NAME

mail, **mailx**, **Mail** — send and receive mail

SYNOPSIS

mail [**-dEIinv**] [**-a** *header*] [**-b** *bcc-addr*] [**-c** *cc-addr*] [**-r** *from-addr*] [**-s** *subject*]
       [**--**] *to-addr* **. . .**
mail [**-dEIiNnv**] **-f** [*file*]
mail [**-dEIiNnv**] [**-u** *user*]

DESCRIPTION

mail is an intelligent mail processing system which has a command syntax reminiscent of ed(1) with lines replaced by messages.

The options are as follows:

-a   Specify additional header fields on the command line such as X-Loop: foo@bar etc. You have to use quotes if the string contains spaces. This argument may be specified more than once, the headers will then be concatenated.

-b *bcc-addr*
     Send blind carbon copies to *bcc-addr*.

-c *cc-addr*
     Send carbon copies to list of users. *cc-addr* should be a comma separated list of names.

-d   Causes **mail** to output all sorts of information useful for debugging **mail**.

-E   Don't send messages with an empty body.

-f   Use an alternate mailbox. Defaults to the user's *mbox* if no *file* is specified. When quit, **mail** writes undeleted messages back to this *file*.

-I   Forces **mail** to run in interactive mode, even when input is not a terminal. In particular, the special **~** command character, used when sending mail, is only available interactively.

-i   Ignore tty interrupt signals. This is particularly useful when using **mail** on noisy phone lines.

-N   Inhibits initial display of message headers when reading mail or editing a mail folder.

-n   Inhibits reading **/etc/mail.rc** upon startup.

-r *from-addr*
     Use *from-addr* as the from address in the message and envelope. Overrides any *from* options in the startup files.

-s *subject*
     Specify subject on command line (only the first argument after the **-s** flag is used as a subject; be careful to quote subjects containing spaces).

-u *user*
     Equivalent to:

              $ mail -f /var/mail/user

     except that locking is done.

-v   Verbose mode. The details of delivery are displayed on the user's terminal.

−−   End of options. Any further argument is treated as a direct receipient address.

Note: For security reasons the **−−** separator is strongly recommended for scripts that need to send mails to addresses obtained from untrusted sources (such as web forms).

Startup actions

At startup time, **mail** will execute commands in the system command file, `/etc/mail.rc`, unless explicitly told not to by using the **−n** option. Next, the commands in the user's personal command file `/.mailrc` are executed. **mail** then examines its command line options to determine whether the user requested a new message to be sent or existing messages in a mailbox to be examined.

Sending mail

To send a message to one or more people, **mail** can be invoked with arguments which are the names of people to whom the mail will be sent. You are then expected to type in your message, followed by a control-D ('ˆD') at the beginning of a line. The section below, Replying to or originating mail, describes some features of **mail** available to help you compose your letter.

Reading mail

In normal usage, **mail** is given no arguments and checks your mail out of the post office, then prints out a one line header of each message found. The current message is initially set to the first message (numbered 1) and can be printed using the **print** command (which can be abbreviated **p**). Moving among the messages is much like moving between lines in ed(1); you may use **+** and **−** to shift forwards and backwards, or simply enter a message number to move directly.

Disposing of mail

After examining a message you can **delete** (**d**) or **reply** (**r**) to it. Deletion causes the **mail** program to forget about the message. This is not irreversible; the message can be **undeleted** (**u**) by giving its number, or the **mail** session can be aborted by giving the **exit** (**x**) command. Deleted messages, however, will usually disappear, never to be seen again.

Specifying messages

Commands such as **print** and **delete** can be given a list of message numbers as arguments to apply to a number of messages at once. Thus **delete 1 2** deletes messages 1 and 2, while **delete 1-5** deletes messages 1 through 5.

Messages may also be selected using one of the following categories:

*	all messages
$	last message
:d	deleted messages
:n	new messages
:o	old messages
:r	read messages
:u	unread messages

Thus the command **top**, which prints the first few lines of a message, could be used in **top *** to print the first few lines of all messages.

Replying to or originating mail

You can use the **reply** command to set up a response to a message, sending it back to the person who it was from. Text you then type in, up to an end-of-file, defines the contents of the message. While you are composing a message, **mail** treats lines beginning with the tilde ('˜') character specially. For instance, typing **˜m** (alone on a line) will place a copy of the current message into the response, right shifting it by a single tab-stop (see the *indentprefix* variable, below). Other escapes

will set up subject fields, add and delete recipients to the message, and allow you to escape to an editor to revise the message or to a shell to run some commands. (These options are given in the summary below.)

Ending a mail processing session

You can end a **mail** session with the **quit** (**q**) command. Messages which have been examined go to your *mbox* file unless they have been deleted, in which case they are discarded. Unexamined messages go back to the post office (see the **−f** option above).

Personal and system wide distribution lists

It is also possible to create personal distribution lists so that, for instance, you can send mail to "**cohorts**" and have it go to a group of people. Such lists can be defined by placing a line like

        alias cohorts bill ozalp jkf mark kridle@ucbcory

in the file .mailrc in your home directory. The current list of such aliases can be displayed with the **alias** command in **mail**. System wide distribution lists can be created by editing /etc/aliases, (see ; -- aliases(5)) these are kept in a different syntax. In mail you send, personal aliases will be expanded in mail sent to others so that they will be able to **reply** to the recipients. System wide aliases are not expanded when the mail is sent, but any reply returned to the machine will have the system wide alias expanded as all mail goes through an MTA.

Recipient address specifications

Recipient addresses (any of the "To", "Cc" or "Bcc" header fields) are subject to expansion when the **expandaddr** option is set.

An address may be expanded as follows:

*   An address that starts with a pipe ('|') character is treated as a command to run. The command immediately following the '|' is executed with the message as its standard input.

*   An address that starts with a '+' character is treated as a folder.

*   An address that contains a '/' character but no '!', '%', or '@' characters is also treated as a folder.

*   If none of the above apply, the recipient is treated as a local or network mail address.

If the **expandaddr** option is not set (the default), no expansion is performed and the recipient is treated as a local or network mail address.

Network mail (ARPA, UUCP, Berknet)

See mailaddr(7) for a description of network addresses.

mail has a number of options which can be set in the .mailrc file to alter its behavior; thus **set askcc** enables the *askcc* feature. (These options are summarized below.)

SUMMARY

(Adapted from the "Mail Reference Manual".)

Each command is typed on a line by itself, and may take arguments following the command word. The command need not be typed in its entirety -- the first command which matches the typed prefix is used. For commands which take message lists as arguments, if no message list is given, then the next message forward which satisfies the command's requirements is used. If there are no messages forward of the current message, the search proceeds backwards, and if there are no good messages at all, **mail** types "No applicable messages" and aborts the command.

–   Print out the preceding message. If given a numeric argument *n*, goes to the *n*th previous message and prints it.

=   Prints the currently selected message number.

?   Prints a brief summary of commands.

!   Executes the shell (see **sh**(1) and csh(1)) command which follows.

alias (**a**) With no arguments, prints out all currently defined aliases. With one argument, prints out that alias. With more than one argument, creates a new alias or changes an old one.

alternates
          (**alt**) The **alternates** command is useful if you have accounts on several machines. It can be used to inform **mail** that the listed addresses are really you. When you **reply** to messages, **mail** will not send a copy of the message to any of the addresses listed on the **alternates** list. If the **alternates** command is given with no argument, the current set of alternate names is displayed.

chdir (**cd** or **ch**) Changes the user's working directory to that specified, if given. If no directory is given, then changes to the user's login directory.

copy   (**c**) The **copy** command does the same thing that **save** does, except that it does not mark the messages it is used on for deletion when you quit.

delete
          (**d**) Takes a list of messages as argument and marks them all as deleted. Deleted messages will not be saved in *mbox*, nor will they be available for most other commands.

dp   (also **dt**) Deletes the current message and prints the next message. If there is no next message, **mail** says "No more messages."

edit   (**e**) Takes a list of messages and points the text editor at each one in turn. On return from the editor, the message is read back in.

exit   (**ex** or **x**) Effects an immediate return to the shell without modifying the user's system mailbox, his *mbox* file, or his edit file in **–f**.

file   (**fi**) The same as **folder**.

folder
          (**fo**) The **folder** command switches to a new mail file or folder. With no arguments, it tells you which file you are currently reading. If you give it an argument, it will write out changes (such as deletions) you have made in the current file and read in the new file. Some special conventions are recognized for the name. # means the previous file, % means your system mailbox, %user means user's system mailbox, & means your *mbox* file, and +folder means a file in your folder directory.

folders
          List the names of the folders in your folder directory.

from   (**f**) Takes a list of messages and prints their message headers.

headers
          (**h**) Lists the current windowful of headers. To view the next or previous group of headers, see the **z** command.

help   A synonym for **?**.

hold   (**ho**, also **preserve**) Takes a message list and marks each message therein to be saved in the user's system mailbox instead of in *mbox*. Does not override the **delete** command.

ignore
          Add the list of header fields named to the *ignored list*. Header fields in the ignore list are not printed on your terminal when you print a message. This command is very handy for suppression of certain machine-generated header fields. The **Type** and **Print** commands can be used to print a message in its entirety, including ignored fields. If **ignore** is executed with no arguments, it lists the current set of ignored fields.

inc   Incorporate any new messages that have arrived while mail is being read. The new messages are added to the end of the message list, and the current message is reset to be the first new mail message. This does not renumber the existing message list, nor does it cause any changes made so far to be saved.

list   (**l**) List the valid **mail** commands.

mail   (**m**) Takes as argument login names and distribution group names and sends mail to those people.

mbox   Indicate that a list of messages be sent to *mbox* in your home directory when you quit. This is the default action for messages if you do *not* have the **hold** option set.

more   (**mo**) Takes a message list and invokes the pager on that list.

next   (**n**) (like **+** or CR) Goes to the next message in sequence and types it. With an argument list, types the next matching message.

preserve
          (**pre**) A synonym for **hold**.

Print   (**P**) Like **print** but also prints out ignored header fields. See also **print**, **ignore**, and **retain**.

print   (**p**) Takes a message list and types out each message on the user's terminal.

quit   (**q**) Terminates the session, saving all undeleted, unsaved messages in the user's *mbox* file in his login directory, preserving all messages marked with **hold** or **preserve** or never referenced in his system mailbox, and removing all other messages from his system mailbox. If new mail has arrived during the session, the message "You have new mail" is given. If given while editing a mailbox file with the **−f** flag, then the edit file is rewritten. A return to the shell is effected, unless the rewrite of edit file fails, in which case the user can escape with the **exit** command.

Reply   (**R**) Reply to originator. Does not reply to other recipients of the original message.

reply   (**r**) Takes a message list and sends mail to the sender and all recipients of the specified message. The default message must not be deleted.

respond
          A synonym for **reply**.

retain
          Add the list of header fields named to the *retained list*. Only the header fields in the retain list are shown on your terminal when you print a message. All other header fields are suppressed. The **Type** and **Print** commands can be used to print a message in its entirety. If **retain** is executed with no arguments, it lists the current set of retained fields.

save (**s**) Takes a message list and a filename and appends each message in turn to the end of the file. The filename in quotes, followed by the line count and character count is echoed on the user's terminal.

saveignore

> **saveignore** is to **save** what **ignore** is to **print** and **type**. Header fields thus marked are filtered out when saving a message by **save** or when automatically saving to *mbox*.

saveretain

> **saveretain** is to **save** what **retain** is to **print** and **type**. Header fields thus marked are the only ones saved with a message when saving by **save** or when automatically saving to *mbox*. **saveretain** overrides **saveignore**.

set (**se**) With no arguments, prints all variable values. Otherwise, sets option. Arguments are of the form *option=value* (no space before or after =) or *option*. Quotation marks may be placed around any part of the assignment statement to quote blanks or tabs, i.e., **set indentprefix="->"**.

shell (**sh**) Invokes an interactive version of the shell.

size Takes a message list and prints out the size in characters of each message.

source

> The **source** command reads commands from a file.

top Takes a message list and prints the top few lines of each. The number of lines printed is controlled by the variable **toplines** and defaults to five.

Type (**T**) Identical to the **Print** command.

type (**t**) A synonym for **print**.

unalias

> Takes a list of names defined by **alias** commands and discards the remembered groups of users. The group names no longer have any significance.

undelete

> (**u**) Takes a message list and marks each message as not being deleted.

unread

> (**U**) Takes a message list and marks each message as not having been read.

unset Takes a list of option names and discards their remembered values; the inverse of **set**.

visual

> (**v**) Takes a message list and invokes the display editor on each message.

write (**w**) Similar to **save**, except that **only** the message body (without the header) is saved. Extremely useful for such tasks as sending and receiving source program text over the message system.

xit (**x**) A synonym for **exit**.

z **mail** presents message headers in windowfuls as described under the **headers** command. You can move **mail**'s attention forward to the next window with the **z** command. Also, you can move to the previous window by using **z-**.

Tilde/escapes

Here is a summary of the tilde escapes, which are used when composing messages to perform special functions. Tilde escapes are only recognized at the beginning of lines. The name "tilde escape" is

somewhat of a misnomer since the actual escape character can be set by the option **escape**.

~b*name* **. . .**
>   Add the given names to the list of carbon copy recipients but do not make the names visible in the Cc: line (blind carbon copy).

~c*name* **. . .**
>   Add the given names to the list of carbon copy recipients.

~d   Read the file `dead.letter` from your home directory into the message.

~e   Invoke the text editor on the message collected so far. After the editing session is finished, you may continue appending text to the message.

~F*messages*
>   Identical to **~f**, except all message headers are included.

~f*messages*
>   Read the named messages into the message being sent. If no messages are specified, read in the current message. Message headers currently being ignored (by the **ignore** or **retain** command) are not included.

~h   Edit the message header fields by typing each one in turn and allowing the user to append text to the end or modify the field by using the current terminal erase and kill characters.

~M*messages*
>   Identical to **~m**, except all message headers are included.

~m*messages*
>   Read the named messages into the message being sent, indented by a tab or by the value of *indentprefix*. If no messages are specified, read the current message. Message headers currently being ignored (by the **ignore** or **retain** command) are not included.

~p   Print out the message collected so far, prefaced by the message header fields.

~q   Abort the message being sent, copying the message to `dead.letter` in your home directory if **save** is set.

~R*string*
>   Use *string* as the Reply-To field.

~r*filename*
~<*filename*
>   Read the named file into the message.

~s*string*
>   Cause the named string to become the current subject field.

~t*name* **. . .**
>   Add the given names to the direct recipient list.

~v   Invoke an alternate editor (defined by the `VISUAL` option) on the message collected so far. Usually, the alternate editor will be a screen editor. After you quit the editor, you may resume appending text to the end of your message.

~w*filename*
>   Write the message onto the named file.

~x   Abort the message being sent. No message is copied to `/dead.letter`, even if **save** is set.

~?   Prints a brief summary of tilde escapes.

~! *command*

       Execute the indicated shell command, then return to the message.

~| *command*

       Pipe the message through the command as a filter. If the command gives no output or terminates abnormally, retain the original text of the message. The command `fmt(1)` is often used as **command** to rejustify the message.

~: *mail-command*
~_ *mail-command*

       Execute the given mail command. Not all commands, however, are allowed.

~~ *string*

       Insert the string of text in the message prefaced by a single ˜. If you have changed the escape character, then you should double that character in order to send it.

~.   Simulate end of file on input.

Mail options

Options are controlled via **set** and **unset** commands. Options may be either binary, in which case it is only significant to see whether they are set or not; or string, in which case the actual value is of interest. The binary options include the following:

append   Causes messages saved in *mbox* to be appended to the end rather than prepended. This should always be set (perhaps in `/etc/mail.rc`).

ask, *asksub*

       Causes **mail** to prompt you for the subject of each message you send. If you respond with simply a newline, no subject field will be sent.

askbcc   Causes you to be prompted for additional blind carbon copy recipients at the end of each message. Responding with a newline indicates your satisfaction with the current list.

askcc   Causes you to be prompted for additional carbon copy recipients at the end of each message. Responding with a newline indicates your satisfaction with the current list.

autoinc

       Causes new mail to be automatically incorporated when it arrives. Setting this is similar to issuing the **inc** command at each prompt, except that the current message is not reset when new mail arrives.

autoprint

       Causes the **delete** command to behave like **dp**; thus, after deleting a message, the next one will be typed automatically.

debug   Setting the binary option *debug* is the same as specifying **−d** on the command line and causes **mail** to output all sorts of information useful for debugging **mail**.

dot   The binary option *dot* causes **mail** to interpret a period alone on a line as the terminator of a message you are sending.

expandaddr

       Causes **mail** to expand message recipient addresses, as explained in the section Recipient address specifications.

from   Causes **mail** to use the specified sender address in the "From:" field of the message header. A stripped down version of the address is also used in the message envelope. If unset, the message will not include an explicit sender address and a default value will be added by the MTA, typically "user@host". This value can be overridden by specifying the **−r** flag on the command line.

hold   This option is used to hold messages in the system mailbox by default.

ignore Causes interrupt signals from your terminal to be ignored and echoed as @'s.

ignoreeof

An option related to *dot* is *ignoreeof* which makes **mail** refuse to accept a control-D as the end of a message. *ignoreeof* also applies to **mail** command mode.

keep   Setting this option causes **mail** to truncate your system mailbox instead of deleting it when it's empty.

keepsave

Messages saved with the **save** command are not normally saved in *mbox* at quit time. Use this option to retain those messages.

metoo Usually, when a group is expanded that contains the sender, the sender is removed from the expansion. Setting this option causes the sender to be included in the group.

noheader

Setting the option *noheader* is the same as giving the **−N** flag on the command line.

nosave Normally, when you abort a message with two interrupt characters (usually control-C), **mail** copies the partial letter to the file `dead.letter` in your home directory. Setting the binary option *nosave* prevents this.

quiet Suppresses the printing of the version when first invoked.

Replyall

Reverses the sense of **reply** and **Reply** commands.

searchheaders

If this option is set, then a message-list specifier in the form "/x:y" will expand to all messages containing the substring 'y' in the header field 'x'. The string search is case insensitive. If 'x' is omitted, it will default to the "Subject" header field. The form "/to:y" is a special case, and will expand to all messages containing the substring 'y' in the "To", "Cc" or "Bcc" header fields. The check for "to" is case sensitive, so that "/To:y" can be used to limit the search for 'y' to just the "To:" field.

skipempty

Don't send messages with an empty body.

verbose

Setting the option *verbose* is the same as using the **−v** flag on the command line. When **mail** runs in verbose mode, the actual delivery of messages is displayed on the user's terminal.

Option string values

EDITOR   Pathname of the text editor to use in the **edit** command and **~e** escape. If not defined, `/usr/bin/ex` is used.

LISTER   Pathname of the directory lister to use in the **folders** command. Default is `/bin/ls`.

MBOX	The name of the *mbox* file. It can be the name of a folder. The default is "mbox" in the user's home directory.
PAGER	Pathname of the program to use in the **more** command or when the *crt* variable is set. The default paginator more(1) is used if this option is not defined.
REPLYTO	If set, will be used to initialize the Reply-To field for outgoing messages.
SHELL	Pathname of the shell to use in the **!** command and the **~!** escape. A default shell is used if this option is not defined.
TMPDIR	Directory in which temporary files are stored.
VISUAL	Pathname of the text editor to use in the **visual** command and **~v** escape. If not defined, /usr/bin/vi is used.
crt	The valued option *crt* is used as a threshold to determine how long a message must be before PAGER is used to read it. If *crt* is set without a value, then the height of the terminal screen stored in the system is used to compute the threshold (see . -- stty(1))
escape	If defined, the first character of this option gives the character to use in the place of ~ to denote escapes.
folder	The name of the directory to use for storing folders of messages. If this name begins with a '/', **mail** considers it to be an absolute pathname; otherwise, the folder directory is found relative to your home directory.
indentprefix	String used by the **~m** tilde escape for indenting messages, in place of the normal tab character ('^I'). Be sure to quote the value if it contains spaces or tabs.
record	If defined, gives the pathname of the file used to record all outgoing mail. If not defined, then outgoing mail is not so saved.
screen	Size of window of message headers for **z**.
sendmail	Pathname to an alternative mail delivery system.
toplines	If defined, gives the number of lines of a message to be printed out with the **top** command; normally, the first five lines are printed.

ENVIRONMENT

mail utilizes the HOME, LOGNAME, USER, SHELL, DEAD, PAGER, LISTER, EDITOR, VISUAL, REPLYTO, MAIL, MAILRC, and MBOX environment variables.

If the MAIL environment variable is set, its value is used as the path to the user's mail spool.

FILES

/var/mail/*	post office (unless overridden by the MAIL environment variable)
˜/mbox	user's old mail
˜/.mailrc	file giving initial mail commands; can be overridden by setting the MAILRC environment variable
/tmp/R*	temporary files
/usr/share/bsd-mailx/mail.*help	help files

/etc/mail.rc   system initialization file

EXIT STATUS
The **mail** utility exits 0 on success, and >0 if an error occurs.

SEE ALSO
fmt(1), newaliases(1), vacation(1), aliases(5), mailaddr(7), `mail.local`(8), newaliases(8), send-mail(8), `smtpd`(8)

STANDARDS
The **mailx** utility is compliant with the IEEE Std 1003.1-2008 ("POSIX.1") specification.

The flags [**−iNnu**] are marked by IEEE Std 1003.1-2008 ("POSIX.1") as being optional.

The flags [**−eFH**] are marked by IEEE Std 1003.1-2008 ("POSIX.1") as being optional, and are not supported by this implementation of **mailx**.

The flags [**−abcdEIrv**] are extensions to the specification.

HISTORY
A **mail** command appeared in Version 3 AT&T UNIX. This man page is derived from the *Mail Reference Manual* originally written by Kurt Shoens.

BUGS
Usually, **Mail** and **mailx** are just links to **mail**, which can be confusing.