

HMT Data Flow Diagram

Note Parser module

The musical instrument sends at every Not On or Note Off a bitfield of the currently active Notes to the HMT function.

See the following bitfield for position 1 of the musical example, shown on the right:

C	C#	D	D#	E	F	F#	G	G#	A	A#	B
0	0	0	0	1	0	0	1	0	0	0	1

A musical example:



Note-on-messages, sent from the Note Parser module to the HMT module:

	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
→ Pos. 1	0	0	0	0	1	0	0	1	0	0	0	1
Pos. 2	0	0	1	0	0	0	1	0	0	0	0	1
Pos. 3	0	1	0	0	0	0	1	0	0	0	1	0
Pos. 4	0	1	0	0	0	0	1	0	0	1	0	0
Pos. 5	0	0	1	0	0	0	1	0	0	1	0	0

The HMT function calculates the tuning values and returns them to the musical instrument.

See the following tuning message, sent calculated for position 1 of the musical example as Cent values.

C	C#	D	D#	E	F	F#	G	G#	A	A#	B
0	0	0	0	-6	0	0	10	0	0	0	-4

Tuning messages in Cent Values, sent from the Hmt module back to the musical instrument.

	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
→ Pos. 1	0	0	0	0	-6	0	0	10	0	0	0	-4
Pos. 2	0	0	10	0	0	0	-4	0	0	0	0	-6
Pos. 3	0	1	0	0	0	0	-1	0	0	0	-15	0
Pos. 4	0	-2	0	0	0	0	-4	0	0	12	0	0
Pos. 5	0	0	7	0	0	0	-7	0	0	9	0	0

Tuning module

The internal tuning table of the musical instrument will be updated by the tuning message of the HMT module and applies the tuning values in **real time** to all active voices.

The calculated tuning model shown by a diagram:

