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 apporpriate 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 apporpriate 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* miliseconds.

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 miliseconds. 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>