

**NAME**

**pfi** – convert and modify PFI flux images

**SYNOPSIS**

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

**DESCRIPTION**

**pfi**(1) is used to modify and convert PFI flux image files.

**OPTIONS**

**-c, --cylinder** *cyl1*[-*cyl2*]

Select a range of cylinders. To select all cylinders, specify **all** as parameter.

**-f, --info**

Print information about the current image or the next image loaded.

**-h, --head** *head1*[-*head2*]

Select a range of heads. To select all heads, specify **all** as parameter.

**-i, --input** *filename*

Load an image from *filename*.

**-I, --input-format** *format*

Set the file format for the next input file. If this option is not used, the file format is detected automatically.

Valid formats are:

**a2r** Applesauce flux image

**pfi** The native PFI format

**scp** Supercard Pro flux image

**raw** Kryoflux raw stream

**-l, --list-short**

List all tracks in the current image, one line per track.

**-L, --list-long**

List all tracks in the current image, one line per revolution.

**-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. If this option is not used, the file format is determined by the output file name.

Valid formats are:

**a2r** AppleSauce flux image

**pfi** The native PFI format

**scp** Supercard Pro flux image

**-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*.

**decode** *type filename*

Decode the image and save it to *filename*.

Valid decode types are:

**pri** Save the decoded image as a PRI image.

**pri-mac**

This is synonymous with **pri-mac-500**.

**pri-mac-490**

Save the decoded image as a PRI image. This decode type also overrides the bitrate set with the **-r** option with the appropriate variable bitrates used by Macintosh double density disk drives at 489.6 kbit/s.

**pri-mac-500**

Save the decoded image as a PRI image. This decode type also overrides the bitrate set with the **-r** option with the appropriate variable bitrates used by Macintosh double density disk drives at 500 kbit/s.

**text** Save the decoded image in textual form.

**delete** Delete the selected tracks.

**double-step**

Remove odd numbered tracks.

**double-step-even**

Remove even numbered tracks.

**encode** *type filename*

Load an image from *filename* and encode it.

Valid encode types are:

**pri** Encode a PRI image

**text** Encode a textual representation of the image produced by decode text.

**info** Print information about the image.

**quantize** *rate*

Quantize all pulses to *rate*. After this operation all pulses are an exact multiple of *rate*.

**rectify** *rate*

Adjust all pulse widths to even multiples of *rate*. This may change the track lengths.

**revolutions** *rev1[-rev2]*

Extract revolutions *rev1* to *rev2* on all selected tracks. Revolutions not within the selected range are deleted.

**scale** *factor*

Multiply the pulse widths on all selected tracks by *factor*. This has the same effect as dividing the rotational speed by *factor*.

**set-clock** *clock*

Set the PFI clock rate to *clock* Hz. The clock rate can also be specified in kilohertz (with a **k** suffix) or megahertz (with a **M** suffix). It can also be one of these symbolic constants:

**a2r** 8000000 Hz

**kryoflux**  
24027428 Hz

**scp** 40000000 Hz

**set-rpm** *rpm*

Adjust the rotational speed of all selected tracks to *rpm* revolutions per minute by scaling the pulse widths by a constant factor.

**set-rpm-mac**

This is synonymous with **set-rpm-mac-500**.

**set-rpm-mac-490**

Adjust the rotational speed of all selected tracks to match a Macintosh variable speed drive at 489.6 kbit/s.

**set-rpm-mac-500**

Adjust the rotational speed of all selected tracks to match a Macintosh variable speed drive at 500 kbit/s.

**shift-index** *offset*

Add *offset* clock cycles to all index positions, thereby rotating the track data relative to the index.

**shift-index-us** *us*

Add *us* microseconds to all index positions.

**slack** *ms*

Limit the slack data before the first and after the last index to *ms* milliseconds.

**wpcom** Simulate write precompensation.**-r, --data-rate** *rate*

Set the bit rate that is used to decode the image. The default is 500000 bits per second.

**-R, --revolution** *rev*

Use revolution number *rev* when decoding. The first revolution is number 1.

**-s, --set** *par val*

Set parameter *par* to *val*.

**clock-tolerance** *val*

Set the clock tolerance in tenth of a percent. The default is 40. If during decoding the data rate changes by more than the tolerance, a clock event is recorded in the PRI file.

**fold-max** *bits*

When folding tracks, compare at most *bits* bits. The default is 16384.

**fold-mode** *mode*

Set the track fold mode to *mode*. Valid modes are:

**none** Fold the track at the index pulse.

**maxrun**

Fold the track at the bit position that results in the longest run of identical bits at the beginning of the two revolutions. This is the default mode.

**mindiff**

Fold the track at the bit position that results in the fewest differences between the two revolutions.

**pfi-clock**

Set the clock rate that is used to encode images. The default is 24027428.

**pfi-fold-compare** *size*

Set the pfi fold compare size in pulses. This specifies the number of pulses that are compared between two revolutions to find a better index position. The default is 2048.

**pfi-fold-revolution** *revolution*

Set the the revolution to fold. The default is to fold all revolutions.

**pfi-fold-right** *val*

If *val* is non-zero, instead of centering the compare interval on the compare positions, only values to the right of the compare positions are compared. The default is false.

**pfi-fold-window** *window-size*

Set the pfi fold window size in pulses. During track folding a better index position is looked for *window-size/2* pulses before and after the current index. The default is 1024.

**slack1** When extracting revolutions using the **revolutions** operation include this much slack space before the first index. The value is in milliseconds. The default is 10.

**slack2** The amount of slack space after the last index. The default is 10.

**slack** Set **slack1** and **slack2** to the same value.

**weak-bits** *val*

If *val* is non-zero enable weak bit detection when decoding to PRI.

**-t, --track** *c h*

Select a range of tracks. This is equivalent to "**-c c -h h**".

**-v, --verbose**

Enable verbose operation.

**-x, --invert**

Invert the track selection.

**-z, --clear**

Clear the track selection.

**--help** Print usage information.

**--version**

Print version information.

**SEE ALSO**

**pce-img(1)**, **pri(1)**, **psi(1)**

**AUTHOR**

Hampa Hug <hampa@hampa.ch>