



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

\$ man sigsetmask.3

sigvec(3) Library Functions Manual sigvec(3)

NAME

sigvec, sigblock, sigsetmask, siggetmask, sigmask - BSD signal API

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

```
#include <signal.h>
```

```
[[deprecated]] int sigvec(int sig, const struct sigvec *vec,
```

```
    struct sigvec *ovec);
```

```
[[deprecated]] int sigmask(int signum);
```

```
[[deprecated]] int sigblock(int mask);
```

```
[[deprecated]] int sigsetmask(int mask);
```

```
[[deprecated]] int siggetmask(void);
```

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

All functions shown above:

Since glibc 2.19:

```
_DEFAULT_SOURCE
```

glibc 2.19 and earlier:

```
_BSD_SOURCE
```

DESCRIPTION

These functions are provided in glibc as a compatibility interface for programs that make use of the historical BSD signal API. This API is obsolete: new applications should use the POSIX signal API (sigaction(2), sigprocmask(2), etc.).

The `sigvec()` function sets and/or gets the disposition of the signal `sig` (like the POSIX `sigaction(2)`). If `vec` is not `NULL`, it points to a `sigvec` structure that defines the new disposition for `sig`. If `ovec` is not `NULL`, it points to a `sigvec` structure that is used to return the previous disposition of `sig`. To obtain the current disposition of `sig` without changing it, specify `NULL` for `vec`, and a non-null pointer for `ovec`.

The dispositions for `SIGKILL` and `SIGSTOP` cannot be changed.

The `sigvec` structure has the following form:

```
struct sigvec {  
    void (*sv_handler)(int); /* Signal disposition */  
    int  sv_mask;           /* Signals to be blocked in handler */  
    int  sv_flags;          /* Flags */  
};
```

The `sv_handler` field specifies the disposition of the signal, and is either: the address of a signal handler function; `SIG_DFL`, meaning the default disposition applies for the signal; or `SIG_IGN`, meaning that the signal is ignored.

If `sv_handler` specifies the address of a signal handler, then `sv_mask` specifies a mask of signals that are to be blocked while the handler is executing. In addition, the signal for which the handler is invoked is also blocked. Attempts to block `SIGKILL` or `SIGSTOP` are silently ignored.

If `sv_handler` specifies the address of a signal handler, then the `sv_flags` field specifies flags controlling what happens when the handler is called. This field may contain zero or more of the following flags:

`SV_INTERRUPT`

If the signal handler interrupts a blocking system call, then upon return from the handler the system call is not restarted: instead it fails with the error `EINTR`. If this flag is not specified, then system calls are restarted by default.

`SV_RESETHAND`

Reset the disposition of the signal to the default before calling the signal handler. If this flag is not specified, then the handler remains established until explicitly removed by a later call to `sigvec()` or until the process performs an `execve(2)`.

`SV_ONSTACK`

Handle the signal on the alternate signal stack (historically established under BSD using the obsolete `sigstack()` function; the POSIX replacement is `sigaltstack(2)`).

The `sigmask()` macro constructs and returns a "signal mask" for `signum`. For example, we can initialize the `vec.sig_mask` field given to `sigvec()` using code such as the following:

```
vec.sigmask = sigmask(SIGQUIT) | sigmask(SIGABRT);
```

```
/* Block SIGQUIT and SIGABRT during
```

```
handler execution */
```

The `sigblock()` function adds the signals in `mask` to the process's signal mask (like `POSIX sigprocmask(SIG_BLOCK)`), and returns the process's previous signal mask. Attempts to block `SIGKILL` or `SIGSTOP` are silently ignored.

The `sigsetmask()` function sets the process's signal mask to the value given in `mask` (like POSIX `sigprocmask(SIG_SETMASK)`), and returns the process's previous signal mask.

The `siggetmask()` function returns the process's current signal mask. This call is equivalent to `sigblock(0)`.

RETURN VALUE

The `sigvec()` function returns 0 on success; on error, it returns -1 and sets `errno` to indicate the error.

The `sigblock()` and `sigsetmask()` functions return the previous signal mask.

The `sigmask()` macro returns the signal mask for `signum`.

ERRORS

See the ERRORS under sigaction(2) and sigprocmask(2).

ATTRIBUTES

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

[illegible]

?	Interface	?	Attribute	?	Value	?
---	-----------	---	-----------	---	-------	---

[illegible]

? sigvec(), sigmask(), sigblock(), sigsetmask(), siggetmask() ? Thread safety ? MT-Safe ?

[illegible]

STANDARDS

None.

HISTORY

sigvec()

sigblock()

sigmask()

sigsetmask()

4.3BSD.

siggetmask()

Unclear origin.

sigvec()

Removed in glibc 2.21.

NOTES

On 4.3BSD, the `signal()` function provided reliable semantics (as when calling `sigvec()` with `vec.sv_mask` equal to 0). On System V, `signal()` provides unreliable semantics. POSIX.1 leaves these aspects of `signal()` unspecified. See `signal(2)` for further details.

In order to wait for a signal, BSD and System V both provided a function named `sigpause(3)`, but this function has a different argument on the two systems. See `sigpause(3)` for details.

SEE ALSO

`kill(2)`, `pause(2)`, `sigaction(2)`, `signal(2)`, `sigprocmask(2)`, `raise(3)`, `sigpause(3)`,
`sigset(3)`, `signal(7)`

Linux man-pages 6.17

2026-02-08

`sigvec(3)`