

# DRAUME v2

DRAUME is an exploration of artificial reverberation. Can a space sound dry, old, veiled or broken? Reverberation is typically associated with physical spaces or objects. A hall reverb conjures the mental image of a hall, but what ambiance comes to mind when presented with intentionally artificial reverberation? Hopefully something that spurs your creativity! DRAUME combines post-reverb processing with decay and system clock control to break the spatial illusion. DRAUME has evolved from algorithms developed for the BandOrg FORM. Many thanks to BandOrg for commissioning and funding the FORM workshop series. DRAUME is dedicated to Lynch and Badalamenti.

## PARAMETERS

**MIX:** Sets the dry/wet balance from 100% dry to 100% processed audio.

**VOL:** Sets the master output volume. Unity gain is near 12 o'clock. Max gain is +16dB.

**TONE:** Sets the cutoff frequency of a second order low pass filter from 500 to 15k Hz. The filter affects only the processed audio.

**DECAY:** Sets the duration of the reverb decay.

**AM:** Random amplitude modulation depth. Adds a kind of flickering uncertainty to the reverb dynamic. The tremolo is applied post-reverb.

**FM:** Random frequency modulation/vibrato depth. Adds a lo-fi character reminiscent of a worn tape. The vibrato is applied post-reverb.

**TXT:** Saturation/texture amount. Noticeably digital, yet oddly pleasant saturation applied post-reverb.

**CLK:** Digital signal processor system clock frequency. Sets the sample rate from 12kHz to 50kHz. This has the effect of affecting the reverb character and decay as well as the modulation speed of the AM and FM functions. Adjusting the clock frequency also pitch shifts whatever audio is currently reverberated. Very low clock settings will apply some blue noise on the wet signal. This can be attenuated with the TONE parameter.

**CTRL socket:** Connect a TRS expression pedal or a CV signal to control the clock frequency parameter. The control signal ranges from 0 to 3.3V. The function is protected against voltages 12V beyond the intended operating range (-12 to 15.3V). Connecting the CTRL socket renders the CLK knob inactive. For stable operation the socket should be connected before powering the pedal.

**Left footswitch:** Activating the left footswitch sets DECAY to maximum. Holding the switch longer than 500 ms will only momentarily change its status.

**Reverb type:** The left toggle switch sets the reverb type. **HALL** is an artificial, thinly veiled hall reverb. This is the same base reverb as the (Re)FORM reverb algorithm but with less pre-delay. Maximum decay is approximately 10 minutes with CLK at noon. **METAL** is a brittle, slightly metallic and bright sounding reverb. It's decay curve behaves similarly to a comb filter delay producing a rather flat, cold/uneventful trail at longer decay settings. At maximum decay the reverb becomes slightly unstable edging towards self oscillation in the upper frequency range. **GRAIN** is a granular synthesizer performing random grain shuffling combined with regenerated all-pass filters. The system contains 4

simultaneous grains making it more dense than the FABRIKAT shufflers. The all-pass filters have the effect of gradually smoothing the reverberated audio over time making the reverb decay gradually less jumpy/restless.

**Right footswitch:** This is your bypass switch. Holding the switch longer than 500 ms will only momentarily change its status.

**Bypass mode:** The right toggle switch sets the bypass mode. **TRUE** yields true bypass. **GATE** yields true bypass with the addition of minimizing the reverb decay when the pedal is bypassed, effectively clearing the reverb memory. **TRAIL** yields buffered bypass with reverb trails. Seeing as DRAUME offers the unconventional combination of dry/wet-mixing and trails the MIX and VOL knobs will still affect the overall mix and volume when you bypass in this mode. An internal trimpot labeled “BBP GAIN” can be tuned to adjust the volume of the dry signal portion when the pedal is bypassed in **TRAIL** mode.

*Designers note on trail bypass:*

*There's no perfect way to implement trail bypass for a reverb pedal that utilizes a dry/wet-crossmixer. The reason why many conventional reverbs instead have an effect level parameter (a volume control for the wet reverberated signal) is to keep the dry signal portion at a constant level independent from the status of the pedal. When we engage bypass with DRAUME we want to avoid jumping to a different level for the wet signal, thus the MIX and VOL settings must be left intact. Right? ..but what of the dry signal portion? If we engage bypass with MIX at full wet we block any dry signal from reaching the output. So what's the best solution? Unclear, but I decided to add an adjustable amount of dry signal to the wet signal entering the crossmixer when the pedal is bypassed in TRAIL mode. Dependent on your settings you can experience a jump in overall intensity when bypassing, but it's adjustable and most definitely beats bypassing to a decaying reverb followed by silence.*

## INTERNAL PARAMETERS

There are two internal miniature switches. **Z/100** reduces the input impedance to 10kOhm. **PAD** adds a -10dB input pad (damping). These may be useful when running line level signals through the pedal. Note that this will change the unity position of the volume knob.

The BBP GAIN trimpot adjusts the volume of the dry signal portion when the pedal is bypassed in TRAIL mode. The dry (and wet) signal levels are still dependent on the setting of the MIX and VOL knobs. The unlabeled trimpot is associated with the expression input and should not be adjusted.

## TECHNICAL SPECIFICATIONS

Input Impedance	1M $\Omega$
Output Impedance	<1k $\Omega$
Power supply	9 VDC center negative (normal BOSS/Ibanez/1Spot power supply) Does not support battery operation
Current Draw	150 mA
Dimensions	125 x 95 x 62 mm
Weight	450 g