SalineOS-2.0 User Manual

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Welcome to the Saline Operating System (SalineOS) desktop environment. If you are running this from the DVD then you are in what is known as a "live environment". This will make no changes to your computer until you start the installation process; therefore, no changes made in this environment will be preserved for the next boot. This live DVD environment can be used as a recovery disk, a secure operating system for public computers, for evaluation of the operating system and finally, it can be used to install SalineOS to your hard drive, USB drive or solid state disk. Instructions for use are included below, including step by step installation instructions.

First, the desktop environment and pre-installed applications, by the numbers:

ON THE TOP PANEL

1. Applications menu: Pulls down a menu that displays all installed applications and allows you to launch them.

2. Thunar File Manager: Allows browsing all files on the local machine, and other machines on the network. Right clicking a file or folder in Thunar will display a menu with various actions, depending on the type of file selected.

3. Midori Menu: Allows you to create and manage menu entries for Midori. Each menu entry will launch its' own instance of Midori, complete with segregated cache and configuration files. This allows you to have separate browser options set for different web sites. This menu may also be used as a privacy tool, as any website you browse in one instance will not be seen by any other instance of Midori.

4. Mixer: A simple application to configure and adjust the system sound volume.

5. Network Manager: Used to configure and manage network and internet connections.

6. Clock: Displays the time and date.

7. Quit: Allows you to log out of the current user, suspend, hibernate, restart or shutdown the computer.

AND ON THE BOTTOM PANEL

8. Midori: A lightweight and flexible open source web browser. Midori includes a handful of open source extensions that can be enabled from the Preferences > Extensions tab. Adblock is enabled by default on SalineOS.

9. Icedove: Manages emails, blogs, news feeds and newsgroups.

10. Pidgin: A graphical instant messaging client capable of using multiple networks at once. Currently supported are: Facebook, AIM/ICQ, Yahoo!, MSN, IRC, Jabber/XMPP/Google Talk, Napster, Zephyr, Gadu-Gadu, Bonjour, Groupwise, Sametime, SILC, SIMPLE, QQ, MySpaceIM, and Mxit.

11. LibreOffice: A full-featured office productivity suite that provides a near drop-in replacement for Microsoft(R) Office.

12. Dictionary: Allows querying different dictionary services for words or phrases and shows the results.

13. Osmo: Personal organizer, which includes calendar, task manager and address book modules. It aims to be easy to use and configurable to meet the user's preferences.

14. Galculator: Full-featured scientific calculator.

15. Exaile: Music player and manager featuring, automatic fetching of album art, handling large libraries, lyrics fetching, artist/album information via Wikipedia, last.fm support, built-in shoutcast directory browser, tabbed playlists, blacklisting of tracks, equalizer and Ipod support.

16. Parole: a video player featuring playback of local media files, including videos with subtitle support, DVD/CD and live streams. It is also extensible via plug-ins.

17. Xfburn: Simple graphical tool for burning CDs and DVDs.

18. G.I.M.P: The GNU Image Manipulation Program: is a professional level image editor created by the GNU project. This program is capable of exporting files to most commonly used image formats. SalineOS includes an extensive set of pre-installed plug-ins making it a complete solution for image editing or creation projects.

19. Catfish: Lightweight and simple program for searching for files or folders.

20. Xfce Settings Manager: Permits adjusting and configuring several system preferences.

21. AutoUpdate: Allows installing software updates easily. This program will, prompt for your password, launch Synaptic, update the package cache and display all the updates for you to review if desired. To finish updating your machine, all you must do is hit Apply. AutoUpdate should be used as the sole method of updating the operating system and should be run at least once every 30 days.

22. Synaptic: Allows browsing and installing thousands of free applications. View available applications by category or quickly search by name or description. See which applications are already installed, and remove those no longer desired.

23. Terminal or Console: Presents a POSIX compatible command line, which should never have to be used without detailed instructions. If you would like to learn how to use this powerful tool there is a list of standard Linux commands at the bottom of this user manual.

24. Trash: Displays deleted files and folders and allows restoring them or permanently removing them.

OTHER INSTALLED APPLICATIONS

These applications are pre-installed in the system, but are not included in the default bottom panel icons. They can be accessed from the Applications menu (#1).

Cheese: For capturing video or still images from your webcam, it also allows applying digital effects to the webcam image.

XSane: A fast graphical scanning program for acquiring images from scanners.

Remastersys Backup: Will create a live backup image of your entire system including your personal files or create a distributable image that excludes personal files. This image can then be burned to a writable DVD with Xfburn or a USB drive by right clicking on it in Thunar and selecting "Burn" Image to USB. Please note that the information you backup will have to compress to less than four (4) gigabytes (GiB). This is roughly nine (9) uncompressed GiB on your hard drive. This tool is used to create the official SalineOS images.

Grub-Doctor: Used to restore the SalineOS boot loader. This will be required if you install an operating system that does not recognize Linux based operating systems (Most commonly Microsoft Windows). Grub-Doctor can be used to restore the boot loader of any non UEFI grub2 based Linux distribution.

SalineOS-Backup: This program can compress your system into a single file for restoration later, clone your system to a USB drive or clone your system to a separate partition. The easiest and recommended way to backup your system is to use one of the cloning functions, as these backups can be booted and used just like the original system and are far easier to use. If you require compressing the files on your system to make them smaller, you will have to generate a .backup file. In order to restore a .backup file you will need to, start the restoration from a live environment and ensure you don't select the partition the .backup file resides on for use as the root system. This partition will be formatted (Erased). The partition the .backup file is on can be used for /home, but you must select not to format it or the backup will fail and the file will be lost.

SOS Firewall: Designed to be an easy and painless front-end to the Linux firewall system iptables. By default all incoming connections will be silently dropped, and all outgoing connections will be allowed. SOS Firewall is meant for machines that will have only one network connection active at any given time, and where simplicity is more important than fine grained control. For more advanced use cases, it is advised to disable SOS Firewall and install the Firestarter firewall utility.

SOS Firewall will protect each and every physical network device, even if that device is not connected to the internet. Simply put, this means that it does matter to SOS Firewall what device is connected to the internet or if a device is connected at all, it will apply the same rules universally and automatically (Unless disabled).

Procurator: This program will allow you to create and manage virtual disks for use with KVM (Kernel Virtual Machine), which is included with SalineOS. Virtual machines allow you to run one operating system like a program within another. Virtual disks are specialized files, which can be mounted (Accessed), formated to various filesystems and installed to within a virtual machine. Procurator is a very simple program, with few features, solely meant to be used for creating, deleting and allowing you to use virtual disks easily with KVM.

In order to use KVM you must have a CPU or APU with virtualization support. You may also have to enable virtualization support in your computer's bios before using this utility. To boot an ISO file with access to any of the virtual disks, simply right click on the .iso from within Thunar and select Boot with KVM from the menu. Procurator will always launch KVM with access to a cdrom device if possible. If you select an ISO and launch Procurator through the custom action, then the .iso file will be mounted as a loop device and appear inside the virtual machine as /dev/cdrom under Linux and D: under Windows. If no .iso file is used, then procurator will allow your virtual machine access to the host systems cd/dvd drive if available. Within the running KVM window, your virtual disk will appear as /dev/sda under Linux, and as the C: drive in Windows.

SalineOS Utilities: Simple program for accomplishing common miscellaneous tasks. This program can: Change the system language, check for and install proprietary graphics drivers, import apt security keys (Required when adding new software sources to your machine), install the restricted multimedia codecs (The same the installer offers to do), install the Windows compatibility layer WINE with extras, install a traditional LAMP server stack, install and configure a local DNS service, set the time and date and resize the SalineOS swap file if used.

Deluge: Full featured bittorrent client.

INSTALLATION INSTRUCTIONS FOR SalineOS

> **Note**: If you have installed updates within the live environment you should reboot before attempting to install. Certain updates such as the kernel and Xorg could interfere with the installation process.

1. Double click the "Install To Disk" icon on the desktop.

2. The installer will first check to see if it has access to an active internet connection. This is not required for installation, but you will be unable to install additional language packages or restricted multimedia codecs without one. You can configure your internet connection by clicking the Network Manager icon in the upper right hand corner (#5 above). You can install the optional packages at any

time using the SalineOS Utilities, found under the Applications menu (#1 Above) > System.

3. If you wish to change the default language and keyboard from English, you may do so now. If a user manual is available in your language, it will be moved to the desktop and named User-Manual-YourLanguage.pdf and this document will be renamed User-Manual-English.pdf.

> **Note: The new language settings will not take full effect until after you reboot to the installed system. (After completing the installation).**

4. Your computer's storage space can be segmented for separate operating systems or purposes. These segments of storage space are called partitions. If you do not need any of the files and operating systems on a hard disk, solid state disk or USB drive then the installer can erase all data on one and automatically create these partitions for you. Using manual partitioning will allow you to preserve other operating systems and information on your selected disk. If using automatic partitioning you will skip steps five (5) through eleven (11), as they all pertain to manual partitioning of the hard disk. You will need a target disk with a minimum of ten (10) gigabytes in order to use automatic partitioning.

5. Select the drive to which you wish to install SalineOS, then press OK. They are listed by the amount of storage space on the device in megabytes (MiB) and gigabytes (GiB).

6. If you wish to resize an existing partition in order to preserve an already installed operating system or systems, right click on the partition you wish to resize and select Resize/Move. You should change the size of the partition so that the Free Space following the operation is at least 16,000-32,0000 MiB (This is only a recommend minimum; you only require 8,000 MiB of space). Click the green check mark to apply the resizing.

7. Next, we will create a root partition. Right click on unallocated space and select New. Create it as a Primary partition with an ext4 file system type. Ensure that it is at least 8,000 MiB, although a minimum of 16,000 MiB is highly recommended. Click Add. If the unallocated space is on an extended partition, then you must create it as a Logical Partition instead. More information follows directly below.
> **Note: You can only have a maximum of 4 primary partitions on your hard disk; however, you may have 3 primaries and 1 extended partition which can contain up to 15 (on SATA) or 63 (on IDE) logical partitions. If there are already 4 primary partitions you will have to restructure your hard disk partition system. If you have exactly three primary partitions, it is recommended to create an extended partition. (See paragraph below). If you already have 4 primary partitions you will need to do one of the following:**

* Delete a Primary & create an Extended Partition (Recommended)
* Format a Primary & install SalineOS. (Erases data on the partition)

If you need to delete a primary partition, simply right click on it and select Delete, then click the green check mark to apply. To create and use an extended partition for SalineOS, right click on an unallocated space, select Extended Partition from the drop down menu and click Add. Then you will need to right click on the unallocated space again and click New. Create as a Logical Partition, with ext4 file system type and click Add.

Note: If you wish to create a separate partition for /home you should do so now. Just follow the same steps, as above, for creating the root partition. This step is completely optional and not recommended.

Note: Rarely, a motherboard BIOS will require setting a boot flag on the root partition in order to boot the machine. You can set the boot flag by right clicking on the partition you created for root and selecting manage flags. Just check the box next to boot on the dialog and close. If you skip this step it probably won't matter, but if your machine fails to boot, you will have to use the live disk to set this flag.

8. Optionally, you can create a swap partition, by default the installer will create a swap file on the root partition, but can use a swap partition if one is available. To create a swap partition, right click on unallocated space and select New. Create as a Primary or as a Logical Partition, set file system type to linux-swap and set the size as desired (Recommended 2000 to 3000 MiB), and click on Add.

Note: If you have very limited space and are only allocating 8,000 MiB for the install, then set this to something smaller (Such as 256 or 512). Also note, that if you already have a linux-swap partition you may omit this entire step. The system will find and allow you to use existing swap. If you intend to use the "Hibernate" function you should setup a dedicated swap partition for SalineOS, instead of using existing swap.

Note: If you use the default swap file, all attempts to use the Hibernate sleep function will be diverted to Suspend automatically.

9. Click on the green check mark and click Apply on the pop-up dialog. Close GParted when it has completed. The installer will now continue.

10. Select the root partition you created in earlier steps, and press "Use Selected".

11. Select the desired size of the SalineOS swap file (Recommended 2048) and press "Continue using swap file", or click "Use Swap Partition" to use an existing swap partition.

12. If a valid partition or partitions are detected, the installer will offer a list of the partition(s) for use as /home. Unless you wish to use a separate home partition, created above or a pre-existing partition, select "Put /home on the root partition" and ignore the note below.

Note: If you are using a home partition shared with another Linux

distribution you MUST NOT use the same user name as the other distribution. If you do then your system will most likely break requiring a re-installation of both operating systems.

You will also be asked whether you wish to format the selected partition (Erase all data) or not.

13. Enter the needed information to create an initial user. This user's password will be required for administrative tasks, like installing software, installing updates and modifying system files.

14. Enter a hostname. If this is on your home network you may enter anything you wish here, just ensure it does not contain numbers, spaces or special charecters such as ~!@#$%^&*()_+={}[]'.

15. The installer will prompt you for information regarding your geographical location and time zone. Select the correct response and press OK.

16. The installer will prompt for where to install grub. If installing to a desktop/laptop hard disk or solid state disk, you should choose the MBR of the disk that is listed as the first to boot in your computer's bios. For almost all setups this is /dev/sda. If installing to a USB key you should choose the MBR of the USB key.

17. The installer will offer to install plug-ins for decoding potentially patent encumbered encoded multimedia formats. If your machine came pre-loaded with Microsoft Windows or Mac OS X you should already have a license for these codecs. If you need to purchase licenses for the patents related to multimedia decoding, you can find them for sale at *http://www.fluendo.com*. SalineOS will fail to decode many multimedia formats until these plug-ins are installed. These codecs can be installed at any time from the SalineOS Utilities, found under Applications Menu (#1 Above) > System.

18. The installer will now display all the options you have selected and allow you to change them now. Please carefully review this information before continuing. To change any of the options, simply highlight the option and click "Change Selected". You will be returned to this screen after making your desired modification. Click "Run Installation" when you are satisfied with your selections.

19. The installer will now install the system and prompt you to reboot when finished. You may reboot now or continue to use the live environment. Remember that no changes will be saved on the DVD or installed system.

POST INSTALLATION SETUP (For the installed system)

CONFIGURE A PRINTER ATTACHED TO YOUR MACHINE

1. Go to the Applications Menu > System > Printing

2. If your printer is displayed in this box then just right click on it and ensure it is enabled.

3. If your printer is not found automatically, open the drop down menu on the left by the + sign and click printer.

4. Select the devices location on the left hand side and click forward.

5. The printing setup program will now let you set some parameters and select the manufacturer and model of your printer. Just follow the steps as prompted on screen.

MANAGING SOFTWARE AND UPDATES

There are many ways to install and remove software and install updates when using any Linux system. This section will go over the most commonly used and recommended way to handle software installation, removal and updates.

INSTALL OR REMOVE SOFTWARE USING SYNAPTIC

Synaptic is a graphical package management program that handles standard Debian .deb binary packages. It will allow you to download packages from a specially built website or FTP server (Called a repository) and install them for you. This is the most common and recommended way to install or remove software on SalineOS. In order to install or remove software using Synaptic:

1. Open Synaptic from the bottom panel and input your password when prompted.

2. Click Reload, this will download and archive a list of available packages from the repositories you have enabled.

3. Find the application(s) you want to install or remove. You can use the quick search box on the upper right hand corner or browse by category using the list on the left hand side. Packages that are installed will have a green box under the S column, packages that are available but not installed will have a white box.

4. Right click on the application/package you wish to install or remove and press Mark for Installation to install or Mark for Complete Removal to remove. You can mark as many packages you like.

5. Press the Apply button to install and remove marked packages.

MANUAL INSTALL OF DEBIAN .deb FILES

Some applications will be available only on the creators web page instead of being distributed via repository. There will usually be a link for Debian or Debian Squeeze, this is the link you will wish to use.
> **Note: Please do NOT install .deb files compiled for the Ubuntu operating system.**

To install a .deb file you downloaded from the internet, simply double click on the .deb file and input your password when prompted. GDebi will attempt to satisfy the dependencies (Programs or libraries that other programs need to function) using packages available in the repositories.

INSTALLATION OF APPLICATIONS IN .sh OR .run FORMAT

Some programs, most notably commercial games are distributed in executable shell scripts ending in the extension .sh or .run. In order to install software in the .sh or .run formats you will first have to ensure the script is marked as executable. To do this right click on the file in Thunar and select "Mark as Executable". You may now double-click on the file in order to install it.

INSTALLATION OR REMOVAL OF SOFTWARE
USING THE COMMAND LINE

1. Open the Terminal from the icon on the bottom panel.

2. Issue the command `su` and input your root password when prompted. This will run all future commands in this Terminal session as the system administrator.

3. Input the command `saline-get update` this will download and archive a list of available packages from the repositories you have enabled.

4. Use the command `saline-get install package-name` to install an applications/package. To remove an application/package issue the command `saline-get purge package-name`. Obviously replacing package-name with the actual package you wish to install or remove.

Saline-Get is a wrapper for apt-get, therefore, it takes the same input as apt-get. For a complete manual on the options that saline-get will accept, you should read the aptitude manual page. The command `man apt-get` will open the man page in your terminal window.

Although there are other command line utilities pre-installed for use on SalineOS, it is highly recommended to use saline-get. Unlike other command line utilities, saline-get will use a GTK based graphical user

interface if a package you are installing requires user interaction.

UPDATES AND NEW VERSIONS

The Software Update button on the bottom panel will, prompt for your password, launch Synaptic, update the package cache and display all the updates for you to review if desired. To finish updating your machine, all you must do is hit Apply. AutoUpdate should be used as the sole method of updating the operating system and should be run at least once every 30 days.

New builds of the SalineOS ISO may be released to incorporate changes and save people from having to download all updates since the last image build; however, major versions of SalineOS will only be released near the release of a new Debian Stable. There is no set release date. New versions will be made available after the software has undergone a long and thorough testing period.

A script will be available from **http://www.salineos.com** to attempt to upgrade to the newest version automatically; however, it is recommended that you backup your data and download the updated ISO image and install a fresh copy of the new version of SalineOS to your hard drive.

The next major release of SalineOS will be 3.0, and will be based on Debian 8.0 "Jessie".

TIPS AND TRICKS

1. You can have your currently opened applications automatically reload when the computer comes back up after a shutdown or restart, by clicking the check-box "Save session for future logins" on the Quit dialog.

2. The command `sudo` or `gksudo` will allow you to run an application as the root user. The command sudo -i will give you a root terminal, that allows issuing multiple commands as root easily.

3. SalineOS 2.X is compatible with all software packages built for Debian 7.0 "Wheezy".

4. You can paste commands in the terminal by using the key combination, `Shift Insert` .

5. If you have any questions or issues you need addressed you can get answers and help at the SalineOS forums by clicking on this link: **http://www.salinelinux.proboards.com**

6. The key combination `Alt F11` will toggle fullscreen mode on

and off when using many of the included applications.

SalineOS is funded by donations that can be made using PayPal services to salinelinux@gmail.com. If you find this operating system useful please consider sending a small donation to help continue its development. Please note that SalineOS is not a registered non-profit organization and therefore donations are not tax deductible.

Notice:
The programs included with the SalineOS GNU/Linux system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.

SalineOS GNU/Linux comes with absolutely no warranty, to the extent permitted by applicable law.

Term	GLOSSARY of Standard GNU/Linux Commands
at	Execute commands at a specified time/date.
awk	A scripting language, especially useful for manipulating text and automation.
bash	Invokes the Bourne Again Shell, the standard shell for SalineOS.
batch	Execute commands when load permits.
bc	Interactive C-like calculator (integers only).
cal	Displays a calender, also lets you choose month/year using parameters.
cancel	Cancel print jobs in the CUPS printing server.
cat	Displays a file without scrolling ability. Simply dumps it to the standard output. Mostly useful so one application can use another's output as input. Also, useful for viewing the contents of small text files.

Term	GLOSSARY of Standard GNU/Linux Commands
cd	Change the current working directory.
chgrp	Change group ownership of a file.
chmod	Change access patterns (Permissions) to files.
chown	Change user ownership of files.
clear	Clear all text on the shell screen.
cmp	Compare two files.
cp	Copy a file or files.
cpio	Archive and extract files.
cron	Clock daemon (Executes "batch" and "at" commands).
crontab	Schedules commands at regular intervals.
crypt	Encrypt or decrypt files using altered DES, standard to Unix passwords.
cut	Cut selected fields from each line of file.
daemon	A program that runs as a background task or process. A daemon is a "Disk and Execution Monitor". Normally have names ending in "d", for example, syslogd, proftpd, etc.
date	Displays the time and date (Can set the time if ran as root).
dd	Convert and copy a file. Ex. $ dd if=input of=outputfile bs=4M
df	Reports information about used and open space on all mounted file systems.
diff	Compare two files.
diff3	Compare 3 or more files.

Term	GLOSSARY of Standard GNU/Linux Commands
`dircmp`	Compare two directories.
`du`	Report disk usage.
`echo`	Echo argument to standard output. Usually used to display instructions or information in the command line for the user.
`egrep`	Extended version of grep (Will search for extended regular expressions). (SEE: grep)
`expr`	Evaluate Boolean and arithmetic expression.
`false`	Return nonzero (False) exit status. This is not an error, 0 is true in the shell environment.
`fgrep`	Same as grep, only it interprets patterns as a list of fixed strings. (SEE: grep)
`find`	Find matching files and run specified programs on them if desired.
`ftp`	Stands for "File Transfer Protocol" a client for accessing FTP servers.
`grep`	Search files for regular expression matches. (SEE: egrep, fgrep)
`halt`	Shutdown the system, can only be used by root.
`head`	Display first 10 lines of a file. (SEE: tail)
`join`	Display the combination (Lines with command field) of two fields.
`kill`	Send a signal to kill or terminate a process.
`line`	Read a specific line out of a file (Useful for shell scripts).
`ln`	Create a link to a file/directory.
`logname`	Gets your login name. (SEE: whoami)

Term	GLOSSARY of Standard GNU/Linux Commands
lpstat	Report the printer status.
lpq	Does the same as lpstat.
ls	Lists the contents of directory.
mail	Send and receive mail.
man	Displays manual pages. For example, man mkdir will display the manual page for mkdir which includes more extensive information on the make directory command.
mesg	Grant or deny permissions to receive messages from other users using the write command.
mkdir	Create a new directory .
mknod	Build a special file.
more	Display a file, one page at a time.
mount	Mount a storage device.
mv	Move or rename a file.
nohup	Run a command after logout (Ignores hangup signals).
nslookup	Retrieve information from DNS servers.
passwd	Create or change login password.
paste	Merge lines of files.
pr	Format and print file.
ps	Reports status of active processes.
pstat	Report system status.

Term	GLOSSARY of Standard GNU/Linux Commands
pwcheck	Check /etc/passwd (Default) file.
pwd	Display current working directory.
rm	Remove (Erase) files or directories directly; bypasses the Trash.
rmdir	Remove an empty directory.
rsh	Invoke Restricted Bourne Shell.
sed	The stream editor.
set	Assign value to variable.
setenv	Assign value to environment variable.
sh	Invoke Bourne shell.
sleep	Suspend execution of a command for a given period.
sort	Sort and merge files.
spell	Find spelling errors.
split	Split 1 file into several smaller files.
su	Spawns a subshell with a different username, requires other user's password, unless you're root.
sum	Compute checksums and number of blocks for files.
tabs	Set tabs on a terminal.
tail	Display last 10 lines of file. (SEE: head)
tar	A simple compression tool to merge multiple files into one, originally used to archive file systems on backup tapes.

Term	GLOSSARY of Standard GNU/Linux Commands
tee	Create a tee in a pipe. Split the output of a program so that it can be seen on the display and also be saved in a file.
telnet	Access remote systems using the telnet protocol.
test	Test various expressions and files.
time	Display elapsed time (Execution, Process, and System Times) for a command.
touch	Change time/date stamps of files.
tr	Substitutes sets of characters.
true	Return 0 (True) exit status. Yes, true is 0 and false is 1, in the shell.
tset	Set terminal mode.
tty	Report a name of a terminal.
umask	Set file creation mode (Permissions) mask.
umount	Unmount a device.
uname	Display the name of the current system.
uniq	Report any duplicate line in a file.
units	Convert numbers from one unit to another.
unzip	Extract files from zip archive.
uptime	Report system activity.
vi	A screen oriented (Visual) text editor.
wall	Sends message to all users (Only by root).

Term	GLOSSARY of Standard GNU/Linux Commands
`wait`	**Await completion of background process.**
`wc`	**Count characters, lines, words or bytes in one or more files.**
`who`	**Report active users.**
`whoami`	**Which user you are logged in as at the moment. If you, for example, switch to a different user, *logname* will show the original user-name you logged in as, and *whoami* will show the current user.** **(SEE: *logname*)**
`write`	**Send a message for another user (SEE: mesg).**

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