Squarp instruments

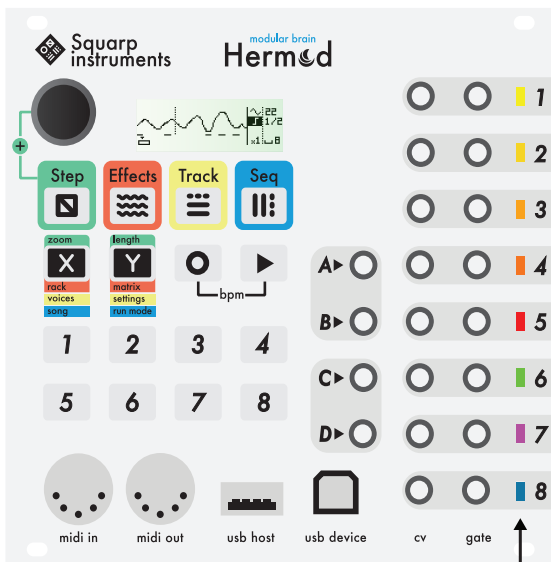# Hermod
Quickstart

Colors help you to know the voice layout of Hermod selected sequence, and the **CV** voltage outputed. If the **GATE** is active, the led will flash with high luminosity.

Voices colors

notes
velocities
aftertouches
modulations

Each of Hermod's 8 CV/Gate output is controlled by a track. A track can be configured to control more than 1 output (voice) for polyphonic, velocity, and aftertouch use. A track can also be used as a "modulation" track, to allow CV and CC recording/playback, gate, and clock messages.

Each of these tracks contains:
● an effect rack with up to 8 effects,
● a "mod matrix", allowing you to control effect parameters using CV or CC,
● a "pattern", which allows you to create a sequence of notes, gates or modulation messages.

These 8 tracks are grouped into one of Hermod's 8 sequences. Every sequence is totally independent and contains a new set of tracks to be played with, for a total of 64 tracks.

You can save/load an unlimited number of projects in a flash (without stopping Hermod), allowing you to play for hours with your patterns, tracks and sequences.

Hermod user interface is laid out into 4 main modes:
● EFFECTS mode : Add/configure FX, mute/unmute FX, set up effect modulation (ModMatrix).
● STEP mode: Edit pattern, add/edit notes, gate and modulation, with step-by-step edit.
● TRACK mode: Mute/unmute tracks, set up layout, configure midi, CV and routing.
● SEQ mode: set the current sequence on the fly, change playback style between sequences, program a chain of sequence, and access the project manager.

Set up a track

In TRACK mode, select a track, either by scrolling or by pressing TRACK + a pad ▦▦▦▦

Press Y to enter settings, select either "*midi channel*" or "*CV in settings*" to set up your inputs. The "*active track*" setting will allow you to route a channel to the currently selected track, very handy when recording patterns.

Go back to TRACK mode and press X, choose the number of voices and the layout you wish to use. For exemple, if you want 2 voices of polyphony + their associated velocity, select "*4 voices*", and "*Poly + Velo*".

Record/edit a pattern

You can record a pattern by pressing rec ○. If the sequencer is not running, it will start it.

If configured in the settings, you will be able to record events from the midi input, the USB host and USB device inputs, and CV inputs.

In STEP mode, there is a small piano roll that will display where you recorded notes and their length. You can zoom in and out by holding X and scrolling, and change the pattern length (in step), by holding Y and scrolling.

If you want to delete a recorded note, press the pad where the note stands. A lit pad means that a note sits here. If you want to edit a note, press and hold the pad, you'll see one of the 3 parameters (pitch, velocity, and length) being highlighted in the display. While holding the pad, you can scroll through the different parameters and jump to the next one by pressing the main knob. You can, of course, add a note with the parameters you want by pressing an empty pad.

Start/stop

To start the sequencer, press play ▶. Pressing play again will stop the sequencer and return to the beginning of the sequence.

Mute/unmute a track

Enter TRACK mode, if a track pattern is not empty, its pad will be lit. Press the pad ▦▦▦▦ to mute/unmute the track.

Add/edit effect

Enter EFFECTS mode. Select an effect slot by scrolling and pressing the encoder, or by pressing EFFECTS + a pad ▦▦▦▦.

ModMatrix

Once you've added an effect, you can control one of its parameters with an external source (CV or CC message). In EFFECTS mode, press Y to enter the ModMatrix. Press a pad to select one of the four modulation routes.

Switch sequences

Once you are happy with your first sequence, enter SEQ mode. Press a pad ▦▦▦▦ to create/select a new sequence.

Now you have a new blank sequence to play with. By default, Hermod's sequencer is in sequential playback mode: the actual sequence switch will happen at the end of the selected loop length.

Tempo

Hold rec ○ and press play ▶ to enter the BPM menu, scroll the encoder to edit, and press it to go back. To slave Hermod to a Midi or analog clock, go to TRACK mode, press Y to enter settings, and go to "*clock settings*".

Edit operation

In every 4 modes you can access the edit operations by pressing the encoder. You can copy, paste, and delete patterns, effects, tracks, and sequences.

The Step Mode

STEP mode allows you to create patterns directly through Hermod's interface.
You can edit a live recording, add notes (or add modulation/gate in **modulation** tracks). Hermod pattern length can be extended up to 64 steps, and the zoom (up to 8x) allows you to perform very precise step sequencing.

STEP mode also features a randomizer. Press the encoder and select "randomize" to generate a note pattern.

Piano roll

The display features a "piano roll" showing the messages recorded in the pattern. The piano roll always displays the current page, depending on the zoom level. The piano roll has a different look depending on the type of track (**notes** or **modulation**) you are using:

● In "note tracks", each note is displayed as small lines. Lines are thicker when a chord is present on that point:

● In "modulation tracks", a line displays the recorded CV/CC sequence and small lines at the bottom display the gate signal:

Pattern navigation, zoom and length

By default, a pattern is 8-step long and zoomed fully up (x1).

● Hold Y and scroll to change the track length. When increasing the length, new pages will be available to display. Simply use the encoder to scroll between pages.

● Hold X and scroll to change zoom value. In the same way, zooming in and out will change the number of pages.

Edit a note track

In a note pattern, you will be able to add and edit mono and poly notes.

● Add a note: simply press a step. Each note has 3 parameters: **pitch**, **velocity** and **length**. To edit one of those parameters when adding a note, hold the step, then scroll the encoder to change the highlighted parameter (by default, the pitch). To edit the next parameter, press the encoder while still holding the pad, and scroll the encoder to adjust the selected parameter.

● Delete a note: press and release its step.

● Note learn: Hermod's step mode improves greatly when using an external keyboard on the active track channel. The pitch and velocity parameters will be updated according to the last played note or chord.

Edit a modulation track

To create a modulation pattern, please refer to TRACK section "Voices layout".

In a modulation pattern, you can edit 2 kinds of events: **modulation value** and **gate**. Hold STEP and rotate the encoder to select the parameter (MOD or GATE) you want to edit.

● Edit a gate: when ♪ is highlighted, press a step to add/delete a gate:

● Edit a modulation: when is highlighted, press a step to add/delete a modulation. Scroll the encoder to choose the event value:

The Effects mode

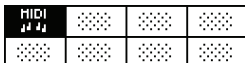You can add up to 8 real-time effects per track. Notes played live and recorded in a pattern are processed and sent to the outputs in real-time by the effect engines. All the effects are non-destructive, and polyphonic capable.

The position of an effect in the chain is very important: an Harmonizer placed after an Arpeggiator will not sound like an Arpeggiator placed after an Harmonizer. Experiment with the order of effects to generate eccentric melodies. It's also possible to add multiple effects of the same engine on the same track (e.g. chaining two arpeggiators).

Finally, every effect parameter can be edited in real-time via CC message and CV inputs, thanks to the modMatrix. Press Y in EFFECTS mode to access the modMatrix, press X to go back to effects mode.

Add an effect

First select an effect slot either by scrolling and pressing the encoder or pressing EFFECTS + a pad ▦.

You will be prompted to select an effect. Choose your effect, you'll now be in the edit section of that effect:

```
GLIDE/SMOOTH
  GLIDO TYPE    |LINEAR
  GLIDE TIME    |1
  VOICE DEST    |ALL VOICES
```

Scroll to the parameter you want to edit, press it to edit the parameter, and press again to go back to the edit list.

To go back to the FX mode, press EFFECTS:
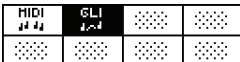
Effect list

There are 10 different types of effects:
● MIDI (can't be removed)
● Glide/smooth
● Harmonizer
● Output
● Arpeggiator
● Delay
● Swing
● Chance
● Scale
● LFO

Mute/unmute effects

You can experiment with different effects in the same rack by muting/unmuting them the same way you do with tracks. Just press the associated pad ▦.

ModMatrix

With the modMatrix, you can control effect parameters using CC messages and CV inputs. You can also set up one of the modulation slot to control sequence change.

To enter the ModMatrix, make sure you are in EFFECTS mode and press Y. Press a pad to select one of the four modulation routes:

```
CV  A → OFF
OFF   → OFF
OFF   → OFF
OFF   → OFF
```

Select the input (a midi CC or a CV input). This input will control the assigned parameter.

```
CV  A → SEQ CHANGE
OFF   → OFF
OFF   → OFF
OFF   → OFF
```

Edit effect menu

By selecting a filled effect slot and pressing the encoder, you can edit, copy, paste and delete the effect. If you want to paste an effect in an empty slot, scroll down to the end of the effect list to find the paste option.

5/ Track mode

The Track mode

TRACK mode has 3 purposes:
● Configure track layout *(number of voices, type of track)*
● Edit global settings *(midi channel, CV inputs, clock settings, midi thru)*
● Mute/unmute the 8 tracks

Display

The display shows the 8 outputs (8 voices) of hermod in a grid. Each small rectangle shows the voice assignment: the content it will play in the middle, and the track it's assigned to in the top left corner.

When a voice is assigned to modulation, velocity or aftertouch, you'll see a small gate sign ⌐ on the bottom right corner, meaning that you can use the related gate signal on that voice independently from the CV.

Voices 4 and 6 are assigned to velocity:

1 NOTE	2 NOTE	3 NOTE	4 VEL ⌐
5 NOTE	3 VEL ⌐	6 7 NOTE	8 NOTE

Selecting a track

Hold TRACK and press a pad ▦ to select a new track. Track 2 is selected:

1 NOTE	2 NOTE	3 NOTE	4 NOTE
5 NOTE	6 NOTE	7 NOTE	8 NOTE

Mute/unmute a track

You can mute and unmute track simply by pressing the related pad ▦.

Edit track menu

You can access the edit track menu by pressing the encoder. Here you can access layout configuration, copy, paste, and clear the selected track.
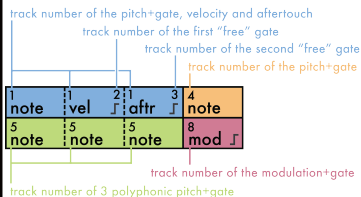
Note that copy, paste and clear track operation will also affect the effect section and pattern of the selected track.

Voices layout

Thanks to Hermod architecture, the 8 voices can be configured to perfectly fit your system. Tracks are "polymorphic", that means that you can assign them to output mono or poly notes, velocities, aftertouches, modulations and/or gates.

1) Select the track you want to configure.

2) Press ☒ to launch the layout configurator, and select the number of voices you want.

3) Select the layout for these voices (**mono**, **poly**, **modulation**, **mono+velocity**, ...) according to the number of voices chosen.

The default screen allows you to see your track configuration in a flash:

track number of the pitch+gate, velocity and aftertouch
track number of the first "free" gate
track number of the second free "free" gate
track number of the pitch+gate

1 note	1 vel ⌐	2 1 aftr ⌐	3 4 note
5 note	5 note	5 note	8 mod ⌐

track number of the modulation+gate

track number of 3 polyphonic pitch+gate

Note that each sequence can have its own voice layout. Track 1 of Seq 1 can be configured differently than Track 1 of Seq 2.

For more information about the layout config, please read *squarp.net/hermod_track*

Note vs. Modulation tracks

Hermod features 2 different types of track:
● A **NOTE** track will play the recorded and incoming notes in the attributed voice(s).
● A **MOD** track will play programmed gates ⌐ and modulations ᰋ. You can also record that automation by using a modwheel or by assigning a CV input in the settings.

Note: when a track uses a voice for velocity or aftertouch, you can use the gate output of that voice in the same way by programming a sequence in the unused track.

The Sequence mode

In Hermod, sequences are groups of 8 tracks with their respective effects, patterns, ModMatrix and settings. It's a snapshot of the current state of the sequencer.

SEQ mode allows you to jump between those sequences. Using sequences, you can create different parts of a song, and arrange them live or play them in a "song" that will loop a chain of sequences. Seq mode is very simple and has very few options.

Display

In SEQ mode, the screen will display current project name, sequence loop length, playback mode, the song chain, and a little overview of the tracks currently playing:

```
▭▬▬▬▬     MY PROJECT
▭▬▬▬      LOOP: 8
▭▬▬▬▬     PLAY: SEQ
```

Selecting a sequence

To select a new sequence, simply press the associated pad ▦. If the sequencer is playing, the sequence will be launched depending on the playback mode parameter.

Press and hold Y and scroll the encoder to edit one of the 3 "PLAY" modes:
● Sequential (default): the sequence change will happen at the next beat corresponding to the loop length parameter
● Jump: the sequence will change immediatly and continue to play the new sequence at the same clock position
● Restart: the sequence change will happen at the next step and the new sequence will start at the beginning.

Edit sequence menu

You can access the edit sequence menu by clicking the encoder. Same as the other modes, you can copy, paste and clear the selected sequence, as well as access the project manager menu.

Sequence loop length

The sequence loop length has two purposes: the position of the sequence change when in sequential mode, and the number of steps played in a sequence while a song is set.

To edit the seq loop length, hold X and scroll the encoder.

Setting a song

You can set up a chain of up to 8 sequences using a "song".

To set a song, press and hold X , and press a pad ▦ to add sequences to the song. Press X again to delete the song.

```
▭▬▬▬▬     MY PROJECT
▭▬▬▬      LOOP: 8
▭▬▬▬▬     PLAY: SEQ
          4▸6▸7▸1 2▸5▸8▸1
```

Project manager (save/load/delete)

To enter the Project Manager menu, press the encoder and select **PROJECT**:

```
PROJECT:
  LOAD PROJECT
  SAVE PROJECT
  SAVE PROJECT AS
```

● **Load project**: load a project from the SD card into Hermod's player, note that loading a project while Hermod is playing won't reset the clock, the newly loaded project will be playing immediatly. Don't forget to save the current project before loading a new one!

● **Save project**: save the current project, if it is a new project, you'll be prompted to add a name.

● **Save project as**: When working on an existing project, this allows you to save it with a new name.

● **Delete project**: Allows you to browse the project list and select a project to be deleted. Note that this operation is irreversible!

7/ Settings

Enter the settings

You can access the global settings by pressing Y in TRACK mode.

```
SETTINGS:
  CLOCK SETTINGS
  MIDI CHANNEL
  MIDI THRU
```

Clock settings

Hermod can be the master or can be slaved thanks to its Midi/Host/Device/CV interface.

CLOCK SOURCE
INTERNAL Hermod will use its internal clock.
MIDI/HOST/DEVICE Hermod will be slaved to the selected MIDI clock.
CV A/B/C/D Hermod will be synchronized to the selected CV inputs. If you do not configure a clock start CV port, press (start) to start/stop the sequencer.

CV RESET OFF CV A CV B CV C CV D
Select the CV input to act as a reset clock. If none is selected, the PLAY button will reset the clock.

CV CLOCK DIV 1/8 1/4 1/2 1/1
Select the clock division of the incoming analog clock, usually modular clocks send quarter notes.

CV CLOCK OUT OFF GATE 1 ... GATE 8
Program one of the gate output to act as a global clocking output. If you wish to use more than one clock, you can use the gate signal of a pattern as a clock.

CLOCK DIV OUT 1/8 1/4 1/2 1/1
Select the speed of the output analog clock.

Note: When Hermod uses an analog clock source, the engine won't "advance" by a certain amount of pulses on each tick, rather, the internal clock of Hermod will synchronize to the signal, this allows to multiply or divide the incoming clock, and also to still be able to use the swing effect when using analog clocking.

Midi channels

Configure input MIDI channels of each track.

ACTIVE TRACK	1 ...	16
TRACK 1	1 ...	16
TRACK 2	1 ...	16
TRACK 3	1 ...	16
TRACK 4	1 ...	16
TRACK 5	1 ...	16
TRACK 6	1 ...	16
TRACK 7	1 ...	16
TRACK 8	1 ...	16
PROG CHANGE	ON	OFF

Note: The "active track" parameters set up the MIDI channel controlling the active track (the STEP learn note).

Midi thru

Configure MIDI ports routing, handy when using hermod has a MIDI hub. For example, you can route all incoming messages in the MIDI port to the USB host port.

MIDI > MIDI	OFF	ON
MIDI > HOST	OFF	ON
MIDI > DEVICE	OFF	ON
HOST > DEVICE	OFF	ON
HOST > MIDI	OFF	ON
DEVICE > HOST	OFF	ON
DEVICE > MIDI	OFF	ON

CV input settings

Configure the CV source of each track.

ACTIVE TRACK, TRACK 1, ... TRACK 8
CV/Gate AB
CV IN = input A, Gate IN = input B.
CV/Gate CD
CV IN = input C, Gate IN = input D.
Mod A/B/C/D
Modulation signal from input A/B/C/D for CV recording.

QUANTIZE NOTE OFF ON
Quantize CV notes to the nearest semitone.

CV IN RANGE -5V > +5V 0V > +5V
Set the voltage range of the CV inputs.