



Linux Ubuntu 26.04 Manual Pages on command 'mq_receive.3'

\$ man mq_receive.3

mq_receive(3) Library Functions Manual mq_receive(3)

NAME

mq_receive, mq_timedreceive - receive a message from a message queue

LIBRARY

Real-time library (librt, -lrt)

SYNOPSIS

```
#include <mqueue.h>

ssize_t mq_receive(size_t msg_len;
                  mqd_t mqdes, char msg_ptr[msg_len],
                  size_t msg_len, unsigned int *msg_prio);

#include <time.h>

#include <mqueue.h>

ssize_t mq_timedreceive(size_t msg_len;
                       mqd_t mqdes, char *restrict msg_ptr[msg_len],
                       size_t msg_len, unsigned int *restrict msg_prio,
                       const struct timespec *restrict abs_timeout);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

```
mq_timedreceive():
    _POSIX_C_SOURCE >= 200112L
```

DESCRIPTION

mq_receive() removes the oldest message with the highest priority from the message queue referred to by the message queue descriptor mqdes, and places it in the buffer pointed to by msg_ptr. The msg_len argument specifies the size of the buffer pointed to by msg_ptr; this

If `msg_prio` is not NULL, then the buffer to which it points is used to return the priority associated with the received message.

`mq_timedreceive()` behaves just like `mq_receive()`, except that if the queue is empty and the `O_NONBLOCK` flag is not enabled for the message queue description, then `abs_timeout` points to a structure which specifies how long the call will block. This value is an absolute timeout in seconds and nanoseconds since the Epoch, 1970-01-01 00:00:00 +0000 (UTC), specified in a `timespec(3)` structure.

If no message is available, and the timeout has already expired by the time of the call, `mq_timedreceive()` returns immediately.

On success, `mq_receive()` and `mq_timedreceive()` return the number of bytes in the received message; on error, -1 is returned, with `errno` set to indicate the error.

EAGAIN The queue was empty, and the O_NONBLOCK flag was set for the message queue description referred to by mqdes.

EINVAL The call would have blocked, and `abs_timeout` was invalid, either because `tv_sec` was less than zero, or because `tv_nsec` was less than zero or greater than 1000 million.

msg_len was less than the mq_msgsize attribute of the message queue.

The call timed out before a message could be transferred.

For an explanation of the terms used in this section, see `attributes(7)`.

?	Interface	?	Attribute	?	Value	?
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? mq_receive(), mq_timedreceive()

? Thread safety ? MT-Safe ?

[illegible]

VERSIONS

On Linux, `mq_timedreceive()` is a system call, and `mq_receive()` is a library function layered on top of that system call.

STANDARDS

POSIX.1-2008.

HISTORY

POSIX.1-2001.

SEE ALSO

mq_close(3), mq_getattr(3), mq_notify(3), mq_open(3), mq_send(3), mq_unlink(3), timespec(3),
mq_overview(7), time(7)

Linux man-pages 6.17

2026-02-08

mq_receive(3)