

halt

COLLABORATORS

	<i>TITLE :</i> halt		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
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Chapter 1

halt

1.1 halt.library

Copyright
GNU General Public License
GNU Library General Public License
Warranty
Introduction
Function Reference
Related Software
Registration

1.2 Copyright

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To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>
```

```
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
```

```
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MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
```

```
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```

Also add information on how to contact you by electronic and paper mail.

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```
Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

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However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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 - b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
 - d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses
-

the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that

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- b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
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END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively

convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
```

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

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Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!

1.5 Introduction

halt.library allows to broadcast shutdown messages with

```
ShutdownStatus()
. The sm_Status field of a
ShutdownMessage
  contains one of the following values (defined in
  halt.h
):
```

```
SHUTDOWN_WARN
```

```
SHUTDOWN_INFO
```

```
SHUTDOWN_ABORT
```

```
SHUTDOWN_NOW
```

```
SHUTDOWN_UMOUNT
```

SHUTDOWN_HALT

Included with the library are the shutdown and sdwarn utilities ↔

Shutdown is a program like the UNIX shutdown command which sends regular shutdown messages through the halt.library and shuts down the machine after the given period (10 seconds by default). A running shutdown can be cancelled with the "-c" option or by sending a CTRL-C to the running shutdown. The sdwarn program is an example client for the halt.library which can be used to broadcast messages to other CLIs. One possible application is to "run sdwarn -c \$process" from the remote-login script of the AmiTCP telnet demon. When started with the "-c" option sdwarn monitors the CLI specified by the "-c" option and exits when the CLI has disappeared.
WARNING: This does not work when telnetd is exited with "q" from the "telnet> " prompt!

1.6 Function Reference

```
halt.library/Reboot ()  
halt.library/Unmount ()  
halt.library/AddShutdownPort ()  
halt.library/RemShutdownPort ()  
halt.library/ShutdownStatus ()  
halt.library/halt.h
```

1.7 Related Software

This list of programs which use halt.library will be continuously updated by amiga-dev@shw.com. It will also be available from <http://www.shw.com>. If you want your software to appear on the list send your registration to SHW Wabnitz (see Registration).

ShutUp 1.3.5 UPS Software

1.8 Registration

Registering halt.library is free of charge. Since the file ups. ↔
h
(defining struct UpsInfo) is subject to change registered developers
receive updates to this file (and other parts of halt.library).
Registered developers can also appear on the
Related Software
page.
Even if you're not interested in either we'd like to receive
a mail with a short description of your software (or an URL). Thanks.
Please fill in the
Registration Form
and send it to
SHW Wabnitz
.

1.9 Registration Form

author: _____ email: ↔

company: _____
address: _____
program description: _____

URL: _____
() Yes, please mention our product / my program
on the
Related Software
page.

1.10 SHW Wabnitz

SHW Wabnitz
Grabenstrasse 33
53225 Bonn
Germany

Tel: +49/(0)228/97289-0
Fax: +49/(0)228/97289-50
email: sales@shw.com (orders)
amiga-dev@shw.com (developer contact)
WWW: http://www.shw.com

1.11 ShutUp 1.3.5 UPS Software

ShutUp 1.3.5 is a UPS monitor program for uninterruptible power supplies which use the serial interface to send up to four different signals (CD, CTS, DSR & RI) but support no serial protocol. Since the serial.device does not support direct control of the DTR & RTS lines ShutUp only supports the standard serial hardware.

ShutUp uses halt.library to broadcast

```
SHUTDOWN_INFO
```

```
messages
```

and calls an ARExx script.

Company:

```
SHW Wabnitz
```

1.12 halt.library/SHUTDOWN_WARN

When this message is broadcasted the system is going down after a specified number of seconds. The sm_TimeLeft field of the shutdown message contains the number of seconds left until the filesystems are unmounted.

1.13 halt.library/SHUTDOWN_INFO

This message type is reserved for special information. The sm_Info field is currently either SDM_UPS_MONITOR or SDM_TIME_CHANGE. The SDM_UPS_MONITOR message is send by

```
UPS monitors
```

```
, which set
```

the sm_Extra field to struct UpsInfo * (defined in ups.h

```
).
```

1.14 halt.library/SHUTDOWN_ABORT

This message is send when the shutdown command receives a CTRL-C or a shutdown -c is started. Clients should not exit before they receive

```
SHUTDOWN_UMOUNT
```

```
, after which
```

the shutdown is irreversible.

1.15 halt.library/SHUTDOWN_NOW

This is the last warning before the filesystems are unmounted. Since a client can delay the shutdown by delaying the reply of a shutdown message it is possible to finish all disk activity when

```
SHUTDOWN_UMOUNT
    is received.
```

A better idea is to complete disk operations after replying to this message.

1.16 halt.library/SHUTDOWN_UMOUNT

A program might be able to perform disk operations after replying to this message due to a delay caused by other programs but this should not be attempted. Programs should either remove their shutdown port with

```
RemShutdownPort()
    before replying to this message
```

or avoid all attempts to access files after replying to this message; otherwise the

```
SHUTDOWN_HALT
    message might be delayed until the user
```

cancels a "Please insert volume xy" requester.

1.17 halt.library/SHUTDOWN_HALT

This message isn't of much use to most programs but UPS monitor programs might be able to turn off the lights at this point.

1.18 halt.library/Reboot()

NAME
Reboot

SYNOPSIS
Reboot(flags)
D1

void Reboot(int)

INPUTS
flags - 0 means reboot
1 means halt

NOTE

This function is usually called by the process controlling the shutdown (the shutdown command).

1.19 halt.library/Unmount()

NAME

Unmount

SYNOPSIS

```
success = Unmount(filesystem)
D0          D1
```

```
int Unmount(char *)
```

INPUTS

filesystem - the name of a specific filesystem to unmount or NULL to unmount all filesystems.

NOTE

This function is usually called by the process controlling the shutdown (the shutdown command).

Filesystems are identified by ACTION_IS_FILESYSTEM and are unmounted by ACTION_INHIBIT.

1.20 halt.library/AddShutdownPort()

NAME

AddShutdownPort

SYNOPSIS

```
success = AddShutdownPort(port)
D0          D1
```

```
int AddShutdownPort(struct MsgPort *)
```

INPUTS

port - A message port which will receive shutdown messages.

NOTE

Other processes might receive the same message after it has been replied by the current process; delaying a reply will delay the shutdown process.

The pr_WindowPtr field of a process calling AddShutdownPort() must be set to -1 because a process waiting for a requester could delay the shutdown undeterminedly.

BUGS

The mp_SigTask field of the message port must point to a process because the library verifies the pr_WindowPtr field.

SEE ALSO

halt.h

1.21 halt.library/RemShutdownPort()

NAME

RemShutdownPort

SYNOPSIS

```
success = RemShutdownPort (port)
D0                                     D1
```

```
int RemShutdownPort (struct MsgPort *)
```

INPUTS

port - A message port which has been passed to AddShutdownPort() before.

1.22 halt.library/ShutdownStatus()

NAME

ShutdownStatus

SYNOPSIS

```
success = ShutdownStatus (sm)
D0                                     D1
```

```
int ShutdownStatus (
    ShutdownMessage
    *)
```

INPUTS

sm - a shutdown message

NOTE

This function is usually called by the process controlling the shutdown (the shutdown command).

SEE ALSO

halt.h

1.23 halt.library/halt.h

```
#ifndef HALT_H
#define HALT_H
```

```
/* definitions for the sm_Status field:

    SHUTDOWN_WARN
        system might go down

    SHUTDOWN_INFO
        check sm_Info field

    SHUTDOWN_ABORT
        shutdown cancelled

    SHUTDOWN_NOW
        system is going down in a few seconds

    SHUTDOWN_UMOUNT
        accessing files is pointless from now on

    SHUTDOWN_HALT
        the system is down
e*/
#define SHUTDOWN_WARN    0x01
#define SHUTDOWN_INFO    0x02
#define SHUTDOWN_ABORT   0x04
#define SHUTDOWN_NOW     0x08
#define SHUTDOWN_UMOUNT  0x10
#define SHUTDOWN_HALT    0x20

/* definitions for the sm_Info field:
    SDMI_UPS_MONITOR: UPS monitor report (sm_Extra points to struct UpsInfo)
    SDMI_TIME_CHANGE: Shutdown has been speed up or delayed.
*/
#define SDMI_UPS_MONITOR 0x01
#define SDMI_TIME_CHANGE 0x02

/* definitions for the sm_Flags field (version 1.1):
    SDMF_ABORTABLE: set by master to allow clients to cancel the shutdown
    SDMF_CANCEL:    set by client to cancel shutdown
    SDMF_CTRL_C:    CTRL-C received, set together with SDMF_CANCEL
    SDMF_SIG_MASK:  A signal set in sm_Mask was received
*/
#define SDMF_ABORTABLE 0x01
#define SDMF_CANCEL    0x02
#define SDMF_CTRL_C    0x04
#define SDMF_SIG_MASK  0x08

typedef struct { /* version 2.0 */
    ULONG        sc_Mask;
    ULONG        sc_rMask;
    struct MsgPort *sc_Port;
    ULONG        sc_TimeOuts;
    struct List   sc_List;
    ULONG        sc_Reserved[8];
} ShutdownContext;

typedef struct {
    struct Message sm_Msg;
    ULONG         sm_Status;
}
```

```
ULONG          sm_TimeLeft;
ULONG          sm_Info;
void           *sm_Extra;
ULONG          sm_Flags; /* v1.1 */
ShutdownContext *sm_Context; /* v2.0 */
ULONG          sm_Reserved[2];
} ShutdownMessage;

typedef struct {
    struct MinNode  sn_MinNode;
    ShutdownMessage sn_Msg;
} ShutdownNode;

#endif /* HALT_H */
```
