NAME

hpd - HP LaserJet printer spooler daemon

USAGE

/usr/lib/hpd

DESCRIPTION

hpd is a daemon program that runs in the background and prints listings queued by the **hpr** command. **hpd** is run automatically by **hpr**. If there is no printing to do, or if another daemon is already running (indicated by the **dpid** file), **hpd** exits immediately. Otherwise, it searches the spool directory for control files of listings to print. These control files contain the names of files to print, the user name, banner pages, and files to be removed upon completion.

hpd does not print listings in any particular order. There is no prioritization of printing, neither by size nor by requester.

The **hpskip** command terminates or restarts the current hp printer listing.

FILES

/dev/hp	printer
/usr/spool/hpd	spool directory
/usr/spool/hpd/cf*	control files
/usr/spool/hpd/df*	data files
/usr/spool/hpd/dpid	lock and process id

SEE ALSO

init, **lpd**.

COHERENT Command Manual: **hp**, **hpr**, **hpskip**.

NAME

kermit - remote system communication and file transfer

USAGE

kermit c[**bel** *baud esc line*]
kermit r[**bdfhilt** *baud line*]
kermit s[**abdfhilmtx** *baud line*] *file* ...

DESCRIPTION

kermit allows the user to communicate with a remote computer system and to transfer files between the local and remote systems. **kermit** can transfer ASCII or binary files of any length in either direction. The two computers must be able to contact each other; for example, they might be connected by a serial line or by modems over a telephone line. The user must have login privileges on both systems and appropriate permissions in directories used for file transfer.

The **kermit** command line specifies a *mode*, followed without intervening spaces by optional *flags*, perhaps followed by additional arguments and *files*. The three possible *modes* are:

c Connect the two systems so they can communicate.
r Receive files from the other system.
s Send each *file* to the other system.

kermit normally uses a default communication line at a default baud rate; the defaults vary on different COHERENT systems. It normally strips leading directory information from the pathname of each *file* it sends and converts the name to upper case; it converts the file name to lower case when receiving. The following *flags* modify its normal behavior.

a Specify complete pathnames for sending and receiving files; used only with **s** mode. The **a** flag requires filenames in pairs: first the file to be sent, then the receiving file. For example, the command

```
kermit sa /usr/joe/stuff.c /usr/tom/src/thing.c
```

sends the file **/usr/joe/stuff.c** but specifies its name as **/usr/tom/src/thing.c** for the receiving system. The target directory must exist on the receiving system. The **a** flag implies the **f** and **x** flags described below.

b *baud* Set the baud rate to *baud*.

d Debug mode. Tells **kermit** to print messages (on the standard output, not the standard error) describing its actions.

e *esc* Change the escape character from the default '^' to the given *esc*; used only with **c** mode. The escape

character marks commands to **kermit c** while it is running, as described below.

f Suppress filename case conversion.

h Host mode. Tells **kermit** to use the same line for file transfer and for communication; used with either **r** or **s** mode on the remote system. When used with the **h** flag, **kermit** resets the line modes properly when it completes a file transfer. If the **h** flag is not used, it will probably leave the remote system line in raw no-echo mode.

i Image mode. Tells **kermit** to send a full eight bit byte for each character; this is necessary for transferring binary (non-ASCII) files. If the **i** flag is used when sending, it should also be used on the receiving system.

l *line* Use *line* for the connection between the two systems. For example, the command

kermit clb /dev/tty50 1200

tells **kermit** to use line **tty50** at 1200 baud instead of the default line and baud rate.

m MacIntosh mode. Necessary when sending files to an Apple MacIntosh; used only with **s** mode.

t Tymnet mode. Allows Tymnet to keep up with file transmission.

x Allows the specification of a complete pathname for the receiving file; used only with **s** mode. For example, the command

kermit sx mydir/stuff

sends the file **mydir/stuff** to **mydir/stuff** on the receiving system. The target directory must exist on the receiving system and the user must have write permission in it.

kermit c recognizes two escape sequences. The default escape character '^' can be changed with the **e** flag, as noted above.

^c Exit from **kermit** and break the connection between the two systems.

^s Suspend **kermit** on the host system but do not hang up the line.

Unlike some file transfer protocols, **kermit** requires that

the user invoke **kermit** on both the sending and receiving systems to transfer a file. As shown in the example below, the user normally uses **kermit c** to connect to the remote system, invokes **kermit** with the **h** flag in either send or receive mode on the remote system, types "^s" to suspend the local **kermit c**, and finally invokes **kermit** in receive or send mode on the local system.

The following example demonstrates the use of **kermit**. The example assumes the user is already logged in on the local system. The communication line is **/dev/al0** and runs at 300 baud. The user wants to transfer **locfile** to the remote system and **remfile** from the remote system. System names are in *italics* on the left, user input is in Roman, system responses are in **bold**, and remarks are in parentheses.

```
local   kermit clb /dev/al0 300 (connect to remote)
local   kermit: connected...    (type a carriage return)
remote  Coherent login:         (perform login procedure)
remote  kermit shi remfile      (send from remote)
remote  )8~_@X#T                (part of protocol, ignore)
remote  ^s                      (suspend local kermit)
local   kermit: suspended.
local   kermit rilb /dev/al0 300 (receive on local)
local   kermit: Receiving REMFILE as remfile
local   kermit: done.
local   kermit clb /dev/al0 300 (connect again)
remote  kermit rhi              (receive on remote)
remote  ^s                      (suspend local kermit)
local   kermit: suspended.
local   kermit silb /dev/al0 300 locfile (send from local)
local   kermit: Sending locfile as LOCFILE
local   kermit: done.
local   kermit clb /dev/al0 300 (connect again)
remote  <Ctrl-D>                (log off the remote system)
remote  Coherent login:
remote  ^c                      (disconnect local kermit)
local   kermit: disconnected.
```

SEE ALSO

"Kermit: A File-Transfer Protocol for Universities," *BYTE*, June 1984 pp. 255 ff., July 1984 pp. 143 ff.

DIAGNOSTICS

kermit may print the following error messages:
Aborting with following error from remote host:
problem on receiving system.
Bad line speed: illegal baud rate.
Cannot create *name*: receiving system cannot create *name*.
Cannot open file *name*: sending system cannot open *name*.
Cannot open *line*: wrong *line* number.
No line specified for connection: *line* argument missing.
Receive failed: file not received.
Send failed: file not sent.
Speed setting not implemented: incorrect baud rate.

Yes, I'm still here...: connect command repeated.

NOTES

If you type **kermit c** and get the message "kermit connected" but the remote system does not respond, check the line connecting the two systems and the ability of the remote system to accept a login on the line.

Always remember to log off the remote system when done; **kermit** will not do it for you. If you do not log off, the next person connecting to the remote system over the same line will be logged in as you.

The file transfer protocol uses small (96 character) checksummed packets, with ACK/NAK responses from the receiving system. The timeout period is five seconds and **kermit** does ten retries before it abandons an attempted file transfer.

The **kermit** protocol was developed at the Columbia University Center for Computing Activities.

Tymnet is a trademark of Tymshare, Inc.

NAME

lp - line printer driver

DESCRIPTION

/dev/lp is the line printer device driver for PC COHERENT. The driver is assigned major number 3.

/dev/lp tries LPT1 (port 0x3BC on the monochrome display board) and LPT2 (port 0x378 on the printer board) and uses the one selected at the time the system is configured. It uses a hybrid busy wait/timeout discipline.

The line printer driver allows cooked (minor number 0) or raw (minor number 1) character processing. Cooked processing processes the special characters **BS**, **HT**, **LF**, **FF**, and **CR** accordingly; raw processing simply passes them to **/dev/lp**.

FILES

/dev/lp

SEE ALSO

COHERENT Command Manual: **lpr**
COHERENT System Manual: **ascii**
PC COHERENT Command Manual: **epson**

NOTES

Earlier releases of PC COHERENT included two line printer drivers, a busy-wait driver **/dev/lpb** and an interrupt-driven driver **/dev/lpi**. Using **/dev/lpi** required a modification of the printer cable. However, the revisions of the monochrome display board cannot be run interrupt-driven even with the cable modification, so these drivers are no longer supported.

NAME

reboot - reboot system

USAGE

/etc/reboot

DESCRIPTION

/etc/reboot reboots a PC COHERENT system, just like typing **<Ctrl-Alt-Del>**. Only the superuser **root** can execute **reboot**.

To preserve the integrity of mounted file systems, type **sync** before rebooting. The only time the system should be rebooted without typing **sync** is after repairing a damaged file system, for example with **check -s**.

SEE ALSO

COHERENT Command Manual: **check**, **sync**

NAME

setclock - set system clock from AST board data

USAGE

setclock

DESCRIPTION

setclock sets the system clock from the clock on the AST board.

SEE ALSO

COHERENT Command Manual: **date**

NAME

ss - SASI hard disk driver

DESCRIPTION

/dev/ss* are device drivers for the Micronetworks hard disk with a SASI controller for a PC COHERENT system. Each driver is assigned major device number 7 and may be accessed as a block special device or a character special device.

The number of partitions on the drive depends on the size of the disk, which should be identified by switches or jumpers on the disk interface board. The following table summarizes the device file name, minor device number, partition start sector, partition sector size, and default use of each **ss** minor device supported by COHERENT.

ss0	0	0	4896	COHERENT root device
ss1	1	4896	4896	Unused
ss2	3	9792	9792	Unused

Prefixing an **r** to the name given above gives the name of the corresponding character device.

For a disk partition to be accessible from the COHERENT system, a device file must be present in directory **/dev** with the appropriate type, major and minor device numbers, and permissions. The **mknod** command creates a special file for a device. Unused partitions may be assigned to MS-DOS or other operating systems; they are not used by COHERENT except under user instructions.

The PC COHERENT distibution file system contains special files **/dev/ss0** and **/dev/ss1**. The root file system is on **/dev/ss0**. The 5 megabyte SASI disk contains one additional partition. To build a file system for it, use:

```
/etc/mkfs /dev/ss1 4896
```

The 10 megabyte SASI disk contains an additional partition:

```
/etc/mknod /dev/ss2 b 7 2
/etc/mkfs /dev/ss2 9792
```

FILES

/dev/ss*	block special files
/dev/rss*	character special files

SEE ALSO

hd

COHERENT Command Manual: **mkfs**, **mknod**

NOTES

The driver assumes the disk is formatted in 17 sectors of 512 bytes each per track. It increments heads before tracks when computing sector addresses.

Programs which use the raw device interface must read whole sectors into buffers which do not straddle DMA boundaries.

NAME

tc - Tecmar hard disk driver

DESCRIPTION

/dev/tc* are device drivers for the Tecmar hard disk of a PC COHERENT system. Each driver is assigned major device number 8 and may be accessed as a block special device or a character special device.

Both 5 and 10 megabyte drives are supported with Tecmar's Winchester 5/10 and Winchester SH interface boards. The driver as shipped supports a Seagate ST-506 or compatible disk drive. If the variable 'tc10meg' in the system data is set to a value of one, the driver will support a Seagate ST-412 or compatible disk drive.

The number of partitions on the drive depends on the size of the disk. The following table summarizes the device file name, minor device number, partition start sector, partition sector size, and default use of each tc minor device supported by COHERENT.

tc0	0	0	4896	COHERENT root device
tc1	1	4896	4896	Unused
tc2	2	9792	9292	Unused

Prefixing an r to the name given above gives the name of the corresponding character device.

For a disk partition to be accessible from the COHERENT system, a device file must be present in directory /dev with the appropriate type, major and minor device numbers, and permissions. The **mknod** command creates a special file for a device. Unused partitions may be assigned to MS-DOS or other operating systems; they are not used by COHERENT except under user instructions.

The PC COHERENT distibution file system contains special files /dev/tc0 and /dev/tc1. The root file system is on /dev/tc0. There is one additional partition. To build this system, use the following command:

```
/etc/mkfs /dev/tc1 4896
```

FILES

/dev/tc*	block special files
/dev/rtc*	character special files

SEE ALSO

hd

COHERENT Command Manual: **mkfs**, **mknod**

NOTES

The COHERENT installation procedure prompts for the size of the disk in Mbytes; the appropriate response is 5 or 10.

The Tecmar driver assumes a base port address of 0x0700.
The driver does not use interrupts or DMA transfers.

The Tecmar drive should be powered on before the PC.

NAME

trout - screen editor

USAGE

t [options][*file*]

DESCRIPTION

trout is a screen-oriented text editor. It provides the ability to enter, change, or delete text and write all or part of the text out to a file.

If **trout** is called with the name of an existing *file*, it will read the **file** into a buffer and let you edit it in the buffer. If the *file* does not exist, the buffer will be created with the name of the *file*, although the *file* will not be created until the buffer is written out to it.

The command line options for **trout** are:

-b*xxx* Use buffer *xxx*, with default **main**.

-c C mode. Preserves indentations for C programs.

-l For systems with small buffers.

-n Normal mode. Default editing mode, with no automatic indentation or automatic line breaks.

-s Differentiate between upper and lower case in searches.

-t Text mode. Do automatic line breaks if the end of a word is at or after the 70th column.

-# Where # is the number of lines in the screen. The default is 22.

Periodically, **trout** will automatically save your buffer in a file in the current working directory called **+tbuf.main**. This file is *not* deleted when you leave **trout**. To write the buffer into **+tbuf.main** manually, execute Ctrl-X Ctrl-S.

COMMAND SUMMARY

This is a summary of all the **trout** commands. The **Ctrl** commands require that you hold down the **<Ctrl>** (**<CONTROL>**) key while striking the other character key. The **Esc** commands require that you strike the **<Esc>** (**<ESCAPE>**) key *before* hitting the other character key.

The commands are listed alphabetically in three groups: the **Ctrl** commands, the **Ctrl-X** commands, and the **Esc** commands.

For more information, see the document *An introduction to trout*.

Ctrl-A	move to beginning of current line.
Ctrl-B	move backward one character.
Ctrl-C	not used.
Ctrl-D	delete current character.
Ctrl-E	move to end of current line.
Ctrl-F	move forward one character.
Ctrl-G	abort current command.
Ctrl-H	delete previous chracter.
Ctrl-I	insert tab.
Ctrl-K	kill to end of line.
Ctrl-L	refresh current screen.
Ctrl-N	move to next line.
Ctrl-O	open new line.
Ctrl-P	move to previous line.
Ctrl-Q	quote next character.
Ctrl-R	reverse search for string.
Ctrl-S	search forward for string.
Ctrl-T	transpose characters.
Ctrl-U	take numeric argument. If not number is given, default is 4.
Ctrl-V	move to beginning of next page.
Ctrl-W	kill between cursor and mark.
Ctrl-Y	un-kill last killed.
Ctrl-Z	forward search.
Ctrl->	set mark at end of buffer.
Ctrl-X !	escape to the shell.
Ctrl-X ^	increase number of lines in screen.
Ctrl-X (	start macro definition.
Ctrl-X)	end macro definition.
Ctrl-X B	select buffer.
Ctrl-X F	set line break column in text mode.
Ctrl-X K	kill a buffer.
Ctrl-X Q	ask for confirmation in a macro.
Ctrl-X Ctrl-B	list names of buffers.
Ctrl-X Ctrl-C	quit trout.
Ctrl-X Ctrl-F	find a file and make a buffer for it.
Ctrl-X Ctrl-I	insert file.
Ctrl-X Ctrl-L	make region lowercase.
Ctrl-X Ctrl-R	read new file.
Ctrl-X Ctrl-S	save file in **+tbuf.main**.
Ctrl-X Ctrl-U	maks region uppercase.
Ctrl-X Ctrl-V	finish editing current file, go to new file.
Ctrl-X Ctrl-W	write buffer to file.
Ctrl-X Ctrl-X	exchange cursor and mark.
Ctrl-X Ctrl-Z	write file and exit.
Esc %	query replace.
Esc %	query replace. Space=yes, Esc != all,
Esc <	move to beginning of buffer.
Esc >	move to end of buffer.
Esc @	set mark at cursor position.
Esc =	display size of file.
Esc B	move backward one word.
Esc C	capitalize word.

Esc D	kill forward one word from the cursor.
Esc F	move forward one word.
Esc H	kill previous word.
Esc I	inserts indentation equal to previous line.
Esc L	make next word lowercase.
Esc M	move cursor to line following indentation.
Esc Q	quote next character.
Esc R	reverse regular expression search.
Esc S	regular expression search.
Esc T	transpose words.
Esc U	make next word uppercase.
Esc V	move to beginning of previous page.
Esc W	copy region.
Esc X	set mode.
Esc Y	un-kill next most recently killed.

SEE ALSO

elle, *Using the trout screen editor.*

NAME

ttystat - get status of port

USAGE

ttystat *port*

DESCRIPTION

ttystat checks on the status of the specified asynchronous *port*, seeing if it is enabled as a dialup port.

port is specifed as **tty***nn*, whic is the name of the port as given in the directory **/dev**.

ttystat looks at the file **/etc/ttys** to get the status. If the return is a **1** then the port is enabled as a dialup port, if it is a **0** then the port is disabled. A return of **-2** means that the command had a serious error.

EXAMPLE

To check on the status of port **tty50**, enter

```
ttystat tty50; echo $?
```

FILES

/etc/ttys -port characteristics file

SEE ALSO

disable, enable

NAME

xt - built-in hard disk driver

DESCRIPTION

/dev/xt* are the device drivers for the built-in hard disks of a PC COHERENT system. Each driver is assigned major device number 11 and may be accessed as a block special device or a character special device.

The driver handles up to two disk drives, each of which may be a 5, 10, 15, or 25 megabyte disk. The minor device numbers 0 through 7 refer to partitions on drive 0, while minor device numbers 8 through 15 refer to partitions on drive 1. The number of partitions on each drive depends on the size of the disk, which should be identified by switches or jumpers on the disk interface board.

The following table summarizes the device file name, minor device number, partition start sector, partition sector size, and default use of each **xt** minor device supported by COHERENT.

xtx	0	0	1	Drive 0 boot record
xt0	1	1	5184	COHERENT root device
xt1	2	5185	5185	Unused
xt2	3	10370	10370	Unused
xt3	4	20740	10370	Unused
xt4	5	31110	10370	Unused
xt5	6	41480	9384	Unused
xt1x	8	0	1	Drive 1 boot record
xt10	9	1	5184	Unused
xt11	10	5185	5185	Unused
xt12	11	10370	10370	Unused
xt13	12	20740	10370	Unused
xt14	13	31110	10370	Unused
xt15	14	41480	10370	Unused

Prefixing an **r** to the name given above gives the name of the corresponding character device.

For a disk partition to be accessible from the COHERENT system, a device file must be present in directory **/dev** with the appropriate type, major and minor device numbers, and permissions. The **mknod** command creates a special file for a device. Unused partitions may be assigned to MS-DOS or other operating systems; they are not used by COHERENT except under user instructions.

The PC COHERENT distibution file system contains special files **/dev/xt0**, **/dev/xt1**, and **/dev/xt2**. The root file system is usually on **/dev/xt0**, but can be on another partition.

If you have a 5 megabyte hard disk, there is one additional partition. To build this file system, use the following command:

```
/etc/mkfs /dev/xt1 5185
```

A 10 megabyte hard disk has an additional partition:

```
/etc/mkfs /dev/xt2 10370
```

A 15 megabyte hard disk has another. You need to create a special file **/dev/xt3** for this file system and then build the file system for it:

```
/etc/mknod /dev/xt3 b 11 4
/etc/mkfs /dev/xt3 10370
```

A 25 megabyte hard disk has two more partitions:

```
/etc/mknod /dev/xt4 b 11 5
/etc/mkfs /dev/xt4 10370
/etc/mknod /dev/xt5 b 11 6
/etc/mkfs /dev/xt5 9384
```

/dev/xtx.

FILES

/dev/xt*	block special files
/dev/rxt*	character special files

SEE ALSO

hd

COHERENT Command Manual: **mkfs**, **mknod**

NOTES

The driver assumes the disk is formatted in 17 sectors of 512 bytes each per track. It increments heads before tracks when computing sector addresses.

Programs which use the raw device interface must read whole sectors into buffers which do not straddle DMA boundaries.

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User Reaction Report

To keep this manual and COHERENT free of bugs and facilitate future improvements, we would appreciate receiving your reactions. Please fill in the appropriate sections below, detach and mail to us. Thank you.

Mark Williams Company
1430 W. Wrightwood Avenue
Chicago, IL 60614

- -

Name:

Company:

Address:

Phone:

Date:

Version and hardware used:

Did you find any errors in the manual?

Can you suggest any improvements to the manual?

Did you find any bugs in the software? DOS

option t gives no contents
" 1 is default (single sided)

Can you suggest improvements or enhancements to the software?

Additional comments: