REPRESENTATION

****dur** — duration (time-span) representation

DESCRIPTION

The ****dur** representation can be used to encode a sequence of time-spans or successive durations. Units may be seconds, minutes, hours, days, months, and/or years.

In the ****dur** representation, duration information is encoded according to the following basic syntax:

years/months/days/hours:minutes:seconds.decimal

Duration information may be encoded in full, or may consist of isolated elements or parts. The following table shows the most succinct ways of encoding single duration values within ****dur**:

`.11`	11 one-hundredths of a second
`11`	11 seconds
`11:`	11 minutes
`11::`	11 hours
`11/`	11 years
`/11`	11 months
`//11`	11 days

Examples of ****dur** *components*

Notice that if a single numerical value appears, it is interpreted as *seconds*. For example, the data token `32` represents a duration of 32 seconds. If a single value appears followed by a slash, it is interpreted as the number of *years*; if a single value appears followed by a colon, it is interpreted as the number of *minutes*. Days and hours require two leading or two trailing delimiters respectively. In general, abbreviated forms of ****dur** representations tend to favor the two extremes of durations: in seconds and in years.

The data token `1:15:10` represents a duration of one hour fifteen minutes and 10 seconds. It is also possible to encode such durations in seconds alone as in the equivalent — `4510`. If only a single colon is encountered, it is presumed to delineate minutes and seconds as in `5:33` (five minutes and 33 seconds).

The data token `53/` means an elapsed duration of 53 years, whereas `/9//` means a duration of 9 months. The data token `//730/` means 730 days.

The ****dur** representation provides a means for representing approximate durations. It also provides a means for representing uncertainty, as well as mechanisms for representing time

boundaries (prior to ...; after ...).

If a duration token is preceded by the tilde (~) signifier, the entire data token is taken to be *approximate*. Hence, the token `~1/` signifies a duration of about 1 year and the token `~3` means a duration of about 3 seconds.

If a duration token is preceded by the question mark (?), the duration is taken to be uncertain. Hence, the token `?3:` signifies a duration of perhaps 3 minutes.

The ****dur** representation does not support the 'x' and 'z' signifies used by related representations such as ****date** and ****Zeit.** However, ****dur** is able to represent shorter-than (<) and longer-than (>) indications. For example, the data token `<1:` means a duration of less than one minute.

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

FILE TYPE

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

SIGNIFIERS

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

0-9	decimal values
/	years-months, months-days and days-hours delimiter
:	hours-minutes and minutes-seconds delimiter
.	fractional second delimiter; null token
?	duration uncertain
~	duration approximate
<	duration shorter than
>	duration longer than
=	barlines
==	double barline

Summary of ****dur** *Signifiers*

EXAMPLES

A sample document is given below:

```
!! Gustav Holst
**dur
*M5/4
=1
.3
.3
.3
1
1.
0.5
0.5
1.0
=2
*-
```

PERTINENT COMMANDS

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

dur change canonical durations (`**recip`) to elapsed time in seconds

TANDEM INTERPRETATIONS

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

MIDI channel	`*Ch1`
meter signatures	`*M6/8`
tempo	`*MM96.3`
timebase	`*tb32`

Tandem interpretations for **dur

SEE ALSO

barlines (2), **date (2), **metpos (2), **ordo (2), **recip (2), **takt (2), **time (2), **Zeit (2)