

General

The OH/HH/CY-522 module is based on a slightly modified circuit of the cymbal and hihat sound in MFB's drum computer model 522. The three instruments Open Hihat, Closed Hihat and Cymbal can be manually edited in different parameters. In addition, some functions can also be controlled or modulated by CV-signals like envelopes, LFOs or step-sequencers.

Set-Up

OH/HH/CY-522 is fully compatible to Doepfer's A-100 modular system - in size, bus-power and CV/Gate voltage. Connect the 10-pin MFB-cable to a corresponded 16-pin jack on the MFB MIDI/CV circuit-board or Doepfer's mainframe bus. Supply voltage needs to be +/- 12 volts, 5-volt connections are not required. The wattage is +/- 30 mA, the module size 12 TE (Teileinheiten) = 60 mm.

ATTENTION: Please, check for correct polarity! The colored side of the connector-cable needs to point downwards so that the cable is not twisted.

Functions

Inputs **Trigger OH**, **Trigger HH** and **Trigger CY** trigger the sounds Open Hihat, Closed Hihat and Cymbal separately. Common triggers are analogue or digital gate-signals of a step-sequencer, a MIDI-CV/Gate-converter or a square-LFO. Alternatively, drum pads, dynamic or piezo-trigger-microphones may also be used. Dynamic triggering will not only affect the sound's volume but also the attack and decay times slightly.

Sens is the corresponding trim control to adjust the inputs sensitivity to the trigger-signals. The highest sensitivity allows triggering at a minimum voltage of around 0.1 volt. The input reacts to the positive slope of the signal.

The hihat sound source shares a single envelope generator that is triggered by the inputs **OH** and **HH**. In case, both inputs are triggered, e.g. by a sequencer, the last incoming gate-signal has priority, even with a tiny millisecond delay.

HH Out and **CY Out** carry the audio signal. These can be routed into a mixer (e.g. DRUM-98/99), VCAs or any other sound manipulating modules. You may also use the outputs to connect the OH/HH/CY-522 module directly to your mixing console or audio-interface.

Parameters

Hihat and cymbal share the same sound source – a mix of six differently tuned square-oscillators. While the hihat is generated using a single band-pass-filter, the cymbal sound uses two differently adjusted band-pass-filters.

The overall pitch of this oscillator-mix is adjusted manually using the **Tune** control. Since hihat and cymbal share use the same sound source, this control will affect both instruments.

Hihat

Closed and Open Hihat can be adjusted in decay separately using **HH Decay** and **OH Decay** controls. The length of the Closed Hihat ranges between 10 and 100 ms, while the Open Hihat can last up to one second.

The Open Hihat's decay can also be externally controlled by CV-input **Decay OH** with its corresponding attenuator – try using a CV-step-sequencer for precisely stepped modulation or a LFO for continuous free modulation.

The decay time of the hihat also depends on the next incoming gate-impulse. Independent from the set decay time, the Closed Hihat will cut off the Open Hihat signal when triggered.

Cymbal

The cymbal sound can be adjusted in decay using the **CY Decay** control. The length of the sound can last up to a few seconds. The cymbal's decay can also be externally controlled by CV-input **Decay CY** with its corresponding attenuator – try using a CV-step-sequencer for precisely stepped modulation or a LFO for continuous free modulation.

CY Tone sets the balance between the two band-pass-filters. Turn counter clockwise, to enhance the lower tuned filter that is used to create the shorter attack-part of the cymbal sound. When turned fully clockwise, you will hear the slightly higher tuned filter, which builds the decay phase of the cymbal sound.

CY Tone can be externally controlled using CV-input **CV Tone**. Try using a CV-step-sequencer for precisely stepped modulation or a LFO for continuous free modulation. This input does not have an attenuator. If necessary, use an external attenuator, a VCA or a mixer module between your CV-source and the **CV Tone** input.

Input

The **Tone IN** input allows you to feed an external audio signal into the module and replace the lower tuned component of the module. Suitable sound sources would be different noise signals, modulated digital noise, noise-like sounds or textured sounds. With this input connected, the internal sound generation is switched off. The instruments Closed Hihat, Open Hihat and Cymbal are triggered like before with the decay settings and the Cymbal **CY Tone** control still functioning.

Attention: The required voltage for all CV-inputs needs to be within a range of 0 to 10 volts.

M-BUS

The modul offers the new developed M-Bus connector what's mean you can you control most via Midi/CV interface or our new SEQ-01 Pro drumsequencer without additional patching. Following addresses are supported:

Trigger OH, Midi Note = #46

MIDI Controller values for:

Tune = #21

Decay = #37

Trigger HH MIDI Note = #42

MIDI Controller value for:

Tune = #22

Decay = #38

Trigger Rimshot MIDI Note = #49/#51

MIDI Controller value for:

Tune = #23

Decay = #39

Attention: The value of controller will be added to the pots.



Operating Manual

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Hi-hat/Cymbal Modul**