**MIDIsonar datastructure v3.0**

Datastructure is a two dimensional array of integers.

It contains two rows:

|  |  |
| --- | --- |
| **row** | **controller** |
| [0] | A |
| [1] | B |

It contains twelve columns:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **column** | **menu** | **item** | **mode** | **name** | **values** | **type** | **constraint** | **Def A** | **Def B** |
| [0] | 1 | 1 | - | ACTV | 0 (OFF)  1 (ON) | 2 |  | 1 | 1 |
| [1] | 1 | 2 | - | TYPE | 1 (CTRL)  2 (NOTE)  3 (CHRD)  4 (PBND) | 3 |  | 1 | 2 |
| [2] | 1 | 3 | - | CHNL | 1 -16 (midi channel) | 1 |  | 2 | 2 |
| [3] | 2 | 1 | - | LDST | 5 - 80 (cm in stappen van 5) | 1 |  | 5 | 5 |
| [4] | 2 | 2 | - | HDST | 5 - 80 (cm in stappen van 5) | 1 | HDST > LDST | 50 | 50 |
| [5] | 2 | 3 | - | POLR | 0 (NEG)  1 (POS) | 4 |  | 1 | 1 |
| [6] | 3 | 1 | CTRL | CTRL | 0-127 (midi cc value) | 1 |  | 7 | 7 |
| [7] | 3 | 2 | CTRL | LVAL | 0-127 | 1 |  | 0 | 0 |
| [8] | 3 | 3 | CTRL | HVAL | 0-127 | 1 | HVAL > LVAL | 127 | 127 |
| [9] | 4 | 1 | NOTE | SCAL | 1 (CHR) Chromatic  2 (MAJ) Major  3 (MIN) Minor  4 (MMI) Melodic Minor  5 (HMI) Harmonic Minor  6 (WHL) Whole Tone  7 (MAB) Major Blues  8 (MIB) Minor Blues  9 (MA5) Major Pentatonic  10 (MI5) Minor Pentatonic  11 (8WH) Octatonic Whole Half  12 (8HW) Octatonic Half Whole | 5 |  | 1 | 1 |
| [10] | 4 | 2 | NOTE | ROOT | 12-119 (midi note nr) | 6 |  | 60 | 60 |
| [11] | 4 | 3 | NOTE | RANG | 1-24 (steps) | 1 |  | 24 | 24 |
| [12] | 5 | 1 | CHRD | PROG | 1 (MAJ) Major  2 (MIN) Minor  3 (MAB) Major Blues 7th  4 (MIB) Minor Blues 7th  5 (POP) Pop  6 (JAZ) Jazz  7 (MOD) Modal  8 (GSP) Gospel  9 (PBL) Pachelbel | 7 |  | 1 | 1 |
| [13] | 5 | 2 | CHRD | ROOT | 12-119 | 6 |  | 60 | 60 |
| [14] | 5 | 3 | CHRD | RANG | 1-14 (steps) | 1 |  | 14 | 14 |
| [15] | 6 | 1 | PBND | TYPE | 1 (UP) Bend Up  2 (DWN) Bend Down  3 (U+D) Bend Up and Down | 8 |  | 3 | 3 |
| [16] | 6 | 2 | PBND | NTRL | 1 (10%)  2 (20%)  3 (30%) | 9 |  | 2 | 2 |
| [17] | 6 | 3 | PBND | PBFX | 1 (FLW) Flowing  2 (STP) Stepping | 10 |  | 1 | 1 |