



Full credit is given to the above companies including the Operating System (OS) that this PDF file was generated!

Rocky Enterprise Linux 9.2 Manual Pages on command 'mq_timedreceive.2'

\$ man mq_timedreceive.2

MQ_RECEIVE(3)

Linux Programmer's Manual

MQ_RECEIVE(3)

NAME

mq_receive, mq_timedreceive - receive a message from a message queue

SYNOPSIS

```
#include <mqueue.h>

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

#include <time.h>

#include <mqueue.h>

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

Link with -lrt.

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 must be greater than or equal to the `mq_msgsize` attribute of the queue (see `mq_getattr(3)`). If `msg_prio` is not `NULL`, then the buffer to which it points is used to return the priority associated with the received message.

If the queue is empty, then, by default, `mq_receive()` blocks until a message becomes available, or the call is interrupted by a signal handler. If the `O_NONBLOCK` flag is enabled for the message queue description, then the call instead fails immediately with the error `EAGAIN`.

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 the following structure:

```
struct timespec {  
    time_t tv_sec;      /* seconds */  
    long   tv_nsec;     /* nanoseconds */  
};
```

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

RETURN VALUE

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.

ERRORS

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

EBADF The descriptor specified in mqdes was invalid or not opened for reading.

EINTR The call was interrupted by a signal handler; see [signal\(7\)](#).

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.

EMSGSIZE

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

FTIMEDOUT

The call timed out before a message could be transferred.

ATTRIBUTES

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

?mq_receive(), mq_timedreceive() ? Thread safety ? MT-Safe ?

CONFORMING TO

POSIX.1-2001, POSIX.1-2008.

NOTES

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

SEE ALSO

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

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

Linux

2020-08-13

MQ_RECEIVE(3)