Arduino IO Library Driver

Generated by Doxygen 1.8.9.1

Tue Dec 29 2015 15:18:31

Contents

1 Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

2 Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

3 File Index

3.1 File List

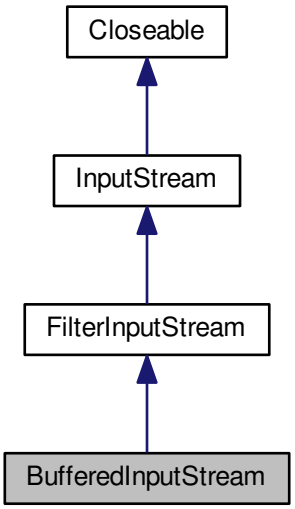
Here is a list of all files with brief descriptions:

4 Class Documentation

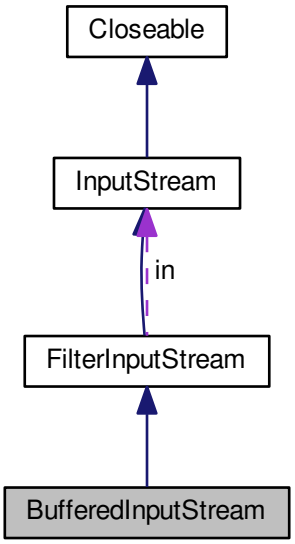
4.1 BufferedInputStream Class Reference

`#include <BufferedInputStream.h>`

Inheritance diagram for BufferedInputStream:



Collaboration diagram for BufferedInputStream:



Public Member Functions

- BufferedInputStream (InputStream ∗in, unsigned char ∗buf, int size)
- virtual ∼BufferedInputStream ()
- virtual int available ()
- virtual void close ()
- virtual void mark ()
- virtual bool markSupported ()
- virtual int read ()
- virtual int read (unsigned char ∗b, int len)
- virtual int read (unsigned char ∗b, int off, int len)
- virtual void reset ()
- virtual unsigned int skip (unsigned int n)

Protected Attributes

- unsigned char ∗ buf
- int count
- int pos
- bool marked
- int markpos

Private Member Functions

- void realineBufferContent ()
- void fill (int startPos)

Private Attributes

- unsigned int size

Additional Inherited Members

4.1.1 Detailed Description

Arduino IO.

BufferedInputStream

A `BufferedInputStream` adds functionality to another input stream-namely, the ability to buffer the input and to support the `mark` and `reset` methods. When the `BufferedInputStream` is created, an internal buffer array is passed. As bytes from the stream are read or skipped, the internal buffer is refilled as necessary from the contained input stream, many bytes at a time. The `mark` operation remembers a point in the input stream and the `reset` operation causes all the bytes read since the most recent `mark` operation to be reread before new bytes are taken from the contained input stream.

Definition at line 29 of file BufferedInputStream.h.

4.1.2 Constructor & Destructor Documentation

4.1.2.1 BufferedInputStream::BufferedInputStream (InputStream * *in*, unsigned char * *buf*, int *size*)

Public constructor.

Arduino IO.

Parameters

in	
buf	
size	BufferedInputStream

A `BufferedInputStream` adds functionality to another input stream-namely, the ability to buffer the input and to support the `mark` and `reset` methods. When the `BufferedInputStream` is created, an internal buffer array is passed. As bytes from the stream are read or skipped, the internal buffer is refilled as necessary from the contained input stream, many bytes at a time. The `mark` operation remembers a point in the input stream and the `reset` operation causes all the bytes read since the most recent `mark` operation to be reread before new bytes are taken from the contained input stream.

Definition at line 26 of file BufferedInputStream.cpp.

4.1.2.2 virtual BufferedInputStream::~BufferedInputStream ( ) [inline], [virtual]

Virtual destructor.

Definition at line 114 of file BufferedInputStream.h.

4.1.3 Member Function Documentation

4.1.3.1 int BufferedInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Reimplemented from FilterInputStream.

Definition at line 30 of file BufferedInputStream.cpp.

4.1.3.2 void BufferedInputStream::close ( ) [virtual]

Closes this input stream and releases any system resources associated with the stream.

Reimplemented from FilterInputStream.

Definition at line 34 of file BufferedInputStream.cpp.

4.1.3.3 void BufferedInputStream::fill (int *startPos*) [private]

Fills the buffer.

Parameters

startPos	

Definition at line 119 of file BufferedInputStream.cpp.

4.1.3.4 void BufferedInputStream::mark ( ) [virtual]

Marks the current position in this input stream.

Reimplemented from FilterInputStream.

Definition at line 131 of file BufferedInputStream.cpp.

4.1.3.5 bool BufferedInputStream::markSupported ( ) [virtual]

Tests if this input stream supports the mark and reset methods.

Reimplemented from FilterInputStream.

Definition at line 138 of file BufferedInputStream.cpp.

4.1.3.6 int BufferedInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Reimplemented from FilterInputStream.

Definition at line 91 of file BufferedInputStream.cpp.

4.1.3.7 int BufferedInputStream::read (unsigned char * *b*, int *len*) [virtual]

Reads some number of bytes from the input stream and stores them into the buffer array b.

Parameters

b	
len	

Returns

Reimplemented from FilterInputStream.

Definition at line 44 of file BufferedInputStream.cpp.

4.1.3.8 int BufferedInputStream::read (unsigned char * *b*, int *off*, int *len*) [virtual]

Reads some number of bytes from the input stream and stores them into the buffer array b.

Reimplemented from FilterInputStream.

Definition at line 48 of file BufferedInputStream.cpp.

4.1.3.9 void BufferedInputStream::realineBufferContent ( ) [private]

Moves the valid bytes on the buffer to the left side of the buffer.

Definition at line 107 of file BufferedInputStream.cpp.

4.1.3.10 void BufferedInputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

Reimplemented from FilterInputStream.

Definition at line 38 of file BufferedInputStream.cpp.

4.1.3.11 unsigned int BufferedInputStream::skip (unsigned int *n*) [virtual]

Skips over and discards n bytes of data from this input stream.

Reimplemented from FilterInputStream.

Definition at line 142 of file BufferedInputStream.cpp.

4.1.4 Member Data Documentation

4.1.4.1 unsigned char* BufferedInputStream::buf [protected]

The internal buffer array where the data is stored.

Definition at line 41 of file BufferedInputStream.h.

4.1.4.2 int BufferedInputStream::count [protected]

The index one greater than the index of the last valid unsigned char in the buffer.

This value is always in the range `0` through `size`; elements `buf[0]` through `buf[count-1]` contain buffered input data obtained from the underlying input stream.

Definition at line 52 of file BufferedInputStream.h.

4.1.4.3 bool BufferedInputStream::marked [protected]

Flag to determine if there is a marker on this input stream.

Definition at line 72 of file BufferedInputStream.h.

4.1.4.4 int BufferedInputStream::markpos [protected]

The value of the `pos` field at the time the last `mark` method was called.

This value is always in the range `0` through `pos`. If there is no marked position in the input stream, this field is `-1`. If there is a marked position in the input stream, then `buf[markpos]` is the first unsigned char to be supplied as input after a `reset` operation. If `markpos` is not `-1`, then all bytes from positions `buf[markpos]` through `buf[pos-1]` must remain in the buffer array (though they may be moved to another place in the buffer array, with suitable adjustments to the values of `count`, `pos`, and `markpos`); they may not be discarded unless and until the difference between `pos` and `markpos` exceeds `marklimit`.

Definition at line 98 of file BufferedInputStream.h.

4.1.4.5 int BufferedInputStream::pos [protected]

The current position in the buffer.

This is the index of the next character to be read from the `buf` array.

This value is always in the range `0` through `count`. If it is less than `count`, then `buf[pos]` is the next unsigned char to be supplied as input; if it is equal to `count`, then the next `read` or `skip` operation will require more bytes

to be read from the contained input stream.

Definition at line 67 of file BufferedInputStream.h.

4.1.4.6 unsigned int BufferedInputStream::size [private]

The size of the buffer.

Definition at line 34 of file BufferedInputStream.h.

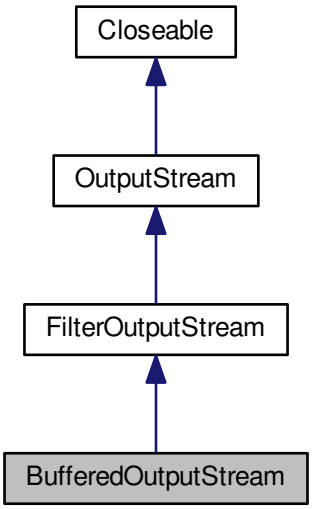
The documentation for this class was generated from the following files:

- BufferedInputStream.h
- BufferedInputStream.cpp

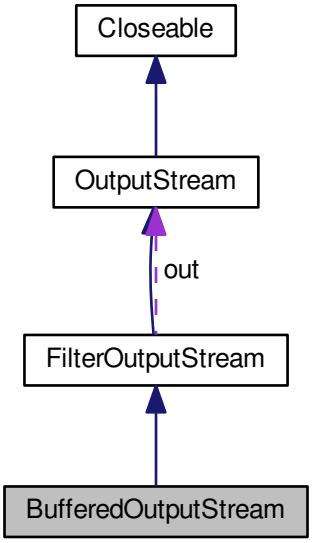
4.2 BufferedOutputStream Class Reference

`#include <BufferedOutputStream.h>`

Inheritance diagram for BufferedOutputStream:



Collaboration diagram for BufferedOutputStream:



Public Member Functions

- BufferedOutputStream (OutputStream *out, unsigned char *buf, int size)
- virtual ~BufferedOutputStream ()
- void write (unsigned char b)
- virtual void write (unsigned char *b, int len)
- virtual void write (unsigned char *b, int off, int len)
- virtual void flush ()
- virtual void close ()

Protected Attributes

- unsigned char * buf
- int size
- int count

Private Member Functions

- void flushBuffer ()

4.2.1 Detailed Description

Arduino IO.

BufferedOutputStream

The class implements a buffered output stream. By setting up such an output stream, an application can write bytes to the underlying output stream without necessarily causing a call to the underlying system for each unsigned char written.

Definition at line 17 of file BufferedOutputStream.h.

4.2.2 Constructor & Destructor Documentation

4.2.2.1 BufferedOutputStream::BufferedOutputStream (OutputStream * *out*, unsigned char * *buf*, int *size*)

Creates a new buffered output stream to write data to the specified underlying output stream with the specified buffer size.

Arduino IO.

Parameters

out	the underlying output stream.
size	the buffer size.

BufferedOutputStream

The class implements a buffered output stream. By setting up such an output stream, an application can write bytes to the underlying output stream without necessarily causing a call to the underlying system for each unsigned char written.

Definition at line 14 of file BufferedOutputStream.cpp.

4.2.2.2 virtual BufferedOutputStream::~BufferedOutputStream ( ) [virtual]

Virtual destructor.

4.2.3 Member Function Documentation

4.2.3.1 void BufferedOutputStream::close ( ) [virtual]

Closes this output stream and releases any system resources associated with the stream.

The `close` method of `FilterOutputStream` calls its `flush` method, and then calls the `close` method of its underlying output stream.

Reimplemented from FilterOutputStream.

Definition at line 55 of file BufferedOutputStream.cpp.

4.2.3.2 void BufferedOutputStream::flush ( ) [virtual]

Flushes this buffered output stream.

This forces any buffered output bytes to be written out to the underlying output stream.

Reimplemented from FilterOutputStream.

Definition at line 50 of file BufferedOutputStream.cpp.

4.2.3.3 void BufferedOutputStream::flushBuffer ( ) [private]

Flush the internal buffer.

Definition at line 60 of file BufferedOutputStream.cpp.

4.2.3.4 void BufferedOutputStream::write (unsigned char *b*) [virtual]

Writes the specified unsigned char to this buffered output stream.

Parameters

b	the unsigned char to be written.

Exceptions

IOException	if an I/O error occurs.

Reimplemented from FilterOutputStream.

Definition at line 18 of file BufferedOutputStream.cpp.

4.2.3.5 void BufferedOutputStream::write (unsigned char * *b*, int *len*) [virtual]

Writes len bytes from the specified unsigned char array to this output stream.

The general contract for write(b, len) is that it should have exactly the same effect as the call write(b, 0, len).

Parameters

b	
len	

Reimplemented from FilterOutputStream.

Definition at line 25 of file BufferedOutputStream.cpp.

4.2.3.6 void BufferedOutputStream::write (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes `len` bytes from the specified unsigned char array starting at offset `off` to this buffered output stream.

Ordinarily this method stores bytes from the given array into this stream's buffer, flushing the buffer to the underlying output stream as needed. If the requested length is at least as large as this stream's buffer, however, then this method will flush the buffer and write the bytes directly to the underlying output stream. Thus redundant `BufferedOutputStream`s will not copy data unnecessarily.

Parameters

b	the data.
off	the start offset in the data.
len	the number of bytes to write.

Reimplemented from FilterOutputStream.

Definition at line 29 of file BufferedOutputStream.cpp.

4.2.4 Member Data Documentation

4.2.4.1 unsigned char* BufferedOutputStream::buf [protected]

The internal buffer where data is stored.

Definition at line 24 of file BufferedOutputStream.h.

4.2.4.2 int BufferedOutputStream::count [protected]

The number of valid bytes in the buffer.

This value is always in the range `0` through `len`; elements `buf[0]` through `buf[count-1]` contain valid unsigned char data.

Definition at line 37 of file BufferedOutputStream.h.

4.2.4.3 int BufferedOutputStream::size [protected]

The size of the buffer where data is stored.

Definition at line 29 of file BufferedOutputStream.h.

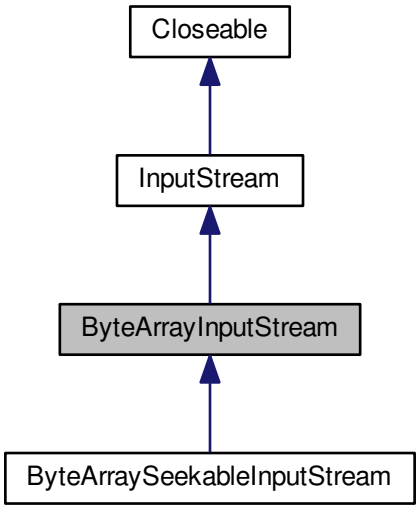
The documentation for this class was generated from the following files:

- BufferedOutputStream.h
- BufferedOutputStream.cpp

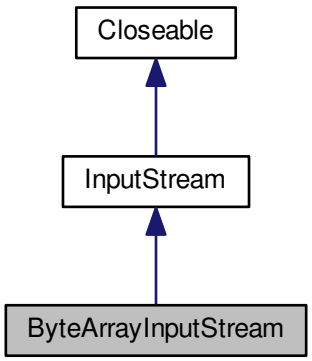
4.3 ByteArrayInputStream Class Reference

`#include <ByteArrayInputStream.h>`

Inheritance diagram for ByteArrayInputStream:



Collaboration diagram for ByteArrayInputStream:



Public Member Functions

- ByteArrayInputStream (unsigned char *buf, unsigned int count)
- virtual ~ByteArrayInputStream ()
- virtual int available ()
- virtual void mark ()
- virtual bool markSupported ()
- virtual int read ()
- virtual void reset ()

Protected Attributes

- unsigned char * buf
- unsigned int count
- unsigned int pos
- unsigned int markpos

4.3.1 Detailed Description

Arduino IO.

ByteArrayInputStream

A ByteArrayInputStream contains an internal buffer that contains bytes that may be read from the stream.

Definition at line 15 of file ByteArrayInputStream.h.

4.3.2 Constructor & Destructor Documentation

4.3.2.1 ByteArrayInputStream::ByteArrayInputStream (unsigned char * *buf*, unsigned int *count*)

Definition at line 15 of file ByteArrayInputStream.cpp.

4.3.2.2 virtual ByteArrayInputStream::~ByteArrayInputStream ( ) [inline], [virtual]

Virtual destructor.

Definition at line 46 of file ByteArrayInputStream.h.

4.3.3 Member Function Documentation

4.3.3.1 int ByteArrayInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

NOTE: This implementation return 1 or 0. It is because the size of the array is unsigned int, and this method returns a signed int, which means there is no way to return the difference between the current position (can be 0) and the size of the array without possible overflow.

Returns

Reimplemented from InputStream.

Definition at line 22 of file ByteArrayInputStream.cpp.

4.3.3.2 void ByteArrayInputStream::mark ( ) [virtual]

Marks the current position in this input stream.

Reimplemented from InputStream.

Definition at line 29 of file ByteArrayInputStream.cpp.

4.3.3.3 bool ByteArrayInputStream::markSupported ( ) [virtual]

Tests if this input stream supports the mark and reset methods.

Returns

Reimplemented from InputStream.

Definition at line 33 of file ByteArrayInputStream.cpp.

4.3.3.4 int ByteArrayInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Returns

Implements InputStream.

Definition at line 37 of file ByteArrayInputStream.cpp.

4.3.3.5 void ByteArrayInputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

Reimplemented from InputStream.

Definition at line 44 of file ByteArrayInputStream.cpp.

4.3.4 Member Data Documentation

4.3.4.1 unsigned char* ByteArrayInputStream::buf [protected]

Definition at line 22 of file ByteArrayInputStream.h.

4.3.4.2 unsigned int ByteArrayInputStream::count [protected]

Definition at line 27 of file ByteArrayInputStream.h.

4.3.4.3 unsigned int ByteArrayInputStream::markpos [protected]

Definition at line 37 of file ByteArrayInputStream.h.

4.3.4.4 unsigned int ByteArrayInputStream::pos [protected]

Definition at line 32 of file ByteArrayInputStream.h.

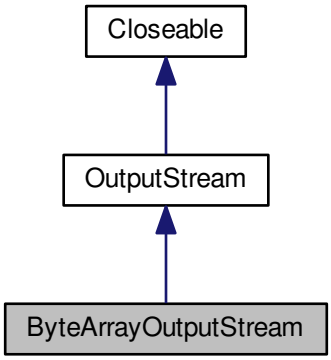
The documentation for this class was generated from the following files:

- ByteArrayInputStream.h
- ByteArrayInputStream.cpp

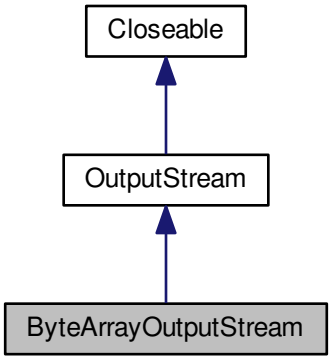
4.4 ByteArrayOutputStream Class Reference

`#include <ByteArrayOutputStream.h>`

Inheritance diagram for ByteArrayOutputStream:



Collaboration diagram for ByteArrayOutputStream:



Public Member Functions

- ByteArrayOutputStream (unsigned char *buf, unsigned int count)
- virtual ~ByteArrayOutputStream ()
- void reset ()
- unsigned int size ()
- unsigned char * toByteArray ()
- virtual void write (unsigned char b)

Protected Attributes

- unsigned char * buf
- unsigned int count
- unsigned int pos

4.4.1 Detailed Description

Arduino IO.

ByteArrayOutputStream

This class implements an output stream in which the data is written into a unsigned char array.

Definition at line 15 of file ByteArrayOutputStream.h.

4.4.2 Constructor & Destructor Documentation

4.4.2.1 ByteArrayOutputStream::ByteArrayOutputStream (unsigned char * *buf,* unsigned int *count*)

Public constructor.

Parameters

buf	
count	

Definition at line 15 of file ByteArrayOutputStream.cpp.

4.4.2.2 virtual ByteArrayOutputStream::~ByteArrayOutputStream ( ) [inline],[virtual]

Virtual destructor.

Definition at line 47 of file ByteArrayOutputStream.h.

4.4.3 Member Function Documentation

4.4.3.1 void ByteArrayOutputStream::reset ( )

Resets the count field of this unsigned char array output stream to zero.

Definition at line 21 of file ByteArrayOutputStream.cpp.

4.4.3.2 unsigned int ByteArrayOutputStream::size ( )

Returns the current size of the buffer.

Returns

unsigned int The size of the stream.

Definition at line 25 of file ByteArrayOutputStream.cpp.

4.4.3.3 unsigned char * ByteArrayOutputStream::toByteArray ( )

Creates a newly allocated unsigned char array.

Returns

unsigned char* The unsigned char array.

Definition at line 29 of file ByteArrayOutputStream.cpp.

4.4.3.4 void ByteArrayOutputStream::write (unsigned char *b*) [virtual]

Writes the specified unsigned char to this output stream.

Parameters

b	The unsigned char to be written.

Implements OutputStream.

Definition at line 33 of file ByteArrayOutputStream.cpp.

4.4.4 Member Data Documentation

4.4.4.1 unsigned char* ByteArrayOutputStream::buf [protected]

Definition at line 22 of file ByteArrayOutputStream.h.

4.4.4.2 unsigned int ByteArrayOutputStream::count [protected]

Definition at line 27 of file ByteArrayOutputStream.h.

4.4.4.3 unsigned int ByteArrayOutputStream::pos [protected]

Definition at line 32 of file ByteArrayOutputStream.h.

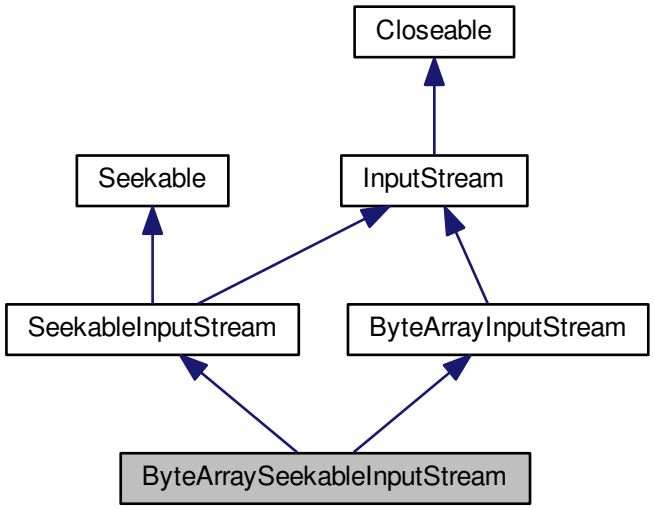
The documentation for this class was generated from the following files:

- ByteArrayOutputStream.h
- ByteArrayOutputStream.cpp

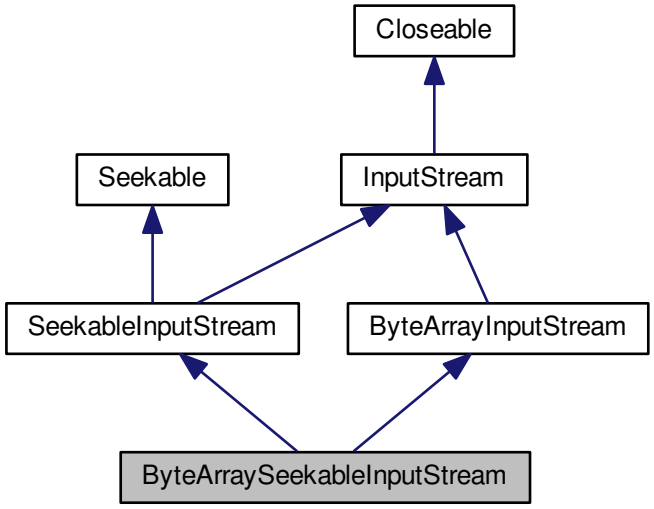
4.5 ByteArraySeekableInputStream Class Reference

`#include <ByteArraySeekableInputStream.h>`

Inheritance diagram for ByteArraySeekableInputStream:



Collaboration diagram for ByteArraySeekableInputStream:



Public Member Functions

- ByteArraySeekableInputStream (unsigned char *buf, unsigned int count)
- virtual void seek (unsigned int pos)

Additional Inherited Members

4.5.1 Detailed Description

Arduino IO.

ByteArraySeekableInputStream

A ByteArraySeekableInputStream obtains input bytes from a resource in a file system that implements SeekableInputStream interface.

Definition at line 16 of file ByteArraySeekableInputStream.h.

4.5.2 Constructor & Destructor Documentation

4.5.2.1 ByteArraySeekableInputStream::ByteArraySeekableInputStream (unsigned char * *buf*, unsigned int *count*)

Arduino IO.

ByteArraySeekableInputStream

A ByteArraySeekableInputStream obtains input bytes from a resource in a file system that implements SeekableInputStream interface.

Definition at line 12 of file ByteArraySeekableInputStream.cpp.

4.5.3 Member Function Documentation

4.5.3.1 void ByteArraySeekableInputStream::seek (unsigned int *pos*) [virtual]

Implements Seekable.

Definition at line 16 of file ByteArraySeekableInputStream.cpp.

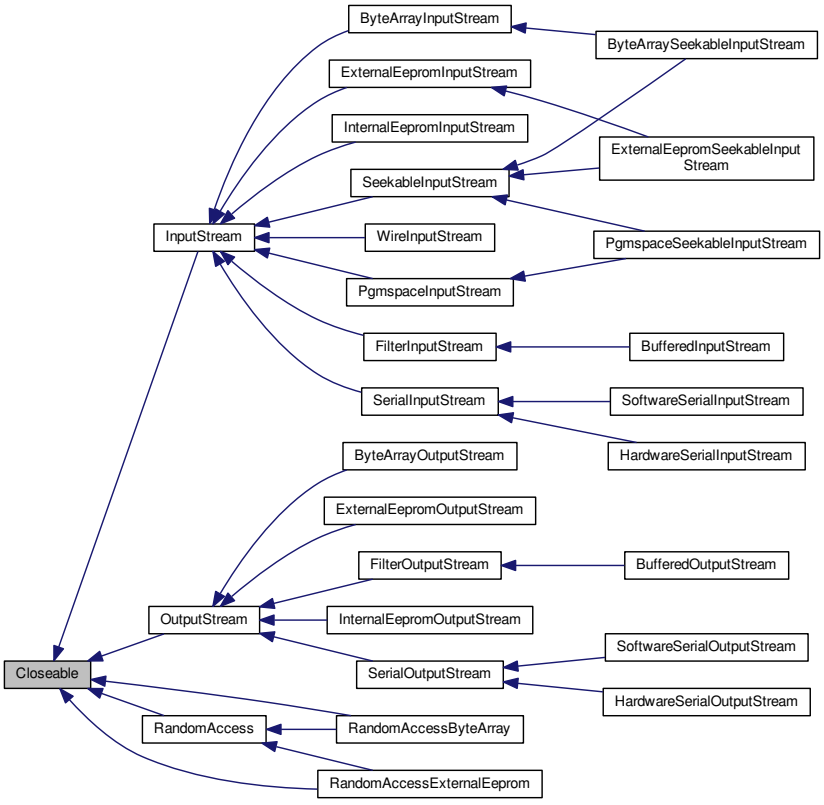
The documentation for this class was generated from the following files:

- ByteArraySeekableInputStream.h
- ByteArraySeekableInputStream.cpp

4.6 Closeable Class Reference

`#include <Closeable.h>`

Inheritance diagram for Closeable:



Public Member Functions

- virtual void close ()=0

4.6.1 Detailed Description

Arduino IO.

Closeable

A Closeable is a source or destination of data that can be closed.

Definition at line 12 of file Closeable.h.

4.6.2 Member Function Documentation

4.6.2.1 virtual void Closeable::close ( ) [pure virtual]

Implemented in BufferedInputStream, FilterInputStream, BufferedOutputStream, FilterOutputStream, RandomAccessByteArray, RandomAccessExternalEeprom, InputStream, and OutputStream.

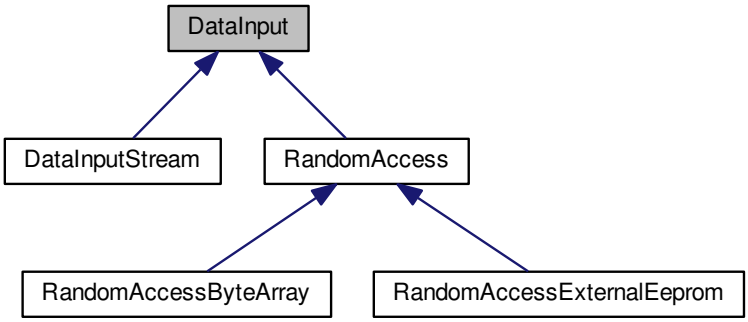
The documentation for this class was generated from the following file:

- Closeable.h

4.7 DataInput Class Reference

`#include <DataInput.h>`

Inheritance diagram for DataInput:



Public Member Functions

- virtual unsigned char readByte ()=0
- virtual bool readBoolean ()=0
- virtual char readChar ()=0
- virtual unsigned char readUnsignedChar ()=0
- virtual int readInt ()=0
- virtual unsigned int readUnsignedInt ()=0
- virtual word readWord ()=0
- virtual long readLong ()=0
- virtual unsigned long readUnsignedLong ()=0
- virtual float readFloat ()=0
- virtual double readDouble ()=0
- virtual void readFully (unsigned char *b, int len)=0
- virtual unsigned int skipBytes (unsigned int n)=0

4.7.1 Detailed Description

Arduino IO.

DataInput

The DataInput interface provides for reading bytes from a binary stream and reconstructing from them data in any of the primitive arduino types.

Definition at line 16 of file DataInput.h.

4.7.2 Member Function Documentation

4.7.2.1 virtual bool DataInput::readBoolean ( ) [pure virtual]

Reads a bool from the stream.

Returns

bool

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.2 virtual unsigned char DataInput::readByte ( ) [pure virtual]

Reads a unsigned char from the stream.

Returns

unsigned char

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.3 virtual char DataInput::readChar ( ) [pure virtual]

Reads a char from the stream.

Returns

char

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.4 virtual double DataInput::readDouble ( ) [pure virtual]

Reads a double from the stream.

Returns

double

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.5 virtual float DataInput::readFloat ( ) [pure virtual]

Reads a float from the stream.

Returns

float

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.6 virtual void DataInput::readFully (unsigned char * *b*, int *len*) [pure virtual]

Reads a array of bytes from the stream.

Parameters

b	
len	

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.7 virtual int DataInput::readInt ( ) [pure virtual]

Reads an int from the stream.

Returns

int

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.8 virtual long DataInput::readLong ( ) [pure virtual]

Reads a long from the stream.

Returns

long

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.9 virtual unsigned char DataInput::readUnsignedChar ( ) [pure virtual]

Reads an unsigned char from the stream.

Returns

unsigned char

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.10 virtual unsigned int DataInput::readUnsignedInt ( ) [pure virtual]

Reads an unsigned int from the stream.

Returns

unsigned int

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.11 virtual unsigned long DataInput::readUnsignedLong ( ) [pure virtual]

Reads a unsigned long from the stream.

Returns

unsigned long

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.12 virtual word DataInput::readWord ( ) [pure virtual]

Reads a word from the stream.

Returns

word

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

4.7.2.13 virtual unsigned int DataInput::skipBytes (unsigned int *n*) [pure virtual]

Skips n bytes of the stream.

Parameters

n	

Returns

unsigned int The number of skipped bytes.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataInputStream.

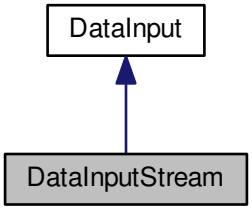
The documentation for this class was generated from the following file:

- DataInput.h

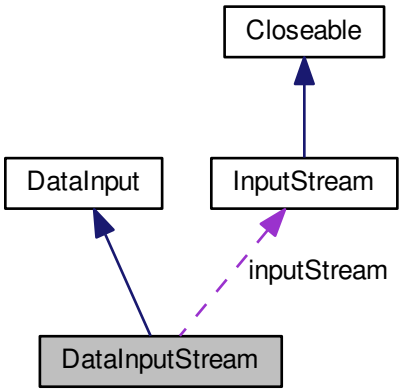
4.8 DataInputStream Class Reference

`#include <DataInputStream.h>`

Inheritance diagram for DataInputStream:



Collaboration diagram for DataInputStream:



Public Member Functions

- DataInputStream (InputStream *inputStream)
- virtual unsigned char readByte ()
- virtual bool readBoolean ()
- virtual char readChar ()
- virtual unsigned char readUnsignedChar ()
- virtual int readInt ()
- virtual unsigned int readUnsignedInt ()
- virtual word readWord ()
- virtual long readLong ()
- virtual unsigned long readUnsignedLong ()
- virtual float readFloat ()
- virtual double readDouble ()
- virtual void readFully (unsigned char *b, int len)
- virtual unsigned int skipBytes (unsigned int n)

Private Attributes

- InputStream * inputStream

4.8.1 Detailed Description

Arduino IO.

DataInputStream

A data input stream lets an application read data from a InputStream.

Definition at line 15 of file DataInputStream.h.

4.8.2 Constructor & Destructor Documentation

4.8.2.1 DataInputStream::DataInputStream (InputStream * *inputStream*)

Public constructor.

Parameters

inputStream	

Definition at line 14 of file DataInputStream.cpp.

4.8.3 Member Function Documentation

4.8.3.1 bool DataInputStream::readBoolean ( ) [virtual]

Reads a bool from the stream.

Returns

bool

Implements DataInput.

Definition at line 22 of file DataInputStream.cpp.

4.8.3.2 unsigned char DataInputStream::readByte ( ) [virtual]

Reads a unsigned char from the stream.

Returns

unsigned char

Implements DataInput.

Definition at line 18 of file DataInputStream.cpp.

4.8.3.3 char DataInputStream::readChar ( ) [virtual]

Reads a char from the stream.

Returns

char

Implements DataInput.

Definition at line 26 of file DataInputStream.cpp.

4.8.3.4 double DataInputStream::readDouble ( ) [virtual]

Reads a double from the stream.

Returns

double

Implements DataInput.

Definition at line 70 of file DataInputStream.cpp.

4.8.3.5 float DataInputStream::readFloat ( ) [virtual]

Reads a float from the stream.

Returns

float

Implements DataInput.

Definition at line 66 of file DataInputStream.cpp.

4.8.3.6 void DataInputStream::readFully (unsigned char * *b*, int *len*) [virtual]

Reads a array of bytes from the stream.

Parameters

b	
len	

Implements DataInput.

Definition at line 74 of file DataInputStream.cpp.

4.8.3.7 int DataInputStream::readInt ( ) [virtual]

Reads an int from the stream.

Returns

int

Implements DataInput.

Definition at line 34 of file DataInputStream.cpp.

4.8.3.8 long DataInputStream::readLong ( ) [virtual]

Reads a long from the stream.

Returns

long

Implements DataInput.

Definition at line 50 of file DataInputStream.cpp.

4.8.3.9 unsigned char DataInputStream::readUnsignedChar ( ) [virtual]

Reads an unsigned char from the stream.

Returns

unsigned char

Implements DataInput.

Definition at line 30 of file DataInputStream.cpp.

4.8.3.10 unsigned int DataInputStream::readUnsignedInt ( ) [virtual]

Reads an unsigned int from the stream.

Returns

unsigned int

Implements DataInput.

Definition at line 42 of file DataInputStream.cpp.

4.8.3.11 unsigned long DataInputStream::readUnsignedLong ( ) [virtual]

Reads a unsigned long from the stream.

Returns

unsigned long

Implements DataInput.

Definition at line 62 of file DataInputStream.cpp.

4.8.3.12 word DataInputStream::readWord ( ) [virtual]

Reads a word from the stream.

Returns

word

Implements DataInput.

Definition at line 46 of file DataInputStream.cpp.

4.8.3.13 unsigned int DataInputStream::skipBytes (unsigned int *n*) [virtual]

Skips n bytes of the stream.

Parameters

n	

Returns

unsigned int The number of skipped bytes.

Implements DataInput.

Definition at line 80 of file DataInputStream.cpp.

4.8.4 Member Data Documentation

4.8.4.1 InputStream* DataInputStream::inputStream [private]

The used input stream.

Definition at line 20 of file DataInputStream.h.

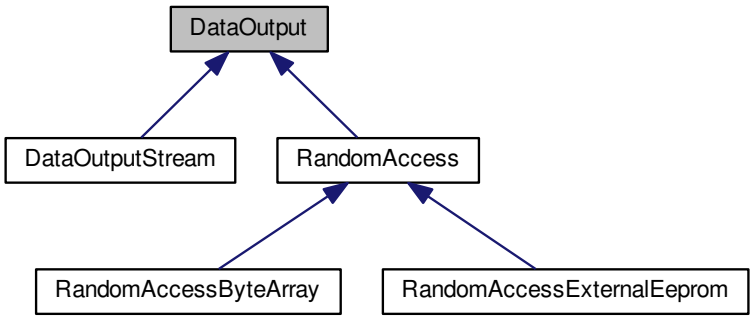
The documentation for this class was generated from the following files:

- DataInputStream.h
- DataInputStream.cpp

4.9 DataOutput Class Reference

`#include <DataOutput.h>`

Inheritance diagram for DataOutput:



Public Member Functions

- virtual void write (unsigned char *b, int len)=0
- virtual void write (unsigned char b)=0
- virtual void writeByte (unsigned char b)=0
- virtual void writeBytes (unsigned char *b, int len)=0
- virtual void writeBoolean (bool v)=0
- virtual void writeChar (char c)=0
- virtual void writeUnsignedChar (unsigned char c)=0

- virtual void writeInt (int v)=0
- virtual void writeUnsignedInt (unsigned int v)=0
- virtual void writeWord (word v)=0
- virtual void writeLong (long v)=0
- virtual void writeUnsignedLong (unsigned long v)=0
- virtual void writeFloat (float v)=0
- virtual void writeDouble (double v)=0

4.9.1 Detailed Description

Arduino IO.

DataOutput

The DataOutput interface provides for converting data from any of the primitive types to a series of bytes and writing these bytes to a binary stream.

Definition at line 15 of file DataOutput.h.

4.9.2 Member Function Documentation

4.9.2.1 virtual void DataOutput::write (unsigned char * *b*, int *len*) [pure virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.2 virtual void DataOutput::write (unsigned char *b*) [pure virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.3 virtual void DataOutput::writeBoolean (bool *v*) [pure virtual]

Writes a bool into the stream.

Parameters

v	The bool to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.4 virtual void DataOutput::writeByte (unsigned char *b*) [pure virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.5 virtual void DataOutput::writeBytes (unsigned char * *b*, int *len*) [pure virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.6 virtual void DataOutput::writeChar (char *c*) [pure virtual]

Writes a char into the stream.

Parameters

c	The char to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.7 virtual void DataOutput::writeDouble (double *v*) [pure virtual]

Writes a double into the stream.

Parameters

v	The double to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.8 virtual void DataOutput::writeFloat (float *v*) [pure virtual]

Writes a float into the stream.

Parameters

v	The float to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.9 virtual void DataOutput::writeInt (int *v*) [pure virtual]

Writes an int into the stream.

Parameters

v	The int to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.10 virtual void DataOutput::writeLong (long *v*) [pure virtual]

Writes a long into the stream.

Parameters

v	The long to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.11 virtual void DataOutput::writeUnsignedChar (unsigned char *c*) [pure virtual]

Writes an unsigned char into the stream.

Parameters

c	The unsigned char to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.12 virtual void DataOutput::writeUnsignedInt (unsigned int *v*) [pure virtual]

Writes an unsigned int into the stream.

Parameters

v	The unsigned int to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.13 virtual void DataOutput::writeUnsignedLong (unsigned long *v*) [pure virtual]

Writes a unsigned long into the stream.

Parameters

v	The unsigned long to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

4.9.2.14 virtual void DataOutput::writeWord (word *v*) [pure virtual]

Writes a word into the stream.

Parameters

v	The word to be written.

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, and DataOutputStream.

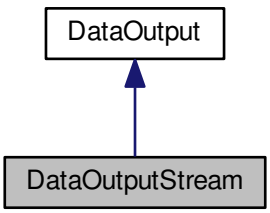
The documentation for this class was generated from the following file:

- DataOutput.h

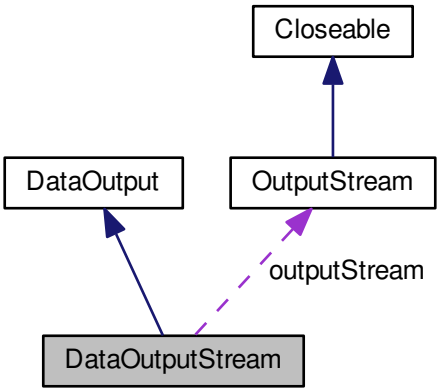
4.10 DataOutputStream Class Reference

`#include <DataOutputStream.h>`

Inheritance diagram for DataOutputStream:



Collaboration diagram for DataOutputStream:



Public Member Functions

- DataOutputStream (OutputStream *outputStream)
- virtual void write (unsigned char *b, int len)
- virtual void write (unsigned char b)
- virtual void writeByte (unsigned char b)
- virtual void writeBytes (unsigned char *b, int len)
- virtual void writeBoolean (bool v)
- virtual void writeChar (char c)
- virtual void writeUnsignedChar (unsigned char c)
- virtual void writeInt (int v)
- virtual void writeUnsignedInt (unsigned int v)
- virtual void writeWord (word v)
- virtual void writeLong (long v)
- virtual void writeUnsignedLong (unsigned long v)
- virtual void writeFloat (float v)
- virtual void writeDouble (double v)

Private Attributes

- OutputStream * outputStream

4.10.1 Detailed Description

Arduino IO.

DataOutputStream

A data output stream lets an application write types to an OutputStream.

Definition at line 16 of file DataOutputStream.h.

4.10.2 Constructor & Destructor Documentation

4.10.2.1 DataOutputStream::DataOutputStream (OutputStream * *outputStream*)

Public constructor.

Parameters

outputStream	The stream to be used.

Definition at line 14 of file DataOutputStream.cpp.

4.10.3 Member Function Documentation

4.10.3.1 void DataOutputStream::write (unsigned char * *b*, int *len*) [virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implements DataOutput.

Definition at line 18 of file DataOutputStream.cpp.

4.10.3.2 void DataOutputStream::write (unsigned char *b*) [virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implements DataOutput.

Definition at line 22 of file DataOutputStream.cpp.

4.10.3.3 void DataOutputStream::writeBoolean (bool *v*) [virtual]

Writes a bool into the stream.

Parameters

v	The bool to be written.

Implements DataOutput.

Definition at line 36 of file DataOutputStream.cpp.

4.10.3.4 void DataOutputStream::writeByte (unsigned char *b*) [virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implements DataOutput.

Definition at line 26 of file DataOutputStream.cpp.

4.10.3.5 void DataOutputStream::writeBytes (unsigned char * *b*, int *len*) [virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implements DataOutput.

Definition at line 30 of file DataOutputStream.cpp.

4.10.3.6 void DataOutputStream::writeChar (char *c*) [virtual]

Writes a char into the stream.

Parameters

c	The char to be written.

Implements DataOutput.

Definition at line 40 of file DataOutputStream.cpp.

4.10.3.7 void DataOutputStream::writeDouble (double *v*) [virtual]

Writes a double into the stream.

Parameters

v	The double to be written.

Implements DataOutput.

Definition at line 76 of file DataOutputStream.cpp.

4.10.3.8 void DataOutputStream::writeFloat (float *v*) [virtual]

Writes a float into the stream.

Parameters

v	The float to be written.

Implements DataOutput.

Definition at line 72 of file DataOutputStream.cpp.

4.10.3.9 void DataOutputStream::writeInt (int *v*) [virtual]

Writes an int into the stream.

Parameters

v	The int to be written.

Implements DataOutput.

Definition at line 48 of file DataOutputStream.cpp.

4.10.3.10 void DataOutputStream::writeLong (long *v*) [virtual]

Writes a long into the stream.

Parameters

v	The long to be written.

Implements DataOutput.

Definition at line 61 of file DataOutputStream.cpp.

4.10.3.11 void DataOutputStream::writeUnsignedChar (unsigned char *c*) [virtual]

Writes an unsigned char into the stream.

Parameters

c	The unsigned char to be written.

Implements DataOutput.

Definition at line 44 of file DataOutputStream.cpp.

4.10.3.12 void DataOutputStream::writeUnsignedInt (unsigned int *v*) [virtual]

Writes an unsigned int into the stream.

Parameters

v	The unsigned int to be written.

Implements DataOutput.

Definition at line 53 of file DataOutputStream.cpp.

4.10.3.13 void DataOutputStream::writeUnsignedLong (unsigned long *v*) [virtual]

Writes a unsigned long into the stream.

Parameters

v	The unsigned long to be written.

Implements DataOutput.

Definition at line 68 of file DataOutputStream.cpp.

4.10.3.14 void DataOutputStream::writeWord (word *v*) [virtual]

Writes a word into the stream.

Parameters

v	The word to be written.

Implements DataOutput.

Definition at line 57 of file DataOutputStream.cpp.

4.10.4 Member Data Documentation

4.10.4.1 OutputStream* DataOutputStream::outputStream [private]

The stream to be used.

Definition at line 21 of file DataOutputStream.h.

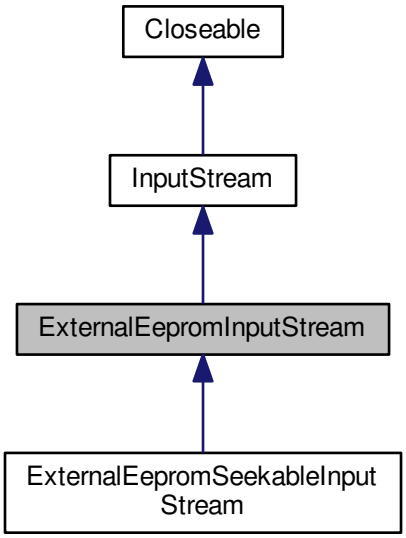
The documentation for this class was generated from the following files:

- DataOutputStream.h
- DataOutputStream.cpp

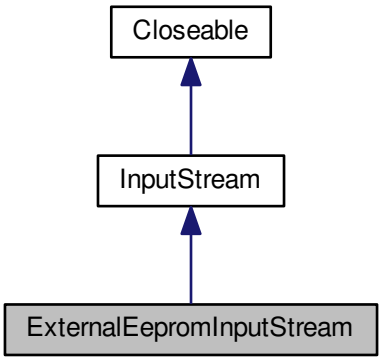
4.11 ExternalEepromInputStream Class Reference

```
#include <ExternalEepromInputStream.h>
```

Inheritance diagram for ExternalEepromInputStream:



Collaboration diagram for ExternalEepromInputStream:



Public Member Functions

- ExternalEepromInputStream (ExternalEeprom *externalEeprom)
- virtual ~ExternalEepromInputStream ()
- virtual int available ()
- virtual void mark ()
- virtual bool markSupported ()
- virtual int read ()

- virtual int read (unsigned char *b, int off, int len)
- virtual void reset ()

Protected Attributes

- const int maxAvailableChunk
- ExternalEeprom * externalEeprom
- unsigned int pos
- unsigned int markpos
- unsigned int externalEepromSize

4.11.1 Detailed Description

Arduino IO.

ExternalEepromInputStream

An ExternalEepromInputStream obtains input bytes from a externalEeprom.

Definition at line 16 of file ExternalEepromInputStream.h.

4.11.2 Constructor & Destructor Documentation

4.11.2.1 ExternalEepromInputStream::ExternalEepromInputStream (ExternalEeprom * *externalEeprom*)

Public constructor.

Arduino IO.

Parameters

externalEeprom	The externalEeprom where data is stored.

ExternalEepromInputStream

An ExternalEepromInputStream obtains input bytes from a externalEeprom.

Definition at line 12 of file ExternalEepromInputStream.cpp.

4.11.2.2 virtual ExternalEepromInputStream::~ExternalEepromInputStream ( ) [inline], [virtual]

Virtual destructor.

Definition at line 57 of file ExternalEepromInputStream.h.

4.11.3 Member Function Documentation

4.11.3.1 int ExternalEepromInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Returns

int The available number of bytes.

Reimplemented from InputStream.

Definition at line 16 of file ExternalEepromInputStream.cpp.

4.11.3.2 void ExternalEepromInputStream::mark ( ) [virtual]

Marks the current position in this input stream.

Reimplemented from InputStream.

Definition at line 24 of file ExternalEepromInputStream.cpp.

4.11.3.3 bool ExternalEepromInputStream::markSupported ( ) [virtual]

Tests if this input stream supports the mark and reset methods.

Returns

bool

Reimplemented from InputStream.

Definition at line 28 of file ExternalEepromInputStream.cpp.

4.11.3.4 int ExternalEepromInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Returns

int The read unsigned char as an int.

Implements InputStream.

Definition at line 32 of file ExternalEepromInputStream.cpp.

4.11.3.5 int ExternalEepromInputStream::read (unsigned char * *b*, int *off*, int *len*) [virtual]

Reads len of bytes from the input stream.

Parameters

b	
off	
len	

Returns

Reimplemented from InputStream.

Definition at line 39 of file ExternalEepromInputStream.cpp.

4.11.3.6 void ExternalEepromInputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

Reimplemented from InputStream.

Definition at line 48 of file ExternalEepromInputStream.cpp.

4.11.4 Member Data Documentation

4.11.4.1 ExternalEeprom* ExternalEepromInputStream::externalEeprom [protected]

Definition at line 28 of file ExternalEepromInputStream.h.

4.11.4.2 unsigned int ExternalEepromInputStream::externalEepromSize [protected]

Definition at line 43 of file ExternalEepromInputStream.h.

4.11.4.3 unsigned int ExternalEepromInputStream::markpos [protected]

Definition at line 38 of file ExternalEepromInputStream.h.

4.11.4.4 const int ExternalEepromInputStream::maxAvailableChunk [protected]

When asking for available, this is the max number to return.

Definition at line 23 of file ExternalEepromInputStream.h.

4.11.4.5 unsigned int ExternalEepromInputStream::pos [protected]

Definition at line 33 of file ExternalEepromInputStream.h.

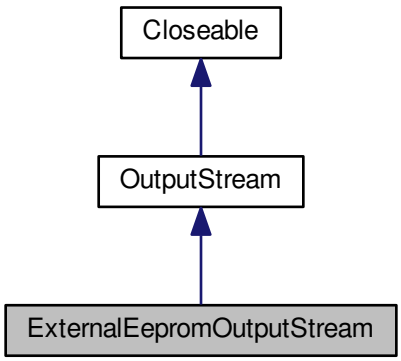
The documentation for this class was generated from the following files:

- ExternalEepromInputStream.h
- ExternalEepromInputStream.cpp

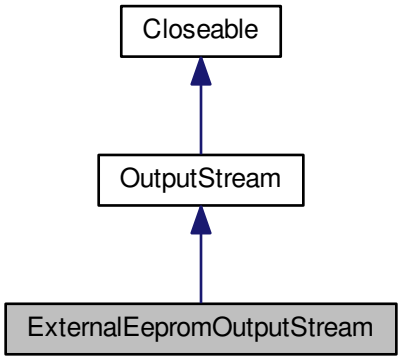
4.12 ExternalEepromOutputStream Class Reference

`#include <ExternalEepromOutputStream.h>`

Inheritance diagram for ExternalEepromOutputStream:



Collaboration diagram for ExternalEepromOutputStream:



Public Member Functions

- ExternalEepromOutputStream (ExternalEeprom ∗externalEeprom)
- virtual ∼ExternalEepromOutputStream ()
- virtual void write (unsigned char b)
- virtual void write (unsigned char ∗b, int off, int len)

Private Attributes

- ExternalEeprom ∗ externalEeprom
- unsigned int pos

4.12.1 Detailed Description

Arduino IO.

ExternalEepromOutputStream

A resource output stream is an output stream for writing data to an ExternalEeprom.

Definition at line 16 of file ExternalEepromOutputStream.h.

4.12.2 Constructor & Destructor Documentation

4.12.2.1 ExternalEepromOutputStream::ExternalEepromOutputStream (ExternalEeprom ∗ *externalEeprom*)

Public constructor.

Parameters

externalEeprom	

Definition at line 14 of file ExternalEepromOutputStream.cpp.

4.12.2.2 virtual ExternalEepromOutputStream::∼ExternalEepromOutputStream ( ) [inline], [virtual]

Definition at line 37 of file ExternalEepromOutputStream.h.

4.12.3 Member Function Documentation

4.12.3.1 void ExternalEepromOutputStream::write (unsigned char *b*) [virtual]

Writes the specified unsigned char to this output stream.

Parameters

b	

Implements OutputStream.

Definition at line 20 of file ExternalEepromOutputStream.cpp.

4.12.3.2 void ExternalEepromOutputStream::write (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes len bytes from the specified unsigned char array starting at offset off to this output stream.

Parameters

b	
off	
len	

Reimplemented from OutputStream.

Definition at line 24 of file ExternalEepromOutputStream.cpp.

4.12.4 Member Data Documentation

4.12.4.1 ExternalEeprom* ExternalEepromOutputStream::externalEeprom [private]

The associated eeprom.

Definition at line 21 of file ExternalEepromOutputStream.h.

4.12.4.2 unsigned int ExternalEepromOutputStream::pos [private]

Current eeprom position.

Definition at line 26 of file ExternalEepromOutputStream.h.

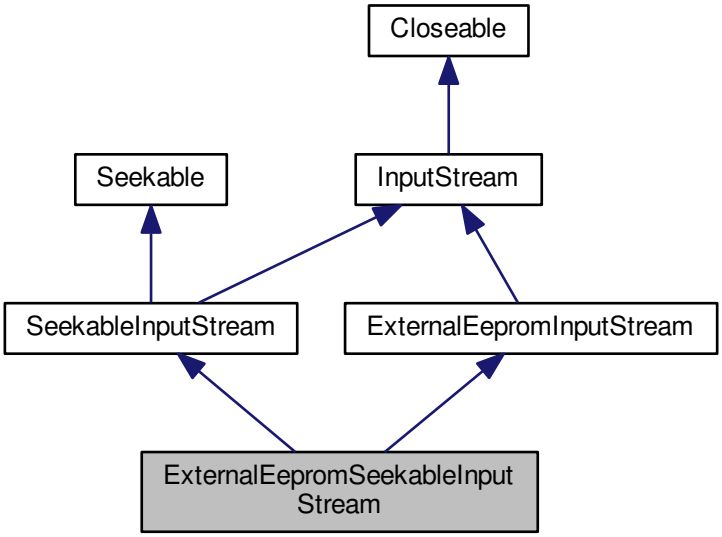
The documentation for this class was generated from the following files:

- ExternalEepromOutputStream.h
- ExternalEepromOutputStream.cpp

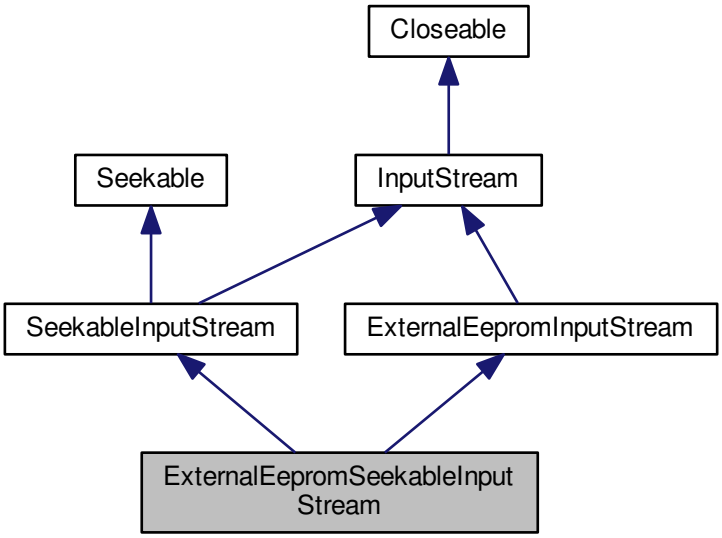
4.13 ExternalEepromSeekableInputStream Class Reference

```
#include <ExternalEepromSeekableInputStream.h>
```

Inheritance diagram for ExternalEepromSeekableInputStream:



Collaboration diagram for ExternalEepromSeekableInputStream:



Public Member Functions

- ExternalEepromSeekableInputStream (ExternalEeprom *externalEeprom)

- virtual void seek (unsigned int pos)

Additional Inherited Members

4.13.1 Detailed Description

Arduino IO.

ExternalEepromSeekableInputStream

A ExternalEepromSeekableInputStream obtains input bytes from a external input stream.

Definition at line 17 of file ExternalEepromSeekableInputStream.h.

4.13.2 Constructor & Destructor Documentation

4.13.2.1 ExternalEepromSeekableInputStream::ExternalEepromSeekableInputStream (ExternalEeprom * *externalEeprom*)

Public constructor.

Parameters

resource	The external eeprom to be used.

Definition at line 15 of file ExternalEepromSeekableInputStream.cpp.

4.13.3 Member Function Documentation

4.13.3.1 void ExternalEepromSeekableInputStream::seek (unsigned int *pos*) [virtual]

Seeks this input stream to the position.

Parameters

pos	THe position.

Implements Seekable.

Definition at line 20 of file ExternalEepromSeekableInputStream.cpp.

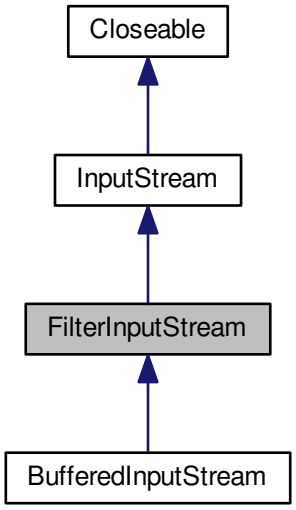
The documentation for this class was generated from the following files:

- ExternalEepromSeekableInputStream.h
- ExternalEepromSeekableInputStream.cpp

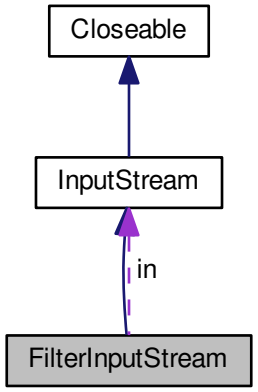
4.14 FilterInputStream Class Reference

```
#include <FilterInputStream.h>
```

Inheritance diagram for FilterInputStream:



Collaboration diagram for FilterInputStream:



Public Member Functions

- virtual int read ()
- virtual int read (unsigned char ∗b, int len)
- virtual int read (unsigned char ∗b, int off, int len)
- virtual unsigned int skip (unsigned int n)
- virtual int available ()
- virtual void close ()

- virtual void mark ()
- virtual void reset ()
- virtual bool markSupported ()

Protected Member Functions

- FilterInputStream (InputStream *in)

Protected Attributes

- InputStream * in

4.14.1 Detailed Description

A `FilterInputStream` contains some other input stream, which it uses as its basic source of data, possibly transforming the data along the way or providing additional functionality.

The class `FilterInputStream` itself simply overrides all methods of `InputStream` with versions that pass all requests to the contained input stream. Subclasses of `FilterInputStream` may further override some of these methods and may also provide additional methods and fields.

Definition at line 21 of file FilterInputStream.h.

4.14.2 Constructor & Destructor Documentation

4.14.2.1 FilterInputStream::FilterInputStream (InputStream * *in*) [protected]

Creates a `FilterInputStream` by assigning the argument `in` to the field `this->in` so as to remember it for later use.

Parameters

in	the underlying input stream

Definition at line 21 of file FilterInputStream.cpp.

4.14.3 Member Function Documentation

4.14.3.1 int FilterInputStream::available ( ) [virtual]

Returns an estimate of the number of bytes that can be read (or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Returns

an estimate of the number of bytes that can be read (or skipped over) from this input stream without blocking.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 41 of file FilterInputStream.cpp.

4.14.3.2 void FilterInputStream::close ( ) [virtual]

Closes this input stream.

This method simply performs `in->close()`.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 45 of file FilterInputStream.cpp.

4.14.3.3 void FilterInputStream::mark ( ) [virtual]

Marks the current position in this input stream.

A subsequent call to the `reset` method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

This method simply performs `in->mark()`.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 49 of file FilterInputStream.cpp.

4.14.3.4 bool FilterInputStream::markSupported ( ) [virtual]

Tests if this input stream supports the `mark` and `reset` methods.

This method simply performs `in->markSupported()`.

Returns

`true` if this stream type supports the `mark` and `reset` method; `false` otherwise.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 57 of file FilterInputStream.cpp.

4.14.3.5 int FilterInputStream::read ( ) [virtual]

Reads the next unsigned char of data from this input stream.

The value unsigned char is returned as an `int` in the range `0` to `255`. If no unsigned char is available because the end of the stream has been reached, the value `-1` is returned.

This method simply performs `in->read()` and returns the result.

Returns

the next unsigned char of data, or `-1` if the end of the stream is reached.

Implements InputStream.

Reimplemented in BufferedInputStream.

Definition at line 25 of file FilterInputStream.cpp.

4.14.3.6 int FilterInputStream::read (unsigned char * *b*, int *len*) [virtual]

Reads up to `len` bytes of data from this input stream into an array of bytes.

This method simply performs the call `read(b, 0, len)` and returns the result. It is important that it does *not* do `in->read(b)` instead; certain subclasses of `FilterInputStream` depend on the implementation strategy actually used.

Parameters

b	the buffer into which the data is read.

Returns

the total number of bytes read into the buffer, or `-1` if there is no more data because the end of the stream has been reached.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 29 of file FilterInputStream.cpp.

4.14.3.7 int FilterInputStream::read (unsigned char * *b*, int *off*, int *len*) [virtual]

Reads up to `len` bytes of data from this input stream into an array of bytes.

This method simply performs `in->read(b, off, len)` and returns the result.

Parameters

b	the buffer into which the data is read.
off	the start offset in the destination array `b`
len	the maximum number of bytes read.

Returns

the total number of bytes read into the buffer, or `-1` if there is no more data because the end of the stream has been reached.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 33 of file FilterInputStream.cpp.

4.14.3.8 void FilterInputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the `mark` method was last called on this input stream.

This method simply performs `in->reset()`.

Stream marks are intended to be used in situations where you need to read ahead a little to see what's in the stream. Often this is most easily done by invoking some general parser. If the stream is of the type handled by the parse, it just chugs along happily. If the stream is not of that type, the parser should toss an exception when it fails.

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 53 of file FilterInputStream.cpp.

4.14.3.9 unsigned int FilterInputStream::skip (unsigned int *n*) [virtual]

This method simply performs `in->skip(n)`.

Parameters

Reimplemented from InputStream.

Reimplemented in BufferedInputStream.

Definition at line 37 of file FilterInputStream.cpp.

4.14.4 Member Data Documentation

4.14.4.1 InputStream* FilterInputStream::in [protected]

The input stream to be filtered.

Definition at line 28 of file FilterInputStream.h.

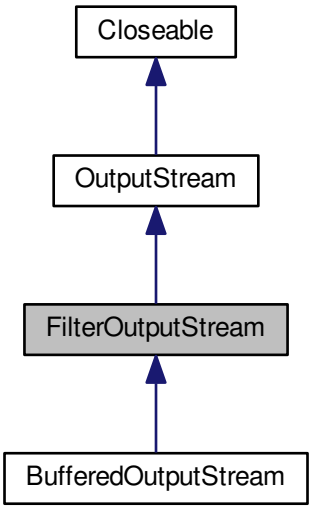
The documentation for this class was generated from the following files:

- FilterInputStream.h
- FilterInputStream.cpp

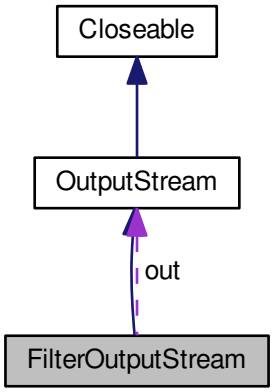
4.15 FilterOutputStream Class Reference

`#include <FilterOutputStream.h>`

Inheritance diagram for FilterOutputStream:



Collaboration diagram for FilterOutputStream:



Public Member Functions

- FilterOutputStream (OutputStream *out)
- virtual void write (unsigned char b)
- virtual void write (unsigned char *b, int len)
- virtual void write (unsigned char *b, int off, int len)
- virtual void flush ()
- virtual void close ()

Protected Attributes

- OutputStream * out

4.15.1 Detailed Description

Arduino IO.

FilterOutputStream

This class is the superclass of all classes that filter output streams. These streams sit on top of an already existing output stream (the *underlying* output stream) which it uses as its basic sink of data, but possibly transforming the data along the way or providing additional functionality.

The class `FilterOutputStream` itself simply overrides all methods of `OutputStream` with versions that pass all requests to the underlying output stream. Subclasses of `FilterOutputStream` may further override some of these methods as well as provide additional methods and fields.

Definition at line 24 of file FilterOutputStream.h.

4.15.2 Constructor & Destructor Documentation

4.15.2.1 FilterOutputStream::FilterOutputStream (OutputStream * *out*)

Creates an output stream filter built on top of the specified underlying output stream.

Parameters

out	the underlying output stream to be assigned to the field `this->out` for later use.

Definition at line 24 of file FilterOutputStream.cpp.

4.15.3 Member Function Documentation

4.15.3.1 void FilterOutputStream::close ( ) [virtual]

Closes this output stream and releases any system resources associated with the stream.

The `close` method of `FilterOutputStream` calls its `flush` method, and then calls the `close` method of its underlying output stream.

Reimplemented from OutputStream.

Reimplemented in BufferedOutputStream.

Definition at line 44 of file FilterOutputStream.cpp.

4.15.3.2 void FilterOutputStream::flush ( ) [virtual]

Flushes this output stream and forces any buffered output bytes to be written out to the stream.

The `flush` method of `FilterOutputStream` calls the `flush` method of its underlying output stream.

Reimplemented from OutputStream.

Reimplemented in BufferedOutputStream.

Definition at line 40 of file FilterOutputStream.cpp.

4.15.3.3 void FilterOutputStream::write (unsigned char *b*) [virtual]

Writes the specified `unsigned char` to this output stream.

The `write` method of `FilterOutputStream` calls the `write` method of its underlying output stream, that is, it performs `out->write(b)`.

Implements the abstract `write` method of `OutputStream`.

Parameters

b	the `unsigned char`.

Implements OutputStream.

Reimplemented in BufferedOutputStream.

Definition at line 28 of file FilterOutputStream.cpp.

4.15.3.4 void FilterOutputStream::write (unsigned char * *b*, int *len*) [virtual]

Writes `len` bytes to this output stream.

The `write` method of `FilterOutputStream` calls its `write` method of two arguments with the arguments `b` and <codelen.

Parameters

b	the data to be written.
len	the length

Reimplemented from OutputStream.

Reimplemented in BufferedOutputStream.

Definition at line 32 of file FilterOutputStream.cpp.

4.15.3.5 void FilterOutputStream::write (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes `len` bytes from the specified `unsigned char` array starting at offset `off` to this output stream.

Parameters

b	the data.
off	the start offset in the data.
len	the number of bytes to write.

Reimplemented from OutputStream.

Reimplemented in BufferedOutputStream.

Definition at line 36 of file FilterOutputStream.cpp.

4.15.4 Member Data Documentation

4.15.4.1 OutputStream* FilterOutputStream::out [protected]

The underlying output stream to be filtered.

Definition at line 30 of file FilterOutputStream.h.

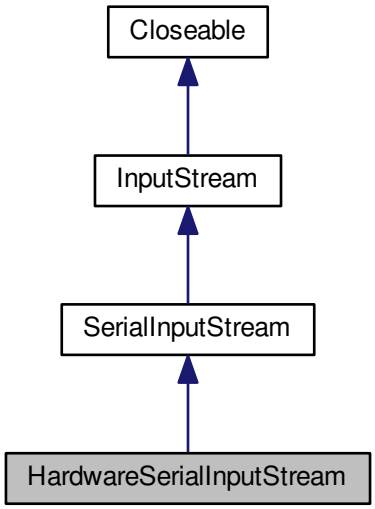
The documentation for this class was generated from the following files:

- FilterOutputStream.h
- FilterOutputStream.cpp

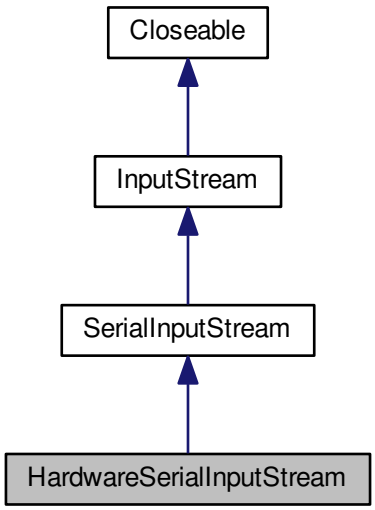
4.16 HardwareSerialInputStream Class Reference

`#include <HardwareSerialInputStream.h>`

Inheritance diagram for HardwareSerialInputStream:



Collaboration diagram for HardwareSerialInputStream:



Public Member Functions

- HardwareSerialInputStream (unsigned int boudRate)
- virtual int available ()
- virtual int read ()

4.16.1 Detailed Description

Arduino IO.

HardwareSerialInputStream

A HardwareSerialInputStream obtains input bytes from a serial port.

Definition at line 16 of file HardwareSerialInputStream.h.

4.16.2 Constructor & Destructor Documentation

4.16.2.1 HardwareSerialInputStream::HardwareSerialInputStream (unsigned int *boudRate*)

Public constructor.

Parameters

boudRate	

Definition at line 14 of file HardwareSerialInputStream.cpp.

4.16.3 Member Function Documentation

4.16.3.1 int HardwareSerialInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Reimplemented from InputStream.

Definition at line 18 of file HardwareSerialInputStream.cpp.

4.16.3.2 int HardwareSerialInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Implements InputStream.

Definition at line 22 of file HardwareSerialInputStream.cpp.

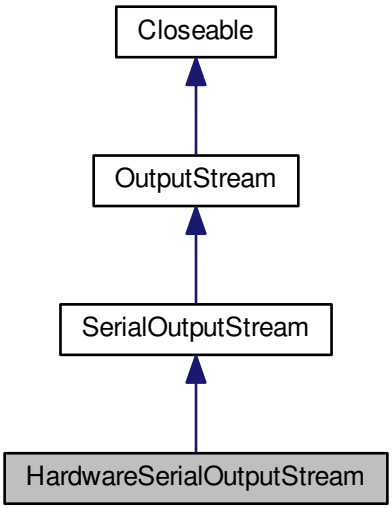
The documentation for this class was generated from the following files:

- HardwareSerialInputStream.h
- HardwareSerialInputStream.cpp

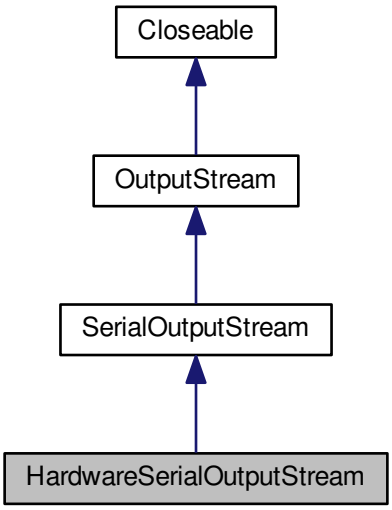
4.17 HardwareSerialOutputStream Class Reference

`#include <HardwareSerialOutputStream.h>`

Inheritance diagram for HardwareSerialOutputStream:



Collaboration diagram for HardwareSerialOutputStream:



Public Member Functions

- HardwareSerialOutputStream (unsigned int boudRate)
- virtual void write (unsigned char b)

4.17.1 Detailed Description

Arduino IO.

HardwareSerialOutputStream

A software serial output stream is a output stream to write in a serial port.

Definition at line 16 of file HardwareSerialOutputStream.h.

4.17.2 Constructor & Destructor Documentation

4.17.2.1 HardwareSerialOutputStream::HardwareSerialOutputStream (unsigned int *boudRate*)

Public constructor.

Parameters

boudRate	

Definition at line 14 of file HardwareSerialOutputStream.cpp.

4.17.3 Member Function Documentation

4.17.3.1 void HardwareSerialOutputStream::write (unsigned char *b*) [virtual]

Writes the specified unsigned char to this output stream.

Implements OutputStream.

Definition at line 18 of file HardwareSerialOutputStream.cpp.

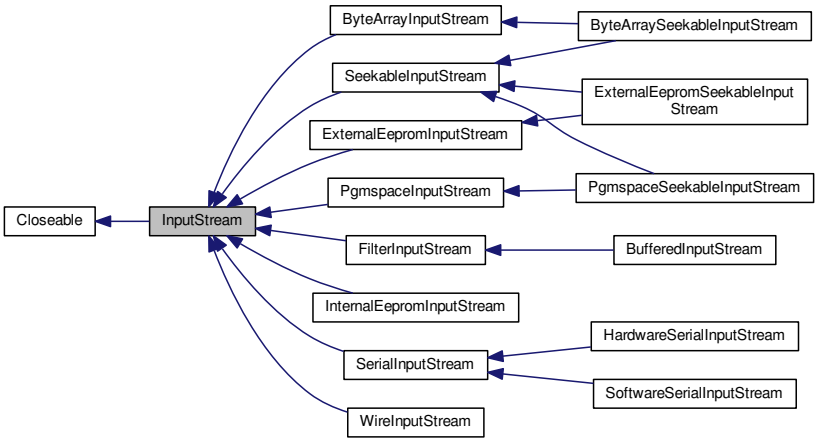
The documentation for this class was generated from the following files:

- HardwareSerialOutputStream.h
- HardwareSerialOutputStream.cpp

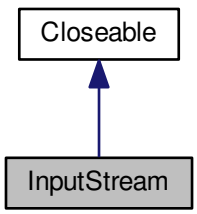
4.18 InputStream Class Reference

`#include <InputStream.h>`

Inheritance diagram for InputStream:



Collaboration diagram for InputStream:



Public Member Functions

- virtual int available ()
- virtual void close ()
- virtual void mark ()
- virtual bool markSupported ()

- virtual int read ()=0
- virtual int read (unsigned char *b, int len)
- virtual int read (unsigned char *b, int off, int len)
- virtual void reset ()
- virtual unsigned int skip (unsigned int n)

4.18.1 Detailed Description

Arduino IO.

InputStream

This abstract class is the superclass of all classes representing an input stream of bytes.

Applications that need to define a subclass of InputStream must always provide a method that returns the next unsigned char of input.

Definition at line 18 of file InputStream.h.

4.18.2 Member Function Documentation

4.18.2.1 int InputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Reimplemented in BufferedInputStream, FilterInputStream, ExternalEepromInputStream, ByteArrayInputStream, InternalEepromInputStream, PgmspaceInputStream, SoftwareSerialInputStream, WireInputStream, and HardwareSerialInputStream.

Definition at line 18 of file InputStream.cpp.

4.18.2.2 void InputStream::close ( ) [virtual]

Closes this input stream and releases any system resources associated with the stream.

Implements Closeable.

Reimplemented in BufferedInputStream, and FilterInputStream.

Definition at line 22 of file InputStream.cpp.

4.18.2.3 void InputStream::mark ( ) [virtual]

Marks the current position in this input stream.

Reimplemented in BufferedInputStream, FilterInputStream, ExternalEepromInputStream, ByteArrayInputStream, InternalEepromInputStream, and PgmspaceInputStream.

Definition at line 25 of file InputStream.cpp.

4.18.2.4 bool InputStream::markSupported ( ) [virtual]

Tests if this input stream supports the mark and reset methods.

Reimplemented in FilterInputStream, BufferedInputStream, ExternalEepromInputStream, ByteArrayInputStream, InternalEepromInputStream, and PgmspaceInputStream.

Definition at line 28 of file InputStream.cpp.

4.18.2.5 virtual int InputStream::read ( ) [pure virtual]

Reads the next unsigned char of data from the input stream.

Implemented in BufferedInputStream, ExternalEepromInputStream, ByteArrayInputStream, InternalEepromInputStream, PgmspaceInputStream, FilterInputStream, SoftwareSerialInputStream, WireInputStream, and HardwareSerialInputStream.

4.18.2.6 int InputStream::read (unsigned char * *b*, int *len*) [virtual]

Reads some number of bytes from the input stream and stores them into the buffer array b.

Reimplemented in BufferedInputStream, and FilterInputStream.

Definition at line 32 of file InputStream.cpp.

4.18.2.7 int InputStream::read (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes len of bytes into the stream.

Parameters

b	
off	
len	

Returns

Reimplemented in BufferedInputStream, ExternalEepromInputStream, FilterInputStream, InternalEepromInputStream, and WireInputStream.

Definition at line 36 of file InputStream.cpp.

4.18.2.8 void InputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

Reimplemented in BufferedInputStream, FilterInputStream, ExternalEepromInputStream, InternalEepromInputStream, ByteArrayInputStream, and PgmspaceInputStream.

Definition at line 56 of file InputStream.cpp.

4.18.2.9 unsigned int InputStream::skip (unsigned int *n*) [virtual]

Skips over and discards n bytes of data from this input stream.

Reimplemented in BufferedInputStream, and FilterInputStream.

Definition at line 59 of file InputStream.cpp.

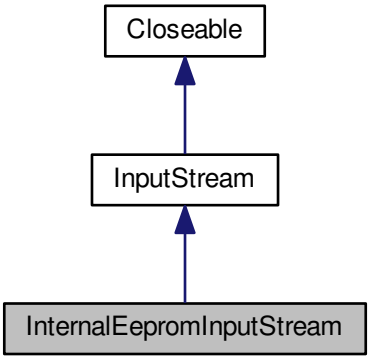
The documentation for this class was generated from the following files:

- InputStream.h
- InputStream.cpp

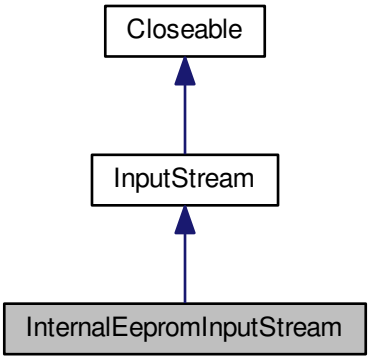
4.19 InternalEepromInputStream Class Reference

`#include <InternalEepromInputStream.h>`

Inheritance diagram for InternalEepromInputStream:



Collaboration diagram for InternalEepromInputStream:



Public Member Functions

- InternalEepromInputStream ()
- virtual int available ()
- virtual void mark ()
- virtual bool markSupported ()
- virtual int read ()
- virtual int read (unsigned char *b, int off, int len)
- virtual void reset ()

Protected Attributes

- const int maxAvailableChunk

- unsigned int pos
- unsigned int markpos
- unsigned int eepromSize

4.19.1 Detailed Description

Arduino IO.

ExternalEepromInputStream

An ExternalEepromInputStream obtains input bytes from a externalEeprom.

Definition at line 15 of file InternalEepromInputStream.h.

4.19.2 Constructor & Destructor Documentation

4.19.2.1 InternalEepromInputStream::InternalEepromInputStream ( )

Public constructor.

4.19.3 Member Function Documentation

4.19.3.1 virtual int InternalEepromInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Returns

int The available number of bytes.

Reimplemented from InputStream.

4.19.3.2 virtual void InternalEepromInputStream::mark ( ) [virtual]

Marks the current position in this input stream.

Reimplemented from InputStream.

4.19.3.3 virtual bool InternalEepromInputStream::markSupported ( ) [virtual]

Tests if this input stream supports the mark and reset methods.

Returns

bool

Reimplemented from InputStream.

4.19.3.4 virtual int InternalEepromInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Returns

int The read unsigned char as an int.

Implements InputStream.

4.19.3.5 virtual int InternalEepromInputStream::read (unsigned char * *b*, int *off*, int *len*) [virtual]

Reads len of bytes from the input stream.

Parameters

b	
off	
len	

Returns

Reimplemented from InputStream.

4.19.3.6 virtual void InternalEepromInputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

Reimplemented from InputStream.

4.19.4 Member Data Documentation

4.19.4.1 unsigned int InternalEepromInputStream::eepromSize [protected]

Definition at line 37 of file InternalEepromInputStream.h.

4.19.4.2 unsigned int InternalEepromInputStream::markpos [protected]

Definition at line 32 of file InternalEepromInputStream.h.

4.19.4.3 const int InternalEepromInputStream::maxAvailableChunk [protected]

When asking for available, this is the max number to return.

Definition at line 22 of file InternalEepromInputStream.h.

4.19.4.4 unsigned int InternalEepromInputStream::pos [protected]

Definition at line 27 of file InternalEepromInputStream.h.

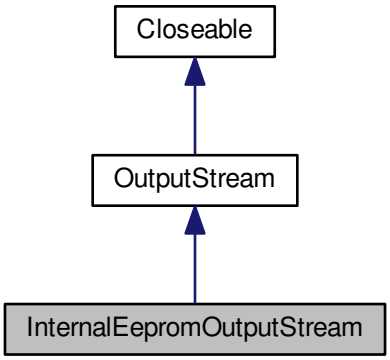
The documentation for this class was generated from the following file:

- InternalEepromInputStream.h

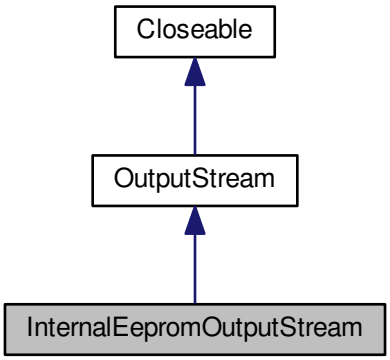
4.20 InternalEepromOutputStream Class Reference

`#include <InternalEepromOutputStream.h>`

Inheritance diagram for InternalEepromOutputStream:



Collaboration diagram for InternalEepromOutputStream:



Public Member Functions

- InternalEepromOutputStream ()
- virtual void write (unsigned char b)
- virtual void write (unsigned char *b, int off, int len)

Private Attributes

- unsigned int pos

4.20.1 Detailed Description

Arduino IO.

InternalEepromOutputStream

A resource output stream is an output stream for writing data to an internal EEPROM.

Definition at line 16 of file InternalEepromOutputStream.h.

4.20.2 Constructor & Destructor Documentation

4.20.2.1 InternalEepromOutputStream::InternalEepromOutputStream ( )

Public constructor.

Definition at line 15 of file InternalEepromOutputStream.cpp.

4.20.3 Member Function Documentation

4.20.3.1 void InternalEepromOutputStream::write (unsigned char *b*) [virtual]

Writes the specified unsigned char to this output stream.

Parameters

b	

Implements OutputStream.

Definition at line 19 of file InternalEepromOutputStream.cpp.

4.20.3.2 void InternalEepromOutputStream::write (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes len bytes from the specified unsigned char array starting at offset off to this output stream.

Parameters

b	
off	
len	

Reimplemented from OutputStream.

Definition at line 23 of file InternalEepromOutputStream.cpp.

4.20.4 Member Data Documentation

4.20.4.1 unsigned int InternalEepromOutputStream::pos [private]

Current eeprom position.

Definition at line 21 of file InternalEepromOutputStream.h.

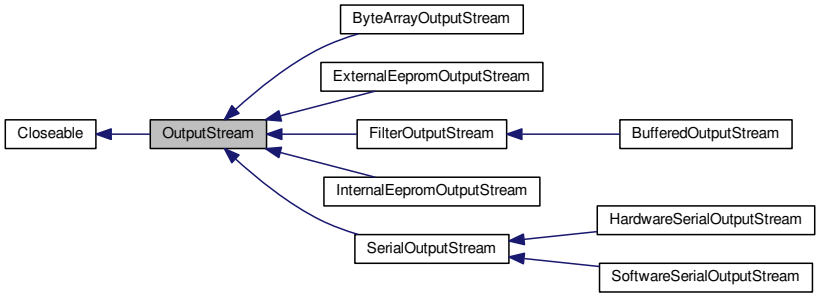
The documentation for this class was generated from the following files:

- InternalEepromOutputStream.h
- InternalEepromOutputStream.cpp

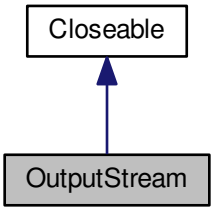
4.21 OutputStream Class Reference

`#include <OutputStream.h>`

Inheritance diagram for OutputStream:



Collaboration diagram for OutputStream:



Public Member Functions

- virtual void close ()
- virtual void flush ()
- virtual void write (unsigned char b)=0
- virtual void write (unsigned char *b, int len)
- virtual void write (unsigned char *b, int off, int len)

4.21.1 Detailed Description

Arduino IO.

OutputStream

This abstract class is the superclass of all classes representing an output stream of bytes. An output stream accepts output bytes and sends them to some sink.

Applications that need to define a subclass of `OutputStream` must always provide at least a method that writes one unsigned char of output.

Definition at line 20 of file OutputStream.h.

4.21.2 Member Function Documentation

4.21.2.1 void OutputStream::close ( ) [virtual]

Closes this output stream and releases any system resources associated with this stream.

Implements Closeable.

Reimplemented in BufferedOutputStream, and FilterOutputStream.

Definition at line 34 of file OutputStream.cpp.

4.21.2.2 void OutputStream::flush ( ) [virtual]

Flushes this output stream and forces any buffered output bytes to be written out.

Reimplemented in BufferedOutputStream, and FilterOutputStream.

Definition at line 31 of file OutputStream.cpp.

4.21.2.3 virtual void OutputStream::write (unsigned char *b*) [pure virtual]

Writes the specified unsigned char to this output stream.

Implemented in ByteArrayOutputStream, BufferedOutputStream, FilterOutputStream, ExternalEepromOutputStream, InternalEepromOutputStream, SoftwareSerialOutputStream, and HardwareSerialOutputStream.

4.21.2.4 void OutputStream::write (unsigned char * *b*, int *len*) [virtual]

Writes len bytes from the specified unsigned char array to this output stream.

Parameters

b	
len	

Reimplemented in BufferedOutputStream, and FilterOutputStream.

Definition at line 18 of file OutputStream.cpp.

4.21.2.5 void OutputStream::write (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes len bytes from the specified unsigned char array starting at offset off to this output stream.

Parameters

b	
off	
len	

Reimplemented in BufferedOutputStream, FilterOutputStream, ExternalEepromOutputStream, and InternalEepromOutputStream.

Definition at line 22 of file OutputStream.cpp.

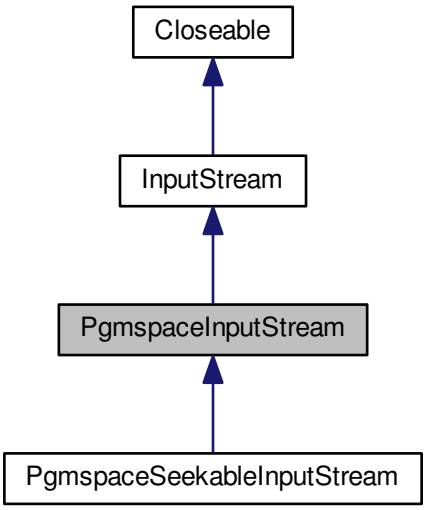
The documentation for this class was generated from the following files:

- OutputStream.h
- OutputStream.cpp

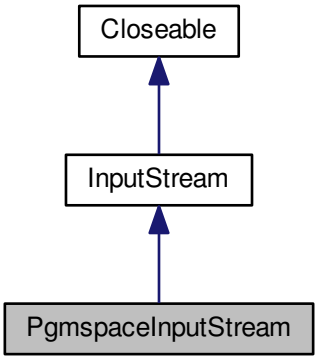
4.22 PgmspaceInputStream Class Reference

`#include <PgmspaceInputStream.h>`

Inheritance diagram for PgmspaceInputStream:



Collaboration diagram for PgmspaceInputStream:



Public Member Functions

- PgmspaceInputStream (char PROGMEM *buf, unsigned int count)
- virtual int available ()
- virtual void mark ()
- virtual bool markSupported ()
- virtual int read ()
- virtual void reset ()

Protected Attributes

- char PROGMEM * buf
- unsigned int count
- unsigned int pos
- unsigned int markpos

4.22.1 Detailed Description

Arduino IO.

PgmspaceInputStream

A PgmspaceInputStream contains an internal buffer that contains bytes that may be read from the stream mapped to an part of the pgmspace.

Definition at line 16 of file PgmspaceInputStream.h.

4.22.2 Constructor & Destructor Documentation

4.22.2.1 PgmspaceInputStream::PgmspaceInputStream (char PROGMEM * *buf*, unsigned int *count*) [explicit]

Definition at line 15 of file PgmspaceInputStream.cpp.

4.22.3 Member Function Documentation

4.22.3.1 int PgmspaceInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Returns

Reimplemented from InputStream.

Definition at line 20 of file PgmspaceInputStream.cpp.

4.22.3.2 void PgmspaceInputStream::mark ( ) [virtual]

Marks the current position in this input stream.

Reimplemented from InputStream.

Definition at line 27 of file PgmspaceInputStream.cpp.

4.22.3.3 bool PgmspaceInputStream::markSupported ( ) [virtual]

Tests if this input stream supports the mark and reset methods.

Returns

Reimplemented from InputStream.

Definition at line 31 of file PgmspaceInputStream.cpp.

4.22.3.4 int PgmspaceInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Returns

Implements InputStream.

Definition at line 35 of file PgmspaceInputStream.cpp.

4.22.3.5 void PgmspaceInputStream::reset ( ) [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

Reimplemented from InputStream.

Definition at line 39 of file PgmspaceInputStream.cpp.

4.22.4 Member Data Documentation

4.22.4.1 char PROGMEM* PgmspaceInputStream::buf [protected]

Definition at line 22 of file PgmspaceInputStream.h.

4.22.4.2 unsigned int PgmspaceInputStream::count [protected]

Definition at line 27 of file PgmspaceInputStream.h.

4.22.4.3 unsigned int PgmspaceInputStream::markpos [protected]

Definition at line 37 of file PgmspaceInputStream.h.

4.22.4.4 unsigned int PgmspaceInputStream::pos [protected]

Definition at line 32 of file PgmspaceInputStream.h.

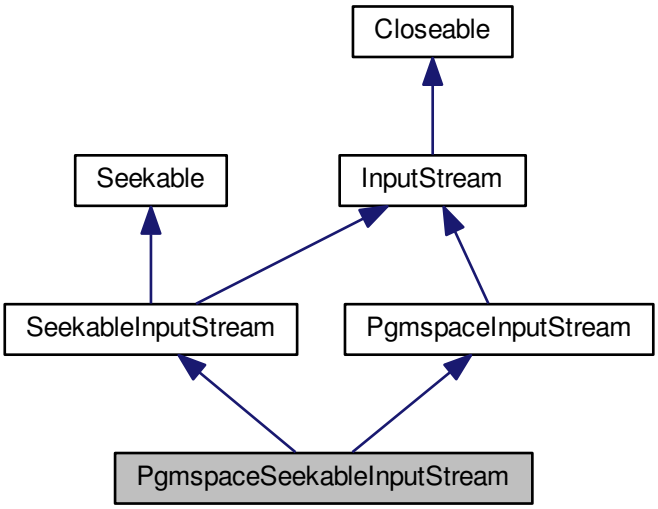
The documentation for this class was generated from the following files:

- PgmspaceInputStream.h
- PgmspaceInputStream.cpp

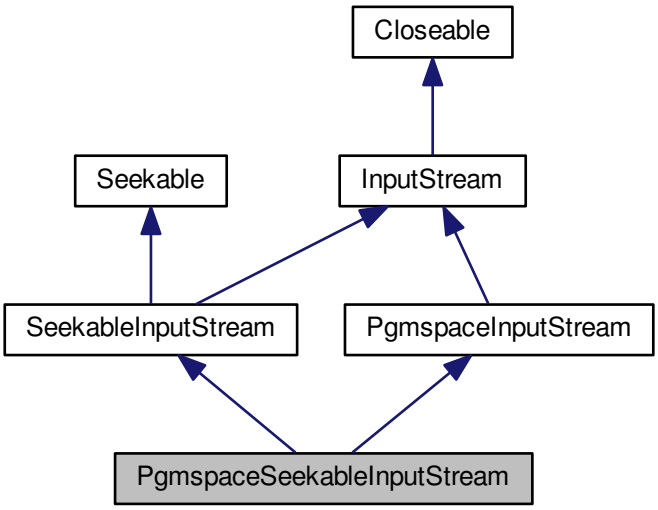
4.23 PgmspaceSeekableInputStream Class Reference

```
#include <PgmspaceSeekableInputStream.h>
```

Inheritance diagram for PgmspaceSeekableInputStream:



Collaboration diagram for PgmspaceSeekableInputStream:



Public Member Functions

- PgmspaceSeekableInputStream (char PROGMEM *buf, unsigned int count)
- virtual ~PgmspaceSeekableInputStream ()
- virtual void seek (unsigned int pos)

Additional Inherited Members

4.23.1 Detailed Description

Arduino IO.

PgmspaceSeekableInputStream

A PgmspaceSeekableInputStream obtains input bytes from a resource in a file system that implements SeekableInputStream interface.

Definition at line 17 of file PgmspaceSeekableInputStream.h.

4.23.2 Constructor & Destructor Documentation

4.23.2.1 PgmspaceSeekableInputStream::PgmspaceSeekableInputStream (char PROGMEM * *buf*, unsigned int *count*)

Definition at line 15 of file PgmspaceSeekableInputStream.cpp.

4.23.2.2 virtual PgmspaceSeekableInputStream::~PgmspaceSeekableInputStream ( ) [inline], [virtual]

Definition at line 23 of file PgmspaceSeekableInputStream.h.

4.23.3 Member Function Documentation

4.23.3.1 void PgmspaceSeekableInputStream::seek (unsigned int *pos*) [virtual]

Implements Seekable.

Definition at line 18 of file PgmspaceSeekableInputStream.cpp.

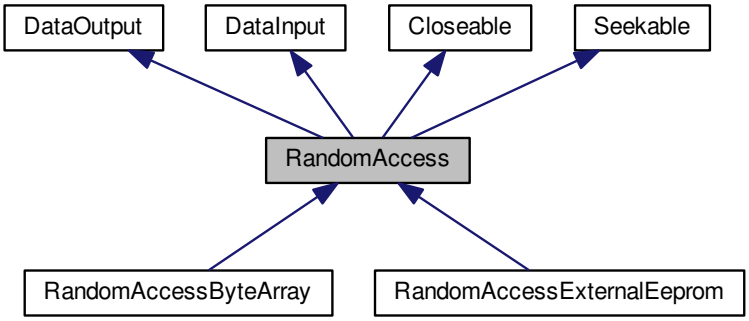
The documentation for this class was generated from the following files:

- PgmspaceSeekableInputStream.h
- PgmspaceSeekableInputStream.cpp

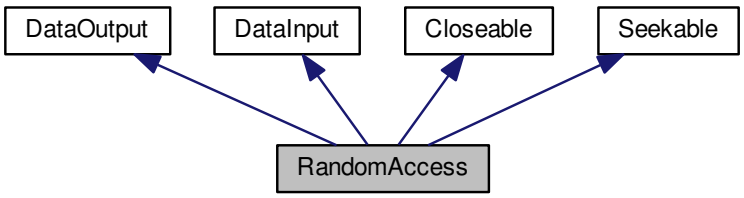
4.24 RandomAccess Class Reference

`#include <RandomAccess.h>`

Inheritance diagram for RandomAccess:



Collaboration diagram for RandomAccess:



Additional Inherited Members

4.24.1 Detailed Description

Araduino IO.

RandomAccess

Interface derived from DataInput, DataOutput, Closeable and Seekable.

Definition at line 17 of file RandomAccess.h.

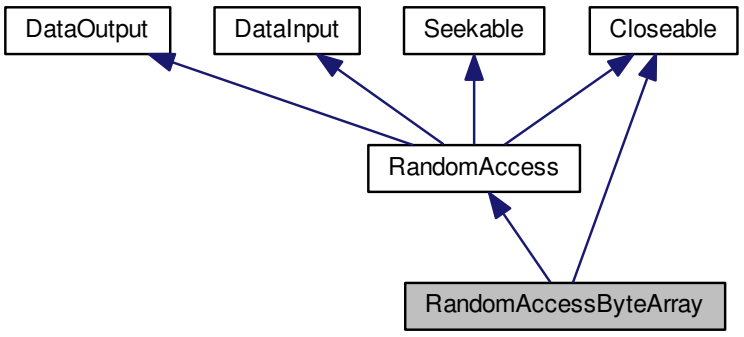
The documentation for this class was generated from the following file:

- RandomAccess.h

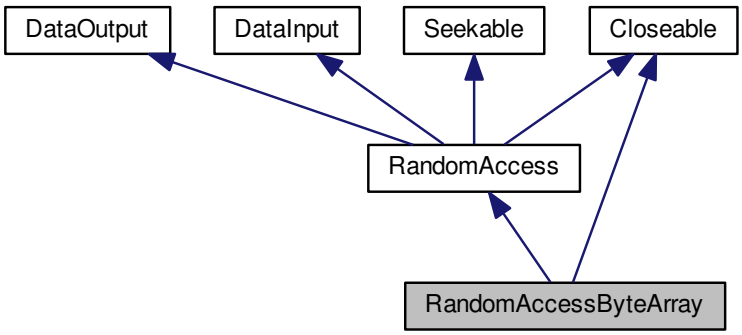
4.25 RandomAccessByteArray Class Reference

`#include <RandomAccessByteArray.h>`

Inheritance diagram for RandomAccessByteArray:



Collaboration diagram for RandomAccessByteArray:



Public Member Functions

- RandomAccessByteArray (unsigned char ∗buf, unsigned int count)
- virtual void seek (unsigned int pos)
- unsigned int length ()
- virtual void close ()
- virtual void write (unsigned char ∗b, int len)
- virtual void write (unsigned char b)
- virtual void writeByte (unsigned char b)
- virtual void writeBytes (unsigned char ∗b, int len)
- virtual void writeBoolean (bool v)
- virtual void writeChar (char c)
- virtual void writeUnsignedChar (unsigned char c)
- virtual void writeInt (int v)
- virtual void writeUnsignedInt (unsigned int v)
- virtual void writeWord (word v)
- virtual void writeLong (long v)
- virtual void writeUnsignedLong (unsigned long v)
- virtual void writeFloat (float v)
- virtual void writeDouble (double v)
- virtual unsigned char readByte ()
- virtual bool readBoolean ()
- virtual char readChar ()
- virtual unsigned char readUnsignedChar ()
- virtual int readInt ()
- virtual unsigned int readUnsignedInt ()
- virtual word readWord ()
- virtual long readLong ()
- virtual unsigned long readUnsignedLong ()
- virtual float readFloat ()
- virtual double readDouble ()
- virtual void readFully (unsigned char ∗b, int len)
- virtual unsigned int skipBytes (unsigned int n)

Private Attributes

- unsigned char * buf
- unsigned int count
- unsigned int pos

4.25.1 Detailed Description

Araduino IO.

RandomAccessByteArray

Instances of this class support both reading and writing to a random access unsigned char array.

Definition at line 16 of file RandomAccessByteArray.h.

4.25.2 Constructor & Destructor Documentation

4.25.2.1 RandomAccessByteArray::RandomAccessByteArray (unsigned char * *buf*, unsigned int *count*)

Public constructor.

Parameters

buf	The unsigned char array.
count	The size of such unsigned char array.

Definition at line 15 of file RandomAccessByteArray.cpp.

4.25.3 Member Function Documentation

4.25.3.1 void RandomAccessByteArray::close ( ) [virtual]

Closing a unsigned char array has no effect.

Implements Closeable.

Definition at line 29 of file RandomAccessByteArray.cpp.

4.25.3.2 unsigned int RandomAccessByteArray::length ( )

Returns the length of the stream.

Returns

The length.

Definition at line 21 of file RandomAccessByteArray.cpp.

4.25.3.3 bool RandomAccessByteArray::readBoolean ( ) [virtual]

Reads a bool from the stream.

Returns

bool

Implements DataInput.

Definition at line 98 of file RandomAccessByteArray.cpp.

4.25.3.4 unsigned char RandomAccessByteArray::readByte ( ) [virtual]

Reads a unsigned char from the stream.

Returns

unsigned char

Implements DataInput.

Definition at line 94 of file RandomAccessByteArray.cpp.

4.25.3.5 char RandomAccessByteArray::readChar ( ) [virtual]

Reads a char from the stream.

Returns

char

Implements DataInput.

Definition at line 102 of file RandomAccessByteArray.cpp.

4.25.3.6 double RandomAccessByteArray::readDouble ( ) [virtual]

Reads a double from the stream.

Returns

double

Implements DataInput.

Definition at line 146 of file RandomAccessByteArray.cpp.

4.25.3.7 float RandomAccessByteArray::readFloat ( ) [virtual]

Reads a float from the stream.

Returns

float

Implements DataInput.

Definition at line 142 of file RandomAccessByteArray.cpp.

4.25.3.8 void RandomAccessByteArray::readFully (unsigned char * *b*, int *len*) [virtual]

Reads a array of bytes from the stream.

Parameters

b	
len	

Implements DataInput.

Definition at line 150 of file RandomAccessByteArray.cpp.

4.25.3.9 int RandomAccessByteArray::readInt ( ) [virtual]

Reads an int from the stream.

Returns

int

Implements DataInput.

Definition at line 110 of file RandomAccessByteArray.cpp.

4.25.3.10 long RandomAccessByteArray::readLong ( ) [virtual]

Reads a long from the stream.

Returns

long

Implements DataInput.

Definition at line 126 of file RandomAccessByteArray.cpp.

4.25.3.11 unsigned char RandomAccessByteArray::readUnsignedChar ( ) [virtual]

Reads an unsigned char from the stream.

Returns

unsigned char

Implements DataInput.

Definition at line 106 of file RandomAccessByteArray.cpp.

4.25.3.12 unsigned int RandomAccessByteArray::readUnsignedInt ( ) [virtual]

Reads an unsigned int from the stream.

Returns

unsigned int

Implements DataInput.

Definition at line 118 of file RandomAccessByteArray.cpp.

4.25.3.13 unsigned long RandomAccessByteArray::readUnsignedLong ( ) [virtual]

Reads a unsigned long from the stream.

Returns

unsigned long

Implements DataInput.

Definition at line 138 of file RandomAccessByteArray.cpp.

4.25.3.14 word RandomAccessByteArray::readWord ( ) [virtual]

Reads a word from the stream.

Returns

word

Implements DataInput.

Definition at line 122 of file RandomAccessByteArray.cpp.

4.25.3.15 void RandomAccessByteArray::seek (unsigned int *pos*) [virtual]

Seeks the stream at the position.

Parameters

pos	The position.

Implements Seekable.

Definition at line 25 of file RandomAccessByteArray.cpp.

4.25.3.16 unsigned int RandomAccessByteArray::skipBytes (unsigned int *n*) [virtual]

Skips n bytes of the stream.

Parameters

n	

Returns

unsigned int The number of skipped bytes.

Implements DataInput.

Definition at line 156 of file RandomAccessByteArray.cpp.

4.25.3.17 void RandomAccessByteArray::write (unsigned char * *b*, int *len*) [virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implements DataOutput.

Definition at line 32 of file RandomAccessByteArray.cpp.

4.25.3.18 void RandomAccessByteArray::write (unsigned char *b*) [virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implements DataOutput.

Definition at line 36 of file RandomAccessByteArray.cpp.

4.25.3.19 void RandomAccessByteArray::writeBoolean (bool *v*) [virtual]

Writes a bool into the stream.

Parameters

v	The bool to be written.

Implements DataOutput.

Definition at line 50 of file RandomAccessByteArray.cpp.

4.25.3.20 void RandomAccessByteArray::writeByte (unsigned char *b*) [virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implements DataOutput.

Definition at line 40 of file RandomAccessByteArray.cpp.

4.25.3.21 void RandomAccessByteArray::writeBytes (unsigned char * *b*, int *len*) [virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implements DataOutput.

Definition at line 44 of file RandomAccessByteArray.cpp.

4.25.3.22 void RandomAccessByteArray::writeChar (char *c*) [virtual]

Writes a char into the stream.

Parameters

c	The char to be written.

Implements DataOutput.

Definition at line 54 of file RandomAccessByteArray.cpp.

4.25.3.23 void RandomAccessByteArray::writeDouble (double *v*) [virtual]

Writes a double into the stream.

Parameters

v	The double to be written.

Implements DataOutput.

Definition at line 90 of file RandomAccessByteArray.cpp.

4.25.3.24 void RandomAccessByteArray::writeFloat (float *v*) [virtual]

Writes a float into the stream.

Parameters

v	The float to be written.

Implements DataOutput.

Definition at line 86 of file RandomAccessByteArray.cpp.

4.25.3.25 void RandomAccessByteArray::writeInt (int *v*) [virtual]

Writes an int into the stream.

Parameters

v	The int to be written.

Implements DataOutput.

Definition at line 62 of file RandomAccessByteArray.cpp.

4.25.3.26 void RandomAccessByteArray::writeLong (long *v*) [virtual]

Writes a long into the stream.

Parameters

v	The long to be written.

Implements DataOutput.

Definition at line 75 of file RandomAccessByteArray.cpp.

4.25.3.27 void RandomAccessByteArray::writeUnsignedChar (unsigned char *c*) [virtual]

Writes an unsigned char into the stream.

Parameters

c	The unsigned char to be written.

Implements DataOutput.

Definition at line 58 of file RandomAccessByteArray.cpp.

4.25.3.28 void RandomAccessByteArray::writeUnsignedInt (unsigned int *v*) [virtual]

Writes an unsigned int into the stream.

Parameters

v	The unsigned int to be written.

Implements DataOutput.

Definition at line 67 of file RandomAccessByteArray.cpp.

4.25.3.29 void RandomAccessByteArray::writeUnsignedLong (unsigned long *v*) [virtual]

Writes a unsigned long into the stream.

Parameters

v	The unsigned long to be written.

Implements DataOutput.

Definition at line 82 of file RandomAccessByteArray.cpp.

4.25.3.30 void RandomAccessByteArray::writeWord (word *v*) [virtual]

Writes a word into the stream.

Parameters

v	The word to be written.

Implements DataOutput.

Definition at line 71 of file RandomAccessByteArray.cpp.

4.25.4 Member Data Documentation

4.25.4.1 unsigned char* RandomAccessByteArray::buf [private]

Buffer used to work.

Definition at line 21 of file RandomAccessByteArray.h.

4.25.4.2 unsigned int RandomAccessByteArray::count [private]

Buffer size.

Definition at line 26 of file RandomAccessByteArray.h.

4.25.4.3 unsigned int RandomAccessByteArray::pos [private]

Current position.

Definition at line 31 of file RandomAccessByteArray.h.

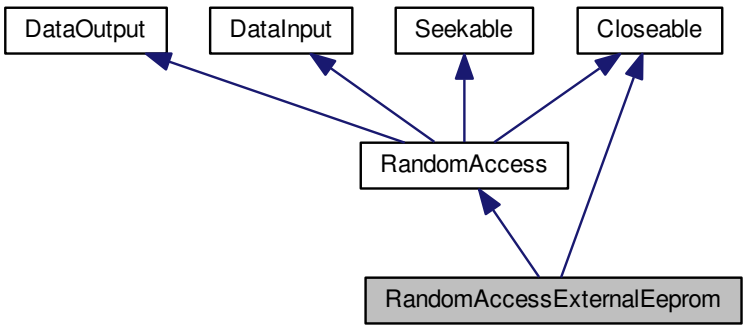
The documentation for this class was generated from the following files:

- RandomAccessByteArray.h
- RandomAccessByteArray.cpp

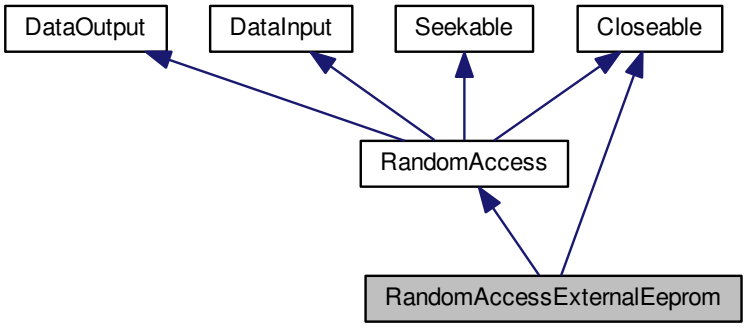
4.26 RandomAccessExternalEeprom Class Reference

`#include <RandomAccessExternalEeprom.h>`

Inheritance diagram for RandomAccessExternalEeprom:



Collaboration diagram for RandomAccessExternalEeprom:



Public Member Functions

- RandomAccessExternalEeprom (ExternalEeprom ∗externalEeprom)
- virtual void seek (unsigned int pos)
- unsigned int length ()
- virtual void close ()
- virtual void write (unsigned char ∗b, int len)
- virtual void write (unsigned char b)
- virtual void writeByte (unsigned char b)
- virtual void writeBytes (unsigned char ∗b, int len)
- virtual void writeBoolean (bool v)
- virtual void writeChar (char c)
- virtual void writeUnsignedChar (unsigned char c)
- virtual void writeInt (int v)
- virtual void writeUnsignedInt (unsigned int v)
- virtual void writeWord (word v)
- virtual void writeLong (long v)
- virtual void writeUnsignedLong (unsigned long v)
- virtual void writeFloat (float v)
- virtual void writeDouble (double v)
- virtual unsigned char readByte ()
- virtual bool readBoolean ()
- virtual char readChar ()
- virtual unsigned char readUnsignedChar ()
- virtual int readInt ()
- virtual unsigned int readUnsignedInt ()
- virtual word readWord ()
- virtual long readLong ()
- virtual unsigned long readUnsignedLong ()
- virtual float readFloat ()
- virtual double readDouble ()
- virtual void readFully (unsigned char ∗b, int len)
- virtual unsigned int skipBytes (unsigned int n)

Private Attributes

- ExternalEeprom ∗ externalEeprom
- unsigned int pos

4.26.1 Detailed Description

Araduino IO.

RandomAccessExternalEeprom

Instances of this class support both reading and writing to a random access externalEeprom. A random access externalEeprom behaves like a large array of bytes stored in the externalEeprom system.

Definition at line 19 of file RandomAccessExternalEeprom.h.

4.26.2 Constructor & Destructor Documentation

4.26.2.1 RandomAccessExternalEeprom::RandomAccessExternalEeprom (ExternalEeprom ∗ *externalEeprom*)

Public constructor.

Parameters

externalEeprom	The external eeprom instance to be used.

Definition at line 17 of file RandomAccessExternalEeprom.cpp.

4.26.3 Member Function Documentation

4.26.3.1 void RandomAccessExternalEeprom::close ( ) [virtual]

Closing a external eeprom has no effect.

Implements Closeable.

Definition at line 31 of file RandomAccessExternalEeprom.cpp.

4.26.3.2 unsigned int RandomAccessExternalEeprom::length ( )

Returns the length of the stream.

Returns

The length.

Definition at line 23 of file RandomAccessExternalEeprom.cpp.

4.26.3.3 bool RandomAccessExternalEeprom::readBoolean ( ) [virtual]

Reads a bool from the stream.

Returns

bool

Implements DataInput.

Definition at line 100 of file RandomAccessExternalEeprom.cpp.

4.26.3.4 unsigned char RandomAccessExternalEeprom::readByte ( ) [virtual]

Reads a unsigned char from the stream.

Returns

unsigned char

Implements DataInput.

Definition at line 96 of file RandomAccessExternalEeprom.cpp.

4.26.3.5 char RandomAccessExternalEeprom::readChar ( ) [virtual]

Reads a char from the stream.

Returns

char

Implements DataInput.

Definition at line 104 of file RandomAccessExternalEeprom.cpp.

4.26.3.6 double RandomAccessExternalEeprom::readDouble ( ) [virtual]

Reads a double from the stream.

Returns

double

Implements DataInput.

Definition at line 148 of file RandomAccessExternalEeprom.cpp.

4.26.3.7 float RandomAccessExternalEeprom::readFloat ( ) [virtual]

Reads a float from the stream.

Returns

float

Implements DataInput.

Definition at line 144 of file RandomAccessExternalEeprom.cpp.

4.26.3.8 void RandomAccessExternalEeprom::readFully (unsigned char * *b*, int *len*) [virtual]

Reads a array of bytes from the stream.

Parameters

b	
len	

Implements DataInput.

Definition at line 152 of file RandomAccessExternalEeprom.cpp.

4.26.3.9 int RandomAccessExternalEeprom::readInt ( ) [virtual]

Reads an int from the stream.

Returns

int

Implements DataInput.

Definition at line 112 of file RandomAccessExternalEeprom.cpp.

4.26.3.10 long RandomAccessExternalEeprom::readLong ( ) [virtual]

Reads a long from the stream.

Returns

long

Implements DataInput.

Definition at line 128 of file RandomAccessExternalEeprom.cpp.

4.26.3.11 unsigned char RandomAccessExternalEeprom::readUnsignedChar ( ) [virtual]

Reads an unsigned char from the stream.

Returns

unsigned char

Implements DataInput.

Definition at line 108 of file RandomAccessExternalEeprom.cpp.

4.26.3.12 unsigned int RandomAccessExternalEeprom::readUnsignedInt ( ) [virtual]

Reads an unsigned int from the stream.

Returns

unsigned int

Implements DataInput.

Definition at line 120 of file RandomAccessExternalEeprom.cpp.

4.26.3.13 unsigned long RandomAccessExternalEeprom::readUnsignedLong ( ) [virtual]

Reads a unsigned long from the stream.

Returns

unsigned long

Implements DataInput.

Definition at line 140 of file RandomAccessExternalEeprom.cpp.

4.26.3.14 word RandomAccessExternalEeprom::readWord ( ) [virtual]

Reads a word from the stream.

Returns

word

Implements DataInput.

Definition at line 124 of file RandomAccessExternalEeprom.cpp.

4.26.3.15 void RandomAccessExternalEeprom::seek (unsigned int *pos*) [virtual]

Seeks the stream at the position.

Parameters

pos	The position.

Implements Seekable.

Definition at line 27 of file RandomAccessExternalEeprom.cpp.

4.26.3.16 unsigned int RandomAccessExternalEeprom::skipBytes (unsigned int *n*) [virtual]

Skips n bytes of the stream.

Parameters

n	

Returns

unsigned int The number of skipped bytes.

Implements DataInput.

Definition at line 158 of file RandomAccessExternalEeprom.cpp.

4.26.3.17 void RandomAccessExternalEeprom::write (unsigned char * *b*, int *len*) [virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implements DataOutput.

Definition at line 34 of file RandomAccessExternalEeprom.cpp.

4.26.3.18 void RandomAccessExternalEeprom::write (unsigned char *b*) [virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implements DataOutput.

Definition at line 38 of file RandomAccessExternalEeprom.cpp.

4.26.3.19 void RandomAccessExternalEeprom::writeBoolean (bool *v*) [virtual]

Writes a bool into the stream.

Parameters

v	The bool to be written.

Implements DataOutput.

Definition at line 52 of file RandomAccessExternalEeprom.cpp.

4.26.3.20 void RandomAccessExternalEeprom::writeByte (unsigned char *b*) [virtual]

Writes a unsigned char into the stream.

Parameters

b	The unsigned char to be written.

Implements DataOutput.

Definition at line 42 of file RandomAccessExternalEeprom.cpp.

4.26.3.21 void RandomAccessExternalEeprom::writeBytes (unsigned char * *b*, int *len*) [virtual]

Writes an array of bytes into the stream.

Parameters

b	The array of bytes.
len	The length of such array.

Implements DataOutput.

Definition at line 46 of file RandomAccessExternalEeprom.cpp.

4.26.3.22 void RandomAccessExternalEeprom::writeChar (char *c*) [virtual]

Writes a char into the stream.

Parameters

c	The char to be written.

Implements DataOutput.

Definition at line 56 of file RandomAccessExternalEeprom.cpp.

4.26.3.23 void RandomAccessExternalEeprom::writeDouble (double *v*) [virtual]

Writes a double into the stream.

Parameters

v	The double to be written.

Implements DataOutput.

Definition at line 92 of file RandomAccessExternalEeprom.cpp.

4.26.3.24 void RandomAccessExternalEeprom::writeFloat (float *v*) [virtual]

Writes a float into the stream.

Parameters

v	The float to be written.

Implements DataOutput.

Definition at line 88 of file RandomAccessExternalEeprom.cpp.

4.26.3.25 void RandomAccessExternalEeprom::writeInt (int *v*) [virtual]

Writes an int into the stream.

Parameters

v	The int to be written.

Implements DataOutput.

Definition at line 64 of file RandomAccessExternalEeprom.cpp.

4.26.3.26 void RandomAccessExternalEeprom::writeLong (long *v*) [virtual]

Writes a long into the stream.

Parameters

v	The long to be written.

Implements DataOutput.

Definition at line 77 of file RandomAccessExternalEeprom.cpp.

4.26.3.27 void RandomAccessExternalEeprom::writeUnsignedChar (unsigned char *c*) [virtual]

Writes an unsigned char into the stream.

Parameters

c	The unsigned char to be written.

Implements DataOutput.

Definition at line 60 of file RandomAccessExternalEeprom.cpp.

4.26.3.28 void RandomAccessExternalEeprom::writeUnsignedInt (unsigned int *v*) [virtual]

Writes an unsigned int into the stream.

Parameters

v	The unsigned int to be written.

Implements DataOutput.

Definition at line 69 of file RandomAccessExternalEeprom.cpp.

4.26.3.29 void RandomAccessExternalEeprom::writeUnsignedLong (unsigned long *v*) [virtual]

Writes a unsigned long into the stream.

Parameters

v	The unsigned long to be written.

Implements DataOutput.

Definition at line 84 of file RandomAccessExternalEeprom.cpp.

4.26.3.30 void RandomAccessExternalEeprom::writeWord (word *v*) [virtual]

Writes a word into the stream.

Parameters

v	The word to be written.

Implements DataOutput.

Definition at line 73 of file RandomAccessExternalEeprom.cpp.

4.26.4 Member Data Documentation

4.26.4.1 ExternalEeprom* RandomAccessExternalEeprom::externalEeprom [private]

The external eeprom to be used.

Definition at line 24 of file RandomAccessExternalEeprom.h.

4.26.4.2 unsigned int RandomAccessExternalEeprom::pos [private]

Current position.

Definition at line 29 of file RandomAccessExternalEeprom.h.

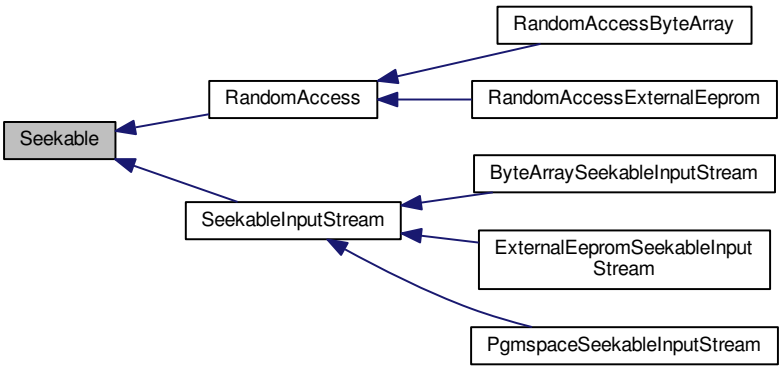
The documentation for this class was generated from the following files:

- RandomAccessExternalEeprom.h
- RandomAccessExternalEeprom.cpp

4.27 Seekable Class Reference

`#include <Seekable.h>`

Inheritance diagram for Seekable:



Public Member Functions

- virtual void seek (unsigned int pos)=0

4.27.1 Detailed Description

Arduino IO.

Seekable

Definition at line 10 of file Seekable.h.

4.27.2 Member Function Documentation

4.27.2.1 virtual void Seekable::seek (unsigned int *pos*) [pure virtual]

Implemented in RandomAccessByteArray, RandomAccessExternalEeprom, ExternalEepromSeekableInput↩ Stream, PgmspaceSeekableInputStream, and ByteArraySeekableInputStream.

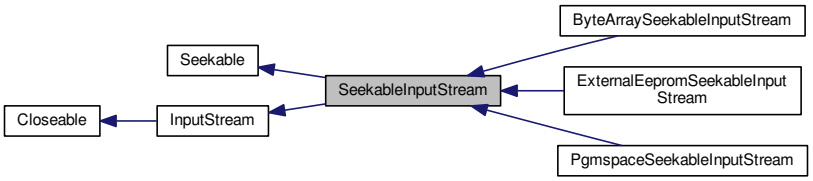
The documentation for this class was generated from the following file:

- Seekable.h

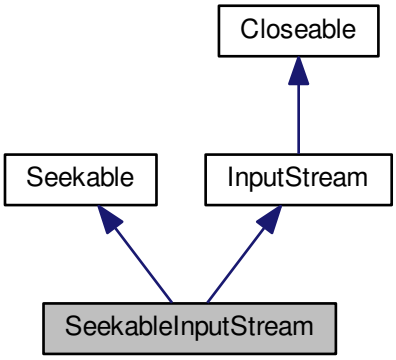
4.28 SeekableInputStream Class Reference

```
#include <SeekableInputStream.h>
```

Inheritance diagram for SeekableInputStream:



Collaboration diagram for SeekableInputStream:



Additional Inherited Members

4.28.1 Detailed Description

Arduino IO.

SeekableInputStream

Definition at line 13 of file SeekableInputStream.h.

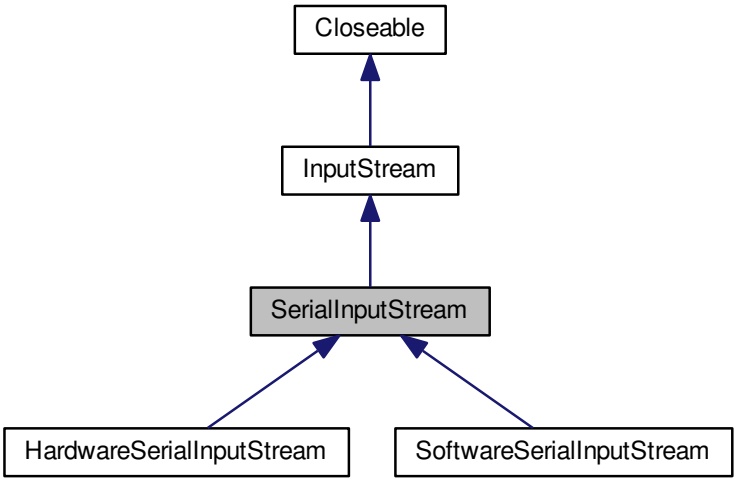
The documentation for this class was generated from the following file:

- SeekableInputStream.h

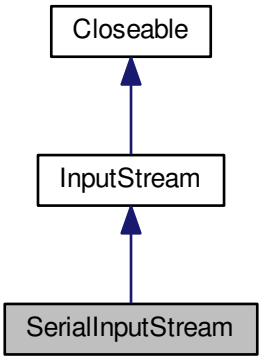
4.29 SerialInputStream Class Reference

```
#include <SerialInputStream.h>
```

Inheritance diagram for SerialInputStream:



Collaboration diagram for SerialInputStream:



Additional Inherited Members

4.29.1 Detailed Description

Arduino IO.

SerialInputStream

A SerialInputStream obtains input bytes from a serial port.

Definition at line 14 of file SerialInputStream.h.

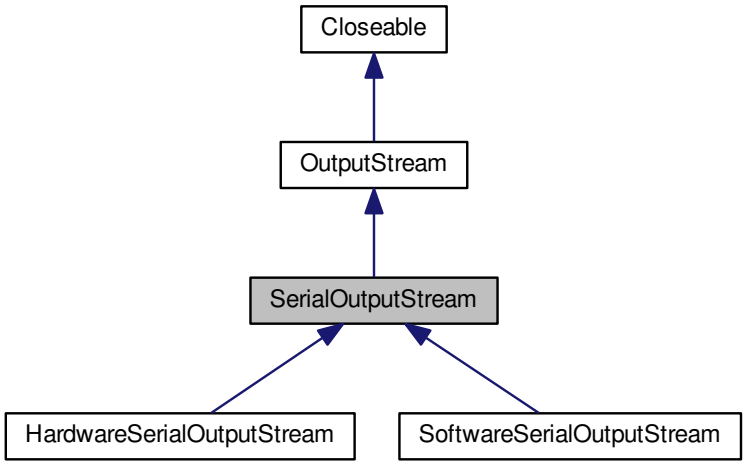
The documentation for this class was generated from the following file:

- SerialInputStream.h

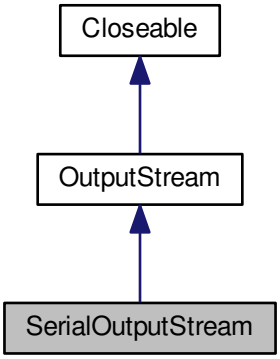
4.30 SerialOutputStream Class Reference

`#include <SerialOutputStream.h>`

Inheritance diagram for SerialOutputStream:



Collaboration diagram for SerialOutputStream:



Additional Inherited Members

4.30.1 Detailed Description

Arduino IO.

SerialOutputStream

A serial output stream is a output stream to write in a serial port.

Definition at line 14 of file SerialOutputStream.h.

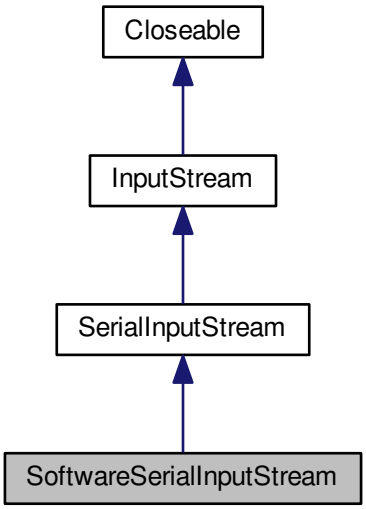
The documentation for this class was generated from the following file:

- SerialOutputStream.h

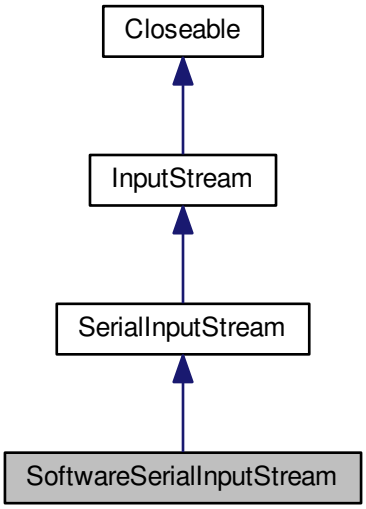
4.31 SoftwareSerialInputStream Class Reference

```
#include <SoftwareSerialInputStream.h>
```

Inheritance diagram for SoftwareSerialInputStream:



Collaboration diagram for SoftwareSerialInputStream:



Public Member Functions

- SoftwareSerialInputStream (SoftwareSerial ∗softwareSerial, unsigned int boudRate)
- virtual int available ()
- virtual int read ()

Protected Attributes

- SoftwareSerial ∗ softwareSerial

4.31.1 Detailed Description

Arduino IO.

SoftwareSerialInputStream

A SoftwareSerialInputStream obtains input bytes from a serial port.

Definition at line 17 of file SoftwareSerialInputStream.h.

4.31.2 Constructor & Destructor Documentation

4.31.2.1 SoftwareSerialInputStream::SoftwareSerialInputStream (SoftwareSerial ∗ *softwareSerial,* unsigned int *boudRate*)

Public constructor.

Parameters

serial	
boudRate	

Definition at line 14 of file SoftwareSerialInputStream.cpp.

4.31.3 Member Function Documentation

4.31.3.1 int SoftwareSerialInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Reimplemented from InputStream.

Definition at line 20 of file SoftwareSerialInputStream.cpp.

4.31.3.2 int SoftwareSerialInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Implements InputStream.

Definition at line 24 of file SoftwareSerialInputStream.cpp.

4.31.4 Member Data Documentation

4.31.4.1 SoftwareSerial* SoftwareSerialInputStream::softwareSerial [protected]

The software serial where the data will be read.

Definition at line 23 of file SoftwareSerialInputStream.h.

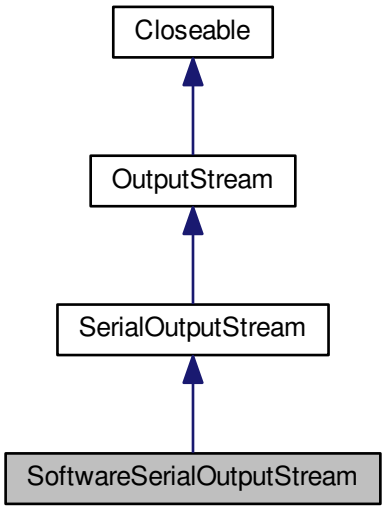
The documentation for this class was generated from the following files:

- SoftwareSerialInputStream.h
- SoftwareSerialInputStream.cpp

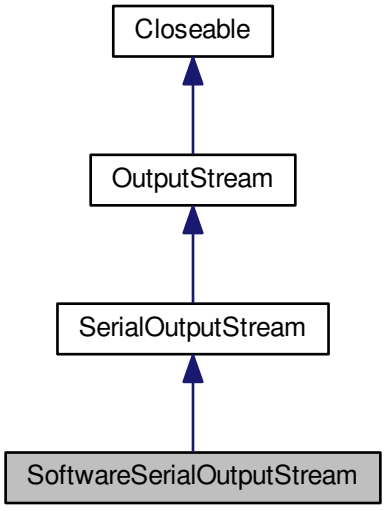
4.32 SoftwareSerialOutputStream Class Reference

```
#include <SoftwareSerialOutputStream.h>
```

Inheritance diagram for SoftwareSerialOutputStream:



Collaboration diagram for SoftwareSerialOutputStream:



Public Member Functions

- SoftwareSerialOutputStream (SoftwareSerial ∗serial, unsigned int boudRate)
- virtual void write (unsigned char b)

Protected Attributes

- SoftwareSerial * softwareSerial

4.32.1 Detailed Description

Arduino IO.

SoftwareSerialOutputStream

A software serial output stream is a output stream to write in a serial port.

Definition at line 17 of file SoftwareSerialOutputStream.h.

4.32.2 Constructor & Destructor Documentation

4.32.2.1 SoftwareSerialOutputStream::SoftwareSerialOutputStream (SoftwareSerial * *serial,* unsigned int *boudRate*)

Definition at line 14 of file SoftwareSerialOutputStream.cpp.

4.32.3 Member Function Documentation

4.32.3.1 void SoftwareSerialOutputStream::write (unsigned char *b*) [virtual]

Writes the specified unsigned char to this output stream.

Implements OutputStream.

Definition at line 20 of file SoftwareSerialOutputStream.cpp.

4.32.4 Member Data Documentation

4.32.4.1 SoftwareSerial* SoftwareSerialOutputStream::softwareSerial [protected]

Definition at line 23 of file SoftwareSerialOutputStream.h.

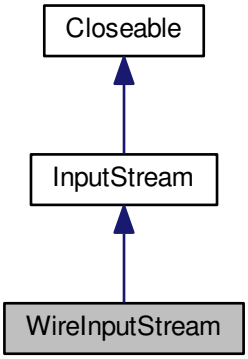
The documentation for this class was generated from the following files:

- SoftwareSerialOutputStream.h
- SoftwareSerialOutputStream.cpp

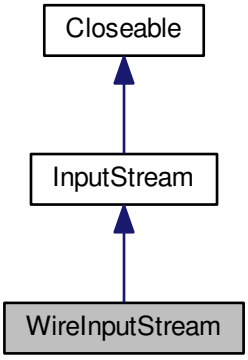
4.33 WireInputStream Class Reference

```
#include <WireInputStream.h>
```

Inheritance diagram for WireInputStream:



Collaboration diagram for WireInputStream:



Public Member Functions

- WireInputStream (unsigned char addredd)
- virtual int available ()
- virtual int read ()
- virtual int read (unsigned char ∗b, int off, int len)

Protected Attributes

- unsigned char address

4.33.1 Detailed Description

Arduino IO.

WireInputStream

A WireInputStream obtains input bytes from the wire bus.

Definition at line 16 of file WireInputStream.h.

4.33.2 Constructor & Destructor Documentation

4.33.2.1 WireInputStream::WireInputStream (unsigned char *addredd*)

Public constructor.

Parameters

address	

Definition at line 14 of file WireInputStream.cpp.

4.33.3 Member Function Documentation

4.33.3.1 int WireInputStream::available ( ) [virtual]

Returns the number of bytes that can be read(or skipped over) from this input stream without blocking by the next caller of a method for this input stream.

Reimplemented from InputStream.

Definition at line 19 of file WireInputStream.cpp.

4.33.3.2 int WireInputStream::read ( ) [virtual]

Reads the next unsigned char of data from the input stream.

Implements InputStream.

Definition at line 23 of file WireInputStream.cpp.

4.33.3.3 int WireInputStream::read (unsigned char * *b*, int *off*, int *len*) [virtual]

Writes len of bytes into the stream.

Parameters

b	
off	
len	

Returns

Reimplemented from InputStream.

Definition at line 33 of file WireInputStream.cpp.

4.33.4 Member Data Documentation

4.33.4.1 unsigned char WireInputStream::address [protected]

The wire device address.

Definition at line 22 of file WireInputStream.h.

The documentation for this class was generated from the following files:

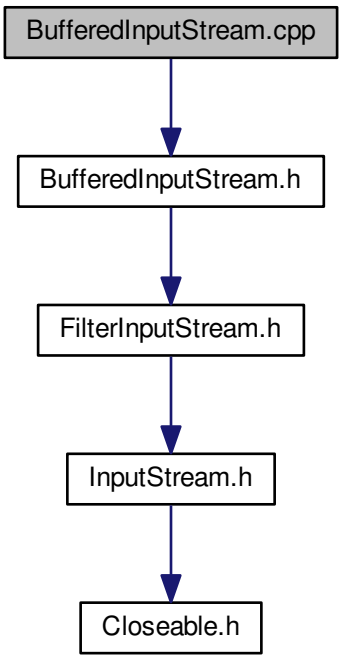
- WireInputStream.h
- WireInputStream.cpp

5 File Documentation

5.1 BufferedInputStream.cpp File Reference

```
#include "BufferedInputStream.h"
```

Include dependency graph for BufferedInputStream.cpp:



5.2 BufferedInputStream.cpp

```
00001
00024 #include "BufferedInputStream.h"
00025
00026 BufferedInputStream::BufferedInputStream(
      InputStream* in, unsigned char* buf, int size)
00027         : FilterInputStream(in), size(size), buf(buf), count(0), pos(0), marked(false),
      markpos(0) {
00028 }
00029
00030 int BufferedInputStream::available() {
00031     return in->available() + (count - pos);
00032 }
00033
00034 void BufferedInputStream::close() {
00035     in->close();
00036 }
```

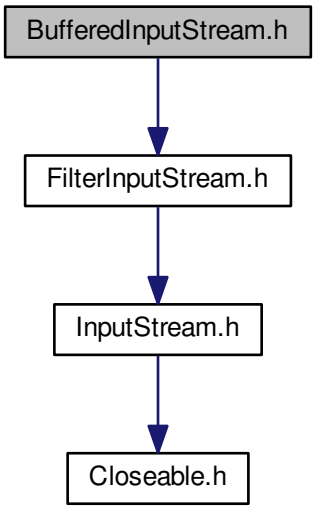
```
00037
00038 void BufferedInputStream::reset() {
00039     if (marked) {
00040         pos = markpos;
00041     }
00042 }
00043
00044 int BufferedInputStream::read(unsigned char* b, int len) {
00045     return read(b, 0, len);
00046 }
00047
00048 int BufferedInputStream::read(unsigned char* b, int off, int len) {
00049     int cnt, available;
00050     available = count - pos;
00051
00052     /*
00053      * The needed data are already in the buffer?
00054      */
00055     if (available >= len) {
00056         for (int i = 0; i < len; i++) {
00057             b[off + i] = buf[pos + i];
00058         }
00059         pos += len;
00060         return len;
00061     }
00062
00063     /*
00064      * The buffer data is not enough, but is necessary.
00065      */
00066     for (int i = 0; i < available; i++) {
00067         b[off + i] = buf[pos + i];
00068     }
00069     marked = false;
00070     pos = 0;
00071     count = 0;
00072
00073     /*
00074      * Reads the rest from the stream.
00075      */
00076     cnt = in->read(b, off + available, len - available);
00077
00078     /*
00079      * Tests if we had enough data.
00080      */
00081     if (cnt < 0) {
00082         return available;
00083     } else if (cnt < (len - available)) {
00084         return available + cnt;
00085     } else {
00086         fill(0);
00087     }
00088     return len;
00089 }
00090
00091 int BufferedInputStream::read() {
00092
00093     /*
00094      * Tests if the buffer is completely used.
00095      */
00096     if (pos >= count) {
00097         marked = false;
00098         fill(0);
00099         if (count == 0) {
00100             return -1;
00101         }
00102         pos = 0;
00103     }
00104     return (int) buf[pos++];
00105 }
00106
00107 void BufferedInputStream::realineBufferContent() {
00108     int n;
00109     if (pos > 0) {
00110         n = count - pos;
00111         for (int i = 0; i < n; i++) {
00112             buf[i] = buf[pos + i];
00113         }
00114         count -= pos;
00115         pos = 0;
00116     }
00117 }
00118
00119 void BufferedInputStream::fill(int startPos) {
00120     int n, needed;
00121     needed = size - startPos;
00122     if (needed <= 0) {
00123         return;
```

```
00124     }
00125     n = in->read(buf, startPos, needed);
00126     if (n > 0) {
00127         count = startPos + n;
00128     }
00129 }
00130
00131 void BufferedInputStream::mark() {
00132     realineBufferContent();
00133     fill(count);
00134     markpos = 0;
00135     marked = true;
00136 }
00137
00138 bool BufferedInputStream::markSupported() {
00139     return true;
00140 }
00141
00142 unsigned int BufferedInputStream::skip(unsigned int n) {
00143     unsigned int buffered, skiped;
00144     buffered = count - pos;
00145     if (buffered >= n) {
00146         pos += n;
00147         return n;
00148     }
00149     pos = 0;
00150     count = 0;
00151     marked = false;
00152     skiped = buffered + in->skip(n - buffered);
00153     return skiped;
00154 }
```

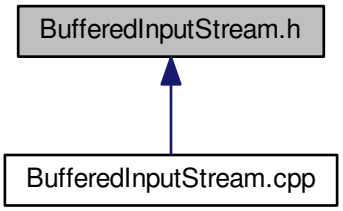
5.3 BufferedInputStream.h File Reference

`#include <FilterInputStream.h>`

Include dependency graph for BufferedInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class BufferedInputStream

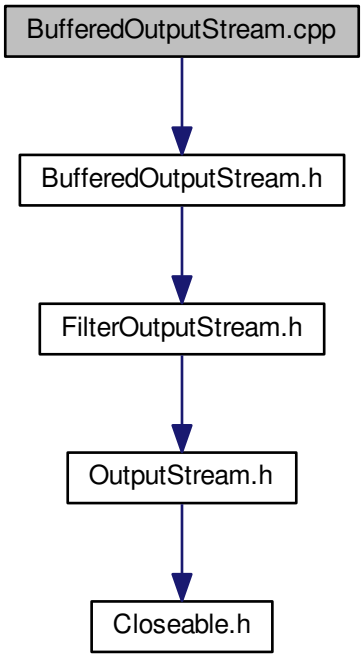
5.4 BufferedInputStream.h

```
00001
00024 #ifndef __ARDUINO_IO_BUFFERED_INPUT_STREAM_H__
00025 #define __ARDUINO_IO_BUFFERED_INPUT_STREAM_H__ 1
00026
00027 #include <FilterInputStream.h>
00028
00029 class BufferedInputStream: public FilterInputStream {
00030
00034     unsigned int size;
00035
00036 protected:
00037
00041     unsigned char* buf;
00042
00052     int count;
00053
00067     int pos;
00068
00072     bool marked;
00073
00098     int markpos;
00099
00100 public:
00101
00109     BufferedInputStream(InputStream* in, unsigned char* buf, int size);
00110
00114     virtual ~BufferedInputStream() {
00115     }
00116
00122     virtual int available();
00123
00128     virtual void close();
00129
00133     virtual void mark();
00134
00138     virtual bool markSupported();
00139
00143     virtual int read();
00144
00153     virtual int read(unsigned char* b, int len);
00154
00159     virtual int read(unsigned char* b, int off, int len);
00160
00165     virtual void reset();
00166
00170     virtual unsigned int skip(unsigned int n);
00171
00172 private:
00173
00177     void realineBufferContent();
00178
```

```
00184     void fill(int startPos);
00185 };
00186
00187 #endif /* __ARDUINO_IO_BUFFERED_INPUT_STREAM_H__ */
```

5.5 BufferedOutputStream.cpp File Reference

`#include "BufferedOutputStream.h"`
Include dependency graph for BufferedOutputStream.cpp:



5.6 BufferedOutputStream.cpp

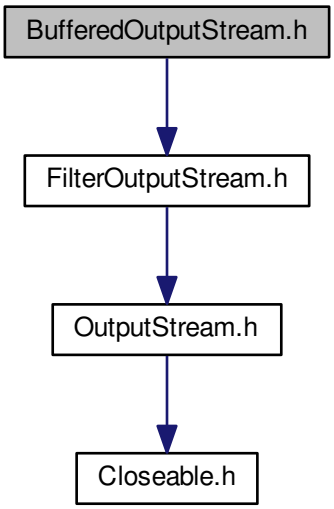
```
00001
00012 #include "BufferedOutputStream.h"
00013
00014 BufferedOutputStream::BufferedOutputStream(
      OutputStream* out, unsigned char* buf, int size)
00015         : FilterOutputStream(out), buf(buf), size(size), count(0) {
00016 }
00017
00018 void BufferedOutputStream::write(unsigned char b) {
00019     if (count >= size) {
00020         flushBuffer();
00021     }
00022     buf[count++] = b;
00023 }
00024
00025 void BufferedOutputStream::write(unsigned char* b, int len) {
00026     write(b, 0, len);
00027 }
00028
00029 void BufferedOutputStream::write(unsigned char* b, int off, int len) {
00030
00031     /*
00032      * If the request length exceeds the size of the output buffer,
00033      * flush the output buffer and then write the data directly.
00034      * In this way buffered streams will cascade harmlessly.
```

```
00035      */
00036     if (len >= size) {
00037         flushBuffer();
00038         out->write(b, off, len);
00039         return;
00040     }
00041     if (len > size - count) {
00042         flushBuffer();
00043     }
00044     for (int i = 0; i < len; i++) {
00045         buf[count + i] = b[off + i];
00046     }
00047     count += len;
00048 }
00049
00050 void BufferedOutputStream::flush() {
00051     flushBuffer();
00052     out->flush();
00053 }
00054
00055 void BufferedOutputStream::close() {
00056     flush();
00057     out->close();
00058 }
00059
00060 void BufferedOutputStream::flushBuffer() {
00061     if (count > 0) {
00062         out->write(buf, 0, count);
00063         count = 0;
00064     }
00065 }
```

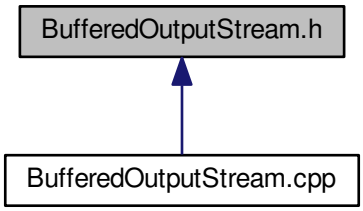
5.7 BufferedOutputStream.h File Reference

`#include <FilterOutputStream.h>`

Include dependency graph for BufferedOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class BufferedOutputStream

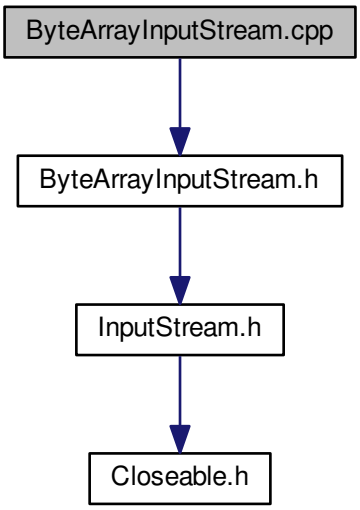
5.8 BufferedOutputStream.h

```
00001
00012 #ifndef __ARDUINO_IO_BUFFERED_OUTPUT_STREAM_H__
00013 #define __ARDUINO_IO_BUFFERED_OUTPUT_STREAM_H__ 1
00014
00015 #include <FilterOutputStream.h>
00016
00017 class BufferedOutputStream: public FilterOutputStream {
00018
00019 protected:
00020
00024     unsigned char* buf;
00025
00029     int size;
00030
00037     int count;
00038
00039 public:
00040
00049     BufferedOutputStream(OutputStream* out, unsigned char* buf, int size
      );
00050
00054     virtual ~BufferedOutputStream();
00055
00062     void write(unsigned char b);
00063
00072     virtual void write(unsigned char* b, int len);
00073
00089     virtual void write(unsigned char* b, int off, int len);
00090
00095     virtual void flush();
00096
00097     virtual void close();
00098
00099 private:
00100
00104     void flushBuffer();
00105 };
00106
00107 #endif /* __ARDUINO_IO_BUFFERED_OUTPUT_STREAM_H__ */
```

5.9 ByteArrayInputStream.cpp File Reference

```
#include "ByteArrayInputStream.h"
```

Include dependency graph for ByteArrayInputStream.cpp:



Macros

- #define __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_CPP__ 1

5.9.1 Macro Definition Documentation

5.9.1.1 #define __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_CPP__ 1

Arduino IO.

ByteArrayInputStream

A ByteArrayInputStream contains an internal buffer that contains bytes that may be read from the stream.

Definition at line 11 of file ByteArrayInputStream.cpp.

5.10 ByteArrayInputStream.cpp

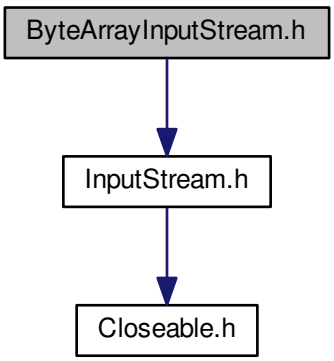
```
00001
00010 #ifndef __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_CPP__
00011 #define __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_CPP__ 1
00012
00013 #include "ByteArrayInputStream.h"
00014
00015 ByteArrayInputStream::ByteArrayInputStream(unsigned char* buf,
00016         unsigned int count) :
00017         buf(buf), count(count) {
00018     markpos = 0;
00019     pos = 0;
00020 }
00021
00022 int ByteArrayInputStream::available() {
00023     if ((count - pos) > 0) {
00024         return 1;
00025     }
00026     return 0;
00027 }
00028
```

```
00029 void ByteArrayInputStream::mark() {
00030     markpos = pos;
00031 }
00032
00033 bool ByteArrayInputStream::markSupported() {
00034     return true;
00035 }
00036
00037 int ByteArrayInputStream::read() {
00038     if (pos >= count) {
00039         return -1;
00040     }
00041     return buf[pos++];
00042 }
00043
00044 void ByteArrayInputStream::reset() {
00045     pos = markpos;
00046 }
00047
00048 #endif /* __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_CPP__ */
```

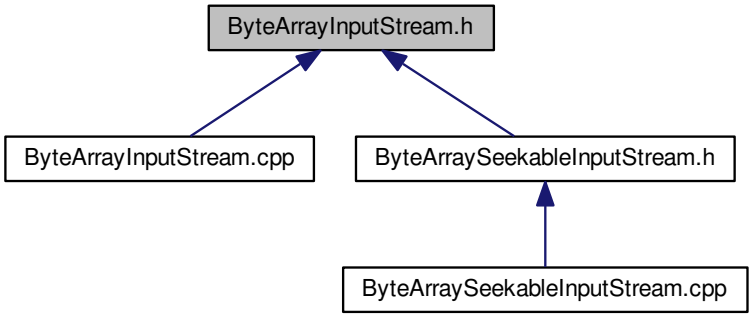
5.11 ByteArrayInputStream.h File Reference

`#include <InputStream.h>`

Include dependency graph for ByteArrayInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ByteArrayInputStream

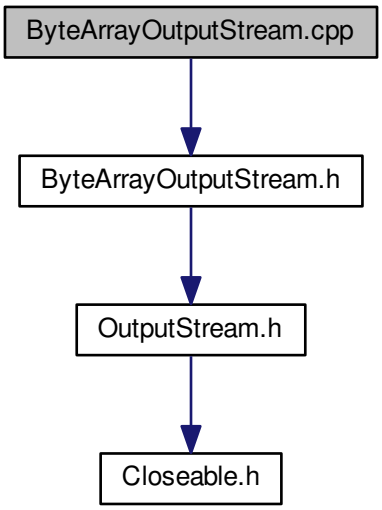
5.12 ByteArrayInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_H__ 1
00012
00013 #include <InputStream.h>
00014
00015 class ByteArrayInputStream : public virtual InputStream {
00016
00017 protected:
00018
00019     /*
00020      * The buffer where data is stored.
00021      */
00022     unsigned char* buf;
00023
00024     /*
00025      * The number of valid bytes in the buffer.
00026      */
00027     unsigned int count;
00028
00029     /*
00030      * Current position
00031      */
00032     unsigned int pos;
00033
00034     /*
00035      * The currently marked position in the stream.
00036      */
00037     unsigned int markpos;
00038
00039 public:
00040
00041     ByteArrayInputStream(unsigned char* buf, unsigned int count);
00042
00046     virtual ~ByteArrayInputStream() {
00047     }
00048
00061     virtual int available();
00062
00066     virtual void mark();
00067
00073     virtual bool markSupported();
00074
00078     using InputStream::read;
00079
00085     virtual int read();
00086
```

```
00091     virtual void reset();
00092 };
00093
00094 #endif /* __ARDUINO_IO_BYTE_ARRAY_INPUT_STREAM_H__ */
```

5.13 ByteArrayOutputStream.cpp File Reference

`#include "ByteArrayOutputStream.h"`
Include dependency graph for ByteArrayOutputStream.cpp:



Macros

- #define __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_CPP__ 1

5.13.1 Macro Definition Documentation

5.13.1.1 #define __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_CPP__ 1

Arduino IO.

ByteArrayOutputStream

This class implements an output stream in which the data is written into a unsigned char array.

Definition at line 11 of file ByteArrayOutputStream.cpp.

5.14 ByteArrayOutputStream.cpp

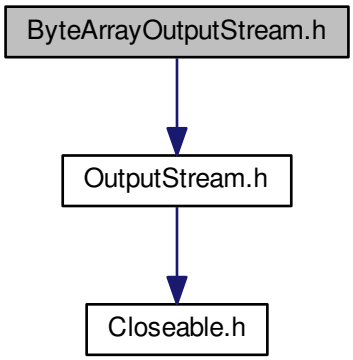
```
00001
00010 #ifndef __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_CPP__
00011 #define __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_CPP__ 1
00012
00013 #include "ByteArrayOutputStream.h"
00014
00015 ByteArrayOutputStream::ByteArrayOutputStream(unsigned char* buf
      ,
```

```
00016         unsigned int count)
00017         : buf(buf), count(count) {
00018     pos = 0;
00019 }
00020
00021 void ByteArrayOutputStream::reset() {
00022     pos = 0;
00023 }
00024
00025 unsigned int ByteArrayOutputStream::size() {
00026     return count;
00027 }
00028
00029 unsigned char* ByteArrayOutputStream::toByteArray() {
00030     return buf;
00031 }
00032
00033 void ByteArrayOutputStream::write(unsigned char b) {
00034     buf[pos++] = b;
00035 }
00036
00037 #endif /* __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_CPP__ */
```

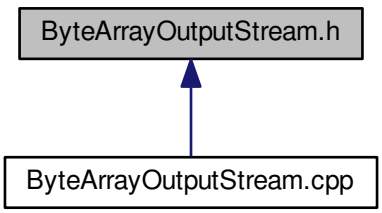
5.15 ByteArrayOutputStream.h File Reference

`#include <OutputStream.h>`

Include dependency graph for ByteArrayOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ByteArrayOutputStream

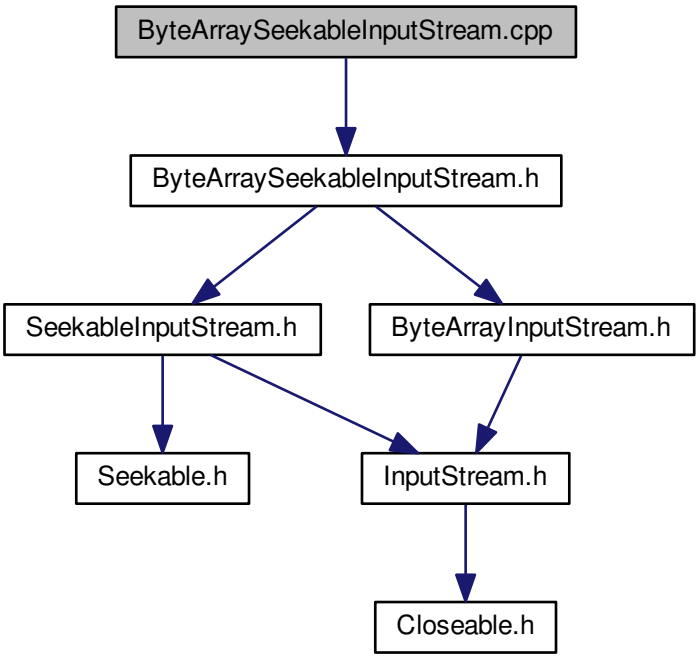
5.16 ByteArrayOutputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_H__
00011 #define __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_H__ 1
00012
00013 #include <OutputStream.h>
00014
00015 class ByteArrayOutputStream: public OutputStream {
00016
00017 protected:
00018
00019     /*
00020      * The buffer where data is stored.
00021      */
00022     unsigned char* buf;
00023
00024     /*
00025      * The number of valid bytes in the buffer.
00026      */
00027     unsigned int count;
00028
00029     /*
00030      * Current position
00031      */
00032     unsigned int pos;
00033
00034 public:
00035
00042     ByteArrayOutputStream(unsigned char* buf, unsigned int count);
00043
00047     virtual ~ByteArrayOutputStream() {
00048     }
00049
00053     void reset();
00054
00060     unsigned int size();
00061
00067     unsigned char* toByteArray();
00068
00072     using OutputStream::write;
00073
00079     virtual void write(unsigned char b);
00080 };
00081
00082 #endif /* __ARDUINO_IO_BYTE_ARRAY_OUTPUT_STREAM_H__ */
```

5.17 ByteArraySeekableInputStream.cpp File Reference

```
#include "ByteArraySeekableInputStream.h"
```

Include dependency graph for ByteArraySeekableInputStream.cpp:



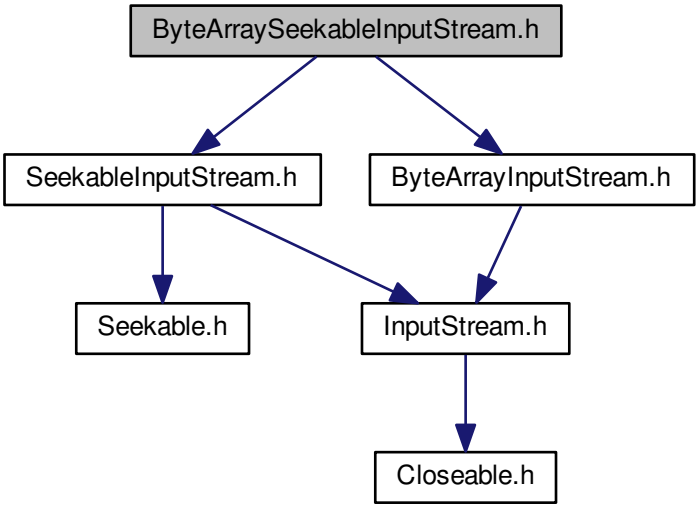
5.18 ByteArraySeekableInputStream.cpp

```
00001
00010 #include "ByteArraySeekableInputStream.h"
00011
00012 ByteArraySeekableInputStream::ByteArraySeekableInputStream
      (unsigned char* buf, unsigned int count)
00013         : ByteArrayInputStream(buf, count) {
00014 }
00015
00016 void ByteArraySeekableInputStream::seek(unsigned int pos) {
00017     this->pos = pos;
00018 }
```

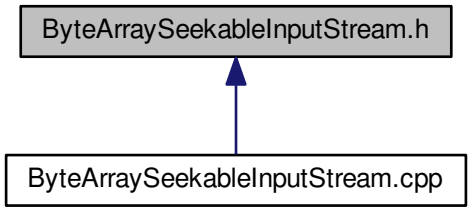
5.19 ByteArraySeekableInputStream.h File Reference

```
#include <SeekableInputStream.h>
#include <ByteArrayInputStream.h>
```

Include dependency graph for ByteArraySeekableInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ByteArraySeekableInputStream

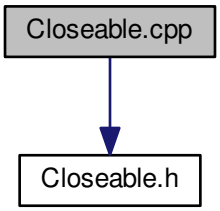
5.20 ByteArraySeekableInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_BYTE_ARRAY_SEEKABLE_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_BYTE_ARRAY_SEEKABLE_INPUT_STREAM_H__ 1
00012
00013 #include <SeekableInputStream.h>
00014 #include <ByteArrayInputStream.h>
00015
00016 class ByteArraySeekableInputStream : public
      SeekableInputStream,
00017         public ByteArrayInputStream {
```

```
00018
00019 public:
00020
00021     ByteArraySeekableInputStream(unsigned char* buf, unsigned int
      count);
00022
00023     virtual void seek(unsigned int pos);
00024 };
00025
00026 #endif /* __ARDUINO_IO_BYTE_ARRAY_SEEKABLE_INPUT_STREAM_H__ */
```

5.21 Closeable.cpp File Reference

`#include "Closeable.h"`
Include dependency graph for Closeable.cpp:



Macros

- #define __ARDUINO_IO_CLOSEABLE_CPP__ 1

5.21.1 Macro Definition Documentation

5.21.1.1 #define __ARDUINO_IO_CLOSEABLE_CPP__ 1

Arduino IO.

Closeable

A Closeable is a source or destination of data that can be closed.

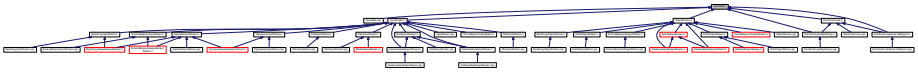
Definition at line 10 of file Closeable.cpp.

5.22 Closeable.cpp

```
00001
00009 #ifndef __ARDUINO_IO_CLOSEABLE_CPP__
00010 #define __ARDUINO_IO_CLOSEABLE_CPP__ 1
00011
00012 #include "Closeable.h"
00013
00014 #endif /* __ARDUINO_IO_CLOSEABLE_CPP__ */
```

5.23 Closeable.h File Reference

This graph shows which files directly or indirectly include this file:



Classes

- class Closeable

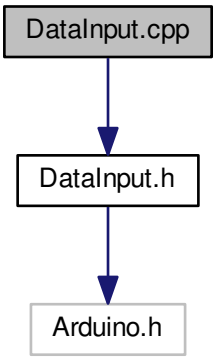
5.24 Closeable.h

```
00001
00009 #ifndef __ARDUINO_IO_CLOSEABLE_H__
00010 #define __ARDUINO_IO_CLOSEABLE_H__ 1
00011
00012 class Closeable {
00013 public:
00014
00015     virtual void close() = 0;
00016 };
00017
00018 #endif /* __ARDUINO_IO_CLOSEABLE_H__ */
```

5.25 DataInput.cpp File Reference

```
#include "DataInput.h"
```

Include dependency graph for DataInput.cpp:



Macros

- #define __ARDUINO_IO_DATA_INPUT_CPP__ 1

5.25.1 Macro Definition Documentation

5.25.1.1 #define __ARDUINO_IO_DATA_INPUT_CPP__ 1

Arduino IO.

DataInput

The DataInput interface provides for reading bytes from a binary stream and reconstructing from them data in any of the primitive types.

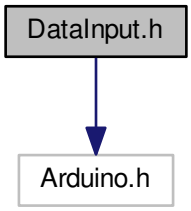
Definition at line 11 of file DataInput.cpp.

5.26 DataInput.cpp

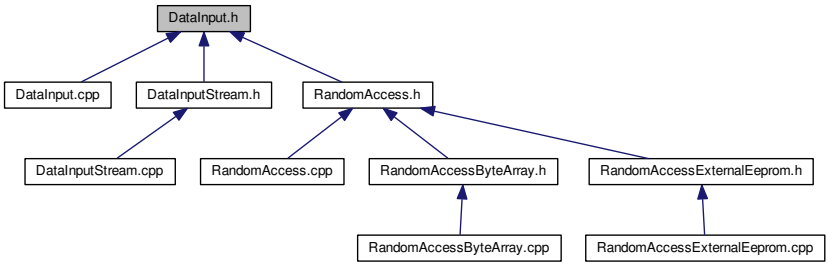
```
00001
00010 #ifndef __ARDUINO_IO_DATA_INPUT_CPP__
00011 #define __ARDUINO_IO_DATA_INPUT_CPP__ 1
00012
00013 #include "DataInput.h"
00014
00015 #endif /* __ARDUINO_IO_DATA_INPUT_CPP__ */
00016
```

5.27 DataInput.h File Reference

`#include <Arduino.h>`
Include dependency graph for DataInput.h:



This graph shows which files directly or indirectly include this file:



Classes

- class DataInput

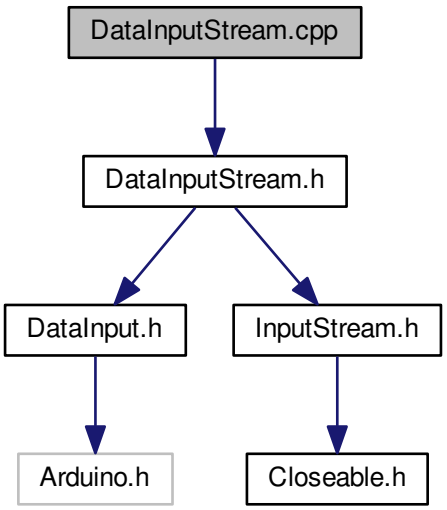
5.28 DataInput.h

```
00001
00011 #ifndef __ARDUINO_IO_DATA_INPUT_H__
00012 #define __ARDUINO_IO_DATA_INPUT_H__ 1
00013
00014 #include <Arduino.h>
00015
00016 class DataInput {
00017 public:
00018
00024     virtual unsigned char readByte() = 0;
00025
00031     virtual bool readBoolean() = 0;
00032
00038     virtual char readChar() = 0;
00039
00045     virtual unsigned char readUnsignedChar() = 0;
00046
00052     virtual int readInt() = 0;
00053
00059     virtual unsigned int readUnsignedInt() = 0;
00060
00066     virtual word readWord() = 0;
00067
00073     virtual long readLong() = 0;
00074
00080     virtual unsigned long readUnsignedLong() = 0;
00081
00087     virtual float readFloat() = 0;
00088
00094     virtual double readDouble() = 0;
00095
00102     virtual void readFully(unsigned char* b, int len) = 0;
00103
00110     virtual unsigned int skipBytes(unsigned int n) = 0;
00111 };
00112
00113 #endif /* __ARDUINO_IO_DATA_INPUT_H__ */
```

5.29 DataInputStream.cpp File Reference

`#include "DataInputStream.h"`

Include dependency graph for DataInputStream.cpp:



Macros

- #define __ARDUINO_IO_DATA_INPUT_STREAM_CPP__ 1

5.29.1 Macro Definition Documentation

5.29.1.1 #define __ARDUINO_IO_DATA_INPUT_STREAM_CPP__ 1

Arduino IO.

DataInputStream

A data input stream lets an application read data from a InputStream.

Definition at line 10 of file DataInputStream.cpp.

5.30 DataInputStream.cpp

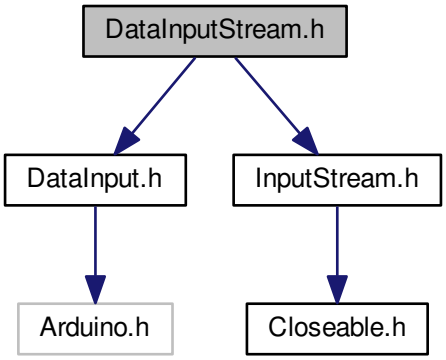
```
00001
00009 #ifndef __ARDUINO_IO_DATA_INPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_DATA_INPUT_STREAM_CPP__ 1
00011
00012 #include "DataInputStream.h"
00013
00014 DataInputStream::DataInputStream(InputStream* inputStream) :
00015         inputStream(inputStream) {
00016 }
00017
00018 unsigned char DataInputStream::readByte() {
00019     return (unsigned char) inputStream->read();
00020 }
00021
00022 bool DataInputStream::readBoolean() {
00023     return (bool) inputStream->read();
00024 }
00025
00026 char DataInputStream::readChar() {
00027     return (char) inputStream->read();
00028 }
00029
00030 unsigned char DataInputStream::readUnsignedChar() {
00031     return (unsigned char) inputStream->read();
00032 }
00033
00034 int DataInputStream::readInt() {
00035     int v = 0;
00036     v = inputStream->read();
00037     v <<= 8;
00038     v |= (inputStream->read() & 0xff);
00039     return v;
00040 }
00041
00042 unsigned int DataInputStream::readUnsignedInt() {
00043     return (unsigned int) readInt();
00044 }
00045
00046 word DataInputStream::readWord() {
00047     return (word) readInt();
00048 }
00049
00050 long DataInputStream::readLong() {
00051     long v = 0;
00052     v = inputStream->read();
00053     v <<= 8;
00054     v |= (inputStream->read() & 0xff);
00055     v <<= 8;
00056     v |= (inputStream->read() & 0xff);
00057     v <<= 8;
00058     v |= (inputStream->read() & 0xff);
00059     return v;
00060 }
00061
00062 unsigned long DataInputStream::readUnsignedLong() {
00063     return (unsigned long) readLong();
00064 }
00065
00066 float DataInputStream::readFloat() {
00067     return (float) readLong();
00068 }
```

```
00069
00070 double DataInputStream::readDouble() {
00071     return (double) readLong();
00072 }
00073
00074 void DataInputStream::readFully(unsigned char* b, int len) {
00075     for (int i = 0; i < len; i++) {
00076         b[i] = inputStream->read();
00077     }
00078 }
00079
00080 unsigned int DataInputStream::skipBytes(unsigned int n) {
00081     return inputStream->skip(n);
00082 }
00083
00084 #endif /* __ARDUINO_IO_DATA_INPUT_STREAM_CPP__ */
```

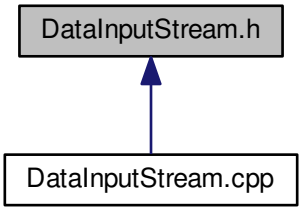
5.31 DataInputStream.h File Reference

```
#include <DataInput.h>
#include <InputStream.h>
```

Include dependency graph for DataInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class DataInputStream

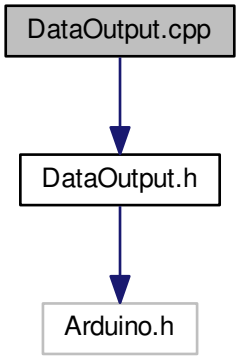
5.32 DataInputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_DATA_INPUT_STREAM_H__
00010 #define __ARDUINO_IO_DATA_INPUT_STREAM_H__ 1
00011
00012 #include <DataInput.h>
00013 #include <InputStream.h>
00014
00015 class DataInputStream : public DataInput {
00016
00020     InputStream* inputStream;
00021
00022 public:
00023
00029     DataInputStream(InputStream* inputStream);
00030
00036     virtual unsigned char readByte();
00037
00043     virtual bool readBoolean();
00044
00050     virtual char readChar();
00051
00057     virtual unsigned char readUnsignedChar();
00058
00064     virtual int readInt();
00065
00071     virtual unsigned int readUnsignedInt();
00072
00078     virtual word readWord();
00079
00085     virtual long readLong();
00086
00092     virtual unsigned long readUnsignedLong();
00093
00099     virtual float readFloat();
00100
00106     virtual double readDouble();
00107
00114     virtual void readFully(unsigned char* b, int len);
00115
00122     virtual unsigned int skipBytes(unsigned int n);
00123 };
00124
00125 #endif /* __ARDUINO_IO_DATA_INPUT_STREAM_H__ */
```

5.33 DataOutput.cpp File Reference

```
#include "DataOutput.h"
```

Include dependency graph for DataOutput.cpp:



Macros

- #define __ARDUINO_IO_DATA_OUTPUT_CPP__ 1

5.33.1 Macro Definition Documentation

5.33.1.1 #define __ARDUINO_IO_DATA_OUTPUT_CPP__ 1

Arduino IO.

DataOutput

The DataOutput interface provides for converting data from any of the primitive types to a series of bytes and writing these bytes to a binary stream.

Definition at line 11 of file DataOutput.cpp.

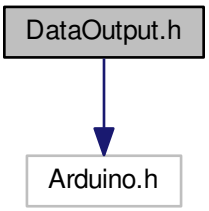
5.34 DataOutput.cpp

```
00001
00010 #ifndef __ARDUINO_IO_DATA_OUTPUT_CPP__
00011 #define __ARDUINO_IO_DATA_OUTPUT_CPP__ 1
00012
00013 #include "DataOutput.h"
00014
00015 #endif /* __ARDUINO_IO_DATA_OUTPUT_CPP__ */
00016
```

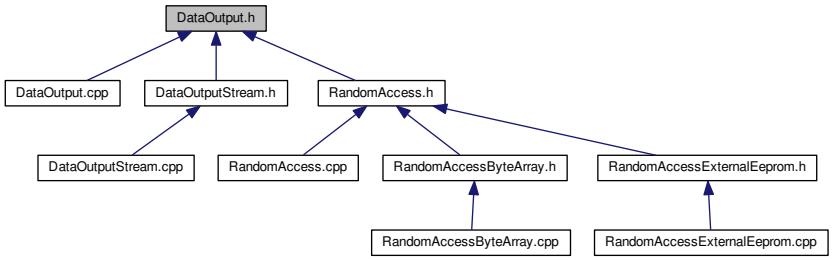
5.35 DataOutput.h File Reference

```
#include <Arduino.h>
```

Include dependency graph for DataOutput.h:



This graph shows which files directly or indirectly include this file:



Classes

- class DataOutput

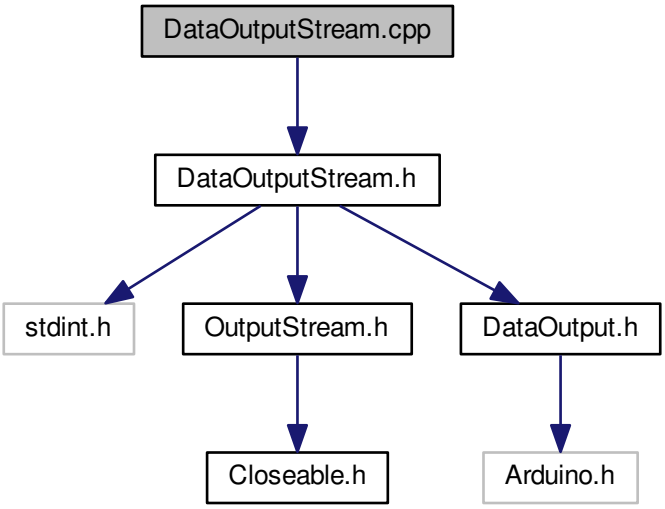
5.36 DataOutput.h

```
00001
00010 #ifndef __ARDUINO_IO_DATA_OUTPUT_H__
00011 #define __ARDUINO_IO_DATA_OUTPUT_H__ 1
00012
00013 #include <Arduino.h>
00014
00015 class DataOutput {
00016 public:
00017
00024     virtual void write(unsigned char* b, int len) = 0;
00025
00031     virtual void write(unsigned char b) = 0;
00032
00038     virtual void writeByte(unsigned char b) = 0;
00039
00046     virtual void writeBytes(unsigned char* b, int len) = 0;
00047
00053     virtual void writeBoolean(bool v) = 0;
00054
00060     virtual void writeChar(char c) = 0;
00061
00067     virtual void writeUnsignedChar(unsigned char c) = 0;
00068
00074     virtual void writeInt(int v) = 0;
00075
00081     virtual void writeUnsignedInt(unsigned int v) = 0;
00082
```

```
00088     virtual void writeWord(word v) = 0;
00089
00095     virtual void writeLong(long v) = 0;
00096
00102     virtual void writeUnsignedLong(unsigned long v) = 0;
00103
00109     virtual void writeFloat(float v) = 0;
00110
00116     virtual void writeDouble(double v) = 0;
00117 };
00118
00119 #endif /* __ARDUINO_IO_DATA_OUTPUT_H__ */
```

5.37 DataOutputStream.cpp File Reference

`#include "DataOutputStream.h"`
Include dependency graph for DataOutputStream.cpp:



Macros

- #define __ARDUINO_IO_DATA_OUTPUT_STREAM_CPP__ 1

5.37.1 Macro Definition Documentation

5.37.1.1 #define __ARDUINO_IO_DATA_OUTPUT_STREAM_CPP__ 1

Arduino IO.

DataOutputStream

A data output stream lets an application write types to an OutputStream.

Definition at line 10 of file DataOutputStream.cpp.

5.38 DataOutputStream.cpp

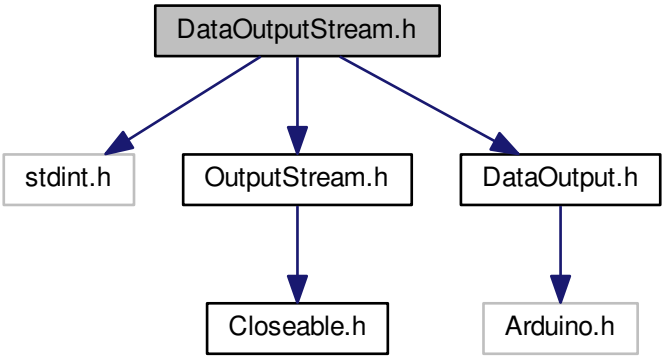
```
00001
```

```
00009 #ifndef __ARDUINO_IO_DATA_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_DATA_OUTPUT_STREAM_CPP__ 1
00011
00012 #include "DataOutputStream.h"
00013
00014 DataOutputStream::DataOutputStream(
      OutputStream* outputStream) :
00015         outputStream(outputStream) {
00016 }
00017
00018 void DataOutputStream::write(unsigned char* b, int len) {
00019     writeBytes(b, len);
00020 }
00021
00022 void DataOutputStream::write(unsigned char b) {
00023     writeByte(b);
00024 }
00025
00026 void DataOutputStream::writeByte(unsigned char b) {
00027     outputStream->write(b);
00028 }
00029
00030 void DataOutputStream::writeBytes(unsigned char* b, int len) {
00031     for (int i = 0; i < len; i++) {
00032         outputStream->write(b[i]);
00033     }
00034 }
00035
00036 void DataOutputStream::writeBoolean(bool v) {
00037     outputStream->write((unsigned char) v);
00038 }
00039
00040 void DataOutputStream::writeChar(char c) {
00041     outputStream->write((unsigned char) c);
00042 }
00043
00044 void DataOutputStream::writeUnsignedChar(unsigned char c) {
00045     outputStream->write((unsigned char) c);
00046 }
00047
00048 void DataOutputStream::writeInt(int v) {
00049     outputStream->write((unsigned char) ((v >> 8) & 0xff));
00050     outputStream->write((unsigned char) (v & 0xff));
00051 }
00052
00053 void DataOutputStream::writeUnsignedInt(unsigned int v) {
00054     writeInt((int) v);
00055 }
00056
00057 void DataOutputStream::writeWord(word v) {
00058     writeInt((int) v);
00059 }
00060
00061 void DataOutputStream::writeLong(long v) {
00062     outputStream->write((unsigned char) ((v >> 24) & 0xff));
00063     outputStream->write((unsigned char) ((v >> 16) & 0xff));
00064     outputStream->write((unsigned char) ((v >> 8) & 0xff));
00065     outputStream->write((unsigned char) (v & 0xff));
00066 }
00067
00068 void DataOutputStream::writeUnsignedLong(unsigned long v) {
00069     writeLong((long) v);
00070 }
00071
00072 void DataOutputStream::writeFloat(float v) {
00073     writeLong((long) v);
00074 }
00075
00076 void DataOutputStream::writeDouble(double v) {
00077     writeLong((long) v);
00078 }
00079
00080 #endif /* __ARDUINO_IO_DATA_OUTPUT_STREAM_CPP__ */
```

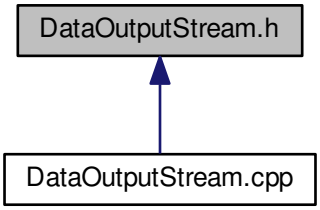
5.39 DataOutputStream.h File Reference

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

Include dependency graph for DataOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class DataOutputStream

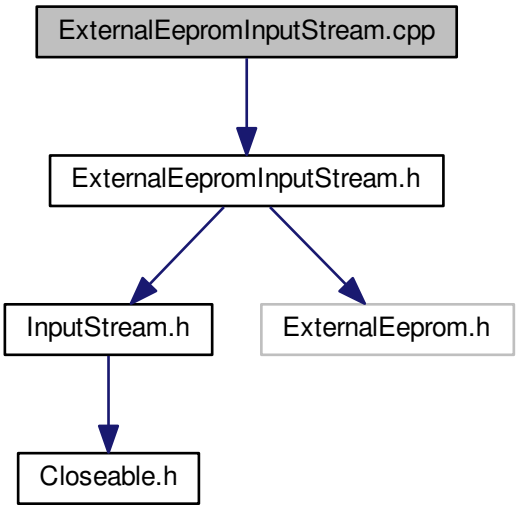
5.40 DataOutputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_DATA_OUTPUT_STREAM_H__
00010 #define __ARDUINO_IO_DATA_OUTPUT_STREAM_H__ 1
00011
00012 #include <stdint.h>
00013 #include <OutputStream.h>
00014 #include <DataOutput.h>
00015
00016 class DataOutputStream : public DataOutput {
00017
00021     OutputStream* outputStream;
00022
00023 public:
00024
00030     DataOutputStream(OutputStream* outputStream);
00031
00038     virtual void write(unsigned char* b, int len);
```

```
00039
00045     virtual void write(unsigned char b);
00046
00052     virtual void writeByte(unsigned char b);
00053
00060     virtual void writeBytes(unsigned char* b, int len);
00061
00067     virtual void writeBoolean(bool v);
00068
00074     virtual void writeChar(char c);
00075
00081     virtual void writeUnsignedChar(unsigned char c);
00082
00088     virtual void writeInt(int v);
00089
00095     virtual void writeUnsignedInt(unsigned int v);
00096
00102     virtual void writeWord(word v);
00103
00109     virtual void writeLong(long v);
00110
00116     virtual void writeUnsignedLong(unsigned long v);
00117
00123     virtual void writeFloat(float v);
00124
00130     virtual void writeDouble(double v);
00131 };
00132
00133 #endif /* __ARDUINO_IO_DATA_OUTPUT_STREAM_H__ */
```

5.41 ExternalEepromInputStream.cpp File Reference

`#include "ExternalEepromInputStream.h"`
Include dependency graph for ExternalEepromInputStream.cpp:



5.42 ExternalEepromInputStream.cpp

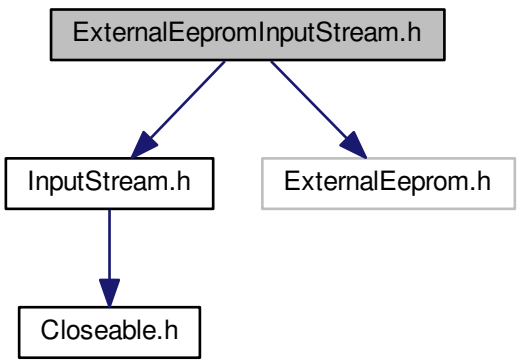
```
00001
00010 #include "ExternalEepromInputStream.h"
00011
00012 ExternalEepromInputStream::ExternalEepromInputStream(
      ExternalEeprom* externalEeprom)
00013         : maxAvailableChunk(0x08), externalEeprom(externalEeprom), pos(0), markpos(0), externalEepromSize(
      externalEeprom->getDeviceSize()) {
```

```
00014 }
00015
00016 int ExternalEepromInputStream::available() {
00017     int room = externalEepromSize - pos;
00018     if (room > maxAvailableChunk) {
00019         return maxAvailableChunk;
00020     }
00021     return room;
00022 }
00023
00024 void ExternalEepromInputStream::mark() {
00025     markpos = pos;
00026 }
00027
00028 bool ExternalEepromInputStream::markSupported() {
00029     return true;
00030 }
00031
00032 int ExternalEepromInputStream::read() {
00033     if (pos >= externalEepromSize) {
00034         return -1;
00035     }
00036     return (int) externalEeprom->read(pos++);
00037 }
00038
00039 int ExternalEepromInputStream::read(unsigned char* b, int off, int len) {
00040     unsigned int available = (externalEepromSize -
    pos);
00041     int total;
00042     len = (int) ((unsigned int) len > available) ? available : len;
00043     total = externalEeprom->readBytes(pos, &b[off], len);
00044     pos += total;
00045     return total;
00046 }
00047
00048 void ExternalEepromInputStream::reset() {
00049     pos = markpos;
00050 }
```

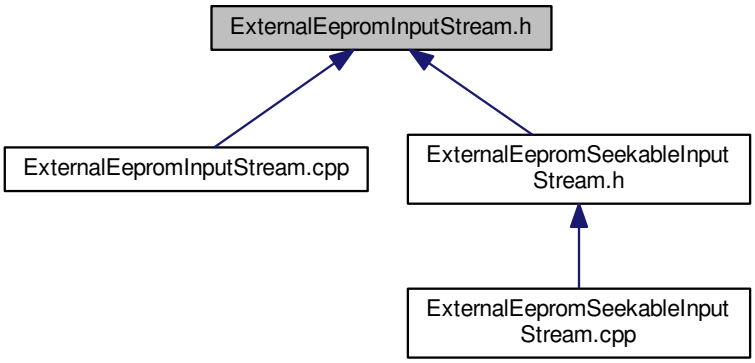
5.43 ExternalEepromInputStream.h File Reference

```
#include <InputStream.h>
#include <ExternalEeprom.h>
```

Include dependency graph for ExternalEepromInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ExternalEepromInputStream

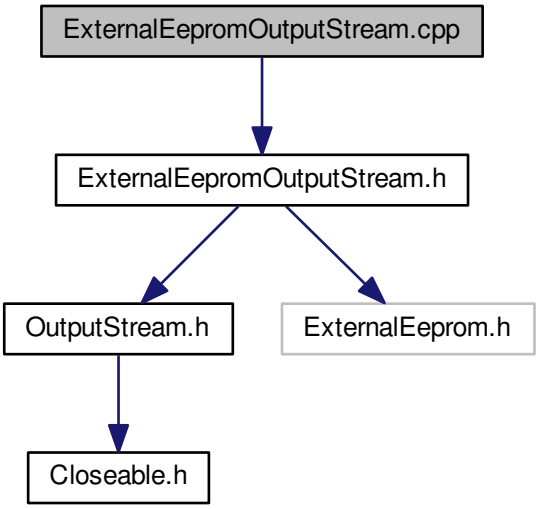
5.44 ExternalEepromInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_EXTERNAL_EEPROM_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_EXTERNAL_EEPROM_INPUT_STREAM_H__ 1
00012
00013 #include <InputStream.h>
00014 #include <ExternalEeprom.h>
00015
00016 class ExternalEepromInputStream: public virtual
      InputStream {
00017
00018 protected:
00019
00023     const int maxAvailableChunk;
00024
00025     /*
00026      * The externalEeprom where data is stored.
00027      */
00028     ExternalEeprom* externalEeprom;
00029
00030     /*
00031      * Current position
00032      */
00033     unsigned int pos;
00034
00035     /*
00036      * The currently marked position in the stream.
00037      */
00038     unsigned int markpos;
00039
00040     /*
00041      * The size of the externalEeprom.
00042      */
00043     unsigned int externalEepromSize;
00044
00045 public:
00046
00052     ExternalEepromInputStream(ExternalEeprom* externalEeprom);
00053
00057     virtual ~ExternalEepromInputStream() {
00058     }
00059
00067     virtual int available();
00068
00072     virtual void mark();
00073
```

```
00079     virtual bool markSupported();
00080
00084     using InputStream::read;
00085
00091     virtual int read();
00092
00101     virtual int read(unsigned char* b, int off, int len);
00102
00107     virtual void reset();
00108 };
00109
00110 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_INPUT_STREAM_H__ */
```

5.45 ExternalEepromOutputStream.cpp File Reference

`#include "ExternalEepromOutputStream.h"`
Include dependency graph for ExternalEepromOutputStream.cpp:



Macros

- #define __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_CPP__ 1

5.45.1 Macro Definition Documentation

5.45.1.1 #define __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_CPP__ 1

Arduino IO.

ExternalEepromOutputStream

A externalEeprom output stream is an output stream for writing data to a ExternalEeprom.

Definition at line 10 of file ExternalEepromOutputStream.cpp.

5.46 ExternalEepromOutputStream.cpp

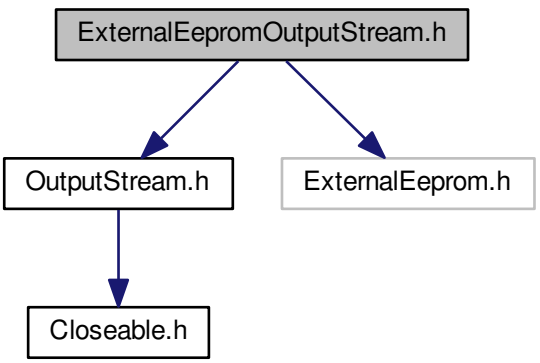
```
00001
```

```
00009 #ifndef __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_CPP__ 1
00011
00012 #include "ExternalEepromOutputStream.h"
00013
00014 ExternalEepromOutputStream::ExternalEepromOutputStream
      (
00015         ExternalEeprom* externalEeprom) :
00016         externalEeprom(externalEeprom) {
00017     pos = 0;
00018 }
00019
00020 void ExternalEepromOutputStream::write(unsigned char b) {
00021     externalEeprom->write(pos++, b);
00022 }
00023
00024 void ExternalEepromOutputStream::write(unsigned char* b, int off, int len)
       {
00025     externalEeprom->writeBytes(pos, &b[off], len);
00026     pos += len;
00027 }
00028
00029 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_CPP__ */
```

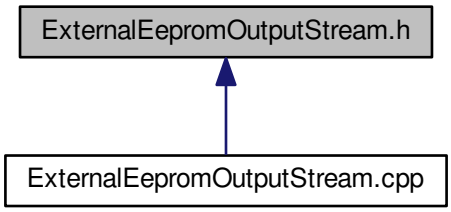
5.47 ExternalEepromOutputStream.h File Reference

```
#include <OutputStream.h>
#include <ExternalEeprom.h>
```

Include dependency graph for ExternalEepromOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ExternalEepromOutputStream

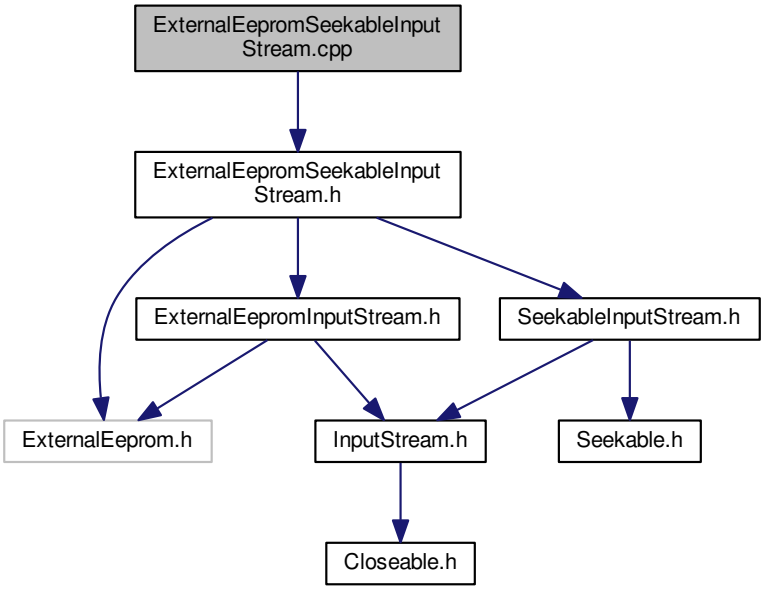
5.48 ExternalEepromOutputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_H__
00011 #define __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_H__ 1
00012
00013 #include <OutputStream.h>
00014 #include <ExternalEeprom.h>
00015
00016 class ExternalEepromOutputStream : public OutputStream {
00017
00021     ExternalEeprom* externalEeprom;
00022
00026     unsigned int pos;
00027
00028 public:
00029
00035     ExternalEepromOutputStream(ExternalEeprom* externalEeprom);
00036
00037     virtual ~ExternalEepromOutputStream() {
00038     }
00039
00043     using OutputStream::write;
00044
00050     virtual void write(unsigned char b);
00051
00060     virtual void write(unsigned char* b, int off, int len);
00061 };
00062
00063 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_H__ */
```

5.49 ExternalEepromSeekableInputStream.cpp File Reference

```
#include "ExternalEepromSeekableInputStream.h"
```

Include dependency graph for ExternalEepromSeekableInputStream.cpp:



Macros

- #define __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_CPP__ 1

5.49.1 Macro Definition Documentation

5.49.1.1 #define __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_CPP__ 1

Arduino IO.

ExternalEepromSeekableInputStream

A ExternalEepromSeekableInputStream obtains input bytes from a external input stream.

Definition at line 11 of file ExternalEepromSeekableInputStream.cpp.

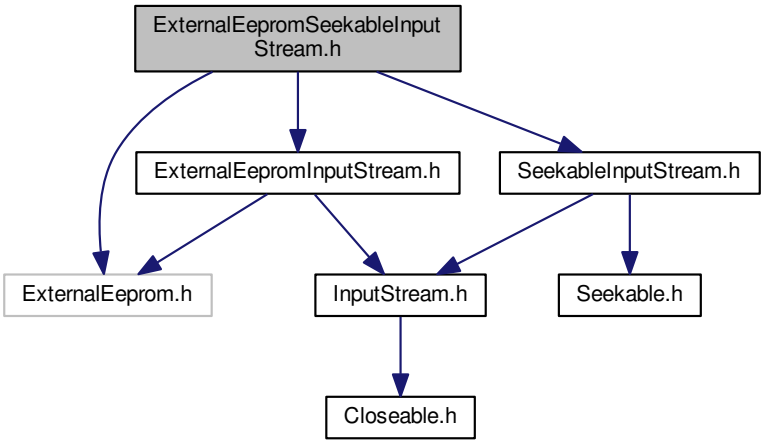
5.50 ExternalEepromSeekableInputStream.cpp

```
00001
00010 #ifndef __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_CPP__
00011 #define __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_CPP__ 1
00012
00013 #include "ExternalEepromSeekableInputStream.h"
00014
00015 ExternalEepromSeekableInputStream::ExternalEepromSeekableInputStream
      (
00016         ExternalEeprom* externalEeprom) :
00017         ExternalEepromInputStream(externalEeprom) {
00018 }
00019
00020 void ExternalEepromSeekableInputStream::seek(unsigned int pos) {
00021     this->pos = pos;
00022 }
00023
00024 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_CPP__ */
```

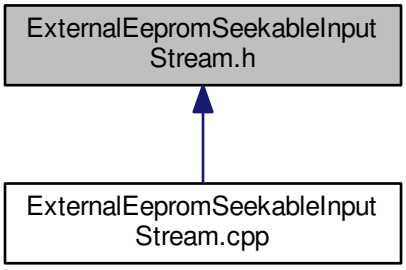
5.51 ExternalEepromSeekableInputStream.h File Reference

```
#include <ExternalEeprom.h>
#include <SeekableInputStream.h>
#include <ExternalEepromInputStream.h>
```

Include dependency graph for ExternalEepromSeekableInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ExternalEepromSeekableInputStream

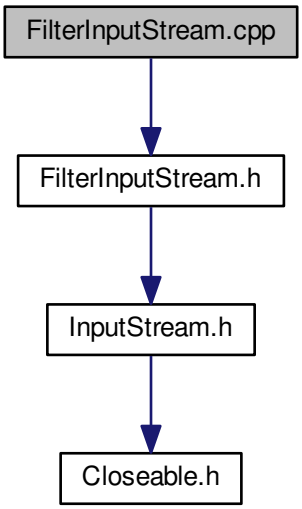
5.52 ExternalEepromSeekableInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_H__ 1
00012
00013 #include <ExternalEeprom.h>
```

```
00014 #include <SeekableInputStream.h>
00015 #include <ExternalEepromInputStream.h>
00016
00017 class ExternalEepromSeekableInputStream : public
      ExternalEepromInputStream,
00018         public SeekableInputStream {
00019 public:
00020
00026     ExternalEepromSeekableInputStream(ExternalEeprom*
      externalEeprom);
00027
00033     virtual void seek(unsigned int pos);
00034 };
00035
00036 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_SEEKABLE_INPUT_STREAM_H__ */
```

5.53 FilterInputStream.cpp File Reference

`#include "FilterInputStream.h"`
Include dependency graph for FilterInputStream.cpp:



Macros

- #define __ARDUINO_IO_FILTER_INPUT_STREAM_CPP__ 1

5.53.1 Macro Definition Documentation

5.53.1.1 #define __ARDUINO_IO_FILTER_INPUT_STREAM_CPP__ 1

A `FilterInputStream` contains some other input stream, which it uses as its basic source of data, possibly transforming the data along the way or providing additional functionality.

The class `FilterInputStream` itself simply overrides all methods of `InputStream` with versions that pass all requests to the contained input stream. Subclasses of `FilterInputStream` may further override some of these methods and may also provide additional methods and fields.

Definition at line 17 of file FilterInputStream.cpp.

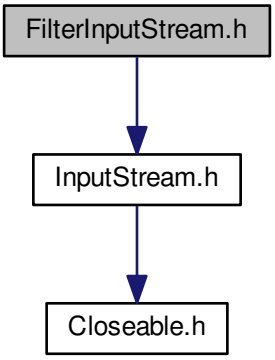
5.54 FilterInputStream.cpp

```
00001
00016 #ifndef __ARDUINO_IO_FILTER_INPUT_STREAM_CPP__
00017 #define __ARDUINO_IO_FILTER_INPUT_STREAM_CPP__ 1
00018
00019 #include "FilterInputStream.h"
00020
00021 FilterInputStream::FilterInputStream(
      InputStream* in) :
00022         in(in) {
00023 }
00024
00025 int FilterInputStream::read() {
00026     return in->read();
00027 }
00028
00029 int FilterInputStream::read(unsigned char* b, int len) {
00030     return in->read(b, len);
00031 }
00032
00033 int FilterInputStream::read(unsigned char* b, int off, int len) {
00034     return in->read(b, off, len);
00035 }
00036
00037 unsigned int FilterInputStream::skip(unsigned int n) {
00038     return in->skip(n);
00039 }
00040
00041 int FilterInputStream::available() {
00042     return in->available();
00043 }
00044
00045 void FilterInputStream::close() {
00046     in->close();
00047 }
00048
00049 void FilterInputStream::mark() {
00050     in->mark();
00051 }
00052
00053 void FilterInputStream::reset() {
00054     in->reset();
00055 }
00056
00057 bool FilterInputStream::markSupported() {
00058     return in->markSupported();
00059 }
00060
00061 #endif /* __ARDUINO_IO_FILTER_INPUT_STREAM_CPP__ */
```

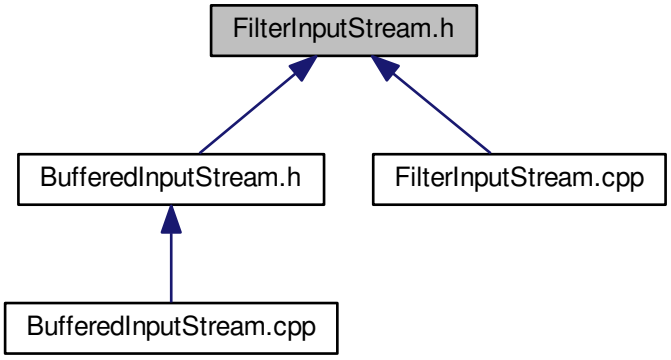
5.55 FilterInputStream.h File Reference

```
#include <InputStream.h>
```

Include dependency graph for FilterInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class FilterInputStream

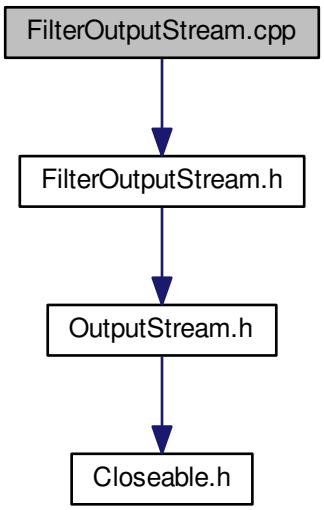
5.56 FilterInputStream.h

```
00001
00016 #ifndef __ARDUINO_IO_FILTER_INPUT_STREAM_H__
00017 #define __ARDUINO_IO_FILTER_INPUT_STREAM_H__ 1
00018
00019 #include <InputStream.h>
00020
00021 class FilterInputStream : public virtual InputStream {
00022
00023 protected:
00024
```

```
00028     InputStream* in;
00029
00038     FilterInputStream(InputStream* in);
00039
00040 public:
00041
00055     virtual int read();
00056
00074     virtual int read(unsigned char* b, int len);
00075
00090     virtual int read(unsigned char* b, int off, int len);
00091
00097     virtual unsigned int skip(unsigned int n);
00098
00107     virtual int available();
00108
00113     virtual void close();
00114
00122     virtual void mark();
00123
00137     virtual void reset();
00138
00149     virtual bool markSupported();
00150 };
00151
00152 #endif /* __ARDUINO_IO_FILTER_INPUT_STREAM_H__ */
```

5.57 FilterOutputStream.cpp File Reference

`#include "FilterOutputStream.h"`
Include dependency graph for FilterOutputStream.cpp:



Macros

- #define __ARDUINO_IO_FILTER_OUTPUT_STREAM_CPP__ 1

5.57.1 Macro Definition Documentation

5.57.1.1 #define __ARDUINO_IO_FILTER_OUTPUT_STREAM_CPP__ 1

Arduino IO.

FilterOutputStream

This class is the superclass of all classes that filter output streams. These streams sit on top of an already existing output stream (the *underlying* output stream) which it uses as its basic sink of data, but possibly transforming the data along the way or providing additional functionality.

The class `FilterOutputStream` itself simply overrides all methods of `OutputStream` with versions that pass all requests to the underlying output stream. Subclasses of `FilterOutputStream` may further override some of these methods as well as provide additional methods and fields.

Definition at line 20 of file FilterOutputStream.cpp.

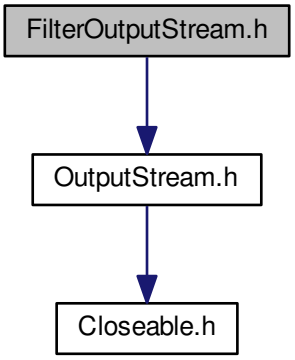
5.58 FilterOutputStream.cpp

```
00001
00019 #ifndef __ARDUINO_IO_FILTER_OUTPUT_STREAM_CPP__
00020 #define __ARDUINO_IO_FILTER_OUTPUT_STREAM_CPP__ 1
00021
00022 #include "FilterOutputStream.h"
00023
00024 FilterOutputStream::FilterOutputStream(
      OutputStream* out) :
00025         out(out) {
00026 }
00027
00028 void FilterOutputStream::write(unsigned char b) {
00029     out->write(b);
00030 }
00031
00032 void FilterOutputStream::write(unsigned char* b, int len) {
00033     out->write(b, len);
00034 }
00035
00036 void FilterOutputStream::write(unsigned char* b, int off, int len) {
00037     out->write(b, off, len);
00038 }
00039
00040 void FilterOutputStream::flush() {
00041     out->flush();
00042 }
00043
00044 void FilterOutputStream::close() {
00045     out->flush();
00046     out->close();
00047 }
00048
00049 #endif /* __ARDUINO_IO_FILTER_OUTPUT_STREAM_CPP__ 1 */
00050
```

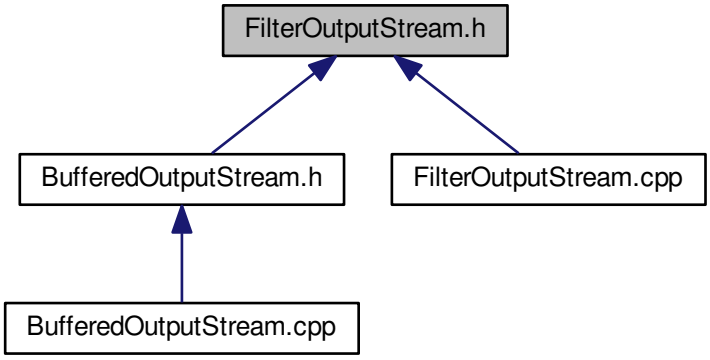
5.59 FilterOutputStream.h File Reference

```
#include <OutputStream.h>
```

Include dependency graph for FilterOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class FilterOutputStream

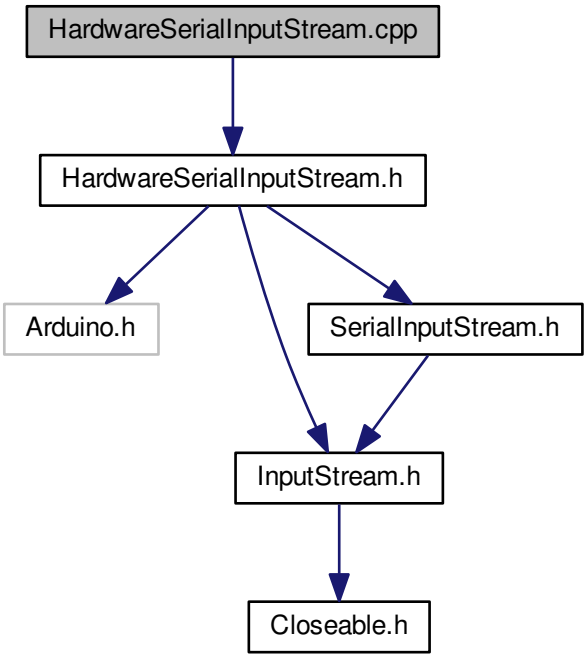
5.60 FilterOutputStream.h

```
00001
00019 #ifndef __ARDUINO_IO_FILTER_OUTPUT_STREAM_H__
00020 #define __ARDUINO_IO_FILTER_OUTPUT_STREAM_H__ 1
00021
00022 #include <OutputStream.h>
00023
00024 class FilterOutputStream : public OutputStream {
00025 protected:
00026
00030     OutputStream* out;
```

```
00031 public:
00032
00040     FilterOutputStream(OutputStream* out);
00041
00053     virtual void write(unsigned char b);
00054
00066     virtual void write(unsigned char* b, int len);
00067
00077     virtual void write(unsigned char* b, int off, int len);
00078
00086     virtual void flush();
00087
00096     virtual void close();
00097 };
00098
00099 #endif /* __ARDUINO_IO_FILTER_OUTPUT_STREAM_H__ */
```

5.61 HardwareSerialInputStream.cpp File Reference

`#include "HardwareSerialInputStream.h"`
Include dependency graph for HardwareSerialInputStream.cpp:



Macros

- #define __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_CPP__ 1

5.61.1 Macro Definition Documentation

5.61.1.1 #define __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_CPP__ 1

Arduino IO.

HardwareSerialInputStream

A HardwareSerialInputStream obtains input bytes from a serial port.

Definition at line 10 of file HardwareSerialInputStream.cpp.

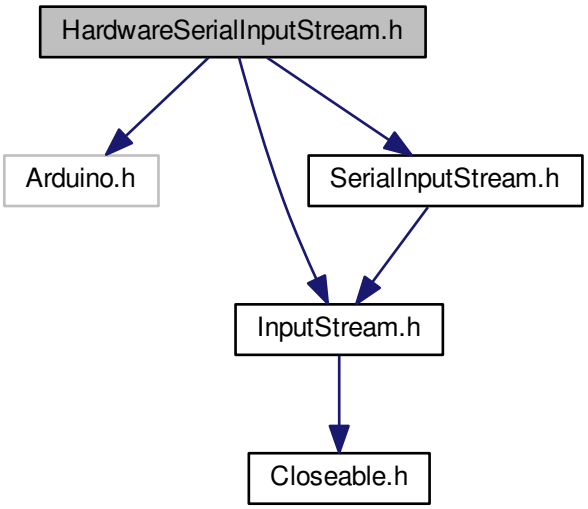
5.62 HardwareSerialInputStream.cpp

```
00001
00009 #ifndef __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_CPP__ 1
00011
00012 #include "HardwareSerialInputStream.h"
00013
00014 HardwareSerialInputStream::HardwareSerialInputStream(
      unsigned int boudRate) {
00015     Serial.begin(boudRate);
00016 }
00017
00018 int HardwareSerialInputStream::available() {
00019     return Serial.available();
00020 }
00021
00022 int HardwareSerialInputStream::read() {
00023     if (available() > 0) {
00024         return Serial.read();
00025     }
00026     return -1;
00027 }
00028
00029 #endif /* __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_CPP__ */
```

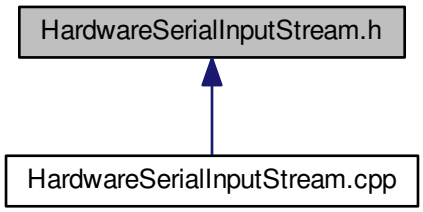
5.63 HardwareSerialInputStream.h File Reference

```
#include <Arduino.h>
#include <InputStream.h>
#include <SerialInputStream.h>
```

Include dependency graph for HardwareSerialInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class HardwareSerialInputStream

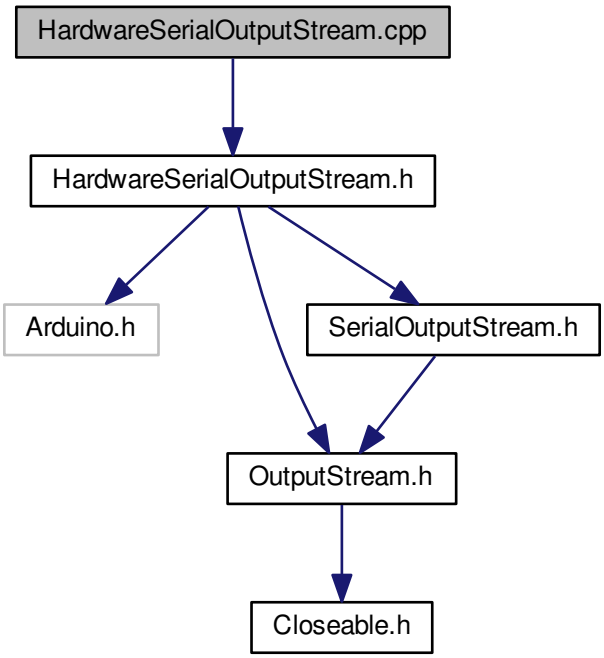
5.64 HardwareSerialInputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_H__
00010 #define __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_H__ 1
00011
00012 #include <Arduino.h>
00013 #include <InputStream.h>
00014 #include <SerialInputStream.h>
00015
00016 class HardwareSerialInputStream : public
      SerialInputStream {
00017 public:
00018
00024     HardwareSerialInputStream(unsigned int boudRate);
00025
00030     virtual int available();
00031
00035     virtual int read();
00036 };
00037
00038 #endif /* __ARDUINO_IO_HARDWARE_SERIAL_INPUT_STREAM_H__ */
```

5.65 HardwareSerialOutputStream.cpp File Reference

```
#include "HardwareSerialOutputStream.h"
```

Include dependency graph for HardwareSerialOutputStream.cpp:



Macros

- #define __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_CPP__ 1

5.65.1 Macro Definition Documentation

5.65.1.1 #define __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_CPP__ 1

Arduino IO.

HardwareSerialOutputStream

A software serial output stream is a output stream to write in a serial port.

Definition at line 10 of file HardwareSerialOutputStream.cpp.

5.66 HardwareSerialOutputStream.cpp

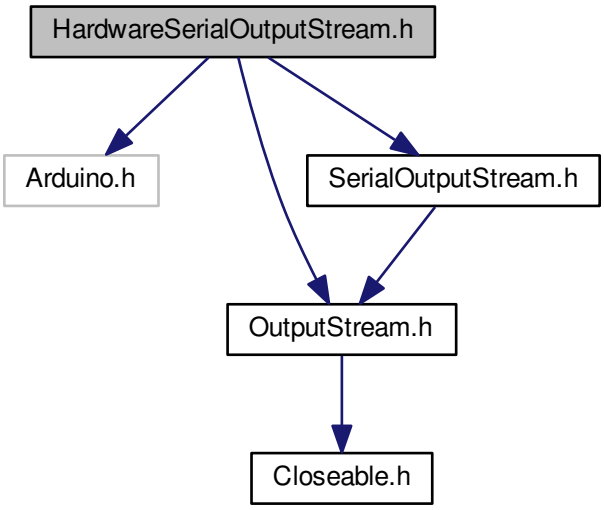
```
00001
00009 #ifndef __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_CPP__ 1
00011
00012 #include "HardwareSerialOutputStream.h"
00013
00014 HardwareSerialOutputStream::HardwareSerialOutputStream
      (unsigned int boudRate) {
00015     Serial.begin(9600);
00016 }
00017
00018 void HardwareSerialOutputStream::write(unsigned char b) {
00019     Serial.write(b);
```

```
00020 }
00021
00022 #endif /* __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_CPP__ */
```

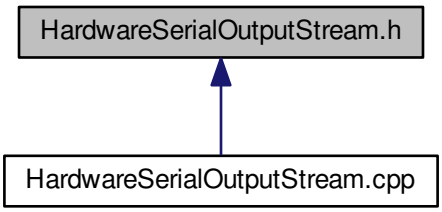
5.67 HardwareSerialOutputStream.h File Reference

```
#include <Arduino.h>
#include <OutputStream.h>
#include <SerialOutputStream.h>
```

Include dependency graph for HardwareSerialOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

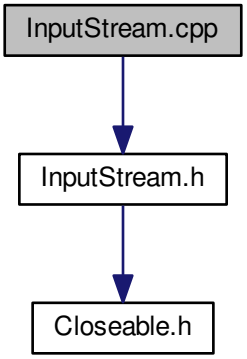
- class HardwareSerialOutputStream

5.68 HardwareSerialOutputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_H__
00010 #define __ARDUINO_IO_HARDWARE_SERIAL_OUTPUT_STREAM_H__ 1
00011
00012 #include <Arduino.h>
00013 #include <OutputStream.h>
00014 #include <SerialOutputStream.h>
00015
00016 class HardwareSerialOutputStream : public
      SerialOutputStream {
00017 public:
00018
00024     HardwareSerialOutputStream(unsigned int boudRate);
00025
00029     virtual void write(unsigned char b);
00030 };
00031
00032 #endif /* __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_H__ */
```

5.69 InputStream.cpp File Reference

`#include "InputStream.h"`
Include dependency graph for InputStream.cpp:



Macros

- #define __ARDUINO_IO_INPUT_STREAM_CPP__ 1

5.69.1 Macro Definition Documentation

5.69.1.1 #define __ARDUINO_IO_INPUT_STREAM_CPP__ 1

Arduino IO.

InputStream

This abstract class is the superclass of all classes representing an input stream of bytes.

Applications that need to define a subclass of InputStream must always provide a method that returns the next unsigned char of input.

Definition at line 14 of file InputStream.cpp.

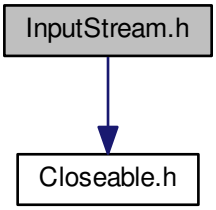
5.70 InputStream.cpp

```
00001
00013 #ifndef __ARDUINO_IO_INPUT_STREAM_CPP__
00014 #define __ARDUINO_IO_INPUT_STREAM_CPP__ 1
00015
00016 #include "InputStream.h"
00017
00018 int InputStream::available() {
00019     return 0;
00020 }
00021
00022 void InputStream::close() {
00023 }
00024
00025 void InputStream::mark() {
00026 }
00027
00028 bool InputStream::markSupported() {
00029     return false;
00030 }
00031
00032 int InputStream::read(unsigned char* b, int len) {
00033     return read(b, 0, len);
00034 }
00035
00036 int InputStream::read(unsigned char* b, int off, int len) {
00037     int i, c;
00038     if (b == (unsigned char*) 0) {
00039         return 0;
00040     }
00041     c = read();
00042     if (c == -1) {
00043         return -1;
00044     }
00045     b[off] = (unsigned char) c;
00046     for (i = 1; i < len; i++) {
00047         c = read();
00048         if (c == -1) {
00049             break;
00050         }
00051         b[off + i] = (unsigned char) c;
00052     }
00053     return i;
00054 }
00055
00056 void InputStream::reset() {
00057 }
00058
00059 unsigned int InputStream::skip(unsigned int n) {
00060     unsigned int i;
00061     for (i = 0; i < n && available() > 0; i++) {
00062         read();
00063     }
00064     return i;
00065 }
00066
00067 #endif /* __ARDUINO_IO_INPUT_STREAM_CPP__ */
```

5.71 InputStream.h File Reference

```
#include <Closeable.h>
```

Include dependency graph for InputStream.h:



This graph shows which files directly or indirectly include this file:

Classes

- class InputStream

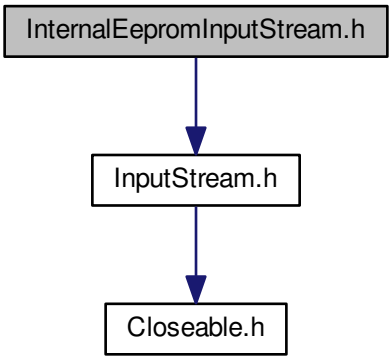
5.72 InputStream.h

```
00001
00013 #ifndef __ARDUINO_IO_INPUT_STREAM_H__
00014 #define __ARDUINO_IO_INPUT_STREAM_H__ 1
00015
00016 #include <Closeable.h>
00017
00018 class InputStream : public Closeable {
00019 public:
00020
00026     virtual int available();
00027
00032     virtual void close();
00033
00037     virtual void mark();
00038
00042     virtual bool markSupported();
00043
00047     virtual int read() = 0;
00048
00053     virtual int read(unsigned char* b, int len);
00054
00063     virtual int read(unsigned char* b, int off, int len);
00064
00069     virtual void reset();
00070
00074     virtual unsigned int skip(unsigned int n);
00075 };
00076
00077 #endif /* __ARDUINO_IO_INPUT_STREAM_H__ */
```

5.73 InternalEepromInputStream.h File Reference

```
#include <InputStream.h>
```

Include dependency graph for InternalEepromInputStream.h:



Classes

- class InternalEepromInputStream

5.74 InternalEepromInputStream.h

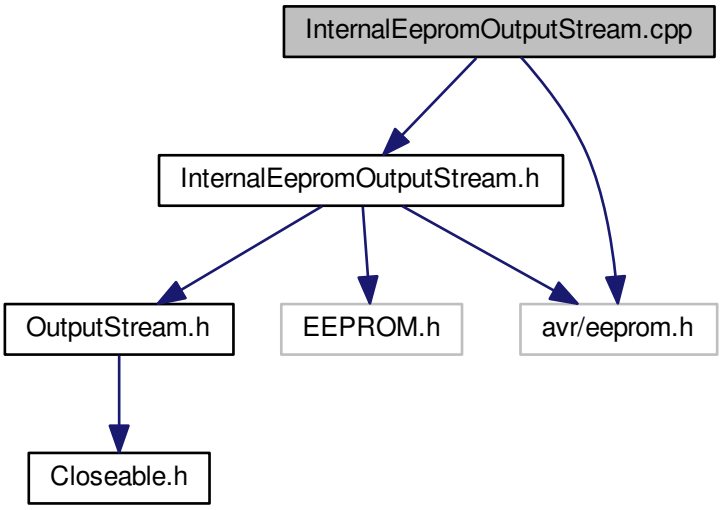
```
00001
00010 #ifndef __ARDUINO_IO_EXTERNAL_EEPROM_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_EXTERNAL_EEPROM_INPUT_STREAM_H__ 1
00012
00013 #include <InputStream.h>
00014
00015 class InternalEepromInputStream: public virtual
      InputStream {
00016
00017 protected:
00018
00022     const int maxAvailableChunk;
00023
00024     /*
00025      * Current position
00026      */
00027     unsigned int pos;
00028
00029     /*
00030      * The currently marked position in the stream.
00031      */
00032     unsigned int markpos;
00033
00034     /*
00035      * The size of the eeprom.
00036      */
00037     unsigned int eepromSize;
00038
00039 public:
00040
00044     InternalEepromInputStream();
00045
00053     virtual int available();
00054
00058     virtual void mark();
00059
00065     virtual bool markSupported();
00066
00070     using InputStream::read;
00071
00077     virtual int read();
00078
00087     virtual int read(unsigned char* b, int off, int len);
00088
```

```
00093     virtual void reset();
00094 };
00095
00096 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_INPUT_STREAM_H__ */
```

5.75 InternalEepromOutputStream.cpp File Reference

```
#include "InternalEepromOutputStream.h"
#include <avr/eeprom.h>
```

Include dependency graph for InternalEepromOutputStream.cpp:



Macros

- #define __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_CPP__ 1

5.75.1 Macro Definition Documentation

5.75.1.1 #define __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_CPP__ 1

Arduino IO.

InternalEepromOutputStream

A internalEeprom output stream is an output stream for writing data to the EEPROM.

Definition at line 10 of file InternalEepromOutputStream.cpp.

5.76 InternalEepromOutputStream.cpp

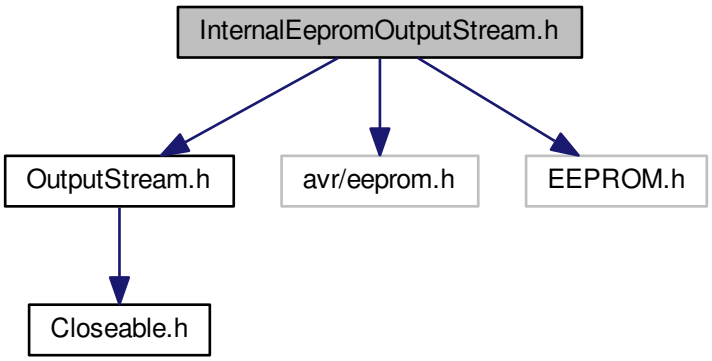
```
00001
00009 #ifndef __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_CPP__ 1
00011
00012 #include "InternalEepromOutputStream.h"
00013 #include <avr/eeprom.h>
00014
```

```
00015 InternalEepromOutputStream::InternalEepromOutputStream
      () {
00016     pos = 0;
00017 }
00018
00019 void InternalEepromOutputStream::write(unsigned char b) {
00020     eeprom_write_byte((unsigned char *)(pos++), b);
00021 }
00022
00023 void InternalEepromOutputStream::write(unsigned char* b, int off, int len)
       {
00024     eeprom_write_block((const void *)pos, (void *)b, len);
00025     pos += len;
00026 }
00027
00028 #endif /* __ARDUINO_IO_EXTERNAL_EEPROM_OUTPUT_STREAM_CPP__ */
```

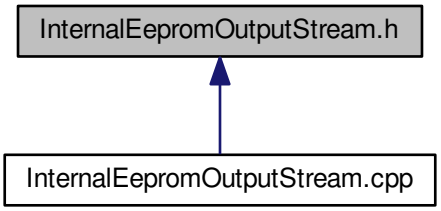
5.77 InternalEepromOutputStream.h File Reference

```
#include <OutputStream.h>
#include <avr/eeprom.h>
#include <EEPROM.h>
```

Include dependency graph for InternalEepromOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class InternalEepromOutputStream

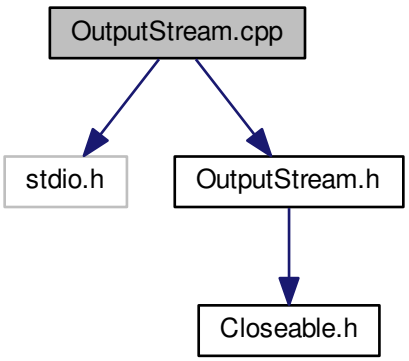
5.78 InternalEepromOutputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_H__
00011 #define __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_H__ 1
00012
00013 #include <OutputStream.h>
00014 #include <avr/eeprom.h>
00015 #include <EEPROM.h>
00016 class InternalEepromOutputStream : public OutputStream {
00017
00021     unsigned int pos;
00022
00023 public:
00024
00028     InternalEepromOutputStream();
00029
00033     using OutputStream::write;
00034
00040     virtual void write(unsigned char b);
00041
00050     virtual void write(unsigned char* b, int off, int len);
00051 };
00052
00053 #endif /* __ARDUINO_IO_INTERNAL_EEPROM_OUTPUT_STREAM_H__ */
```

5.79 OutputStream.cpp File Reference

```
#include <stdio.h>
#include "OutputStream.h"
```

Include dependency graph for OutputStream.cpp:



Macros

- #define __ARDUINO_IO_OUTPUT_STREAM_CPP__ 1

5.79.1 Macro Definition Documentation

5.79.1.1 #define __ARDUINO_IO_OUTPUT_STREAM_CPP__ 1

Arduino IO.

OutputStream

This abstract class is the superclass of all classes representing an output stream of bytes. An output stream accepts output bytes and sends them to some sink.

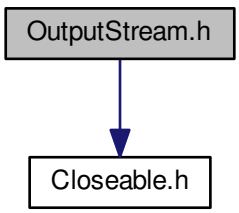
Definition at line 12 of file OutputStream.cpp.

5.80 OutputStream.cpp

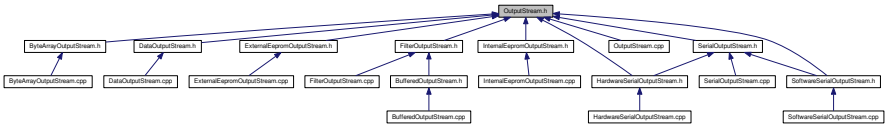
```
00001
00011 #ifndef __ARDUINO_IO_OUTPUT_STREAM_CPP__
00012 #define __ARDUINO_IO_OUTPUT_STREAM_CPP__ 1
00013
00014 #include <stdio.h>
00015
00016 #include "OutputStream.h"
00017
00018 void OutputStream::write(unsigned char* b, int len) {
00019     write(b, 0, len);
00020 }
00021
00022 void OutputStream::write(unsigned char* b, int off, int len) {
00023     if (b == (unsigned char*) 0 || len == 0) {
00024         return;
00025     }
00026     for (int i = 0; i < len; i++) {
00027         write(b[off + i]);
00028     }
00029 }
00030
00031 void OutputStream::flush() {
00032 }
00033
00034 void OutputStream::close() {
00035 }
00036
00037 #endif /* __ARDUINO_IO_OUTPUT_STREAM_CPP__ */
```

5.81 OutputStream.h File Reference

`#include <Closeable.h>`
Include dependency graph for OutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class OutputStream

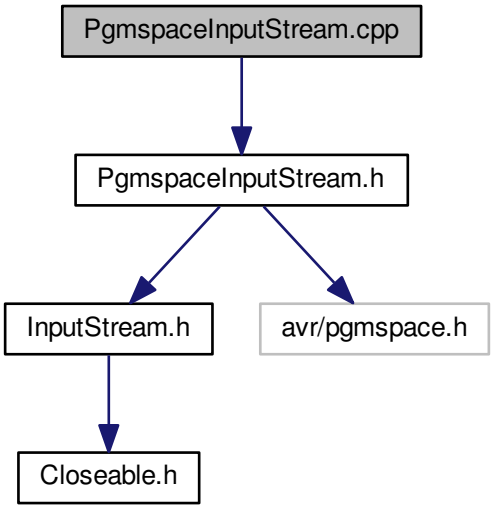
5.82 OutputStream.h

```
00001
00015 #ifndef __ARDUINO_IO_OUTPUT_STREAM_H__
00016 #define __ARDUINO_IO_OUTPUT_STREAM_H__ 1
00017
00018 #include <Closeable.h>
00019
00020 class OutputStream : public Closeable {
00021 public:
00022
00027     virtual void close();
00028
00033     virtual void flush();
00034
00038     virtual void write(unsigned char b) = 0;
00039
00047     virtual void write(unsigned char* b, int len);
00048
00057     virtual void write(unsigned char* b, int off, int len);
00058 };
00059
00060 #endif /* __ARDUINO_IO_OUTPUT_STREAM_H__ */
```

5.83 PgmspaceInputStream.cpp File Reference

```
#include "PgmspaceInputStream.h"
```

Include dependency graph for PgmspaceInputStream.cpp:



Macros

- #define __ARDUINO_IO_PGMSPACE_INPUT_STREAM_CPP__ 1

5.83.1 Macro Definition Documentation

5.83.1.1 #define __ARDUINO_IO_PGMSPACE_INPUT_STREAM_CPP__ 1

Arduino IO.

PgmspaceInputStream

A PgmspaceInputStream contains an internal buffer that contains bytes that may be read from the stream mapped to an part of the pgmspace.

Definition at line 11 of file PgmspaceInputStream.cpp.

5.84 PgmspaceInputStream.cpp

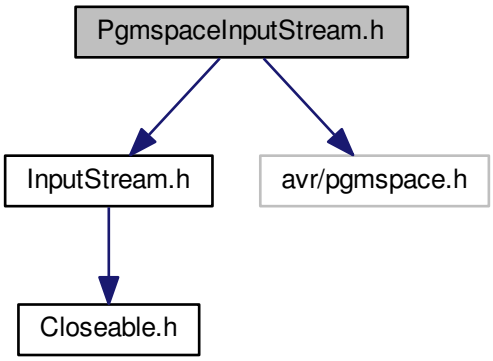
```
00001
00010 #ifndef __ARDUINO_IO_PGMSPACE_INPUT_STREAM_CPP__
00011 #define __ARDUINO_IO_PGMSPACE_INPUT_STREAM_CPP__ 1
00012
00013 #include "PgmspaceInputStream.h"
00014
00015 PgmspaceInputStream::PgmspaceInputStream(char PROGMEM* buf,
      unsigned int count) : buf(buf), count(count) {
00016     markpos = 0;
00017     pos = 0;
00018 }
00019
00020 int PgmspaceInputStream::available() {
00021     if ((count - pos) > 0) {
00022         return 1;
00023     }
00024     return 0;
00025 }
00026
```

```
00027 void PgmspaceInputStream::mark() {
00028     markpos = pos;
00029 }
00030
00031 bool PgmspaceInputStream::markSupported() {
00032     return true;
00033 }
00034
00035 int PgmspaceInputStream::read() {
00036     return pgm_read_byte(buf + pos++);
00037 }
00038
00039 void PgmspaceInputStream::reset() {
00040     pos = markpos;
00041 }
00042
00043 #endif /* __ARDUINO_IO_PGMSPACE_INPUT_STREAM_CPP__ */
```

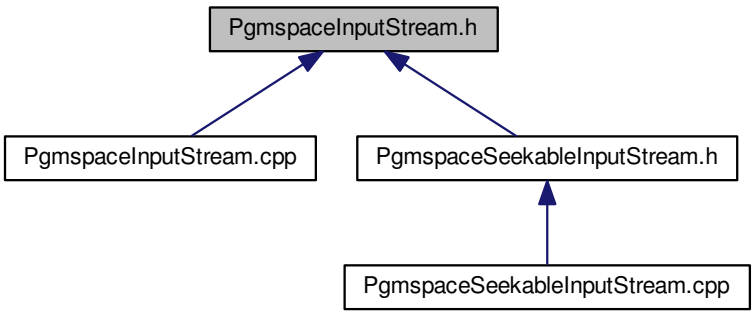
5.85 PgmspaceInputStream.h File Reference

```
#include <InputStream.h>
#include <avr/pgmspace.h>
```

Include dependency graph for PgmspaceInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class PgmspaceInputStream

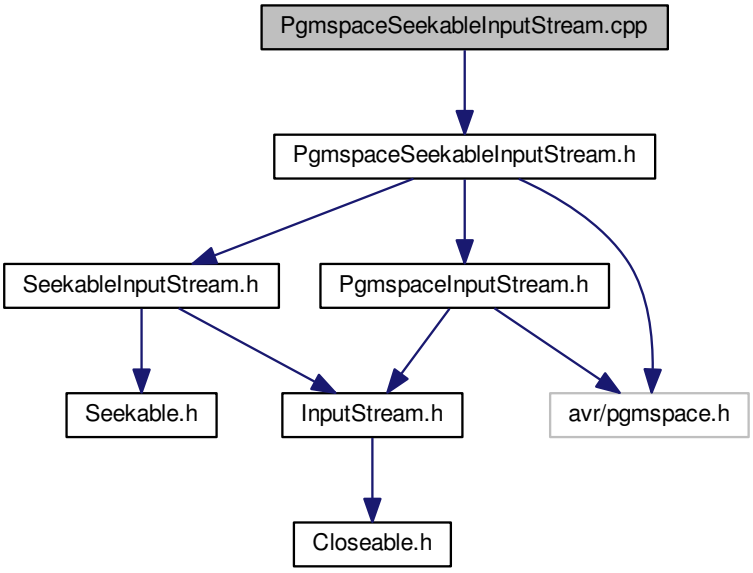
5.86 PgmspaceInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_PGMSPACE_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_PGMSPACE_INPUT_STREAM_H__ 1
00012
00013 #include <InputStream.h>
00014 #include <avr/pgmspace.h>
00015
00016 class PgmspaceInputStream : public virtual InputStream {
00017 protected:
00018
00019     /*
00020      * The buffer where data is stored.
00021      */
00022     char PROGMEM* buf;
00023
00024     /*
00025      * The number of valid bytes in the buffer.
00026      */
00027     unsigned int count;
00028
00029     /*
00030      * Current position
00031      */
00032     unsigned int pos;
00033
00034     /*
00035      * The currently marked position in the stream.
00036      */
00037     unsigned int markpos;
00038
00039 public:
00040
00041     explicit PgmspaceInputStream(char PROGMEM* buf, unsigned int count);
00042
00049     virtual int available();
00050
00054     virtual void mark();
00055
00061     virtual bool markSupported();
00062
00066     using InputStream::read;
00067
00073     virtual int read();
00074
00079     virtual void reset();
00080 };
00081
00082 #endif /* __ARDUINO_IO_PGMSPACE_INPUT_STREAM_H__ */
```

5.87 PgmspaceSeekableInputStream.cpp File Reference

```
#include "PgmspaceSeekableInputStream.h"
```

Include dependency graph for PgmspaceSeekableInputStream.cpp:



Macros

- #define __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_CPP__ 1

5.87.1 Macro Definition Documentation

5.87.1.1 #define __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_CPP__ 1

Arduino IO.

PgmspaceSeekableInputStream

A PgmspaceSeekableInputStream obtains input bytes from a resource in a file system that implements SeekableInputStream interface.

Definition at line 11 of file PgmspaceSeekableInputStream.cpp.

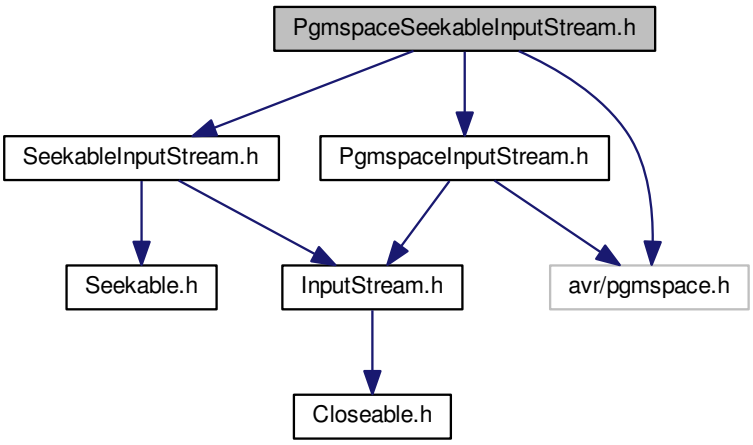
5.88 PgmspaceSeekableInputStream.cpp

```
00001
00010 #ifndef __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_CPP__
00011 #define __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_CPP__ 1
00012
00013 #include "PgmspaceSeekableInputStream.h"
00014
00015 PgmspaceSeekableInputStream::PgmspaceSeekableInputStream
      (char PROGMEM* buf, unsigned int count) : PgmspaceInputStream(buf, count) {
00016 }
00017
00018 void PgmspaceSeekableInputStream::seek(unsigned int pos) {
00019     this->pos = pos;
00020 }
00021
00022 #endif /* __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_CPP__ */
```

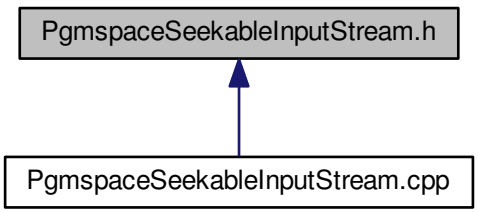
5.89 PgmspaceSeekableInputStream.h File Reference

```
#include <SeekableInputStream.h>
#include <PgmspaceInputStream.h>
#include <avr/pgmspace.h>
```

Include dependency graph for PgmspaceSeekableInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class PgmspaceSeekableInputStream

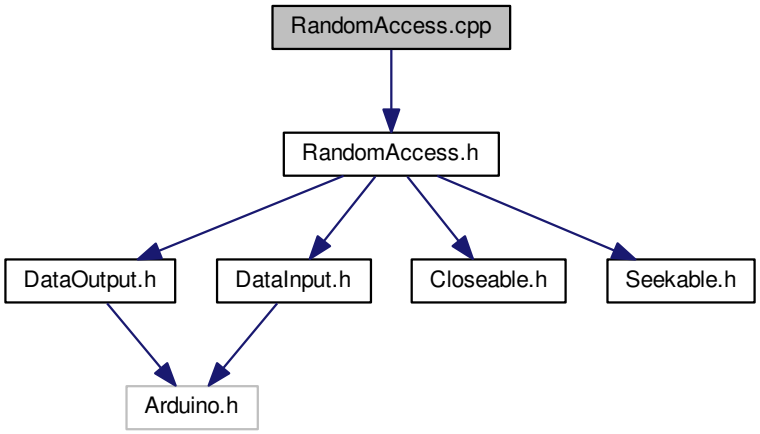
5.90 PgmspaceSeekableInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_H__ 1
00012
00013 #include <SeekableInputStream.h>
00014 #include <PgmspaceInputStream.h>
00015 #include <avr/pgmspace.h>
```

```
00016
00017 class PgmspaceSeekableInputStream: public
      SeekableInputStream, public PgmspaceInputStream {
00018
00019 public:
00020
00021     PgmspaceSeekableInputStream(char PROGMEM* buf, unsigned int
      count);
00022
00023     virtual ~PgmspaceSeekableInputStream() {
00024     }
00025
00026     virtual void seek(unsigned int pos);
00027 };
00028
00029 #endif /* __ARDUINO_IO_PGMSPACE_SEEKABLE_INPUT_STREAM_H__ */
```

5.91 RandomAccess.cpp File Reference

`#include "RandomAccess.h"`
Include dependency graph for RandomAccess.cpp:



Macros

- #define __ARDUINO_IO_RANDOM_ACCESS_CPP__ 1

5.91.1 Macro Definition Documentation

5.91.1.1 #define __ARDUINO_IO_RANDOM_ACCESS_CPP__ 1

Araduino IO.

RandomAccess

Interface derived from DataInput, DataOutput, Closeable and Seekable.

Definition at line 10 of file RandomAccess.cpp.

5.92 RandomAccess.cpp

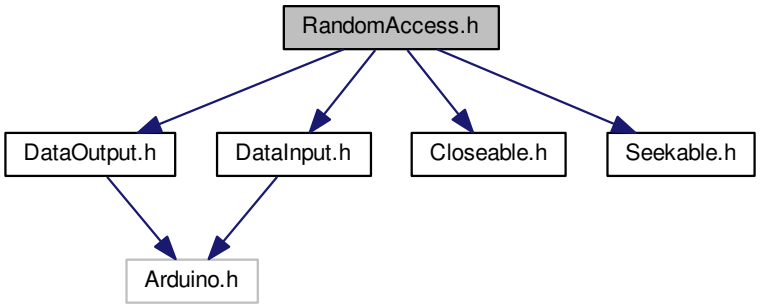
```
00001
```

```
00009 #ifndef __ARDUINO_IO_RANDOM_ACCESS_CPP__
00010 #define __ARDUINO_IO_RANDOM_ACCESS_CPP__ 1
00011
00012 #include "RandomAccess.h"
00013
00014 #endif /* __ARDUINO_IO_RANDOM_ACCESS_CPP__ */
```

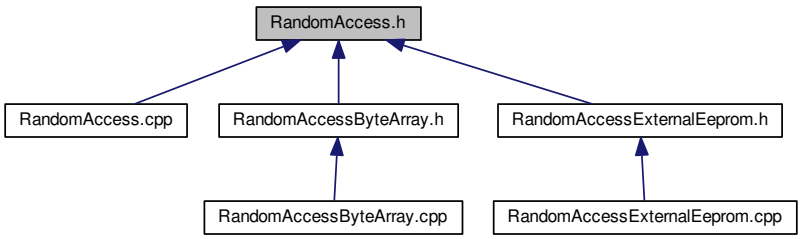
5.93 RandomAccess.h File Reference

```
#include <DataOutput.h>
#include <DataInput.h>
#include <Closeable.h>
#include <Seekable.h>
```

Include dependency graph for RandomAccess.h:



This graph shows which files directly or indirectly include this file:



Classes

- class RandomAccess

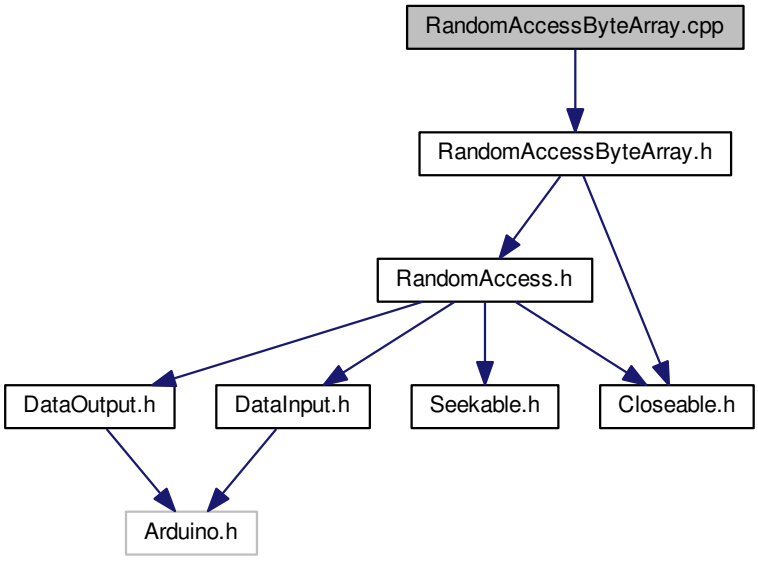
5.94 RandomAccess.h

```
00001
00009 #ifndef __ARDUINO_IO_RANDOM_ACCESS_H__
00010 #define __ARDUINO_IO_RANDOM_ACCESS_H__ 1
00011
00012 #include <DataOutput.h>
```

```
00013 #include <DataInput.h>
00014 #include <Closeable.h>
00015 #include <Seekable.h>
00016
00017 class RandomAccess : public virtual DataOutput, public virtual
      DataInput,
00018         public virtual Closeable, public virtual Seekable {
00019 };
00020
00021 #endif /* __ARDUINO_IO_RANDOM_ACCESS_H__ */
```

5.95 RandomAccessByteArray.cpp File Reference

`#include "RandomAccessByteArray.h"`
Include dependency graph for RandomAccessByteArray.cpp:



Macros

- #define __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_CPP__ 1

5.95.1 Macro Definition Documentation

5.95.1.1 #define __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_CPP__ 1

Araduino IO.

RandomAccessByteArray

Instances of this class support both reading and writing to a random access unsigned char array.

Definition at line 11 of file RandomAccessByteArray.cpp.

5.96 RandomAccessByteArray.cpp

```
00001
```

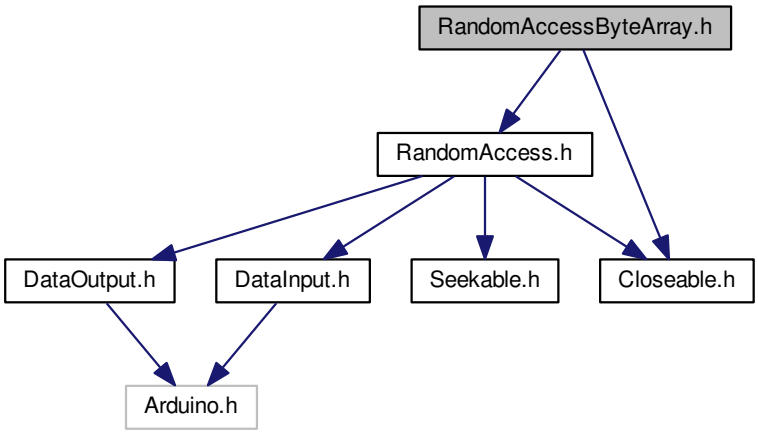
```
00010 #ifndef __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_CPP__
00011 #define __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_CPP__ 1
00012
00013 #include "RandomAccessByteArray.h"
00014
00015 RandomAccessByteArray::RandomAccessByteArray(unsigned char* buf
      ,
00016         unsigned int count) :
00017         buf(buf), count(count) {
00018     pos = 0;
00019 }
00020
00021 unsigned int RandomAccessByteArray::length() {
00022     return count;
00023 }
00024
00025 void RandomAccessByteArray::seek(unsigned int pos) {
00026     this->pos = pos;
00027 }
00028
00029 void RandomAccessByteArray::close() {
00030 }
00031
00032 void RandomAccessByteArray::write(unsigned char* b, int len) {
00033     writeBytes(b, len);
00034 }
00035
00036 void RandomAccessByteArray::write(unsigned char b) {
00037     buf[pos++] = b;
00038 }
00039
00040 void RandomAccessByteArray::writeByte(unsigned char b) {
00041     buf[pos++] = b;
00042 }
00043
00044 void RandomAccessByteArray::writeBytes(unsigned char* b, int len) {
00045     for (int i = 0; i < len; i++) {
00046         buf[pos++] = b[i];
00047     }
00048 }
00049
00050 void RandomAccessByteArray::writeBoolean(bool v) {
00051     buf[pos++] = (unsigned char) v;
00052 }
00053
00054 void RandomAccessByteArray::writeChar(char c) {
00055     buf[pos++] = (unsigned char) c;
00056 }
00057
00058 void RandomAccessByteArray::writeUnsignedChar(unsigned char c) {
00059     buf[pos++] = (unsigned char) c;
00060 }
00061
00062 void RandomAccessByteArray::writeInt(int v) {
00063     buf[pos++] = (unsigned char) ((v >> 8) & 0xff);
00064     buf[pos++] = (unsigned char) (v & 0xff);
00065 }
00066
00067 void RandomAccessByteArray::writeUnsignedInt(unsigned int v) {
00068     writeInt((int) v);
00069 }
00070
00071 void RandomAccessByteArray::writeWord(word v) {
00072     writeInt((int) v);
00073 }
00074
00075 void RandomAccessByteArray::writeLong(long v) {
00076     buf[pos++] = (unsigned char) ((v >> 24) & 0xff);
00077     buf[pos++] = (unsigned char) ((v >> 16) & 0xff);
00078     buf[pos++] = (unsigned char) ((v >> 8) & 0xff);
00079     buf[pos++] = (unsigned char) (v & 0xff);
00080 }
00081
00082 void RandomAccessByteArray::writeUnsignedLong(unsigned long v) {
00083     writeLong((long) v);
00084 }
00085
00086 void RandomAccessByteArray::writeFloat(float v) {
00087     writeLong((long) v);
00088 }
00089
00090 void RandomAccessByteArray::writeDouble(double v) {
00091     writeLong((long) v);
00092 }
00093
00094 unsigned char RandomAccessByteArray::readByte() {
00095     return buf[pos++];
```

```
00096 }
00097
00098 bool RandomAccessByteArray::readBoolean() {
00099     return (bool) buf[pos++];
00100 }
00101
00102 char RandomAccessByteArray::readChar() {
00103     return (char) buf[pos++];
00104 }
00105
00106 unsigned char RandomAccessByteArray::readUnsignedChar() {
00107     return (unsigned char) buf[pos++];
00108 }
00109
00110 int RandomAccessByteArray::readInt() {
00111     int v = 0;
00112     v = buf[pos++];
00113     v <<= 8;
00114     v |= buf[pos++];
00115     return v;
00116 }
00117
00118 unsigned int RandomAccessByteArray::readUnsignedInt() {
00119     return (unsigned int) readInt();
00120 }
00121
00122 word RandomAccessByteArray::readWord() {
00123     return (word) readInt();
00124 }
00125
00126 long RandomAccessByteArray::readLong() {
00127     long v = 0;
00128     v = (buf[pos++] & 0xff);
00129     v <<= 8;
00130     v |= (buf[pos++] & 0xff);
00131     v <<= 8;
00132     v |= (buf[pos++] & 0xff);
00133     v <<= 8;
00134     v |= (buf[pos++] & 0xff);
00135     return v;
00136 }
00137
00138 unsigned long RandomAccessByteArray::readUnsignedLong() {
00139     return (unsigned long) readLong();
00140 }
00141
00142 float RandomAccessByteArray::readFloat() {
00143     return (float) readLong();
00144 }
00145
00146 double RandomAccessByteArray::readDouble() {
00147     return (double) readLong();
00148 }
00149
00150 void RandomAccessByteArray::readFully(unsigned char* b, int len) {
00151     for (int i = 0; i < len; i++) {
00152         b[i] = buf[pos++];
00153     }
00154 }
00155
00156 unsigned int RandomAccessByteArray::skipBytes(unsigned int n) {
00157     unsigned int skipped;
00158     unsigned int newpos;
00159     newpos = pos + n;
00160     if (newpos > count) {
00161         newpos = count;
00162     }
00163     skipped = newpos - pos;
00164     pos = newpos;
00165     return skipped;
00166 }
00167
00168 #endif /* __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_CPP__ */
```

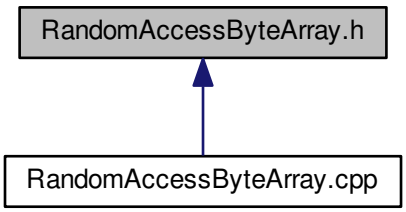
5.97 RandomAccessByteArray.h File Reference

```
#include <RandomAccess.h>
#include <Closeable.h>
```

Include dependency graph for RandomAccessByteArray.h:



This graph shows which files directly or indirectly include this file:



Classes

- class RandomAccessByteArray

5.98 RandomAccessByteArray.h

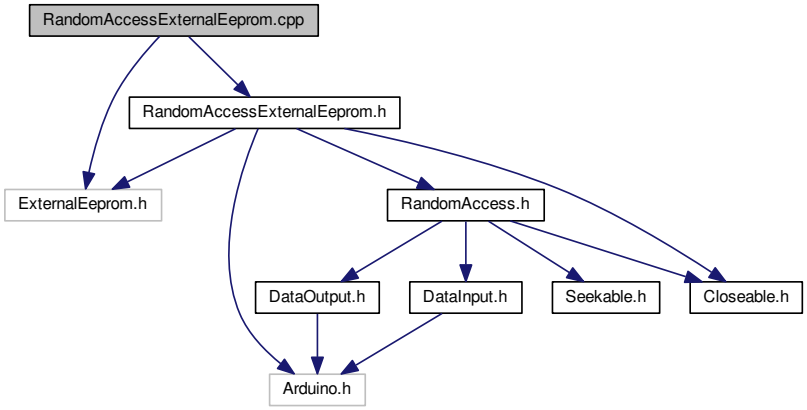
```
00001
00010 #ifndef __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_H__
00011 #define __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_H__ 1
00012
00013 #include <RandomAccess.h>
00014 #include <Closeable.h>
00015
00016 class RandomAccessByteArray : public RandomAccess, public virtual
      Closeable {
00017
00021     unsigned char* buf;
00022
00026     unsigned int count;
00027
00031     unsigned int pos;
00032
```

```
00033 public:
00034
00041     RandomAccessByteArray(unsigned char* buf, unsigned int count);
00042
00048     virtual void seek(unsigned int pos);
00049
00055     unsigned int length();
00056
00060     virtual void close();
00061
00068     virtual void write(unsigned char* b, int len);
00069
00075     virtual void write(unsigned char b);
00076
00082     virtual void writeByte(unsigned char b);
00083
00090     virtual void writeBytes(unsigned char* b, int len);
00091
00097     virtual void writeBoolean(bool v);
00098
00104     virtual void writeChar(char c);
00105
00111     virtual void writeUnsignedChar(unsigned char c);
00112
00118     virtual void writeInt(int v);
00119
00125     virtual void writeUnsignedInt(unsigned int v);
00126
00132     virtual void writeWord(word v);
00133
00139     virtual void writeLong(long v);
00140
00146     virtual void writeUnsignedLong(unsigned long v);
00147
00153     virtual void writeFloat(float v);
00154
00160     virtual void writeDouble(double v);
00161
00167     virtual unsigned char readByte();
00168
00174     virtual bool readBoolean();
00175
00181     virtual char readChar();
00182
00188     virtual unsigned char readUnsignedChar();
00189
00195     virtual int readInt();
00196
00202     virtual unsigned int readUnsignedInt();
00203
00209     virtual word readWord();
00210
00216     virtual long readLong();
00217
00223     virtual unsigned long readUnsignedLong();
00224
00230     virtual float readFloat();
00231
00237     virtual double readDouble();
00238
00245     virtual void readFully(unsigned char* b, int len);
00246
00253     virtual unsigned int skipBytes(unsigned int n);
00254 };
00255 #endif /* __ARDUINO_IO_RANDOM_ACCESS_BYTE_ARRAY_H__ */
```

5.99 RandomAccessExternalEeprom.cpp File Reference

```
#include <ExternalEeprom.h>
#include "RandomAccessExternalEeprom.h"
```

Include dependency graph for RandomAccessExternalEeprom.cpp:



Macros

- #define __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_CPP__ 1

5.99.1 Macro Definition Documentation

5.99.1.1 #define __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_CPP__ 1

Araduino IO.

RandomAccessExternalEeprom

Instances of this class support both reading and writing to a random access externalEeprom. A random access externalEeprom behaves like a large array of bytes stored in the externalEeprom system.

Definition at line 12 of file RandomAccessExternalEeprom.cpp.

5.100 RandomAccessExternalEeprom.cpp

```
00001
00011 #ifndef __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_CPP__
00012 #define __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_CPP__ 1
00013
00014 #include <ExternalEeprom.h>
00015 #include "RandomAccessExternalEeprom.h"
00016
00017 RandomAccessExternalEeprom::RandomAccessExternalEeprom
      (
00018         ExternalEeprom* externalEeprom) :
00019         externalEeprom(externalEeprom) {
00020     pos = 0;
00021 }
00022
00023 unsigned int RandomAccessExternalEeprom::length() {
00024     return (unsigned int) externalEeprom->getDeviceSize();
00025 }
00026
00027 void RandomAccessExternalEeprom::seek(unsigned int pos) {
00028     this->pos = pos;
00029 }
00030
00031 void RandomAccessExternalEeprom::close() {
00032 }
00033
00034 void RandomAccessExternalEeprom::write(unsigned char* b, int len) {
00035     writeBytes(b, len);
```

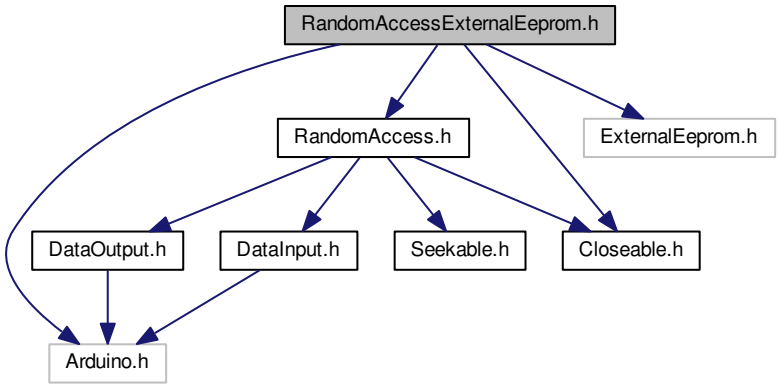
```
00036 }
00037
00038 void RandomAccessExternalEeprom::write(unsigned char b) {
00039     writeByte(b);
00040 }
00041
00042 void RandomAccessExternalEeprom::writeByte(unsigned char b) {
00043     externalEeprom->write(pos++, b);
00044 }
00045
00046 void RandomAccessExternalEeprom::writeBytes(unsigned char* b, int len
      ) {
00047     for (int i = 0; i < len; i++) {
00048         externalEeprom->write(pos++, b[i]);
00049     }
00050 }
00051
00052 void RandomAccessExternalEeprom::writeBoolean(bool v) {
00053     externalEeprom->write(pos++, (unsigned char) v);
00054 }
00055
00056 void RandomAccessExternalEeprom::writeChar(char c) {
00057     externalEeprom->write(pos++, (unsigned char) c);
00058 }
00059
00060 void RandomAccessExternalEeprom::writeUnsignedChar(unsigned
      char c) {
00061     externalEeprom->write(pos++, (unsigned char) c);
00062 }
00063
00064 void RandomAccessExternalEeprom::writeInt(int v) {
00065     externalEeprom->write(pos++, (unsigned char) ((v >> 8) & 0xff));
00066     externalEeprom->write(pos++, (unsigned char) (v & 0xff));
00067 }
00068
00069 void RandomAccessExternalEeprom::writeUnsignedInt(unsigned int
      v) {
00070     writeInt((int) v);
00071 }
00072
00073 void RandomAccessExternalEeprom::writeWord(word v) {
00074     writeInt((int) v);
00075 }
00076
00077 void RandomAccessExternalEeprom::writeLong(long v) {
00078     externalEeprom->write(pos++, (unsigned char) ((v >> 24) & 0xff));
00079     externalEeprom->write(pos++, (unsigned char) ((v >> 16) & 0xff));
00080     externalEeprom->write(pos++, (unsigned char) ((v >> 8) & 0xff));
00081     externalEeprom->write(pos++, (unsigned char) (v & 0xff));
00082 }
00083
00084 void RandomAccessExternalEeprom::writeUnsignedLong(unsigned
      long v) {
00085     writeLong((long) v);
00086 }
00087
00088 void RandomAccessExternalEeprom::writeFloat(float v) {
00089     writeLong((long) v);
00090 }
00091
00092 void RandomAccessExternalEeprom::writeDouble(double v) {
00093     writeLong((long) v);
00094 }
00095
00096 unsigned char RandomAccessExternalEeprom::readByte() {
00097     return (unsigned char) externalEeprom->read(pos++);
00098 }
00099
00100 bool RandomAccessExternalEeprom::readBoolean() {
00101     return (bool) externalEeprom->read(pos++);
00102 }
00103
00104 char RandomAccessExternalEeprom::readChar() {
00105     return (char) externalEeprom->read(pos++);
00106 }
00107
00108 unsigned char RandomAccessExternalEeprom::readUnsignedChar() {
00109     return (unsigned char) externalEeprom->read(pos++);
00110 }
00111
00112 int RandomAccessExternalEeprom::readInt() {
00113     int v = 0;
00114     v = externalEeprom->read(pos++);
00115     v <<= 8;
00116     v |= (externalEeprom->read(pos++) & 0xff);
00117     return v;
00118 }
```

```
00119
00120 unsigned int RandomAccessExternalEeprom::readUnsignedInt() {
00121     return (unsigned int) readInt();
00122 }
00123
00124 word RandomAccessExternalEeprom::readWord() {
00125     return (word) readInt();
00126 }
00127
00128 long RandomAccessExternalEeprom::readLong() {
00129     long v = 0;
00130     v = externalEeprom->read(pos++);
00131     v <<= 8;
00132     v |= (externalEeprom->read(pos++) & 0xff);
00133     v <<= 8;
00134     v |= (externalEeprom->read(pos++) & 0xff);
00135     v <<= 8;
00136     v |= (externalEeprom->read(pos++) & 0xff);
00137     return v;
00138 }
00139
00140 unsigned long RandomAccessExternalEeprom::readUnsignedLong() {
00141     return (unsigned long) readLong();
00142 }
00143
00144 float RandomAccessExternalEeprom::readFloat() {
00145     return (float) readLong();
00146 }
00147
00148 double RandomAccessExternalEeprom::readDouble() {
00149     return (double) readLong();
00150 }
00151
00152 void RandomAccessExternalEeprom::readFully(unsigned char* b, int len)
      {
00153     for (int i = 0; i < len; i++) {
00154         b[i] = externalEeprom->read(pos++);
00155     }
00156 }
00157
00158 unsigned int RandomAccessExternalEeprom::skipBytes(unsigned int n) {
00159     unsigned int skipped;
00160     unsigned int newpos;
00161     newpos = pos + n;
00162     if (newpos > length()) {
00163         newpos = length();
00164     }
00165     skipped = newpos - pos;
00166     pos = newpos;
00167     return skipped;
00168 }
00169
00170 #endif /* __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_CPP__ */
```

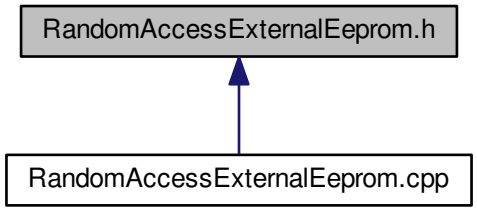
5.101 RandomAccessExternalEeprom.h File Reference

```
#include <Arduino.h>
#include <RandomAccess.h>
#include <Closeable.h>
#include <ExternalEeprom.h>
```

Include dependency graph for RandomAccessExternalEeprom.h:



This graph shows which files directly or indirectly include this file:



Classes

- class RandomAccessExternalEeprom

5.102 RandomAccessExternalEeprom.h

```
00001
00011 #ifndef __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_H__
00012 #define __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_H__ 1
00013
00014 #include <Arduino.h>
00015 #include <RandomAccess.h>
00016 #include <Closeable.h>
00017 #include <ExternalEeprom.h>
00018
00019 class RandomAccessExternalEeprom : public RandomAccess, public
      virtual Closeable {
00020
00024     ExternalEeprom* externalEeprom;
00025
00029     unsigned int pos;
00030
00031 public:
00032
00038     RandomAccessExternalEeprom(ExternalEeprom* externalEeprom);
```

```
00039
00045     virtual void seek(unsigned int pos);
00046
00052     unsigned int length();
00053
00057     virtual void close();
00058
00065     virtual void write(unsigned char* b, int len);
00066
00072     virtual void write(unsigned char b);
00073
00079     virtual void writeByte(unsigned char b);
00080
00087     virtual void writeBytes(unsigned char* b, int len);
00088
00094     virtual void writeBoolean(bool v);
00095
00101     virtual void writeChar(char c);
00102
00108     virtual void writeUnsignedChar(unsigned char c);
00109
00115     virtual void writeInt(int v);
00116
00122     virtual void writeUnsignedInt(unsigned int v);
00123
00129     virtual void writeWord(word v);
00130
00136     virtual void writeLong(long v);
00137
00143     virtual void writeUnsignedLong(unsigned long v);
00144
00150     virtual void writeFloat(float v);
00151
00157     virtual void writeDouble(double v);
00158
00164     virtual unsigned char readByte();
00165
00171     virtual bool readBoolean();
00172
00178     virtual char readChar();
00179
00185     virtual unsigned char readUnsignedChar();
00186
00192     virtual int readInt();
00193
00199     virtual unsigned int readUnsignedInt();
00200
00206     virtual word readWord();
00207
00213     virtual long readLong();
00214
00220     virtual unsigned long readUnsignedLong();
00221
00227     virtual float readFloat();
00228
00234     virtual double readDouble();
00235
00242     virtual void readFully(unsigned char* b, int len);
00243
00250     virtual unsigned int skipBytes(unsigned int n);
00251 };
00252 #endif /* __ARDUINO_IO_RANDOM_ACCESS_EXTERNAL_EEPROM_H__ */
```

5.103 RandomAccessResource.cpp File Reference

Macros

- #define __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_CPP__ 1

5.103.1 Macro Definition Documentation

5.103.1.1 #define __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_CPP__ 1

Araduino IO.

RandomAccessResource

Instances of this class support both reading and writing to a random access resource. A random access resource

behaves like a large array of bytes stored in the resource system.

Definition at line 12 of file RandomAccessResource.cpp.

5.104 RandomAccessResource.cpp

```
00001
00011 #ifndef __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_CPP__
00012 #define __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_CPP__ 1
00013
00014 #if USING_RESOURCE_LIBRARIES
00015
00016 #include "RandomAccessResource.h"
00017
00018 RandomAccessResource::RandomAccessResource(Resource* resource) : resource(resource) {
00019 }
00020
00021 unsigned int RandomAccessResource::length() {
00022     return (unsigned int) resource->size();
00023 }
00024
00025 void RandomAccessResource::seek(unsigned int pos) {
00026     resource->seek(0, pos);
00027 }
00028
00029 void RandomAccessResource::close() {
00030     resource->close();
00031 }
00032
00033 void RandomAccessResource::write(unsigned char* b, int len) {
00034     writeBytes(b, len);
00035 }
00036
00037 void RandomAccessResource::write(unsigned char b) {
00038     writeByte(b);
00039 }
00040
00041 void RandomAccessResource::writeByte(unsigned char b) {
00042     resource->write(b);
00043 }
00044
00045 void RandomAccessResource::writeBytes(unsigned char* b, int len) {
00046     for (int i = 0; i < len; i++) {
00047         resource->write(b[i]);
00048     }
00049 }
00050
00051 void RandomAccessResource::writeBoolean(bool v) {
00052     resource->write((unsigned char) v);
00053 }
00054
00055 void RandomAccessResource::writeChar(char c) {
00056     resource->write((unsigned char) c);
00057 }
00058
00059 void RandomAccessResource::writeUnsignedChar(unsigned char c) {
00060     resource->write((unsigned char) c);
00061 }
00062
00063 void RandomAccessResource::writeInt(int v) {
00064     resource->write((unsigned char) ((v >> 8) & 0xff));
00065     resource->write((unsigned char) (v & 0xff));
00066 }
00067
00068 void RandomAccessResource::writeUnsignedInt(unsigned int v) {
00069     writeInt((int) v);
00070 }
00071
00072 void RandomAccessResource::writeWord(word v) {
00073     writeInt((int) v);
00074 }
00075
00076 void RandomAccessResource::writeLong(long v) {
00077     resource->write((unsigned char) ((v >> 24) & 0xff));
00078     resource->write((unsigned char) ((v >> 16) & 0xff));
00079     resource->write((unsigned char) ((v >> 8) & 0xff));
00080     resource->write((unsigned char) (v & 0xff));
00081 }
00082
00083 void RandomAccessResource::writeUnsignedLong(unsigned long v) {
00084     writeLong((long) v);
00085 }
00086
00087 void RandomAccessResource::writeFloat(float v) {
```

```
00088     writeLong((long) v);
00089 }
00090
00091 void RandomAccessResource::writeDouble(double v) {
00092     writeLong((long) v);
00093 }
00094
00095 unsigned char RandomAccessResource::readByte() {
00096     return (unsigned char) resource->read();
00097 }
00098
00099 bool RandomAccessResource::readBoolean() {
00100     return (bool) resource->read();
00101 }
00102
00103 char RandomAccessResource::readChar() {
00104     return (char) resource->read();
00105 }
00106
00107 unsigned char RandomAccessResource::readUnsignedChar() {
00108     return (unsigned char) resource->read();
00109 }
00110
00111 int RandomAccessResource::readInt() {
00112     int v = 0;
00113     v = resource->read();
00114     v <<= 8;
00115     v |= (resource->read() & 0xff);
00116     return v;
00117 }
00118
00119 unsigned int RandomAccessResource::readUnsignedInt() {
00120     return (unsigned int) readInt();
00121 }
00122
00123 word RandomAccessResource::readWord() {
00124     return (word) readInt();
00125 }
00126
00127 long RandomAccessResource::readLong() {
00128     long v = 0;
00129     v = resource->read();
00130     v <<= 8;
00131     v |= (resource->read() & 0xff);
00132     v <<= 8;
00133     v |= (resource->read() & 0xff);
00134     v <<= 8;
00135     v |= (resource->read() & 0xff);
00136     return v;
00137 }
00138
00139 unsigned long RandomAccessResource::readUnsignedLong() {
00140     return (unsigned long) readLong();
00141 }
00142
00143 float RandomAccessResource::readFloat() {
00144     return (float) readLong();
00145 }
00146
00147 double RandomAccessResource::readDouble() {
00148     return (double) readLong();
00149 }
00150
00151 void RandomAccessResource::readFully(unsigned char* b, int len) {
00152     for (int i = 0; i < len; i++) {
00153         b[i] = resource->read();
00154     }
00155 }
00156
00157 unsigned int RandomAccessResource::skipBytes(unsigned int n) {
00158     unsigned int pos;
00159     unsigned int len;
00160     unsigned int newpos;
00161     pos = (unsigned int) resource->tell();
00162     len = resource->size();
00163     newpos = pos + n;
00164     if (newpos > len) {
00165         newpos = len;
00166     }
00167     seek(newpos);
00168     return (unsigned int) (newpos - pos);
00169 }
00170
00171 #endif /* USING_RESOURCE_LIBRARIES */
00172
00173 #endif /* __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_CPP__ */
```

5.105 RandomAccessResource.h File Reference

5.106 RandomAccessResource.h

```
00001
00011 #ifndef __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_H__
00012 #define __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_H__ 1
00013
00014 #if USING_RESOURCE_LIBRARIES
00015
00016 #include <RandomAccess.h>
00017 #include <Closeable.h>
00018 #include <Resource.h>
00019
00020 class RandomAccessResource : public RandomAccess {
00021
00025     Resource* resource;
00026
00027 public:
00028
00034     RandomAccessResource(Resource* resource);
00035
00041     virtual void seek(unsigned int pos);
00042
00048     unsigned int length();
00049
00053     virtual void close();
00054
00061     virtual void write(unsigned char* b, int len);
00062
00068     virtual void write(unsigned char b);
00069
00075     virtual void writeByte(unsigned char b);
00076
00083     virtual void writeBytes(unsigned char* b, int len);
00084
00090     virtual void writeBoolean(bool v);
00091
00097     virtual void writeChar(char c);
00098
00104     virtual void writeUnsignedChar(unsigned char c);
00105
00111     virtual void writeInt(int v);
00112
00118     virtual void writeUnsignedInt(unsigned int v);
00119
00125     virtual void writeWord(word v);
00126
00132     virtual void writeLong(long v);
00133
00139     virtual void writeUnsignedLong(unsigned long v);
00140
00146     virtual void writeFloat(float v);
00147
00153     virtual void writeDouble(double v);
00154
00160     virtual unsigned char readByte();
00161
00167     virtual bool readBoolean();
00168
00174     virtual char readChar();
00175
00181     virtual unsigned char readUnsignedChar();
00182
00188     virtual int readInt();
00189
00195     virtual unsigned int readUnsignedInt();
00196
00202     virtual word readWord();
00203
00209     virtual long readLong();
00210
00216     virtual unsigned long readUnsignedLong();
00217
00223     virtual float readFloat();
00224
00230     virtual double readDouble();
00231
00238     virtual void readFully(unsigned char* b, int len);
00239
00246     virtual unsigned int skipBytes(unsigned int n);
00247 };
00248
00249 #endif /* USING_RESOURCE_LIBRARIES */
00250
```

```
00251 #endif /* __ARDUINO_IO_RANDOM_ACCESS_RESOURCE_H__ */
```

5.107 ResourceInputStream.cpp File Reference

Macros

- #define __ARDUINO_IO_RESOURCE_INPUT_STREAM_CPP__ 1

5.107.1 Macro Definition Documentation

5.107.1.1 #define __ARDUINO_IO_RESOURCE_INPUT_STREAM_CPP__ 1

Arduino IO.

ResourceInputStream

A ResourceInputStream obtains input bytes from a resource in a file system.

Definition at line 10 of file ResourceInputStream.cpp.

5.108 ResourceInputStream.cpp

```
00001
00009 #ifndef __ARDUINO_IO_RESOURCE_INPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_RESOURCE_INPUT_STREAM_CPP__ 1
00011
00012 #if USING_RESOURCE_LIBRARIES
00013
00014 #include "ResourceInputStream.h"
00015
00016 ResourceInputStream::ResourceInputStream(Resource* resource) : resource(resource) {
00017     markpos = 0;
00018     pos = 0;
00019     resourceSize = resource->size();
00020     resource->rewind();
00021 }
00022
00023 int ResourceInputStream::available() {
00024     if ((resourceSize - pos) > 0) {
00025         return 1;
00026     }
00027     return 0;
00028 }
00029
00030 void ResourceInputStream::close() {
00031     resource->close();
00032 }
00033
00034 void ResourceInputStream::mark() {
00035     markpos = pos;
00036 }
00037
00038 bool ResourceInputStream::markSupported() {
00039     return true;
00040 }
00041
00042 int ResourceInputStream::read() {
00043     if (resource->eor()) {
00044         pos = resourceSize;
00045         return -1;
00046     }
00047     pos++;
00048     return (int) resource->read();
00049 }
00050
00051 void ResourceInputStream::reset() {
00052     resource->seek((Resource::ResourceSeekOrigin)0, markpos);
00053 }
00054
00055 #endif /* USING_RESOURCE_LIBRARIES */
00056
00057 #endif /* __ARDUINO_IO_RESOURCE_INPUT_STREAM_CPP__ */
```

5.109 ResourceInputStream.h File Reference

5.110 ResourceInputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_RESOURCE_INPUT_STREAM_H__
00010 #define __ARDUINO_IO_RESOURCE_INPUT_STREAM_H__ 1
00011
00012 #if USING_RESOURCE_LIBRARIES
00013
00014 #include <InputStream.h>
00015 #include <Resource.h>
00016
00017 class ResourceInputStream : public virtual InputStream {
00018 protected:
00019
00020     /*
00021      * The resource where data is stored.
00022      */
00023     Resource* resource;
00024
00025     /*
00026      * Current position
00027      */
00028     unsigned int pos;
00029
00030     /*
00031      * The currently marked position in the stream.
00032      */
00033     unsigned int markpos;
00034
00035     /*
00036      * The size of the resource.
00037      */
00038     unsigned int resourceSize;
00039
00040 public:
00041
00042     ResourceInputStream(Resource* resource);
00043
00049     virtual int available();
00050
00055     virtual void close();
00056
00060     virtual void mark();
00061
00065     virtual bool markSupported();
00066
00070     using InputStream::read;
00071
00075     virtual int read();
00076
00081     virtual void reset();
00082 };
00083
00084 #endif /* USING_RESOURCE_LIBRARIES */
00085
00086 #endif /* __ARDUINO_IO_RESOURCE_INPUT_STREAM_H__ */
```

5.111 ResourceOutputStream.cpp File Reference

Macros

- #define __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_CPP__ 1

5.111.1 Macro Definition Documentation

5.111.1.1 #define __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_CPP__ 1

Arduino IO.

ResourceOutputStream

A resource output stream is an output stream for writing data to a Resource.

Definition at line 10 of file ResourceOutputStream.cpp.

5.112 ResourceOutputStream.cpp

```
00001
00009 #ifndef __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_CPP__ 1
00011
00012 #if USING_RESOURCE_LIBRARIES
00013
00014 #include "ResourceOutputStream.h"
00015
00016 ResourceOutputStream::ResourceOutputStream(Resource* resource) : resource(resource) {
00017 }
00018
00019 void ResourceOutputStream::close() {
00020     resource->close();
00021 }
00022
00023 void ResourceOutputStream::write(unsigned char b) {
00024     resource->write(b);
00025 }
00026
00027 #endif /* USING_RESOURCE_LIBRARIES */
00028
00029 #endif /* __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_CPP__ */
```

5.113 ResourceOutputStream.h File Reference

5.114 ResourceOutputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_H__
00010 #define __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_H__ 1
00011
00012 #if USING_RESOURCE_LIBRARIES
00013
00014 #include <OutputStream.h>
00015 #include <Resource.h>
00016
00017 class ResourceOutputStream : public OutputStream {
00018 protected:
00019
00020     /*
00021      * The resource where data is stored.
00022      */
00023     Resource* resource;
00024
00025 public:
00026
00027     ResourceOutputStream(Resource* resource);
00028
00032     virtual void close();
00033
00037     using OutputStream::write;
00038
00042     virtual void write(unsigned char b);
00043 };
00044
00045 #endif /* USING_RESOURCE_LIBRARIES */
00046
00047 #endif /* __ARDUINO_IO_RESOURCE_OUTPUT_STREAM_H__ */
```

5.115 ResourceSeekableInputStream.cpp File Reference

Macros

- #define __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_CPP__ 1

5.115.1 Macro Definition Documentation

5.115.1.1 #define __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_CPP__ 1

Arduino IO.

ResourceSeekableInputStream

A ResourceSeekableInputStream obtains input bytes from a resource in a file system that implements SeekableInputStream interface.

Definition at line 11 of file ResourceSeekableInputStream.cpp.

5.116 ResourceSeekableInputStream.cpp

```
00001
00010 #ifndef __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_CPP__
00011 #define __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_CPP__ 1
00012
00013 #if USING_RESOURCE_LIBRARIES
00014
00015 #include "ResourceSeekableInputStream.h"
00016
00017 ResourceSeekableInputStream::ResourceSeekableInputStream(Resource* resource) : ResourceInputStream(resource
      ) {
00018 }
00019
00020 void ResourceSeekableInputStream::seek(unsigned int pos) {
00021     resource->seek((Resource::ResourceSeekOrigin)0, pos);
00022 }
00023
00024 #endif /* USING_RESOURCE_LIBRARIES */
00025
00026 #endif /* __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_CPP__ */
```

5.117 ResourceSeekableInputStream.h File Reference

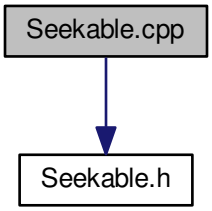
5.118 ResourceSeekableInputStream.h

```
00001
00010 #ifndef __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_H__
00011 #define __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_H__ 1
00012
00013 #if USING_RESOURCE_LIBRARIES
00014
00015 #include <SeekableInputStream.h>
00016 #include <ResourceInputStream.h>
00017 #include <Resource.h>
00018
00019 class ResourceSeekableInputStream : public ResourceInputStream, public
      SeekableInputStream {
00020 public:
00021
00027     ResourceSeekableInputStream(Resource* resource);
00028
00034     virtual void seek(unsigned int pos);
00035 };
00036
00037 #endif /* USING_RESOURCE_LIBRARIES */
00038
00039 #endif /* __ARDUINO_IO_RESOURCE_SEEKABLE_INPUT_STREAM_H__ */
```

5.119 Seekable.cpp File Reference

```
#include "Seekable.h"
```

Include dependency graph for Seekable.cpp:



Macros

- #define __ARDUINO_IO_SEEKABLE_CPP__ 1

5.119.1 Macro Definition Documentation

5.119.1.1 #define __ARDUINO_IO_SEEKABLE_CPP__ 1

Arduino IO.

Seekable

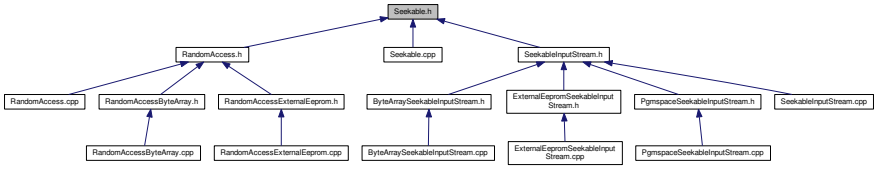
Definition at line 8 of file Seekable.cpp.

5.120 Seekable.cpp

```
00001
00007 #ifndef __ARDUINO_IO_SEEKABLE_CPP__
00008 #define __ARDUINO_IO_SEEKABLE_CPP__ 1
00009
00010 #include "Seekable.h"
00011
00012 #endif /* __ARDUINO_IO_SEEKABLE_CPP__ */
```

5.121 Seekable.h File Reference

This graph shows which files directly or indirectly include this file:



Classes

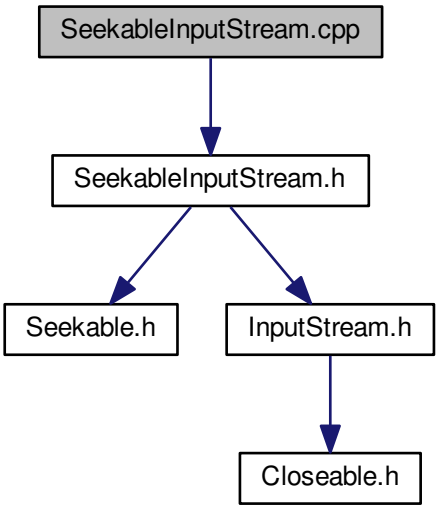
- class Seekable

5.122 Seekable.h

```
00001
00007 #ifndef __ARDUINO_IO_SEEKABLE_H__
00008 #define __ARDUINO_IO_SEEKABLE_H__ 1
00009
00010 class Seekable {
00011 public:
00012
00013     virtual void seek(unsigned int pos) = 0;
00014 };
00015
00016 #endif /* __ARDUINO_IO_SEEKABLE_H__ */
```

5.123 SeekableInputStream.cpp File Reference

`#include "SeekableInputStream.h"`
Include dependency graph for SeekableInputStream.cpp:



Macros

- #define __ARDUINO_IO_SEEKABLE_INPUT_STREAM_CPP__ 1

5.123.1 Macro Definition Documentation

5.123.1.1 #define __ARDUINO_IO_SEEKABLE_INPUT_STREAM_CPP__ 1

Arduino IO.

SeekableInputStream

Definition at line 8 of file SeekableInputStream.cpp.

5.124 SeekableInputStream.cpp

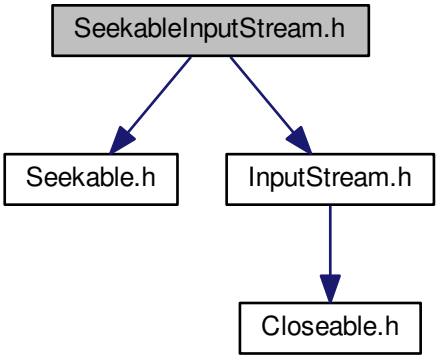
```
00001
```

```
00007 #ifndef __ARDUINO_IO_SEEKABLE_INPUT_STREAM_CPP__
00008 #define __ARDUINO_IO_SEEKABLE_INPUT_STREAM_CPP__ 1
00009
00010 #include "SeekableInputStream.h"
00011
00012 #endif /* __ARDUINO_IO_SEEKABLE_INPUT_STREAM_CPP__ */
```

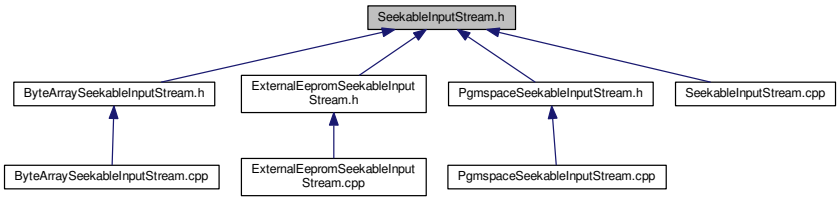
5.125 SeekableInputStream.h File Reference

```
#include <Seekable.h>
#include <InputStream.h>
```

Include dependency graph for SeekableInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class SeekableInputStream

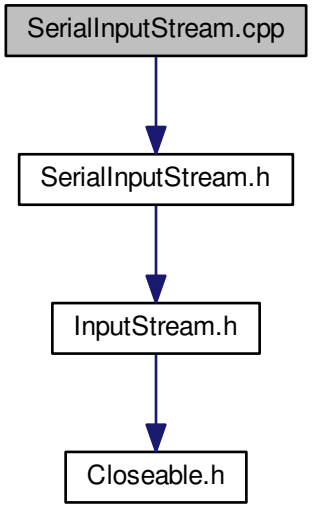
5.126 SeekableInputStream.h

```
00001
00007 #ifndef __ARDUINO_IO_SEEKABLE_INPUT_STREAM_H__
00008 #define __ARDUINO_IO_SEEKABLE_INPUT_STREAM_H__ 1
00009
00010 #include <Seekable.h>
00011 #include <InputStream.h>
00012
00013 class SeekableInputStream : public virtual Seekable, public virtual
```

```
    InputStream {
00014 public:
00015
00016 };
00017
00018 #endif /* __ARDUINO_IO_SEEKABLE_INPUT_STREAM_H__ */
```

5.127 SerialInputStream.cpp File Reference

`#include "SerialInputStream.h"`
Include dependency graph for SerialInputStream.cpp:



Macros

- #define __ARDUINO_IO_SERIAL_INPUT_STREAM_CPP__ 1

5.127.1 Macro Definition Documentation

5.127.1.1 #define __ARDUINO_IO_SERIAL_INPUT_STREAM_CPP__ 1

Arduino IO.

SerialInputStream

A SerialInputStream obtains input bytes from a serial port.

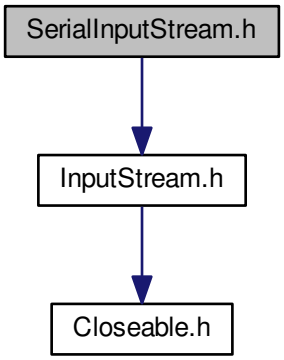
Definition at line 10 of file SerialInputStream.cpp.

5.128 SerialInputStream.cpp

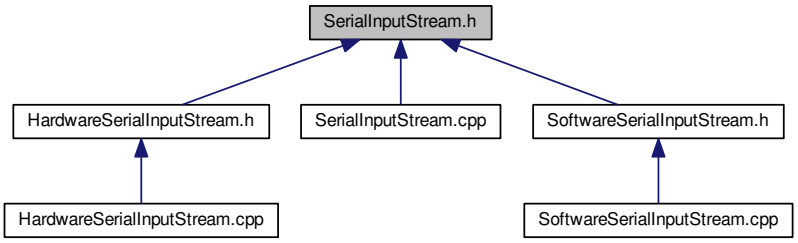
```
00001
00009 #ifndef __ARDUINO_IO_SERIAL_INPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_SERIAL_INPUT_STREAM_CPP__ 1
00011
00012 #include "SerialInputStream.h"
00013
00014 #endif /* __ARDUINO_IO_SERIAL_INPUT_STREAM_CPP__ */
```

5.129 SerialInputStream.h File Reference

`#include <InputStream.h>`
Include dependency graph for SerialInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class SerialInputStream

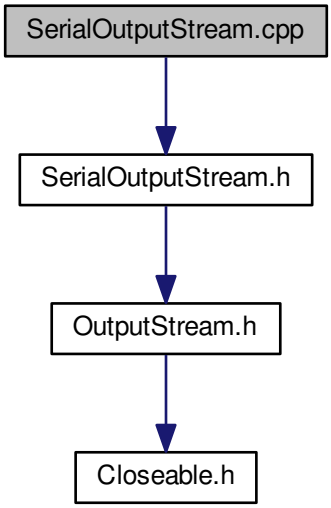
5.130 SerialInputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_SERIAL_INPUT_STREAM_H__
00010 #define __ARDUINO_IO_SERIAL_INPUT_STREAM_H__ 1
00011
00012 #include <InputStream.h>
00013
00014 class SerialInputStream : public InputStream {
00015 };
00016
00017 #endif /* __ARDUINO_IO_SERIAL_INPUT_STREAM_H__ */
```

5.131 SerialOutputStream.cpp File Reference

```
#include <SerialOutputStream.h>
```

Include dependency graph for SerialOutputStream.cpp:



Macros

- #define __ARDUINO_IO_SERIAL_OUTPUT_STREAM_CPP__ 1

5.131.1 Macro Definition Documentation

5.131.1.1 #define __ARDUINO_IO_SERIAL_OUTPUT_STREAM_CPP__ 1

Arduino IO.

SerialOutputStream

A serial output stream is a output stream to write in a serial port.

Definition at line 10 of file SerialOutputStream.cpp.

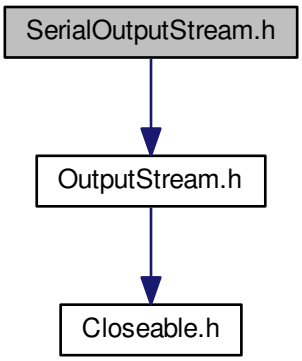
5.132 SerialOutputStream.cpp

```
00001
00009 #ifndef __ARDUINO_IO_SERIAL_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_SERIAL_OUTPUT_STREAM_CPP__ 1
00011
00012 #include <SerialOutputStream.h>
00013
00014 #endif /* __ARDUINO_IO_SERIAL_OUTPUT_STREAM_CPP__ */
```

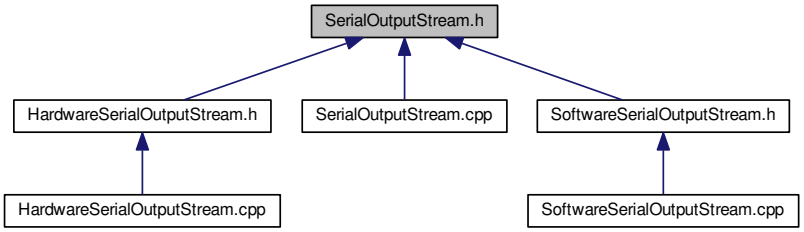
5.133 SerialOutputStream.h File Reference

```
#include <OutputStream.h>
```

Include dependency graph for SerialOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class SerialOutputStream

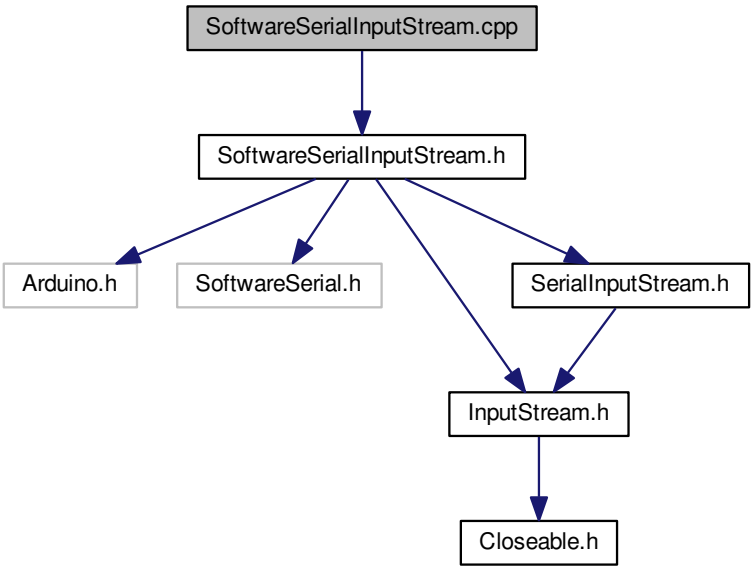
5.134 SerialOutputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_SERIAL_OUTPUT_STREAM_H__
00010 #define __ARDUINO_IO_SERIAL_OUTPUT_STREAM_H__ 1
00011
00012 #include <OutputStream.h>
00013
00014 class SerialOutputStream : public OutputStream {
00015 };
00016
00017 #endif /* __ARDUINO_IO_SERIAL_OUTPUT_STREAM_H__ */
```

5.135 SoftwareSerialInputStream.cpp File Reference

```
#include "SoftwareSerialInputStream.h"
```

Include dependency graph for SoftwareSerialInputStream.cpp:



Macros

- #define __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_CPP__ 1

5.135.1 Macro Definition Documentation

5.135.1.1 #define __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_CPP__ 1

Arduino IO.

SoftwareSerialInputStream

A SoftwareSerialInputStream obtains input bytes from a serial port.

Definition at line 10 of file SoftwareSerialInputStream.cpp.

5.136 SoftwareSerialInputStream.cpp

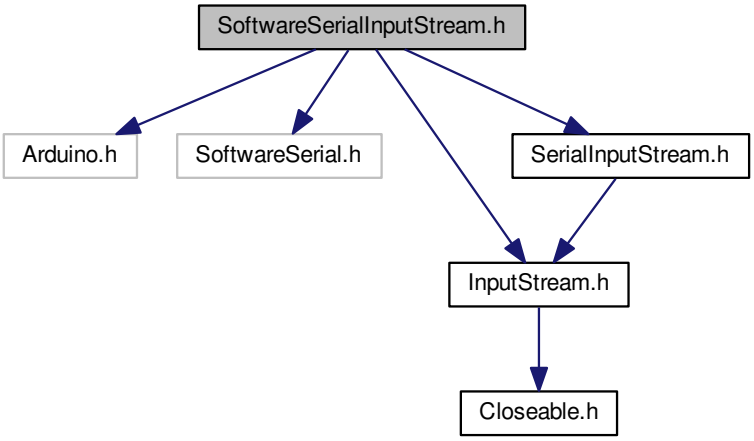
```
00001
00009 #ifndef __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_CPP__ 1
00011
00012 #include "SoftwareSerialInputStream.h"
00013
00014 SoftwareSerialInputStream::SoftwareSerialInputStream(
      SoftwareSerial *softwareSerial,
00015         unsigned int boudRate) :
00016         softwareSerial(softwareSerial) {
00017     softwareSerial->begin(boudRate);
00018 }
00019
00020 int SoftwareSerialInputStream::available() {
00021     softwareSerial->available();
00022 }
00023
00024 int SoftwareSerialInputStream::read() {
00025     return softwareSerial->read();
```

```
00026 }
00027
00028 #endif /* __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_CPP__ */
```

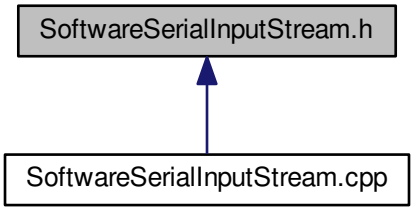
5.137 SoftwareSerialInputStream.h File Reference

```
#include <Arduino.h>
#include <SoftwareSerial.h>
#include <InputStream.h>
#include <SerialInputStream.h>
```

Include dependency graph for SoftwareSerialInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

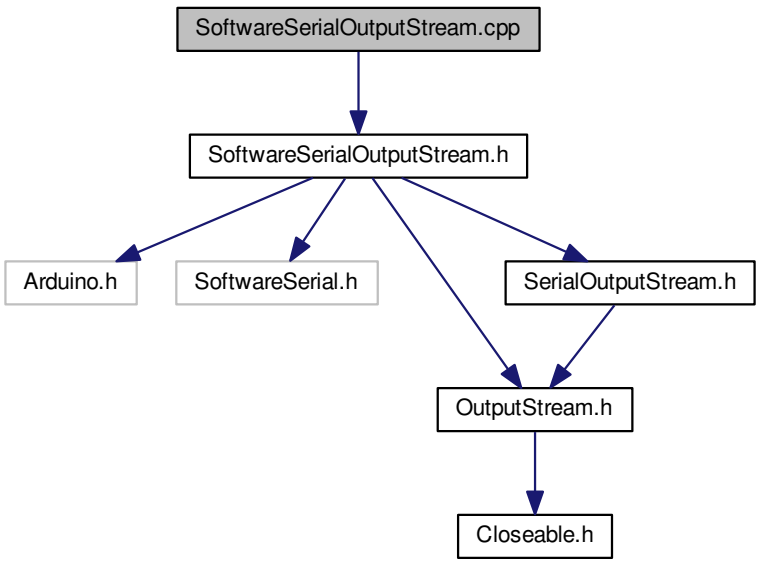
- class SoftwareSerialInputStream

5.138 SoftwareSerialInputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_H__
00010 #define __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_H__ 1
00011
00012 #include <Arduino.h>
00013 #include <SoftwareSerial.h>
00014 #include <InputStream.h>
00015 #include <SerialInputStream.h>
00016
00017 class SoftwareSerialInputStream : public
      SerialInputStream {
00018 protected:
00019
00023     SoftwareSerial *softwareSerial;
00024
00025 public:
00026
00033     SoftwareSerialInputStream(SoftwareSerial *softwareSerial, unsigned int
      boudRate);
00034
00039     virtual int available();
00040
00044     virtual int read();
00045 };
00046
00047 #endif /* __ARDUINO_IO_SOFTWARE_SERIAL_INPUT_STREAM_H__ */
```

5.139 SoftwareSerialOutputStream.cpp File Reference

`#include "SoftwareSerialOutputStream.h"`
Include dependency graph for SoftwareSerialOutputStream.cpp:



Macros

- #define __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_CPP__ 1

5.139.1 Macro Definition Documentation

5.139.1.1 #define __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_CPP__ 1

Arduino IO.

SoftwareSerialOutputStream

A software serial output stream is a output stream to write in a serial port.

Definition at line 10 of file SoftwareSerialOutputStream.cpp.

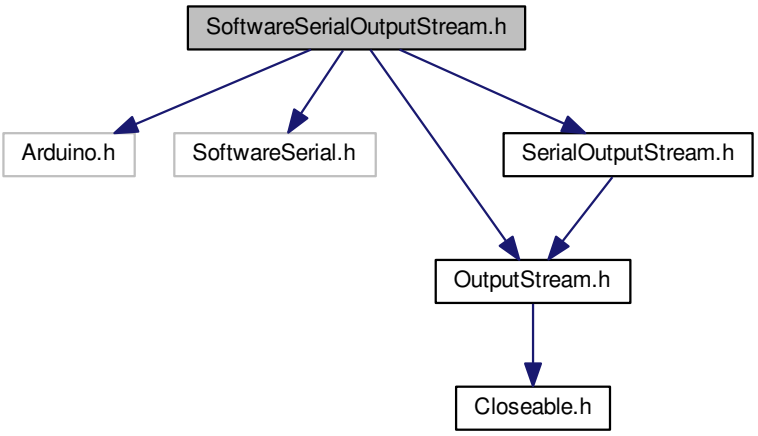
5.140 SoftwareSerialOutputStream.cpp

```
00001
00009 #ifndef __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_CPP__ 1
00011
00012 #include "SoftwareSerialOutputStream.h"
00013
00014 SoftwareSerialOutputStream::SoftwareSerialOutputStream
      (SoftwareSerial *serial,
00015         unsigned int boudRate) :
00016         softwareSerial(serial) {
00017     serial->begin(boudRate);
00018 }
00019
00020 void SoftwareSerialOutputStream::write(unsigned char b) {
00021     softwareSerial->write(b);
00022 }
00023
00024 #endif /* __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_CPP__ */
```

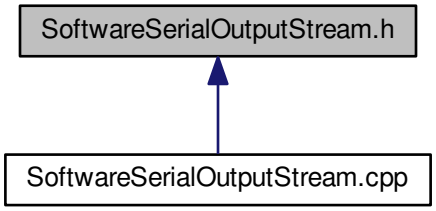
5.141 SoftwareSerialOutputStream.h File Reference

```
#include <Arduino.h>
#include <SoftwareSerial.h>
#include <OutputStream.h>
#include <SerialOutputStream.h>
```

Include dependency graph for SoftwareSerialOutputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class SoftwareSerialOutputStream

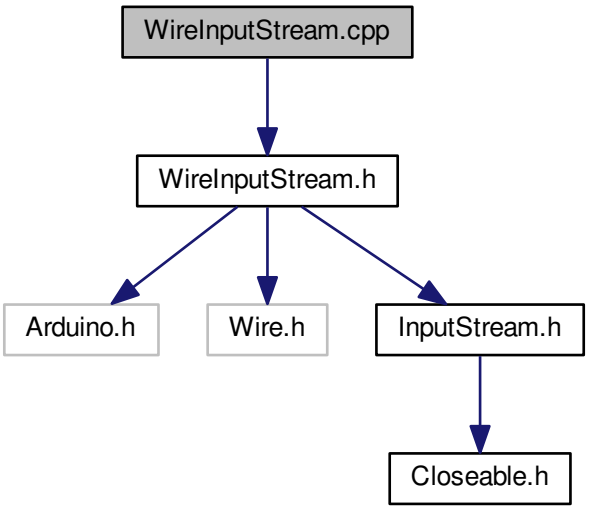
5.142 SoftwareSerialOutputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_H__
00010 #define __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_H__ 1
00011
00012 #include <Arduino.h>
00013 #include <SoftwareSerial.h>
00014 #include <OutputStream.h>
00015 #include <SerialOutputStream.h>
00016
00017 class SoftwareSerialOutputStream : public
      SerialOutputStream {
00018 protected:
00019
00020     /*
00021      * The software serial where data is written.
00022      */
00023     SoftwareSerial *softwareSerial;
00024
00025 public:
00026
00027     SoftwareSerialOutputStream(SoftwareSerial *serial, unsigned int boudRate);
00028
00032     virtual void write(unsigned char b);
00033 };
00034
00035 #endif /* __ARDUINO_IO_SOFTWARE_SERIAL_OUTPUT_STREAM_H__ */
```

5.143 WireInputStream.cpp File Reference

```
#include "WireInputStream.h"
```

Include dependency graph for WireInputStream.cpp:



Macros

- #define __ARDUINO_IO_WIRE_INPUT_STREAM_CPP__ 1

5.143.1 Macro Definition Documentation

5.143.1.1 #define __ARDUINO_IO_WIRE_INPUT_STREAM_CPP__ 1

Arduino IO.

WireInputStream

A WireInputStream obtains input bytes from the wire bus.

Definition at line 10 of file WireInputStream.cpp.

5.144 WireInputStream.cpp

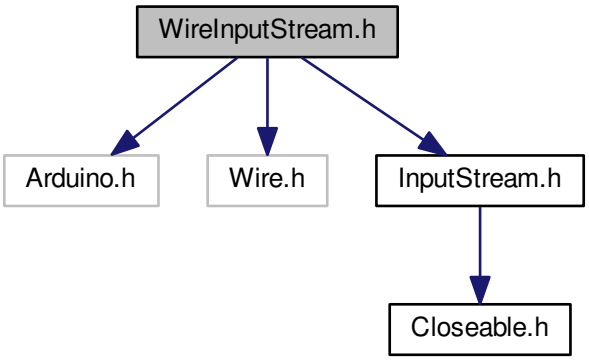
```
00001
00009 #ifndef __ARDUINO_IO_WIRE_INPUT_STREAM_CPP__
00010 #define __ARDUINO_IO_WIRE_INPUT_STREAM_CPP__ 1
00011
00012 #include "WireInputStream.h"
00013
00014 WireInputStream::WireInputStream(unsigned char address) {
00015     this->address = address;
00016     Wire.begin();
00017 }
00018
00019 int WireInputStream::available() {
00020     return Wire.available();
00021 }
00022
00023 int WireInputStream::read() {
00024     Wire.beginTransmission(address);
00025     Wire.write((unsigned char) (address & 0xff));
00026     Wire.endTransmission();
00027     Wire.requestFrom(address, (unsigned char) 1);
```

```
00028     while (!Wire.available())
00029         ;
00030     return Wire.read();
00031 }
00032
00033 int WireInputStream::read(unsigned char* b, int off, int len) {
00034     int i;
00035     Wire.beginTransmission(address);
00036     Wire.write((unsigned char) (address & 0xff));
00037     Wire.endTransmission();
00038     Wire.requestFrom(address, (int) len);
00039     for (i = 0; i < len; i++) {
00040         while (!Wire.available())
00041             ;
00042         b[off + i] = (unsigned char) Wire.read();
00043     }
00044     return i;
00045 }
00046
00047 #endif /* __ARDUINO_IO_WIRE_INPUT_STREAM_CPP__ */
```

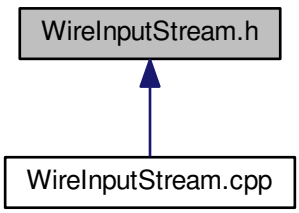
5.145 WireInputStream.h File Reference

```
#include <Arduino.h>
#include <Wire.h>
#include <InputStream.h>
```

Include dependency graph for WireInputStream.h:



This graph shows which files directly or indirectly include this file:



Classes

- class WireInputStream

5.146 WireInputStream.h

```
00001
00009 #ifndef __ARDUINO_IO_WIRE_INPUT_STREAM_H__
00010 #define __ARDUINO_IO_WIRE_INPUT_STREAM_H__ 1
00011
00012 #include <Arduino.h>
00013 #include <Wire.h>
00014 #include <InputStream.h>
00015
00016 class WireInputStream : public InputStream {
00017 protected:
00018
00022     unsigned char address;
00023
00024 public:
00025
00031     WireInputStream(unsigned char addredd);
00032
00037     virtual int available();
00038
00042     virtual int read();
00043
00052     virtual int read(unsigned char* b, int off, int len);
00053 };
00054
00055 #endif /* __ARDUINO_IO_WIRE_INPUT_STREAM_H__ */
```

5.147 WireOutputStream.cpp File Reference

5.148 WireOutputStream.cpp

5.149 WireOutputStream.h File Reference

5.150 WireOutputStream.h

Index