NAME

psi − convert and modify PCE sector image files

SYNOPSIS

psi *[options] [input-file] [options] [output-file]*

DESCRIPTION

psi(1) is used to modify and convert sector images files.

OPTIONS

-a, --alternate *alt1[-alt2]*
Select a range of alternate sectors.

-c, --cylinder *cyl1[-cyl2]*
Select a range of cylinders.

-e, --edit *what val*
For all selected sectors, set sector attribute *what* to *val*. For boolean attributes, a value of 0 disables the attribute and any other value enables it. Recognized attributes are:

c The cylinder number in the sector ID.

crc-id The ID field contains a CRC error.

crc-data
The data field contains a CRC error.

del-dam
The sector has a deleted data address mark.

data Initialize the sector data with *val*.

fm The sector uses IBM single density FM encoding.

gcr The sector uses Macintosh GCR encoding.

h The head number in the sector ID.

mfm The sector uses IBM double density MFM encoding.

mfm-hd
The sector uses IBM high density MFM encoding.

mfm-ed
The sector uses IBM extra high density MFM encoding.

no-dam
The sector has a missing data address mark.

position
The sector position in data bits from the start of the track.

round-time
If the sector read time is within *val*/100 percent of the normal value, round it to the normal value.

s The sector number in the sector ID.

size The sector size in bytes.

tags If *val* is zero, remove sector tags, otherwise add sector tags.

time The sector read time, in data bits.

-f, --info
Print information about the current image or the next image loaded.

-F, --filler *val*
Set the fill byte to *val*. The fill byte is used when sectors are created or enlarged.

-h, --head *head1[-head2]*
Select a range of heads.

-i, --input *filename*
Load an image from *filename*.

-I, --input-format *format*
Set the input file format to *format*. Valid formats are:

ana The anadisk dump format.

cp2 The Copy II PC / Snatchit disk image format. Support for this format is experimental. This format is only available as an input format.

dc42 The Apple Disk Copy 4.2 file format.

imd The ImageDisk file format.

msa The Magic Shadow Archive image file format.

pfdc The PFDC file format. This has been superseded by PSI.

psi The native PCE sector image file format.

raw A raw sector dump in CHS format.

raw-hcs
A raw sector dump in HCS format.

raw-hts
A raw sector dump in HCS format. Additionally, the order of tracks on odd heads is reversed.

st The same as raw, but the auto-detected disk geometries are the ones common on the Atari ST.

stx The Pasti STX file format. This format is only supported as an input format and some information will be lost because PSI does not preserve the track images that may be present in STX files.

tc Transcopy dump format. Support for this format is highly experimental. This format is only available as an input format.

td0 The teledisk file format. Only files that don't use advanced compression are supported.

xdf IBM XDF disk images.

-l, --list-tracks
List all tracks in the current image or in the next image loaded.

-L, --list-sectors
List all sectors in the current image or in the next image loaded.

-m, --merge *filename*
Load an image from *filename* and merge it with the current image. Sectors that are identical are discarded. Sectors that exist in only one image are retained. Sectors that exist in both images, but differ, are added as alternate sectors.

-n, --new-dos *size*
Create a new DOS image of size *size* KiB. Valid sizes are 160, 180, 200, 320, 360, 400, 640, 720, 800, 1200, 1440 and 2880.

-N, --new *type size*
Create a new image of type *type* and size *size*. Valid types are **dos** and **mac**. Valid sizes for mac images are 800 and 1600.

-o, --output *filename*
Set the output file name. Before exiting, the current image will be written to this file.

-O, --output-format *format*
Set the output file format to *format*. See the *-I* option for a list of valid formats.

-p, --operation *name [arg...]*
Perform an operation on the current image. Valid operations are:

comment-add *text*
Add *text* to the image comment.

comment-load *filename*
Load the image comment from file *filename*.

comment-print
Print the current image comment.

comment-save *filename*
Save the current image comment to *filename*.

comment-set *text*
Set the image comment to *text*.

delete Delete all selected sectors.

info Print information about the current image (same as **-f**).

interleave *n*
Set the sector interleave on all selected tracks to *n*.

load *filename*
Load the contents of all selected sectors from *filename*. The contents of the sectors are read sequentially from the file.

new Create all selected sectors, if they do not already exist.

regular *format*
Convert a disk image to a regular geometry. Sectors outside the specified geometry are removed and missing sectors are added. The format can be one of:

ibm160
IBM MFM 40/1/8

ibm180
IBM MFM 40/1/9

ibm320
IBM MFM 40/2/8

ibm360
IBM MFM 40/2/9

ibm400
IBM MFM 40/2/10

ibm720
IBM MFM 80/2/9

ibm800
IBM MFM 80/2/10

ibm1200
IBM MFM 80/2/15

ibm1440
IBM MFM 80/2/18

mac400
Macintosh GCR 400K single sided

mac800
Macintosh GCR 800K double sided

<c>/<h>/<s>
Any regular disk geometry

reorder *s1,s2,s3,...*
Reorder the sectors on all selected tracks. Sectors that are not mentioned in the parameter are moved to the end of the track.

rotate *first*
Rotate the sectors on all selected tracks such that *first* is the first sector on the track. If *first* does not exist on a track, the next higher sector will be rotated to the start of the track.

save *filename*
Save all selected sectors to *filename*. The contents of the sectors are written sequentially to the file.

sort Sort the sectors on all selected tracks in ascending order.

sort-reverse
Sort the sectors on all selected tracks in descending order.

tags-load *filename*
Load the sector tags for all selected sectors from *filename*. For each sector 12 bytes are read, in the order in which the sectors appear on the track.

tags-save *filename*
Save the sector tags for all selected sectors to *filename*. For each sector 12 bytes are written, in the order in which the sectors appear on the track.

weak-auto
Convert alternate sectors to weak bit masks. This operation compares all alternates of a sector. All bits that differ in any of them are set in the weak bit mask. The same mask is added to all alternate sectors. After this operation the alternate sectors can be deleted.

weak-clear
Clear the weak bit mask for all selected sectors.

weak-load *filename*
Load the weak bit mask of all selected sectors from *filename*.

weak-save *filename*
Save the weak bit mask of all selected sectors to *filename*.

-r, --record *cyl1[-cyl2] head1[-head2] sect1[-sect2]*
Select sectors. This is the same as using the **-c**, **-h** and **-s** options seperately.

-s, --sector *sect1[-sect2]*
Select a range of logical sectors.

-S, --real-sectors *sect1[-sect2]*
Select a range of physical sectors.

-t, --track *cyl1[-cyl2] head1[-head2]*
Select a range of tracks. This is equivalent to using the **-c** and the **-h** option.

-v, --verbose
Enable verbose operation.

-x, --invert
Invert the selection.

-z, --clear
Clear the selection.

--help Print usage information.

--version
Print version information.

EXAMPLES

Convert an ImageDisk file to a PSI file:

```
$ psi source.imd dest.psi
```

Get image information:

```
$ psi -f image.psi
```

Add sectors 10 and 11 to all tracks on side 0:

```
$ psi -i source.psi -r all 0 10-11 -p new -o dest.psi
```

Mark the first sector in the image as having a bad data CRC:

```
$ psi -i source.psi -r 0 0 1 -e crc-data 1 -o dest.psi
```

Set the image comment:

```
$ psi -i source.psi -p comment-set "Test image" -o dest.psi
```

SEE ALSO

pce-ibmpc(1), **pce-macplus**(1), **pce-img**(1)

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