Foreword

Electronic drum synthesis plays a central role at VERMONA. The reason for this is our DRM1, which we have manufactured in our Elektroakustischen Manufaktur in Erlbach, GERMANY since the mid-1990s.

In addition to our stand-alone instruments, we also began developing and building Eurorack modules in the 2010s and are constantly expanding our portfolio in this area.

Now it is time to unite both worlds: the desktop classic DRM1 and the unlimited openness of a modular system. What could be more obvious than to start this exciting journey with the indispensable and style-defining foundation of electronic pop and dance music: the bass drum?

Undoubtedly, the origins of BASS|DRUM can be found in the KICK and DRUM instrument channels of the DRM1 MKIV. But it not only offers DRUM, it also delivers BASS. BASS|DRUM can be played in tune over several octaves, and its voltage-controlled waveshaper allows you to produce growling and punchy tones for bass lines.

Be inspired by the versatility of BASS|DRUM and inspire us with your sound creations. Expand its rich sound base individually with your existing modules and use it to increase the sonic diversity of your module inventory.

Thank you for the confidence you have placed in us by purchasing BASS|DRUM.

Your VERMONA Crew from the
Elektroakustischen Manufaktur, Erlbach

PS: This user manual is a valuable aid in handling your new module. It will inform you about its features and specialties, reduce frustration, and thus increase the pleasure of enjoying BASS|DRUM. Do you have any questions that are not answered in this manual? Please contact us, and we will be happy to assist you.

Unpacking and Connecting

Like all VERMONA instruments, your BASS|DRUM module has been manufactured, tested and carefully packed in our Elektroakustischen Manufaktur with a great deal of skill, expertise and love. However, we cannot completely rule out the possibility of mistakes or damages. Please check the packaging and the module itself before installing it in your modular system. Contact your dealer or us if you experience any problems.

The box contains the following items:

- the BASS|DRUM module
- a ribbon cable (10 pins to 16 pins)
- four screws (M3 x 6) with matching washers
- this manual

BASS|DRUM is intended for use in Eurorack modular systems. The power supply, connection and design correspond to the usual specifications. To start using the module, proceed as follows:

1. Switch off the power supply of your modular system and disconnect it from the mains!

2. Connect the 10-pin male connector of the supplied ribbon cable to the multipin connector on the rear of the module.

> BASS|DRUM is equipped with mechanical protection against reverse polarity. The connector can only be inserted in one direction. On the supplied ribbon cable, the colored marking points in the direction of **–12 volts**. This may be the opposite on system bus cables from other manufacturers. Double-check the polarity if you are not using the original system bus cable.

3. Connect the 16-pin male connector of the ribbon cable to the system bus. The colored marking must also point towards **–12 volts**!

> BASS|DRUM is equipped with reverse polarity protection. However, please verify that everything is set up correctly before proceeding!

4. Attach BASS|DRUM to the module frame using the screws supplied. Use the included washers to protect the front panel from scratches.

5. Reconnect your modular system to AC power and switch it on.

BASS|DRUM is now ready for use.

Functions and Controls

This section describes the functionality of the jacks, knobs and switches and how they interact. BASS|DRUM's sound engine can be divided into three main areas: volume, pitch and timbre. But, before we look at the sound itself, we first need to make it audible:

Basics

MANUAL momentary switch
The red-illuminated **MANUAL** button is used to generate an impulse that triggers the sound of BASS|DRUM, specifically, the envelope generators **DECAY** and **BEND/TIME**. Any trigger signal, either manual or from the **TRIG** input, is indicated by the **MANUAL** button lighting up briefly.

TRIG Input
Connect a trigger or gate signal from a suitable module or sequencer to this input to invoke the sound of BASS|DRUM.

GATE/ON Switch
When the **GATE/ON** switch is activated, the duration of the signal at the **TRIG** input determines the length of the sound. If the level of the gate signal is greater than **+3 volts**, the sound of BASS|DRUM is output from the **OUT** socket. As soon as the level falls below this threshold, the sound will fade out with the set **DECAY** time.

When the **GATE/ON** switch is activated and the **TRIG** input is not used, BASS|DRUM's output will always be open.

> As long as the **GATE/ON** switch is activated or a gate signal is present at the **TRIG** input, **MANUAL** has no function.

DYNAMIC Input
With a control voltage connected to the **DYNAMIC** input, you can modulate the level of the trigger signal, allowing you to play the sound of BASS|DRUM dynamically. You can perceive the dynamics primarily in a change in volume. However, other parameters are also influenced by the circuitry.

The input accepts voltages between **0 volts** and **+10 volts**, but even at **0 volts**, the trigger pulse is still 20% of the maximum level. At an input level of **+10 volts**, the sound will be triggered with maximum level. This is the standard behavior when no plug is connected to the **DYNAMIC** jack.

Dynamic changes always take place in connection with a trigger impulse. Voltage changes at the **DYNAMIC** input therefore have no effect when a sound decays.

> No rule without exception: If **GATE/ON** is activated, the output volume also changes while a sound is playing. This effect is dependent on the **DECAY** time setting.

OUT output
There are no surprises here. **OUT** is the output of BASS|DRUM. Here you can send the generated sound to other modules or your DAW. The maximum output level at the **OUT** jack is **±5 volts**.

Volume

DECAY Control
DECAY determines the decay time of the sound. It's possible to set very short times of up to **1 second** between the far left and the 3 o'clock position. The maximum decay is about 5 seconds with **DECAY** fully turned to the right. If the **GATE/ON** switch is activated and there is a plug in the **TRIG** input, the **DECAY** envelope functions as a release after the gate signal has ended.

DECAY Input
Here you can connect a control voltage to modulate the **DECAY**. The input works bipolar in a range from **–10 volts** to **+10 volts**. You can extend or shorten the time set with **DECAY** using envelopes, LFOs or other voltage sources. The maximum time can even be increased with the additional control voltage beyond the manually adjustable limits.

CV DECAY Control
This control is the attenuator for the **DECAY** input. When turned to the right (100%), it fully affects the decay time of BASS|DRUM. The further you turn the control to the left, the less the effect. In the far left position, there is no modulation.

Pitch

PITCH Control
Use this control to set the pitch depending on the **HI/LO** range switch.

HI/LO Switch
Use this switch to select the frequency range of the oscillator:

– LO: 16 Hz (C0) to 130 Hz (C4)
– HI: 64 Hz (C3) to > 2 kHz

The **LO** position is particularly suitable for sounds that live up to the name of the module: bass drums. The **HI** setting greatly expands the sound palette of BASS|DRUM. You can easily create not only tom or tom-tom sounds, but also unusual electronic percussion, including chirping birds and triangle-like pings. In addition to the actual pitch setting of the oscillator, the perceived pitch also depends on the **BEND** and **TIME** controls.

BEND and TIME controls
The pitch of the BASS|DRUM oscillator can be modulated with a falling envelope. The **BEND** and **TIME** parameters determine its intensity and duration.

With very short envelope times up to around the **9 o'clock** position of the **TIME** control, you will perceive a change in the timbre or the hardness of the attack.

If you increase **TIME** further, up to around 11 o'clock, the sound becomes more voluminous and gains foundation. At higher **TIME** settings, the modulation becomes audible as a change in pitch.

The depth of this effect can be adjusted very sensitively with **BEND**. Depending on the intensity, the envelope modulation can result in very delicate or brute sound changes. A sufficient length of sound is particularly important for longer envelope times. So keep an eye on the **DECAY** control when adjusting **BEND** and **TIME**, or play with different gate lengths of your trigger signal with the **GATE/ON** switch activated.

PITCH Input
Here you can connect a control voltage for linear frequency modulation of the oscillator. The input expects voltages in the range from **–10 volts** to **+10 volts** and is suitable for modulation sources such as LFOs, envelope generators or audio oscillators.

> The frequency range of the BASS|DRUM oscillator can be extended far beyond the manually adjustable limits on the module using an external control voltage.

CV PITCH Control
This control is the attenuator for the **PITCH** input, which you use to control the intensity of the control voltage applied to the socket.

1V/OCT
With this control voltage input, you can play the BASS|DRUM oscillator within several octaves in tune. This allows you to create kick drum, tom and other percussive sounds that move in tune with your tracks. It also turns BASS|DRUM into a fully fledged oscillator. Of course, you can also connect control voltages from LFOs or envelopes to the **1V/OCT** input.

Timbre

WAVE
With **WAVE** you can control the waveform of the oscillator continuously from a **triangle** in the left position to a **sine** in the middle position to a **square** turned fully up.

WAVE Input
Here you can connect control voltages to modulate the **WAVE** parameter. The input works bipolar in a range from **–10 volts** to **+10 volts**. This allows you to change the waveform using envelope generators, LFOs or other modulation sources. The modulation's origin is the manual setting of **WAVE**.

With positive voltages you can even extend the range of **WAVE**. The square waveform can thus be driven even further into distortion.

CV WAVE Control
This control is the attenuator for the **WAVE** input, with which you can set the intensity of the control voltage applied to the socket.

ATTACK
ATTACK adds a needle pulse to the beginning of the oscillator signal. Without **ATTACK**, the oscillator settles in softly. As **ATTACK** is turned up, the sound becomes harder and more assertive.

Technical Specification

In- and outputs

TRIG	max. +12 volts; Threshold + 3 volts
DYNAMIC	0 to 10 volts
1 V/OCT	±5 volts
DECAY	±10 volts
PITCH:	±10 volts
WAVE:	±10 volts
OUT	±5 volts

Max. Power Consumption

+12 volts	70 mA
–12 volts	60 mA

Dimensions/Weight

Width/Height	14 HP/3 U
Depth	38 mm
Weight	230 g

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