

streambuf::streambuf streambuf::~streambuf

#### public members: streambuf::getloc

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- protected members:

### streambuf::eback

- streambuf::egptr
- streambuf::epptr
- streambuf::gbump
- streambuf::gptr
- streambuf::operator=
- streambuf::pbase
- streambuf::pbump
- streambuf::pptr streambuf::setg
- streambuf::setp
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# virtual protected members:

- streambuf::imbue
- streambuf::overflow streambuf::pbackfail
- streambuf::seekoff
- streambuf::seeknos
- streambuf::setbuf
- streambuf::showmanyc
- streambuf::svnc
- streambuf::uflow
- streambuf::underflow
- streambuf::xsgetn
- streambuf::xsputn

<streambuf>









streambuf

Go

register

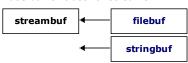
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<streambuf> <iostream>

# std::streambuf typedef basic\_streambuf<char> streambuf;

# Base buffer class for streams



This template is designed as base virtual class for all stream buffer classes that handle narrow characters (of type char).

It is an instantiation of basic streambuf with the following template parameters:

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template parameter	definition	comments
charT	char	Aliased as member char_type
traits	char traits/charx	Aliased as member traits type

A stream buffer is an object in charge of performing the reading and writing operations of the stream object it is associated with: the stream delegates all such operations to its associated stream buffer object, which is an intermediary between the stream and its controlled input and output sequences.

All stream objects, no matter whether buffered or unbuffered, have an associated stream buffer: Some stream buffer types may then be set to either use an intermediate buffer or not.

Stream buffer objects keep internally, at least:

- A locale object, used for locale-dependent operations.
- A set of internal pointers to keep an input buffer: eback, gptr, egptr.
- A set of internal pointers to keep an output buffer: pbase, pptr, epptr.

Internally, the streambuf class is an elaborated base class designed to provide a uniform public interface for all derived classes: These public functions call virtual protected members that derived classes may override to implement specific behavior. These overridden virtual functions have access to the internals of the streambuf class by means of a set of protected functions (see below).

# Member types

	- /
member type	definition
char_type	char
traits_type	char_traits <char></char>
int_type	int
pos_type	streampos
off_type	streamoff

# fx Public member functions

The common functionality for all stream buffers is provided through the following public member functions:

(constructor)	Construct object (public member function )
(destructor)	Destroy object (public member function )

# Locales:

C++II

pubimbue	Imbue locale (public member function )
getloc	Get current locale (public member function )

# **Buffer management and positioning:**

pubsetbuf	Set buffer array (public member function )
pubseekoff	Set internal position pointer to relative position (public member function )
pubseekpos	Set internal position pointer to absolute position (public member function )
pubsync	Synchronize stream buffer (public member function )

#### Input functions (get)

Input functions (get).	
in_avail	Get number of characters available to read (public member function )
snextc	Advance to next position and get character (public member function )
sbumpc	Get current character and advance to next position (public member function )
sgetc	Get current character (public member function )



sgetn	Get sequence of characters (public member function )
sputbackc	Put character back (public member function )
sungetc	Decrease current position (public member function )

#### Output functions (put):

sputc	Store character at current put position and increase put pointer (public member function )
sputn	Put sequence of characters (public member function )

#### fx Protected member functions

The public functions do not perform their operations directly on the controlled input and output sequences, but mostly rely on two arrays accessible by a set of internal pointers:

	beginning (beginning pointers)	current position (get/put pointer)	end ( <i>end pointers</i> )
Input sequence	eback	gptr	egptr
Output sequence	pbase	pptr	epptr

The following protected member functions provide access to these pointers:

#### Input sequence (get):

eback	Pointer to beginning of input sequence (protected member function )	
gptr	Pointer to current position of input sequence (protected member function )	
egptr	Pointer to end of input sequence (protected member function )	
gbump	Increase get pointer (protected member function )	
setg	Set input sequence pointers (protected member function )	

# Output sequence (put):

pbase	Pointer to beginning of output sequence (protected member function )
pptr	Pointer to current position of output sequence (protected member function )
epptr	Pointer to end of output sequence (protected member function )
pbump	Increase put pointer (protected member function )
setp	Set output sequence pointers (protected member function )
Convina:	

#### Copying:

operator= 👊	Streambuf assignment (public member function )
swap 👊	Swap stream buffers (public member function )

#### fx Virtual protected member functions

Each streambuf-derived class shall define members that keep the validity of the pointers above with respect to their own type of controlled sequence; Modifying the values of the pointers, reallocating the sequences themselves and perfoming all necessary synchronizations with the  ${\it associated\ character\ sequence}.$ 

With this design, the core functionality involving the process of reading and writing directly to the specific associated character sequence and to manage the controlled sequences is provided by means of virtual functions, which are overriden as necessary by derived classes:

#### Locales:

imbue	Imbue locale (protected virtual member function )

# Buffer management and positioning:

setbuf	Set buffer (protected virtual member function )
seekoff	Set internal position pointer to relative position (protected virtual member function )
seekpos	Set internal position pointer to absolute position (protected virtual member function )
sync	Synchronize stream buffer (protected virtual member function )

#### Input functions (get):

showmanyc	Get number of characters available (protected virtual member function )
xsgetn	Get sequence of characters (protected virtual member function )
underflow	Get character on underflow (protected virtual member function )
uflow	Get character on underflow and advance position (protected virtual member function )
pbackfail	Put character back in the case of backup underflow (protected virtual member function )

#### Output functions (put):

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xsputn	Put sequence of characters (protected virtual member function )
overflow	Put character on overflow (protected virtual member function )

# PatchIT Updating Library

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