

Serbus

v1.0.2

Generated by Doxygen 1.8.9.1

Thu Oct 22 2015 13:29:25



# Contents

<b>1</b>	<b>Main Page</b>	<b>1</b>
<b>2</b>	<b>Contributor Code of Conduct</b>	<b>3</b>
<b>3</b>	<b>File Index</b>	<b>5</b>
3.1	File List . . . . .	5
<b>4</b>	<b>File Documentation</b>	<b>7</b>
4.1	include/i2cdriver.h File Reference . . . . .	7
4.1.1	Detailed Description . . . . .	8
4.1.2	Function Documentation . . . . .	8
4.1.2.1	I2C_close . . . . .	8
4.1.2.2	I2C_disable10BitAddressing . . . . .	8
4.1.2.3	I2C_enable10BitAddressing . . . . .	8
4.1.2.4	I2C_open . . . . .	8
4.1.2.5	I2C_read . . . . .	9
4.1.2.6	I2C_readTransaction . . . . .	9
4.1.2.7	I2C_setSlaveAddress . . . . .	9
4.1.2.8	I2C_write . . . . .	9
4.2	include/spidriver.h File Reference . . . . .	10
4.2.1	Detailed Description . . . . .	11
4.2.2	Enumeration Type Documentation . . . . .	11
4.2.2.1	SPI_bit_order . . . . .	11
4.2.3	Function Documentation . . . . .	12
4.2.3.1	SPI_close . . . . .	12
4.2.3.2	SPI_disable3Wire . . . . .	12
4.2.3.3	SPI_disableCS . . . . .	12
4.2.3.4	SPI_disableLoopback . . . . .	12
4.2.3.5	SPI_enable3Wire . . . . .	12
4.2.3.6	SPI_enableCS . . . . .	13
4.2.3.7	SPI_enableLoopback . . . . .	13
4.2.3.8	SPI_getBitsPerWord . . . . .	13

4.2.3.9	SPI_getClockMode	13
4.2.3.10	SPI_getMaxFrequency	13
4.2.3.11	SPI_getMode	14
4.2.3.12	SPI_open	14
4.2.3.13	SPI_read	14
4.2.3.14	SPI_setBitOrder	14
4.2.3.15	SPI_setBitsPerWord	15
4.2.3.16	SPI_setClockMode	15
4.2.3.17	SPI_setCSActiveHigh	15
4.2.3.18	SPI_setCSActiveLow	15
4.2.3.19	SPI_setMaxFrequency	16
4.2.3.20	SPI_setMode	16
4.2.3.21	SPI_transfer	16
4.2.3.22	SPI_write	16

<b>Index</b>	<b>19</b>
--------------	-----------

# Chapter 1

## Main Page

Copyright (c) 2015 - Gray Cat Labs - <https://graycat.io>

Serbus provides basic C APIs for the I2C and SPI serial bus protocols on GNU/Linux based systems, as well as a Python package built on top of them.

It's really just a wrapper for the ioctl commands provided by the standard Linux I2C and SPI drivers, so it should be pretty universal. That said, I've currently only tested it extensively on the BeagleBone Black, so use it at your own risk! (And let me know if it's working for you on another system)

- Source code: <https://github.com/graycatlabs/serbus/>
- C API documentation: <https://graycat.io/docs/serbus/>

### Contributing

Have something to contribute? Great! This project follows the Contributor Covenant Code of Conduct, so be sure to read [code\\_of\\_conduct.md](#).

### License

Released under the MIT license.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.



## Chapter 2

# Contributor Code of Conduct

As contributors and maintainers of this project, and in the interest of fostering an open and welcoming community, we pledge to respect all people who contribute through reporting issues, posting feature requests, updating documentation, submitting pull requests or patches, and other activities.

We are committed to making participation in this project a harassment-free experience for everyone, regardless of level of experience, gender, gender identity and expression, sexual orientation, disability, personal appearance, body size, race, ethnicity, age, religion, or nationality.

Examples of unacceptable behavior by participants include:

- The use of sexualized language or imagery
- Personal attacks
- Trolling or insulting/derogatory comments
- Public or private harassment
- Publishing other's private information, such as physical or electronic addresses, without explicit permission
- Other unethical or unprofessional conduct.

Project maintainers have the right and responsibility to remove, edit, or reject comments, commits, code, wiki edits, issues, and other contributions that are not aligned to this Code of Conduct. By adopting this Code of Conduct, project maintainers commit themselves to fairly and consistently applying these principles to every aspect of managing this project. Project maintainers who do not follow or enforce the Code of Conduct may be permanently removed from the project team.

This code of conduct applies both within project spaces and in public spaces when an individual is representing the project or its community.

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by opening an issue or contacting one or more of the project maintainers.

This Code of Conduct is adapted from the [Contributor Covenant](http://contributor-covenant.org/version/1/2/0/), version 1.2.0, available at <http://contributor-covenant.org/version/1/2/0/>





## Chapter 3

# File Index

### 3.1 File List

Here is a list of all documented files with brief descriptions:

include/ <a href="#">i2cdriver.h</a>	
A basic driver for controlling Linux I2C interfaces . . . . .	7
include/ <a href="#">spidriver.h</a>	
A basic driver for controlling Linux spidev interfaces . . . . .	10



## Chapter 4

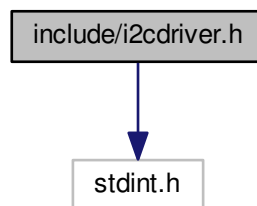
# File Documentation

### 4.1 include/i2cdriver.h File Reference

A basic driver for controlling Linux I2C interfaces.

```
#include <stdint.h>
```

Include dependency graph for i2cdriver.h:



### Functions

- `int I2C_open (uint8_t bus)`  
*Opens the /dev/i2c-[bus] interface.*
- `void I2C_close (int i2c_fd)`  
*Closes the given I2C interface.*
- `int I2C_enable10BitAddressing (int i2c_fd)`  
*Enables 10-bit addressing the given I2C interface.*
- `int I2C_disable10BitAddressing (int i2c_fd)`  
*Disables 10-bit addressing the given I2C interface.*
- `int I2C_setSlaveAddress (int i2c_fd, int addr)`  
*Sets the I2C slave address to communicate with.*
- `int I2C_read (int i2c_fd, void *rx_buffer, int n_bytes)`  
*Reads a block from the given I2C interface.*
- `int I2C_readTransaction (int i2c_fd, uint8_t byte, void *rx_buffer, int n_bytes)`  
*Writes the given command then reads a block from the given I2C interface.*
- `int I2C_write (int i2c_fd, void *tx_buffer, int n_bytes)`  
*Writes a block to the given I2C interface.*

### 4.1.1 Detailed Description

A basic driver for controlling Linux I2C interfaces.

#### Author

Alex Hiam - [alex@graycat.io](mailto:alex@graycat.io)

Requires an I2C Kernel driver be loaded to expose /dev/i2c-N interfaces which provide the standard Linux I2C ioctls. This driver is really just an ioctl wrapper.

### 4.1.2 Function Documentation

#### 4.1.2.1 void I2C\_close ( int *i2c\_fd* )

Closes the given I2C interface.

##### Parameters

<i>i2c_fd</i>	I2C bus file descriptor to close
---------------	----------------------------------

#### 4.1.2.2 int I2C\_disable10BitAddressing ( int *i2c\_fd* )

Disables 10-bit addressing the given I2C interface.

##### Parameters

<i>i2c_fd</i>	I2C file descriptor
---------------	---------------------

##### Returns

Returns 0 if successful, ioctl error code otherwise

#### 4.1.2.3 int I2C\_enable10BitAddressing ( int *i2c\_fd* )

Enables 10-bit addressing the given I2C interface.

##### Parameters

<i>i2c_fd</i>	I2C file descriptor
---------------	---------------------

##### Returns

Returns 0 if successful, ioctl error code otherwise

#### 4.1.2.4 int I2C\_open ( uint8\_t *bus* )

Opens the /dev/i2c-[bus] interface.

##### Parameters

<i>bus</i>	I2C bus number
------------	----------------

##### Returns

Returns the file descriptor for the I2C bus.

#### 4.1.2.5 int I2C\_read ( int *i2c\_fd*, void \* *rx\_buffer*, int *n\_bytes* )

Reads a block from the given I2C interface.

Reads *n\_bytes* from the current slave address on the given I2C interface. and puts them into the given buffer.

##### Parameters

<i>i2c_fd</i>	I2C file descriptor
<i>rx_buffer</i>	pointer to an array, already initialized to the required size
<i>n_bytes</i>	the number of bytes to read into <i>rx_buffer</i>

##### Returns

Returns 0 if successful, file access error code otherwise

#### 4.1.2.6 int I2C\_readTransaction ( int *i2c\_fd*, uint8\_t *byte*, void \* *rx\_buffer*, int *n\_bytes* )

Writes the given command then reads a block from the given I2C interface.

Writes the given byte, then immediately reads *n\_bytes* bytes from the current slave address on the given I2C interface. Useful for things like reading register values from memory mapped devices.

##### Parameters

<i>i2c_fd</i>	I2C file descriptor
<i>byte</i>	the byte to write before reading
<i>rx_buffer</i>	pointer to an array, already initialized to the required size
<i>n_bytes</i>	the number of bytes to read into <i>rx_buffer</i>

##### Returns

Returns 0 if successful, file access error code otherwise

#### 4.1.2.7 int I2C\_setSlaveAddress ( int *i2c\_fd*, int *addr* )

Sets the I2C slave address to communicate with.

Sets the I2C slave address that's sent with all subsequent I2C transactions on the given I2C bus, until I2C\_setSlaveAddress is called again with a new address.

##### Parameters

<i>i2c_fd</i>	I2C file descriptor
<i>addr</i>	the 7- or 10-bit address of the slave device

##### Returns

Returns 0 if successful, ioctl error code otherwise

#### 4.1.2.8 int I2C\_write ( int *i2c\_fd*, void \* *tx\_buffer*, int *n\_bytes* )

Writes a block to the given I2C interface.

Writes *n\_bytes* bytes from the given buffer to the current slave address on the given I2C interface.

## Parameters

<i>i2c_fd</i>	I2C file descriptor
<i>tx_buffer</i>	pointer to an array containing the words to be transmitted
<i>n_bytes</i>	the number of bytes to write from tx_buffer

## Returns

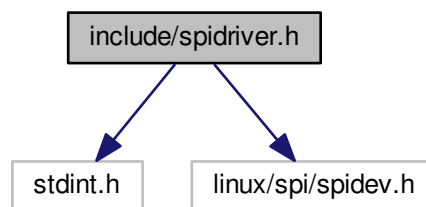
Returns 0 if successful, file access error code otherwise

## 4.2 include/spidriver.h File Reference

A basic driver for controlling Linux spidev interfaces.

```
#include <stdint.h>
#include <linux/spi/spidev.h>
```

Include dependency graph for spidriver.h:



## Enumerations

- enum [SPI\\_bit\\_order](#) { [SPI\\_MSBFIRST](#), [SPI\\_LSBFIRST](#) }

## Functions

- int [SPI\\_open](#) (uint8\_t bus, uint8\_t cs)  
*Opens the /dev/spidev[bus].[cs] interface.*
- void [SPI\\_close](#) (int spidev\_fd)  
*Closes the given spidev interface.*
- int [SPI\\_read](#) (int spidev\_fd, void \*rx\_buffer, int n\_words)  
*Reads from the given spidev interface.*
- int [SPI\\_write](#) (int spidev\_fd, void \*tx\_buffer, int n\_words)  
*Writes to the given spidev interface.*
- int [SPI\\_transfer](#) (int spidev\_fd, void \*tx\_buffer, void \*rx\_buffer, int n\_words)  
*Writes to and reads from the given spidev interface simultaneously.*
- int [SPI\\_setBitOrder](#) (int spidev\_fd, [SPI\\_bit\\_order](#) bit\_order)  
*Sets the bit order of the given spidev interface.*
- int [SPI\\_setBitsPerWord](#) (int spidev\_fd, uint8\_t bits\_per\_word)  
*Sets the number of bits per word for the given spidev interface.*
- int [SPI\\_getBitsPerWord](#) (int spidev\_fd)

- Gets the number of bits per word for the given spidev interface.*
- int [SPI\\_setMaxFrequency](#) (int spidev\_fd, uint32\_t frequency)  
*Sets the maximum clock frequency for the given spidev interface.*
- int [SPI\\_getMaxFrequency](#) (int spidev\_fd)  
*Gets the maximum clock frequency for the given spidev interface.*
- int [SPI\\_setClockMode](#) (int spidev\_fd, uint8\_t clock\_mode)  
*Sets the clock mode for the given spidev interface.*
- int [SPI\\_getClockMode](#) (int spidev\_fd)  
*Gets the clock mode for the given spidev interface.*
- int [SPI\\_setCSActiveLow](#) (int spidev\_fd)  
*Sets the given spidev interface's cs signal to be active low.*
- int [SPI\\_setCSActiveHigh](#) (int spidev\_fd)  
*Sets the given spidev interface's cs signal to be active high.*
- int [SPI\\_enableCS](#) (int spidev\_fd)  
*Enables the given spidev interface's cs output.*
- int [SPI\\_disableCS](#) (int spidev\_fd)  
*Disables the given spidev interface's cs output.*
- int [SPI\\_enableLoopback](#) (int spidev\_fd)  
*Puts the given spidev interface in loopback mode.*
- int [SPI\\_disableLoopback](#) (int spidev\_fd)  
*Disables loopback mode for the given spidev interface.*
- int [SPI\\_enable3Wire](#) (int spidev\_fd)  
*Enables 3-wire SPI mode for the given spidev interface.*
- int [SPI\\_disable3Wire](#) (int spidev\_fd)  
*Enables 4-wire SPI mode for the given spidev interface.*
- int [SPI\\_setMode](#) (int spidev\_fd, uint8\_t mode)  
*Sets the full SPI mode byte for the given spidev interface.*
- int [SPI\\_getMode](#) (int spidev\_fd)  
*Gets and returns the full SPI mode byte for the given spidev interface.*

### 4.2.1 Detailed Description

A basic driver for controlling Linux spidev interfaces.

#### Author

Alex Hiam - [alex@graycat.io](mailto:alex@graycat.io)

Requires an SPI Kernel driver be loaded to expose /dev/spidevX.Y interfaces which provide the standard Linux SPI ioctls. This driver is really just an ioctl wrapper.

### 4.2.2 Enumeration Type Documentation

#### 4.2.2.1 enum SPI\_bit\_order

Passed to [SPI\\_setBitOrder](#) to specify the bit order to use for subsequent SPI transfers.

#### Enumerator

**SPI\_MSBFIRST** Most significant bit first.

**SPI\_LSBFIRST** Least significant bit first.

Definition at line 107 of file spidriver.h.

### 4.2.3 Function Documentation

#### 4.2.3.1 void SPI\_close ( int *spidev\_fd* )

Closes the given spidev interface.

Parameters

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

#### 4.2.3.2 int SPI\_disable3Wire ( int *spidev\_fd* )

Enables 4-wire SPI mode for the given spidev interface.

Parameters

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

Returns

Returns 0 if successful, or -1 if error

#### 4.2.3.3 int SPI\_disableCS ( int *spidev\_fd* )

Disables the given spidev interface's cs output.

Parameters

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

Returns

Returns 0 if successful, or -1 if error

#### 4.2.3.4 int SPI\_disableLoopback ( int *spidev\_fd* )

Disables loopback mode for the given spidev interface.

Parameters

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

Returns

Returns 0 if successful, or -1 if error

#### 4.2.3.5 int SPI\_enable3Wire ( int *spidev\_fd* )

Enables 3-wire SPI mode for the given spidev interface.

Parameters

---



<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns 0 if successful, or -1 if error

**4.2.3.6 int SPI\_enableCS ( int *spidev\_fd* )**

Enables the given spidev interface's cs output.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns 0 if successful, or -1 if error

**4.2.3.7 int SPI\_enableLoopback ( int *spidev\_fd* )**

Puts the given spidev interface in loopback mode.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns 0 if successful, or -1 if error

**4.2.3.8 int SPI\_getBitsPerWord ( int *spidev\_fd* )**

Gets the number of bits per word for the given spidev interface.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns bits per word, or -1 if error

**4.2.3.9 int SPI\_getClockMode ( int *spidev\_fd* )**

Gets the clock mode for the given spidev interface.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns Returns the clock mode, or -1 if error

**4.2.3.10 int SPI\_getMaxFrequency ( int *spidev\_fd* )**

Gets the maximum clock frequency for the given spidev interface.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns the frequency, or -1 if error

**4.2.3.11 int SPI\_getMode ( int *spidev\_fd* )**

Gets and returns the full SPI mode byte for the given spidev interface.

Encodes current settings like the clock mode, SC active state, etc., and shouldn't typically need to be called directly.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns SPI mode if successful, or -1 if error

**4.2.3.12 int SPI\_open ( uint8\_t *bus*, uint8\_t *cs* )**

Opens the /dev/spidev[bus].[cs] interface.

**Parameters**

<i>bus</i>	SPI bus number
<i>cs</i>	chip select number

**Returns**

Returns the file descriptor for the spidev interface.

**4.2.3.13 int SPI\_read ( int *spidev\_fd*, void \* *rx\_buffer*, int *n\_words* )**

Reads from the given spidev interface.

Reads *n\_words* from the given spidev interface and puts them into the given buffer.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
<i>rx_buffer</i>	pointer to an array, already initialized to the required size
<i>n_words</i>	the number of words to read into tx_buffer

**Returns**

Returns the number of bytes read, or -1 if unable to read from interface

**4.2.3.14 int SPI\_setBitOrder ( int *spidev\_fd*, SPI\_bit\_order *bit\_order* )**

Sets the bit order of the given spidev interface.

## Parameters

<i>spidev_fd</i>	spidev file descriptor
<i>bit_order</i>	one of SPI_MSBFIRST or SPI_LSBFIRST

## Returns

Returns 0 if successful, or -1 if error

**4.2.3.15 int SPI\_setBitsPerWord ( int *spidev\_fd*, uint8\_t *bits\_per\_word* )**

Sets the number of bits per word for the given spidev interface.

## Parameters

<i>spidev_fd</i>	spidev file descriptor
<i>bits_per_word</i>	number of bits per word

## Returns

Returns 0 if successful, or -1 if error

**4.2.3.16 int SPI\_setClockMode ( int *spidev\_fd*, uint8\_t *clock\_mode* )**

Sets the clock mode for the given spidev interface.

## Parameters

<i>spidev_fd</i>	spidev file descriptor
<i>clock_mode</i>	one of SPI_MODE_0, SPI_MODE_1, SPI_MODE_2 or SPI_MODE_3

## Returns

Returns 0 if successful, -1 if error

**4.2.3.17 int SPI\_setCSActiveHigh ( int *spidev\_fd* )**

Sets the given spidev interface's cs signal to be active high.

## Parameters

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

## Returns

Returns 0 if successful, or -1 if error

**4.2.3.18 int SPI\_setCSActiveLow ( int *spidev\_fd* )**

Sets the given spidev interface's cs signal to be active low.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
------------------	------------------------

**Returns**

Returns 0 if successful, or -1 if error

**4.2.3.19 int SPI\_setMaxFrequency ( int *spidev\_fd*, uint32\_t *frequency* )**

Sets the maximum clock frequency for the given spidev interface.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
<i>frequency</i>	maximum clock frequency

**Returns**

Returns 0 if successful, or -1 if error

**4.2.3.20 int SPI\_setMode ( int *spidev\_fd*, uint8\_t *mode* )**

Sets the full SPI mode byte for the given spidev interface.

Used to set things like the clock mode, SC active state, etc., and shouldn't typically need to be called directly.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
<i>mode</i>	SPI mode byte

**Returns**

Returns 0 if successful, or -1 if error

**4.2.3.21 int SPI\_transfer ( int *spidev\_fd*, void \* *tx\_buffer*, void \* *rx\_buffer*, int *n\_words* )**

Writes to and reads from the given spidev interface simultaneously.

Writes *n\_words* from the given tx buffer to the given spidev interface, while simultaneously reading words into the given rx buffer.

**Parameters**

<i>spidev_fd</i>	spidev file descriptor
<i>tx_buffer</i>	pointer to an array containing the words to be transmitted
<i>rx_buffer</i>	pointer to an array, already initialized to the required size
<i>n_words</i>	the number of words to be transferred

**Returns**

Returns the number of bytes transferred, or -1 if unable to write interface

**4.2.3.22 int SPI\_write ( int *spidev\_fd*, void \* *tx\_buffer*, int *n\_words* )**

Writes to the given spidev interface.

Writes *n\_words* from the given buffer to the given spidev interface.

## Parameters

<i>spidev_fd</i>	spidev file descriptor
<i>tx_buffer</i>	pointer to an array containing the words to be transmitted
<i>n_words</i>	the number of words to be transmitted from tx_buffer

## Returns

Returns the number of bytes written, or -1 if unable to write interface



# Index

- I2C\_close
  - i2cdriver.h, [8](#)
- I2C\_disable10BitAddressing
  - i2cdriver.h, [8](#)
- I2C\_enable10BitAddressing
  - i2cdriver.h, [8](#)
- I2C\_open
  - i2cdriver.h, [8](#)
- I2C\_read
  - i2cdriver.h, [8](#)
- I2C\_readTransaction
  - i2cdriver.h, [9](#)
- I2C\_setSlaveAddress
  - i2cdriver.h, [9](#)
- I2C\_write
  - i2cdriver.h, [9](#)
- i2cdriver.h
  - I2C\_close, [8](#)
  - I2C\_disable10BitAddressing, [8](#)
  - I2C\_enable10BitAddressing, [8](#)
  - I2C\_open, [8](#)
  - I2C\_read, [8](#)
  - I2C\_readTransaction, [9](#)
  - I2C\_setSlaveAddress, [9](#)
  - I2C\_write, [9](#)
- include/i2cdriver.h, [7](#)
- include/spidriver.h, [10](#)
  
- SPI\_LSBFIRST
  - spidriver.h, [11](#)
- SPI\_MSBFIRST
  - spidriver.h, [11](#)
- SPI\_bit\_order
  - spidriver.h, [11](#)
- SPI\_close
  - spidriver.h, [12](#)
- SPI\_disable3Wire
  - spidriver.h, [12](#)
- SPI\_disableCS
  - spidriver.h, [12](#)
- SPI\_disableLoopback
  - spidriver.h, [12](#)
- SPI\_enable3Wire
  - spidriver.h, [12](#)
- SPI\_enableCS
  - spidriver.h, [13](#)
- SPI\_enableLoopback
  - spidriver.h, [13](#)
- SPI\_getBitsPerWord
  - spidriver.h, [13](#)
- SPI\_getClockMode
  - spidriver.h, [13](#)
- SPI\_getMaxFrequency
  - spidriver.h, [13](#)
- SPI\_getMode
  - spidriver.h, [14](#)
- SPI\_open
  - spidriver.h, [14](#)
- SPI\_read
  - spidriver.h, [14](#)
- SPI\_setBitOrder
  - spidriver.h, [14](#)
- SPI\_setBitsPerWord
  - spidriver.h, [15](#)
- SPI\_setCSActiveHigh
  - spidriver.h, [15](#)
- SPI\_setCSActiveLow
  - spidriver.h, [15](#)
- SPI\_setClockMode
  - spidriver.h, [15](#)
- SPI\_setMaxFrequency
  - spidriver.h, [16](#)
- SPI\_setMode
  - spidriver.h, [16](#)
- SPI\_transfer
  - spidriver.h, [16](#)
- SPI\_write
  - spidriver.h, [16](#)
- spidriver.h
  - SPI\_LSBFIRST, [11](#)
  - SPI\_MSBFIRST, [11](#)
  - SPI\_bit\_order, [11](#)
  - SPI\_close, [12](#)
  - SPI\_disable3Wire, [12](#)
  - SPI\_disableCS, [12](#)
  - SPI\_disableLoopback, [12](#)
  - SPI\_enable3Wire, [12](#)
  - SPI\_enableCS, [13](#)
  - SPI\_enableLoopback, [13](#)
  - SPI\_getBitsPerWord, [13](#)
  - SPI\_getClockMode, [13](#)
  - SPI\_getMaxFrequency, [13](#)
  - SPI\_getMode, [14](#)
  - SPI\_open, [14](#)
  - SPI\_read, [14](#)
  - SPI\_setBitOrder, [14](#)
  - SPI\_setBitsPerWord, [15](#)
  - SPI\_setCSActiveHigh, [15](#)
  - SPI\_setCSActiveLow, [15](#)

SPI\_setClockMode, [15](#)  
SPI\_setMaxFrequency, [16](#)  
SPI\_setMode, [16](#)  
SPI\_transfer, [16](#)  
SPI\_write, [16](#)