

REPRESENTATION

****semits** — semitone absolute pitch representation

DESCRIPTION

The ****semits** representation is used to represent absolute pitch in semitone units with respect to middle C. Middle C is designated zero semitones. All other pitches are represented with respect to this reference, hence A4 is 9 semits and A3 is -3 semits. Fractional values can also be represented, hence 1.5 is midway between C#4 and D4.

Pitch tokens may be modified by the presence of additional signifiers. The open brace '{' denotes the beginning of a phrase. The closed brace '}' denotes the end of a phrase. The open parenthesis '(' denotes the beginning of a slur. The closed parenthesis ')' denotes the end of a slur. The semicolon ';' denotes a pause.

Rests tokens are denoted by the lower-case letter 'r'.

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

FILE TYPE

It is recommended that files containing predominantly ****semits** data should be given names with the distinguishing '.sem' extension.

SIGNIFIERS

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

0-9	decimal values
-	minus sign
+	plus sign (optional)
.	fractional delimiter; null token
r	rest
=	barline; == double barline
(slur start
)	slur end
{	phrase mark (start)
}	phrase mark (end)
;	pause sign

*Summary of ****semits** Signifiers*

EXAMPLES

The following sample document shows a ****kern** spine with corresponding ****semits** pitch values.

**semits	**kern
*M4/4	*M4/4
*c:	*c:
=	=
r	8r
12	16cc
11	16bn
12	8cc
14	8dd
5	16f
7	16g
8	4a-
7	16g
5	16f
=	=
4 7	1e 1g
==	==
*_	*_

PERTINENT COMMANDS

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

cents	translates **semits to **cents
freq	translates **semits to **freq
kern	translates **semits to **kern
melac	calculate melodic accent values for successive pitches
pc	translate **semits pitch to **pc
pitch	translate **semits pitch to **pitch
semits	change numerical precision of **semits values
solfg	translate **semits pitch to **solfg
tonh	translate **semits pitch to **Tonh
vox	determine active and inactive voices in a Humdrum file

The following Humdrum commands produce ****semits** data as outputs:

semits	translates **cents , **freq , **fret , **kern , **MIDI , **pitch , **semits , **solfg , **specC , **Tonh , to **semits
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TANDEM INTERPRETATIONS

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

MIDI channel	*Ch1
meter signatures	*M6/8
key signatures	*k[f#c#]
key	*c#:

*Tandem interpretations for **semits*

SEE ALSO

barlines (2), **cents (2), cents (4), **freq (2), freq (4), **fret (2), **kern (2), kern (4), **MIDI (2), midi (4), **pitch (2), pitch (4), semits (4), **solfg (2), solfg (4), **specC (2) specC (4), **Tonh (2), tonh (4)