NAME

record — record live MIDI input in Humdrum `**MIDI` data format

SYNOPSIS

record [**-i** *hex*] [**-q** *n*] [> *outputfile.hmd*]

DESCRIPTION

The **record** command captures a stream of input MIDI data and translates this data into a simple Humdrum `**MIDI` representation. Input MIDI data is obtained through a Roland MPU-401 (or compatible) interface — usually connected in turn to a MIDI synthesizer. The obtained `**MIDI` data can be manipulated using several Humdrum tools, or it can be played-back using the **perform** command.

Recording commences as soon as the command is invoked. Recording ceases when any ASCII key is pressed — with the exception of the space bar. Only MIDI key-press activity (including after-touch) information is recorded. MIDI system-exclusive instructions and other non-key-press data are not recorded.

Each MIDI channel is represented using a separate Humdrum spine. New spines are added automatically during the recording — in response to additional activity on new MIDI channels. Once a MIDI channel becomes active, the corresponding Humdrum spine continues to be output until the recording is terminated.

At any time during the recording process, pressing the space bar will insert a `**MIDI` barline data token in the output stream. Measure numbers are incremented automatically beginning with measure 1.

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

OPTIONS

The **record** command provides the following option:

-h displays a help screen summarizing the command syntax
-i *hex* assign MIDI interface input/output address to *hex*
-q *n* invokes quantizing using a temporal window of *n* clock ticks

Options are specified in the command line.

The **-q** option invokes a quantizing function where timing information is rounded-off to a specified level of resolution. This option may be used to eliminate expressive timing information and assist in producing a canonical duration representation. The degree of

quantizing is specified by the *n* argument to the **-q** option, where *n* represents the quantizing window in MIDI clock ticks. Recorded events occurring within this window are deemed to be simultaneous, and are recorded as Humdrum double-stops in the output.

The **-i** option is used to specify the input/output address of the MIDI card. The default address is '330.' The address is specified as a hexadecimal number.

SAMPLE OUTPUT

The following examples illustrate how **record** may be used. A simple command invocation is:

```
record
```

Output `**MIDI` data may appears as follows:

```
!! Data from the MPU-401 MIDI card.
**MIDI
*Ch1
236/67/64
12/-67/64
10/67/66
11/-67/64
13/67/51
12/-67/64
14/63/72
263/-63/64
84/65/61
15/-65/64
10/65/55
15/-65/64
11/65/51
23/-65/64
12/62/58
171/-62/64
*-
```

Using the quantizing option:

```
record -q 10
```

might produce output such as the following `**MIDI` data. Notice the frequent occurrence of multiple-stops (more than one note-instruction in the spine).

```
!! Data from the MPU-401 MIDI card.
!! Quantizing set at 10 clock ticks.
**MIDI
*Ch1
303/50/39
13/-50/64 13/74/55
23/76/43
15/-74/64 15/78/58 15/-76/64
22/69/35 22/-78/64 22/62/43
18/-62/64 18/78/43 18/-69/64
22/76/35
14/-78/64 14/74/58
15/-76/64 15/-74/64
12/81/48 12/54/77
17/-54/64 17/74/69 17/-81/64
23/76/48
19/78/66 19/-74/64 19/-76/64
21/62/43 21/69/69 21/-78/64
14/-62/64 14/78/51 14/-69/64
25/76/58
17/-78/64 17/74/74 17/-76/64
15/-74/64
*-
```

DIAGNOSTICS

The program is implemented as a four-state finite state machine.

PORTABILITY

DOS 2.0 and up, with a Roland MPU-401 or compatible MIDI interface.

SEE ALSO

cents (4), **encode** (4), **encode.rc** (5), **kern** (4), ****MIDI** (2), **midi** (4), **perform** (4), **pitch** (4), **semits** (4), **smf** (4) **solfg** (4), **tonh** (4)

REFERENCES

Use of the Music Quest Inc. MIDI library functions is gratefully acknowledged.