

VERMONA



MONO lancet

USER'S GUIDE

Introduction

Dear synthesizer enthusiast,

First of all we thank you for purchasing the Mono Lancet analogue synthesizer. We feel honored about your decision to get a VERMONA instrument. We hope you will spend many creative hours on the Mono Lancet and have as much fun as we had when designing and producing it.

You should get familiar with the synthesizer in almost no time as it has a straightforward and logical user interface. Despite we would like to ask you to take a serious look into this manual, as there are some features that can't be seen on the control surface.

Enjoy your Mono Lancet and thanks a lot for your patience.

The VERMONA team
Erlbach, Germany

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General

Important safety information

The following safety precautions must be observed during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings in this manual violates safety standards of design, manufacture and intended use of this equipment.

The manufacturer assumes no liability for the customer's failure to comply with these requirements!

Ground and power connection

To prevent the risk of electrical shock, this equipment must be grounded. The factory setting for power is already made for each country (115V AC, 230V AC). An individual setting is not allowed by virtue of safety reasons. This modification must be done by qualified personal only!

Voltage peak

The units are equipped to manage voltage peaks, which are often generated at live situations. When using the units with unstable voltage, please make sure that the device is grounded.

Use near explosive goods

The units should not be used near easy flammable or explosive goods.

Dampness

The units should not be used in damp or wet places. Make sure the unit is not in humid atmospheres, because this could cause condensations within the unit.

WARNING: Risk of electrical shock!

Connections

Do only use cables, plugs and adapters, which do not affect the normal use of the unit.

Cooling System

The unit should not be used near heating or warm or hot fans. When using the unit in a rack or wall system, make sure that the unit has enough space to let the generated heat dissolve.

Cleaning

Please clean the unit only with a dry duster. Do not use sharp cleaning fluids or water!

Spare parts or modifications

Modification instructions and schematic information should only be used from service departments of our official authorized VERMONA dealers. To prevent the risk of electrical shock, please do not open or modify the unit yourself. Before opening the unit always disconnect the power lead/AC Adapter. Opening or modifying the units causes the loss of warranty claims!

Warranty

The manufacturer warrants this product to be free of defects in material and/or workmanship. The manufacturer's warranty does not apply to products that have been damaged due to and/or subjected to improper handling by shipping companies (forwarders), negligence, accidents, improper use or alteration not authorized by the manufacturer.

This warranty is in lieu of an excluded all other warranties, expressed or implied. The manufacturer will not be liable for incidental or consequential loss or damage whatsoever, whether based upon allegations or negligence, breach of warranty, or otherwise. This disclaimer of incidental or consequential damages includes, but is not limited to, property damages, loss of profits, loss of time or other losses or inconvenient resulting from any defect in the material or workmanship of this product or any other connection with the purchase, operation or use of this product.

Technical changes

All changes, which improve the technical features of the units, can be made without subjective noticed by the manufacturer.

Unpacking and Starting Up

To ensure top quality we carefully checked the Mono Lancet before packaging. Nevertheless the unit could be damaged during transport. Therefore we ask you to take a serious look at the instrument when unpacking it. Don't hesitate to contact us if there should be anything unusual on the Mono Lancet itself or its packaging.

You should find the following items in the carton:

- The Mono Lancet
- The AC adapter (12V / at least 830mA)
- This manual

Connecting and Powering the Mono Lancet

If you came here without any problems you finally can start up your new Mono Lancet:

- Connect the provided power supply unit to the *12VAC* jack on the Mono Lancet

Maybe you already own a power supply unit that seems to be suitable for the Mono Lancet. But please consider that the Mono Lancet requires an AC adapter, not DC!

- Connect the *OUTPUT* jack of the Mono Lancet to an appropriate input of your amplifier, mixing console, etc.
- Connect the *MIDI IN* jack to the MIDI output of your sequencer, master keyboard or whatever your MIDI source is.
- Start the Mono Lancet by switching on *OVERKILL* on the rear of the unit.
- Congratulations, your Lancet has been started.

Because of the Mono Lancet is an analogue synthesizer it will take 5 to 10 minutes until the internal components reach the appropriate temperature to ensure best tuning stability!

The Components and Controls of the Mono Lancet

The Mono Lancet is based on a classical VCO–VCF–VCA structure. In the following we'll take a closer look at the sections and their control elements.

The Oscillator Section

There are two voltage controlled analogue oscillators (VCO) inside the Mono Lancet. VCO1 generates sawtooth-, square- and triangle-waveforms in root positions 32', 16' and 8'. VCO2 generates sawtooth- and square-waves in root positions 16', 8' and 4' as well as white noise.

There are the following controls:

Oscillator One

OCT

sets the root position (octave) of VCO1. VCO1 is one octave below VCO2.

WAVE

selects the VCOs waveform of VCO1: triangle, sawtooth or square.

Oscillator Two

OCT

sets the root position (octave) of VCO2.

WAVE

selects the waveform of VCO2: sawtooth, square or white noise.

The pulse width of the square waveform of both oscillators can be adjusted by MIDI using the modulation wheel, which enlarges the sound options of the Mono Lancet. This feature can be turned on/off by MIDI control change number 85.

DETUNE

VCO2 can be detuned in a range of +/- 7 semitones against VCO1.

Common Controls for Oscillator One and Oscillator Two

LFO INT

sets the modulation intensity of the LFO.

EG INT

sets the modulation amount of the envelope generator. The VCOs frequency (pitch) can be modulated in both directions – positive or negative.

GLIDE

sets the time of the glide generator. If the controller is set totally anti-clockwise there is no glide effect. Turning it to the right increases the time. You can here the pitch sliding from one to the other note.

The Mono Lancet has a legato function for glide. That means that the glide effect is audible when the notes are being played legato – a second note is played while the first note is still being pressed.

The glide legato mode can be turned on/off by MIDI control change number 89.

MIX

controls the mixing ratio between VCO1 and VCO2. In middle position both oscillators have the same volume. Turning this knob to the left decreases the volume amount of VCO2 until it's completely turned off. Turning it to the right decreases the volume amount of VCO1 until only VCO2 can be heard.

TUNE

sets the overall tuning of the Mono Lancet within a range of +/-1 one whole tone.

The Filter Section

The Mono Lancet has a voltage-controlled low-pass filter with a slope of 24dB per octave. A low-pass filter lets pass the frequencies of an audio signal below a certain frequency (the cutoff frequency) and stops all the frequencies above that point. The filter section has the following control elements:

CUTOFF

defines the cutoff frequency. If it is set completely anti-clockwise the filter is closed and didn't pass any frequency.

The cutoff frequency can be influenced by MIDI velocity and/or aftertouch. This behavior can be switched on/off by MIDI control change messages.

RESONANCE

controls the amount of the filter's output signal that will be feed back into its input. Low resonance levels emphasize the frequencies around the cutoff frequency. On higher values the filter starts to oscillate itself and creates a sine waveform. Depending on the TRACKING setting this sine can be played in tune over a range of about 2 ½ octaves.

EG INT

sets the intensity of modulation through the envelope generator. There is no modulation of the cutoff frequency in middle position.

LFO INT

sets the intensity of cutoff modulation through the LFO.

TRACK

switches the filter tracking between 0 (off), 50 (half) and 100 (on). When filter tracking is set to "100" (on), the cutoff frequency is influenced by the note that is being played on the keyboard. Higher notes mean higher cutoff frequency and opposite.

The filter can be played in tune on setting "100". Setting "50" means half and as result a played interval of one octave on the keyboard changes the cutoff frequency by half an octave.

The Amplifier Section

The voltage-controlled amplifier (VCA) determines the output level of the Mono Lancets. The envelope generator and a fixed organ-like gate envelope can be modulation source for the VCA.

MODE

sets the modulations source resp. switches the VCA on without modulation. There are three positions:

1. EG – the envelope generator is modulating the VCA.
2. GATE – a fixed organ-like envelope is modulating the VCA.
3. ON – the VCA is always on, without modulation.

VOLUME

sets the overall output of the Mono Lancet.

The LFO Section

The LFO generates a continuously oscillating control voltage (depending on the waveform). On the Mono Lancet the LFO can modulate the VCO and VCF (see above). The frequency range is from 0,05 Hz to 250 Hz.

WAVE

selects the waveform: Sample & Hold (random), triangle and rectangle.

SPEED

sets the LFO frequency.

The Envelope Generator

The envelope generator (EG) generates a control voltage that can modulate the VCO and VCF frequency as well as the VCA.

It has the following parameters:

ATTACK

adjusts the time from zero to the maximum level. *ATTACK* is starting when hitting a key on a connected master keyboard (sending a note-on MIDI message).

DECAY

adjusts the time from maximum level to a specific *SUSTAIN* level.

SUSTAIN

sets the *SUSTAIN* level.

RELEASE

sets the time from the *SUSTAIN* level to zero after the key is released (note-off MIDI message).

Further Control Elements

TRIG

With the TRIG button you can trigger single notes or start sequences internally to check out the Mono Lancet without an external MIDI source.

A note resp. a sequence will be played as long as you hold the button down.

You can also freeze the TRIG button for automatic playing when additionally hitting the SEQ button while holding down TRIG. After you release both buttons, the sequence (or single note) plays along. For stopping it, simply press the TRIG button again.

SEQ

steps through the sequences resp. single notes.

OVERKILL

connects the Mono Lancet to the Power Supply Unit. A green LED shows the status of the OVERKILL switch.

The OVERKILL switch is no power switch. Please do always disconnect the PSU from the socket when not using the Mono Lancet!

Connectors

In the following you'll find a short description of the connectors on the rear of the Mono Lancet:

12 VAC

for connecting the provided AC power supply.

EXTRENSION

This SUB-D connector offers additional in- and outputs. For Example it allows controlling the pulse-width of each oscillator or using CV/Gate signals to control the Mono Lancet. Detailed information will follow on our homepage (<http://www.vermona.com>).

MIDI IN

for connecting a MIDI source like a sequencer (software) or master keyboard, etc.

MIDI THRU

The incoming MIDI signal is forwarded to this DIN jack for connecting more MIDI devices in a row.

OUTPUT

gives out the audio signal of the Mono Lancet.

The MIDI Interface of the Mono Lancet

You can play the Mono Lancet by any MIDI device that sends note-on/note-off messages. It also responds to MIDI controllers like modulation wheel, pitch bender, velocity and aftertouch. Some more settings can be adjusted via MIDI control change messages (CCs).

Setting up the MIDI channel

Standardized the Mono Lancet receives MIDI data on channel 1 but you can easily change the MIDI channel by carrying out the following steps:

1. Deactivate OVERKILL – all LEDs are off.
2. Press and hold the TRIG button while activating OVERKILL. The LED above the TRIG button starts blinking.
3. Now send a MIDI note number to the Mono Lancet, i.e. by hitting a key on a master keyboard that's connected to the synthesizer. The Mono Lancet stores the MIDI channel that comes with the note number.
4. That's it; there is no fourth step.

Reset

You can reset the MIDI channel and all other MIDI controller settings to the factory status by carrying out the following steps:

1. Deactivate OVERKILL – all LEDs are off.
2. Press and hold the TRIG button while activating OVERKILL. The LED above the TRIG button starts blinking.
3. Deactivate OVERKILL again. The next time you start the Mono Lancet, all MIDI related controllers are reset.

MIDI Control Change Messages

As stated above the Mono Lancet can receive different CCs to make some additional adjustments. For all MIDI control changes a value of 0..63 means OFF; 64..127 means ON.

Pitch Bender on/off (CC 84)

you can change the pitch of both oscillators within a range of +/- 5 semi-tones by using the Pitch Bender. If you don't like the Mono Lancet to respond to Pitch Bend information you can turn it off by sending CC 84 with a value smaller than 64 to the synthesizer.

Modulation Wheel on/off (CC 85)

the pulse-width of both oscillator's square waves can be adjusted by the modulation wheel. You can turn this behavior off with CC 85.

Aftertouch on/off (CC 86)

The filters cutoff frequency responds to MIDI aftertouch messages. This can be changed with CC 86.

Velocity on/off (CC 87)

The Mono Lancet can respond to MIDI velocity information. If it's turned on the VCA is influenced by velocity and you can play the synthesizer dynamically. On factory status it's turned off. You can change that with MIDI CC 87. The VCA only responds to velocity when it's set to EG.

Filter Velocity on/off (CC 88)

Additionally to the VCA the filter cutoff frequency can be modulated by velocity. Use CC 88 to turn that on/off. This only works if the EG INT controller is not in middle position and CC 87 is on.

Glide Switch on/off (CC 89)

Standardized the glide effect can be heard as soon as the GLIDE controller is not totally anti-clockwise. But you can also use legato mode. That means, that glide only sets in when the second note is played while the first one is still pressed – legato. Use MIDI CC 89 to turn that on.

Legato on/off (CC 90)

Usually the envelope is only triggered when not playing legato. If you like to always trigger the envelope independently of the way of playing switch on CC 90.

Declaration of Conformity

for VERMONA Mono Lancet

We declare under our sole responsibility that this product is in conformity with the following standards or standardization documents in attention of operation conditions and installation arrangements acc. to operating manual:

EN61000-3-2, EN 61000-3-3, EN 55013, EN 55020, EN 60065 according to the provisions of the regulations 89/336/EWG and 73/23/EWG.

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