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1 Welcome to DM-307!

Thank you for purchasing DM-307: Modern Groove Designer, a highly-stylized collection of modular synth drums, live percussion, and processed classic analog drum machines. With more than 3,600 unique sounds and loops housed in 1500+ presets and multis, DM-307 introduces innovative ways to quickly and easily create production-ready beats in a variety of contemporary styles including: electronic, industrial, hip hop, ethnic, and cinematic. Building on its history of critically acclaimed virtual instruments (The AEON Collection, DAMAGE, EVOLVE, and EVOLVE MUTATIONS series), the team at Heavyocity has spent close to a year capturing, designing, and tweaking thousands of analog percussion sounds, organic drums, and classic synth drums.

DM-307’s extensive content is complemented by an intuitive user interface, featuring EQ/Filter control, signature Advanced Trigger FX™, and the all-new Grid™ drum machine. Designed for quick and simple groove creation, you can easily create beats and drastically alter and customize your sound. Emphasize your tracks with the signature "Analog Hits", and punch up the beats with the devastating "Punish Knob".
2 About DM-307

DM-307 provides you with 7 different instrument types and 2 Multi types.

Instrument types:

1. **DM-307 Style Kits** – These kits were meticulously arranged from approximately 2,000 uniquely designed samples ranging from kicks and snares to distorted, bizarre, and inspiring modular synth sounds. Build grooves with your Host sequencer, or engage the Grid™ and design a beat in seconds.

2. **Kit Grooves** – Designed from the DM-307 Style Kits, these presets provide easily arranged, tempo synced grooves that can be triggered by a single note. Quickly edit the groove by clicking on the Grid to change the sounds, velocities, pattern, and feel.

3. **Element Kits** – These presets are arranged by drum type, allowing you to load entire nki's of just kick drums, or just snare drums. Easily navigate and build a complex groove using your host or the included Grid™.

4. **Impacts & FX** – Ranging from short and clean blips to epic Analog Hits, reverses, and tempo synced risers, these presets are perfect for adding trailer like stings and transitional sounds, or to emphasize specific points of a beat.

5. **Standard Midi Kits** – Derived from the DM-307 Style Kits, these kits are arranged on the keyboard with the standard midi mapping format. Load up a preset, and play your existing standard midi groove with all new sounds, or trigger the kits with your standard midi mapped controller.

6. **Loop Menus** – The Loop Menus category is suitable for quickly creating tempo-synced grooves, providing menu style presets of tempo-synced/beat-sliced loops. These Menus are arranged in 5 genres and 1 utility folder. Additionally, you can load a "Breakout" menu, containing 12 full loops and their elements mapped individually across the keys. Finally, gain full control of a beat's layers by loading one of the "Elements" menus.

7. **Single Loops** – The Single Loops category contains over 1200 presets of single loops. These presets allow you to quickly modify and remix a loop, allowing you to truly make it unique. Each of these presets has full loop playback, every slice mapped to individual keys, and a midi-to-host drag and drop option.

Multi Types:

1. **Performance Multis** – Containing content created by top artists in the Electronic, Dance, and Cinematic scenes, these multis provide 5 channels of groove creation. Gain unprecedented control over each part with individual fx, modulators, and envelopes.

2. **Production Multis** – these multis also contain 5 instruments, but with a different set up to the Performance Multis. The instruments in the Production Multis are each set up on a different MIDI channel, so they can be controlled individually.
3 Key Mappings

The following section illustrates the key-mappings for the various instruments in the DM-307 library.

Despite their differences, there are some general similarities:

- A#-1 to B0 contains Grid or Loop Mutator key controls
- C1 to E6 will contain the playable key-range
- F6 to C7 are always allocated to the Trigger FX and Amp Sequencer

3.1 Kits

Style/Element Kit (with Grid) Presets.

![Key Mapping Diagram 1](image1)

3.2 Performance Multi

Using Style/Element Kit (with Grid) Presets.

![Key Mapping Diagram 2](image2)
3.3 Loop Menus

Menu Presets (Full Loops, Elements)

Menu Presets (Full Loop Breakouts)

Stems from the full loops (C1-B1) are mapped on the same key as the full loop in succeeding octaves. For example, stems for the full loop on key C1 are mapped to C2, C3, C4, and C5.

3.4 Single Loops
4 Common Interface Controls

Every instrument in the DM-307 library shares a similar interface layout, from which you can alter the sound or change how you play the instrument.

4.1 Navigation

The controls are spread across 3-5 pages, each dealing with different aspects of the instrument. The four pages are:

1. **MAIN** - contains the main controls for the most commonly used parts of the instrument, like the volume envelopes, master effects and mixer.
2. **T-FX** - gives you access to the parameters of the Trigger Effects.
3. **EQ/FILTER** - contains a collection of equalizer and filter options for the instrument.
4. **GRID / MUTATE** – available on certain instruments are the Grid Drum Machine or Loop Mutator.
5. **ADV. LOOP** – this page is only available on the Single Loop interface. It contains options for altering the loop playback.

You can navigate through the pages by clicking on their respective tabs. The main 3 tabs are located to the top right of the interface. The 4th and 5th tabs, if they are available, can be found to the lower right.

4.2 Master Effects

Every instrument has 4 master effects, located to the left side of the Main page. Each effect has 4 parameter controls and an on/off switch.

The controls for each effect are displayed when you click on the effect name, or when the effect is activated.

The on/off button is located beside the effect name. The effect is active when the button is glowing.

The following is a list of the available effects and their parameters:

4.2.1 Delay
A delay effect produces a version of the signal that is delayed in time. When mixed with the original signal, this can produce an echo effect. Additional echoes can be created by feeding the delay output back into the effect input.

The delay effect is accessed by clicking on the DEL. tab. The available controls are:

- **Time** - the time between the original signal and the delayed signal (i.e. the time between echoes).
- **Feedbk** (feedback) - controls how much of the delayed signal is fed back into the effect's input. In other words, this controls the strength of the repeating echoes.
- **Width** - controls the stereo width of the echoes.
- **Amt** (amount) - controls the output level of the delayed signal.

### 4.2.2 Modulation

The modulation effect is a mix of chorus and phaser effects. It can be used to thicken the sound and give a sense of movement to the instrument timbre.

The modulation effect is accessed by clicking on the MOD. tab. The available controls are:

- **Rate** - controls the rate of modulation (or movement) in the effect.
- **Depth** - controls the intensity of the modulation.
- **Morph** - blends between the phaser and chorus effects - with the knob set all the way to the left, you will hear the phaser only; and with the knob set to the right you will hear only the chorus; any setting in between will be a combination of the two effects.
- **Amt** (amount) - controls the output level of the modulated signal.
4.2.3 Reverb

A reverb effect is an artificial space simulator. The reverb effect used in DM-307 is based on a technique called convolution, in which an impulse response of a real (or not) space is used to produce a faithful emulation. An impulse response can be thought of as an acoustic fingerprint, and are capable of producing the most realistic reverb effects, or crazy sounds.

The reverb effect is accessed by clicking on the REV. tab. The available controls are:

- **Impulse Response Menu** - you can use the drop down menu to select one of the 32 provided impulse responses.
- **Pre Del** (Pre-Delay) - controls the amount of delay before the reverb signal, adding time between the input signal and the reverb signal.
- **Size** - sets the pitch shift amount of the impulse response, this changes the perceived size of the space.
- **Mix** - controls the dry/wet mix of the clean (dry) signal and the reverb (wet) signal.

4.2.4 Distortion

The distortion effect emulates the sound of an overdriven analogue circuit. This makes the sound "heavier" by adding overtones and compressing the dynamics.
The distortion effect is accessed by clicking on the DIST. tab. The available controls are:

- **Drive** - controls the amount the signal is overdriven, i.e. the distortion amount.
- **Tone** - controls the tone of the output. Lowering the value of this control will lower the amount of high frequencies present in the output signal.
- **Bass** - controls the level of the bass frequencies.
- **Treb** (treble) - controls the level of the high (treble) frequencies.

### 4.3 Twist and Punish FX

All instruments have a central area in the Main Page that is divided into three tabs. The central tab's function differs depending on which instrument type you have loaded, but the first and last tabs are always the same and contain the TWIST and PUNISH effects.

► You can navigate to these effects by clicking on the respective tab.

#### 4.3.1 Twist

The twist effect is an animated, tone-altering effect that *twists* the audio. You can use it as a stationary effect to quickly alter the tone of the instrument, or you can use the animation controls to give the tone movement. The controls available are:

- **Twist** - this is the large knob in the center. It is used to control the amount of animation that is applied to the tone.
- **Tone** - sets the central tone.
- **Rate** - controls the rate of the tone animation.
- **On** - toggles the effect on or off.
4.3.2 Punish

The Punish effect is a combination of compression and saturation controlled from a single knob. Turn the knob to punish the sound.

The effect can be toggled on or off using the On button.

4.4 Performance

The Performance section is located at the bottom of the Main Page.

It contains the following controls:

- **GRID / MUTATE** - toggles the Grid Drum Machine or Loop Mutator on or off.
- **Pitch Bend Up** - controls the range of the pitch bend MIDI control when the value is positive.
- **Pitch Bend Down** - controls the range of the pitch bend MIDI control when the value is negative.
- **Velocity Min** - controls the minimum velocity. Any MIDI notes played with a velocity lower than this will have their velocity set to this value.
- **Velocity Max** - controls the maximum velocity. Any MIDI notes played with a velocity higher than this will have their velocity set to this value.

The arrows to the right of the Velocity and Pitch Bend controls can be used to increase or decrease these values one step at a time.
4.5 Trigger FX

The Trigger FX are effects that are triggered with MIDI Keys F6-A6. They allow you to temporarily alter or completely mangle a sound quickly and with ease.

There are five Trigger FX available:

1. **Distortion** (F6) - similar to the distortion in the Master Effects section.
2. **LoFi** (F#6) - a digital quality reduction effect. The results can range from retro and gritty, to extreme decimation.
3. **Filter** (G6) - a choice of low pass or high pass filters to alter the timbre of the instrument.
4. **Panner** (G#6) - modulates the stereo field to move the sound between speakers.
5. **Delay** (A6) - a delay/echo effect.

4.5.1 Main Controls

To access the Trigger FX page, click on the **T-FX** tab at the top of the interface.

With the Trigger FX page now open, you will see five columns (one for each of the effects) with a similar arrangement of controls. The following controls have the same function, regardless of the effect:

- **On/Off Switch** - this is located to the right of the effect's name. It can be used to toggle the effect on or off, if you do not wish to use MIDI keys to trigger the effect.
- **Seq.** - toggles the modulation sequences on or off.
- **Advanced** - opens the advanced controls for the effect.
As well as these controls, all of the effects have two parameters that you can edit. These alter the sound of the effect in some way:

- **Distortion**
  - Drive - controls the overdrive amount.
  - Damp - controls a lowpass filter that can be used to soften the harsh overtones produced by the distortion.

- **LoFi**
  - Bits - controls the bit-depth of the output. A lower bit-depth means more digital distortion.
  - S. Rate - controls the sample rate of the output. Lowering the sample rate will produce aliasing - a digital artefact that is usually undesired, but can also be used creatively.

- **Filter**
  - Cutoff - controls the cutoff frequency of the filter.
  - Reso. - controls the resonant peak at the cutoff frequency.

- **Panner**
  - Width - controls the stereo width (how far a sound can be positioned in the panoramic field).
  - Pan - controls the stereo position of the sound.

- **Delay**
  - Feedback - controls how much of the delayed signal is fed back into the effect's input. In other words, this controls the strength of the repeating echoes.
  - Width. - controls the frequency (rate) of the LFO.
4.5.2 Advanced Controls

Every effect in the Trigger FX has the same advanced control layout.

► The advanced page for a specific effect is accessed by clicking on the **ADVANCED** button at the bottom of the effect's column.

With the advanced page now open, you will see the effect control column has moved to the far left position, with the advanced controls filling the rest of the page.

You can navigate between effects by using the arrow buttons to the bottom left of the page.

► To return to the main Trigger FX page, click on the **BACK** button between the navigation arrows to the bottom left.

**Step Sequencers**

Each of the main parameter controls is linked to a step sequencer.

► You can draw in a sequence by simply clicking and dragging with the mouse.

The master rate for both of the sequences is controlled by the **Seq. Rate** knob located between the two step sequences.

The additional controls are the same for each of the sequences, but control them individually.
10 The Sequencer Controls

- **Range** - sets the modulation amount applied from the sequence to the parameter, i.e. the intensity of the modulation.
- **Smooth** - sets the smoothing amount between steps. When set all the way to the left, no smoothing will occur, and when set all the way to the right, smoothing will happen constantly so no stepping will be heard.
- **STEPS** - sets the number of steps for the sequence. You can select 16 or 32 steps.
- **PATTERN** - loads a preset pattern into the sequence. These are:
  - 1 - Sine wave
  - 2 - Ramp down
  - 3 - Ramp up
  - 4 - Square

Trigger FX that utilize the Step Sequencers work best when the input key is quantized to a beat.

11 The Effect Envelope Controls

Between the step sequencers you will also find the effect envelope. This is a simple Attack/Decay envelope that sets the fade in and fade out times for the effect when it is triggered. The controls are:

- **Attack** - sets the fade in time for the effect, i.e. the amount of time it takes for the effect to go from neutral to full effect after the effect is triggered.
- **Decay** - sets the fade out time for the effect, i.e. the amount of time it takes for the effect to go from full to neutral after the effect is deactivated.

**Effect Specific Controls**

The **Filter** and **Delay** effects both have specific controls that are accessed on their Advanced Pages. They are both switches that are located at the bottom of the main parameter control column.

- **Filter**: **FILTER TYPE** - this switches the filter between lowpass (LO) and Highpass (HI) filter types.
- **Delay**: **RATE** - selects between 5 different delay lengths.
4.6 Amp Sequencer

The Amp Sequencer is a quick and easy way of applying amplitude modulation to your sound. The effect can be used like a step sequencer, a rhythmic gate, or a stutter effect.

Triggering the Amp Sequencer

The Amp Sequencer can be triggered from your MIDI keyboard on keys Bb6-C7, with the notes setting different Sequencer rates:

- **Bb6** - the sequencer plays back at the rate defined by the **Rate** knob.
- **B6** - the sequencer plays back at double speed.
- **C7** - the sequencer plays back at quadruple speed.

Amp Sequencer Controls

The controls for the Amp Sequencer are located below the Grid Drum Sequencer, or the Loop Mutator depending on which instrument type you have open.

For the Kits that do not have a Grid Drum Sequencer, the Amp Sequencer is located on the EQ & Filter Page.

In the center of the Amp Sequencer Controls is the Amp Sequencer Pattern.

- You can draw in a pattern by clicking and dragging on this area with your mouse.

To the right is the Amp Sequencer **Rate** knob. This sets the main playback rate of the Amp Sequencer.

To the left are the playback buttons. These buttons mimic the MIDI Keytriggers:

- Activating one of the buttons will start the amp sequencer.
- The Amp Sequencer will play back at a rate dependent on which button is pressed. The playback rate is equal to the value on the button multiplied by the rate set by the **Rate** knob.

4.7 Master EQ

An Equalizer (commonly known as an EQ) is an effect designed to control the levels of different parts of a signal's spectrum. The effect can be used in a subtle manner to compensate for imperfections in recordings, or help fit sounds in a mix; or it can be used in an extreme way to creatively alter the timbre of an instrument.

Each instrument may have different EQ options available, but all instruments include a Master EQ. This can be used to fit the instrument in a mix, or as a creative effect for altering the tonality of the instrument.

If the instrument has more than one EQ available, the Master EQ is accessed by clicking on the **MASTER** tab in the EQ area of the EQ/FILTER Page. It is usually selected by default as the first EQ you will see.
It is a 4 band EQ with high shelf (HF) and low shelf (LF) bands, as well as two mid frequency bell-shaped bands (LMF and HMF).

All four of the bands contain the following controls:

- **Level** - the gain level of the band.
- **Freq** - for the high and low shelves, this controls this starting frequency of the shelf. For the mid-frequency bands this controls the central frequency of the band.

The mid-frequency bands also contain an additional control:

- **Q** - controls the Quality (Q) of the band. This alters the width of the band. A higher Q setting gives a narrower band-width.
4.8 Filter

A filter is also used to alter the timbre of a sound, but in more extreme ways than an equalizer. As such, modulation options are offered to increase the sonic possibilities.

All of the instruments in DM-307 have similar filter controls, which are located to the right of the EQ & Filter page, under the FILTER label.

The exact routing of the filters differs for each instrument type:

- Groove Kits – each Bank has a filter.
- Loop Menus / Kits without the Grid Drum Machine – each sample/loop has a filter.
- Single Loops – one master filter is available.

**Linking Filters**

If the instrument offers more than one master filter, then you will find a button called LINK to the top right of the filter area. When this is activated, the filter settings of the current filter are copied to the other filters and all changes to the filter parameters are applied to all filters at once, effectively turning the filter area into a single master filter.

Turning off the link function, by clicking on the LOOP/SAMPLE/BANK button to the top left of the filter area, will leave all settings as they are, but allow you to alter the Banks/Samples individually again.

**Main Controls**

You can select one of five filter modes using the following buttons:

- **LP** - a 4-pole Lowpass. This removes all of the frequencies above the cutoff frequency.
- **HP** - a 4-pole Highpass. This removes all of the frequencies below the cutoff frequency.
- **BP** - a 4-pole Bandpass. This removes all of the frequencies except for those in a narrow band around the cutoff frequency.
- **Vowel** - the vowel filter uses a simple double-peak system to mimic an unspecified vowel sound.
- **Form.** - a formant filter. This is a more advanced alternative to the vowel filter and more accurately models the frequency response of the human vocal tract as it forms different vowels.
If all of the selector buttons are inactive, the filter is deactivated.

Below the selector buttons are the filter parameter controls:

- **Freq** - controls the cutoff frequency of the filter. This means different things to the different filter modes.
- **Reso** - For the LP, HP, and BP filter modes, this controls the resonant peak at the cutoff frequency. For the Vowel and Formant filters, this controls the intensity (or sharpness) of the filter.

### Modulation Controls

The first section of the modulation controls are for the filter envelope:

- **A** - controls the attack time (or fade in time) of the envelope.
- **D** - controls the decay time of the envelope - the time it takes for the envelope value to reach the sustain level after the attack phase is finished.
- **S** - controls the sustain level of the envelope - the level at which the envelope will sustain after the decay phase, and while the MIDI note is held.
- **R** - controls the release time of the envelope - the time it takes for the envelope value to return to zero after the MIDI note is released.

The lower section controls the modulation amounts:

- **Env.Amt.** - sets the amount of modulation applied from the envelope to the filter cutoff.
- **Key-Track** - sets the MIDI key tracking of the filter cutoff, i.e. how much the cutoff frequency will follow the notes played.
- **Velocity** - sets the amount of modulation applied from the MIDI keyboard velocity to the filter cutoff.

### 4.8.1 Filter LFO

The central area of the EQ & Filter page is the **FILTER LFO** section. An LFO is a Low Frequency Oscillator, used to modulate parameters. In DM-307, the Filter LFO is connected to the cutoff parameter of all of the filters.

The top two controls affect the rate of the LFO:

- **Rate** - is the main LFO rate control.
- **Sync** - when this button is active, the LFO rate will sync to the host tempo in 32nd note subdivisions; when it is inactive, the LFO rate is set freely in hertz.
Below the rate controls is the global LFO Amount knob. This controls how much the LFO modulates the cutoff frequencies of the filters.

Below the Amount knob are the LFO shape selectors. There are four shapes to choose from:

- Square
- Triangle
- Ramp Down (Sawtooth)
- Random

If none of the LFO shape selectors are active, then the Filter LFO is deactivated entirely.

### 4.9 Output

Below the Filter LFO is one final control: the OUTPUT knob.

This knob controls the final output level of the instrument, and can be used to compensate for volume peaks created by all of the different effects included in DM-307.
5 The Kit Interface

5.1 Main Page

The main page is where you will find the main sound and performance controls. This page contains 4 main areas:

- **Master Effects** - here you have access to 4 master effects that are applied to the whole instrument. The details of these controls are covered in section 3.2.
- **Central Section** - this contains 3 subpages, accessed by tabs:
  - **Twist** - an animated, tone-altering effect.
  - **Sample** – where you can alter the volume, tuning and pan of each sample.
  - **Punish** - for damaging your audio.
- **Amplitude Envelopes** - you have access to volume envelopes for all samples.
- **Performance** - pitch bend and velocity controls can be found here. Details for these controls can be found in section 3.4.
5.1.1 Sample Controls

The SAMPLE tab displays a waveform, and 3 controls for altering the sounds available in the instrument.

By default, when you press a key the corresponding sample waveform and its controls will be displayed in this area. If you wish to deactivate this behavior, you can turn it off and on via the MIDI Note Follow button.

For each sample you have access to:

- **Pan** - controls the position of the sample in the stereo field.
- **Tune** - controls the tuning of the sample (+/- 24 semi-tones).
- **Level** - controls the volume level of the sample.

Holding the Alt key when using these controls will change that parameter for all of the samples at once.

5.1.2 Volume Envelopes

Each sample has its own volume envelope. To make things easier, you can control the envelope for a bank of samples with a single set of controls, and then fine tune for each sample as necessary.

Clicking on the BANK tab will give you access to the bank envelopes. At the bottom of this area is a drop-down menu that allows you to select which bank you are currently editing.
19 The Bank Envelope Controls

Clicking on the **SAMPLE** tab will give you access to the fine tune controls. These controls alter the envelope of the sample relative to the Bank settings.

20 The Sample Envelope Controls

There are 4 knobs available for each volume envelope:

- **Attack** - controls the attack (fade in) time.
- **Decay** - controls the time it take for the volume to fade from the maximum value to the sustain value.
- **Sustain** - controls the level at which the envelope will sustain while the key is held.
- **Release** - controls the release (fade out) time of the envelope after the key is released.

Increasing the release time will add to the amount of voices holding over as other notes are playing, this can increase Kontakt’s CPU load.

Holding the Alt key when using the Bank envelope controls will set all Banks to the same value, and reset all of the Sample envelope controls to their default value. This is a useful way to initialize the envelope settings.
5.2 The Grid Drum Machine

Many of the Kits in DM-307 include the new Grid Drum Machine. This is an advanced groove designer developed specifically for DM-307.

If a kit includes a Grid pattern, then the Grid page will be the first you see when the instrument loads.

► You can access the Grid Drum Machine by clicking on the GRID tab to the lower right of the interface.

21 The Grid Main View

The Grid page is split into 4 main areas, which are (from top to bottom):

- **The Preset Controls** – for browsing, saving, and loading preset patterns and settings.
- **The Pattern Editor** – where you will find controls for editing the patterns.
- **The Pattern Chainer** – which allows you to chain up to 8 patterns in any order.
- **Master Controls** – for the main interaction and performance options.

5.2.1 Playback and Master Options

You can trigger the playback of the Drum Machine either from the interface or from your MIDI keyboard or DAW.

Triggering the Grid Playback will activate the playback of all 5 Banks.

Single Banks can be activated and deactivated individually, either from the interface, or via the respective MIDI keys.

Note: the internal clock of the drum machine will start running whenever you first activate any or all Banks. It will keep running until the last Bank is deactivated. All Banks will stay in sync to this internal clock.
Key-Mapping

- **A#-1** – Grid Playback start/stop.
- **Black Keys C#0 to A#0** – Playback start/stop of each Bank.
- **White Keys B-1 to B0** – Pattern Selection.

Master Options

There are six master controls for the Grid drum machine that affect the performance and playback in different ways:

- **KEY LATCH** – when active, a playback MIDI key is pressed once to start playback and a second time to stop playback. When inactive, the playback will run for as long as the MIDI key is held.
- **PATTERN DISPLAYED** – selects the pattern to be displayed in the Pattern Editor. When the Pattern Chainer is inactive, this also specifies which pattern is selected for playback.
- **FOLLOW** – when active, the displayed pattern will follow the Pattern Chainer, if the Pattern Chainer is active.
- **RETRIGGER** – when active, the pattern and/or pattern chain will re-start from the beginning any time a Bank’s playback is activated.
- **INPUT QUANT** – in order to improve sync and performance within your DAW or host, you may wish to activate input quantize. When this control is active, incoming MIDI triggers will be delayed until the time position specified by the Quantization Time knob.
- **Quantization Time** – specifies the time position to which incoming triggers will be quantized.

5.2.2 Pattern Selection and Chaining Options

If the Pattern Chainer is active, the active patterns will slave to the order specified in the chainer.

If the Pattern Chainer is inactive, then the currently displayed pattern will play back in a loop. The displayed pattern can be selected by:

3. Using the pattern selection MIDI keys
4. Clicking and dragging on the PATTERN DISPLAYED control
5. Or by clicking on the pattern selectors in the Pattern Chainer (note: this method still works, even if the chainer is inactive).

The Pattern Chainer

The Pattern Chainer allows you to chain together up to 8 patterns in any order, and can be activated by clicking on the CHAINER button.

22 An Example Pattern Chain

The length of the Pattern Chain can be specified by using the knob below the CHAINER button.

The order of the Patterns can be specified by clicking and dragging on the Pattern Boxes in the chain.
An LED light highlights which pattern in the chain is currently being played back.

5.2.3 Editing a Pattern

The pattern editor displays whichever pattern is specified by the PATTERN DISPLAYED window. Any edits will only be applied to this pattern.

There are two main views when editing a pattern:
- **GRID** – displays the step on/off states for all banks, as well as the Steps and Rate controls for the pattern.
- **Bank** – displays all controls for the Bank including: sample and velocity settings, as well as humanize and swing functions.

**Editing from the Grid view**

The Grid view allows you to oversee and edit most of the pattern parameters.

From here, you can alter the pattern on a basic level:
- Click on a step to toggle it on or off.
- Holding the Ctrl key when clicking on a step will set the state of all of the steps for that Bank.

You also have access to the pattern’s master controls:
- **Steps** – specifies the number of steps in the pattern, with a range from 1 to 16.
- **Rate** – specifies the rate at which the pattern will play back.

Below these knobs is a drop down menu that allows you to edit the entire pattern in the following ways:
- **Copy** – copies all of the pattern’s settings into temporary memory.
- **Paste** – pastes the copied pattern into the currently selected pattern slot. This control will not work until a pattern has been copied.
- **Clear** – clears all settings for the pattern and sets them to default values.
- **Randomize** – randomizes all settings for the pattern.
**Editing from the Bank view**

By clicking on one of the Bank names to the left of the Pattern Editor area, you will open that Bank’s section of the pattern for deeper editing.

![A Pattern in Bank View](image)

The step on/off buttons move to the top of the view and below are revealed controls for the Step Sample and the Step Velocity.

Clicking on either the tabs will display the table for that parameter.

- **STEP SAMPLE** – this table allows you to choose which sample will be played on each step.
- **STEP VELOCITY** – this table allows you to draw in the velocity for each step.

As well as clicking and dragging, the tables have additional control options:

- Hold the Alt key while using the table to move all controls by the same amount.
- Right Click to draw a linear line over the table.

Beside the Velocity and Sample tables are the timing controls. Each Bank has its own timing options, which allows for more advanced groove control:

- **Humanize** – intelligently randomizes the timing and velocity of each step slightly, making the bank sound less like it was played by a drum machine.
- **Swing** – applies a delay to the off-beats. Small values give a straight feel, and higher values give a swinging, triplet feel.

Hold the Alt key to alter the Humanize and/or swing values for all Banks at once. Although these controls are per Bank, they are global over all patterns in the instrument.

Under the timing controls is a drop down menu for editing the Bank’s pattern. The menu includes all of the options available in the Grid edit menu, but with the additional option of editing the Step Sample and Step Velocity parameters individually.
5.2.4 The Preset System

The Grid Drum Machine has a preset system that allows you to save and load the setting for all of the parameters on the Grid page.

The Grid Preset Menu

Browsing and Loading Presets

There are three ways to browse and load presets:

You can load a preset via the Load button in the preset header:
1. Click on the Load button to open a system dialogue box.
2. Navigate to the file you want as you would in your operating system file browser.
3. Open a file by either double-clicking on its name,
4. or by highlighting the file by clicking it once, then clicking on the Open button.

If you load an incompatible .nka file, you will be shown a warning and nothing will load or change.

You can also browse and load presets via the built-in file browser.

► You can open the file browser by clicking on the button called Browse Presets >>, the currently load preset name, or by clicking on the orange down arrow.

The Grid Preset File Browser

From the file browser you can browse through the presets included in the DM-307 Library folder. These presets are arranged into categories to help you find the right groove.

To load a preset:
1. navigate through the browser until you find the file you wish to load.
2. Double-click on the file,
3. or select the file, then press the return/enter key on your keyboard.

When you open a preset, the file browser view will close and return you to the main Grid Page.

You can also cycle through presets by using the < and > buttons in the preset header.

Note that these buttons will only work if you have already loaded a preset from the file browser.
**Saving Presets**

Saving presets is simple:

1. When your preset is ready, click on the **Save** button.
2. A Save dialog window will open.
3. Navigate to the directory into which you wish to save your preset. We advise you save in the following folder, so that your preset can be found in the built-in file browser:
   `...\DM-307 Library\Presets\Grid Groove Machine\01 User Patterns`
4. Enter a name for the file.
5. Click on the **Save** button, or press the Return/Enter key.

**5.3 EQ & Filter**

The EQ & Filter page is where you will find controls that alter the timbre of the instrument. Each instrument contains:

- A per-sample 3-band parametric EQ
- A master EQ based on the analogue modeled SOLID EQ. Controls for this section are covered in section 3.7.
- A per-bank filter with five different filter types and a variety of modulation options. Controls for this section are covered in section 3.8.

**5.3.1 Sample EQ**

Each sample has its own 3-band parametric EQ. To access the EQ for a sample, click on the **SAMPLE** tab.

![Sample EQ Controls](image)

The note of the sample that is being edited is displayed in the note readout between the **SAMPLE** and **MASTER** tabs. You can change the selection by either:

1. clicking and dragging on the readout
2. or, if **MIDI Note Follow** is active on the Main Page, press the MIDI key you wish to edit.
Unlike the Master EQ, all of the bands in the channel EQ are bell-shaped. As such, all three bands have the same controls:

- **Level** - the gain level of the band.
- **Freq** - controls the central frequency of the band.
- **Q** - controls the Quality (Q) of the band. This alters the width of the band. A higher Q setting gives a narrower band-width.
6 The Loop Menu Interface

6.1 Main Page

The main page is where you will find the main sound and performance controls.

This page contains 4 main areas:

- **Master Effects** - here you have access to 4 master effects that are applied to the whole instrument. The details of these controls are covered in section 3.2.

- **Central Section** - this contains 3 subpages, accessed by tabs:
  - **Twist** - an animated, tone-altering effect.
  - **Loop** – where you can alter the volume, tuning and pan of each loop.
  - **Punish** - for damaging your audio.

- **Amplitude Envelopes** - you have access to volume envelopes for all loops.

- **Performance** - pitch bend and velocity controls can be found here. Details for these controls can be found in section 3.4.
6.1.1 Loop Controls

The LOOP tab displays a waveform, and 3 controls for altering the sounds available in the instrument.

By default, when you press a key the corresponding loop waveform and its controls will be displayed in this area. If you wish to deactivate this behavior, you can turn it off and on via the MIDI Note Follow button.

For each loop you have access to:

- **Tune** - controls the tuning of the loop (+/- 24 semi-tones).
- **Pan** - controls the position of the loop in the stereo field.
- **Level** - controls the volume level of the loop.

Holding the Alt key when using these controls will change that parameter for all of the loops at once.

6.1.2 Volume Envelopes

Each loop has its own volume envelope. To make things easier, you can control all of the envelopes with a single set of controls, and then fine tune for each loop as necessary.

Clicking on the MASTER tab will give you access to the master envelope controls.
Clicking on the **LOOP** tab will give you access to the fine tune controls. These controls alter the envelope of the loop relative to the Master settings.

### 31 The Loop Envelope Controls

There are 4 knobs available for each volume envelope:

- **Attack** - controls the attack (fade in) time.
- **Decay** - controls the time it take for the volume to fade from the maximum value to the sustain value.
- **Sustain** - controls the level at which the envelope will sustain while the key is held.
- **Release** - controls the release (fade out) time of the envelope after the key is released.

Increasing the release time will add to the amount of voices holding over as other notes are playing, this can increase Kontakt’s CPU load.

Holding the Alt key when using the Bank envelope controls will set all Banks to the same value, and reset all of the Sample envelope controls to their default value. This is a useful way to initialize the envelope settings.
6.2 The Loop Mutator

This page can be accessed by clicking on the MUTATE button, located to the bottom right of the interface.

The Loop Mutator is, at its core, based on an advanced arpeggiator. An arpeggiator takes the notes you are holding on the MIDI keyboard and re-arranges them to play patterns. Most arpeggiators run through the held notes in order, from highest to lowest, or vice versa, but more recent arpeggiators have extended options for more complex playback.

This Loop Mutator is more advanced than most, with many unique features that will enable you to create intricate and complex patterns and sequences.

Much of the Loop Mutator interface follows that of the Grid Drum Machine, but with some major differences.

6.2.1 Patterns

The Loop Mutator is based around patterns. A pattern stores most of the main Loop Mutator data, including the rate, pattern length, and the parameter table values. A preset contains 8 patterns, which can be used in two different ways:

1. If the CHAINER is inactive, the selected pattern will be the currently active pattern, i.e. the pattern you are viewing is also the one that is being played back.
2. If the CHAINER is active, then the Loop Mutator will cycle through the patterns according to the number and order of patterns that are included in the chain.

The length of the pattern chain can be controlled via the knob below the CHAINER button.
6.2.2 Mode Controls

Apart from the pattern selection buttons and chain controls, there are three controls that are not altered by pattern selection. These are:

- **Playback Mode** - this is the menu to the top right of the Loop Mutator area. From this you can select the order and mode in which the Loop Mutator organizes the played keys. The modes available to you are:
  - **Chord** - all held notes are played together, as a chord.
  - **Pairs** - the held notes will be cycled through as pairs, creating a "broken chord" effect.
  - **Up** - the Loop Mutator will cycle through the notes from the lowest to the highest.
  - **Down** - the Loop Mutator will cycle through the notes from the highest to the lowest.
  - **Circle** - the Loop Mutator will alternate between the Up and Down modes.
  - **Circle++** - similar to Circle, but the highest and lowest notes are played twice when they are reached.
  - **Single** - a monophonic mode. Only the last played note is used, all other notes are ignored.

- **Retrigger** - with this button active, the Loop Mutator pattern will return to the start of the pattern every time a new note is played.

- **+8va** - duplicates all held notes, but transposed an octave higher. So, if you hold a single C key, the Loop Mutator will play a pattern as if you were holding that C key and the C key an octave above it.

If you are using Chord mode, the +8va could increase Kontakt’s CPU as it increases the number of voices.

The other mode controls are stored and recalled with the patterns:

- **Seq Steps** - sets the number of steps in the pattern, from 1 to 16.
- **Rate** - sets the rate of playback for the pattern.

6.2.3 Parameter Controls

The body of the Loop Mutator section is a parameter table. These tables work like a step sequencer, altering the parameter at each step according to the settings of the table. There are three parameters available, which are selected by using the tabs below the table:

- **STEP LOOP** - controls the note transposition of the step, changing the loop for that step.
- **STEP LENGTH** - the note length. This also controls the step mode: if the slider is all the way down, the step is deactivated and the Loop Mutator will not play a note at that step; if the slider is all the way up, the step will tie over to the next step, merging the lengths of the two steps.
  
  Length is effected by each channel’s release duration found on the main page, the shorter the release, the more dramatic the Length parameter’s effect.

- **STEP VELOCITY** - the note velocity, i.e. how hard the note is played.

  Clicking on a tab will display the relative table for that parameter.

The table values are stored and recalled inside the patterns automatically.

Holding the Alt (Option) key while moving a slider will move all the other sliders for that parameter by the same amount. This will work in conjunction with Kontakt's default key modifiers (Ctrl for control reset and Shift for fine tuning).
There is also a menu available for editing the parameter controls quickly. This menu is located below the sliders and to the right. When you click on it you will notice the menu entries are divided into two sections.

- **Single Parameter** - selecting an edit function in this section will only affect the parameter that is currently selected and on display.
- **All Parameters** - selecting an edit function from this section will affect all parameters.

Note that, regardless of setting, the edit function is only applied to the parameters in the currently selected pattern.

The edit functions available to you are:

- **Copy** - stores the settings of the current pattern into temporary memory.
- **Paste** - recalls the settings of the copied pattern into the current pattern.
- **Reset** - sets the parameter(s) in the current pattern to their default value.
- **Random** - sets the parameter(s) in the current pattern to a random value.

### 6.2.4 Presets

Since the Loop Mutator is a lot more advanced than most arpeggiators, presets are provided for you to quickly get started. You can also save up to your own presets to recall later in other DM307 Loop instruments.

Loop Mutator presets are compatible between Single Loop and Loop Menu instruments.

The preset system for the Loop Mutator uses the same functionality as the preset system for the Grid Drum Machine. A guide for how to use it can be found in section 4.2.4.

### 6.3 EQ & Filter

The EQ & Filter page is where you will find controls that alter the timbre of the instrument.
Each instrument contains:

- A per-loop 3-band parametric EQ
- A master EQ based on the analogue modeled SOLID EQ. Controls for this section are covered in section 3.7.
- A per-loop filter with five different filter types and a variety of modulation options. Controls for this section are covered in section 3.8.

### 6.3.1 Loop EQ

Each loop has its own 3-band parametric EQ. To access the EQ for a loop, click on the **LOOP** tab.

![Loop EQ Controls](image)

The note of the loop that is being edited is displayed in the note readout between the **LOOP** and **MASTER** tabs. You can change the selection by either:

3. clicking and dragging on the readout
4. or, if **MIDI Note Follow** is active on the Main Page, press the MIDI key you wish to edit.

Unlike the Master EQ, all of the bands in the channel EQ are bell-shaped. As such, all three bands have the same controls:

- **Level** - the gain level of the band.
- **Freq** - controls the central frequency of the band.
- **Q** - controls the Quality (Q) of the band. This alters the width of the band. A higher Q setting gives a narrower band-width.
7 The Single Loop Interface

7.1 Main Page

The main page is where you will find the main sound and performance controls.

This page contains 4 main areas:

- **Master Effects** - here you have access to 4 master effects that are applied to the whole instrument. The details of these controls are covered in section 3.2.

- **Central Section** - this contains 3 subpages, accessed by tabs:
  - **Twist** - an animated, tone-altering effect.
  - **Loop** – where you can alter the volume, tuning and pan of each slice in the loop.
  - **Punish** - for damaging your audio.

- **Amplitude Envelopes** – a master envelope for the instrument.

- **Performance** - pitch bend and velocity controls can be found here. Details for these controls can be found in section 3.4.
7.1.1 Loop Controls

The LOOP tab displays a waveform, and 3 controls for altering each slice of the loop.

For each slice you have access to:
- **Tune** - controls the tuning of the slice (+/- 24 semi-tones).
- **Pan** - controls the position of the slice in the stereo field.
- **Level** - controls the volume level of the slice.

Holding the Alt key when using these controls will change that parameter for all of the slices at once.

7.1.2 Volume Envelopes

The Single Loop instruments have one master volume envelope. This envelope is triggered with each slice.

There are 4 knobs available for the volume envelope:
- **Attack** - controls the attack (fade in) time.
- **Decay** - controls the time it take for the volume to fade from the maximum value to the sustain value.
- **Sustain** - controls the level at which the envelope will sustain while the key is held.
- **Release** - controls the release (fade out) time of the envelope after the key is released.
7.2 The Loop Mutator
The Loop Mutator for the Single Loops has exactly the same functionality as the Loop Mutator of the Loop Menus. The only difference is that for the Single Loops the Mutator is triggering loop slices rather than full loops.

Functionality of the Loop Mutator is covered in section 5.2.

7.3 Advanced Loop Edit Page
The Advanced Loop Edit page is accessed by clicking on the ADV. LOOP tab to the bottom right, under the MUTATE tab.

A large waveform display gives you a clearer overview of the loop.

The larger display also offers a slice highlight, so you can see where in the loop you are currently editing.

Below the waveform are the additional loop controls:

- **MIDI To Host** – use this icon to drag and drop a MIDI version of the loop into your DAW or Host.
- **Random** – this drop-down menu allows you to randomize the Tune, Pan or Level parameters for all slices of the loop. You can also randomize all parameters at once by selecting All in the menu.
- **Tune, Pan, and Level** – these controls function in exactly the same way as their counterparts on the Main Page, controlling the relative parameter of the selected slice.
- **Reset** – this drop-down menu functions like the Random menu, except it resets any parameter of the loop to its default value.
- **Playback Tempo** – this control allows you to alter the playback rate of the loop when it is triggered from the playback key (C1).
7.3.1 Using the MIDI to Host feature

The MIDI to Host feature is very useful when using a Single Loop instrument in your DAW. It allows you to re-arrange the loop as you wish so that it fits your track perfectly.

► Click and Drag from the anchor icon to import the MIDI into your host.

Once the MIDI is in your host, you need to make sure the MIDI track is routed back into the instrument. Otherwise it will be unable to trigger the loop slices.

With this done, the track should playback the loop when you start playback of your host project.

If everything is working as expected, you can enter the MIDI track and re-arrange the notes to re-arrange the slices of the loop.

In some cases it is better to use MIDI in this way, rather than using the Playback key. For example, if you are automating the tempo of your track.

7.4 EQ & Filter

The EQ & Filter Page of the Single Loop instruments is the most simple of the DM-307 instruments, but that does not make it any less powerful.

![EQ & Filter Page](image)

It features a single Master EQ and a single Master Filter. Both of which are covered in sections 3.7 and 3.8 respectively.

Note that, like the volume envelope, the filter envelope is triggered with each slice.
8 Multis

The DM-307 comes with a collection of Multis – groups of instruments that complement each other. The DM-307 Multis usually comprise of 5 kits that build on top of each other to create one fully designed pattern.

To control everything with ease, the Multis come with their own scripted performance view, which is a mix of performance tool and audio mixer.

8.1 Installing the Multi Graphics

To use the Multi files, it is required for you to first run an additional installer for the Multi picture files.

There are two installer files provided, one for Mac OSX and one for PC Windows. In both cases the installer file is called *Heavyocity DM-307 MULTI Graphics Installer*.

Run the installer file as you would any normal installer.

The installer will install a selection of image files required for the Multis to display correctly.

No re-start is required after installation.

Installation of the Multi graphics can happen before or after the DM-307 main installation, but should happen after the Kontakt or Kontakt Player installation.

8.2 Using the Performance Multi

When you load a Multi, you are loading a virtual rack of instruments. At the top of this rack is the Multi Script Performance View.

The Multi Script overrides certain key functions, and provides you with quick mixing options.

8.2.1 Key Mapping

The Multi allows you to quickly switch between the instruments, without needing to worry about MIDI channel assignments.

Any MIDI note that comes in is re-assigned to the currently selected channel in the mixer. The currently selected channel is highlighted in orange.

You can change the selected channel by either:

- Clicking on the label of the channel you want to use,
- or by selecting the channel via key-switches on the white keys C0 to G0

The one exception to the MIDI re-assignment is the main playback key A#-1. This key still triggers the playback of all channels, regardless of the channel selection.
Additionally, you can quickly mute channels using the black MIDI keys C#0 to A#0. The channel will remain muted as long as the respective key is held.

An illustration of the key mapping can be found in section 3.2.

8.2.2 Global Controls

On the left side of the Multi Performance View are the Global Controls.

Three of these controls are Kontakt's built-in controls and should only be used if you are an experienced user who is aware of their function:

- Bypass – will bypass the script’s functions, effectively switching it off.
- Preset – loads a factory preset (this will erase the DM-307 script completely and cannot be undone).
- Edit – this control is locked.

The DM-307 controls are as follows:

- **GLOBAL PLAY** – starts playback of the Grid Drum Machine in all included instruments.
- **LATCH** – functions similarly to the KEY LATCH control of the Grid Drum Machine:
  - When active, the pattern will start playback when the trigger key is pressed, and will continue until it is pressed again.
  - When inactive, the pattern will playback only for as long as the trigger key is held.

8.2.3 Mixer Controls

Each of the 5 channels contains the following controls:

- **Vol (volume)** – controls the volume level of the channel. This is also controllable via MIDI Controller 7.
- **Pan** – controls the position of the channel in the stereo field.
- **M (mute)** – silences the channel.
8.3 The Production Multi

The Production Multis are similar to the Performance Multis, but with a different set up. Each of the 5 included instruments is assigned to a different MIDI channel, allowing them to be controlled individually.

<table>
<thead>
<tr>
<th>CHANNEL 1</th>
<th>CHANNEL 2</th>
<th>CHANNEL 3</th>
<th>CHANNEL 4</th>
<th>CHANNEL 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol</td>
<td>Vol</td>
<td>Vol</td>
<td>Vol</td>
<td>Vol</td>
</tr>
<tr>
<td>Pan</td>
<td>Pan</td>
<td>Pan</td>
<td>Pan</td>
<td>Pan</td>
</tr>
</tbody>
</table>

43 The Production Multi Mixer

The Production Multi’s mixer is almost identical to the Performance Multi Mixer. The only difference is the exclusion of the channel selection, as this function is not present in the Production Multi.
9 Possible Issues and Workarounds

Grid Drum Machine Loses Time in Standalone (Mac OSX Only)

In some cases, the Grid Drum Machine will fall out of time when it is left running for a few pattern cycles. This problem only occurs on Mac OSX in Standalone and does not affect behavior in Windows standalone or in any Host program.

The solution is as follows:

1. Enter Kontakt’s options menu,
2. Click on the Load / Import tab,
3. Uncheck the Unwind automation IDs for additionally loaded patches box.

Please note that the Unwinding of automation IDs is an important feature, especially when in a host. It may be important to check this option again when you’re finished using DM-307 in standalone.

Single Loops Play Back Incorrectly in a Host

This problem only arises in some hosts and under specific circumstances. If you are retriggering the loop playback and have MIDI note end times at the same location as MIDI note start times, the loop could skip a slice, or dropout altogether.

Care has been taken to make sure this doesn’t happen, but if it does you have two options:

1. Add a small gap between MIDI note end and start times,
2. or drag the MIDI file from the Kontakt instrument using the MIDI To Host feature, then use this to trigger the loop as slices.
10 Credits

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