USER MANUAL

DRUM**BRUTE** IMPACT
ANALOG DRUM SYNTHESIZER

ARTURIA®
YOUR EXPERIENCE · YOUR SOUND

Special Thanks

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Thank you for purchasing DrumBrute Impact!

This manual covers the features and operation of Arturia's **DrumBrute Impact**, a full-featured analog drum synthesizer, pattern sequencer and live performance device.

In this package you will find:

- One DrumBrute Impact analog drum synthesizer, with a serial number and an unlock code on the bottom. You will need this information in order to register your Impact online.
- One DC power supply. Use only the included supply or else the unit could be damaged.
- The Quick Start Guide

Be sure to register your DrumBrute Impact as soon as possible! There is a sticker on the bottom panel that contains the serial number of your unit and an unlock code. These are required during the online registration process. You may want to record these elsewhere or take a photo of the sticker in case it becomes damaged.

Registering your DrumBrute Impact provides the following benefits:

- It enables you to download the DrumBrute Impact user manual and the latest version of the MIDI Control Center software
- It allows you to receive special offers restricted to DrumBrute Impact owners.

Special Message Section

Specifications Subject to Change:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update the hardware that has been purchased.

IMPORTANT:

The product and its software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high level or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or feature works (when the product is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting service.

Precautions include, but are not limited to, the following:

1. Read and understand all the instructions.
2. Always follow the instructions on the instrument.
3. Before cleaning the instrument, always remove the USB cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine or any other organic solutions; do not use a liquid cleaner, spray or cloth that's too wet.
4. Do not use the instrument near water or moisture, such as a bathtub, sink, swimming pool or similar place.
5. Do not place the instrument in an unstable position where it might accidentally fall over.
6. Do not place heavy objects on the instrument. Do not block openings or vents of the instrument; these locations are used for air circulation to prevent the instrument from overheating. Do not place the instrument near a heat vent at any location with poor air circulation.
7. Do not open or insert anything into the instrument that may cause a fire or electrical shock.
8. Do not spill any kind of liquid onto the instrument.
9. Always take the instrument to a qualified service center. You will invalidate your warranty if you open and remove the cover, and improper assembly may cause electrical shock or other malfunctions.
10. Do not use the instrument with thunder and lightning present; otherwise it may cause long distance electrical shock.
11. Do not expose the instrument to hot sunlight.
12. Do not use the instrument when there is a gas leak nearby.
13. Arturia is not responsible for any damage or data loss caused by improper operation of the instrument.

Introduction

Congratulations on your purchase of Arturia's DrumBrute Impact!

The DrumBrute Impact analog drum synthesizer is the younger sibling of the Arturia DrumBrute, and though it is smaller in stature its features are equally formidable. It has all of the same groove-making capabilities, with a unique sound that packs a punch all its own.

DrumBrute Impact offers 10 powerful analog instruments including a kick drum, two snares, hats and cymbals, plus toms, cowbell, and a flexible FM drum instrument can produce a wide variety of sounds. The innovative Color features for each instrument expand the possibilities even further.

There is also a new distortion circuit on the master output to add an aggressive edge to the overall sound. It has an adjustable level that ranges from "*a little bit dirty*" to "*overdriven into oblivion*", so you can mangle your music as much as you like.

As an analog drum synthesizer the DrumBrute Impact stands on the shoulders of the classic drum machines of the 1970s and '80s. But it also incorporates the most advanced technological developments of the modern era, which allows it to integrate and synchronize with any computer system, MIDI rig or vintage setup.

Main features of the DrumBrute Impact:

- 10 instruments, including an FM drum
- Completely analog signal generation and signal path for each instrument
- Independent Color feature for each instrument
- Adjustable/defeatable distortion on master output
- Individual outputs for many instruments (kick, snares, hats, and the FM Drum)
- Solo/Mute of individual instruments or groups of instruments
- 10 independent tracks
- Shift timing of tracks or events
- Accent and Color available per instrument, per event (except cowbell)
- Swing and randomness, per track or per pattern
- Step repeat, for rhythmic subdivisions per event
- Tempo range 30-300 bpm
- Tap tempo
- MIDI input/output
- Able to synchronize to USB/MIDI clock and other standard clock sources
- Works with the MIDI Control Center software to edit sequences and global settings

We think you'll be impressed by the sonic character and features of the DrumBrute Impact. And above all, it is easy to use! It has been specifically designed to enhance your workflow and your creativity.

Be sure to visit the www.arturia.com website and check for the latest firmware, download the MIDI Control Center and check out the tutorials and FAQs. We are sure you'll be making amazing music in no time.

Musically yours,

The Arturia team

Table Of Contents

1.1. Making the connections

The DrumBrute Impact provides many ways to connect with other types of equipment, from vintage to modern. Below are examples of potential setups:

1.1.1. ...with a computer
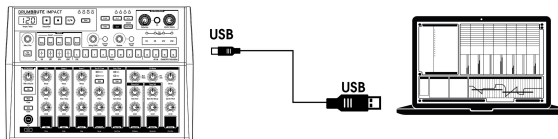
The DrumBrute Impact is more than a classic drum machine: it's also a USB class-compliant device. So at its most basic level it can be connected to any computer with a USB port, and its pads can used as input devices for various applications. The free, downloadable MIDI Control Center [p.70] software allows you to specify which MIDI notes and commands will be transmitted by the pads and transport buttons, respectively.

> ♪: The DrumBrute Impact does not draw its power from the USB port on your computer. To supply power to the unit, simply connect the included DC power adapter to the DrumBrute Impact and to an external power source, then set the power switch on the back of the DrumBrute Impact to the On position.

1.1.2. ...with external devices
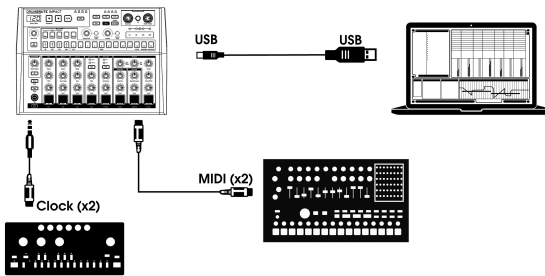
As you can see, the DrumBrute Impact can be at the heart of some amazing systems.

1.1.2.1. MIDI devices

There are lots of great devices that only have MIDI ports (no clock sync, no USB). The DrumBrute Impact will fit right in with these systems: it will sync with MIDI sequencers, arpeggiators, and other drum machines, and its own drum sounds may be played from a MIDI keyboard. And of course it can send and receive MIDI data using the USB port of your computer.

1.1.2.2. Clock sources/destinations

The Clock input and output can synchronize with older clock types such as 24 pulses per quarter note (ppqn), 48 ppqn, 2 ppqn (Korg), or even a single pulse or step.

See the section Clock Connectors [p.69] for information about what cables to use with other sync connections and formats.

1.2. Transport, Patterns, Effects
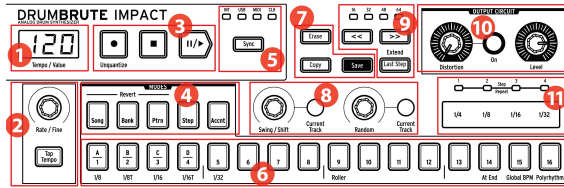
1. Tempo/Value display
2. Rate/Fine/Tap Tempo
3. Transport buttons
4. DrumBrute Impact modes
5. Synchronization
6. Step buttons/Step values
7. Erase/Copy/Save buttons
8. Pattern effects
9. Pattern length/Last step
1O. Output: Distortion, Master Level
11. Roller/Looper/Step Repeat

1.2.1. Tempo/Value display

Most of the time the display will show the tempo value in beats per minute (BPM), but it will also change temporarily to show the values of the Pattern Effects (Random or Swing) while they are being edited. In Song mode it will display the Pattern number while the song is playing.

1.2.2. Rate/Fine/Tap Tempo

The tempo can be set using the Rate/Fine encoder or by tapping the Tap Tempo button. To fine-tune the tempo, press Shift and turn the encoder. The display will change to show the decimal values of the tempo (.OO-.99) as soon as the Shift button is pressed.

1.2.3. Transport buttons

Unquantize
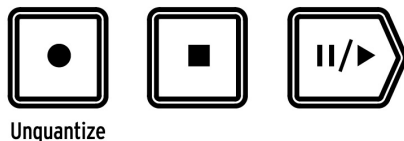
The Transport buttons control the DrumBrute Impact sequencer as well as external MIDI devices using standard MIDI messages or MIDI Machine Control (MMC). Use the MIDI Control Center [p.70] software to make any necessary changes.

The Record button is used to create songs and patterns, and is used with the Shift button to toggle between quantized and unquantized recording.

The Stop button will cancel recording or playback, and can be used to send an All Notes Off [p.27] command if needed.

The Play button doubles as a Pause button, which allows you to pause a sequence in mid-stream, tweak the sound of an instrument, and then press Play again to resume recording or playback. You can choose whether the pattern will continue from the point at which it was paused or restart from the beginning. Use the MIDI Control Center [p.70] to define the Play/Pause behavior [p.96].

> ♪: The DrumBrute Impact allows both quantized and unquantized recording. Recordings are quantized by default; to disable quantization, hold Shift and press the Record button. See Recording a Pattern [p.39] for more information.

1.2.4. DrumBrute Impact modes

Revert
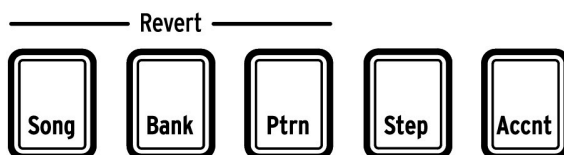
These five buttons determine the operational mode of the DrumBrute Impact: Song, Bank, or Pattern mode. The Step and Accent buttons are used to edit a Pattern.

Everything you need to know about creating a pattern is in the Pattern mode chapter [p.38]. To learn how to build a song, see the Song mode chapter [p.55].

The Song, Bank, and Pattern buttons can be used with the Shift button to revert a pattern, a bank, or the songs to their previously saved state. These procedures are described here [p.56] for Song mode and here [p.53] for banks and patterns.

1.2.5. Synchronization Options

INT   USB   MIDI   CLK
☐   ☐   ☐   ☐
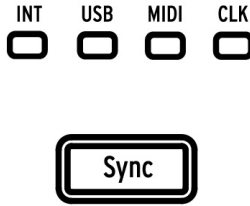
Sync

There are four Sync options which are accessed by pressing the Sync button repeatedly. These determine whether the DrumBrute Impact will be the master or the slave in a multi-device setup.

Whether it is the master or the slave in a system, the DrumBrute Impact can be set to transmit and respond to one of four different clock rates (1P, 2P, 24P, or 48P). This choice may be made very easily from the front panel by holding the Sync button and turning the Rate/Fine knob.

For a full description of the sync features see the Synchronization [p.68] section.

1.2.6. Step buttons

| A 1 | B 2 | C 3 | D 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1/8 | 1/8T | 1/16 | 1/16T | 1/32 | | | | Roller | | | | | At End | Global BPM | Polyrhythm |
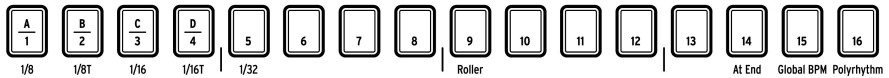
One main use for the sixteen Step buttons is to select patterns in Pattern mode. But they serve many other purposes as well.

For example, in Step mode they are used to enable/disable events in a pattern. And when used with the Shift button they select time division values and toggle certain features on and off.

In this manual you will learn how to use the Step buttons to select a song [p.55], select a bank or pattern (see Working with Patterns [p.20]), to edit a pattern [p.44], to set the pattern length [p.51], and much more.

The Step buttons with secondary Shift functions are covered in the appropriate sections of the manual. Follow this link for a chart of all the Shift functions [p.67].

1.2.7. Erase and Copy

These two buttons are used in every mode to copy or erase large amounts of pattern data at the same time. For example, you can copy a pattern to a new location or erase it completely.

You can also copy sequence data from one instrument to another within the same pattern, or erase all of the data for one instrument within a pattern.

The Copy/Erase functions are covered in greater detail here [p.59].

1.2.7.1. Save button

The Save button is used in conjunction with the Song, Bank and Pattern mode buttons to preserve the patterns you have created.

> ⓘ !: Your new pattern data will be lost during a power-cycle unless you have used the Save button to store it to the DrumBrute Impact internal memory.

There are three levels of the Save function: Pattern, Bank and Song. Details about these operations are found here [p.53] for Patterns and here [p.56] for Songs.

> ⓘ ♪: You save an entire bank of 16 patterns at once by holding Save and pressing the Bank button.

1.2.8. Pattern effects
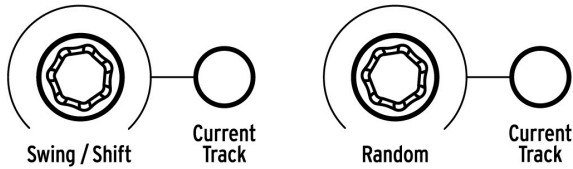
Swing **introduces** a "shuffle" feel to the patterns. It can affect the entire pattern (all instruments at once) or only the current instrument track, leaving the others untouched.

Using the Swing encoder while holding the Shift button allows you to shift the timing of an entire instrument track forward or backward. You can also shift the timing of an individual event on a track by holding the corresponding Step button and turning the Swing encoder.

Random introduces an increasing amount of unpredictability to the patterns. As with the Swing setting, this control can affect the entire pattern or only the current instrument track, leaving the others untouched.

For more details on these features, see the Swing [p.42], Shift timing [p.47], and Random [p.43] sections.

1.2.9. Pattern length/Last step
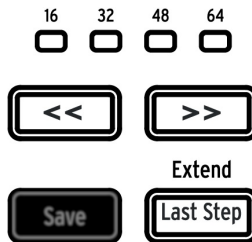
DrumBrute Impact patterns can be up to 64 steps long, consisting of up to four 16-step subdivisions that play one after the other. Those are called the Step Groups.

The four LEDs above the double arrow buttons (<< >>) are used to indicate the pattern length and which Step Group is currently playing.

The Last Step button is used with the Step buttons and the << >> buttons to change the length of the current pattern.

For a complete description of these features, see Pattern Length [p.51].

1.2.10. Output Circuit
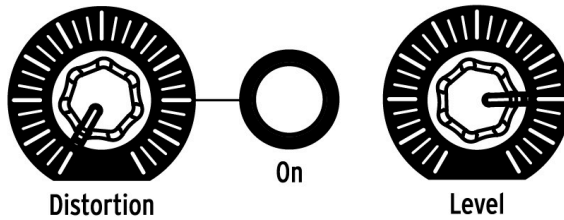
1.2.10.1. Distortion

This knob controls the level of distortion being applied to the overall mix. The distortion circuit is at the end of the signal path, so when it is used all instruments will sound distorted. The button to the right of the Distortion knob will toggle the Distortion effect on and off.

> ♪: The Distortion does not affect the individual outputs of the Kick, Snares, Hi Hats, or the FM Sound. However, there is an independent Drive effect for the Kick that can be added using the Color feature. The Drive effect is available at the independent Kick output. See the Color mode section [p.34] for more information.

1.2.10.2. Level

This knob controls the master output level of the DrumBrute Impact. It also controls the headphone level.

> ♪: The Master Volume knob will not affect the level of an instrument when a cable is plugged into the rear panel output of that instrument. In this case, use the Level knob above that instrument's drum pad. See this section [p.18] for more information.

1.2.11. Roller/Looper/Step Repeat

The Touch strip is used both for recording and playback, and adds an exciting level of spontaneity to music creation and live performance. It can be configured to generate drum rolls, loop sections of a song or pattern, and enter rhythmic subdivisions for an event in Step edit mode.
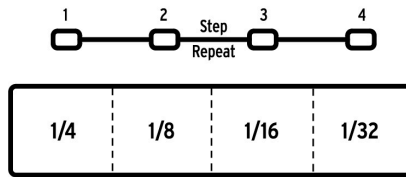
The Touch strip

There's a Step button that will toggle the Touch strip between Roller and Looper functionality. To switch between these modes, hold the Shift button and press Step button 9. You'll know right away which mode is active when you press the Shift button: if Step button 9 is lit, the Touch strip is in Roller mode. If it is not lit, it is in Looper mode. This parameter [p.97] can be set in the MIDI Control Center [p.70] also.

For details on using the Touch strip as a Looper or a Roller, click here [p.26]. There's additional information about the Roller [p.41] in the Pattern Mode chapter [p.38]. Step Repeat is covered in two places in the manual: There's a section in the Pattern Mode chapter [p.46] and also a section in the MIDI Control Center chapter [p.89], because the Step Repeat value can be edited for each step within a pattern there also.

1.3. Utility functions

1.3.1. Metronome
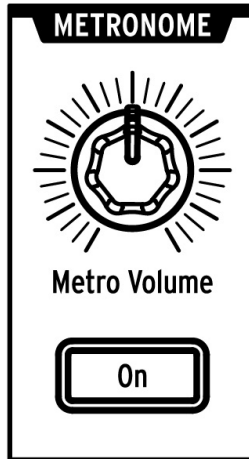
To enable the metronome, press the On button. This will provide a timing reference while the DrumBrute Impact is running. Various timing values are available for the click from the front panel and in the MIDI Control Center [p.70]. See this section [p.21] for more information.

The click level is controlled by the Metro Volume knob.

For a description of the output options for the Metronome, click here [p.18].

1.3.2. Mute/Solo buttons

These buttons allow you to silence one or more instruments or isolate specific instruments while recording a pattern or playing it back.

For more information about using the Mute and Solo buttons, see this section [p.40].

1.3.3. Shift button

The Shift button is used in conjunction with other controls to perform secondary functions such as Fine Tempo adjustment or clearing the Mute group.

Each specific use of the Shift button will be described in the appropriate sections of this manual. For a complete list of Shift functions, follow this link [p.67].

1.4. Instruments, Pads, Color
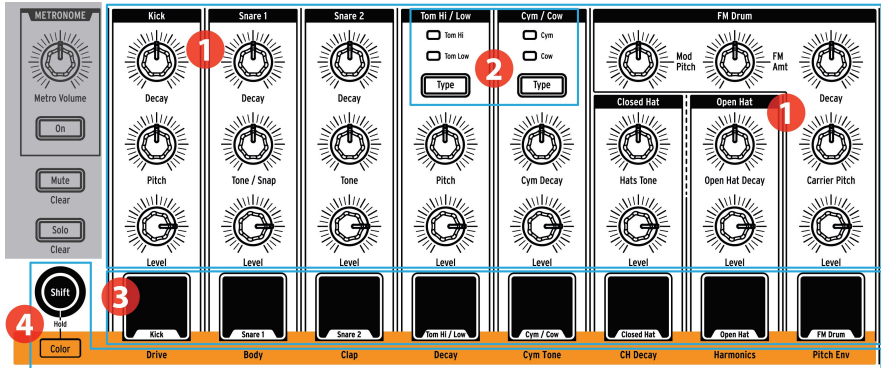
1. Instrument controls
2. Instrument select buttons
3. Pads
4. Color

> ♪: The Shift button is grouped with the Color button in this graphic because the two are used together to activate Color Hold mode. But the Shift button has many other functions that are listed here [p.67].

1.4.1. Instrument controls

Each instrument has its own set of sound-sculpting parameters. The lines between the instruments indicate which knobs belong to which instrument. Each instrument and its knobs are called an **instrument channel**.

Some instrument channels are shared by two instruments. For example, the cymbal and cowbell instruments are both found within the Cym/Cow channel. This is known as a **shared channel**.

> ♪: The movements of the instrument controls are not recorded as part of a pattern.

1.4.2. Instrument select buttons

These buttons toggle between the instruments in a shared channel. Each instrument in a shared channel can be recorded independently into a pattern.

However, as a general rule the instruments share the instrument controls. For example, if you change the tuning on the Tom Hi instrument the tuning will also change for the Tom Low instrument.

1.4.3. Pads

The 8 velocity-sensitive pads are used to input note data into a pattern. But they will always trigger their instruments whether the DrumBrute Impact is running or not (except if Local Control option is Off).

Remember that some pads provide access to more than one instrument, each of which has its own track in the pattern sequencer. Counting all of the shared channels, there are actually 10 separate instruments available from the 8 pads.

> ♪: When editing a track in Step Mode it is possible to select an instrument without triggering it by holding the Shift button and pressing the appropriate drum pad. See the Pattern Editing section [p.44] for more information.

1.4.4. Color button

The Color button is used to access the Color features of each instrument. Pressing the button reveals which instruments have Color mode active: if a pad is lit orange, it is being "colored".

Each instrument channel has its own Color implementation, which is indicated by the row of text below the pads. For example, the color parameter for the Kick is Drive, while the color parameter for the Hi/Low Toms is Decay.

There are some important variations to keep in mind:

- The Color effect is always toggled for the Hi and Low Toms at the same time.
- The Cymbal has a Color effect (Harmonics), but the Cowbell does not.
- The Harmonics effect under the Open Hat button is shared by both the Closed and Open Hat instruments, but toggling the CH Decay effect only affects the Closed Hat.

1.4.4.1. Color Hold mode

It is possible to "lock" the pads in Color mode by holding Shift and pressing the Color button. This allows you to activate or deactivate the Color effect for many instruments rapidly, even during a live performance. You can also use Shift + Color to put the Step buttons [p.8] into Color Hold mode when in Step mode [p.44]. To exit Color Hold mode, press the Color button again.

> ♪: Each step in each instrument track can have color enabled or disabled independently. This will be covered in the Pattern Editing section [p.44].

Follow this link to learn more about the Color mode [p.34].

1.5. Rear panel, part 1
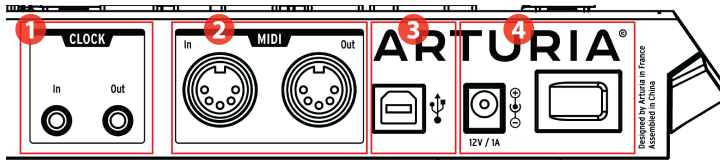
1. Clock input/output
2. MIDI input/output
3. USB
4. Power

1.5.1. Clock input/output

The Clock input allows the DrumBrute Impact to interface with pre-MIDI devices that used these connectors for synchronization, such as early drum machines by Korg and Roland. Other vintage devices may use different types of connectors which should be readily available.

1.5.2. MIDI input/output

Use standard MIDI cables to send and receive MIDI note and clocking data between the DrumBrute Impact and MIDI-compatible devices.

1.5.3. USB

This port provides the data connections to a computer. In addition to synchronizing the DrumBrute Impact with your DAW, the USB connection enables you to use the MIDI Control Center software to configure extra parameters, edit pattern data, and to update the DrumBrute Impact software.

1.5.4. Power

From left to right in this section are the 12V DC power connector and the power switch. Use only the included power supply to avoid damage to the DrumBrute Impact.

1.6. Rear panel, part 2
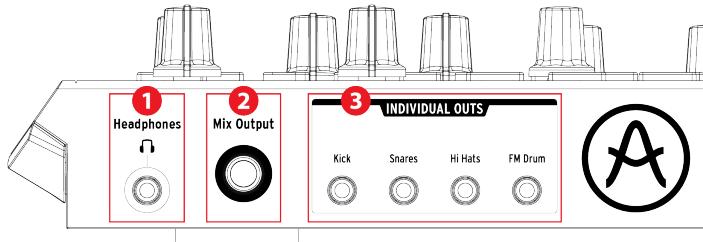
1. Headphones
2. Mix Output
3. Individual Outs

1.6.1. Headphones

The Headphones output carries the same signal as the Mix Output and operates the same way, with one exception: When the headphone jack is connected, the metronome will be removed from the Mix Output but will remain in the headphones until the Metronome On button is toggled off.

The behavior of all other connection options is the same for the headphones and the Mix Output: When a cable is plugged into one of the individual outs, that instrument channel's signal will be removed from both the headphones and the Mix Output.

1.6.2. Mix Output

This output jack carries the output signal for every instrument channel. When a cable is connected to one of the individual outputs, that instrument channel will be removed from the Mix Output.

The Mix Output level is controlled by the Level knob in the Output Circuit section.

1.6.3. Individual Outs

There are dedicated 3.5mm output jacks for several of the instruments on the rear panel:

- Kick
- Snares (shared by Snare 1 and Snare 2)
- Hi Hats (shared by the Closed and Open Hats)
- FM Drum

When a cable is connected to one of the individual outputs, that instrument will be removed from the Mix Output and the Headphones. In the case of instruments that share a channel, such as the Closed and Open Hats, both instruments will be removed from the Mix Output upon insertion of the cable.

The output level of each instrument channel is set by the corresponding Level knob on the front panel.

> ♪: The Distortion does not affect the individual outs. However, there is an independent Drive effect for the Kick that can be added using the Color feature. This effect is available at the independent Kick output. See the Color mode section [p.34] for more information.

2. BASIC OPERATIONS

2.1. Working with Patterns

The DrumBrute Impact holds 64 patterns, arranged in four banks of 16 patterns each.

2.1.1. Select a bank

In addition to the numbers 1-4, the first four Step buttons are silkscreened with the letters A, B, C, and D. Each one represents a bank of 16 patterns.

To switch between banks, press the Bank button and then select one of the first four Step buttons. After this, press the Ptrn button and select one of the 16 patterns within that bank using the Step buttons.

There is a setting in the MIDI Control Center software that allows you to switch between banks while the DrumBrute Impact is playing, without the additional step of selecting a pattern. See the Next Bank section [p.96] of the MIDI Control Center chapter [p.70] to learn more about this feature.

2.1.2. Select a pattern

To select a pattern within the current bank simply press one of the Step buttons (1-16). If you are still in Bank mode you will need to press the Ptrn button first and then select the pattern.

The DrumBrute Impact will respond in one of two ways if it is running when the selection is made: it will either change immediately to the new pattern or wait until the end of the current pattern.

There's a front-panel button combination that allows you to toggle between these two settings: just hold the Shift button and press Step button 14. If that button is lit when you press the Shift button, the At End setting is active.

You can also use the "Wait to Load Pattern" setting in the MIDI Control Center software to specify which behavior you prefer. This is described here [p.95] in the MIDI Control Center chapter [p.70].

> ♪: The pattern selection cannot be changed while recording.

2.1.3. Set the tempo

When Sync is set to Internal, the tempo range of DrumBrute Impact is 30-300 beats per minute (bpm).

There are three ways to set the tempo for your pattern:

- Turn the Rate/Fine encoder.
- Use the Tap Tempo button.
- For fine tempo adjustment, hold Shift and then turn the Rate/Fine encoder.

Each pattern can have its own tempo, but you can make DrumBrute Impact use the same tempo for all patterns and songs. To do this, hold the Shift button and press Step button 15 (Global BPM). If Step button 15 is lit blue when the Shift button is pressed, Global BPM is active.

The MIDI Control Center allows you to specify all features related to tempo and the metronome. See the Global Settings section [p.94] for details.

If the DrumBrute Impact Sync parameter is set to something other than Internal clock then you must set the tempo on the master device. Follow the link for information about the Sync [p.68] settings.

> ♪: When synced to an external device the DrumBrute Impact might not track properly with a tempo outside of the 30-300 bpm range.

2.1.4. Enable the metronome

To enable the metronome, press the On button. You will hear a click only when the DrumBrute Impact is running. Its output level is controlled with the Metro Volume knob.

The timing value of the metronome may be changed from the front panel. To do so, hold the On button and select a value between 1/8 and 1/32. You will see the selected button turn blue.

Note that it is also possible to "deselect" whichever timing value button is lit. This will result in a 1/4 note click while the unit is running.

There is an additional 1/4T metronome timing value available using the MIDI Control Center.

For a description of the audio output behavior of the Metronome see the Headphones section [p.18].

2.1.5. Record a pattern

If you've gone through all the steps in this section then let's make a quick drum pattern. For a more detailed explanation of Record mode, see Recording a Pattern [p.39] in the Pattern Mode chapter [p.38].

- Select an empty pattern, press the Record button and press the Play button. The Tap Tempo button will begin flashing (according to the metronome timing value), and the Step buttons will turn purple one at a time to indicate the current position in the pattern.
- Play the pads. The next time DrumBrute Impact crosses that point in the pattern you will hear what you added. Press Record to exit Record mode.
- If you want to figure out a beat before you begin recording, you can press Play and practice on the pads while the other instruments play their parts.
- When you're ready, you can enter Record mode 'on the fly' while the pattern is looping by pressing the Record button. Or if you prefer, you can stop the pattern and then press Record + Play to start from the beginning.

> ℹ !: If you want to keep what you've created, be sure to save the pattern right away or you could lose your work. See the next section to learn how.

2.1.6. Save what you've done!

Your new patterns can be lost unless you save them to the flash memory before you change to a different bank or turn off the DrumBrute Impact. It's also possible to lose them if you switch to Song mode and play a song that calls up patterns from a different bank.

There are three different Save operations:

1. Save the current pattern: hold the Save button and press Ptrn.
2. Save an entire bank of patterns: hold the Save button and press Bank.
3. Save the current song : hold the Save button and press Song.

It's a good idea to back up the DrumBrute Impact memory using the MIDI Control Center, too. The Store To/Recall From [p.78] section will tell you what you need to know about that.

2.2. Shift Functions

There are lots of great options available for each mode when the Shift button is used to access the secondary features.

2.2.1. Time Division options
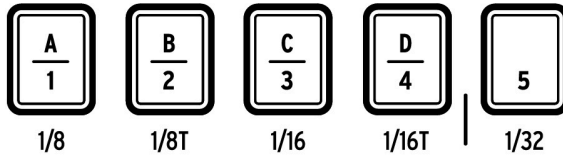
The first five Step buttons select the Time Division for the current pattern. Options range from 1/8 to 1/32 and include triplet options. Hold Shift and press one of the buttons to choose a different Time Division value.

2.2.2. Configuration options
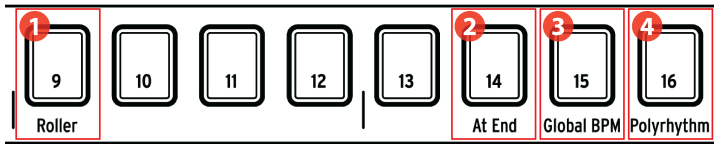
1. Shift+9: Roller/Looper
2. Shift+14: At End
3. Shift+15: Global BPM
4. Shift+16: Polyrhythm

2.2.2.1. Roller/Looper

The various behaviors of the Roller/Looper strip are described here [p.26]. Hold the Shift button and press Step button 9 to toggle between Roller mode and Looper mode. If Step button 9 is lit when you press the Shift button, Roller mode is active. This selection be made in the MIDI Control Center [p.70] also.

2.2.2.2. At End

This button allows you to specify whether a new pattern will be loaded as soon as you select it or not. If not, the unit will wait until the end of the current pattern before switching to the next one.

To toggle between these behaviors, hold the Shift button and press Step button 14. If that button is lit when you press the Shift button, that means the At End feature is active. This setting also can be edited in the MIDI Control Center [p.70].

2.2.2.3. Global BPM

It is possible for each pattern and song to have its own tempo, or you can use this parameter to force them all to play back at the same tempo. To toggle this feature, hold the Shift button and press Step button 15.

2.2.2.4. Polyrhythm feature

Individual instrument tracks within a pattern can loop independently when the Polyrhythm feature is enabled. This setting is stored separately for each pattern. To enable this feature, hold the Shift button and press Step button 16.

To learn more about the Polyrhythm feature, see the Polyrhythm mode [p.64] section.

2.3. Creative Playback Options

Once you have captured the basic pattern idea you want, there are many ways to experiment with it during playback. All of the following options may be used at the same time, so have fun!

2.3.1. Swing feature

The Swing feature can take a straight, mechanical-sounding beat and make it more interesting by adding increasing amounts of shuffle to the feel. The default Swing setting is 50% and the maximum value is 75%.

This section [p.42] covers everything about the Swing feature. For example, each instrument within a pattern can have its own Swing % setting.

2.3.2. Random feature

Increasing the Random setting will introduce spontaneous changes in note data and dynamics into the pattern. It can be as subtle or as extreme as you like.

And as with the Swing setting, each pattern and instrument within the pattern can have its own Random setting. See the description of the Current Track button in this section [p.43] for more information.

2.3.3. Looper/Roller

The Touch strip has two options for real-time performance or recording: Looper and Roller modes. You can switch between these modes using Shift + Step button 9. If Shift is held and Step 9 is lit, Roller Mode is selected. This option is also available in the Roller/Looper section of the MIDI Control Center [p.70].

> ♪: The Touch strip is also used in Step mode to enter Step Repeat data. This feature allows you to enter rapid, repeating notes without having to alter the timing value for the pattern. Details about this feature are in this section [p.46].

2.3.3.1. While Playing: Looper/Roller

When a pattern is playing back (i.e., not being recorded) this strip can be used to loop sections of the current pattern or to produce a "roll" on one or more instruments. This option is available in the MCC [p.70] (see the Mode menu in the Roller/Looper [p.97] section), or it can be toggled from the front panel of the DrumBrute Impact using Shift + Step button 9 (Step 9 lit up = Roller).

Looper enabled

Press the Touch strip while the DrumBrute Impact is playing a song or pattern to activate the Looper function.

The length of the loop is determined by the placement of your finger on the Touch strip. Changing the location of your finger changes the size of the loop.

The start point of the loop is based on when you touch the strip during playback. You can jump to a different loop position by pressing one of the Step buttons while holding your finger on the strip.

Roller enabled

The Roller strip allows you to roll instruments in real time. It will generate rolls based on the time division selected within the Touch strip area. Place a finger on the Touch strip and then touch one or more of the pads to roll the instrument(s).

> ♪: When an instrument is rolling its track will not play back any pre-existing events.

2.3.3.2. While Recording: Roller

When the DrumBrute Impact is recording a pattern the Touch strip can be used as Roller to generate drum rolls. Place your finger somewhere within the strip while recording, press a pad, and that instrument will be repeated ("rolled") into the pattern. The rate of the repeat is determined by where you press your finger (1/4, 1/8, etc.).

> ♪: The smallest drum roll the pattern can record is set by the timing division you have selected for the pattern. In other words, if the timing division of the pattern is 1/16, Impact will not record 1/32 rolls played on the Roller strip.

2.3.3.3. The Touch strip and MIDI

The Touch strip is able to send MIDI CC (control change) messages which can be used to record your Looper/Roller performance or control another MIDI device.

When this feature is enabled the DrumBrute Impact also responds to incoming MIDI CC messages of the selected type.

You can change the MIDI CC number of the Touch strip with the MIDI Control Center [p.70] (see the MCC Device Settings [p.93] section). For full details about the MIDI behavior of the touch strip, see the Roller/Looper MIDI section [p.97] of that chapter.

The Looper/Roller sends and receives on the Global MIDI Channel, which also can be changed using the Device Settings [p.93] tab in the MIDI Control Center [p.70].

2.3.4. Pause or Restart

The MIDI Control Center allows you to specify the behavior of the Play/Pause button. That setting is called Pause mode.

You'll want to try both options to see which you prefer: one will restart the pattern from the beginning every other time you press the Play button, and the other will pause and resume playback of the pattern from the current position.

See the Pause mode [p.96] section to learn more about these MIDI Control Center settings.

2.4. All Notes Off

It's possible for a MIDI message to be interrupted for some reason. This can result in a stuck or 'hanging' note on the target device.

If this happens, just press the Stop button quickly three times in a row. It will then send an All Notes Off command over MIDI.

> ♪: Incoming All Notes Off and All Sounds Off messages are echoed to the MIDI Out port.

3. THE INSTRUMENTS

3.1. General concepts

3.1.1. Shared pads, independent tracks

The DrumBrute Impact has 10 analog instruments that share the 8 pads. On each of the shared instrument channels there is a button that selects which instrument will be played by the pad they share. But each of those instruments has its own track in a pattern.

For example, the Tom Hi and Tom Low instruments share an instrument channel. The Type button is used to select which one of those two instruments will be played by the Tom Hi/ Low pad. But you can record independent parts for each Tom.

the same is true for the Cymbal and Cowbell instruments: the Type button selects the instrument to be played, and each has its own track in a pattern.

3.1.2. Two instruments, one voice: the Hats

The Closed Hat instrument and the Open Hat instrument are generated by the same analog circuitry, and so only one can be heard at a time. So when the Tone or Harmonics are adjusted for the one instrument, it affects them both.

But there are some independent adjustments that can be made to the decay time of each instrument:

- Play an accented note and the decay time will increase sightly on both instruments
- Add the Color effect to the Closed Hat and its decay time will increase a bit more
- The Open Hat has a dedicated Decay knob that allows its decay time to be lengthened considerably. However, the Closed Hat will always cut off the Open Hat.

3.1.3. Two instruments, one effect: the Toms

The Tom Hi and Tom Low instruments share the same Color effect: Activate Color mode for the Toms and both instruments will have a longer decay time.

Technically the Color effect is applied to Tom Hi, and that color information is shared with Tom Low. That is why the Type LED jumps automatically to Tom Hi when the Color button is pressed.

3.1.4. Cymbal can change, Cowbell can not

The decay time of the Cymbal instrument can be altered by the Cym Decay knob, but this knob does not affect the Cowbell instrument. So when the Cowbell has been selected by the Type button, the Cym Decay knob does nothing.

The Cowbell instrument also does not have a Color effect, but the Cymbal instrument does. So when the Color button is pressed the Type LED will jump to "Cym" to indicate that the Color effect is only applied to the Cymbal.

3.1.5. Each instrument has four sounds

Each instrument actually has four different sounds: Normal, Normal with accent, Color without accent, and Color with accent. The Normal and Color versions of each sound have independent MIDI note numbers [p.99] that can be changed using the MIDI Control Center [p.70]. The Accent versions of each sound occur at different MIDI velocity values on their respective MIDI note numbers.

In most cases, crossing the Accent Velocity Threshold increases the decay time and/or timbre slightly, depending on the instrument. The Accent Velocity Threshold [p.95] is the same for all instruments, and is set using the MIDI Control Center [p.70].

However, the Color effects are different for each instrument, and can be added to individual steps within an instrument track or added to the instrument itself, which then affects every step in that instrument's track.

There many aspects to Color mode. Click here [p.34] to jump to that section of this chapter. For a chart that describes the Color effect for each instrument, click here [p.34].

3.2. Instrument parameters

3.2.1. Kick

Parameter	Description
Decay	Controls the length of the Kick drum sound
Pitch	Changes the tuning of the Kick drum
Level	Adjusts the volume of the Kick drum
Color	Enable/disable Drive effect for the Kick drum

3.2.2. Snare 1

Parameter	Description
Decay	Controls the length of the Snap component of the Snare 1 sound
Tone / Snap	Changes the balance between the Tone and Snap components of Snare 1
Level	Adjusts the volume of the Snare 1 instrument
Color	Enable/disable Body effect for the Snare 1 instrument

3.2.3. Snare 2

Parameter	Description
Decay	Controls the length of the Snare 2 sound
Tone	Sweeps the filter frequency for Snare 2
Level	Adjusts the volume of the Snare 2 instrument
Color	Enable/disable Clap effect for the Snare 2 instrument

3.2.4. Tom Hi / Low

Parameter	Description
Type	Toggles the pad between the Tom Hi and Tom Low instruments
Pitch	Changes the tuning of both Tom instruments
Level	Adjusts the volume of both Tom instruments
Color	Enable/disable Decay effect for both Tom instruments

3.2.5. Cymbal

Parameter	Description
Type	Toggles the pad between the Cymbal and Cowbell instruments
Cym Decay	Controls the length of the Cymbal sound
Level	Adjusts the volume of the Cymbal instrument
Color	Enable/disable Cym Tone effect for the Cymbal instrument

3.2.6. Cowbell

Parameter	Description
Type button	Toggles the pad between the Cowbell and Cymbal instruments
Level	Adjusts the volume of the Cowbell instrument
(no Color)	not applicable

3.2.7. The Hi-Hats

These two instruments share a single analog voice channel, and so only one can be heard at a time. But there are some independent adjustments that can be made to each instrument.

3.2.7.1. Closed Hat

Parameter	Description
Hats Tone	Controls the filter cutoff frequencies of the Closed Hat and the Open Hat
Level	Adjusts the volume of the Closed Hat instrument
Color	Enable/disable CH Decay effect for the Closed Hat instrument

3.2.7.2. Open Hat

Parameter	Description
Open Hat Decay	Controls the length of the Open Hat sound
Level	Adjusts the volume of the Open Hat instrument
Color	Enable/disable Harmonics effect for the Open Hat instrument

3.2.8. FM Drum instrument

For a brief description of FM synthesis, see below.

Parameter	Description
Mod Pitch	Changes the frequency of the Modulator
FM Amount	Adjusts the impact the Modulator has upon the Carrier
Decay	Controls the length of the FM Drum instrument
Carrier Pitch	Changes the frequency of the Carrier
Level	Adjusts the volume of the FM Drum instrument
Color	Enable/disable Pitch Env effect for the FM Drum instrument

3.2.9. What is FM?

FM stands for Frequency Modulation. It's similar to the process of adding vibrato to a violin note: the straight tone of the violin is changed (i.e., modulated) by the vibrato when the player moves a finger up and down slightly on the string. The motion of the finger is not heard directly; what is heard is the way the motion of that finger affects the overall sound.

So it is with the FM Drum: The Carrier provides the fundamental tone of the instrument, and the Modulator affects that tone in a vibrato-like manner. The Modulator itself is never heard directly; it is only detected in how it affects the Carrier.

Here's a basic experiment that may help illustrate what is happening with the FM Drum. Before we begin, set the FM Drum knobs like this:

- Mod Pitch and FM Amt fully counter-clockwise (i.e, their minimum settings)
- Decay and Carrier Pitch fully clockwise (i.e, their maximum settings)
- Level knob fully counter-clockwise (all the way down, for safety, for now)

Now follow these steps:

1. Bring up the Level control gradually to a comfortable listening level. You should hear a pure tone when the pad is played.
2. Turn the Carrier Pitch knob down and up while playing the pad to hear its full range of frequencies, and then return it to the top of the range.
3. Do the same thing with the Decay knob while playing the pad: turn it all the way down and back up to hear how that affects the length of the Carrier sound.
4. Very carefully turn the FM Amt (amount) knob up as you play the pad. This allows the Modulator to affect the Carrier.
5. Bring the FM Amt knob to about the 12:OO position (straight up) so the effect of the Modulator on the Carrier is not as extreme.
6. Now very carefully turn the Mod Pitch knob. This increases the frequency of the Modulator, which in turn will modulate the frequency (pitch) of the Carrier. The character of the overall sound changes dramatically as the value of this knob is increased.
7. Find an interesting frequency for the Mod Pitch, and then adjust the level of the FM Amt knob. It has an entirely different effect upon the overall sound, causing the same frequencies to interact as their ratios change.
8. As a final experiment, leave the FM Amt and Mod Pitch knobs fully clockwise (at maximum) and then turn the Carrier Pitch knob down and up. This is yet another very dramatic and interesting way to alter the overall sound: changing the ratio of the Carrier Pitch and Mod Pitch to one another.

The FM Drum is an extremely versatile instrument, as this experiment has demonstrated. But it can be altered even more by introducing its Color effect. We'll learn about that next!

3.3. The Color mode

We've touched briefly on certain aspects of the Color effects in other sections. Here's a quick summary:

- Each instrument has its own Color effect, except the Cowbell (it doesn't have a Color effect)
- The Color effect can be applied to individual steps within each instrument track, with one exception (the Toms)
- An instrument can be toggled into Color mode full-time, so its Color effect is always active
- Different MIDI note numbers are used for the colored and non-colored versions of the same instrument
- There are four different versions of each instrument [p.29], counting the "normal", Accent, and Color options
- The Color track for each instrument can be edited using a similar method to Step mode
- The pads and Step buttons can be "locked" into Color Hold mode [p.16] by holding Shift and pressing the Color button.

Before we dive into the details, let's take a quick look at what Color mode means for each instrument.

3.4. Color chart

Here's a brief explanation of what the Color effect does for each instrument.

Pad	Instrument	Color parameter	Description (when Color is active)
1	Kick	Drive	Overdrive (independent from master distortion)
2	Snare 1	Body	Changes pitch and decay of component sounds
3	Snare 2	Clap	Alters tone and attack characteristics to simulate a clap
4	Tom Hi / Low	Decay	Lengthens decay of both Tom instruments
5	Cymbal / Cowbell	Cymbal Tone	Alters harmonic content of Cymbal; has no effect on Cowbell
6	Closed Hat	CH Decay	Lengthens decay of Closed Hat
7	Open Hat	Harmonics	Alters harmonic content of Closed Hat and Open Hat
8	FM Drum	Pitch Envelope	Causes a downward sweep of Carrier pitch

3.5. Color mode: Instrument level

It is possible for Color mode always to be active for one or more instruments, if you prefer the colored sound. This is also a quick way to audition the Color effect for each instrument.

Don't worry; this is a non-destructive experiment! We can disable the Color effect as easily as it was enabled without affecting the pattern data for that instrument track.

Here's how:

- Let's use the Kick drum for the first experiment.
- Play the pad and listen to the instrument without Color first.
- Hold the Color button
- Tap the instrument pad until it turns orange
- Release the Color button
- Play the pad and listen for how the instrument has changed.

In the case of the Kick drum, the Color effect is Drive. This provides an independent distortion circuit that is available at the Individual Out for the Kick drum.

It's a simple thing to turn off the Color effect for the Kick drum again:

- Hold the Color button
- Tap the Kick drum pad until it turns dark
- Release the Color button

Next, start the experiment again, trying each instrument. The silkscreened labels under each pad will tell you what its dedicated Color effect is. You can also refer back to the Color chart [p.34] for more information.

Now: You can leave any of the instruments constantly in Color mode, if you like. But what you'll lose if you do that is the ability to have a non-colored event on that instrument track.

So for the greatest flexibility in the overall sound, you may prefer to apply Color mode at the track level.

3.6. Color mode: Track level

As stated earlier, there are four different versions of each instrument [p.29]. Each version can be used in an instrument track, as long as Color mode has not been left On for that instrument. So for the time being, let's defeat Color mode for at least one instrument: the Kick drum.

To disable Color mode for the Kick drum:

- Hold the Color button
- Tap the Kick drum pad until it turns dark
- Release the Color button

Now, let's discover the full strength of the Color feature!

3.7. One instrument, four sounds

We're going to construct a very simple pattern: it will only have four Kick drum events. Find an empty pattern, slow the tempo down to 60 bpm, and we'll begin.

1. Select the Kick drum instrument (hold Shift and tap the Kick drum pad)
2. Press the Step mode button. All of the Step buttons should go dark
3. Enter Kick drum events on steps 1, 5, 9, and 13
4. Press Play. You should hear four Kick drums, evenly spaced
5. Press the Accent mode button
6. Enter Accent events on steps 5 and 13
7. Press Play. You should hear four Kick drums, with every other event accented
8. Hold the Color button. All of the Step buttons should go dark. You are viewing Color Step mode now
9. Still holding the Color button, add events on steps 9 and 13
10. Press Play. You should hear four Kick drums, with distortion on the third and fourth events.

Here's what's happening in our pattern:

Step number	Normal	Accent	Color, no Accent	Color with Accent
1	x			
5		x		
9			x	
13				x

Here's a different view of the same track:

Step number	Accent	Color
1	No	No
5	Yes	No
9	No	Yes
13	Yes	Yes

There's another important thing to try with this pattern:

1. Press the Step mode button. Step buttons 1, 5, 9, and 13 should be blue/red/blue/red
2. Press Step buttons 9 and 13 until they go dark. #13 will take two presses (Accent off, step off)
3. Press the Color button to confirm that Color events still exist on steps 9 and 13
4. Press Play. You will hear two Kick drums and then silence for two beats until the pattern loops.

Why did that happen? Because a Color event is not a trigger event: it will only be heard on a step that has been enabled in Step mode or in Accent mode.

Now start at the top and try the same experiments with each of the instruments. They all have four different variations, and the variations for each instrument are different. That adds up to an astounding number of ways for these 10 instruments to lend themselves to your creative process!

You may also want to refer to the MIDI Control Center chapter, specifically the Add/remove Color events section [p.85]. It may provide additional insight into Color mode through visual aids.

4. PATTERN MODE

The Patterns are the groove-making heart of the DrumBrute Impact. The Songs point to them, the Banks hold them, but the Patterns contain the music.

4.1. Pattern Creation

4.1.1. Control the tempo

The Rate/Fine encoder controls the Tempo value, which is stored per pattern. It's also possible to override the per-pattern settings with a Global tempo by holding the Shift button and pressing Step button 15. This parameter is called Global BPM, and it is also available in the MIDI Control Center (see this section [p.24]).

4.1.1.1. Fine-tuning the Tempo

If you want to change the tempo in increments smaller than 1 bpm (to 100.33 bpm, for example), hold the Shift button and turn the Rate/Fine encoder clockwise. Once you've reached the desired value between .00 and .99, release the Shift button.

To reset the fine-tune value to zeroes, turn the Rate/Fine encoder without holding the Shift button.

4.1.1.2. Tap tempo

You can set the tempo of your Song using the Tap Tempo button. All you have to do is tap the button at the desired rate and the tempo will change to match your rhythm.

You can set the number of taps it takes to set the Tempo using the MIDI Control Center.

♪: Tap tempo will not function when the Impact is set to one of the external sync sources.

4.1.2. Time Division

Depending on the current setting, this parameter can be a quick way to double the playback rate of your pattern or cut it in half. Triplet options are available, too.

To set the time division, press and hold the Shift button and then press the Step button that corresponds to the timing you want:

- Eighth notes (1/8)
- Eighth note triplets (1/8T)
- Sixteenth notes (1/16)
- Sixteenth note triplets (1/16T)
- Thirty-second notes (1/32)

The default setting is 1/16.

4.1.3. Recording a Pattern

To record a pattern, press the Record button and press the Play button. If the pattern is already playing, use the Record button to drop in and out of Record mode.

If Impact isn't running, check the Sync settings (see section [p.68]).

Now play one or more pads. Whatever you play will be captured as a part of the pattern. You can toggle individual events on and off in Step mode using the Step buttons. Step mode is covered in the Pattern Editing section [p.44].

You can also record using an external MIDI/USB source, but the only steps that will be recorded are the ones that correspond to the current drum note mapping. For more about drum maps see this section [p.99].

4.1.3.1. The Metronome

If you want to hear a timing reference while recording, press the Metronome On button and set the click level with the Metro Volume knob. The metronome features are described more thoroughly here [p.21].

4.1.3.2. Quantize Record

By default, when you are recording in real time the notes will be quantized according to the time division you have selected.

For example, if 1/16 is the time division value then the recorded notes will quantize forward or backward to the nearest sixteenth note. And as the pattern loops you can replace certain notes by playing new ones within the timing range of those notes.

4.1.3.3. Non-quantize mode

It is possible to override the automatic quantizing to some extent. What this will do is widen the time window for capturing the notes you play. The time division setting is still in effect, and notes can only fall within +/- 50% of the time division value.

So it's not exactly real-time recording, but it does allow quite a bit of freedom. And the cool thing is that you can shift individual events forward or backward in time. See the Shift Timing section [p.88] to learn about that.

If you would like to try this method, hold Shift and press Record: The Record button will light up when non-quantize mode is active. You can re-enable the quantization feature the same way: hold Shift and press Record until the Record button goes dark again.

4.1.4. Mute/Solo features

The Mute/Solo buttons are great for live performances and creative sessions. They can help you focus on the interactions of any combination of drums at a time, or you can use them to work on one of the drum tracks without hearing the other instruments.

The status of the Mute/Solo buttons is Global, so they affect all patterns and songs. Their settings are not preserved during a power-cycle. There is only one Solo group and one Mute group available.

Mute and Solo do very different things but they work in exactly the same way, so we'll describe them at the same time.

4.1.4.1. Create a Group

Setting up a Mute/Solo Group is very simple. Let's say you want to focus on the Kick and Closed/Open Hat tracks for a few minutes:

- Press the Solo button to enter Solo mode. When it is lit, the Solo group is active.
- Tap the Kick, Closed Hat and Open Hat pads. When lit, they are part of the group.
- To toggle the Solo group on and off, press the Solo button.

The process for setting up a Mute group is identical. So if you want to hear everything but the Snare 2 and FM Drum tracks for a minute, use the Mute button and the appropriate pads to put them into the Mute group.

Keep in mind that you can mute or solo the instruments on a shared channel independently. Simply toggle the Instrument select button for that channel to access the other instrument.

4.1.4.2. Clear the Group

Rather than entering Mute/Solo mode and de-selecting each pad in the group, you can clear the group immediately by holding the Shift button and pressing the Mute/Solo button. Then make a new group by selecting the instruments you want in it.

4.1.4.3. Mute/Solo buttons: Latch or Toggle

The Mute/Solo buttons can be configured so they will either toggle or latch when they are used.

- **Toggle** mode: Activates the Mute/Solo group and keeps it visible on the pads; instruments may be added to or removed from the group, but the pads cannot be played unless Mute or Solo is disabled. The Mute/Solo button remains lit when a Mute/Solo group is active, and is dark when it is not.
- **Latch** mode: Activates the Mute/Solo group but also allows the pads to be played. With Latch mode the Mute/Solo button is never completely dark; it is either lit solid or blinking. To add instruments to or remove instruments from the group, press the Mute/Solo button until it is lit solid and use the pads. To return to the pad-playing status with the Mute/Solo group active, press the Mute/Solo button again and it will resume blinking.

In either case, use Shift+Solo or Shift+Mute if you want to clear the group [p.40].

This Solo/Mute parameter is not available from the front panel of the DrumBrute Impact; it must be accessed using the MIDI Control Center [p.70]. If you'd like to know more, follow this link to the Solo / Mute mode section [p.96].

4.1.5. Using the Roller while recording

The Roller strip is a quick way to input drum rolls into a pattern.

> ♪: The Looper is not available while recording.
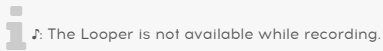
4.1.5.1. How it works

Using the Roller is simple. Just start recording, place your finger on the Roller strip, and touch a drum pad to create a roll.

The Roller repeats the note at a rate determined by a combination of factors: the clock source, the time division and the position of your finger on the Roller strip.

The output is based on 4/4 time, too. So if your song has a bar of 7/8 and you have your finger on the strip at 1/4, the Roller output will be off by an eighth note after that bar.

The touchstrip also sends and responds to CC. You can activate/deactivate this option in the MCC (see MCC Device Settings section [p.97])

4.1.5.2. Sync settings

The Roller works even when an external sync source is used. The results may vary depending on the source, though.

If the time division of the pattern is set to a triplet value the roller will play various divisions of triplet beats.

4.1.6. Spot Erase

Notes can be erased while the pattern is looping in record mode. To do this, hold the Erase button and then tap the desired pads whenever you hear something you don't want. The next time the pattern loops the notes will be removed from that location.

4.1.7. Swing

The Swing setting can change the rhythmic relationship between the first note of a pair and the second note. To experiment with this, start a pattern and turn the Swing encoder to a value between 50 and 75.

Assuming the time division is set to 1/8, here's what will happen:

- With Swing set to 50% each note gets 'equal time', resulting in a 'straight 1/8th note' feel.
- As the Swing value exceeds 50% the first 1/8th note is not affected and the second note is played later. You'll notice the sequence starts to 'shuffle' a bit and perhaps sounds less 'mechanical' to your ear.
- The maximum Swing setting is 75%, at which point the 1/8th notes sound more like a 1/16th note figure than 'shuffled' 1/8th notes.

Here's a graphic showing the minimum and maximum Swing values in musical notation:

4.1.7.1. Current Track

The Current Track button enables each instrument to have its own Swing setting. After you press that button, changes to the swing percentage will affect only the current instrument. Then you can select the other instruments and edit their Swing settings also.
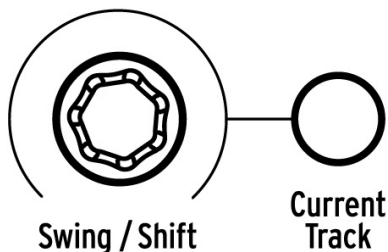
If the current instrument does not have its Current Track button lit and the Swing encoder is turned, the Swing percentage becomes a "Global edit" for the entire pattern. Instruments that previously had no Swing value will begin to swing, and instruments with the Current Track button enabled will have their swing amount increased by the change in the Global value.

In other words, if the Global value goes from 50 to 52, a Current Track value of 63 will rise to 65.

Here is some information to remember about how the pattern Swing value and the Current Track swing values interact:

- The maximum possible swing value is 75, so an instrument's Current Track swing value amount will never rise above that.
- The minimum swing value for an individual instrument track cannot be a lower value than the overall Swing value for the pattern.

The MIDI Control Center can be used to set Swing % values for all instruments and the pattern as well. See section [p.90] for information about these parameters.

> ♪: To return the entire pattern to the same Swing % you must toggle the Current Track button off for each instrument.

4.1.8. Random

The Random encoder lets you to add an element of unpredictability to your patterns. The following features will be affected:

- The rhythmic pattern
- The status of note events (Step on/off)
- The velocity of note events (Accent on/off)

The Random encoder has a range of 0-100%, with 0% having no effect on the music.

But at 100% the rhythm, velocity and even the existence of note data within the pattern will be entirely random.

To put it bluntly, the pattern will become increasingly disturbed as you increase the Random values. You never know what you'll get, but that's exactly the point.

4.1.8.1. Current Track button

Each instrument track can have an independent setting for the Random parameter. To experiment with this, press the Current Track button: any changes to the Random setting after this will affect only the current instrument. Then you can select the other instruments and edit their Random settings as well.
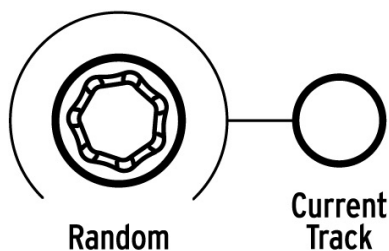
> ♪: To return the entire pattern to the same Random value you must toggle the Current Track button off for each instrument.

4.2. Pattern Editing
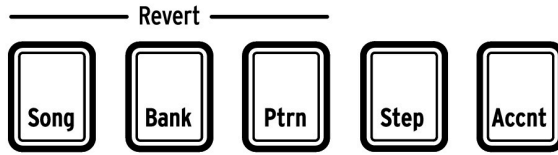
The Mode buttons

There are three ways to make precision edits to a pattern: Step mode, Accent mode, and Color mode. Each method allows you to make specific edits inside the pattern, and they also can be used to build a pattern from the ground up if you like.

You can make edits to a pattern in all three modes whether the pattern is recording or paused.

4.2.1. Step Mode

To enter Step mode, press the Step mode button.

The Step buttons will display the events that exist in the pattern for the selected instrument. A Step button that is lit in Step mode contains a note event, while a dark Step button means that step is not yet being used in the pattern.

Use the Step buttons to toggle events on and off as needed. Events that are toggled from Off to On within Step mode will always be blue. Step buttons that are red in Step mode indicate an Accent step (see the next section).

4.2.2. Accent Mode

Accent mode is a one way to increase the emphasis of a particular step inside an instrument track. A Step button that is lit red in Accent mode indicates that an Accent event occurs at that step. Accents are also visible as red steps within Step mode.

Use the Step buttons to enter Accent events. Events that you toggle from Off to On within Accent mode will always be red. Events that are blue indicate that an event already exists in the pattern at that step but it has not yet been accented.

The MIDI Control Center [p.70] allows you to define what the MIDI velocity of accented steps will be. See this section [p.95] for information about this MIDI Control Center feature.

4.2.3. Color Mode

Color mode is similar to the Step/Accent modes in some ways and very different in others. For example, events may be entered directly in Color mode using the techniques described in the Step mode [p.44] and Accent mode [p.44] sections, but unless a note event already exists at that step within Step mode or Accent mode a note will not be generated by the Color step.

To access Color mode, hold the Color button. To lock the Step buttons in Color mode, hold the Shift button and then press the Color button. Either way, when Color mode is active the Step buttons are used to enter Color events.

Full details about Color mode are available here [p.34] in the Instruments chapter [p.28]. For the rest of this chapter we will focus on Step mode and Accent mode.

4.2.4. Red state, Blue state

Step buttons will display one of three states whether you are in Step mode or Accent mode. They can be dark (no event), lit blue (event present), or lit red (accented event).

The behavior in each mode may be confusing at first. Here's a chart that should help explain what is happening:

Step mode	Button press 1	Button press 2	Button press 3
Off	Blue (new event)	Off	Blue
Blue	Off	Blue	Off
Red	Blue	Off	Blue
Accent mode			
Off	Red (new event)	Off	Red
Blue	Red	Off	Red
Red	Off	Red	Off

4.2.5. Selecting a Drum...

4.2.5.1. ...while paused

To select an instrument track for individual editing, simply tap a pad. When the pad is lit solid that means the instrument has been selected.
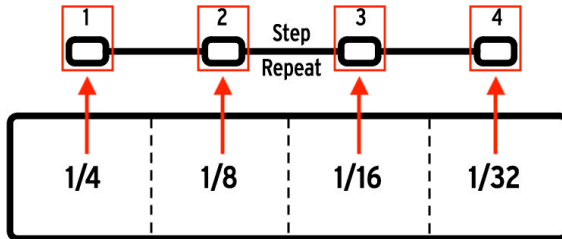
4.2.5.2. ...while recording

It can be useful to both hear and see what various instruments are contributing to a pattern. But if you touch a pad while the pattern is recording it will enter a note.

To select an instrument without entering a note while recording, hold the Shift button and tap the desired pad. Its track data will now be displayed by the Step buttons.

4.2.6. Step Repeat feature

This feature lets you use the Roller/Looper strip to enter quick, glitchy events into your patterns without having to switch to a different time division and tempo. It works by adding triggers between existing steps.

You may have noticed the LEDs and numbers outside of the area of the Roller/Looper strip where you place your finger:

When you touch the strip one of the LEDs will light, and as you move your finger different LEDs will activate. While recording or playing back a pattern the position of your finger will trigger loops or drum rolls and divide the beat by "halves": cut 1/4 in half and you get 1/8, cut 1/8 in half and you get 1/16, and so on.

But in Step mode there is a triplet trigger option, too! So you can subdivide the step in several ways without having to change the time division for the entire pattern.

Here are a couple of screen shots from the MIDI Control Center that should help illustrate the concept:
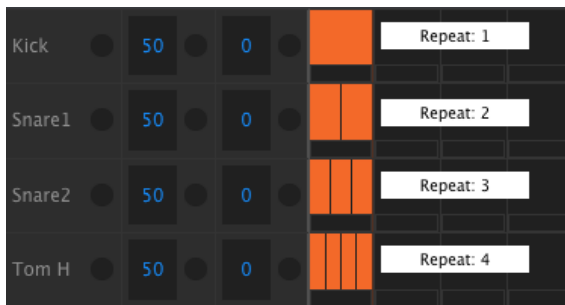
Step repeat events subdivide a step.
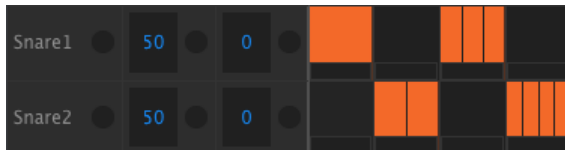
Step repeat used on alternating instruments

Here's how to use it:

- Create a pattern with a simple Kick pattern on each beat. Let it loop.
- Enter Step mode and select the kick drum (press Shift + Kick).
- Press and hold one of the lit Step buttons. A white LED will light beneath the Roller/Looper strip at the default value of 1.
- While holding the Step button, slide your finger along the strip to select a value of 2. The next time the pattern reaches that point you will hear the kick drum play twice in the space of a single step.
- Try the same process with Step Repeat values of 3 and 4 on other steps to hear the difference between them.

You will quickly see how easy it is to create exciting and innovative patterns using the Step Repeat feature!

♪: Press a Step button quickly in Step Edit mode to toggle an event on and off. This action will also reset the Step Repeat value for that event to 1. But if a Step button is held for 700 milliseconds or longer, you can view or change the Step Repeat value for that event without toggling the event on or off.

4.2.7. Shift timing of events

Sometimes the secret to a killer groove is when one or more instruments are landing consistently behind the beat. Alternately, if one of the instruments is always a bit ahead of the beat it can increase the sense of urgency in the music.

The DrumBrute Impact allows you to shift the timing of any step forward or backward by up to 50% of the pattern's timing value. It's easy to do:

- Create a pattern with a kick and snare, and add 1/8th notes on the Closed Hat. Let the pattern loop.
- Enter Step mode and select the closed hat (press Shift + Closed Hat).
- Press and hold one of the lit Step buttons.
- While holding the Step button, turn the Swing encoder counter-clockwise. The display will begin to show negative numbers from -01 to -50. The selected event is being shifted so it will play slightly earlier in the pattern, as you will hear the next time the pattern loops.
- Repeat the process using a different event, only this time turn the encoder clockwise. The display will show positive numbers from 01 to 50, which means the selected event is being shifted to play slightly later in the pattern, as you will hear the next time the pattern loops.

Once you have the groove sounding exactly right, remember to save the pattern (hold Save and press the Ptrn button).

Using the Shift button + Swing encoder without holding a Step button will shift all the steps of the current instrument. The display will always start at a shift value of 0.

♪: The [Shift + Swing] option is an easy way to quantize a whole instrument after an unquantized recording.

4.2.8. Copy a Drum Track

Once you have the timing and dynamics exactly right for a certain instrument you might want to use that track in another pattern, or maybe even double that track on another instrument within the same pattern. The following procedures will save you the time it would take to recreate the part somewhere else.

> ♪: If the time division of the target pattern is different from the source pattern they will not sound the same at first. You may want to change the time division of the target pattern until it matches the source pattern. See the Time Division section [p.38] for information.

4.2.8.1. What is copied between instruments?

Copying an instrument track to the same instrument in another pattern will preserve the instrument Color Mode [p.44] status and Color Step [p.36] data. For example: If you copy Snare 1 from pattern 2 and paste that to Snare 1 on pattern 4, the Color Mode status and Color Step data are copied along with the other Step data (on/off status, accent), plus the track length, swing settings, etc.

However, if you copy an instrument to a different instrument in any pattern, even the same pattern, the Color information will not be copied. For example: If you copy Snare 1 from pattern 2 and paste that to the Cymbal track on pattern 4, the Color Mode status and Color Step data are NOT copied, but the other track information will be preserved (on/off status, accent, track length, swing settings, etc.).

4.2.8.2. Within a pattern

Let's say you'd like to copy the FM Drum track to the Tom Low track. This is a bit trickier than normal, because you'll be copying from a single instrument to a shared instrument channel. But even this process is so easy that you'll have no trouble with copying between single-channel instruments.

Select a pattern with an interesting FM Drum part and then follow these steps:

- Press and release the Copy button. The Copy, Bank and Ptrn buttons and all of the pads will flash.
- Press the FM Drum pad. This is the track that will be copied.
- Press the instrument select button for the Tom Hi / Tom Low shared channel until the Tom Low LED is lit.
- Tap the Tom Hi / Tom Low pad. It will flash quickly so you will know the process is complete.

When copying between single-channel instruments, simply skip the third step in the process.

4.2.8.3. Between patterns

The process of copying an instrument track between patterns in the same bank is almost identical to the one described above. We'll only copy tracks between single-channel instruments this time.

> ℹ !: The following procedure will overwrite the Closed Hat track in the target pattern.

Select a pattern with an interesting Closed Hat part and then follow these steps:

- Press and release the Copy button. The Copy, Bank and Ptrn buttons and all of the pads will flash.
- Press the Closed Hat pad. This is the track that will be copied.
- Press the Ptrn button.
- Select the target pattern by pressing one of the Step buttons.
- Tap the Closed Hat pad. It will flash quickly so you will know the process is complete.

To copy the Closed Hat track to a different instrument in the target pattern, select that instrument's pad in the final step instead of the Closed Hat pad.

4.2.8.4. Between banks (same instrument)

The process of copying an instrument track between patterns in different banks is almost identical to the procedures described above. We'll only copy tracks between single-channel instruments this time.

> ℹ !: The following procedure will overwrite the Closed Hat track in the target pattern.

Select a pattern with an interesting Closed Hat part and then follow these steps:

- Press and release the Copy button. The Copy, Bank and Ptrn buttons and all of the pads will flash.
- Press the Closed Hat pad. This is the track that will be copied.
- Press the Bank button.
- Select the target bank by pressing one of the first four Step buttons.
- Press the Ptrn button.
- Select the target pattern by pressing one of the Step buttons.
- Tap the Closed Hat pad. It will flash quickly so you will know the process is complete.

To copy the Closed Hat track to a different instrument in the target pattern, select that instrument's pad in the final step instead of the Closed Hat pad.

4.2.9. Erasing a Drum Track

If you've decided you don't want a certain instrument track to be part of the pattern any more, the process couldn't be simpler:

> ℹ !: Be sure you've selected the correct pattern. This process cannot be undone.

- Press and release the Erase button. The Erase, Bank and Ptrn buttons and all of the pads will flash.
- If you need to erase the track for only one instrument from a shared channel, be sure to use the instrument select button to select that instrument before you proceed.
- Tap the pad of the instrument track you want to erase. It will flash quickly and then stop, so you will know the process is complete.

4.2.10. Pattern Length

The default length is 16 steps, but a pattern can be up to 64 steps long.

If you'd like your pattern to be less than 16 steps long, simply hold the Last Step button and then press the Step button that corresponds to the desired setting.

4.2.10.1. Pattern Follow mode

When working with patterns longer than 16 steps there is an important feature to know. When the double arrow buttons (« ») are pressed at the same time, their LEDs will toggle off and on. This takes the DrumBrute Impact into and out of Pattern Follow mode.

When this mode is active during a 32-step pattern, the Step Group LEDs and the Step buttons will show steps 1-16, then steps 17-32, then return to steps 1-16, and so on.

When « » LEDs are	Pattern Follow mode is
Dark	OFF
Lit	ON

Remember: the playback of the pattern itself is not affected when Pattern Follow mode is enabled. This only affects what you are seeing, which can make it easier to edit particular sections of the pattern.

4.2.10.2. Lengths > 16 steps

To make your pattern longer than 16 steps will involve the Last Step button, the « » buttons, the Step Group LEDs, and the Step buttons.

For example, let's lengthen a 16-step pattern to 32 steps.

Here's what to do:

- Select a 16-step pattern.
- Hold the Last Step button.
- Press the >> button once. A white blinking LED will appear above the number 32.
- Press Step button 16 (technically it's button 32 now). It will turn blue.
- Release the Last Step button. Step 32 has now been defined as the last step in the pattern.

Now press << and >> at the same time to enter Pattern Follow mode (the buttons should be lit).

Next, press Play. You should see the Step buttons cycling through two sets of 16 steps, one with data and one without.

You should also see the Step Group LEDs changing every 16 steps:

- Steps 1-16: Red LED over #16, White LED over #32
- Steps 17-32: dark LED over #16, Pink LED over #32 (White + Red)

The Red LED indicates the current Step Group within the pattern. The White LED means that the last step in the pattern is in that Step Group.

If you decide you want more than 32 steps for this pattern, hold the Last Step button and press >> until the White LED is over the correct Step Group number. Then press the appropriate Step button and you're ready to create.

4.2.10.3. Editing steps 17-32

If you want to focus on steps 17-32 while editing, here's what to do:

- Disable Pattern Follow mode (turn off the << >> buttons).
- Press >> once to move the Red LED over #32.

The Step buttons now show the status of steps 17-32. You can play the pattern while editing, if you want; it will play all 32 steps, but the Step buttons will stay focused on steps 17-32.

Simply edit the steps as desired with the Step buttons, or play them on the pads. When you're finished you can re-enter Pattern Follow mode with the << >> buttons if you like.

4.3. To Revert a Pattern or Bank

It is possible to restore a pattern or a bank of patterns to the last version that was saved to the Flash memory. But this must be done before you have Saved, Copied or Erased a pattern or a bank; each of those processes writes the current memory to Flash and overwrites the previously stored items.

The processes are slightly different to revert a pattern or to revert a bank.

4.3.1. Revert a Pattern within the Bank

• Within the current bank, use the Step buttons to select the pattern you want to revert
• Hold the Shift button
• Press the Ptrn mode button

4.3.2. Revert the current Bank

• Hold the Shift button
• Press the Bank mode button

4.4. Save the Pattern!

> ℹ !: If you switch between banks you will lose any edits you have made to the patterns within the original bank. This will also happen if you switch to Song mode.

It's a good idea to save your patterns often while you are working on them.

To save the current pattern, hold the Save button and then press the Ptrn button. Both buttons will flash quickly to indicate that your pattern has been saved to the internal memory.

4.5. Copy a Pattern

There may be times when you would like to have a pattern become the basis for another section within a song, only with a few modifications. Copying the pattern into a different location can be a quick way to accomplish this.

> ℹ️ !: The following procedure will erase pattern #8 in the current bank. Be sure that pattern location is available before proceeding.

Let's say you'd like to copy pattern #1 to pattern location #8 within the current bank. Here are the steps to follow:

- Select Pattern mode by pressing Ptrn button.
- Select pattern #1 by pressing Step button 1.
- Press the Copy button. Lots of buttons will flash to indicate you are in Copy mode. Step button 1 should be lit solid, which means it is the pattern being copied.
- You want to copy a pattern, not a bank, so press the Ptrn button. The Copy and Ptrn buttons will flash, and Step button 1 will now flash also to indicate it is the source pattern.
- Any patterns that already contain data will have the corresponding Step button lit red. Any empty patterns will be dark.
- Press Step button 8. It will flash for half a second, and then Step buttons 2-16 will go dark so you'll know the process is complete. Pattern #1 is still selected, so if you want to modify pattern #8 you'll need to select that pattern by pressing Step button 8.

To learn how to copy a pattern between banks, see .

5. SONG MODE

The internal memory of the DrumBrute Impact holds 16 songs, each of which can be up to 16 patterns in length.

5.1. What's a Song?

A song allows you to set up a sequence of patterns that will play back in a specific order. The patterns can be chosen from any one of the four pattern banks.

When a song is selected, the Step buttons will light to indicate how many patterns are in the song. As the song plays the display will show the bank letter and pattern number of each pattern within the song, and the Step buttons will blink in turn to indicate the current position of the song.

The song inherits the tempo setting of each of the patterns it contains, unless the Global BPM feature has been enabled. See section [p.38] to learn about this.

When the song reaches its end it will loop back to its beginning and continue to play until the Stop or Play/Pause button is pressed.

The song also uses the Swing and Random values from each pattern. Live edits of these parameters are possible, but these are not global edits and they could change between patterns.

5.2. Selecting a Song

To select a song, press the Song Mode button and then press the Step button that corresponds to the number of the desired song. The Step button will light to indicate your choice.

All of the other Step buttons are used to indicate the number of patterns the song contains. Here's how to interpret what they mean:

- Step buttons that are not lit mean the song uses fewer than 16 patterns. Four dark buttons, for example, means the song uses 12 patterns.
- Similarly, if there are 12 red Step buttons that also means the song uses 12 patterns.
- The Step button that represents the song number will be blue, unless it is also being used to indicate the number of patterns in the song. Then it will be purple (blue + red).

It is possible to switch into a song from Pattern mode or switch between songs while the DrumBrute Impact is running.

> ♪: The MIDI Control Center allows you to specify whether the new pattern should load instantly or wait until after DrumBrute Impact reaches the end of its current pattern. See section [p.95] to learn about this feature.

5.3. Creating a Song

The process of creating a song is very straightforward. Here is how to do it:

- Press the Song button to enter Song mode.
- Choose which song you want to create by pressing one of the Step buttons.
- Press the Record button to enter Song writing mode. The Song, Ptrn and Record buttons will blink.
- Press the Step buttons one after the other to choose their playback order. You can press the same step button multiple times to repeat that pattern.
- You can use patterns from other banks by pressing the bank button and choosing one (A-D). Then press Ptrn to select patterns within the new bank.
- You can enter up to 16 patterns, including the ones you repeated.
- When you have finished building your song, press the Record button to drop out of Song writing mode.

Press the Play button and your song will start.

5.4. To Revert the Songs

It is possible to restore a song to the last version that was most recently saved to the Flash memory. But you must do this before saving, copying or erasing any of the other songs in Song mode.

> ℹ !: The following process will undo the changes that have been made to any song in Song mode that has not been saved.

Here's how to do it:

- Hold the Shift button
- Press the Song mode button

This will restore all of the songs in Song mode to their most recently saved versions.

5.5. Saving a Song

To exit Song writing mode, press the Record button a second time. It will go dark, which means you have exited Song writing mode. Press the Save button + the Song button to store your new song.

5.6. Erasing a Song

If you want to construct a new version of an existing song, here's what to do:

- Press the Erase button, the Erase, Song, Bank, Ptrn, and pads will blink.
- Press the Song button
- Choose the song to be erased by pressing one of the Step buttons.

Now you can begin creating a new song.

5.7. Live performance features

Many of the same playback options are available for Song mode that are found in Pattern mode. There are some differences, so we'll point those out when we get to them.

Some of the performance features are what we call "song-level" features, and others are "pattern-level". Here's a description of each:

- **Song-level** features are not affected when the song loops or when patterns shift banks within the song.
- **Pattern-level** features are embedded in the patterns, so when these patterns are recalled during playback they might be reset to their stored values. They also will be reset if the song is stopped and restarted.

5.7.1. Song-level features

5.7.1.1. The Looper/Roller Strip

While using the Looper/Roller feature the Song continues to play in the background, so when you release the Touch strip it will jump to the place it would have been in the music if the Looper/Roller hadn't been activated.

The Looper strip will generate smaller loops based on where you touch the strip and when you do it. The length of the loop is determined by the position of your finger on the strip. Changing the location of your finger changes the size of the loop.

The Roller strip allows you to roll instruments in real time. It will generate rolls based on the time division selected within the Touch strip.

5.7.1.2. Pause or Restart

There's a setting called Pause mode in the MIDI Control Center. It lets you decide if the Play/ Pause button will restart the song from the beginning or continue from the current position when you resume playback.

See section [p.96] to learn more about these MIDI Control Center settings.

5.7.2. Pattern-level features

5.7.2.1. Tempo

Each pattern can be saved with its own tempo setting, and as a result it is possible for a song to contain a different tempo every time a different pattern is used.

But there is a front panel parameter that allows you to override these individual tempo values: Global BPM. To activate this feature is simple: just hold the Shift button and press Step button 15.

After this, every song and pattern in the DrumBrute Impact will play at the same tempo, which you may then set to whichever value you like as described in section [p.38].

5.7.2.2. Swing/Random

These features are described in greater detail in the Pattern Mode chapter [p.38]. When using them in Song mode, keep in mind that any edits you make with the Swing and Random encoders could reset to the Pattern mode values when a pattern boundary is crossed, if the next pattern is from a different bank.

These parameters are always reset to the values stored when a bank change occurs.

5.8. Mute and Solo in Song mode

The Mute and Solo features work exactly the same way in Song mode that they do in Pattern mode. In fact, the Mute/Solo groups are shared between Song and Pattern modes. So the pads that were muted/soloed in Pattern mode will also be muted/soloed in Song mode, and vice versa.

For a full description of how to use these features, see the Mute/Solo features section [p.40] of the Pattern Mode [p.38] chapter.

6.1. Copy Bank to Bank

> ℹ !: The following procedure will overwrite all 16 patterns in the target bank. This cannot be reverted or undone. Be sure this is what you want to do before you proceed.

It is possible to copy all 16 patterns from one bank to another bank.

Let's say you want to copy the patterns from bank C into bank D. Here's how:

- Press the Bank button.

- Select bank C by pressing Step button 3.

- Press the Copy button. Lots of buttons and pads will flash.

- Press the Bank button again. Step button 3 will flash, which means it is the bank being copied.

- Select bank D by pressing Step button 4. That button will flash rapidly for about a second.

When the flashing stops the process is complete. The source bank (bank C in this case) will still be the selected bank.

> ♪: Just before selecting the destination you can see whether a bank is empty or not. Banks that are not empty will be lit red, but empty banks will not be lit. This is also true when choosing which bank to erase.

6.2. Copy Pattern to Pattern

> ⓘ !: Copying a pattern to another location cannot be reverted or undone; it will overwrite the target location. Be sure this is what you want to do before you proceed.

6.2.1. Within a Bank

This procedure was covered more extensively in this section [p.54], but here are the basics.

To copy a pattern to a new location within the current bank:

- Be sure this is what you want to do, because it cannot be undone or reverted.
- Select the source pattern.
- Press the Copy button.
- Press the Ptrn button.
- Press the Step button for the target location. It will flash for half a second, and then all Step buttons will go dark except one for the original source button.

> ⓘ ♪: Just before selecting the destination you can see whether a pattern is empty or not. Patterns that are not empty will be lit red, but empty patterns will not be lit. This is also true when choosing which Pattern to erase.

6.2.2. Between Banks (pattern)

The following procedure will allow you to copy a single pattern from one bank into a different bank.

Let's say you'd like to copy pattern #7 from Bank A to pattern location #15 in Bank B:

- Select Bank A, pattern #7.

- Press the Copy button.

- Press the Ptrn button.

- Press the Bank button.

- Press Step button 2 to select Bank B.

- Press the Ptrn button.

- Press Step button 15. It will flash for about a second so you'll know the process was successful.

6.3. Copy Drum to Drum

The following procedures were covered extensively here [p.48]:

- To copy an instrument track to another instrument within the same pattern, see this section [p.48].

- To copy an instrument track into a different pattern in the same bank, follow these instructions [p.49].

- To copy an instrument track into a pattern in a different bank, read this section [p.49].

6.4. Erasing a Bank

To erase all 16 patterns in a bank:

- Be sure you know which bank you want to erase. This process cannot be undone.

- Press the Erase button. Lots of buttons and pads will flash.

- Press the Bank button. The Step button for the currently selected bank will flash.

- Use the Step buttons to select the bank you want to erase. It will flash rapidly for about a second.

When the flashing stops, the process is complete.

6.5. Erasing a Pattern

To erase one of the patterns in a bank:

- Be sure you know which pattern you want to erase. This process cannot be undone.

- Press the Erase button. Lots of buttons and pads will flash.

- Press the Ptrn button. The Step button for the currently selected pattern will flash.

- Use the Step buttons to select the pattern you want to erase. It will flash rapidly for about half of a second.

When the flashing stops, the process is complete.

6.6. Erasing a DrumTrack

This process was covered in section [p.50]. Here are the highlights:

- Press the Erase button. Lots of buttons will flash.

- Tap the pad of the drum track you want to erase. It will flash quickly and then stop, so you will know the process is complete.

7. ADVANCED FEATURES

7.1. Extend a pattern

A pattern can be lengthened in two different ways: by adding blank steps, or by taking the data from the beginning of the pattern and copying it to the end of the pattern.

7.1.1. Adding blank steps

The process of adding blank steps involves using the >> button and the Last Step button. This was covered in the Pattern Length section [p.51].

7.1.2. Copy and append

It's also possible to extend a pattern by copying data from the beginning of the pattern and attaching it to the end of the existing pattern. Patterns can be extended up to the maximum length of 64 steps.

To extend a pattern, hold Shift and then press the >> button. This will copy every existing event in the pattern and append it to the end of the pattern, starting after the current Last Step.

Here are some rules to keep in mind:

- If the pattern has more than 32 steps, this process will copy/append as many steps as possible until the maximum number of steps is reached (64).

- If the pattern is shorter than 32 steps, then that number of steps is copied and the sequence is doubled in length.

Here are some examples of this process in action:

Example 1

Original size	Action	New size	Reason
16 steps	Shift + >>	32 steps	Steps 1-16 were copied / appended to step 17
	Shift + >>	48 steps	Steps 1-16 were copied / appended to step 33

Example 2

Original size	Action	New size	Reason
32 steps	Shift + >>	48 steps	Steps 1-16 were copied / appended to step 33

Example 3

Original size	Action	New size	Reason
7 steps	Shift + >>	14 steps	Steps 1-7 were copied / appended to step 8
	Shift + >>	28 steps	Steps 1-14 were copied / appended to step 15
	Shift + >>	56 steps	Steps 1-28 were copied / appended to step 29
	Shift + >>	64 steps	Steps 1-8 were copied / appended to step 57

7.2. Shorten a pattern

To make a 64-step pattern shorter involves a slightly different procedure. Let's say you want the pattern to be 48 steps long instead:

- Hold the Last Step button until the example is complete.

- Press the << button to select Step Group 3. The "48" LED will light.

- Still holding the Last Step button, press Step button 16. It will turn blue, which means the pattern is now 48 steps long.

- If you want the pattern to be even shorter, start over and press the << button until the proper Step Group is selected.

To select a pattern length other than a multiple of 16, use the Last Step button and press the appropriate Step button to define the final step in the pattern. This process is described in the Pattern Length section [p.51].

7.3. Polyrhythm mode

This feature is as interesting as it is unusual. And it has the potential to unleash creative explorations you might never have considered otherwise.

7.3.1. What is Polyrhythm mode?

Usually a drum machine pattern will operate within a single time signature, such as 4/4 or 12/8. For example, with a single measure of 4/4 there are sixteen 16th notes, and if a drum only plays on the downbeat it must wait another 15 steps before it plays again.

But with the DrumBrute Impact's polyrhythm feature you can specify a different time signature for each instrument track! This could mean you'd have 10 loops of different lengths all happening at the same time.

7.3.2. What it does

Here's an example: What if you wanted a pattern with this mixture of time signatures:

Instrument	Kick	Snare 1	Snare 2	Tom Hi	Tom Low
Time signature	3/16	1/4	5/16	3/8	4/4

The Tom Low track is the longest, so we'll use that as the timing reference for our discussion. Here's how those tracks would look in the MIDI Control Center:
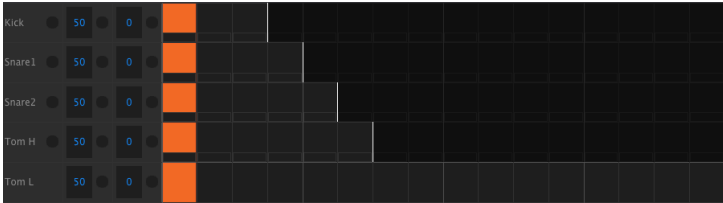
But here's a visual representation of how they would sound during the first bar:
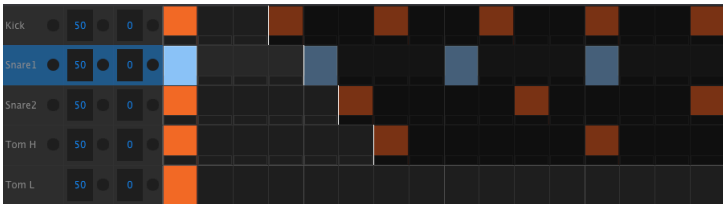
And during the second bar:
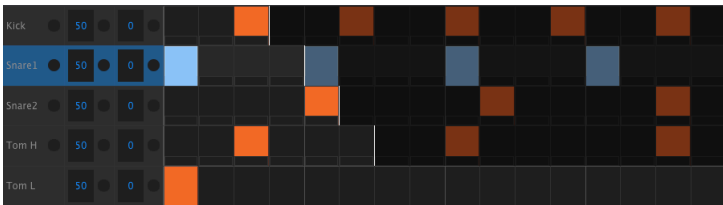
The second loop, Snare 1, is highlighted as a rhythmic reference. It plays on quarter notes 1, 2, 3, and 4, and the Tom Low will play on beat 1 every time.

But the other instruments will continue their shorter loops: the Kick will play its cycle of 3, Snare 2 a cycle of 5, and Tom Hi a cycle of 6. They will play at different times in relationship to each other for quite a while.

In this example it will be 360 bars of 4/4 time before the first bar is heard again!

To toggle Polyrhythm on and off, hold the Shift button and press Step button 16.

7.3.3. Make a polyrhythm

Here's how to start building the example from the previous section.

1. Select an empty pattern.
2. Hold Shift and press Step button 16. It will turn blue to show that the pattern is in Polyrhythm mode.
3. Tap the Kick pad to select it.
4. Press Step to enter Step mode.
5. Hold the Last Step button and press Step button 3. The Kick now has a 3-step loop.
6. Release the Last Step button.
7. Press Step button 1 to add an event to the first step of the Kick loop.
8. Press Play to confirm. If the pattern was blank before, it should now be only 3 steps long. If so, stop the pattern.
9. Tap the Snare 1 pad to select it.
10. Hold the Last Step button and press Step button 4. Snare 1 now has a 4-step loop.
11. Release the Last Step button.
12. Press Step button 1 to add an event to the first step of the Snare 1 loop.
13. Tap the Snare 2 pad to select it.
14. Hold the Last Step button and press Step button 5. Snare 2 now has a 5-step loop.
15. Release the Last Step button.
16. Press Step button 1 to add an event to the first step of the Snare 2 loop.
17. Press Play to confirm. The pattern is now 5 steps long, and you should hear the intersecting rhythms of all three instruments.

Try your own experiments! Just be sure to save the pattern if you like what you're hearing.

7.4. Shift button chart

The Shift button allows you to access important features. Here's a chart of the available Shift functions:

Shift+	Function
Step buttons 1-5	Sets the time division for the pattern
Step button 9	Switch between Roller (On) and Looper (Off)
Step button 14	Toggle "At End" feature On and Off
Step button 15	Toggles Global BPM on and off
Step button 16	Enables Polyrhythm mode for the pattern
Pad	Choose an instrument to edit without triggering the sound
Rate/Fine	Increment or decrement the tempo to the 100th decimal place
Swing	Shift the timing of all steps in the current instrument track
Record	Turn off Quantize recording
Mute	Clear Mute group
Solo	Clear Solo group
>>	Extends the length of the sequence
<<	Shortens the length of the sequence
Bank	Revert bank to last saved state (i.e., load from Flash memory)
Ptrn	Revert pattern to last saved state
Song	Revert to last saved state

8. SYNCHRONIZATION

DrumBrute Impact can be the master clock for an entire MIDI rig, or it can just as happily serve as a slave to any one of several sources. See section [p.4] for connection diagrams.

You can cycle through the various Sync options using the Sync button. A white LED will let you know which mode you've selected.

```
INT    USB    MIDI    CLK
 ▭      ▭      ▭       ▭
```

```
┌─────────────┐
│    Sync     │
└─────────────┘
```
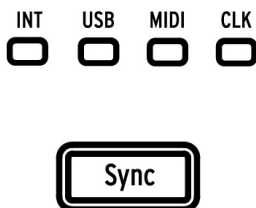
> ♪: The Sync setting cannot be changed while DrumBrute Impact is playing a pattern or a song.

8.1. As Master

DrumBrute Impact is the master clock when the INT button is lit. When this is the case:

- The transport section will control the internal sequencer.

- MIDI clock messages are sent to MIDI out, USB MIDI, and the Clock output.

- The tempo can be set using the Rate/Fine encoder and the Tap Tempo button.

- Hold Shift and turn the Rate/Fine encoder to fine-tune the tempo.

8.2. As Slave

DrumBrute Impact functions as a slave to an external clock when one of the other three Sync LEDS are lit (USB, MIDI or CLK). When DrumBrute Impact is in Slave mode:

- The Tempo controls will not control the internal sequencer while the external source is running.

- The DrumBrute Impact transport section will work the same way: you can still stop, start and pause the internal sequencer, and you can still record patterns.

- DrumBrute Impact will pass the synchronization messages it receives from the external source to its USB, MIDI and Clock outputs.

8.3. Clock In/Out rates

To change the clock in/out rate, first be sure the DrumBrute Impact is not playing a song or a pattern. Next, hold the Sync button and turn the Rate/Fine encoder to select one of the available clock formats for the DrumBrute Impact Clock In and Out connectors to send and receive:

- 1P (one pulse per step, or pps)

- 2P (Korg Volca standard)

- 24P (standard DIN sync)

- 48P

The clock type can be changed whether the DrumBrute Impact is the master or slave in your system.

The default rate is 24P. There's also a Clock In/Out Settings [p.94] menu in the MIDI Control Center.

> ♪: It is better to synchronize the DrumBrute Impact with 48P, if other devices in the system send or receive that sync format. The synchronization will be more accurate. 1P and 2P are not advised unless really necessary.

8.4. Clock connectors

There are several types of connectors that have been used for musical synchronization purposes over the years. Here's a chart that indicates the best kinds to use when connecting older devices to DrumBrute Impact:

Connector type	Signal(s) sent
1/8'' mono (TS)	Clock pulse only
1/8'' stereo (TRS)	Clock pulse and start/stop

Check the owner's manual for your device if you are not sure which sort of sync capabilities it has.

9. MIDI CONTROL CENTER

The MIDI Control Center is an application that will help you configure the Global and MIDI settings of your DrumBrute Impact. The software works with most Arturia devices, so if you have an earlier version of the software you'll want to download the DrumBrute Impact version. It will work with those products as well.

9.1. Basics

The built-in MIDI Control Center manual has general descriptions of the features that are common to all Arturia products.

This chapter will cover only the MIDI Control Center features that are unique to DrumBrute Impact.

9.1.1. System requirements

▪ PC: 2 GB RAM; CPU 2 GHz (Windows 7 or higher)

 macOS: 2 GB RAM; CPU 2 GHz (macOS 10.7 or higher)

9.1.2. Installation and location

After downloading the appropriate MIDI Control Center installer for your computer from the Arturia website, double-click on the file. Then all you have to do is start the installer and follow the instructions. The process should be trouble-free.

The installer puts MIDI Control Center with the other Arturia applications you have. In Windows, check the Start menu. On a macOS computer you'll find it inside the Applications/ Arturia folder.

9.1.3. Connection

Connect the DrumBrute Impact to your computer using a USB cable. It'll be ready to go after its LEDs go through the startup cycle.

Now launch the MIDI Control Center. The DrumBrute Impact will be in the list of connected devices:
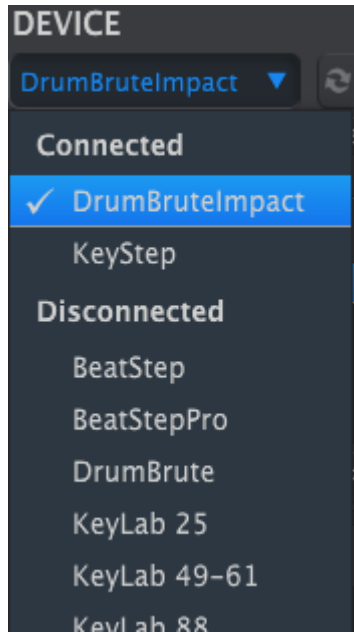
> ⓘ !: The use of a high-quality hub and cables will help prevent "Failed to open the device" popup messages.

9.1.4. Back up your sequences

If you want to make a quick backup of your DrumBrute Impact memory, click the "Recall From" button:
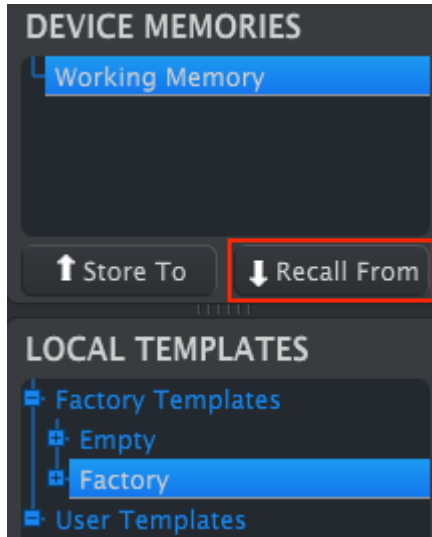
This will grab whatever has been saved to the flash memory and pull it into your computer. MIDI Control Center will give this file the current date/time stamp for a name, but you can name it something else if you like.

9.2. MCC Basic Operations

In the MIDI Control Center there are plenty of features available. For example, you are able to:

- drag and drop one of the patterns in the Project Browser to one of the Bank tabs
- send a single pattern to the DrumBrute Impact internal memory
- use the Store To and Recall From buttons to transmit an entire set of 64 patterns and 16 songs
- edit the Device Settings
- perform other MCC functions such as pattern editing, file management and Template creation, among other things.

9.3. Device Templates
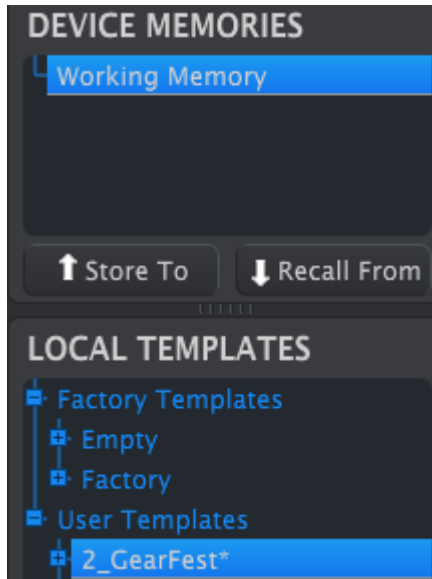
9.3.1. The Working Memory

The Working Memory functions as a sort of 'target' onto which Templates or patterns can be dragged and then transmitted to the DrumBrute Impact memory.

> ♪: When you make a change in the Seq Editor window an asterisk (*) will appear next to the name of the selected Template. These changes are not automatically saved, so you will need to use the Save or Save As… buttons to preserve your new pattern data. ♪: When a pattern is edited in the MCC the pattern data inside the DrumBrute Impact does not change. You must use the Store To button to send the Template to the DrumBrute Impact if you want its internal memory to match the MCC Template. You can also drag/drop the Template to the Working Memory (see the next section).

Drag and drop

It's possible to drag a single pattern or a Template from the Project Browser onto the Working Memory. When you do, the pattern(s) will be sent to the DrumBrute Impact internal memory.

9.3.2. Synchronization with DrumBrute Impact

Memory synchronization is not available for the DrumBrute Impact, and so the MCC Sync button is greyed out. You'll need to use one of the to synchronize the contents of the MIDI Control Center and the DrumBrute Impact.

9.4. Project Browser

The Template Browser shows a list of all the Templates that have been archived using the MIDI Control Center. These are divided into two main groups: Factory and User.

The User Templates are the ones you have recalled from the DrumBrute Impact using the MIDI Control Center. See the to learn how to do this.
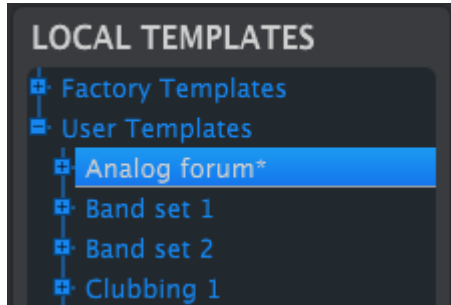
A Template in the MCC contains the same number of patterns as the internal memory of the DrumBrute Impact, and it also has them arranged into four banks of 16 patterns each.

> ♪: A Template does not contain the Device Settings. We'll show you how to save those separately in .

Here's an expanded view of the banks inside a Template named "Analog Forum", with a secondary view of the patterns inside Bank A.
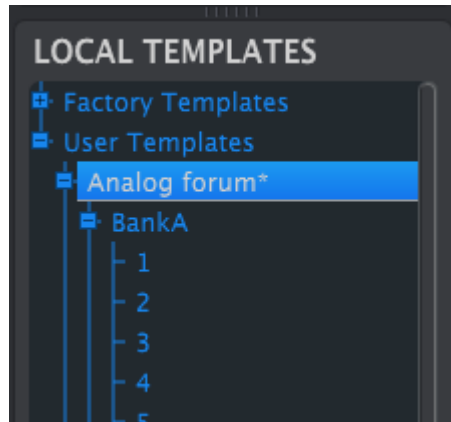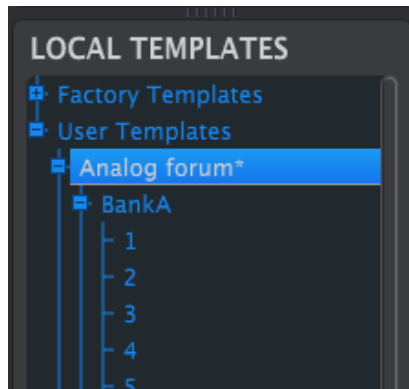
User Templates: click +/- to expand or
collapse Template view

9.4.1. Building a library

You can build a limitless library of patterns in the User Templates area.

Make as many patterns as you like, wherever you are. Then the next time you use the MIDI Control Center, simply press the Recall From button. This will transfer the DrumBrute Impact pattern memory into the Working Memory of the MCC.

At the same time the MCC will also create a new Template in the User Templates area. The Template will be named automatically with a date/time stamp, but you can give it a more descriptive name if you like.

9.4.2. Revise a Template

You can edit the patterns of an archived Template. Simply select that Template and its patterns will appear in the MCC Pattern Editor window, ready for editing.

If you would like to confirm the results by having the patterns played on the DrumBrute Impact, there are two ways.

> ℹ !: The following process will overwrite the Working Memory and the pattern memory of the DrumBrute Impact. Be sure to save what you were doing before you transfer the file!

First use the Save or Save As... buttons to save your changes, then:

- drag the revised Template from the Local Templates window and drop it on the Working Memory, or

- press the Store To button (there is more information here [p.78]).
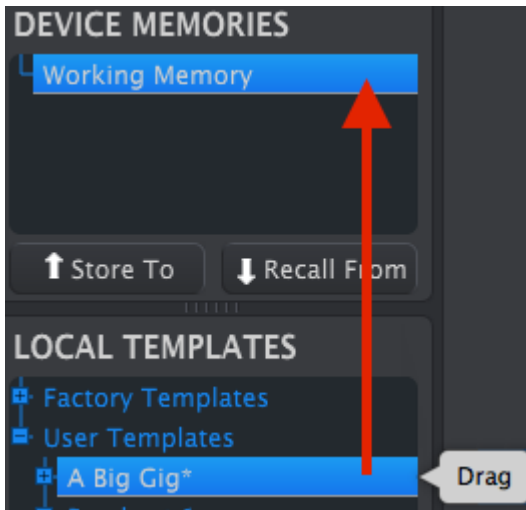
9.4.3. Send one pattern to DrumBrute Impact

> ℹ !: The following process will send a single pattern to the DrumBrute Impact **and will overwrite the pattern** in that memory location.

If you'd like to transfer only one pattern from a Template to the DrumBrute Impact, find that pattern in the Local Templates window and drop it onto the Working Memory. This will send the selected pattern directly into the DrumBrute Impact at that same pattern location.

In the example below, pattern #1 from Bank A of the "A Big Gig" Template will overwrite pattern #1 in Bank A of the DrumBrute Impact internal memory.
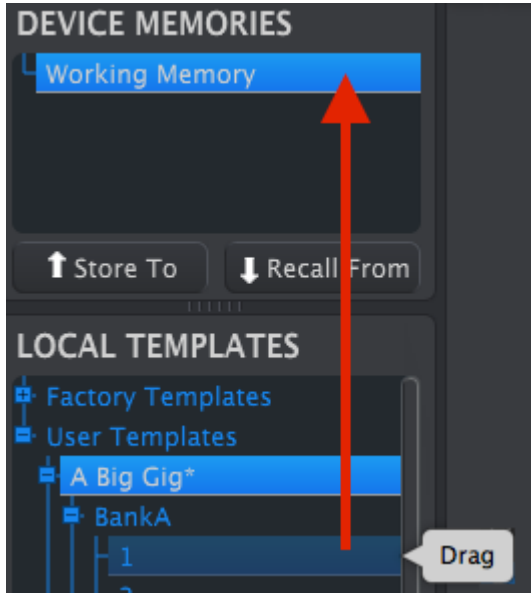
9.5. Store To/Recall From

9.5.1. The 'Store To' button

The upper left-hand section of the MIDI Control Center has a button called "Store To". It is used to transmit a Template from the Local Templates window to the DrumBrute Impact.

> ℹ !: The following process will overwrite the internal memory of the DrumBrute Impact. If you are not sure those patterns have been backed up, be sure to archive them to your computer using the Recall From button.

If there is a particular Template you would like to transmit to your DrumBrute Impact, select it in the Local Templates window.

To load a template into the DrumBrute Impact memory, you will need to use the Store To button to transmit it.

The process is simple:

- Select the desired Template as shown below

- Click the Store To button at the bottom of the window.
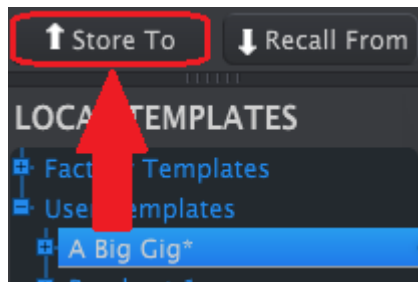
This process will store all of the patterns from the selected Template into the DrumBrute Impact.

9.5.2. Recall edited patterns from the DrumBrute Impact

If you changed any patterns inside the DrumBrute Impact, you need to pull those patterns into the MIDI Control Center to back them up. To do that, click the Recall From button. A new file containing all 64 patterns will appear in the Local Templates window with the current time/date stamp for a name. You can rename it if you like.

> ♪ ♪: Songs are not backed up by the MCC when the memory is recalled from the DrumBrute Impact.

9.5.3. Save, Delete, Import/Export, etc.
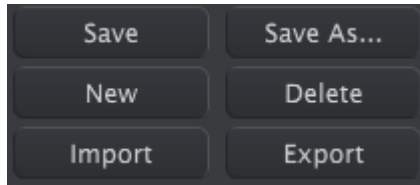
These important features have been documented in the MIDI Control Center manual, which you will find in the software Help menu. Look in this section [p.62] of the Help file for information about Save, Save As…, New, Delete, Import and Export.

> ♪: The Import / Export buttons pictured above perform a different function from those at the top of the Device Settings window (see the next section [p.80]).

These files will have the extension **.drumbruteimpact.** They contain all of the internal DrumBrute Impact parameters: a complete set of 64 patterns, 16 songs, and all of the Device Settings. Use these files to share settings and patterns with other users.

9.6. Import/Export Device Settings

When the Device Settings tab is selected in the MIDI Control Center window you will see two buttons on the upper right labeled Import and Export. The function of these buttons is to manage files containing only the Device Settings. They are different from the buttons described here [p.79], which are used to generate a file containing both the Device Settings and the patterns.

The Device Settings files carry the extension **.drumbruteimpact_ds.** You can swap these files with other users or build a library of configurations for the different systems you encounter in different locations.

9.6.1. Export Device Settings
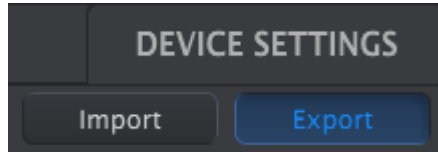
To export the Device Settings, click the Export button. Then navigate to the appropriate location in your computer and follow the prompts to save the **drumbruteimpact_ds** file.

9.6.2. Import Device Settings
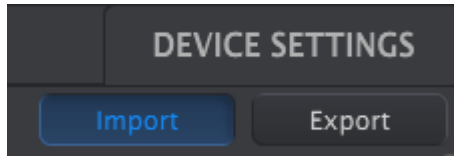
To import the Device Settings, click the Import button. Then navigate to the appropriate location in your computer and follow the prompts to load in the **drumbruteimpact_ds** file.

9.7. Editing basics

9.7.1. Data entry

There are two main ways to enter new parameter values in the MIDI Control Center: click something and move it, or type a number into a field.

To edit Swing %, for example, click and drag the knob graphic or double-click in the value field and enter a new value:

Editing a knob value

To edit a parameter such as Pause Mode, click its pull-down menu and make a selection:
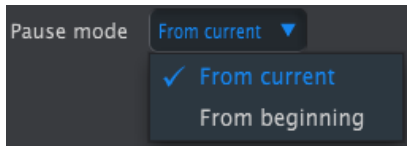
Selecting a pull-down menu option

9.7.2. Selecting the tabs

The middle window of the MIDI Control Center has five tabs: Banks A-D and Device Settings. Each bank contains 16 patterns, and Device Settings has all of the parameters for the various DrumBrute Impact functions.
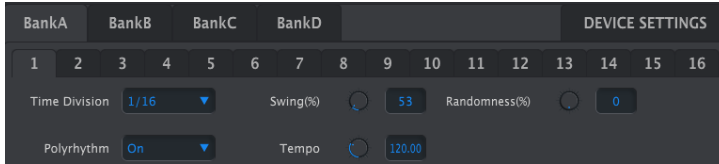

The DrumBrute Impact tabs: Banks A-D and Device Settings

Simply click on a tab to select its window.

9.7.3. Bank tabs

Each Bank tab contains sixteen numbered pattern tabs:

The Bank A tab

These tabs allow you to select each of the patterns and fine-tune their event data. You can even create brand new patterns here.

In the graphic above pattern #1 is selected. From here you can view and edit the Time Division, Swing % and other settings for this pattern. It is also possible to edit the velocity, timing shift and Step Repeat of individual notes. You can also add and delete notes, and more.

We'll go through each of the pattern editing features as we describe the Pattern Window [p.83].

9.7.4. Device Settings tab

All of the Device Settings are contained within this tab. On small screens you may have to use the scroll bar on the right side of the window to view them within the MIDI Control Center.

We'll go through each group of parameters in the Device Settings section [p.93].

9.8. Pattern window

9.8.1. Navigation

9.8.1.1. Scroll

If you have a scroll wheel you can move the pattern view horizontally. Place the cursor in the pattern field (not over the instrument names), then hold the Shift key on your computer keyboard and use the scroll wheel. The pattern view will move sideways.

You can also click/drag the scroll bar at the bottom of the window to reposition the pattern view.


Scroll bar location

9.8.1.2. Zoom

To zoom in and out of the horizontal view, place the cursor in the pattern field. Then press Command (macOS) or Control (Windows) and use the scroll wheel to adjust the view.

9.8.2. Pattern-level parameters
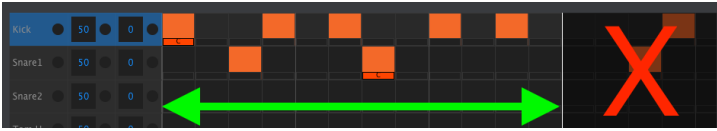
Below the Pattern tabs are five parameters that operate on the entire pattern. We went through these in the Pattern Mode chapter [p.38], and the Polyrhythm feature is covered in this section [p.64] and also here [p.92].
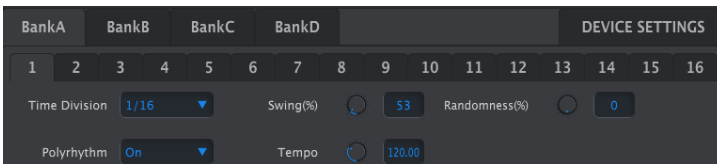
Pattern-level parameters for the Pattern tabs

9.8.3. Set the Pattern length

Here's how a pattern window looks when the length is set to 12 steps:

Some steps are darkened because they are outside the pattern length area. These steps can contain data but they will not play unless the pattern length is changed to include them.

The steps are numbered along the bottom of the window:

The pattern length may be changed by dragging the white line to the left or to the right:

Changing the pattern length

Patterns can be up to 64 steps long.

9.8.4. Pattern events

9.8.4.1. Enter/delete events

Double-click on a square inside the pattern view to enter an event. To delete events, select one event with a single click or drag a box around several events. Then press the Delete key on your computer keyboard. A right-click can also be used to delete a single event.

9.8.4.2. Add/remove Color events

To add a Color event to a step, click the smaller rectangle under that step. A small "C" will appear under that step to indicate that the event has been colored. Click the same rectangle to remove the Color event.
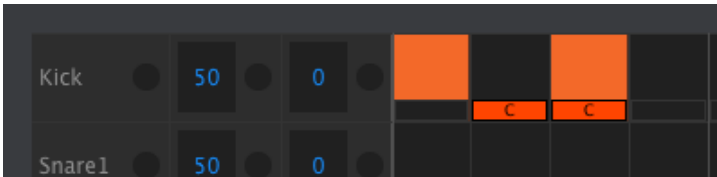
Color events can be added and removed with a single click.

There are three things to notice about the graphic above:

- The first Kick event is not colored, since it does not have the small orange rectangle beneath it.
- A Color event has been placed under the second event, but since a Kick event does not exist at that step location an event will not be played.
- The third Kick event is a colored event: both an event and a Color event are present on that step.

Other important notes about Color events:

- A Color event sends and receives a different MIDI note number than the non-colored instrument event
- The timing of Color events can be shifted forward/backward, just like non-colored events
- Color events can be copied/pasted just like non-colored events, except to the Cowbell track (it has no color effect)
- The Tom Hi and Tom Low instrument share the Color event, so to enable a Color event to the Tom Low track, click the Color box in the Tom Hi track.

9.8.4.3. Move events

To move an existing event to a different instrument, click and hold the middle of that event. The cursor will become a hand icon. Then drag the event up or down to place it in the instrument track you want.

You can also drag the event to the left or right to place it anywhere within the pattern. If an event already exists at the new location, it will be replaced by the event you are moving.

It's also possible to move several events at the same time. To do this, first drag a box around the events with the cursor:
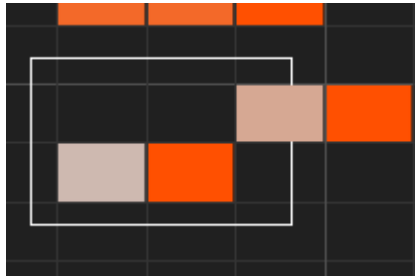

Selecting multiple events

Next, click on the middle of one of the events and drag the selected events up, down, left or right.

> ♪: If one of the selected events moves beyond the Kick or FM Drum instruments the entire pattern field will glow red.

### 9.8.4.4. Copy/paste events

After selecting a group of events you can make another copy of them in another section of the pattern. Just hold the Alt key (macOS: Option key), select one of the events, and drag them all into the new area.
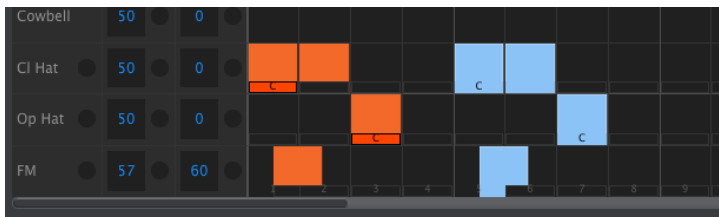
The new events will have the same velocity, shift and step repeat values as the original events. The Color events are also copied.

9.8.4.5. Event velocity

If you hover over the top of an event you will see the cursor become a vertical arrow icon. Drag the cursor up and down to change the velocity of that event to a value between 1 and 127.
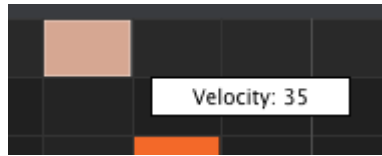
The internal color of the selected event will change to indicate the velocity value: white is the lowest velocity value and red is the highest velocity value.

When the velocities of multiple events are edited at the same time they will all change to the same value.

> ♪: If the velocity value of an event is raised above the Accent Velocity Threshold [p.95], that event will become an Accent for that instrument. Conversely, if the velocity of an accented event is edited to a value that is lower than the Accent Velocity Threshold, that event will no longer be accented.

9.8.4.6. Shift Timing

The shift timing feature was described more fully in the Pattern mode chapter (click here [p.47] for the details). In this section we will show how to use this feature inside the MCC Pattern window.

To shift the timing of an event, hold the Shift key on your computer keyboard and then click on an event.

Drag the cursor left and right to change the time shift value of that event. The range is from -/+50%. A small window will appear and show the current time shift value. The graphic that represents the event will shift too.
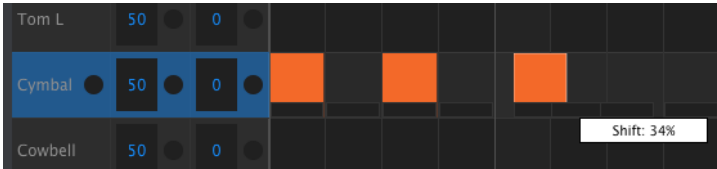

Shift timing value of 34% applied to an event.

In the image above the Cymbal has two events that are not shifted, while the third event has been shifted "late" by a value of 34%.

> ♪: Shift timing is measured in terms of percentage of the pattern's time division setting. It is not shifted by a fixed unit of time (msec, pulses, clocks, etc.).

It is also possible to shift the timing of several events at the same time, even events from different instrument tracks.
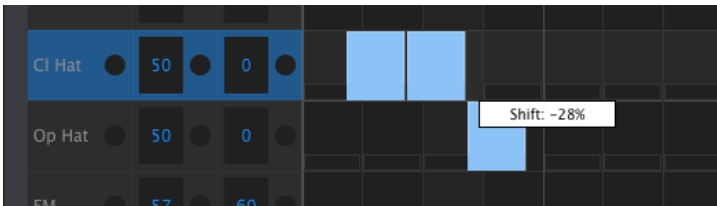

Three events shifted -28%

In the image above three Hat events from two tracks have been shifted ahead of the beat by a value of -28%.

9.8.4.7. Step Repeat entry/edit

The Step Repeat feature was covered extensively in the Step Repeat [p.46] section of the Pattern Mode [p.38] chapter. The focus in this section will be on the unique uses of this feature available within the MIDI Control Center.

If you hover over the right edge of an event you will see the cursor become a horizontal arrow icon. Drag the cursor left and right to change the Step Repeat value of that event to a value between 1 and 4.
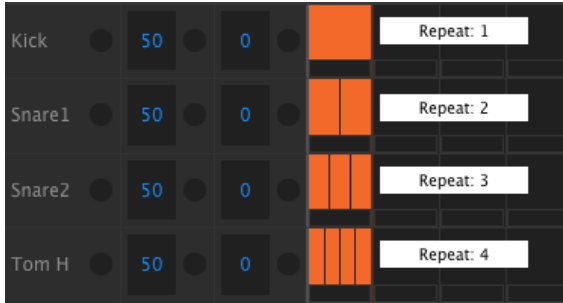
Four different Step Repeat values are available.

When all four Step Repeat values are used in the same track, the result can be an accelerated kick or snare fill, for example:

An accelerated snare fill using the Step Repeat feature

When multiple events are selected they will all change to the same Step Repeat value.

Simultaneous Step Repeat edits are possible.

9.8.5. Track-level settings

Each instrument track in the MIDI Control Center has independent settings for Swing and Random. They are the Current Track values described on this page [p.43].

> ♪: Edits to track-level settings are not transmitted from the MCC to the DrumBrute Impact. In order for these changes to reside in the physical unit you can use the Store To function or drag the current Template to the Working Memory area of the MCC.

9.8.5.1. Swing value
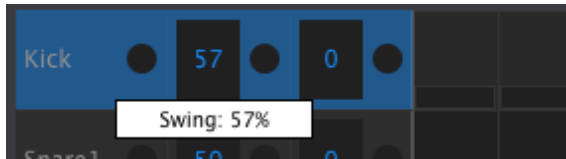
Click and drag inside the left track window to edit the Swing value.

9.8.5.2. Random value
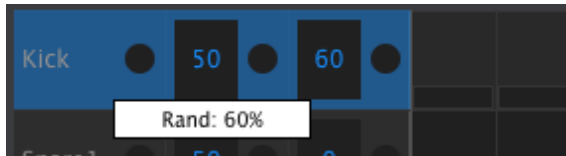
Click and drag the right window value to edit the Random setting.

9.8.5.3. Current Track button settings

Three buttons exist inside each track window that allow you to toggle certain features on and off for that track.
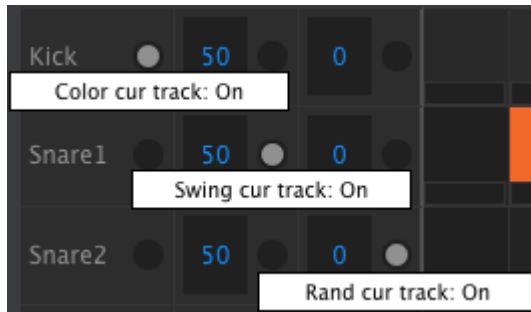
- **Color cur track**: This button performs the same function as holding the front-panel Color button and tapping a pad. It will apply the Color setting to the entire track, which causes all events within that track to play back as if they had been individually colored. The pattern will retain the color status of all events in that track in case you decide to toggle this button off again.
- **Swing cur track**: This performs the same function as the front-panel Swing Current Track button. It enables a track to have an independent Swing setting from the other tracks in the pattern.
- **Rand cur track**: This performs the same function as the front-panel Random Current Track button. It enables a track to have an independent Random setting from the other tracks in the pattern.

> ♪: The Color cur track button doesn't exist for the Cowbell track because the Cowbell instrument does not have a Color effect. Also, the Color cur track button is not shown for Tom L since the color feature affects Tom Hi and Tom Low at the same time. The Color button for both instruments is located in the Tom H track.

9.9. Polyrhythm

The Polyrhythm feature was explained here [p.64]. In this section we will focus on how to utilize that feature from the Pattern window of the MCC.

To toggle the Polyrhythm feature on and off, use the pull-down menu in the Pattern tab window:
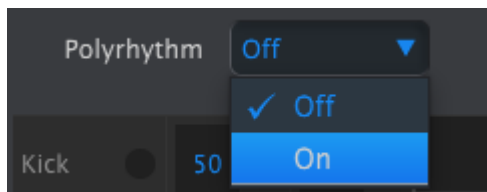
When the Polyrhythm feature is active, you can click on the white line at the end of the pattern length boundary and drag it left or right for any track independently.

Extending the length of a single Polyrhythm track

In the image above the Cowbell track has been extended from 16 steps to 18, while the Hat and FM tracks remain at 16 steps.

To return all tracks to the same pattern length value, select the Off value in the Polyrhythm pull-down menu. It will take the longer track length as new pattern length.

9.10. Device Settings

The Device Settings tab on the upper right side of the MIDI Control Center window contains essential parameters that enable you to optimize DrumBrute Impact for your setup and your working style.

Here are some important things to remember about the interaction between the MIDI Control Center and the hardware device:

- Each time the DrumBrute Impact is connected, the Device Settings are automatically sent from the unit to the MIDI Control Center.
- When one of the Device Settings is changed on the MCC, that setting is also changed on the hardware unit.
- However, changes made on the DrumBrute Impact are not automatically sent to the MCC. You must use the Recall From [p.78] procedure to preserve those changes.

9.10.1. MIDI Channel

Use the pull-down menu to select the Global MIDI Channel for the DrumBrute Impact.
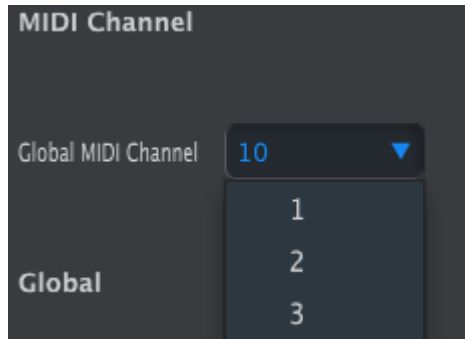
9.10.2. Global settings
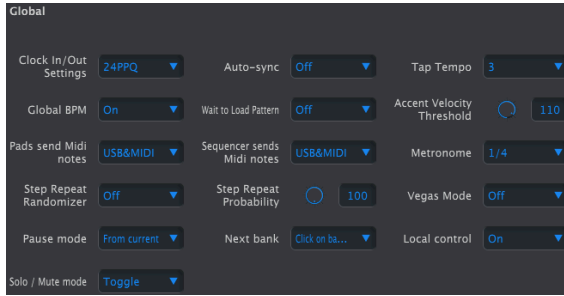
We'll go through the Global settings left to right and top to bottom.

9.10.2.1. Clock In/Out Settings

This is where you determine which clocking signal will be transmitted and recognized by the Clock input and output connectors. There are four settings: 1pulse, 2pulse (Korg), 24 PPQ, and 48 PPQ.

9.10.2.2. Auto-Sync

This parameter tells the DrumBrute Impact what to do if it is not running and it receives a clock signal from an external source. When Auto-Sync is On the unit will respond to the first clocking signal it receives, and when the clock signal stops the DrumBrute Impact will switch to Internal clock.

> ♪: If the incoming Analog clock signal stops or drops out, the DrumBrute Impact will stop too because it is not possible to differentiate between a dropped clock signal and a stop.

When Auto-sync is Off the DrumBrute Impact will wait until it receives a signal from the front panel Sync selection.

9.10.2.3. Tap Tempo

Choose whether it will take 2, 3, or 4 taps to set the Tempo.

9.10.2.4. Global BPM

This parameter allows you to override the independent Tempo settings of each pattern. When set to Global each pattern will play at the current Tempo value on the front panel.

9.10.2.5. Wait to Load Pattern

With this parameter you can specify whether a new pattern will be loaded as soon as you select it or not. If not, DrumBrute Impact will wait until the end of the current pattern before switching to the next one.

> ♪: This parameter can also be toggled from the front panel of the DrumBrute Impact by holding the Shift button and pressing Step button 14 (At End).

9.10.2.6. Accent Velocity Threshold

This sets the MIDI velocity value for the Accents you add when editing a pattern. This also determines the accent level response when a MIDI note is received.

9.10.2.7. Pads send MIDI notes

You can choose whether the pads will send MIDI note data or not. The available options are Off (no MIDI note data sent), USB&MIDI, USB and MIDI. The actual note values they will send are determined by the Drum Map. See this section [p.99] for more information.

9.10.2.8. Sequencer sends MIDI notes

You can choose whether the sequencer will send MIDI note data or not. The available options are Off (no MIDI note data sent), USB&MIDI, USB and MIDI. The actual note values they will send are determined by the Drum Map. See this section [p.99] of the manual to learn more about it.

9.10.2.9. Metronome

Seven metronome values are available, including one that cannot be accessed from the front panel (1/4T, or quarter-note triplets).

9.10.2.10. Step Repeat Randomizer

This setting will allow Random to act on the Step Repeat value. When On it will randomly change the Step Repeat value (add or remove repeats on events). When Off Random only affects the velocity and existence of events.

9.10.2.11. Step Repeat Probability

The Probability parameter allows you to increase or decrease the likelihood that a random Step Repeat event will occur. At higher levels it also can generate Step Repeats where none existed before.

9.10.2.12. Vegas mode

When this setting is active the DrumBrute Impact front panel will begin to flash its buttons and pads if no activity has occurred for 10 minutes.

9.10.2.13. Pause mode

This parameter dictates the function of the Play/Pause button. There are two settings:

- **From current**: when playback resumes it will do so from the place in the pattern where the Pause button was pressed.

- **From beginning**: the pattern will start from the beginning when playback resumes.

9.10.2.14. Next bank

You can instruct DrumBrute Impact to switch between banks without having to perform the second step of also selecting a pattern within the new bank.

For example, if DrumBrute Impact is playing pattern Bank A #12 and you switch to Bank B without specifying a pattern, it will play pattern Bank B #12 without waiting for further instruction. Exactly when it will change to the second pattern is determined by the setting of the Wait to Load Pattern parameter (which is described).

9.10.2.15. Local Control

This parameter determines whether the DrumBrute Impact will be played by its own pads and sequencer or only by incoming MIDI data. When set to Off, the sound-producing part of the DrumBrute Impact and the pads/sequencer behave as two separate units: the pad/pattern data is sent over MIDI/USB without triggering the internal voice engine of the DrumBrute Impact.

In this case, pressing a pad or playing a sequence will not produce a sound but will send messages to the MIDI Out port, while the sound-producing part of the DrumBrute Impact will produce sound only in response to messages coming in through the MIDI In port (USB or MIDI).

9.10.2.16. Solo / Mute mode

The Mute/Solo buttons can be set up so they will either toggle or latch when they are used. This menu will configure the DrumBrute Impact to work one way or the other. This parameter can only be accessed using the MIDI Control Center, not from the front panel.

For a full description of how the Toggle and Latch modes affect the Mute/Solo groups, see the of the .

9.10.3. Roller/Looper settings
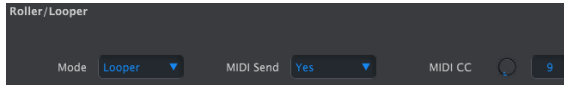
9.10.3.1. Roller/Looper Mode

When the DrumBrute Impact is playing (and not recording) the Touch strip can have two different (but exclusive) behaviors: Roller or Looper. This option allows you to change this behavior. See the Looper/Roller section [p.26] for more details.

9.10.3.2. Roller/Looper MIDI

When activated, the Touch strip will send a MIDI CC (Control Change) value each time you touch it, except when setting a Step Repeat value. The Touch strip also will be activated each time a matching MIDI CC message is received by the DrumBrute Impact.

You can change the MIDI CC number of the Touch strip (see the Device Settings [p.93] section). But the MIDI CC *values* sent and recognized by the Touch strip are fixed:

Touch strip region	CC value sent	CC value to activate
OFF	0	0-24
1/4	25	25-49
1/8	50	50-74
1/16	75	75-99
1/32	100	100-127

For example, if the DrumBrute Impact receives MIDI CC values between 25 and 49, this will activate the 1/4 setting on the Touch strip. Touching the strip on 1/4 will send only a value of 25.

The Looper/Roller sends and receives on the Global MIDI Channel, which can be changed using the Device Settings [p.93] tab.

9.1O.4. Transport settings

You can define the MIDI channel and CC number for each of the three main Transport commands independently. All three must transmit the same type of MIDI information, though: MMC, MIDI CC or both.

> ♪: The DrumBrute Impact will always send MIDI Clock type messages (MIDI Real Time messages) while playing, thus, it will always remotely start a device (or a DAW) which is in Slave mode and listening to MIDI Real Time messages.

9.1O.5. Drum Map

The settings shown below are the default MIDI note number values for each instrument. Each instrument can be set to any note number between O-127.

To edit a value, turn the appropriate knob or double-click a field and type in the desired number.
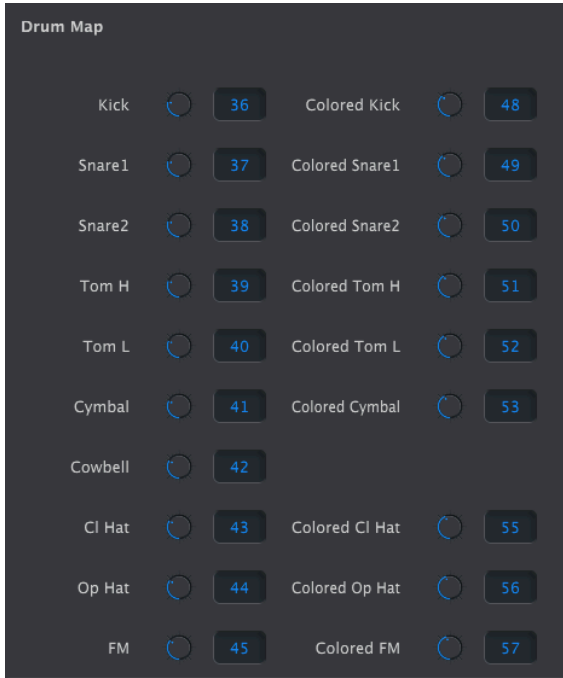
The drum map settings

> ♪: The Cowbell does not have a Color effect, so the MCC does not display a Colored Cowbell value field.

For information about the Color effects for each instrument, click here [p.34]. The methods for working with Color events within the MIDI Control Center are described in the Pattern events section [p.85].

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