# I2C-tools

22/01/2015  
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## 1. How to use the I2C and SMBus

I2C is a multi-master serial single-ended bus invented by Philips that is used to attach low-speed peripherals to an embedded system. SMBus, defined by Intel in 1995, is

a subset of I2C. In order to have this tools working it needs i2c-dev\*(i2c-dev/i2c-proc/i2c-core.ko) and libi2c.so/libi2c.so.0



## 2. Using i2c-tools

i2c-tools is a package contains a heterogeneous set of I2C tools for Linux such as:

a bus probing tool

a chip dumper

a byte/word read/write

a register-level access helpers

an EEPROM decoding scripts

...and more  
i2c-tools is a set of I²C programs that make it easy to debug I²C devices without having to write any code.

***README: for requirements to make ic2-tools working and how it works even I cross compile and everything is working in main branch  
2013-*** ***latest-linux-2.6.37-psp03.21.00.04.sdk/i2c-tools  
See Download and cross compile in the next section.***

***eeprog***

***eeprom***

***i2cdetect probing i2c devices***

$i2cdetect -r 2

Will send out read byte commands on the /dev/i2c-2 line to probe for addresses, and return any devices found. This is useful for checking what devices are functioning properly. (Note: the -r flag may interfere with write-only devices) i2cget and i2cset write and read to devices respectively..

#i2cdetect -y 1 (it is not dump but detect the data) and 1 (/dev/i2c-1)

root@am1808-scb:~/temp# i2cdetect -y 1 (detect i2c devices hangs on the i2c bus)

0 1 2 3 4 5 6 7 8 9 a b c d e f

00: -- -- -- -- -- -- -- -- -- -- -- -- --

10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

40: -- -- -- -- -- -- -- -- -- -- -- UU -- -- -- -- detect 0x4b/0x4c read/write is screen

50: UU UU UU UU -- -- -- -- -- -- -- -- -- -- -- --detect 0x50/0x51 for R/W is eeprom

60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

static struct i2c\_board\_info \_\_initdata da850\_evm\_i2c\_devices[] = {

{

I2C\_BOARD\_INFO("tsc2004", 0x4b),

.platform\_data = &tsc2004data,

},

{

I2C\_BOARD\_INFO("24c01", 0x50),

.platform\_data = &da850\_egc\_i2c\_eeprom\_info,

},

};

***i2cdump***

# i2cdump -f 1 0x50  
No size specified (using byte-data access)  
WARNING! This program can confuse your I2C bus, cause data loss and worse! I will probe file /dev/i2c-1, address 0x50, mode byte Continue? [Y/n] y  
0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef  
00: de ad 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f ??T? 70-????????  
10: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

***i2cget***

# i2cget -f -y 1 0x50 (read I2C bus address 0x50 and /dev/i2c-1)

***i2cset***# i2cset -f -y 1 0x50 0x00 0xde (write bus address 0x50 1st location eeprom data 0xde)

Note: using -f because a device driver is bound into /sys/devices/platform/i2c-gpio.1/i2c-1/1-0050/eeprom. Otherwise Error: Could not set address to...Device or resource busy

root@am1808-scb:~/temp# i2cset -y 1 0x50 0x00 0xde  
Error: Could not set address to 0x50: Device or resource busy  
More details at Appendix section

## 3. Download and Cross Compile: Because our kernel is 2.6.37 there is no package software option to build in for kernel so we need to download just like Minicom. Device drivers and libi2c is not installed by default. Because the target may not have I2C. Make sure get the sources from the following link without any files in /lib directory. After compile the library will be created to the correct environment. Do not copy from other ARM target that already have the library and the error will show like: lib/libi2c.so: file not recognized: File format not recognized

## In the VMware environment set up the cross compile using the following commands. If compile on the ARM target just type: make

Get source by

git clone https://github.com/groeck/i2c-tools.git

or

wget http://dl.lm-sensors.org/i2c-tools/releases/i2c-tools-3.0.2.tar.bz2

cd i2c-tools (source code with Makefile issuing make for cross compiler)

make CC=/usr/local/ti-sdk-am180x-evm/linux-devkit/bin/arm-arago-linux-gnueabi-gcc CXX=/usr/local/ti-sdk-am180x-evm/linux-devkit/bin/arm-arago-linux-gnueabi-gcc KERNEL\_SRC=/usr/src/linux-headers-2.6.32-37-generic-pae CROSS\_COMPILE=/usr/local/ti-sdk-am180x-evm/linux-devkit/bin/arm-arago-linux-gnueabi-gcc ARCH=arm

*/i2c-tools$ ls*

*CHANGES COPYING COPYING.LGPL eeprom eepromer include lib Makefile py-smbus README stub tools version.h*

*/i2c-tools$ ls lib*

*libi2c.a libi2c.map libi2c.so libi2c.so.0 libi2c.so.0.1.0 Module.mk smbus.ao smbus.c smbus.o*

*/i2c-tools$ ls tools*

*i2cbusses.c i2cdetect i2cdetect.o i2cdump.c i2cget.8 i2cset i2cset.o util.h*

*i2cbusses.h i2cdetect.8 i2cdump i2cdump.o i2cget.c i2cset.8 Module.mk util.o*

*i2cbusses.o i2cdetect.c i2cdump.8 i2cget i2cget.o i2cset.c util.c*

*kanlab@ubuntu-vm-server:/opt/ti/rfs/usr/src/latest-linux-2.6.37-psp03.21.00.04.sdk/i2c-tools$*

cp i2cdetect i2cdump i2cget i2cset eeprog eeprom /tftpboot

tftp -g -r i2cdetect 192.168.3.2 (do all of them into the direct c:~/temp)

cd ~/temp

## 4. libi2c: provides a C API to the Linux I2C subsystem

# i2cget -f -y 1 0x50

Error loading shared libraries libi2c.so.0 cannot open shared object file: No such file or directory

You must:

cp /i2c-tools/lib/libi2c.so libi2c.so.0 /lib (of target)

## 5. i2c-dev\*: Linux kernel driver i2c-proc/i2c-dev/i2c-core

Make sure .config has the following:  
CONFIG\_I2C=y

CONFIG\_I2C\_BOARDINFO=y

CONFIG\_I2C\_COMPAT=y

CONFIG\_I2C\_CHARDEV=y

# CONFIG\_I2C\_MUX is not set

CONFIG\_I2C\_HELPER\_AUTO=y

CONFIG\_I2C\_ALGOBIT=y

#

# I2C Hardware Bus support

#

#

# I2C system bus drivers (mostly embedded / system-on-chip)

#

CONFIG\_I2C\_DAVINCI=y

# CONFIG\_I2C\_DESIGNWARE is not set

CONFIG\_I2C\_GPIO=y

# CONFIG\_I2C\_OCORES is not set

# CONFIG\_I2C\_PCA\_PLATFORM is not set

# CONFIG\_I2C\_SIMTEC is not set

# CONFIG\_I2C\_XILINX is not set

#

# External I2C/SMBus adapter drivers

#

# CONFIG\_I2C\_PARPORT\_LIGHT is not set

# CONFIG\_I2C\_TAOS\_EVM is not set

# CONFIG\_I2C\_TINY\_USB is not set

#

# Other I2C/SMBus bus drivers

#

# CONFIG\_I2C\_STUB is not set

# CONFIG\_I2C\_DEBUG\_CORE is not set

# CONFIG\_I2C\_DEBUG\_ALGO is not set

# CONFIG\_I2C\_DEBUG\_BUS is not set

CONFIG\_SPI=y

CONFIG\_SPI\_DEBUG=y

CONFIG\_SPI\_MASTER=y

## 6. Kernel space & user space with i2cdectect -l

root@am1808-scb:~/temp# i2cdetect -l (not 1 a letter l)

i2c-1 i2c i2c-gpio1 I2C adapter  
(user space) (kernel space)

| |

System call

## 7. Requirement i2c-dev\* and libi2c in README

CONTENTS

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The various tools included in this package are grouped by category, each

category has its own sub-directory:

\* eeprom

Perl scripts for decoding different types of EEPROMs (SPD, EDID...) These

scripts rely on the "eeprom" kernel driver. They are installed by default.

\* eepromer

Tools for writing to EEPROMs. These tools rely on the "i2c-dev" kernel

driver. They are not installed by default.

\* include

C/C++ header files for I2C and SMBus access over i2c-dev. Installed by

default.

\* lib

The I2C library, used by eepromer, py-smbus and tools. Installed by

default.

\* py-smbus

Python wrapper for SMBus access over i2c-dev. Not installed by default.

\* stub

A helper script to use with the i2c-stub kernel driver. Installed by

default.

\* tools

I2C device detection and register dump tools. These tools rely on the

"i2c-dev" kernel driver. They are installed by default.

## 8.Appendix: root@am1808-scb:~/temp# i2cdump 1 0x2d

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x2d, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump 1 0x0

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x00

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x60-0x68 -y 1 0x50 b

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x10-0x18 -y 1 0x50 b

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 0x10-0x18 -y 1 0x50 b

## Error: I2C bus name doesn't match any bus present!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -r 0x10-0x10 -y 1 0x50 b

## Error: Could not set address to 0x50: Device or resource busy

## root@am1808-scb:~/temp# i2cdump -f -r 0x10-0x10 -y 1 0x50 b

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 10: ff .

## root@am1808-scb:~/temp# i2cdump -f -r 0x10-0x0 -y 1 0x50 b

## Error: Invalid range parameter!

## root@am1808-scb:~/temp# i2cdump -f -r 0x10-0x01 -y 1 0x50 b

## Error: Invalid range parameter!

## root@am1808-scb:~/temp# i2cdump -f -r 0x0-0x01 -y 1 0x50 b

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: 55 be U?

## root@am1808-scb:~/temp

## -----------------------

## root@am1808-scb:~/temp# i2cdump 1 0x2d

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x2d, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump 1 0x0

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x00

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x60-0x68 -y 1 0x50 b

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x10-0x18 -y 1 0x50 b

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 0x10-0x18 -y 1 0x50 b

## Error: I2C bus name doesn't match any bus present!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -r 0x10-0x10 -y 1 0x50 b

## Error: Could not set address to 0x50: Device or resource busy

## root@am1808-scb:~/temp# i2cdump -f -r 0x10-0x10 -y 1 0x50 b

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 10: ff .

## root@am1808-scb:~/temp# i2cdump -f -r 0x10-0x0 -y 1 0x50 b

## Error: Invalid range parameter!

## root@am1808-scb:~/temp# i2cdump -f -r 0x10-0x01 -y 1 0x50 b

## Error: Invalid range parameter!

## root@am1808-scb:~/temp# i2cdump -f -r 0x0-0x01 -y 1 0x50 b

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: 55 be U?

## root@am1808-scb:~/temp#

## root@am1808-scb:~/temp# i2cdump 1 0x20

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x20, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump 1 0x0

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x1

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x01

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x2d

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x2d, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump -f -r

## Error: No i2c-bus specified!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -f -r 0x00

## Error: No i2c-bus specified!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -f 1 0x50

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x50, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: 55 be 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f U?T? 70-????????

## 10: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 20: a5 ff ff ff ff a5 a5 a5 ff ff ff ff ff ff ff ff ?....???........

## 30: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 40: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 50: ff ff ff ff ff ff ff ff ef de ad be ef ff ad be ........?????.??

## 60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 80: 55 be 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f U?T? 70-????????

## 90: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## a0: a5 ff ff ff ff a5 a5 a5 ff ff ff ff ff ff ff ff ?....???........

## b0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## c0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## d0: ff ff ff ff ff ff ff ff ef de ad be ef ff ad be ........?????.??

## e0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## f0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## root@am1808-scb:~/temp# i2cdump 0 0x2d

## No size specified (using byte-data access)

## Error: Could not open file `/dev/i2c-0' or `/dev/i2c/0': No such file or directo

## ry

## root@am1808-scb:~/temp# i2cdump 1 0x2d

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x2d, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump 1 0x50

## No size specified (using byte-data access)

## Error: Could not set address to 0x50: Device or resource busy

## root@am1808-scb:~/temp# i2cdump 1 0x00

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x2d

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x2d, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump 1 0x2

## Error: Chip address out of range (0x03-0x77)!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x10

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x10, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump -f 1 0x50

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x50, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: 55 be 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f U?T? 70-????????

## 10: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 20: a5 ff ff ff ff a5 a5 a5 ff ff ff ff ff ff ff ff ?....???........

## 30: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 40: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 50: ff ff ff ff ff ff ff ff ef de ad be ef ff ad be ........?????.??

## 60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 80: 55 be 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f U?T? 70-????????

## 90: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## a0: a5 ff ff ff ff a5 a5 a5 ff ff ff ff ff ff ff ff ?....???........

## b0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## c0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## d0: ff ff ff ff ff ff ff ff ef de ad be ef ff ad be ........?????.??

## e0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## f0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## root@am1808-scb:~/temp# i2cdump -f 1 0x50-0x10

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -f 1 0x11:0x50

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -f 1 0x11-0x50

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump -f 1 0x50-0x10

## Error: Chip address is not a number!

## Usage: i2cdump [-f] [-y] [-r first-last] I2CBUS ADDRESS [MODE [BANK [BANKREG]]]

## I2CBUS is an integer or an I2C bus name

## ADDRESS is an integer (0x03 - 0x77)

## MODE is one of:

## b (byte, default)

## w (word)

## W (word on even register addresses)

## s (SMBus block)

## i (I2C block)

## c (consecutive byte)

## Append p for SMBus PEC

## root@am1808-scb:~/temp# i2cdump 1 0x2d

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x2d, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 10: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 20: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 30: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 40: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 50: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 60: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 70: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 80: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## 90: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## a0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## b0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## c0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## d0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## e0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## f0: XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XXXXXXXXXXXXXXXX

## root@am1808-scb:~/temp# i2cdump 1 0x50

## No size specified (using byte-data access)

## Error: Could not set address to 0x50: Device or resource busy

## root@am1808-scb:~/temp# i2cdump -f 1 0x50

## No size specified (using byte-data access)

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1, address 0x50, mode byte

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f 0123456789abcdef

## 00: 55 be 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f U?T? 70-????????

## 10: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 20: a5 ff ff ff ff a5 a5 a5 ff ff ff ff ff ff ff ff ?....???........

## 30: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 40: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 50: ff ff ff ff ff ff ff ff ef de ad be ef ff ad be ........?????.??

## 60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## 80: 55 be 54 ef 20 37 30 2d 08 09 0a 0b 0c 0d 0e 0f U?T? 70-????????

## 90: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## a0: a5 ff ff ff ff a5 a5 a5 ff ff ff ff ff ff ff ff ?....???........

## b0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## c0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## d0: ff ff ff ff ff ff ff ff ef de ad be ef ff ad be ........?????.??

## e0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## f0: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ................

## root@am1808-scb:~/temp# isset

## -sh: isset: not found

## root@am1808-scb:~/temp# isaset

## -sh: isaset: not found

## root@am1808-scb:~/temp# i2cdetect -r 2

## Error: Could not open file `/dev/i2c-2' or `/dev/i2c/2': No such file or directo

## ry

## root@am1808-scb:~/temp# i2cdetect -r 1

## WARNING! This program can confuse your I2C bus, cause data loss and worse!

## I will probe file /dev/i2c-1 using read byte commands.

## I will probe address range 0x03-0x77.

## Continue? [Y/n] y

## 0 1 2 3 4 5 6 7 8 9 a b c d e f

## 00: -- -- -- -- -- -- -- -- -- -- -- -- --

## 10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 40: -- -- -- -- -- -- -- -- -- -- -- UU -- -- -- --

## 50: UU UU UU UU -- -- -- -- -- -- -- -- -- -- -- --

## 60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 70: -- -- -- -- -- -- -- --

## root@am1808-scb:~/temp# i2cdetect -y -r 1

## 0 1 2 3 4 5 6 7 8 9 a b c d e f

## 00: -- -- -- -- -- -- -- -- -- -- -- -- --

## 10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 40: -- -- -- -- -- -- -- -- -- -- -- UU -- -- -- --

## 50: UU UU UU UU -- -- -- -- -- -- -- -- -- -- -- --

## 60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 70: -- -- -- -- -- -- -- --

## root@am1808-scb:~/temp# i2cdetect

## Error: No i2c-bus specified!

## Usage: i2cdetect [-y] [-a] [-q|-r] I2CBUS [FIRST LAST]

## i2cdetect -F I2CBUS

## i2cdetect -l

## I2CBUS is an integer or an I2C bus name

## If provided, FIRST and LAST limit the probing range.

## root@am1808-scb:~/temp# i2cdectect -F I2BUS

## -sh: i2cdectect: not found

## root@am1808-scb:~/temp# i2cdectect -F I2CBUS

## -sh: i2cdectect: not found

## root@am1808-scb:~/temp# i2cdectect -F 1

## -sh: i2cdectect: not found

## root@am1808-scb:~/temp# i2cdectect -l

## -sh: i2cdectect: not found

## root@am1808-scb:~/temp# i2cdectect -1

## -sh: i2cdectect: not found

## root@am1808-scb:~/temp# i2cdetect -l

## i2c-1 i2c i2c-gpio1 I2C adapter

## root@am1808-scb:~/temp# i2cdetect -y 1

## 0 1 2 3 4 5 6 7 8 9 a b c d e f

## 00: -- -- -- -- -- -- -- -- -- -- -- -- --

## 10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 40: -- -- -- -- -- -- -- -- -- -- -- UU -- -- -- --

## 50: UU UU UU UU -- -- -- -- -- -- -- -- -- -- -- --

## 60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 70: -- -- -- -- -- -- -- --

## root@am1808-scb:~/temp# i2cdetect -y -r

## Error: No i2c-bus specified!

## Usage: i2cdetect [-y] [-a] [-q|-r] I2CBUS [FIRST LAST]

## i2cdetect -F I2CBUS

## i2cdetect -l

## I2CBUS is an integer or an I2C bus name

## If provided, FIRST and LAST limit the probing range.

## root@am1808-scb:~/temp# i2cdetect -y -r 1

## 0 1 2 3 4 5 6 7 8 9 a b c d e f

## 00: -- -- -- -- -- -- -- -- -- -- -- -- --

## 10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 40: -- -- -- -- -- -- -- -- -- -- -- UU -- -- -- --

## 50: UU UU UU UU -- -- -- -- -- -- -- -- -- -- -- --

## 60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

## 70: -- -- -- -- -- -- -- --

## root@am1808-scb:~/

root@spartan:~# i2cdump -r 0x60-0x68 -y 1 0x50 b  
     0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f    0123456789abcdef  
60: 44 45 4c 4c 20 31 39 30 37                         DELL 1907  
  
I plugged my trusted VGA RGB to TTL board with my own EEPROM chip attached, and I was able to read and write contents to it, for example change the name of the “monitor” (I duplicated the entries for the Dell monitor to it, as described in the article on DDC2) to something else:  
  
root@ludolphine:~# i2cset -y 0 0x50 0x60 0x48  
root@ludolphine:~# i2cdump -r 0x60-0x68 -y 0 0x50 b  
     0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f    0123456789abcdef  
60: 48 45 4c 4c 20 31 39 30 37                         HELL 1907  
  
Using i2c-tools  
  
The faster way to do the first experiments with this board is by installing and using the i2c-tools.  
  
i2c-tools is a package contains a heterogeneous set of I2C tools for Linux such as:  
  
    a bus probing tool  
    a chip dumper  
    a register-level access helpers  
    an EEPROM decoding scripts  
    ...and more  
  
  
  
debarm:~# i2cdetect -y 0  
     0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f  
00:          -- -- -- -- -- -- -- -- -- -- -- -- --  
10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --  
20: 20 -- -- -- -- -- -- -- -- -- -- -- -- -- -- --  
30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --  
40: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --  
50: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --  
60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --  
70: -- -- -- -- -- -- -- --  
  
  
debarm:~# i2cset -y 0 0x20 255  
# i2cdetect -l  
r...@test:~# i2cset 0 0x50 0x50 0x21  
No size specified (using byte-data access)  
WARNING! This program can confuse your I2C bus, cause data loss and worse!  
DANGEROUS! Writing t# i2cdetect -l  
i2c-0       smbus           SMBus ALI15X3 adapter at e800           Non-I2C SMBus adapter  
i2c-1       i2c             I2C Voodoo3/Banshee adapter             Bit-shift algorithm  
i2c-2       i2c             DDC Voodoo3/Banshee adapter             Bit-shift algorithm o a serial EEPROM on a memory DIMM  
may render your memory USELESS and make your system UNBOOTABLE!  
I will write to device file /dev/i2c-0, chip address 0x50, data address  
0x50, data 0x21, mode byte.  
Continue? [y/N] y  
Warning - readback failed  
  
r...@test:~# i2cdump 0 0x50  
No size specified (using byte-data access)  
WARNING! This program can confuse your I2C bus, cause data loss and worse!  
I will probe file /dev/i2c-0, address 0x50, mode byte  
Continue? [Y/n] y  
    0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f    0123456789abcdef  
00: 80 08 07 0d 0b 01 40 00 04 60 70 00 82 08 00 01    ???...@.?`p.??.?  
10: 0e 04 0c 01 02 20 c0 75 70 00 00 48 30 48 2a 80    ????? ?up..H0H\*?  
20: 80 80 45 45 00 00 00 00 00 3c 48 30 2d 55 00 01    ??EE.....<H0-U.?  
30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 10 68    ..............?h  
40: 7f 7f 7f 7f 7f ba 00 00 00 56 4c 34 37 30 4c 36    ??????...VL470L6  
50: 21 32 33 2d 42 33 53 00 00 00 00 00 00 00 00 00    !23-B3S.........  
60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00    .......  
  
i2cdetect 0 shows that my chip is at address 0x27 (decimal 39)  
I send  
i2cset -y 0 0x27 0x0 0x01 b  
i2cdetect 0 shows that my chip is at address 0x27 (decimal 39)  
I send  
i2cset -y 0 0x27 0x0 0x01 b  
  
i.e. on i2c bus 0 at address 0x27 at the first register (there is in fact only one)  
send a byte 00000001 and so set the line zero of the 8 I/O lines to high  
-y "means do not ask for confirmation", b means "use binary mode"  
  
i2cset -y 0 0x27 0x0 0xFF b - to make all lines high as they must be before a read  
- set the line states from the external devices - then -  
i2cget -y 0 39 - this prints the result (note it is happy to use either decimal 39 or the equivalent hex 0x27)  
  
e.g. i2cset -y 0 80 0 2 b sends to i2c bus 0 at address decimal 80 and places a value 2 in the array element buffer[0]  
In this test pin DO is wired to an LED (then to resistor to ground - so LED on = high )  
  
i2cget -f -y 1 0x50 (force do not ask confirmation 1 (/dev/i2c-1) 0x50  
0xbe  
  
# i2cdetect -l  
i2c-0       smbus           SMBus ALI15X3 adapter at e800           Non-I2C SMBus adapter  
i2c-1       i2c             I2C Voodoo3/Banshee adapter             Bit-shift algorithm  
i2c-2       i2c             DDC Voodoo3/Banshee adapter             Bit-shift algorithm  
  
root# wget http://www.gallot.be/resources/eeprom.c  
root# gcc –o eeprom eeprom.c  
root# ./eeprom –r –f data  
base-address of eeproms       : 0x50  
number of pages to read       : 8 (0x50 .. 0x57)  
file opened for writing       : d  
            on filedescriptor : 3  
i2c-devicenode is             : /dev/i2c-0  
            on filedescriptor : 4  
  
Read 16 bytes from eeprom at 0x50, offset 00000000  
...  
Read 16 bytes from eeprom at 0x57, offset 000000f0  
root# wget https://raw.github.com/dgallot/i2c-tools/master/eepromer/eeprom.c  
root# gcc –o eeprom eeprom.c  
root# ./eeprom -f data -w  
base-address of eeproms       : 0x50  
number of pages to read       : 8 (0x50 .. 0x57)  
file opened for reading       : data  
            on filedescriptor : 3  
i2c-devicenode is             : /dev/i2c-0  
            on filedescriptor : 4  
  
\*\*WARNING\*\*  
 -     You have chosen to WRITE to this eeprom.  
    Make sure that this tiny chip is \*NOT\* vital to the  
    operation of your computer as you can easily corrupt  
    the configuration memory of your SDRAM-memory-module,  
    your IBM ThinkPad or whatnot...! Fixing these errors can be  
    a time-consuming and very costly process!  
  
Things to consider:  
 -     You can have more than one i2c-bus, check in /proc/bus/i2c  
    and specify the correct one with -d  
    right now you have chosen to use '/dev/i2c-0'  
 -     A eeprom can occupy several i2c-addresses (one per page)  
    so please make sure that there is no vital eeprom in your computer  
    sitting at addresses between 0x50 and 0x57  
Enter 'yes' to continue:yes  
  
Wrote 16 bytes to eeprom at 0x50, offset 00000000  
... acked  
Wrote 16 bytes to eeprom at 0x50, offset 00000010  
..... acked  
Wrote 16 bytes to eeprom at 0x50, offset 00000020  
...... acked  
Wrote 16 bytes to eeprom at 0x50, offset 00000030  
...... acked  
Wrote 16 bytes to eeprom at 0x57, offset 000000f0  
....... acked