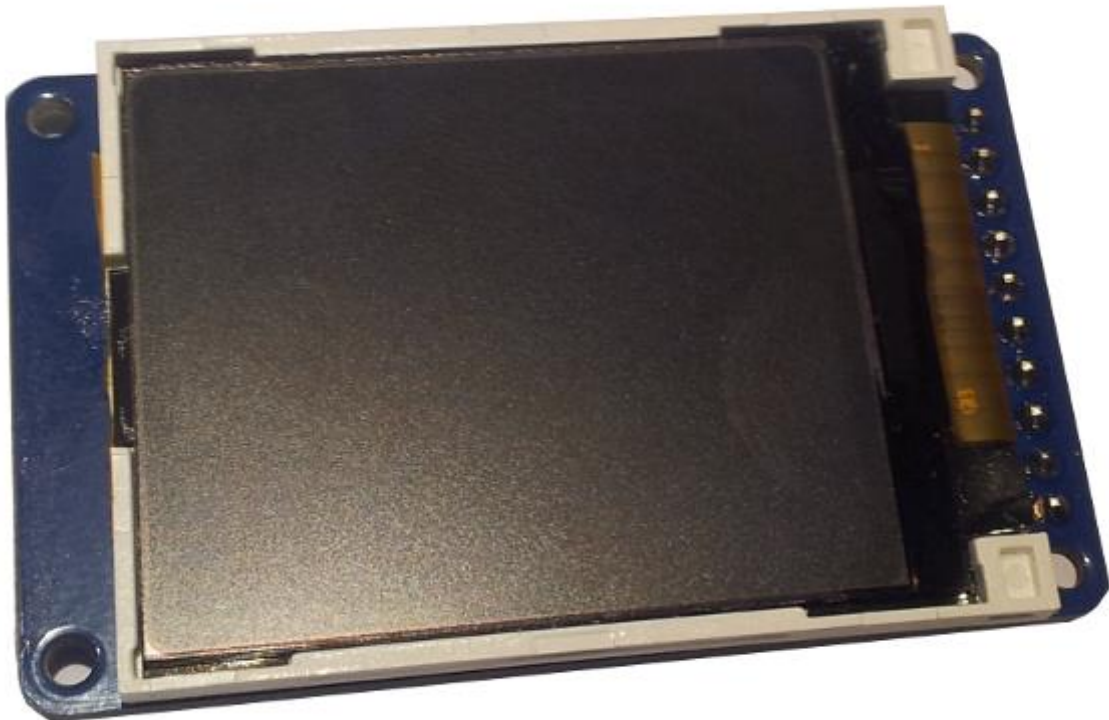
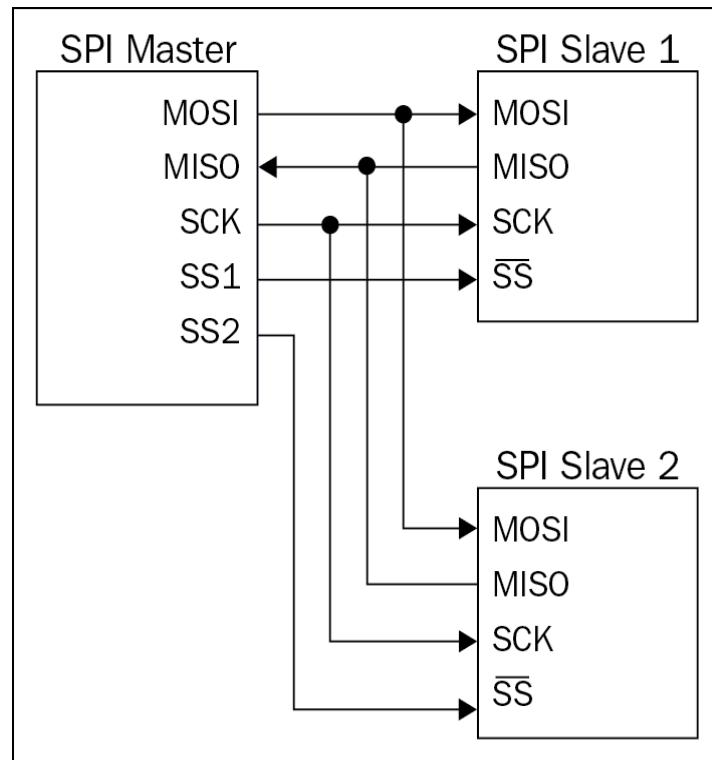
Test Barcode

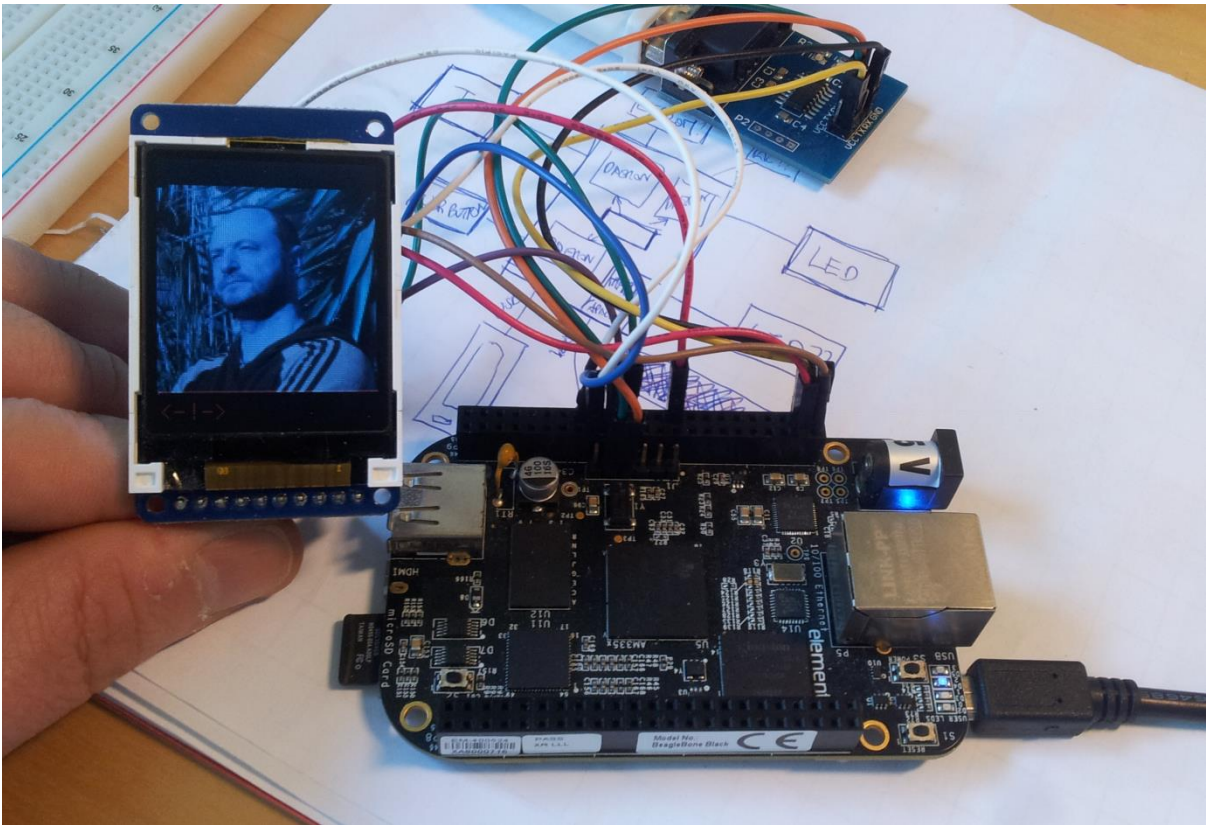
## Chapter 8: Inter-integrated Circuit – I<sup>2</sup>C





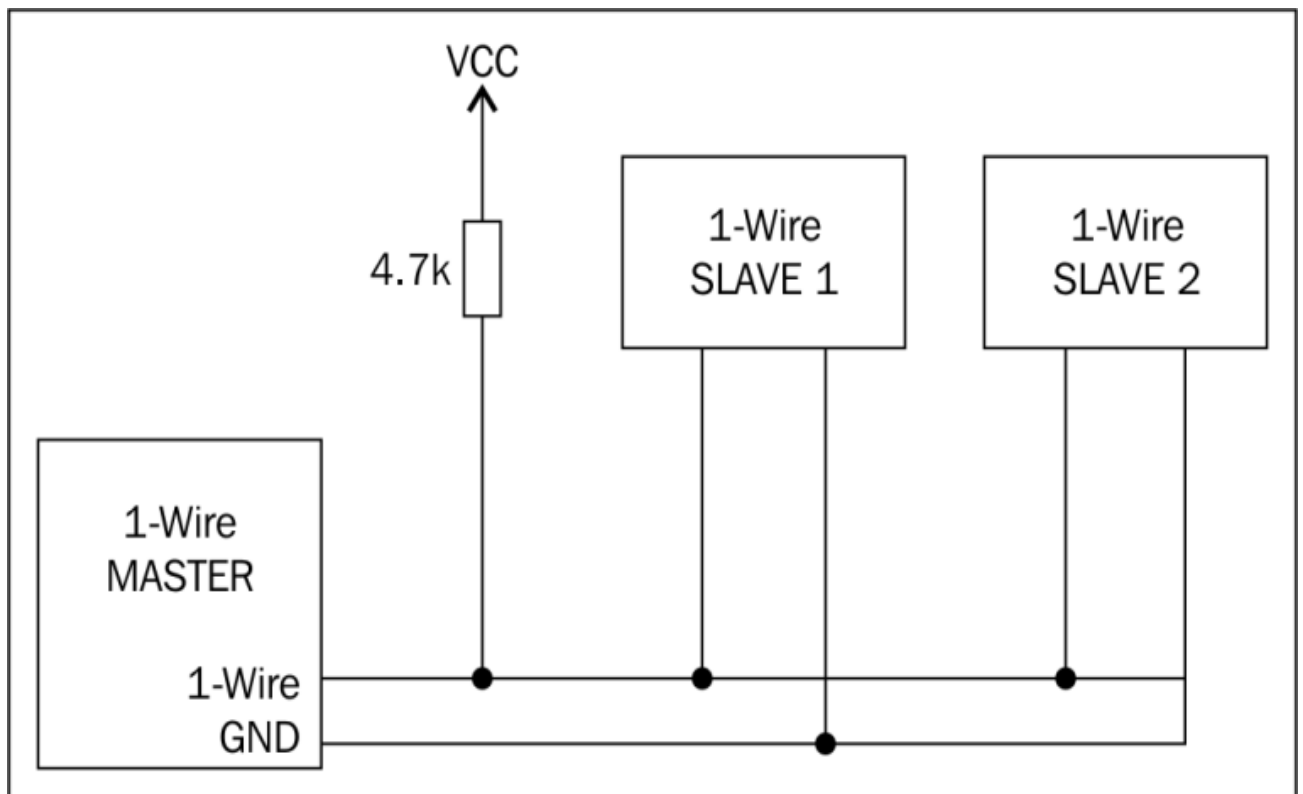
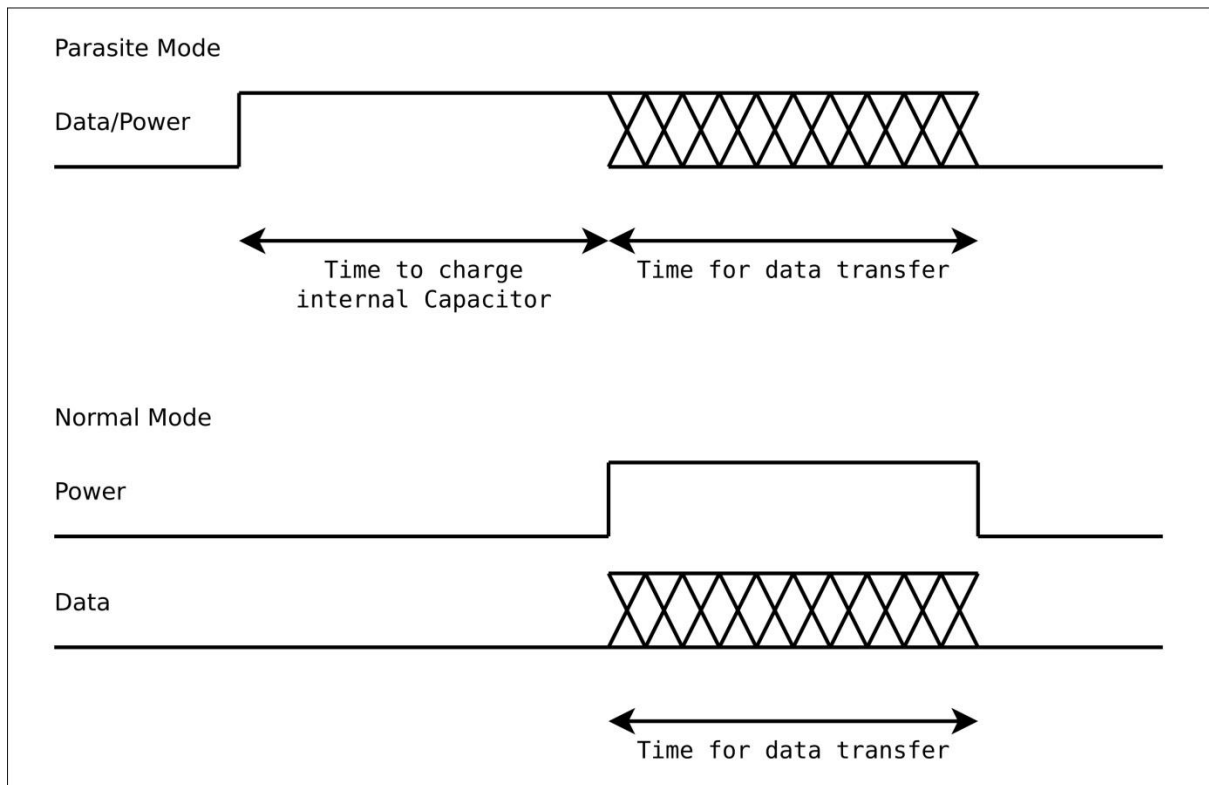
## Chapter 9: Serial Peripheral Interface – SPI







## Chapter 10: 1-Wire Bus – W1





Standard case

Waterproof case