NAME

tonh — translate pitch-related representations to German pitch notation

SYNOPSIS

tonh [**-tx**] [*inputfile ...*] [> *outputfile.tnh*]

DESCRIPTION

The **tonh** command transforms various pitch-related inputs to the corresponding German system for designating pitches (Tonhöhe). It outputs one or more Humdrum `**Tonh` spines. German pitch designations are similar to the common A-G designations used by English speakers. The letter 'H' signifies the English 'B', whereas the letter 'B' signifies English 'B-flat'. Sharps and flats are indicated via the suffixes "is" and "es" respectively — hence 'Cis' for 'C#' and 'Ges' for 'Gb'. Special exceptions include 'Heses' for B double-flat rather than 'Bes', 'As' and 'Es' rather than 'Aes' or 'Ees', and 'S' as an alias for 'Es' (E-flat).

The **tonh** command is able to translate any of the pitch-related representations listed below. In each case, a tuning standard of A4 equals 440 hertz is assumed. For descriptions of the various input representations (including `**Tonh`) refer to Section 2 *(Representation Reference)* of this reference manual.

It is recommended that output files produced using the **tonh** command should be given names with the distinguishing '.tnh' extension.

`**cents`	hundredths of a semitone with respect to middle C=0
`**degree`	key-related scale degree
`**freq`	fundamental frequency (in hertz)
`**fret`	fretted-instrument pitch tablature
`**kern`	core pitch/duration representation
`**MIDI`	Music Instrument Digital Interface tablature
`**pitch`	American National Standards Institute pitch notation (e.g. "A#4")
`**semits`	equal-tempered semitones with respect to middle C=0 (e.g. 12 = C5)
`**solfg`	French solfège system (fixed 'doh')
`**specC`	spectral centroid (in hertz)

Input representations processed by **tonh**.

OPTIONS

The **tonh** command provides the following options:

-h displays a help screen summarizing the command syntax
-t suppresses printing of all but the first ~~n~~ot of a group of tied `**kern` notes
-x suppresses printing of non-Tonh data

Options are specified in the command line.

The **-t** option ensures that only a single output value is given for tied `**kern` notes; the output coincides with the first note of the tie.

In default operation, **tonh** outputs non-pitch-related signifiers in addition to the Tonhöhe value. For example, the `**pitch` token "Gb5zzz" will result in the output "Ges5zzz" — that is, after translating Gb5 to Ges5, the "zzz" signifiers are retained in the output. For some applications, echoing non-pitch-related signifiers in the output is useful. However, in other situations, the result can prove confusing — especially, when the non-pitch-related signifiers are numbers. Consider the case of the `**kern` token "8aa#"; after translating 'aa#' to Ais5, the non-pitch-related signifier '8' will also be output, hence the value 8Ais5 — which may cause confusion. Commands such as **pitch** and **tonh** treat the first number encountered in an input token as the octave designation. So further processing of this token may lead to it's interpretation as A#8 — or even A#85 — rather than A#5.

The **-x** option is useful for eliminating non-pitch-related signifiers from the output. For most `**kern` inputs, the **-x** option is recommended.

EXAMPLES

The following example illustrates the use of **tonh.** The input contains six pitch-related spines — two of which (`**degree` and `**cocho`) cannot be processed by **tonh.** In addition, there are two non-pitch-related spines (`**embell` and `**metpos`).

```
!! 'tonh' example.
**kern	**pitch	**MIDI	**deg	**metpos	**cocho	**degree	**embell
*M2/4	*M2/4	*M2/4	*M2/4	*M2/4	*M2/4	*M2/4	*M2/4
*	*	*	*	*	*	*d:	*
*	*	*	*	*tb8	*	*	*
=1	=1	=1	=1	=1	=1	=1	=1
8ee-	G#4foo	/60/bar	1foo	1	r	1/4	ct
.	.	/-60/	.	.	.	.	.
8ff	A3	/62/	2	3	9.89	2/4	upt
.	.	/-62/	.	.	.	.	.
8dd-	Ab3	/70/	1	2	7.07	3+/4	ct
.	.	/-70/	.	.	.	.	.
8d-	C#4	/61/	6	3	7.135	7/3	sus
.	.	/-61/	.	.	.	.	.
=2	=2	=2	=2	=2	=2	=2	=2
[4a-	r	.	5	1	r	r	.
.	.	.	7	3	5.5	1/4	ct
4a-]	D4	/48/ /52/	1	2	8.11	6+/4	ct
.	.	/-48/	.	.	.	.	.
.	D4 F4	/-52/	2	3	7.33 6.4	3/4 5/4	ct
=3	=3	=3	=3	=3	=3	=3	=3
r	G4	.	r	1	r	3/4 1/5	.
==	==	==	==	==	==	==	==
*-	*-	*-	*-	*-	*-	*-	*-
```

Executing the command

```
tonh -tx input > output
```

produces the following result:

```
!! 'tonh' example.
**Tonh    **Tonh    **Tonh    **deg     **metpos  **cocho   **Tonh    **embell
*M2/4     *M2/4     *M2/4     *M2/4     *M2/4     *M2/4     *M2/4     *M2/4
*         *         *         *         *         *         *d:       *
*         *         *         *         *tb8      *         *         *
=1        =1        =1        =1        =1        =1        =1        =1
Es5       Gis4      C4        1foo      1         r         D4        ct
.         .         .         .         .         .         .         .
F5        A3        D4        2         3         9.89      E4        upt
.         .         .         .         .         .         .         .
Des5      As3       B4        1         2         7.07      Fis4      ct
.         .         .         .         .         .         .         .
Des4      Cis4      Des4      6         3         7.135     Cis3      sus
.         .         .         .         .         .         .         .
=2        =2        =2        =2        =2        =2        =2        =2
As4       r         .         5         1         r         r         .
.         .         .         7         3         5.5       D4        ct
.         D4        C3 E3     1         2         8.11      H4        ct
.         .         .         .         .         .         .         .
.         D4 F4     .         2         3         7.33 6.4  F4 A4     ct
=3        =3        =3        =3        =3        =3        =3        =3
r         G4        .         r         1         r         F4 D5     .
===       ===       ===       ===       ===       ===       ===       ===
*-        *-        *-        *-        *-        *-        *-        *-
```

Both processed and unprocessed spines are output. Notice that the tied note at the beginning of measure 2 in the `**kern` spine has been rendered as a single note rather than as two notes (due to the **-t** option). Also notice that the non-pitch-related signifiers (e.g. foo) in the first notes of the `**pitch` and `**MIDI` spines have been stripped away (due to the **-x** option). In the case of the `**degree` input, **tonh** recognizes the spelling of various pitches in the context of the key of D minor. Hence, the raised third degree is Fis (F#), and the raised sixth degree is H (B natural).

FILES

The file `x_option.awk` is used by this program when the **-x** option is invoked.

PORTABILITY

DOS 2.0 and up, with the MKS Toolkit. OS/2 with the MKS Toolkit. UNIX systems supporting the *Korn* shell or *Bourne* shell command interpreters, and revised *awk* (1985).

SEE ALSO

****cents** (2), **cents** (4), ****degree** (2), **degree** (4), ****freq** (2), **freq** (4), ****fret** (2), **hint** (4), ****kern** (2), **kern** (4), ****MIDI** (2), **midi** (4), **mint** (4), ****pitch** (2), **pitch** (4), ****semits** (2), **semits** (4), ****solfg** (2), **solfg** (4), ****specC** (2) **specC** (4), ****Tonh** (2)