
REPRESENTATION

****freq** — frequency representation

DESCRIPTION

The ****freq** representation can be used to represent frequencies for pure or complex tones. ****freq** distinguishes three types of tokens: frequencies, rests, and barlines. Frequencies are encoded in hertz (Hz) where 440 Hz means 440 cycles per second. Frequencies may be specified as integer or real values (using a decimal). In addition, ****freq** provides limited capabilities for representing phrasing and slurs.

Barlines are represented using the “common system” for barlines — see **barlines** (2).

FILE TYPE

It is recommended that files containing predominantly ****freq** data should be given names with the distinguishing ‘.frq’ extension.

SIGNIFIERS

The following table summarizes the ****freq** mappings of signifiers and signifieds.

0-9	frequency (in hertz) specified as an integer or real value
r	rest
=	barline; == double barline
(slur start
)	slur end
{	phrase mark (start)
}	phrase mark (end)
;	pause sign

*Summary of ****freq** Signifiers*

EXAMPLES

A sample document is given below:

**freq	**freq
*pure	*complex
=1	=1
440	(440
440.9	.
880	440
263.	.
.	440)
=2	=2
r	r
==	==
*_	*_

Notice that frequencies can be either real or integer values. Rests are represented by the single letter 'r'.

PERTINENT COMMANDS

The following Humdrum commands accept ****freq** encoded data as inputs:

barks	translates **freq to **barks
cbr	translates **freq to **cbr
cents	translates **freq to **cents
cocho	translates **freq to **cocho
kern	translates **freq to **kern
pc	translates **freq to **pc
pitch	translates **freq to **pitch
semit	translate **freq to numerical **semit
solfg	translate **freq to numerical **solfg
specc	translate **freq to numerical **specC
tonh	translate **freq to numerical **Tonh
vox	determine active and inactive voices in a Humdrum file

The following Humdrum command produces ****freq** data as output:

freq	translates **cbr , **cents , **cocho , **freq , **fret , **kern , **MIDI , **pitch , **semit , **solfg , **specC , and **Tonh to **cents
-------------	---

TANDEM INTERPRETATIONS

The following tandem interpretations can be used in conjunction with ****freq**:

pure tones	*pure
complex tones	*complex
meter signatures	*M6/8
key signatures	*k[f#c#]
key	*c#:

*Tandem interpretations for **freq*

SEE ALSO

**barlines (2), **cbr (2), **cents (2), **coch (2), **degree (2), **kern (2), **pc (2),
 pitch (2), **semits (2), **specC (2), **Tonh (2)