SONOMA WIRE WORKS

DrumCore 4 AAX, VST3, and AU Plug-in User Guide
Version 4.3 for macOS and Windows

Updated 12.03.2017
Newest guides and FAQs can be found here: sonomawireworks.com/guide

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Table of Contents

Chapter 5: Kits

Chapter 6: Master FX

Chapter 1: Introduction

Thank you for purchasing DrumCore 4!
DrumCore 4 is an AAX/VST3/AU plug-in instrument with 24-bit audio loops, MIDI loops, multi-velocity drum samples, royalty-free recordings from celebrity drummers, groove browser, Timeline, Mixer, effects and much more! DrumCore 4 can be used in most 64-bit DAWs including Avid® Pro Tools® (AAX), Apple Logic Pro® (AU), and Steinberg® Cubase® (VST3). Each edition includes the same great features, but with varying amounts of content. **DrumCore 4 Lite** comes with 4GB of content by 13 drummers, including 11 multi-velocity sampled kits and 24 GrooveSets (1,400 audio loops and 800 MIDI loops). **DrumCore 4 Prime** comes with 20 GB of content by 17 drummers, including 100 multi-velocity sampled kits, and 160 GrooveSets (10,000 audio loops and 2,000 MIDI loops). **DrumCore 4 Ultra** comes with over 50 GB of content by 18 drummers, including 139 multi-velocity sampled kits, and 265 GrooveSets (22,000 audio loops and 3,000 MIDI loops). Additionally, all three editions include a built-in store, where you can purchase even more loops, MIDI files, grooves and sampled kits!

1.1 - Features:

Audio Loops + MIDI
Audio loop collection and sampled drum kits in a AAX/VST3/AU plug-in. DrumCore gives you the realism of stereo 24 bit 48 kHz recorded audio performances and the versatility of MIDI, with tempo-adjustable loops, and kits you can play live with an external MIDI controller.

Improved Interface
Now more streamlined than ever, the DrumCore 4 interface features tabs, for easy navigation between the Browser, Kit and Settings, and includes our brand new built-in Store and Master FX

64-bit Compatibility and Updated Plug-In Formats
DrumCore 4 is an AAX/AU/VST3 Plug-In, so you can create in the latest version of your favorite 64-bit DAWs like Pro Tools 12, Logic Pro X or Cubase 8, and take full advantage of your computer's processing power, for better performance than ever.

Timeline Editor
Assemble your loops before you bring them into your song. Play back your rhythm via the integrated transport control, so you can get that perfect groove. Toggle the Play Mode between Song Mode (to hear your rhythm through once), Loop Mode (to hear your rhythm repeat), or Cue Mode (to cue the next loop), for easy auditioning and fine-tuning.

Updated Browser
Find audio and MIDI grooves, loops, and fills based on drummer, genre, feel, and even meter. Use filter buttons for an even faster browsing experience, or choose your favorite MIDI kit for playing along with an external controller or programming your rhythms by hand.

Over 100 Included Drum Kits in Prime and Ultra . . . Or Create Your Own
Layer your sounds on different tracks, mix and match kit sounds (snare, kick, etc.), retune them and process/mix each sound, and create entirely new kits from your own drum samples.

Master FX + Kit FX
Run your entire kit through compression, EQ, and delay, or add individual effects like compression, EQ, delay and bit crushing to grouped drums and percussion for an even more unique and versatile drum sound.

Integrated Online Store
Adding new content to your library has never been easier, with the DrumCore 4 integrated online Store tab. Preview GrooveSets and Drum Kits on the fly from within the Browser, and update your library while you create! All factory DrumCore content is 24-bit/ 48 kHz, delivering high quality audio from the drummer's seat to your project.

Seamless Importing into Your DAW
Drag and drop audio and MIDI files directly to your tracks in any supported DAW. Construct brand new grooves and audition them in the Timeline before you bring them into your song.

1.2 - System Requirements
Note: You must have Administrator Access on your computer to install DrumCore 4.

- Compatible DAWs (64-bit only)*
    - Avid® Pro Tools® 11 and 12 (AAX) (Mac/Win)
    - Apple® Logic Pro® 9 and X (AU) (Mac)
    - Apple® GarageBand® 10 (AU) (Mac)
    - Steinberg® Cubase® 5 and 6 (Windows only), 7, 8, and 8.5 (VST3) (Mac/Win)
    - PreSonus® Studio One® 2 and 3 Professional (AU/VST3) (Mac/Win)
    - Ableton® Live® 9 (AU) (Mac)
    - MOTU® Digital Performer™ 8 and 9 (AU) (Mac)
    - Cakewalk® Sonar® X3 (VST3) (Win)
    - Cockos REAPER 5 (AU/VST3) (Mac/Win)
    - Acoustica Mixcraft 8 (VST3) (Win)
    - Tracktion T7 (AU/VST3) (Mac/Win)
    - Others TBD
- Mac®
    - Mac OS 10.8.5 (Mountain Lion), 10.9 (Mavericks), 10.10 (Yosemite), 10.11 (El Capitan), 10.12 (Sierra), 10.13 (High Sierra) if your DC4 compatible DAW supports 10.13
    - Intel® Core™ Duo processor (Intel Core 2 Duo or Core i3 or better recommended)
    - 2 GB RAM (4 GB or more recommended)
- Windows®
    - Windows 7 x64 SP1, Windows 8 x64, Windows 10 x64
    - Intel Core Duo or AMD Athlon™ X2 processor (Intel Core 2 Duo or AMD Athlon X4 or better recommended)
    - 2 GB RAM (4 GB or more recommended)
- Both Mac and Windows Systems
    - Internet connection for activation and downloading content
    - Monitor with minimum 1280x800 resolution (right click anywhere to set the zoom factor between 50%-100% for smaller screens)
    - Minimum 200 MB free hard-drive space to install
    - Content space requirements are as follows:
        - DrumCore 4 Lite - Minimum 2 GB free hard drive space
        - DrumCore Prime - Minimum 25 GB free hard drive space
        - DrumCore Ultra - Minimum 60 GB free hard drive space

*Compatibility subject to change. See most recent compatibility list: sonomawireworks.com/drumcore

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Avid and Pro Tools are registered trademarks of Avid Technology, Inc., or its subsidiaries or divisions.
Cakewalk is a registered trademark, and the Cakewalk logo and SONAR are trademarks of Cakewalk, Inc.
MOTU and Digital Performer are trademarks of Mark of the Unicorn.
PreSonus and Studio One are registered trademarks of PreSonus Software, Ltd.
Steinberg, VST and Cubase are registered trademarks of Steinberg Media Technologies GmbH.
Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.

Chapter 2: Getting Started with DrumCore 4

2.1 - Overview

DrumCore 4 has a ton of new features, making it an even easier to use virtual instrument than ever before. Now featuring an improved interface, 64-bit compatibility, updated plug-in formats (AAX/ AU/VST3) a brand new Master FX view with channel strips for drum groups, insert effects, a Timeline view for assembling loops, an integrated online store, and much more! DrumCore 4 comes with access to an extensive database of audio and MIDI drum loops and fills, and assignable/ customizable MIDI kits, and depending on your edition, comes bundled with up to 50 GB of royalty-free drum content. You can play DrumCore's audio and MIDI grooves in real-time or import them into your DAW for further arranging, mixing, and editing. You can also purchase more of your favorite grooves from the new DrumCore Store, making adding to your content library easier than ever.

2.2 - Launching DrumCore 4

Depending on your system and DAW, there are different ways to set up and launch DrumCore 4. Below, you will find walkthroughs for all known supported DAWs. If you are using a DAW not listed below, make sure to consult your manufacturer's documentation to see if it supports AAX/ VST3/ AU plug-in formats. If you encounter issues with launching your copy of DrumCore 4 in a supported DAW, email **support@sonomawireworks.com** for assistance.

2.2.1 - Pro Tools 11/ 12 (MAC/WIN)

1. Create a new session.
2. Create a new stereo instrument track. '⌘ + Shift + N' ('Control + Shift + N' on Windows) will bring up the new tracks menu. Holding down '⌘' ('Control' on Windows) while pressing the ← or → arrow keys will cycle through mono/stereo/5.1/etc. Select 'Stereo.' Holding down '⌘' ('Control' on Windows) while pressing the ↑ or ↓ arrow keys will select the type of track (audio/aux/midi/instrument). Select 'Instrument.'

3. Select an insert on your new instrument track, select 'multichannel plug-in,' select 'Instrument' and then select 'DrumCore (Stereo).'

2.2.2 - Logic Pro 9 (64-bit only)/ Logic Pro X (MAC)

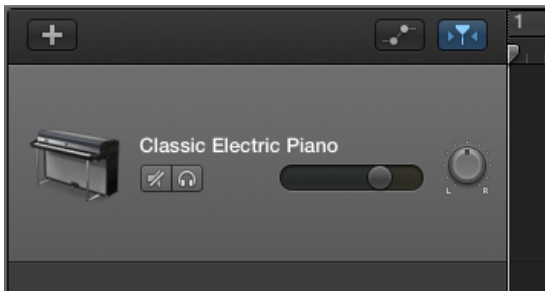
1. Create a new project.
2. You will be prompted to create a new track, select 'Software Instrument.' If you've opened an existing session, you can create a new software instrument track by pressing 'Option + ⌘ + S'.
3. Depending on your settings, the E-Piano may load by default. If it does, hover over 'E-Piano' on the software instrument channel and three buttons will appear, click on the right hand button to show the drop down list.

4. Select AU Instruments > Sonoma Wire Works > DrumCore > Stereo to load a stereo instance of the DrumCore 4 plug-in.
   -OR-
   Select AU Instruments > Sonoma Wire Works > DrumCore > Multi-Output to load a multi-out instance of the DrumCore 4 plug-in.

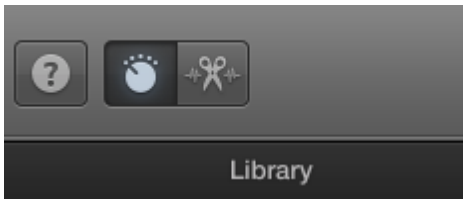
   Note: Logic Pro X has two modes, an advanced mode and a more basic mode that limits the tools and features shown to the user. We recommend using the Advanced Mode. To ensure you are shown the advanced option, click Logic X from the toolbar > Preferences > General. Select the 'Advanced' tab and make sure that 'Show Advanced Tools' is checked. If you are using Logic Pro 9, make sure you are running the DAW in 64-bit mode. To do this, right click on the application icon, and select 'Get Info'. Make sure the box marked 'Open in 32-bit mode' is unchecked.

2.2.3 - GarageBand 10 (MAC)

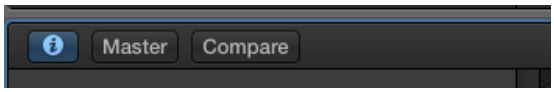
1. Create a new project.



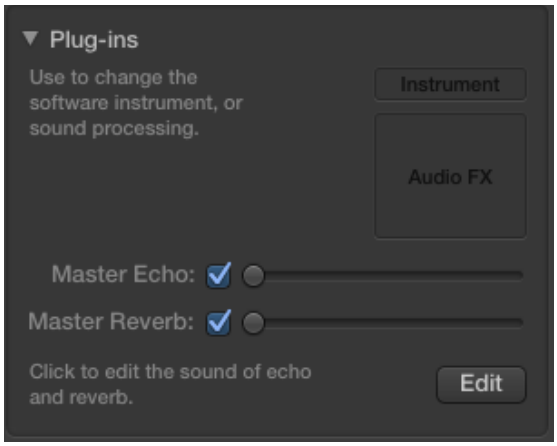
2. In the prompt to create a new track, select 'Software Instrument' or, navigate to the Track menu and select 'New Track'. A pop-up menu will appear--select 'Software Instrument' and click 'Create'. By default, the Classic Electric Piano will load.



3. To load a different instrument, first click on the 'Smart Controls' knob icon located above the Library pane.

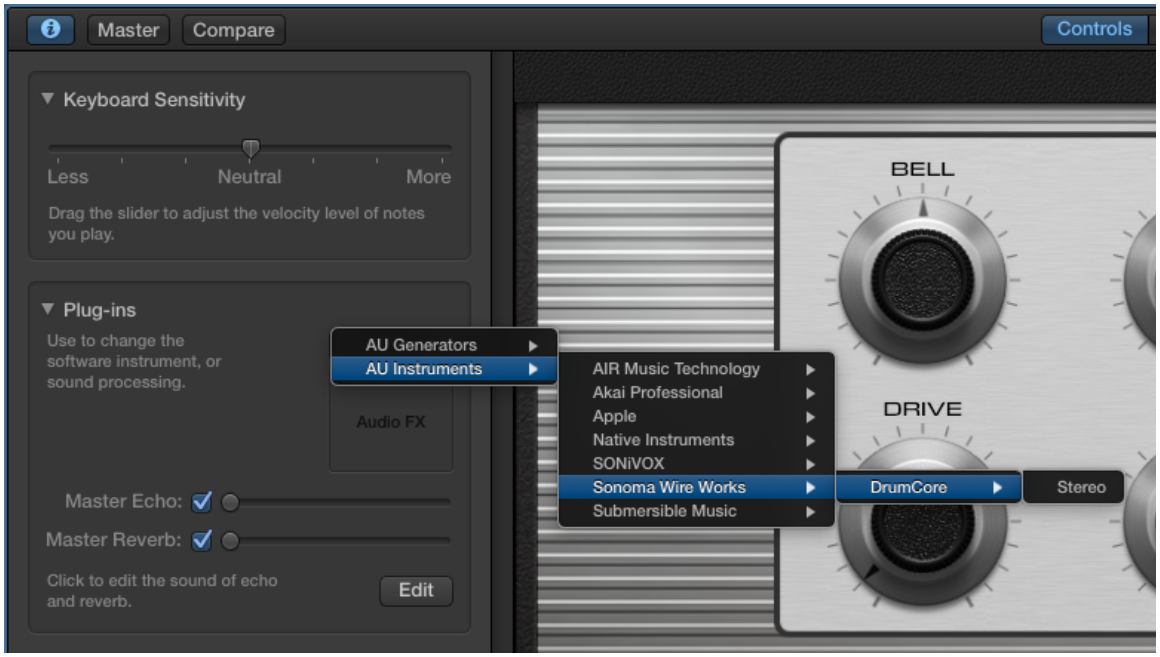


4. In the Smart Controls panel, click on the 'Show Inspector' icon in the top left corner (it looks like an italicized 'i').



5. Click the arrow next to ' Plug-ins' to see your software Instrument options.

6. Click on 'Instrument'.



7. To select DrumCore 4, navigate to: AU Instruments -> Sonoma Wire Works -> DrumCore -> Stereo
DrumCore 4 is now added to your Software Instrument track.

2.2.4 - Cubase 5/6 (Windows Only) Cubase 7/8/8.5 (MAC/PC)

1. Create a new project.

2. From the toolbar, select Project > Add Track > Instrument to bring up the 'Add Instrument Track' menu.
3. On the 'Instrument' drop-down menu, select DrumCore VST 3.
4. Click 'Add Track.'

Note (for Mac users): Before starting Cubase, right click on the application icon and select 'Get info.' Make sure the box marked 'Open 32-bit mode' is unchecked.

2.2.5 - Studio One 2/3 (MAC/PC)

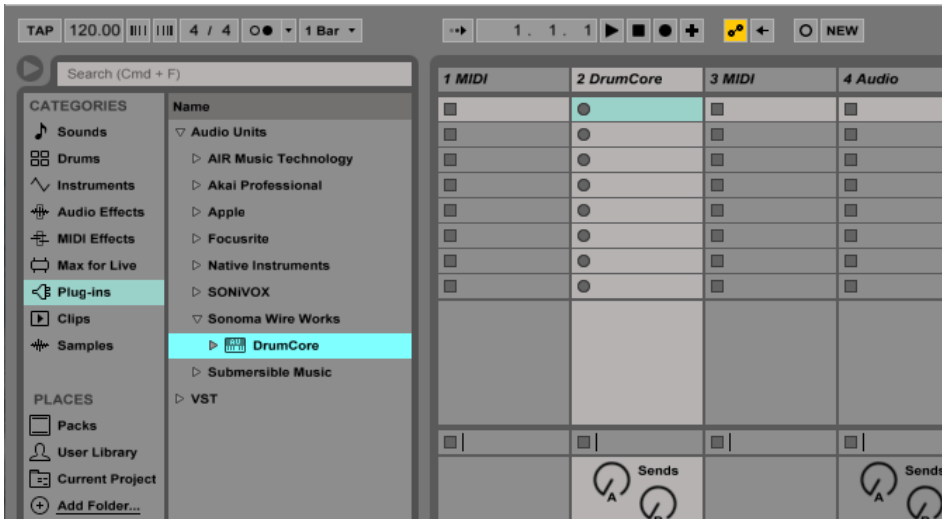
1. Create a new song.
2. Select 'Track' from the top toolbar, and then 'Add Instrument Track.'
3. In the Browser window, select Instruments. (If the Browser window is not being displayed, click View on the top toolbar, and then Browser.)

4. From the Vendor tab in the Browser, click on the Sonoma Wire Works Folder, and look for DrumCore--both the AU and VST3 versions of the plug-in will appear. (Alternately, from the Folder tab, you can choose either the Audio Unit or VST3 folder, and choose DrumCore from the list there.)
5. Drag DrumCore onto the Instrument track.

Note (for Mac users): Before starting Studio One, right click on the application icon and select 'Get info.' Make sure the box marked 'Open 32-bit mode' is unchecked.

2.2.6 - Ableton Live 9 (MAC)

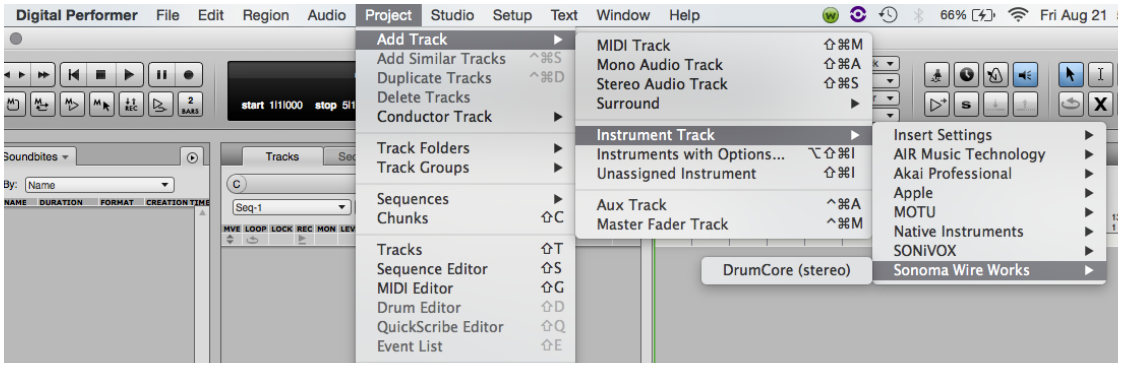
1. Create a new project.
2. Create a new MIDI track by going to 'Create' on the toolbar, and then selecting 'Insert MIDI Track'.



3. In the Browser, click 'Plug-ins' under 'Categories'. From the Audio Unit folder that appears, find 'DrumCore 4'.
4. Drag DrumCore 4 onto the MIDI track.

2.2.7 - Digital Performer 8/9 (MAC)

1. Create a new project.

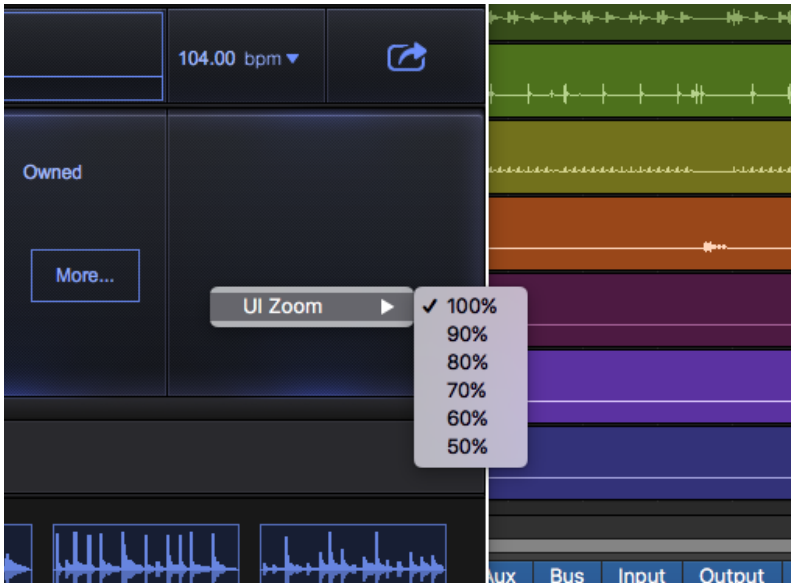


2. Create an Instrument Track and add DrumCore to it by navigating to Project > Add Track > Instrument Track > Sonoma Wire Works > DrumCore.
3. In the add MIDI tracks section of the same dialog, select the option to choose how many MIDI tracks you want to create, and type in 1.
4. Click OK. Digital Performer will have created an instrument track for DrumCore, and a MIDI track from which you can send control data to your plug-in.

2.2.8 - Using DrumCore 4 with Other Audio and MIDI Applications

DrumCore 4 can by used in most host applications that support AAX/VST3/AU instrument plug-ins. For example, you may want to use DrumCore with applications like Acid®, Adobe® Audition™, FL Studio™, REAPER, Tracktion™, or even Max/MSP. Consult the manufacturer's documentation on the application's plug-in implementation for more information.
Likewise, drag and drop export of audio and MIDI files from DrumCore 4 should work with any application that supports drag and drop import of audio and MIDI. Consult the manufacturer's documentation to learn more about your application's drag and drop import capabilities.

2.3 - UI Zoom



DrumCore includes zoom options for optimizing your screen real estate, while still being able to use the plug-in. To change the plug-in zoom level, right-click anywhere on the plug-in window to see the UI Zoom options. (Some DAWs have additional features that will come up in a right-click menu, while others will show only these options.) Depending on your DAW and operating system, DrumCore can be zoomed down to either 50 or 60% of full-size. Your selected zoom level is retained as a setting for DrumCore, so it stays the same no matter which DAW you are using.

Chapter 3: Browser

3.1 - Overview

DrumCore 4 features an entirely redesigned Browser view--now as its own dedicated tab--for easy search filtering by Drummer, Style, and Groove. Use the additional Browser filter buttons to filter your loops and fills by meter, tempo, or even feel.

3.2 - Using the Browser

Finding for your favorite rhythm is now easier than ever in DrumCore 4, using filter buttons to refine your search parameters, allowing you to quickly find the right drummer, kit, tempo, or time signature. You can also quickly navigate through loops and fills using your cursor keys or the scroll wheel on your mouse. Click on a loop you want to preview, and it will immediately play back. Want to preview the adjacent content? Navigating through your loops and fills auto-plays each one as you move around. Press the spacebar to stop playback.

3.2.1 - Drummers

DrumCore 4 comes with GrooveSets and rhythmic content played in a wide range of styles by professional drummers and percussionists like: Alan White (John Lennon, Yes), Terry Bozzio (Frank Zappa, Missing Persons), Matt Sorum (The Cult, Guns N' Roses, Velvet Revolver), Sly Dunbar (Bob Marley, Black Uhuru), Zoro (Lenny Kravitz, Bobby Brown), Luis Conte (Madonna, Shakira), and many more. Search through the browser by your favorite drummer, to find that perfect rhythm or groove. To search by Drummer:

1. Select your desired Play Mode--Audio or MIDI--to filter the type of loop you are looking for.
2. In the main browser window, select the drummer whose rhythms you want to search through. The left-hand list will show all the GrooveSets available for that drummer, and the main browser window will populate with all of the selected drummer's loops, based on the selected play mode (Audio or MIDI).
3. To filter by groove, click on the GrooveSet you want to preview in the left-hand list. The Main browser window will populate with all of the available loops in your chosen GrooveSet, based on your selected play mode (Audio or MIDI).
4. Double-click on loops to preview, or navigate to a loop using either your cursor keys or the scroll wheel on your mouse.

For more on importing loops, see Importing Audio Into a Track (section 3.3) -or- Importing MIDI Into a Track (section 3.4).
For more on building rhythms in the Timeline, see Creating a Rhythm in the Timeline (section 4.3).

3.2.2 - Styles

DrumCore 4 also allows you to browse through GrooveSets and individual grooves by Style. You can select an individual loop style by choosing from the styles listed in style selector on the left-hand side of the Browser view. Choosing a Style will filter out which Drummers have recorded loops in your chosen Style, allowing you to select from GrooveSets that match the feel you want for your composition. You can toggle between Audio and MIDI loop views to reveal loops in the style you've selected, while using Browser filters to more easily find the specific loops or fills you want to work with. To filter by Style:

1. In the Browser tab, select a Style from the Style Selector in the left hand pane of the Browser tab. All content shown in the Browser tab will be in the chosen style.
2. Select an individual drummer from the Drummer Selector view. All loops and fills for that Drummer/Style combination will show in the main Browser pane.
3. To preview any of the filtered content, click on an individual loop or fill in the main Browser pane. You can also navigate to a loop using your cursor keys or through individual pages of loops using the scroll wheel on your mouse. Navigation results in auto-play of the selected loop. To stop playback, click on the selected loop, or press the spacebar. If a loop is shown with either of the below icons, it means it isn't currently in your library, but can be downloaded from the DrumCore servers while you browse:

Loop Audio available for download

Fill Loop Audio available for download

If a loop is shown with either of the below icons, it means you don't own that loop and it isn't in your library, but can be previewed, and purchased from the integrated DrumCore Store tab:

Audio Loop preview icon

Fill Loop Audio preview icon

4. Click and drag loops and fills to the Timeline to create your desired rhythm from within the plug-in, or click and drag them to an instrument or audio track directly in your DAW.

   Note: DrumCore 4 renders loops and fills when they are dragged, regardless of whether they are sequenced in the Timeline or within a session. If you make any changes to the session tempo, you will need to drag your audio loops and fills back into your session to ensure they conform to your new session tempo. If you are assembling in the Timeline, making changes to your session tempo will result in new rendered versions of individual audio and MIDI loops and fills being added to the render location on your hard drive.

For more on purchasing Loops and Fills, see Chapter 8: DrumCore Store.

3.2.3 - GrooveSets

GrooveSets are groups of rhythms that, when played back-to-back, comprise the rhythmic content for either a specific song, or have a consistent feel between them. They are not always necessarily of the same tempo, or even of the same meter, but when sequenced together, they form a single unit. You can use Browser filters to easily find GrooveSets you like. To filter by GrooveSet:

1. In the Browser tab, select either a Style from the Style Selector in the left hand pane in the Browser tab, and then select an individual drummer from the Drummer Selector view or select an individual drummer from the Drummer Selector view.

2. The left hand pane in the Browser tab will reveal all the GrooveSets associated with the drummer (and style), based on your selected Browser filters. To preview any of the filtered content, click on an individual loop or fill in the main Browser pane. You can also navigate to a loop using your cursor keys or through individual pages of loops using the scroll wheel on your mouse. Navigation results in auto-play of the selected loop. To stop playback, click on the selected loop, or press the spacebar. If a loop is shown with either of the below icons, it means it isn't currently in your library, but can be downloaded from the DrumCore servers while you browse:

Loop Audio available for download

Fill Loop Audio available for download

If a loop is shown with either of the below icons, it means you don't own that loop and it isn't in your library, but can be previewed, and purchased from the integrated DrumCore Store tab:

Audio Loop preview icon

Fill Loop Audio preview icon

Note: Some GrooveSets come with more than one version of each individual loop within a Groove, and each is noted as having a different native BPM. These indicate that a specific loop was played faster or slower, to be consistent with the feel of being played at higher or lower tempos, and the feel of each will differ accordingly.

3. Click and drag loops and fills to the Timeline to create your desired rhythm from within the plug-in, or click and drag them to an instrument or audio track directly in your DAW.

Note: DrumCore 4 renders loops and fills when they are dragged, regardless of whether they are sequenced in the Timeline or within a session. If you make any changes to the session tempo, you will need to drag your audio loops and fills back into your session to ensure they conform to your new session tempo. If you are assembling in the Timeline, making changes to your session tempo will result in new rendered versions of individual audio and MIDI loops and fills being added to the render location on your hard drive.

For more on purchasing GrooveSets, see Purchasing Content (section 8.4).

3.2.4 - Loops and Fills

The Loop type selector allows you to choose between tempo-stretchable audio loops, or sample-based MIDI loops. You can also choose whether to include fills in your search filters; there are fills in both audio and MIDI formats,

Audio Loops and Fills

1. In the Browser tab, select the 'AUDIO' button in the Loop Type Selector.
2. Select either a Style from the Style Selector on the left hand pane in the Browser tab, and then select an individual drummer from the Drummer Selector view or select an individual drummer from the Drummer Selector view.
3. Use the Loops and Fills buttons above the filtered results to further filter your search to just audio loops or audio fills.
4. Click on individual loops and fills to preview. You can also navigate to a loop using your cursor keys or the scroll wheel on your mouse. Navigation results in auto-play of the selected loop. To stop playback, click on the selected loop, or press the spacebar.
5. Click and drag loops and fills to the Timeline to create your desired rhythm from within the plug-in, or click and drag them directly to an audio track directly in your DAW.

Note: Depending on the loop type, DrumCore 4 saves a WAV or MIDI format render of each individual loop as it is dragged, regardless of whether it is added to the Timeline or to a track in your DAW. These renders are saved in the Render Path indicated in the Settings Tab. If you change your session tempo, you will need to re-drag your audio loops and fills back into your session to ensure they conform to the new tempo. If you are sequencing in the Timeline, making changes to your session tempo will cause DrumCore to save new loop renders to your hard drive. Your DAW only provides tempo information for its current playhead position, and DrumCore renders based on that. If your sequence is not rendering to the tempo at its desired location in a session, place your playhead at the location where you intend to drag in your loop or fill, and DrumCore will render accordingly. If you are performing more advanced tempo operations in your session, such as creating automated tempo curves, it is strongly recommended that you work with MIDI loops and fills, or use the built-in tempo stretching tools in your DAW to ensure your loops will conform to the session tempo as it changes.

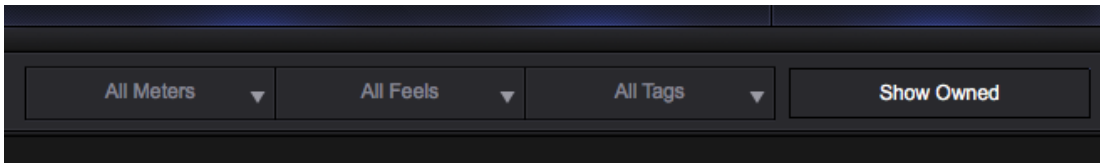
For more on working with MIDI loops and fills, see Loops and Fills (section 3.2.4).
For more on the Render Path, see Managing Your Render Path (section 7.3).

MIDI Loops and Fills

1. Select the 'MIDI' button in the Loop Type Selector.
2. Select either a Style from the Style Selector on the left hand side of the Browser Tab, and then select an individual drummer from the Drummer Selector view or select an individual drummer from the Drummer Selector view.
3. Use the Loops and Fills buttons above the filtered results to further filter your search to just MIDI loops or MIDI fills.
4. Click on individual loops and fills to preview. You can also navigate to a loop using your cursor keys or the scroll wheel on your mouse. Navigation results in auto-play of the selected loop. To stop playback, click on the selected loop, or press the spacebar.
5. Click and drag loops and fills to the Timeline to create your desired rhythm from within the plug-in, or click and drag them directly to an instrument track (or MIDI track) directly in your DAW.

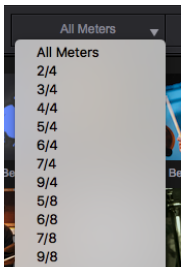
   Note: DrumCore 4 creates MIDI format renders of MIDI loops and fills when they are dragged, regardless of whether they are sequenced in the Timeline or within a session. If you performing complex tempo operations in your session, such as creating automated tempo curves, working strictly with MIDI loops and fills will ensure your rhythm will conform to the session's tempo map.

3.2.5 - Using Browser Filters



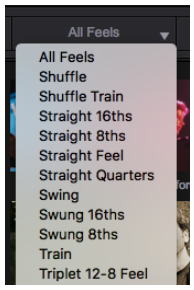
To perform more advanced searches across the content library, click on the filter drop down menus above the main browser pane. You can search by meter, feel, tag, or any combination of the three, to find the right loops or fills for your project. You can also use the Show Owned button to hide Drummers with no owned GrooveSets. Any filter terms you choose are applied to the search results currently in the Browser, and will remain applied as you browse, so you can easily search within an artist or style you prefer, or apply filters to your entire content library!

Meter (Time Signature)



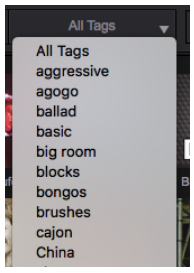
Searching for a rhythm off the beaten path, odd time, or cut time? The Meter filter allows you to filter your browser results by time signature, so building rhythms for your 5/4 or 12/8 time songs are just as quick and easy as building one in 4/4.

Feel



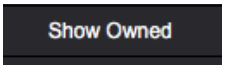
With filter terms like Shuffle, Train, and Triplet Feel, the Feel filter is for when getting just the right groove isn't as simple as nailing the instrumentation and meter--it's the overall feel of the groove that needs to fit the tune.

Tag



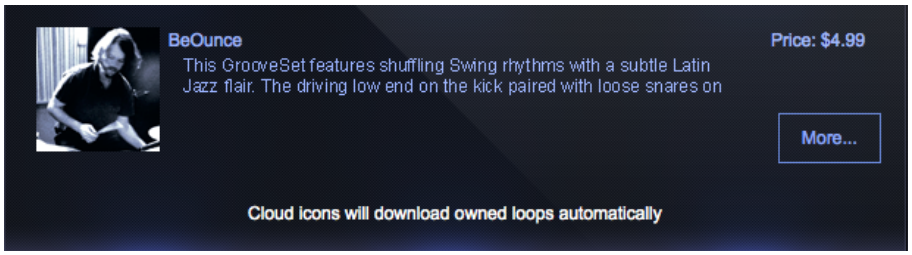
Sometimes, a song needs something very specific in the rhythm section: a snare roll, or a tom fill, ghost notes, or something more basic, a big room, or processed sound. For all those specifics that don't fit anywhere else, the Tag filter has you covered, whether you're looking for details in a groove that are a instrument-based or just plain off the beaten path.

Show Owned

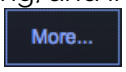


By default, the Browser shows all content available in DrumCore 4, including add-on material available for sale. Clicking the Show Owned button hides any Drummers with no owned content from this view, showing only Drummers that are either available for download or currently in your local content library. Unowned GrooveSets are still shown in each Drummer's GrooveSet list, but are easily identified because they have an 'Eye' icon instead of audio and/or MIDI icons.

3.2.6 - Previewing Unowned Content



As you navigate through your content library in the Browser, you will see the option to browse through and preview additional content that is available for purchase via the DrumCore Store.

Navigating to a GrooveSet you don't own will bring up a page that shows a brief description of the GrooveSet you are viewing, and includes product pricing and a direct link to the product in the DrumCore Store, via the 

button.


Audio Loop preview icon

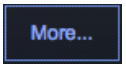

Audio Loop preview downloading


Audio Loop preview available


MIDI Loop preview icon


MIDI Loop preview downloading


MIDI Loop preview available

The Main Browser pane will indicate which loops you don't yet own--but that can be previewed--with the eye icon. Clicking on any loop with this icon on it will automatically force a preview-only copy to be added to your content library. If you wish to purchase a GrooveSet you've previewed, click the 

button next to the GrooveSet description above the browser pane to be sent to the DrumCore Store page for that product.

For more on purchasing GrooveSets and Drum Kits, see Purchasing Content (section 8.4).

3.3 - Importing Audio Into a Track

To drag an audio loop or fill into your project:

1. While in Audio loop mode, select an audio loop or fill in the main Browser window. Double-clicking on a loop will preview it.
2. Click on the loop of your choosing and drag it into an audio track in your DAW.

   Note: Your DAW only provides tempo information for its current playhead position, and DrumCore renders based on that. If your sequence is not rendering to the tempo at its desired location in a session, place your playhead at the location where you intend to drag in your loop or fill, and DrumCore will render accordingly. If you are performing more advanced tempo operations in your session, such as creating automated tempo curves, it is strongly recommended that you work with MIDI loops and fills, or use the built-in tempo stretching tools in your DAW to ensure your loops will conform to the session tempo as it changes.

For more information on working with MIDI loops and fills, see Loops and Fills (section 3.2.4).

3.4 - Importing MIDI Into a Track

To drag MIDI loops or fills into your project:

1. While in MIDI loop mode, select a MIDI loop in the main Browser window. Double-clicking on a loop will preview it.
2. Click on the loop of your choosing and drag it into either a MIDI track or the instrument track on which you have inserted DrumCore.

   Note: Consult the user guide for your DAW to learn more about how to send MIDI, as different audio programs handle this process differently, and allow for specialized MIDI control configurations.

3.5 - Choosing a Drum Kit

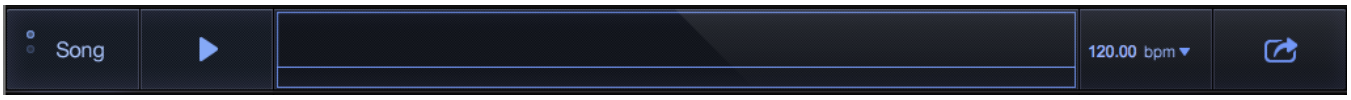
Swapping kits in DrumCore 4 is easier than ever. If you've created a MIDI rhythm you like, but you don't like the Drum Kit you have selected, you can change it on the fly while retaining the rhythm you have created, even if you have already imported it into a track in your DAW. To do this:

1. Select a Drum Kit from the kit selector, below the Play Mode selector.
2. A new Drum Kit will load, and your rhythm will now play back using the selected kit.

To learn more about creating custom Drum Kits, see Building Your Own Kits (section 5.3) and Kit Editor (section 5.5).

Chapter 4: The Timeline

4.1 - Overview



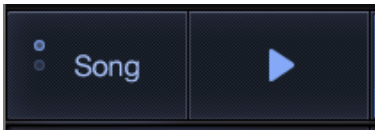
The new Timeline view in DrumCore 4 features a Play Mode Selector, for choosing audio or midi-based production, and has an embedded transport for playing back your rhythm from within the plug-in. By dragging and dropping your loops and fills into the Timeline, you can sketch out the rhythm you want, without having to export right away or migrate to a track first.

4.2 - Play Mode Selector

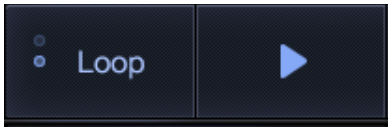
The Play Mode Selector in the upper left corner of the UI allows you to toggle between Song, Loop, and Cue Modes for playing back (auditioning) the rhythm you are constructing.

- **Song Mode** plays your rhythm from start to finish, ending playback once it has ended. Pressing play in your DAW will start Song mode playback synced with your current session, without looping the rhythm in the DrumCore timeline.
- **Loop Mode** loops your rhythm until you manually stop playback. Pressing play in your DAW will start Loop mode playback synced with your current session, and will continue to loop the DrumCore timeline until you press stop in your DAW or in the plug-in.
- **Cue Mode** allows the previous loop to finish playing before starting the next one. Cue the next loop(s) that you would like to hear by clicking the loop(s) in the Browser. The host DAW's transport does not control DrumCore's timeline in this mode.

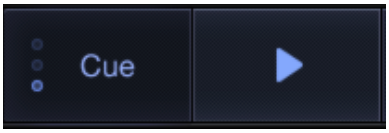
In all modes, if your DAW session is playing, selected loops in the browser sync to the nearest bar that is a multiple of the loop length.



Song Mode



Loop Mode



Cue Mode

4.3 - Creating a Rhythm in the Timeline

You can mix and match Audio and MIDI loops and fills by dragging and dropping them into the Timeline. You can also swap loops and fills, or reorder the ones you've already assembled, so you can fine-tune the sequence you want from within the plug-in. Depending on the selected Play Mode, you can also audition your work as either a single pass or let it loop while you make changes. Every time you add a new loop or fill to the sequence you have constructed in the Timeline, DrumCore 4 automatically creates a render file of each added loop, saving it to the location you have indicated as your Render Path. This means that audio loops will be rendered as WAV files at the current session tempo, while MIDI loops will be rendered as MIDI files that can conform to any session tempo.

4.3.1 - Building a Rhythm

1. From the Browser tab, select an audio or MIDI loop or fill from the main pane. Double-clicking on a loop will preview it.
2. When you have found a loop or fill you like, drag it up into the Timeline above the main Browser window. Pressing play in the transport next to the Timeline will allow you to preview your constructed rhythm. If you are in Song Mode, your rhythm will play through once. If you are in Loop mode, your rhythm will loop playback until you press it again to stop.

3. Continue adding and arranging loops and fills in the Timeline until you have assembled a rhythm you like.
4. Click on each individual loop or fill you have you have assembled in the Timeline, and drag each to either an audio, instrument, or MIDI track, depending on what type of file it is, and how your DAW is set up.

   Note: Consult the user guide for your DAW to learn more about how to send MIDI, as different audio programs handle this process differently, and many allow for specialized MIDI control configurations.

5. If you are happy with your constructed rhythm and you want to export it as a single audio file, you can use the Export option to render your entire rhythm to a location on your hard drive.

   For more on the Render Path, see Managing Your Render Path (section 7.3).
   For more on additional rendering options, see Exporting a Rhythm from the Timeline (section 4.4).

4.3.2 - Inserting a Loop in the Timeline

1. To insert a loop into an existing rhythm in the Timeline, browse to a loop you want to add.
2. Drag the loop up into the Timeline. A locator will appear, showing where the loop will be inserted.
3. When you have found the location you want to place your loop, unclick, and your loop will be inserted into your rhythm.

4.3.3 - Swapping Loops in the Timeline

1. To swap loops in an existing rhythm in the Timeline, click on the loop you want to move.
2. Drag the loop to its new location. A locator bar will appear, showing you where the loop will be inserted into your rhythm.
3. When you have found the location you want to place your loop, unclick, and your loop will be inserted into your rhythm in its new location.

4.3.4 - Deleting a Loop from the Timeline

1. Click on the loop you want to remove.
2. Drag the loop in any direction away from the Timeline.
3. When you release the mouse button, your loop will be deleted from your rhythm in the Timeline.

-OR-

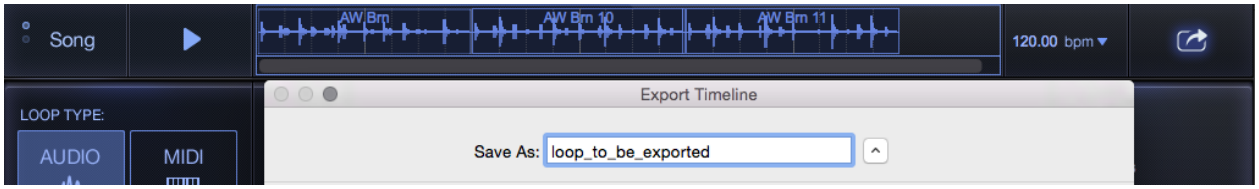
1. Click on the loop you want to remove.
2. Press the Delete (Mac) or Backspace (Win) key.

4.4 - Exporting a Rhythm from the Timeline

By default, every time you add a new audio or MIDI loop to the Timeline, DrumCore 4 automatically renders a copy to your chosen Render Path, as indicated on the Settings tab. This is convenient for when you want to have copies of your individual loops and fills already conformed to your session's tempo, but what if you've mixed and matched between audio and MIDI loops and fills, or changed your session tempo several times, and you want to have your entire rhythm as one audio file?

This is where the Export feature comes in. To export your constructed rhythm as a single audio file, follow these steps:

1. Once you have assembled a rhythm you like in the Timeline, press the export button  to export it as a single audio file. A pop up will prompt you to choose the location where you want to save your exported rhythm, and to name the file.



2. Click 'Save' once you have you have chosen your settings.
3. In your file browser, navigate to the location you indicated. The Export function will have generated a WAV file of your rhythm in the native tempo for your session, regardless of whether you included loops and fills that are audio, MIDI, or a combination of the two.
4. From your file browser, drag and drop your loop into an audio track in your DAW.

Note: Your DAW only provides tempo information for its current playhead position, and DrumCore renders based on that. If your sequence is not rendering to the tempo at its desired location in a session, place your playhead at the location where you intend to drag in your loop or fill, and DrumCore will render accordingly. If you are performing more advanced tempo operations in your session, such as creating automated tempo curves, it is strongly recommended that you work with MIDI loops and fills, or use the built-in tempo stretching tools in your DAW to ensure your loops will conform to the session tempo as it changes.

For more information on working with MIDI loops and fills, see Loops and Fills (section 3.2.4).

Chapter 5: Kits

5.1 - Overview

In addition to its extensive library of audio loops and fills by some of the world's best drummers, DrumCore 4 allows you create drum sequences by hand in your DAW or perform live using an external controller, using our library of MIDI drum kits. DrumCore's Kits were created by the original drummer's strikes using the same or similar drums as used in their audio loops. You can also build your own custom MIDI drum kits, mixing and matching samples from the same great library, so that you can use Terry Bozzio's snare, with Alan White's kit, seamlessly. Each Kit has been optimized to work with various drummers' MIDI grooves, allowing you to choose the kit that matches your desired groove--or you can play through an entirely different or custom kit of your very own. You can even use your own samples and create a unique-sounding arrangement.

For more information about configuring MIDI, MIDI routing, and playing virtual instrument plug-ins in your DAW, consult the manufacturer's documentation.

5.2 - Working with the Kit

There are a variety of ways you can play your Drum Kits in DrumCore, depending on your desired workflow. Auditioning the pieces in your kit can be done by either clicking on the pads in the Kit tab, or can be played in real-time by routing through an external MIDI controller or keyboard. You can also construct rhythms by sequencing MIDI data in your DAW. DrumCore uses the standard General MIDI (GM) note numbers for drum mapping. Each Pad represents a specific drum or sound in the kit. Each Pad displays the note name that triggers the Pad, the Pad name, a MIDI indicator, and Mute and Solo buttons for the Pad. The MIDI indicator lights when it receives the corresponding MIDI note.

<u>To select an individual Pad:</u>

- Click any Pad to select it.

–OR–

- Depending on your DAW, you can also use the cursor keys to select adjacent Pads.

<u>To play an individual Pad:</u>

- Play any Pad by clicking it.

–OR–

- Play the corresponding MIDI note on your MIDI controller or keyboard. The Pad's MIDI indicator lights up when it receives a trigger from an external controller.

5.3 - Building Your Own Kits

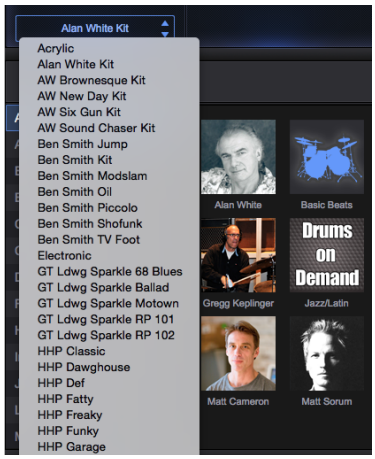
Creating your own custom Kits in DrumCore is easy with the new Kit tab, allowing you to see both your content and your pads in the same view. You can even change out the MIDI note assignments for your pads, allowing you to have a more fully-customized setup.

In the Kit tab, there are two pages of pads:

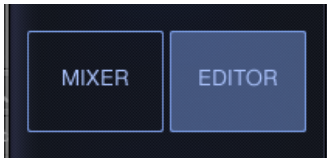
- Drums (Default MIDI note values are 35-58)
- Percussion (Default MIDI note values are 59-82)

Note: Click either the Drums or Percussion tabs to display the corresponding set of Pads.

5.3.1 - Changing Pad Samples and Adding Sample Layers



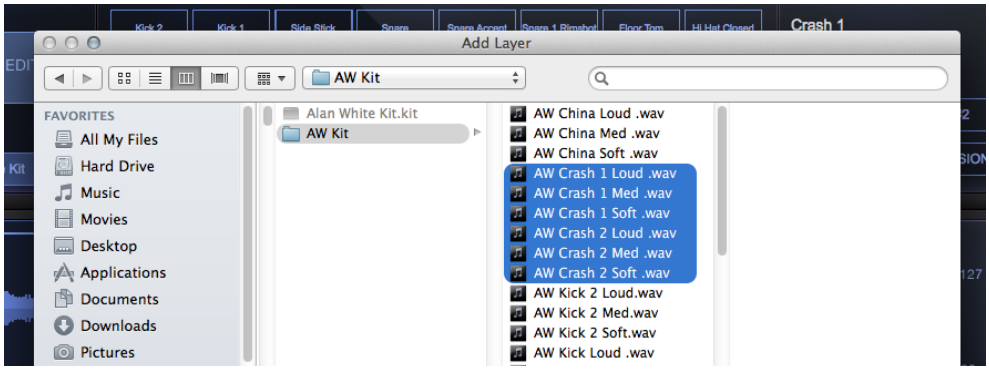
1. From the Drum Kit selector drop-down menu, select the Kit you wish to start with.



2. On the Kit tab, choose the Editor view.

3. In the Pad view, select the pad you want to swap out. You can toggle between the Drums and percussion pad views to see all of the available instruments in your selected kit.

4. To remove a single sample associated with the selected Pad, click on the sample you wish to remove in the Velocity Map view, and then click the  button to remove it from the Pad assignment. To remove all samples from a selected Pad, click the  button.

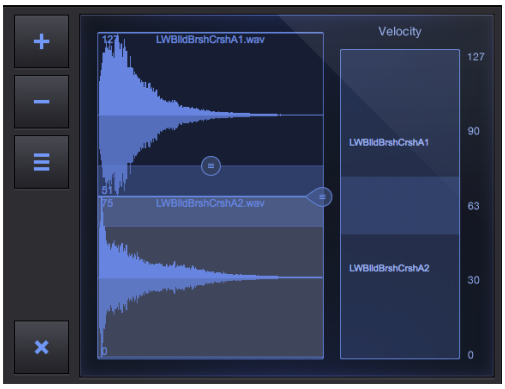


5. From here, you can add one--or several--samples from an existing Kit, or from your own sample library. Click the  button next to the Velocity Map to open a file browser. DrumCore 4 will by default open up the browser in the location of your DrumCore Kits, for easy sample swapping from your content library. If you want to import your own samples instead, you navigate to the location of your own sample library from this view, as well.

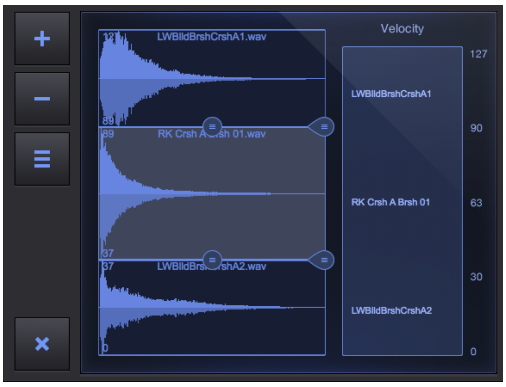
6. Select the sample--or samples--you wish to import and Click 'Open'. From here, there are several possible behaviors, based on whether you removed all sample layers from a pad before importing, and whether you are importing one or multiple samples at a time.

- If you are choosing only one sample, and you have previously removed all of the samples mapped to a Pad, the one you choose will be assigned to the full Velocity Range for the Pad.

- If you are selecting multiple samples, and you have previously removed all of the samples mapped to a Pad, the ones you choose will be added to the pad in the order they appear in your file browser, and will be assigned equal Velocity Ranges for the Pad (with any remaining range assigned to the quietest sample).

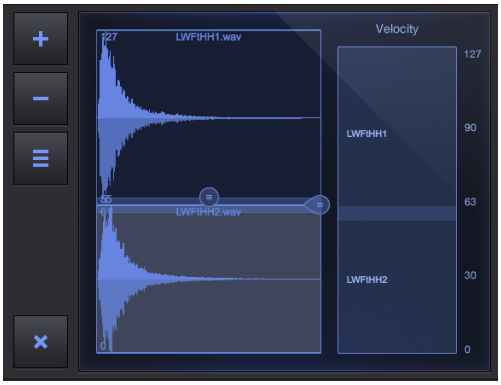


Before inserting one sample



After inserting one sample

- If you are adding a sample as a layer, the one you have chosen will be inserted into the Velocity Map directly above the selected sample, and will be dynamically assigned a Velocity Range.



Before inserting multiple samples

After inserting multiple samples

- If you are adding multiple samples as layers, the ones you choose will be inserted into the Velocity Map directly above the selected sample, and will be dynamically assigned Velocity Ranges of equal size.

  Note: This feature works best when used in conjunction with the Even Spacing button. For more information about Even Spacing, see Velocity Mapping - Even Spacing (section 5.5.2).

For more information about Velocity Mapping, see Velocity Mapping (section 5.5.2).

5.3.2 - Renaming Pads

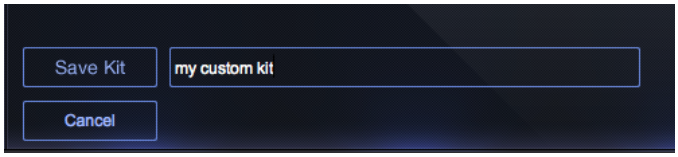
Once you're done adding your own samples or sample layers to a Pad, you might want to rename it to something that reflects your custom settings. Double-click on the Pad name text in the area to the right of the Pad selector view to insert a cursor, type your custom name, and press 'Return'.

Your custom pad name will now appear.

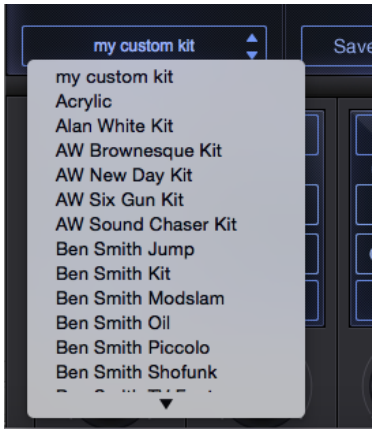
5.3.3 - Saving a Custom Kit

Once you have created a custom kit you like, you can save it as a preset to be recalled later. To do this:

1. Click the Save Kit button below the Pad view.



2. A dialog box will pop up, prompting you to enter in a kit name.
3. Enter in your desired custom kit name, and click Save Kit.



4. You can now recall your custom kits from the Drum Kit selector. All custom kits are automatically appended to the top of the kit list, and DrumCore 4 saves all custom kits to your content library in one of the following locations:

- (Prime Flash or Ultra for both Mac and Win)
  /DC4/DrumCore/Library/DrumKits/User
- (Prime Link or Lite for Mac)
  /Library/Application Support/DrumCore/Library/DrumKits/User
- (Prime Link or Lite for Win)
  C:\ProgramData\DrumCore\Library\DrumKits\User

5.4 - Kit Mixer

The Mixer page within the Kit tab allows you to create Sub-Mixes, so you can process your drums and percussion by groups of your choosing. All of the DrumCore 4 Kits come with preset Sub-Mix assignments to get you started, but you can also edit these assignments to create a custom mix for a very specialized drum feel. By default, all drum Sub-Mixes are set to unity gain, and all channels are assigned to the main stereo bus (labeled as 'Output 1-2'). Multi-out routing allows you to change the routing assignments for your Sub-Mixes, and have each one return on a different channel in your session. Every Sub-Mix has its own FX path, so you can enable any of the four available FX on an individual Sub-Mix, allowing you to have that compressed kick sound, while applying EQ to your hi-hats, and putting some delay on your snare. Each Sub-Mix channel also has its own independent mute and solo, for full mixing capabilities.

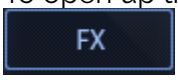
5.4.1 - FX

Each stereo channel on the Mixer page has a dedicated FX view, where you can see each of the individual effects you can apply to the channel. Clicking the FX button above the Output Assignment opens and closes the FX view, and defaults to opening the Compressor unit first. All FX are by default off until you either select its corresponding on button on the selected channel, or by turning on the power button displayed on the right hand side of each FX unit view. You can also reset each effect back to its factory default settings by clicking the reset button below the power button on each unit. The effects themselves are color-coded, to make it easy to see which is on; the Compressor is pink, EQ is green, Delay is blue, and Crush is orange.

Compressor

The Compressor built into the Mixer FX mimics an optical circuit topology, and has four set compression ratios for you to choose from: 16:1 and 8:1 for limiting, and 4:1 and 2:1 for more subtle compression. It also comes with standard threshold, attack, release, and output gain controls. To make sure that you are always hearing the effect while it is in use, the Compressor automatically applies some makeup gain on output, based on the settings you've chosen.

Adding Compression to a Sub-Mix Channel

1. To open up the FX viewer on a Sub-Mix channel, press the FX button 

on a channel on which you wish to insert the Compressor.
2. To insert the Compressor, press either the power button  on the upper right hand corner of the Compressor unit, or select the pink button  located above the FX button on the selected Sub-Mix channel.
3. Adjust the Threshold fader until you can hear the Compressor acting on your audio.
4. Change the Ratio value to taste. The default compression ratio is 4:1.
5. Adjust the Attack and Release values to taste. Fast attack will result in a softer, more rounded sound, while slow attack will result in high transients, Fast release will also result in high transients, while slow release will result in pumping and breathing.
6. To reset the Compressor unit to factory defaults, press the reset button  in the bottom right hand corner of the effect unit.

EQ

The EQ unit built into the Mixer FX has four fully parametric bands in total: a low shelving filter, two peaking bands, and a high shelving filter. The two peaking bands allow for independent control of center frequency, amplitude, and bandwidth, allowing you to boost or cut a range of frequencies with precision. Each of the filter bands has a default slope of 6dB per octave, giving the cutoffs a tone that sounds natural and musical, while making bandwidth adjustments allows you to increase or decrease the filter slope values to taste.

Adding EQ to a Sub-Mix Channel

1. To open up the FX viewer on a Sub-Mix channel, press the FX button 

on a channel on which you wish to insert the EQ.
2. To insert the EQ, press either the power button  on the upper right hand corner of the EQ unit, or select the green button  above the FX button on the selected Sub-Mix channel.
3. To sweep the bands, click on one of the four nodes, and drag it to the location where you wish to boost or attenuate frequencies. Drag up to boost, and down to notch.
4. When you click on a node, a band also appears. This is the adjustable bandwidth. Click and drag on the band to adjust its width. Dragging inward toward the center frequency will narrow the band, while dragging away from the center frequency will widen it.
5. To reset the EQ unit to factory defaults, press the reset button  in the bottom right hand corner of the effect unit.

Delay

The Delay unit built into the Mixer FX tab allows you to add either tempo-synced or timed delay in milliseconds to individual Sub-Mixes, giving your drum sound depth, or even creating polyrhythms and ghost notes through processing. Use it liberally to create a distinctly dubby sound, with lots of feedback, or apply it gently to give your drum mix depth and cohesion.

Adding Delay to a Sub-Mix Channel

1. To open up the FX viewer on a Sub-Mix channel, press the FX button 

on a channel on which you wish to insert the Delay.
2. To insert the Delay, press either the power button  on the upper right hand corner of the Delay unit, or select the blue button  above the FX button on the selected Sub-Mix channel.
3. To adjust the input amplitude coming from your Sub-Mix to the Delay unit, adjust the Level slider.
4. Once you have gotten your input level where you want it, adjust the Feedback slider to taste. By default, this is set to 50%, which means one half of the incoming signal--on output--is fed back into the input of the Delay effect, resulting in an echo.
5. To change how much of the Delay you want to hear, adjust the Wet/Dry Mix slider. Sliding it all the way to Dry will allow you to hear only the sound of the Sub-Mix channel coming in, while sliding it all the way to Wet will mean you will only hear the effected sound.
6. The Damping control on the Delay unit changes how much of the signal is passed into the Feedback loop, acting as a Lo Pass filter on the echoing signal. Drag the Damping slider downwards to filter the signal all the way down to 350 Hz--for a softer echo sound--or drag it upwards to allow up to 15 kHz into the Feedback, for a more resonant echo.
7. To change the length of the delay effect, adjust the timing controls on the righthand side of the Delay unit. Click on the timing value selector to toggle between delay values in milliseconds, and delay values in beats.

- The millisecond delay min value is 60 ms, and the max value is 6000 ms (or, 6 seconds).
- The beat delay min value is 1/16th triplet  , and the max value is one whole note  .

8. To reset the Delay unit to factory defaults, press the reset button  in the bottom right hand corner of the effect unit.

Crush

The Crush effect is a bitcrusher, which allows you to downsample and bit reduce your audio, effectively mimicking truncation errors and jitter, to give your drums a crunchy, distorted sound. Want 8-bit sounding drums for making chip tunes? Looking for audible grit without overdrive? Crush is your new best friend.

Adding Crush to a Sub-Mix Channel

1. To open up the FX viewer on a Sub-Mix channel, press the FX button 

on a channel on which you wish to insert the Crush effect.
2. To insert the Crush effect, press either the power button  on the upper right hand corner of the Crush unit, or select the orange button  above the FX button on the selected Sub-Mix channel.
3. To add bit reduction to your selected Sub-Mix, drag the Bit Depth slider downwards. The Crush unit's bit depth range is from 24-bit, all the way down to 4-bit.
4. To add sample rate reduction to your selected Sub-Mix, drag the Sample Rate slider downwards. The Crush unit's sample rate range is from 48 kHz to 475 Hz.
5. The jog wheel on the bottom right hand side of the effect viewer allows you to change the filter cutoff value, so you can bitcrush only the range you want. The filter ranges from 500 Hz to 10 kHz.
6. To reset the Crush effect to factory defaults, press the reset button  in the bottom right hand corner of the effect unit.

5.4.2 - Sub-Mixes

You can assign DrumCore's drum pads to individual Sub-Mixes on the Kit tab's Mixer page, allowing you to perform independent mixing and audio processing in the plug-in, and custom mix channel assignments can be saved as part of a custom Kit. DrumCore provides 7 stereo channels for Sub-Mixes, allowing you to mix down your drums on their way to a single stereo channel. Each Sub-Mix channel has its own FX path, and the Kit Mixer itself has 7 dedicated auxiliary outputs--one for each Sub-Mix channel--that act as post-FX sends for routing to separate outputs within your session. Each stereo Sub-Mix channel comes with its own Mute and Solo buttons, as well as a pan-pot, and channel fader.

Sub-Mix Channel Features

Adjusting the volume for a Sub-Mix:

1. From the Mixer view on the Kit tab, select the desired drum group channel.
2. Adjust the fader to the desired level.

Adjusting the pan for a Sub-Mix:

1. From the MIxer view on the Kit tab, select the desired drum group channel.
2. Above the channel fader, you will see a pan knob.
3. Click and drag on a knob to adjust the pan to desired position in the stereo field.

Note: Because all Sub-Mix channels are stereo, panning from left to right operates in the same way as having individual fader levels in the left and right channels, respectively, and no pan law is applied.

Assigning a Drum to a New Sub-Mix

1. From the Kit tab, select a Pad you wish to assign to a new Sub-Mix. Its details will appear to the right of the Pad selector view.

2. Click on the Sub-Mix assignment. A drop-down menu will appear, showing all available Sub-Mixes.
3. Select the Sub-Mix to which you wish to assign the selected Pad.

Changing Output Assignments for a Sub-Mix

By default, DrumCore 4 has 7 dedicated stereo auxiliary outputs for bussing sub-mix channels within a session. This means your full drum mix is being sent to your stereo output, and your sub-mixes are also routed to dedicated auxiliary outputs.

To use multi-out routing, follow these steps:

1. If your DAW has an option for creating either a stereo or multi-out instance of DrumCore 4 (e.g., Logic Pro X), select the multi-out option when adding the plug-in to a track.

2. In your DAW, create 7 new stereo Aux tracks, and assign the dedicated stereo auxiliary outputs from DrumCore to the inputs for each channel.

   Note (Logic Pro users): To avoid having hidden Aux tracks, navigate to the Mixer view in your session (X key). On the instrument track where you have DrumCore loaded, press the + button until all 7 stereo Aux channels are revealed. If you do not do this, Logic will sum any hidden sub-mix channels to the instrument track.

   Note (Cubase users): To activate multi-out, click on the carrot symbol in the upper righthand corner of the plug-in window, and select Activate Outputs -> Activate All. Cubase will automatically create all 7 stereo Aux tracks for your Sub-Mixes.

3. To hear only your bussed sub-mixes, **you must mute the instrument track**, or you will hear a doubled signal from your sub-mixes and your stereo drum mix from DrumCore's main output.

Renaming a Sub-Mix

1. From the Mixer view on the Kit tab, double-click on the nameplate for a Sub-Mix channel you want to rename, highlighting it.
2. Type in the new name for your Sub-Mix channel and press Enter. The name will now appear in the nameplate, and as an option in the Sub-Mix assignment drop-down menu.
3. To retain your new naming scheme, save it to a custom Kit using the Save Kit dialog.
   For more information on saving Kits, see Saving a Custom Kit (section 5.3.3).

5.5 - Kit Editor

The Editor page within the Kit tab allows you to customize your MIDI drum kits in a variety of ways. Re-map your MIDI note assignments to follow the control scheme for your favorite MIDI controller. Layer samples to build custom velocity maps, for hard-sounding hits at higher MIDI velocities, and softer-sounding hits at lower ones. Create blend regions to dynamically mix between layered samples. You can even apply an ADSR Envelope to your sample layers, to rein in your sounds, and give them a unified feel.

5.5.1 - Customizing MIDI Note Assignments

1. From the Kit tab, select a Pad you wish to assign to a new MIDI note value. Its details will appear to the right of the Pad selector view.
2. Click on the MIDI Note assignment. A drop-down menu will appear, showing all available MIDI Notes as both numeric values and as notes on a scale.
3. Select the MIDI Note value you wish to assign the selected Pad. If you are using an external MIDI controller, the sample will be moved to the Pad associated with that MIDI note value.

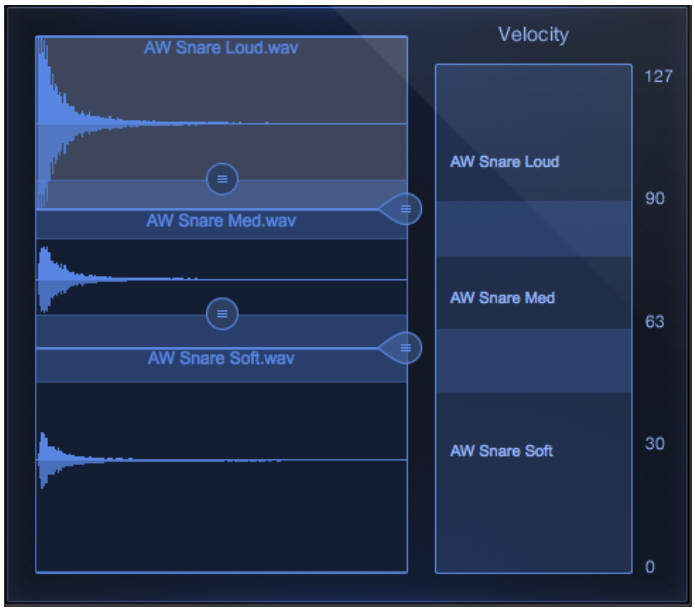
   Note: Consult the manufacturer's documentation on your MIDI controller to learn more about available MIDI note values. Different controllers use different note ranges, and some note values available in DrumCore 4 might not be available to your device.

5.5.2 - Velocity Mapping

With Velocity Mapping, you can customize your kits to give them an even more dynamic feel. Using the standard MIDI values of 0-127 (with 0 being softest and 127 being hardest), you can allocate a range of velocities associated with your sample layers on each Pad. Having one sample on a pad assigns the entire MIDI note velocity range to that one sample, while importing additional sample layers dynamically allocates velocity ranges to each added layer. You can also add to or reduce the velocity range of a specific Pad, to increase the available dynamic range being mapped to a velocity range.

For more information on Velocity Range (V-Range), see Pad Adjustments (section 5.5.6).

Creating a Velocity Map

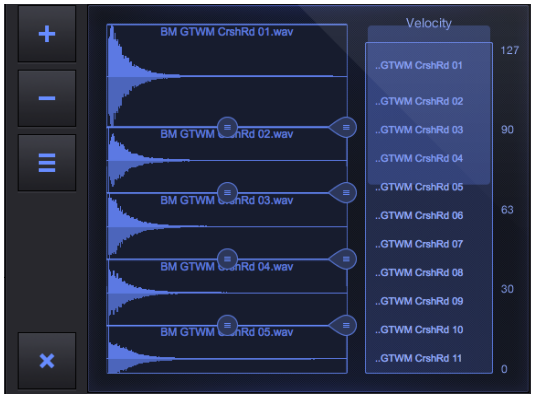


1. From the Kit tab, choose the Editor view.
2. In the Pad view, choose the pad for which you want to create a Velocity Map. You can toggle between the Drums and percussion pad views to see all of the available instruments in your selected kit.
3. By default, all sample layers added to a Pad are assigned a velocity range. To edit a velocity range, Click and drag on the handle  to the right of the sample whose range you want to adjust--dragging down will increase the range, while dragging up will decrease it.
4. To swap a sample layer from one range to another, mouse over the sample you want to move in the map until you see a grabber tool  appear. Click and drag that sample--a  icon will appear next to your cursor--over to the sample you want to swap ranges with. This will swap the samples' velocity ranges. You can also change out the samples within your velocity map by creating a custom kit.

For more information on adding/ removing samples from a Pad Map, see Building Your Own Kits (section 5.3).

Even Spacing

If you're creating or modifying a kit by adding multiple samples to a specific Pad's Velocity map, there may come a point where adjusting the velocity ranges for each sample gets cumbersome. By clicking the Even Spacing button  , you can quickly redistribute the velocity range evenly for all added samples, after deciding on your sample layer order, making for a great starting point for further customizing velocity layers.



Before Applying Even Spacing

After Applying Even Spacing

Because not all layer maps are evenly divisible into 128 MIDI velocities, often there will be a remaining set of values. By default, applying Even Spacing distributes any remaining values to the bottom-most velocity layer.

Remaining Values Assigned to Bottom Layer

5.5.3 - Blend Regions

Whether you are programming your own MIDI drum patterns or using DrumCore's MIDI grooves, you can use Blend Regions in the Velocity Map to add variety to the sound. Blend Regions affect both the velocities and the samples used for each note event, dynamically randomizing the mix between the sounds included in the region. For example, if you add a series of samples to the Velocity Map on a hi-hat pad, you can add Blend Regions between any two sample layers in order to play back a randomized blend of the two adjoining samples, whenever a velocity within the Blend Region is triggered. Experiment with this setting to find just the right feel for your MIDI grooves and drum patterns. You can also adjust the amount of dynamic variation of your samples on a per-Pad basis by adjusting the Velocity Range (V-Range) knob.

For more on V-Range, see Pad Adjustments (section 5.5.6).

Adding Blend Regions

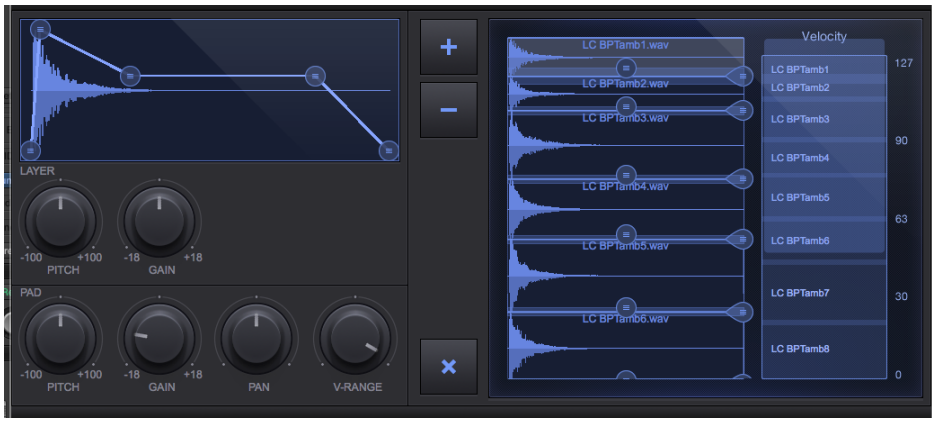
1. From the Kit tab, choose the Editor view.
2. In the Pad view, choose the Pad for which you want to create Blend Regions within the Velocity Map. You can toggle between the Drums and percussion pad views to see all of the available instruments in your selected kit.
3. If you are making changes to an existing DrumCore Kit, note that some Kits come with Blend Regions already assigned within the Velocity Maps for certain instruments (e.g., Tony Braunagel's Side Stick, or John Tempesta's Snares), and some do not. For that reason, there are two methods for working with Blend Regions:

- To add a Blend Region, Click and drag down on the handle  between the two samples for which you want to draw a Blend Region.
- To adjust a Blend Region, click and drag up or down (up to decrease range, and down to increase it) on the handle  between the two samples for which you want to change the range of a Blend Region.

5.5.4 - Envelope (ADSR)

The ADSR Envelope in the Kit Editor view can be used to to independently adjust the Envelope map for each sample layer assigned to a pad, allowing you to make fine adjustments to your sounds, or to create a more cohesive sound between the samples in your Kit.

Working with the Envelope (ADSR)



1. From the Kit tab, choose the Editor view.
2. In the Pad view, choose the Pad for which you want to edit the Envelope on its sample layers.

3. In the Velocity Map, select a Sample Layer. It will load a preview of this sample in the Envelope Viewer on the left hand side of the Editor view.

4. In the Envelope viewer, click and drag on the nodes to adjust the parameters. Left-to-right, the parameters are: Attack, Decay, Sustain, and Release. Each governs a specific part of the Envelope.

    - Attack - click and drag on this node to affect how quickly a drum sound hits after being triggered, and at what point the sound reaches its full amplitude.
    - Decay - click and drag on this node to affect how long it takes to go from full attack amplitude to sustain amplitude.
    - Sustain - click and drag on this node to affect how long it takes until the sound begins to taper off in amplitude.
    - Release - click and drag on this node to affect how long the tapering off in amplitude takes until the sound reaches silence.

5. When you like the sound you have created, you can save your changes as part of a custom Kit preset.

    For more on saving Kits, see Saving a Custom Kit (section 5.3.3).

5.5.5 - Layer Adjustments

You can change the pitch or attenuate the gain for each sample Layer you include in the mapping for an individual Pad, allowing you to stack samples in a way that makes higher velocity hits louder, and lower ones softer, or to tune your samples so that they sound musical to one another.

Changing the Pitch of a Pad Layer:

1. Select the Pad for which you want to make Layer changes..
2. If you are not there already, navigate to the Editor view of the Kit tab. This will show the both settings available for the selected Pad, and its associated layers.
3. In the Velocity mapping area on the right side of the Editor view, select the Layer for which you want to change the Pitch--it will also load in the Layer view on the left side of the pane, to show an enlarged view.

4. In the Layer knobs section directly below the Layer view, move the Layer Pitch knob clockwise to raise the pitch, and counterclockwise to lower it.

   Note: The pitch values are by percentage., where -100 is equivalent to 1 octave down, and +100 is equivalent to 1 octave up.

Changing the Gain of a Pad Layer:

1. Select the desired Pad.
2. If you are not there already, navigate to the Editor view of the Kit tab. This will show the both settings available for the selected Pad, and its associated layers.
3. In the Velocity mapping area on the right side of the Editor view, select the Layer for which you want to change the Gain--it will also load in the Layer view on the left side of the pane, to show an enlarged view.

4. In the Layer knobs section directly below the Layer view, move the Layer Gain knob clockwise to increase the gain, and counterclockwise to lower it.

   Note: The gain values are +/- 18 dBFS.

5.5.6 - Pad Adjustments

You can change the pitch, attenuate the gain, adjust the pan, and assign a velocity range on a per-Pad basis using the pad knobs in the Editor window of the Kit tab.

Changing the Pitch of a Pad:

1. Select the desired Pad.
2. If you are not there already, navigate to the Editor view of the Kit tab. This will show the settings available for the selected Pad.

3. In the Pad knobs section in the bottom left corner of the pane, move the Pad Pitch knob clockwise to raise the pitch, and counterclockwise to lower it.

   Note: The pitch values are by percentage., where -100 is equivalent to 1 octave down, and +100 is equivalent to 1 octave up.

Changing the Gain of a Pad:

1. Select the desired Pad.
2. If you are not there already, navigate to the Editor view of the Kit tab. This will show the settings available for the selected Pad.

3. In the Pad knobs section in the bottom left hand corner of the pane, move the Pad Pan knob clockwise to pan left, and counterclockwise to pan right.

   Note: The gain values are +/- 18 dBFS.

Changing the Pan of a Pad:

1. Select the desired Pad.
2. If you are not there already, navigate to the Editor view of the Kit tab. This will show the settings available for the selected Pad.

3. In the Pad knobs section in the bottom left hand corner of the pane, move the Pan knob clockwise to pan left, and counterclockwise to pan right.

   Note: Because each Pad is stereo, panning from left to right operates in the same way as having individual fader levels in the left and right channels, respectively, and no pan law is applied.

Changing the Velocity Range (V-Range) of a Pad:

1. Select the desired Pad.
2. If you are not there already, navigate to the Editor view of the Kit tab. This will show the settings available for the selected Pad.

3. In the Pad knobs section in the bottom left hand corner of the pane, move the V-Range knob clockwise to increase the velocity range for the selected pad, and counterclockwise to decrease the velocity range for the selected pad.

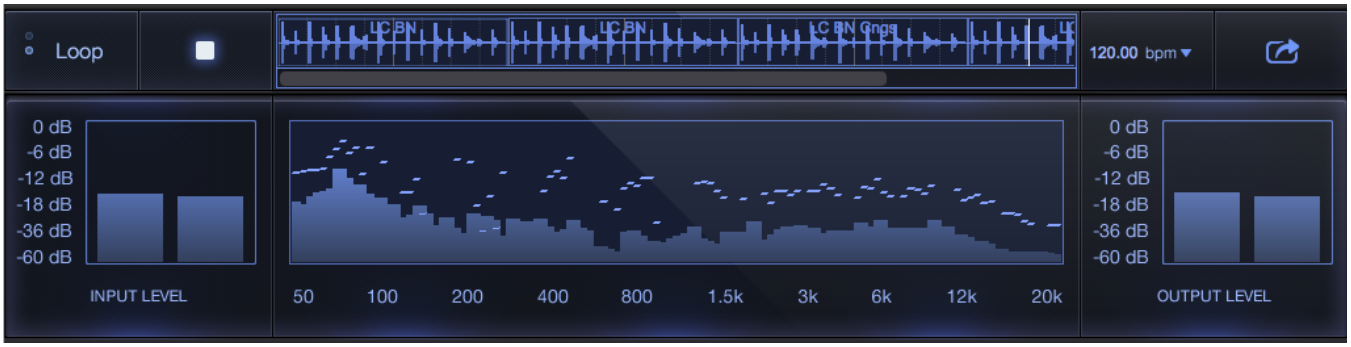
   Note: The V-Range knob does not change the available MIDI velocity range (0-127), but rather allows you to increase or decrease the available dynamic range you can access within a Velocity Map. This means that, for a loudly recorded sample, the available dynamics for that sample can be attenuated, while for samples that were recorded quietly, the entirety of the dynamics of the recorded sample are accessible.

Chapter 6: Master FX

6.1 - Overview

The Master FX tab allows you to add effects to your entire drum mix. Included in the effects are a phase-linear, multi-band compressor, fully parametric EQ module, and a delay effect, so you can really give your whole drum mix punch and polish.

6.2 - Metering



At the very top of the Master FX tab is a metering view that shows your input levels and output levels, as well as a FFT spectrum analyzer, so you can see how effects you are applying change to the frequency range of your rhythm, in real time.

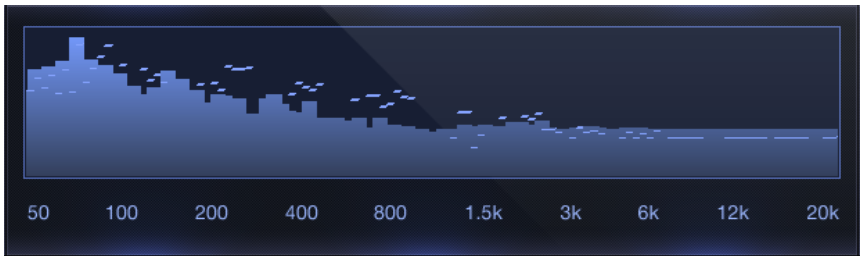
6.2.1 - Input

The Input meter on the Master FX tab visually displays the peak input amplitude of your rhythm, measured in dBFS, where 0dB is distortion, and -60dB is silence. Here you can see the level coming into your effects, pre-processing.

6.2.2 - Output

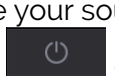
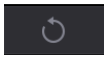
The Output meter on the Master FX tab visually displays the peak output amplitude of your rhythm, measured in dBFS, where 0dB is distortion, and -60dB is silence. Here you can see the level coming out of your effects, post-processing.

6.2.3 - FFT

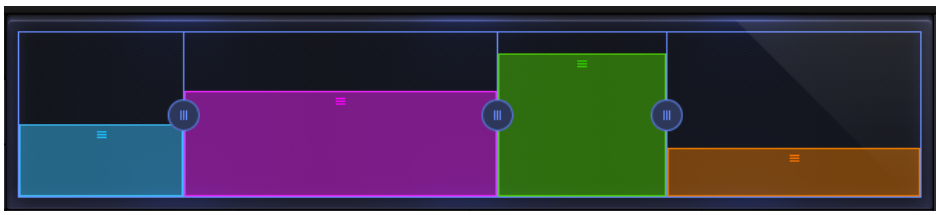


In the center of the metering view at the top of the Master FX tab is an FFT display, which indicates the full frequency spectrum of your audio, and shows the peak amplitudes along that spectrum. This allows you to see how your effects are being applied to discrete frequency ranges, making it easier to see as you make changes, what changes are being applied and where.

6.3 - Compressor

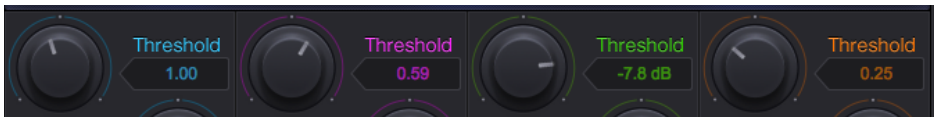
The Master FX tab in DrumCore 4 comes with a phase-linear Compressor unit, allowing you compress a range of frequencies in your whole drum mix, to give your sound punch where it really needs it. To turn on the Compressor unit, press the Power button  on the righthand side of the view. To reset the Compressor back to the factory default settings, press the Reset button,  located directly above the Power button.

6.3.1 - Frequency Bands



The Master FX Compressor has four sweepable frequency bands, for changing the dynamics only in ranges where your drum mix needs a bit of rebalancing. Clicking anywhere on a frequency band and dragging upward raises the threshold, applying less compression, while dragging it downward lowers it, applying more of the effect. To change the bandwidth, click on the handles on the sides of the bands and drag left or right.

6.3.2 - Threshold

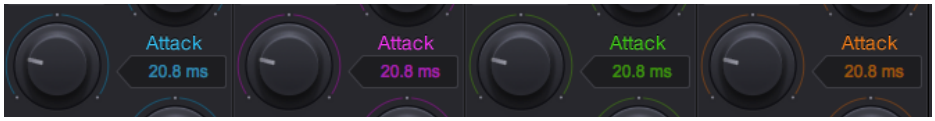


There is a Threshold knob for each of the four frequency bands, which is redundant to the height of the bands above. If you choose to change your threshold value by dragging the frequency bands up or down, you will also see your changes reflected at this knob. Click on knob and turn it counterclockwise to lower the threshold and compress more of the signal, or turn it clockwise to raise it, and compress less of the signal. The default value for the threshold is set to -12 dB, and its full range is from 0.0 dB to -60 dB.

6.3.3 - Ratio

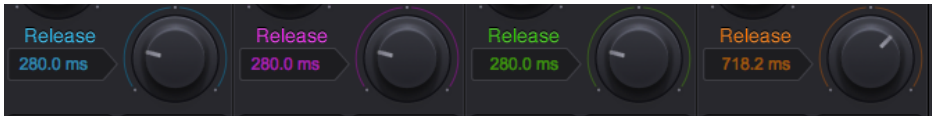
The ratio knob on the Master FX Compressor defaults to 4.8:1, but can be set to as low as 2.0:1--for gentle compression--and as high as 16:1--for fairly hard limiting. Because all of the ratio values are in the format of n:1, all are displayed as a single decimal value.

6.3.4 - Attack



The attack knob has a default value of 20.8 ms, which is about ¼ of its full range, and is a fairly fast attack value, such that the compressor will be triggered almost immediately following a transient. For an even shorter attack, you can turn the knob all the way down to 1 ms, and for a longer one, all the way up to 100 ms, for a much softer effect.

6.3.5 - Release



The release knob has a default value of 280.0 ms, allowing for audible decay for most drum sounds. For a shorter release time, you can turn the knob all the way down to 100 ms, and for a longer one, all the way up to 1000 ms.

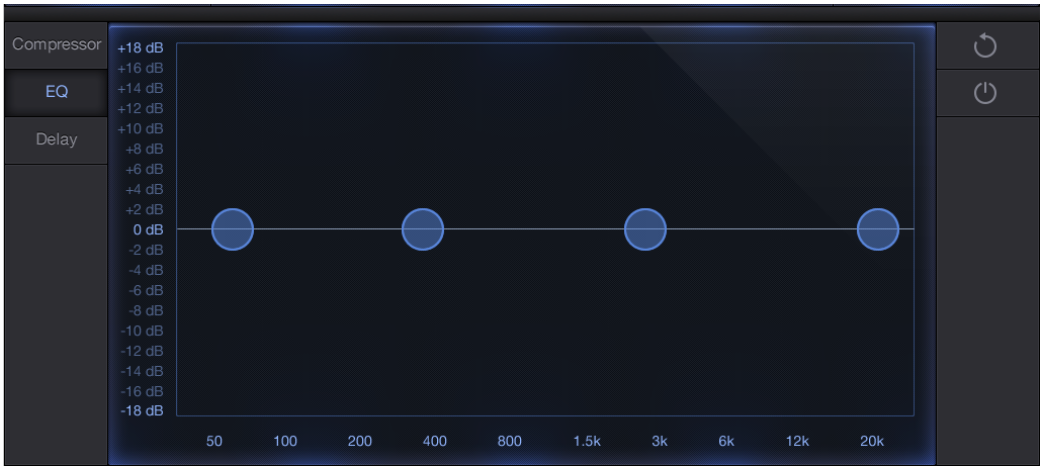
6.3.6 - Solo/ Bypass

Each frequency band on the compressor unit has its own solo and bypass switches, so you can closely listen to how the effect is being applied, and make very specific changes to the sound of your drum mix. Press the Solo switch at a band to hear it alone. Press the Bypass switch to remove a band from the audible mix.

6.3.7 - Output Gain

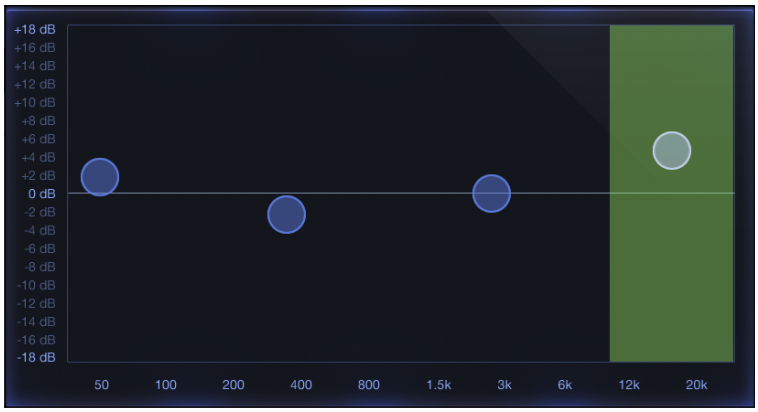
Raise or lower the Output Gain slider on the righthand side of the Compressor unit to dial in how much you can hear the applied effect. The Master FX Compressor unit has auto makeup gain--so the loudest parts remain just as loud, while quieter parts are brought up--so you can always hear the effect. This means that the output gain slider gives you greater control over your sound, allowing you to control how much of the overall sound is being output, independent of the effect.

6.4 - EQ



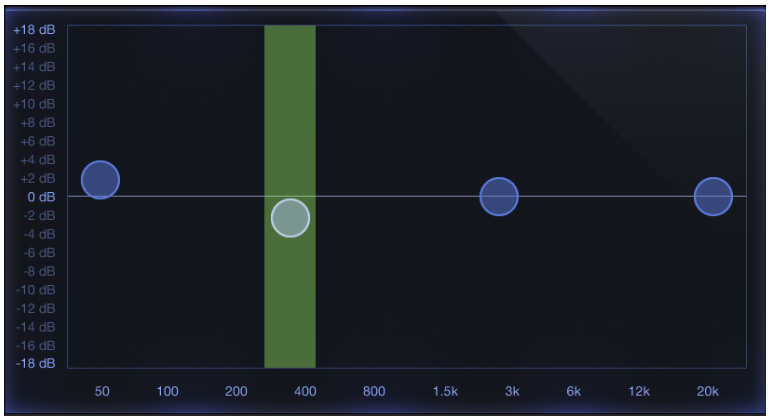
The EQ unit in the Master FX tab has four fully parametric bands in total: a low shelving filter, two peaking bands, and a high shelving filter. The two peaking bands allow for independent control of center frequency, amplitude, and bandwidth, allowing you to boost or cut a range of frequencies with precision. Each of the filter bands has a default slope of 6dB per octave, giving the cutoffs a tone that sounds natural and musical, while making bandwidth adjustments allows you to increase or decrease the filter slope values to taste. To turn on the EQ unit, press the Power button  on the righthand side of the view. To reset the EQ back to the factory default settings, press the Reset button,  located directly above the Power button.

6.4.1 - Frequency Bands



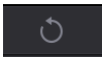
To change the center frequency of a band, click on the node for the frequency you wish to affect. Drag that node left or right to change the center frequency. Drag the node up to boost, and down to attenuate. The low shelving filter's center frequency defaults to 80 Hz, while the high shelving filter's center frequency defaults to 12 kHz. The two peaking bands' default center frequencies are 300 Hz and 1.8 kHz, respectively.

6.4.2 - Bandwidths



To change the bandwidth for one of the four frequency bands in the Master FX EQ unit, click on the node for the band you wish to adjust. A green vertical band will appear behind the node. To widen your bandwidth, click on the green band and drag away from the center frequency node. To narrow the bandwidth, click on the green band and drag toward the center frequency node.

6.5 - Delay

The Master FX page also includes a Delay effect, which you can apply to your whole drum mix. Use it subtly to give your sound a unified feel, or use it heavily to create ghost notes and polyrhythms. To turn on the Delay effect, press the Power button  on the righthand side of the view. To reset the Delay back to the factory default settings, press the Reset button,  located directly above the Power button.
To adjust the input amplitude coming from your Sub-Mix to the Delay unit, adjust the Level slider.

6.5.1 - Drive

The Drive controls adjust the input amplitudes coming from your main mix into each channel of the Delay unit. By adjusting the sliders, you can choose how hard your sound is hitting the Delay unit on a per-channel basis. Bring the slider up only a little way to apply the effect subtly, or bring the slider up all the way to overdrive the signal on input, for a crunchy, distorted sound.

6.5.2 - Feedback

Once you have gotten your input level where you want it, adjust the Feedback sliders to taste. By default, these are set to 50%, which means one half of the incoming signal--on output--is fed back into the input of the Delay effect, resulting in an echo.

6.5.3 - Damping

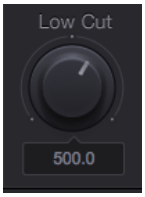
The Damping controls on the Delay unit change how much of the processed signal is passed into the Feedback loop, acting as a Low Pass filter on the return. Drag the Damping sliders downwards to filter the signal all the way down to 350 Hz--for a softer echo sound--or drag them upwards to allow up to 15 kHz into the Feedback component, for a more resonant echo.

6.5.4 - Wet/Dry Mix

To change how much of the Delay effect you want to hear, adjust the Wet/Dry Mix sliders. Sliding them all the way to Dry will allow you to hear only the sound of your the mix coming in, while sliding them all the way to Wet will mean you will only hear the effected sound.

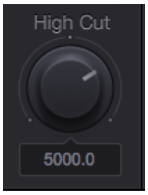
6.5.5 - L/R Output Levels

You can independently affect how much of the Delay effect is audible in each of your stereo channels, allowing you to create interesting effects like a ping-pong delay sound, or to simply give your stereo mix more width.



6.5.6 - Low Cut (High-Pass Filter)

The Low Cut filter has a slope of 6 dB per octave, giving it a gentle rolloff. This filter occurs on the input to the Delay unit, allowing you tight control over how much of the low end in your signal is being affected. The range of the Low Cut is from 15 Hz to 4 kHz, giving you enough range to affect only the high end, or to open it up to mids and lows, to taste.



6.5.7 - High Cut (Low-Pass Filter)

The High Cut filter has a slope of 6 dB per octave, giving it a gentle rolloff. This filter occurs on the input to the Delay unit, allowing you tight control over how much of the high end in your signal is being affected. The range of the High Cut is from 78 Hz to 20 kHz, giving you enough range to affect only the low end, or to open it up to mids and highs, to taste.

6.5.8 - Timing Selector

To change the length of the delay effect, you can adjust the timing controls separately for each of your stereo channels, using the jog wheels toward the bottom of the Delay unit. Click on the timing value selector to toggle between delay values in milliseconds, and delay values in beats.

- The millisecond delay min value is 60 ms, and the max value is 6000 ms (or, 6 seconds).
- The beat delay min value is 1/16th triplet: 

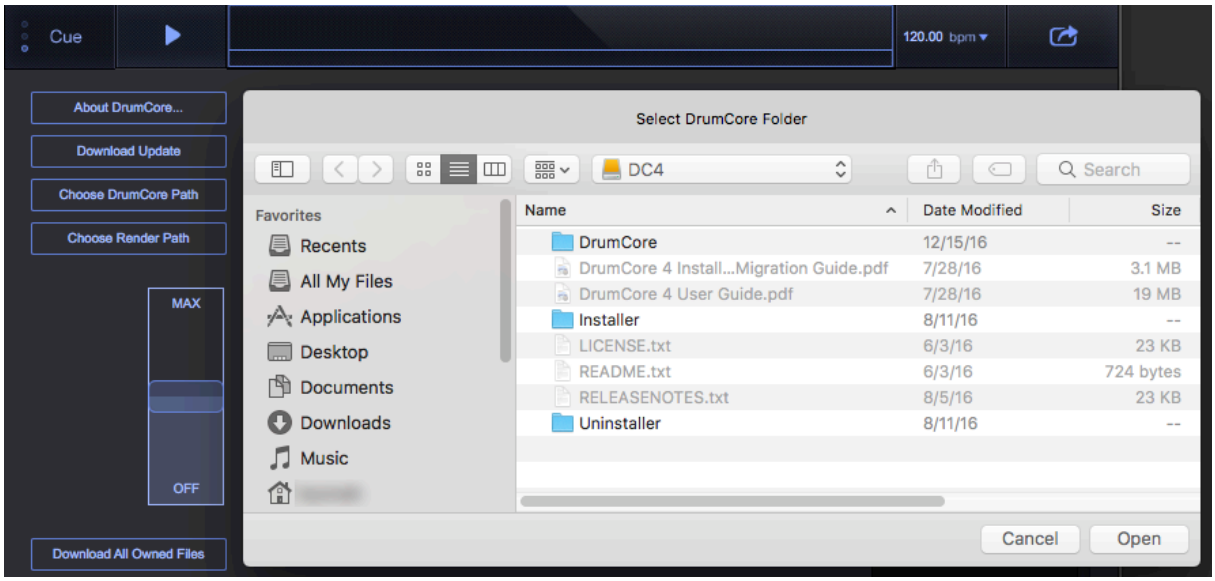
the max value is one whole note: 

Chapter 7: Settings

7.1 - Overview

The DrumCore Settings tab in the DrumCore Plug-in lets you set the Path for your DrumCore content, set the location for rendered DrumCore content, change your setting for LiveDrummer, and provides general information about your software version.

7.2 - Managing Your Content Library (DrumCore Path)



DrumCore 4 allows you to store your content library in any location most convenient to you, including on an external hard drive. Within the Settings tab, you can indicate the revised location of your content library, by using the 'Choose DrumCore Path' feature.

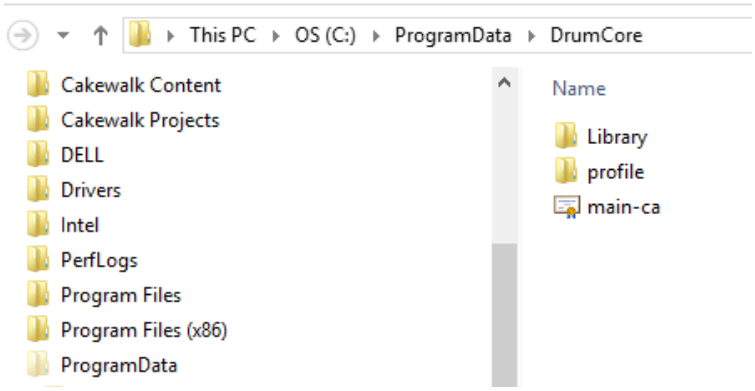
IMPORTANT By default, DrumCore 4 is looking for a folder named 'DrumCore' when seeking your content library, but you are free to rename this folder anything you choose. However, when moving your content to a new location, you must maintain the internal folder structure as it appears on your drive/ in the file folders you received, or the plug-in will not recognize it as a valid content library.

RECOMMENDED If you choose to move your content library to an external hard drive, it is strongly recommend that you use an SSD (solid-state drive), for best reliability during audio playback.

7.2.1 - Changing the DrumCore Path:

1. With your DAW closed, copy (or move*) your entire content library, including all internal folders**, to the new location of your choosing (this can be on your computer, or on an external hard drive).
2. Open your DAW and load DrumCore onto an instrument track.

*__Note:__ If you moved your content library, you will be immediately prompted to indicate the location of your DrumCore Library on launch. See **'Locating the DrumCore Folder' (Section 9.2)** for complete steps on this.



__Note for Windows users with Prime Link or Lite:__ Copying is strongly recommended, as the DrumCore folder contains both the content library and a certificate that is required by the Migration Tool. You can still delete the redundant content library once copying is complete, but **C:/ProgramData/DrumCore/main-ca.cert must remain in its original location. It does not need to be present in the new content library location. For more information on troubleshooting the associated error message, see **Windows Migration Error: Network Error 377 (section 4.5)** in the Install Guide.

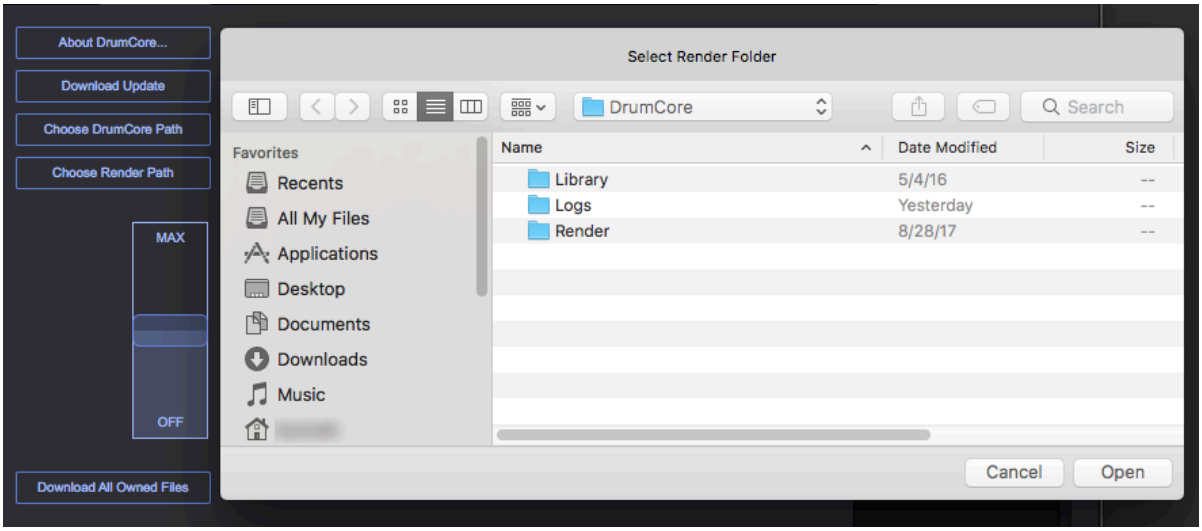
3. From within the plug-in, click the Settings tab. By default, DrumCore 4 sets the path to one of these locations, depending on your OS and product edition:

- Ultra and Prime Flash for Mac and Windows:
/DC4/DrumCore
-Prime Link and Lite for Mac:
/Library/Application Support/DrumCore
-Prime Link and Lite for Windows:
C:\ProgramData\DrumCore

4. Click the button that says, 'Choose DrumCore Path'. A dialog box will open, allowing you to navigate to your desired content location.
5. Select the desired folder containing your entire content library and click, 'Open'.
6. If you wish to delete the redundant copy of your content library, you can do so now.

Note for Windows users: The 'ProgramData' folder is, by default, a hidden system folder. To reveal it in your file browser:
1. Open the Control Panel
2. Click 'Appearance and Personalization'
3. Navigate to 'Folder Options' and click the 'View' tab.
4. In 'Advanced Settings', click 'Show hidden files, folders and drives', then click OK to save that setting.

7.3 - Managing Your Render Path



DrumCore 4 automatically creates MIDI and WAV format renders of the loops you drag, and the Render Path setting allows you to choose their save location on your hard disk, allowing for easy file management. Set it to the folder for your current project, to have everything in the same place, or set it to a location for storing your favorite loops--you can change your render path at any time, allowing you to move seamlessly between projects, while storing your work in a way that makes the most sense to you.

7.3.1 - Changing the Render Path:

1. Click the Settings tab. By default, DrumCore 4 sets the path to one of these locations, depending on your OS:

   -DrumCore 4 for Mac:
   /Documents/DrumCore/Render
   -DrumCore 4 for Windows:
   C:\Users\[UserName]\Documents\DrumCore\Render

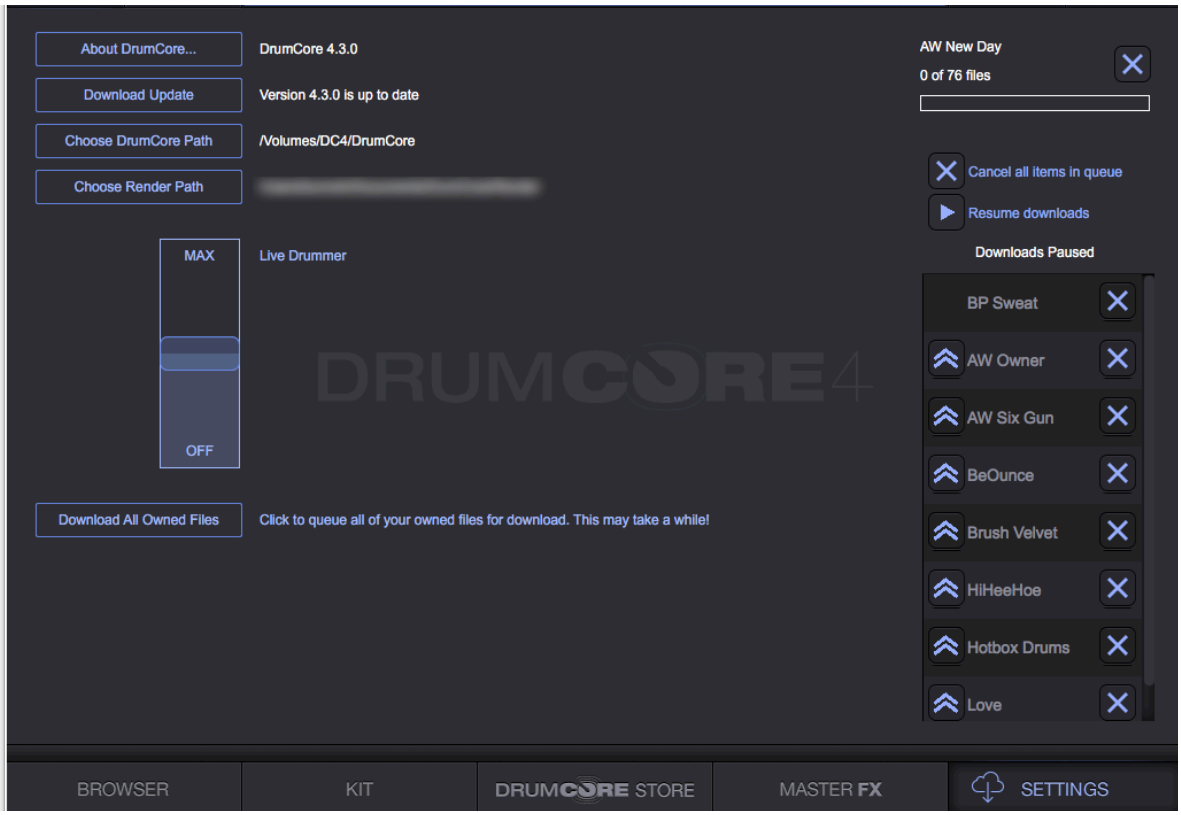
2. Click the button that says, 'Choose Render Path'. A dialog box will open, allowing you to navigate to your desired render location.
3. Select the desired folder and click, 'Open'.

7.4 - LiveDrummer

Whether you are programming your own MIDI drum patterns or using DrumCore's MIDI grooves, the LiveDrummer slider can add a little variety to your sound. Specifically made to affect drum pads with multiple Velocity Layers, the LiveDrummer slider allows you to play a randomized blend of the samples in a single pad. Don't worry though--your Velocity Layer settings are safe--that sweetened, sonic blend will still retain the sounds at your set trigger velocities, but with a much more live feel.

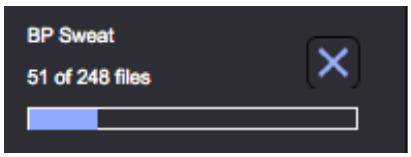
Changing the level on the LiveDrummer slider affects all DrumKits in DrumCore, globally, and the higher the setting, the more noticeable the effect. We recommend setting it all the way to Max. but experiment to get the feel you are after!

7.5 - Content Download Manager



On the right side of the Settings tab is the content download manager, which lists all Drum Kits and GrooveSets currently queueing, and allows you to control the order in which downloadable content is added to your content library. You can globally cancel, pause, and resume all downloads in the queue, or reorder your queue by promoting desired content to next, and cancel downloads you don't want. You can also add all content available for download by clicking the Download All Owned Files button, making it easy to be sure you're not missing anything.

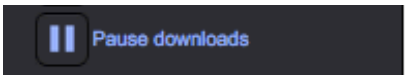
7.5.1 - Managing Active Downloads



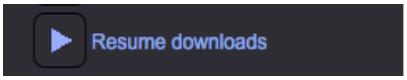
Content actively downloading will be listed at the very top of the queue, with a progress bar and file count. Clicking the in the upper will cancel the active download. Any loops that were downloaded from a GrooveSet will be retained. Drum Kits that are not completely downloaded will be discarded. To resume a cancelled GrooveSet download, navigate back to it in the Browser.

7.5.2 - Global Controls in the Download Manager

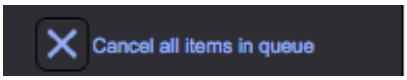
Global controls in the Download Manager can be found below the details about the content actively downloading, and their use will affect the entire queue.



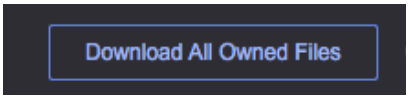
The global pause button will pause both the active download and the advancement of the download queue. As long as your current session remains open, your queue will remain for you to resume at any time.



The global resume button will restart your download queue, beginning with the active download from where it left off.



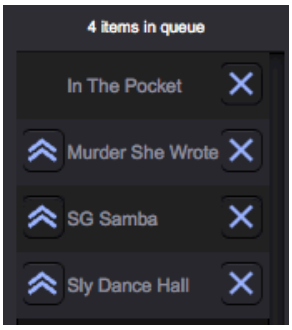
The global cancel button will cancel both the active download and clear the queue. Any loops that were downloaded from a GrooveSet will be retained. Drum Kits that are not completely downloaded will be discarded.



Below the Live Drummer control is the 'Download all Owned Files' button, which queues all owned content that is not already in your library. Depending on your internet connection and how much content is available for download, this process may take some time.

Note: If you wish to move your existing content library to a new location, copying over your content will be dramatically faster than downloading all owned content from the DrumCore servers. For more details on moving your content to a new location, see **'Changing the DrumCore Path' (Section 7.2.1)**

7.5.3 - Managing the Download Queue



Individual downloads can be managed using the controls in the at each item in the queue. Cancel a download using the button. Reorder your queue using the button to promote specific downloads to the top of the list, making it next to be downloaded.

If there are any items in the download queue, a cloud icon will appear next to the Settings tab, which remains visible until all downloads have completed. However, this does not mean that there is an active download, but if you close your session, your queue will not be retained the next time you open the plug-in.

7.5.4 - Automatic Downloads in DrumCore

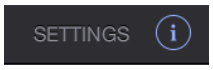
In some cases, content will be automatically added to the download queue.

Prime Link and Lite users will find that all owned Drum Kits will automatically be added to the queue on first launch. If any downloads are canceled, those Drum Kits will be added to the queue on the next launch until all are present in the content library.

Individual GrooveSets may also be automatically added to the queue if improvements have been made on products you own. However, this does not happen on plug-in launch, but rather while using the Browser. If you choose to preview content that has been updated, when you click on a loop or fill, it will be added to the download queue and imported to your content library.

7.6 - Updating DrumCore

When an update is available for DrumCore, notifications will appear both below the Timeline on the main Browser view, and as a badge on the Settings tab. If you navigate to the settings tab, you will see a notification next to the 'Download Update' button that also indicates that there is a plug-in update available for download. When your software is up-to-date, the message here will instead indicate that DrumCore is on the current version.



Update Available badge on Settings tab

Download Update button with up-to-date notification

Clicking on the 'Download Update' button will download the DrumCore updater, in either .dmg (Mac) or .exe (Win) format. Make sure to close your session first before running the updater.

Chapter 8: DrumCore Store

8.1 - Overview

The new DrumCore Store tab allows you to purchase more GrooveSets and Drum Kits for your content library from directly within the plug-in. No more manual importing, no more file management--all add-on content is seamlessly added to your content library from within the plug-in, while you use it.

8.2 - Visiting the DrumCore Store

Navigating to the DrumCore Store tab, you will initially see banner features for artists, GrooveSets, and other collections of content available for purchase at the top of the main view. You can also browse through Store content by sorting through our list of Publishers and Manufacturers, or by individual artist or collection. Navigating through the Store works similarly to the Browser tab, and allows for quick access to purchase pages for both Drum Kits and GrooveSets.

Our content library is growing, so be sure to look for the badge on the DrumCore Store Tab whenever new Drum Kits and GrooveSets are added!

8.2.1 - Publisher/ Manufacturer

Sonoma Wire Works has partnered with several quality drum content publishers and manufacturers--like Drums on Demand, and Sonic Reality--as well as providing our own robust and varied library of incredible drum content. If you're a fan of a specific drum library, you can navigate through our store by clicking on a publisher or manufacturer name in the left hand menu in the main Store view to see what Artists and Collections each has to offer!

8.2.2 - Artists and Collections

After you have selected a publisher or manufacturer, the main browser pane in the Store tab will reveal all associated Artists and Collections. Here you can select your favorite drummer--like Sly Dunbar, or Luis Conte--or a collection with a certain feel--like Upbeat & Aggressive, by Drums on Demand--and browse through the available GrooveSets and Drum Kits, to find a rhythm that fits the feel you're going for.

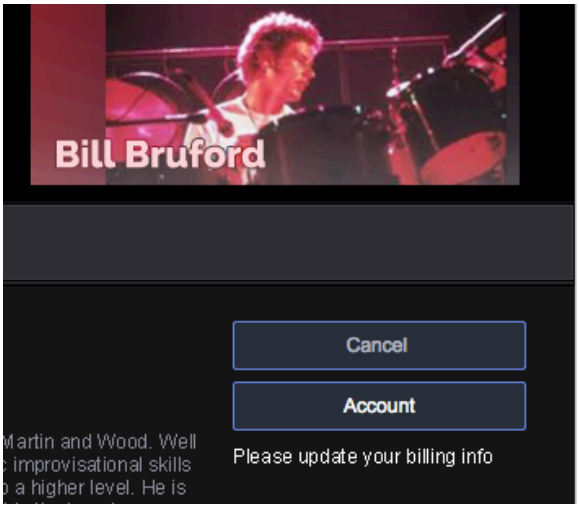
8.2.3 - GrooveSets and Drum Kits

Once you have selected an individual Artist or Collection, there are two types of content available for purchase: GrooveSets and Drum Kits. GrooveSets contain layered audio loops that can be stretched or compressed to a wide range of tempos, and pre-programmed MIDI loops, that capture a specific feel, but can be used with any Drum Kit in DrumCore 4--even custom ones you've made! Drum Kits feature high-quality, multi-velocity drum samples, as played by celebrity drummers, and some of the best studio musicians in the world. Each kit has its own unique setup, for creating rhythms that capture that live feel.

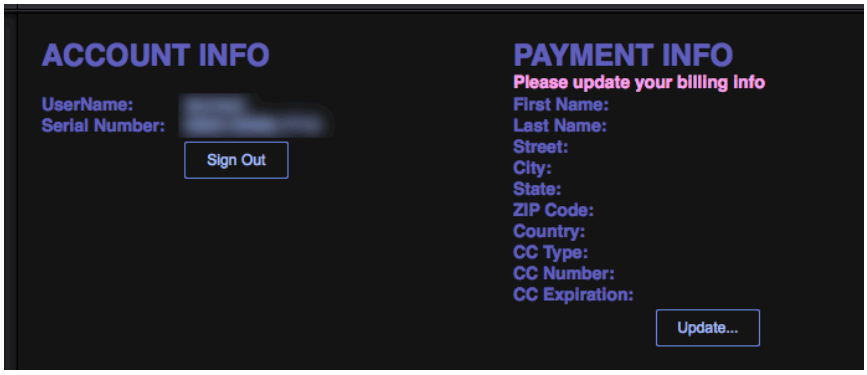
For more information on previewing DrumCore content before you purchase, see Previewing Unowned Content (section 3.2.5).

8.3 - Updating Your Account Settings

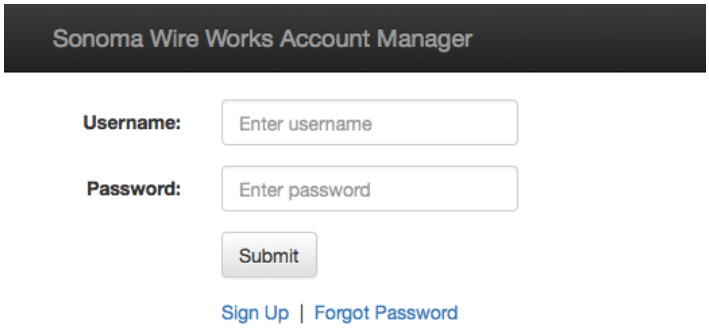
If you previously used a credit card to check out from the Sonoma Wire Works online store, your billing info for purchasing new content in DrumCore should already be set up. However, if when you browse the DrumCore Store, you see a notification that says, 'Please update your billing info," follow these steps to get fully set up.



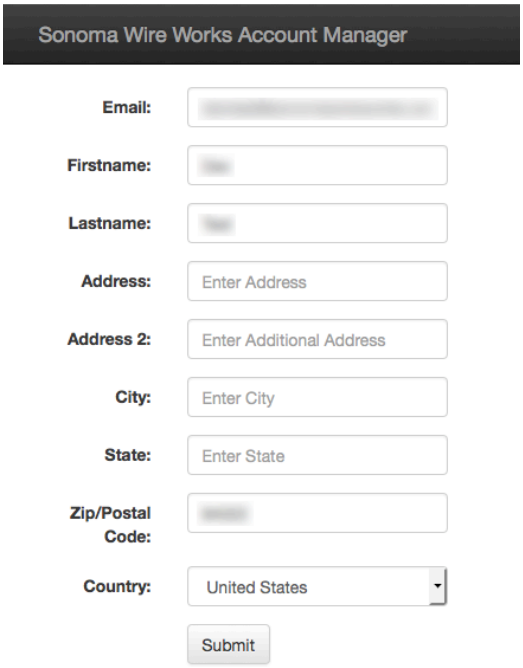
1. From any product page in the store if it says, 'Please update your billing info' beneath it, click on the 'Account' button. You will be taken to an Account Info page within the plug-in.



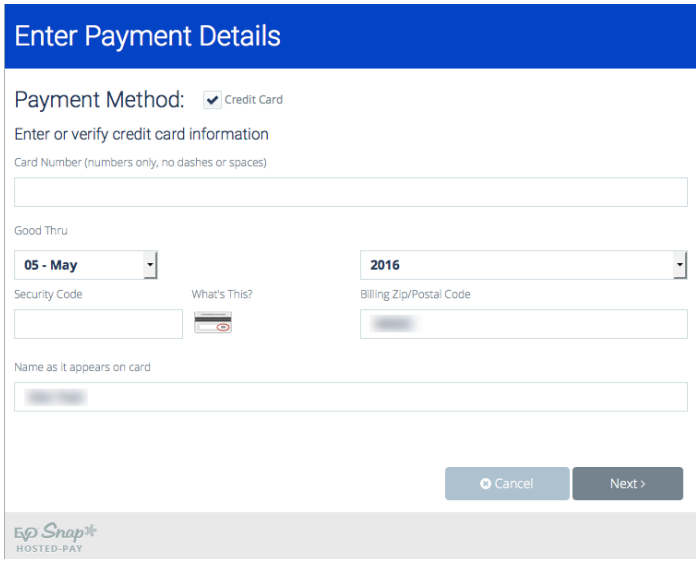
2. Under 'Payment Info', click the 'Update...' button. A browser window will open to an Account Manager page on the Sonoma website.



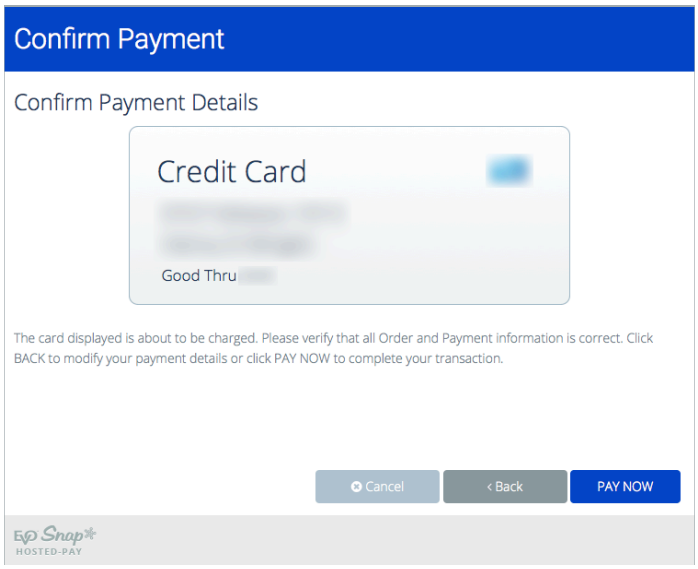
3. Enter in your username and password. This should be the same as the one you use for both DrumCore and the Sonoma online store.



4. Once you have successfully logged in, you will be taken to a page where you will be prompted for your billing information. After you have filled out the form, click the 'Submit' button.

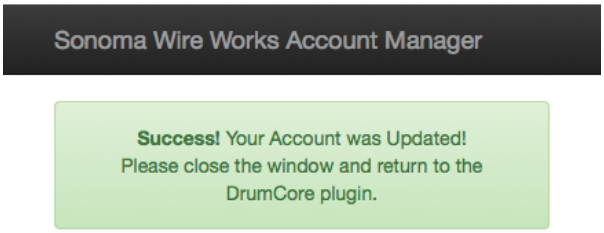


5. Completing entering in your billing information will take you to a page where you will be prompted to enter in your payment information.

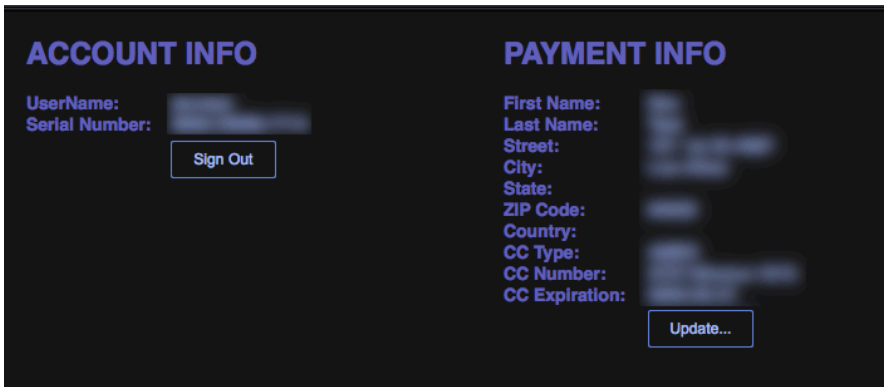


6. If you have entered in your payment information correctly, clicking the 'Next' button will take you to a confirmation screen.

   Note: There are errors on this screen that indicate your card is about to be charged--this is incorrect. You are only saving your credit card information to be used in the DrumCore store. You will also need to click the button that says, 'PAY NOW' to get to the next screen. Your card will not be charged when you click this button.



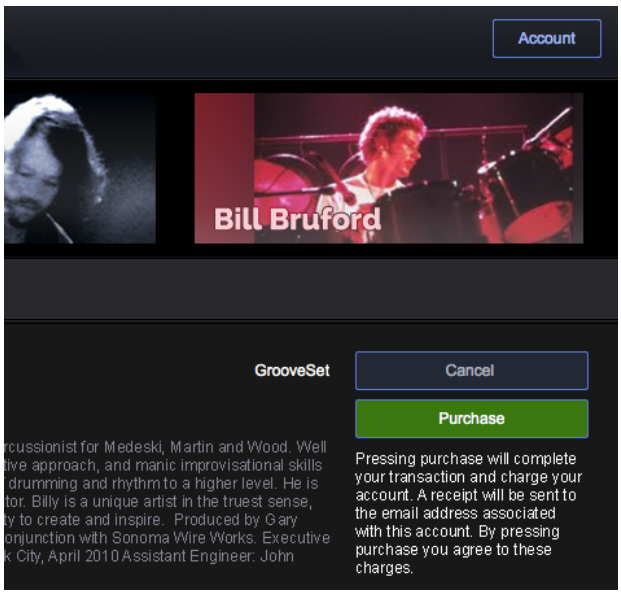
7. Once you have successfully saved your credit card info, you will be taken to a screen with a success message, and a prompt to return to the DrumCore plug-in.



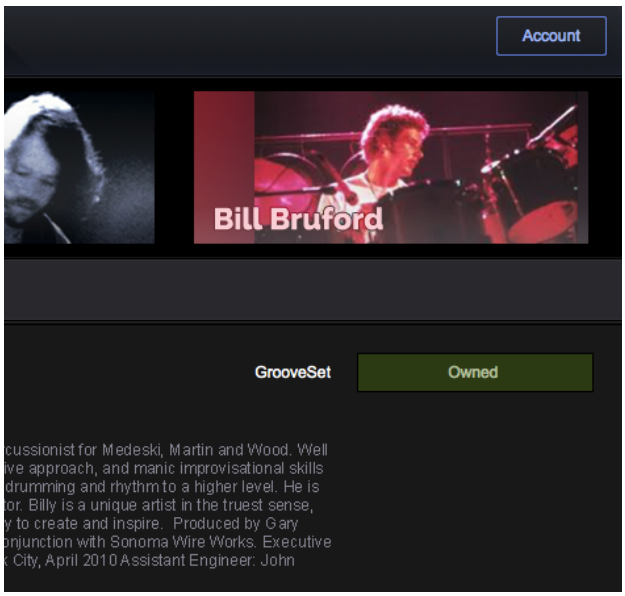
8. When you return to the plug-in window, your payment information will be visible in the Account Info window, and you will be able to purchase content from the DrumCore Store.

8.4 - Purchasing Content

Buying more GrooveSets and Drum Kits from the DrumCore Store is now simpler than ever. As long as your billing information is current in your account, you can add to your content library as you browse!



Content available for purchase



Owned content

As you browse through the DrumCore Store, you will see 'Purchase' buttons on products you do not already own. Clicking this button will automatically charge your card, and once your purchase has completed, the button will change to say 'Owned'.

To learn more about updating or modifying your purchase information for the DrumCore Store, see Updating Your Account Settings (section 8.3).

8.4.1 - Downloading Purchased GrooveSets

Loop Audio available for download

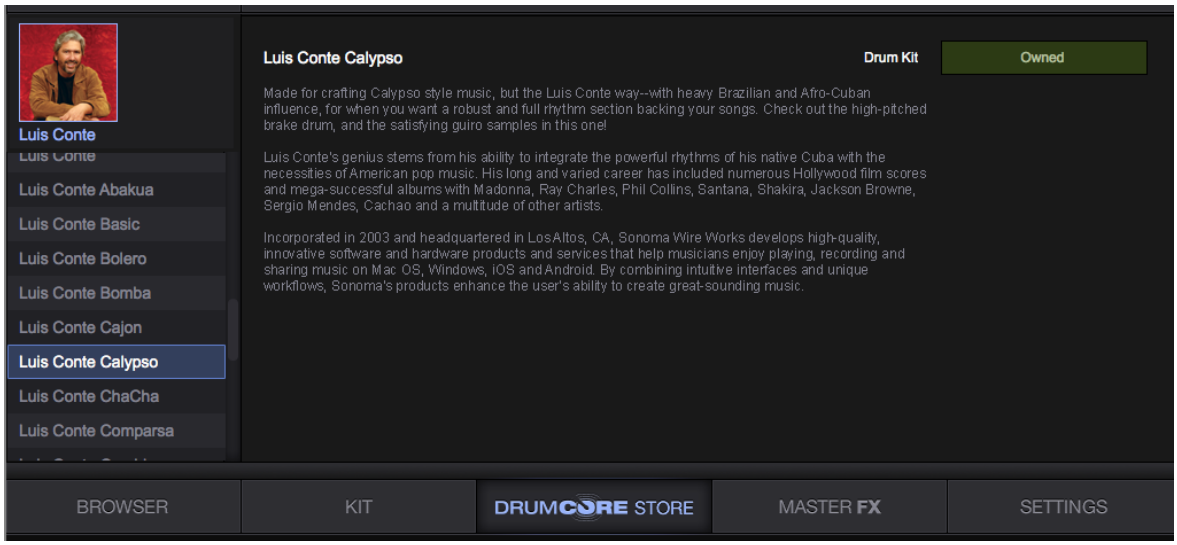
Fill Loop Audio available for download

When you purchase a GrooveSet, your audio and MIDI loops are downloaded to your content library as you browse through it in DrumCore. Content you have successfully purchased but have not yet downloaded will be indicated in the Browser view with a cloud icon. This allows you to download your loops on the fly as you preview your purchased content.

To force an audio or MIDI loop to download, click on a loop with the cloud icon on it. It will begin downloading in the background, and once the process has completed, its view change to a waveform preview for audio loops, or a MIDI sequence preview for MIDI loops. The plug-in will continue downloading content from the current Browser page until you navigate away, and only fully-downloaded loops will be added to your content library, so you never have to worry about incomplete loops.

For more details on managing downloads in DrumCore, see Content Download Manager (section 7.5).

8.4.2 - Downloading Purchased Drum Kits



When you purchase a Drum Kit, it will begin downloading to your content library immediately. Depending on the speed of your internet connection, this may take a few minutes, and only kits that have completed downloading will be available.

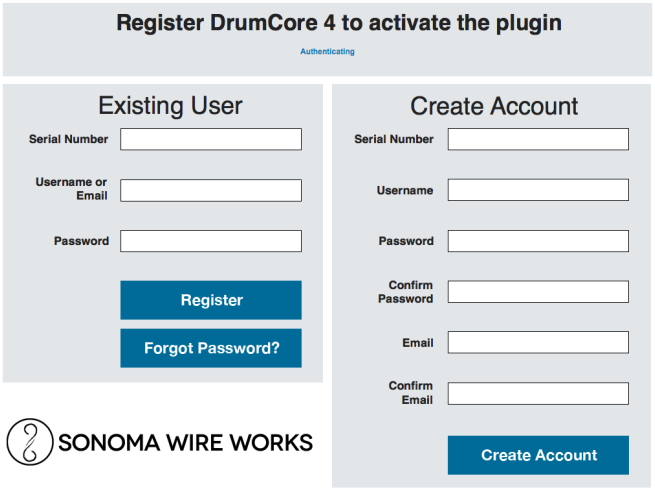
To see your purchase and/ or to load it as your currently active kit, navigate to the Drum Kit selector. You will find it listed alphabetically among your other owned kits.

For more details on managing downloads in DrumCore, see Content Download Manager (section 7.5).

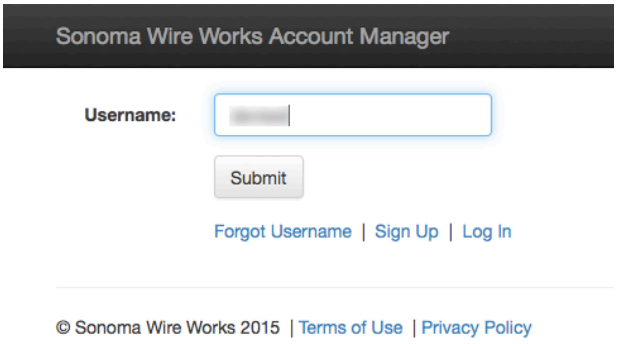
Chapter 9: Troubleshooting

9.1 - Forgot Password

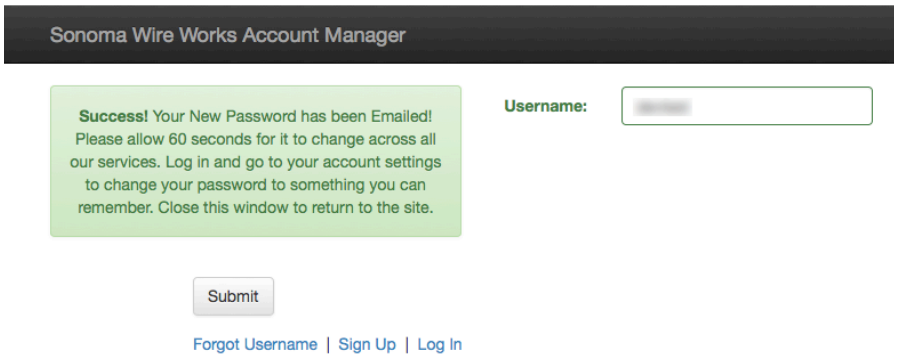
If you get to the DrumCore 4 registration window and you either cannot recall your password or it isn't working, perform these steps to generate a random, temporary password. This change will take effect across your entire Sonoma account, including DrumCore 4, the Sonoma forums, and the Sonoma online store.



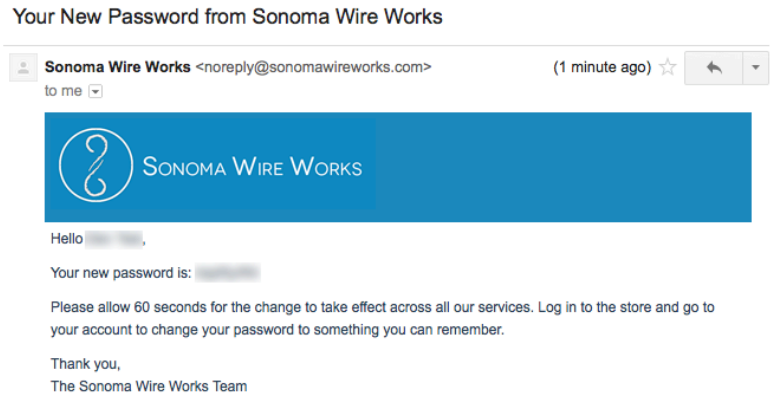
1. In the DrumCore 4 registration window, click the button that says 'Forgot Password'.



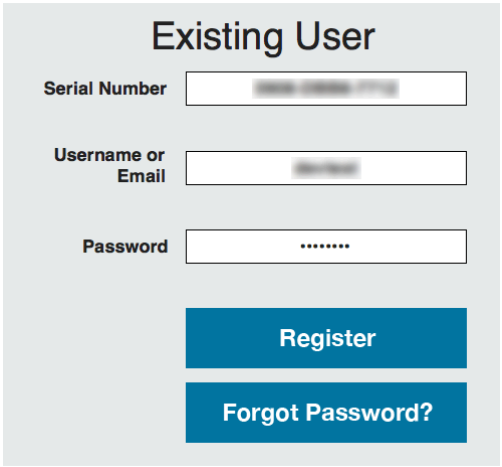
2. Your web browser will open to a page where you will be prompted to type in your username.



3. Once you have typed in your username, click the 'Submit' button. A success message will appear, notifying you to check your email for your new, temporary password.

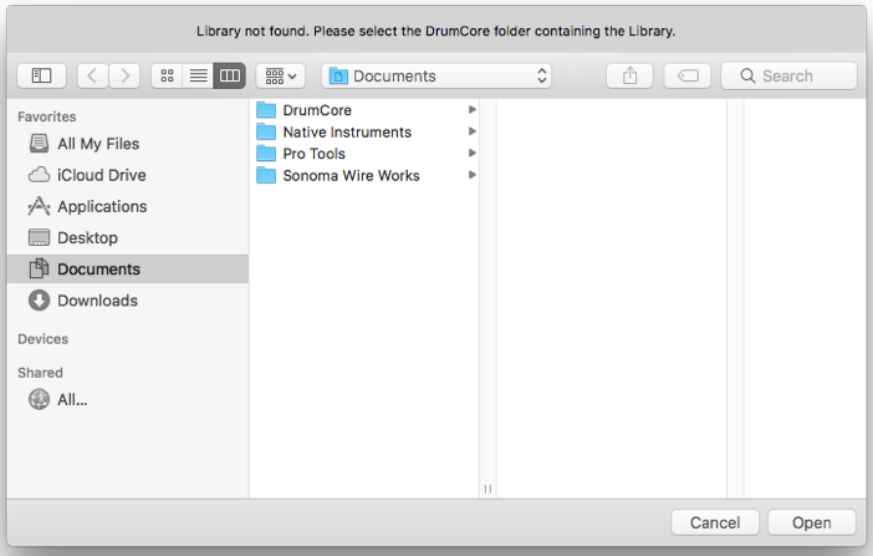


4. Check your email to see your new password. You should receive it immediately--if you do not, contact support via **support@sonomawireworks.com** for assistance.



5. You should now be able to login to your account in DrumCore. If you wish to change your password to something easier to remember, you can do so from your account in the Sonoma online store, here: **http://sonomawireworks.com/store**

9.2 - Locating the DrumCore Folder



If your DrumCore drive is not connected to your computer, or your content library is not set when you attempt to load the plug-in, you will see a file browser window with the following prompt:

This will also occur if you migrated your content from DrumCore 3 or earlier to an external drive, and that drive is not connected when you launch the plug-in. Additionally, Mac users installing DrumCore 4 on El Capitan and Sierra may not have a set content library location when first loading the plug-in. In all cases, you will have to set this location in order load the plug-in or to proceed to the registration screen. This step ensures that DrumCore has access your user profile information and your content library. You will not be able to navigate away from this view without selecting a valid folder.

To fix this issue:

1. For users with editions on a drive, first plug your DrumCore drive into your computer. For all users, in the file browser window, navigate to and select your DrumCore folder.

    - For DrumCore 4 Ultra and Prime Flash, the default location for the DrumCore folder (Mac and Windows) is:
      /DC4/DrumCore

    - For DrumCore 4 Prime Link and Lite, the default location for the DrumCore folder is:
      (Mac) /Library/Application Support/DrumCore
      (Windows) C:\ProgramData\DrumCore

    Note: If you have moved your DrumCore folder to an alternate location on either an external drive, or an alternate location on your machine, make sure to point the plug-in at the folder called 'DrumCore'.

2. Click 'Open'. Your session will load normally, with DrumCore on it, but the plug-in will open to the registration screen.
3. If you have not yet registered your copy of DrumCore 4, and do not have a username in the Sonoma Wire Works online store, register as a new user. All other users may sign in as an existing user.

In instances where the drive with your content was disconnected, you may also be able to follow these steps:

1. Save your current session and close your DAW.
2. Connect your DrumCore drive to your computer.
3. Re-open your DAW by either reloading your previous session, or by opening a new one.
4. Reattempt loading the plug-in onto a track. It should operate normally.

9.3 - Problems Opening DrumCore 4 in Cubase 7.5, Logic 9, or Ableton Live (Mac)

DrumCore 4 requires a 64-bit host application. Cubase 7.5, Logic 9, and some versions of Ableton Live open in 32-bit mode by default. If you are not seeing DrumCore 4 as an available software instrument, you may need to switch your DAW to run in 64-bit mode.

To switch to 64-bit mode, follow these steps:

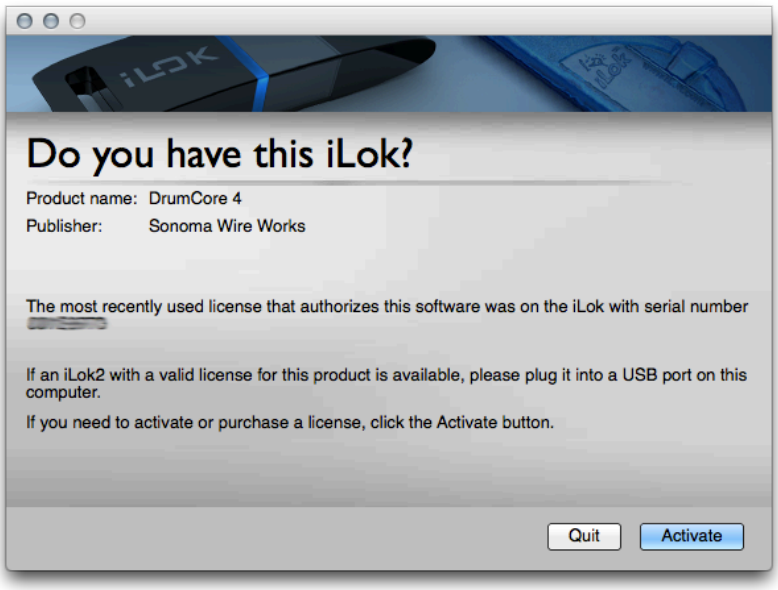
1. In your Applications folder, right-click on the application icon and select 'Get Info'. A pop-up window will appear.
2. In the 'General' section, you will see a checkbox that says, 'Open in 32-bit mode'. Uncheck that box. Your DAW will now open as a 64-bit host application, and DrumCore 4 should now be an available software instrument.

9.4 - Unable to Connect to the Server During Registration

Make sure that your computer is connected to the internet when submitting your product registration form. DrumCore 4 requires an internet connection to successfully register your product.

If your computer is connected to the internet, and you are still unable to register your software, contact Sonoma support via email at **support@sonomawireworks.com**, and include your username, the email address associated with your store account, and your serial number. You will receive a response within 24 hours during support hours. Normal support hours are Monday-Friday, 10am-6pm PST, except holidays.

9.5 - iLok License Not Found



1. Make sure that your iLok is plugged into your computer or into a USB hub connected to your computer.

2. Launch the iLok License Manager application. Once the application has opened, you will be able to see information about all connected iLoks.

   Note: If you do not have the iLok License Manager, you can download it for free here: **https://www.ilok.com/#!license-manager**

3. If your iLok is connected to your computer, and is not showing up in the LIcense Manager application, your iLok may be broken. See the section, 'Lost or Broken iLok' for more on that.

9.6 - Managing Your License Activations

Though DrumCore 4 allows you to use your license activation only once (on two separate computers), you can manage your activation yourself by using the free iLok License Manager, which you can download here: **https://www.ilok.com/#!license-manager**

Setting up an account with iLok is free, and allows you to manage your activation status yourself. It also doesn't require that you purchase an iLok dongle because you can activate DrumCore 4 using either your computer or an iLok. This means that, in case you ever want to change machines or you choose to store your license on an iLok dongle further down the line, you can. For these reasons, it is strongly recommended that you set up an account with iLok by either downloading the License Manager and creating an account from the link in the sign-in window, or by going to https://www.ilok.com and choosing 'Create Free Account' on the main page.

For more details on using the iLok License Manager, consult the manual, here: **https://s3.amazonaws.com/ilok-com/iLokLicenseManagerManual.pdf**

9.7 - Lost or Broken iLok

If for any reason your iLok is lost or broken, contact iLok support to have it replaced. You can learn more about how to replace a lost or broken iLok, go here:
https://www.ilok.com/#!rma
You can also contact the iLok support team using their online troubleshooting guide, here:
https://www.ilok.com/#!support

9.8 - Lost Authorization

If for any reason you have lost your serial number or authorization credentials, contact Sonoma support via email at **support@sonomawireworks.com**, and include your username, and the email address associated with your store account. You will receive a response within 24 hours during normal support hours. Normal support hours are Monday-Friday, 10am-6pm PST, except holidays.

9.9 - GarageBand 10 Security Settings

When you first load DrumCore 4 onto an instrument channel in GarageBand 10, you may be prompted to lower your security settings in order to use the plug-in. This is to allow DrumCore to be able to access your content library, which is stored separately from your plug-in. Select the option 'Lower Security Settings' to proceed. DrumCore will load normally.

Glossary

ADSR Envelope: An ADSR envelope is a type of modulator and sound design tool that is most commonly used to affect the dynamics of a sound. ADSR stands for attack, decay, sustain, and release, and these are the primary control elements of the envelope itself. Making changes to the parameters in an ADSR envelope allows you to finely control the timbre of a desired instrument, by changing when it is triggered, how hard it is triggered, and how long the sound continues before reaching silence. In DrumCore 4, this means being able to change how quickly a drum sound hits after being triggered (attack), how long until it takes to go from attack amplitude to sustain amplitude (decay), how long it takes before the sound begins to taper off in amplitude (sustain), and how long the tail is on a drum sound until it reaches silence (release),

Bandwidth: The Bandwidth is the range of frequencies of a given filter or EQ band (from the points both above and below the center frequency at which the amplitude drops in amplitude by -3dB), where the total value of the band is equivalent to +/- half its value above and below the center frequency, measured in Hz.. Therefore, if you have a center frequency of 300 Hz, and your bandwidth is 100 Hz, the frequency range of your band is between 250 Hz - 350 Hz.
All of the EQ units in DrumCore 4 are fully parametric, allowing you to widen or narrow the Bandwidth as desired.
Bandwidth is also the inverse of Q. For more on that, see 'Q' below.

Bit Depth: Bit depth describes the number of bits encoded in an audio signal for every sample. This means it is the per sample resolution of recorded audio. Bit depth governs the available dynamic range--i.e., the range from the loudest possible sound to absolute silence/ noise floor--that can be expressed in a recording. The higher the bit depth, the more dynamic range. All of the loops and samples that can be natively used with DrumCore 4 are recorded at 24-bit, for the greatest possible flexibility for production, mixing, and beyond.

Bus: A bus is type of signal path that is used for routing, as well as for production project management. One of the most common uses for a bus is when routing multiple audio sources through a single instance of an effect, reducing the need for redundant processing. This is also a name for any place through which the signal is routed, including the Master Output, which can also be referred to as a summing bus, or the master bus. When you send your signal to a destination other than its original output path, you are "bussing" it to its new destination, and any location through which signals are sent or at which multiple signals are summed can be referred to as a bus.

Equalization (EQ): Equalization (EQ) is a type of filter used to attenuate or boost a range of frequencies in order to bring out the desired characteristic timbre of the source signal. EQ is most often used to make space in a mix for specific instruments to be more easily heard by the listener, removing frequencies that are undesirable from other instruments, but it can also be used to shape the incoming signal in a new way, by making specific parts of the sound more audible than others. The EQ units included in DrumCore 4 are all fully parametric EQs, which means you can control the center frequency, how much the signal is boosted/ cut, and the bandwidth (or Q) of the band that is being affected.

Compression: Compression is a type of dynamics processor that allows you to take quiet elements of a sound and make them louder, while still maintaining a maximum threshold of loudness. This allows you to effectively "squish" the dynamic range of a sound, such that the difference between its quietest parts and loudest parts has been reduced. A standard compressor unit has three primary components: ratio, threshold, and release, but can also include additional components, like the attack and output gain features included in the DrumCore compressor units.

Crush (Bit Crushing): Bit Crushing is an effect which combines both bit reduction and downsampling (often referred to as decimation). This type of effect causes signal distortion that results in a warm, or even grainy/ crunchy sound, and can dramatically alter the fidelity of your audio. Heavy bit crushing will result in a harsher, highly distorted sound, while gentle use of this effect will result in the subtle addition of warmth and even graininess to a signal.

DAW: DAW stands for Digital Audio Workstation, or your chosen recording or music production workstation. This can be a software application like Pro Tools, Logic, Ableton, or Digital Performer, or it can be an integrated workstation with physical console paired with a software component. Some of the most commonly-used DAWs today are Avid Pro Tools, Apple Logic Pro, and Steinberg Cubase.

dB (Decibel): Decibels are a measure of relative loudness on a logarithmic scale. Different dB scales provide information about how loud or quiet a sound is, based on different reference values. All dB measurements in DrumCore 4 are in dbFS (Decibels relative to full scale), where 0 is Unity Gain.

Delay: Delay is a type of time-based processing effect wherein which an input signal is recorded and then played back on repeated intervals, to create an echo which slowly decreases in amplitude with each repeat. The delayed signal can also be passed back through the input of the effect via a feedback circuit, and the level control for this component is critical to both the intensity of the echo, as well as the degree to which the original signal interacts with each looping repeat.

Distortion: Distortion is the deformation of an audio signal. In some cases, it is considered undesired, as it results in unclear or clipped-sounding audio. For example, when turned up too loudly, a signal will distort at its loudest points, causing artefacts and noise to be introduced, and dramatically reducing the audio quality. When used as an effect, however, distortion can introduce warmth and grit to a signal, giving the incoming signal added depth and character.

Dynamic Range: The dynamic range of a sound is the range between its quietest parts and its loudest parts. In overall production, dynamic range is commonly considered to be the range between what is considered to be silent to the ear, and what is considered to be distortion, or loudness to the point at which a sound begins to sound overloaded.

Fill: A Fill is a short musical motif introduced to break up sections of a musical piece. Drum fills in particular tend to be improvised breaks used to keep up the groove of a specific rhythmic pace, or to fill in gaps in the rhythm, and can differ each time they are played.

FFT (Fast Fourier Transform): FFT stands for Fast Fourier Transform, an algorithm used to analyze the full frequency spectrum of an incoming audio signal. DrumCore 4 uses FFT on the Master FX tab to visually display input levels, output levels, as well as amplitudes across the frequency spectrum, allowing you to visually see changes you make when applying effects to your drum mix.

Gain: In audio, Gain can be defined as input amplitude control, or level control going into a channel strip, time-based effect, or dynamics processor. Increasing the gain of a signal means increasing its level throughout the signal chain. Optimum gain level throughout an audio system is done by performing what is called "gain staging", or balancing the input amplitude control at all available points in the path to get the best quality audio at output.

GrooveSet: A GrooveSet is a series of rhythmic audio loops that have a cohesive feel to them. DrumCore 4 allows you to browse through GrooveSets you own in your content library, or purchase new sets via the DrumCore Store.

Kit: In DrumCore, a Kit refers to a sampled set of sounds that make up the sum total of audio needed to represent a real drum kit/ percussion setup. This can include samples of a number of drums and percussion instruments, even including sounds that change depending on how hard they are triggered, (or what velocity value is assigned to them). Because DrumCore's Kits are sample-based, they can be played using a MIDI controller, and sequenced from within a DAW using a standard MIDI editor.

Loop: A Loop is a discrete section of sound intended to be played on repeat, such that it is seamless in its repetition. There is no standard length for an audio loop, but it is commonly practiced that a given audio loop must resolve metrically in order for it to be easy for additional musical parts to be played or recorded along with it.

MIDI (Musical Instrument Digital Interface): MIDI is a protocol that is used to sequence, connect, and control musical instruments. It works over the 5-pin MIDI cable, or over USB, depending on the type of devices you are using. MIDI has built-in note values that can be assigned to specific sounds, allowing you to map the control scheme of a plug-in or outboard instrument, making it easier to play. The MIDI functionality incorporated into DrumCore 4 is specifically for sequencing, allowing you to either draft up a part (both within a DAW or via an external controller), or drag in a pre-made loop of MIDI data that is mapped to specific drum sounds. Because MIDI notes can be sequenced by their placement in bars and beats, they are inherently tempo-stretchable, and the pitch (or playback speed) of each sample will not be affected by changes in tempo in the same way as audio is affected.

Q: Q (or 'Quality Factor') is a value attributed to a frequency band, derived from the relationship between a band's center frequency, and its Bandwidth, as applied when using an EQ or Filter. The larger the Q value, the narrower the frequency band. The formula for determining Q from your bandwidth is: $Q = f_0 / BW$
Where f_0 is the center frequency, and BW is the Bandwidth value.
All of the EQ units in DrumCore 4 are fully parametric, allowing you to narrow or widen the Q as desired.
Q is also the inverse of Bandwidth. For more on that, see 'Bandwidth' above.

Pan Law: The Recording and mixing principle that any signal that occurs in both of the channels on a stereo system will appear to double in amplitude (i.e., be perceived as an audible increase of ~6dBSPL) when panned to the center, due to the phase relationship between the signals at each channel. Pan Law accounts for this perceived boost in amplitude, by reducing the level of a signal as it approaches the center position, and different consoles and DAWs accommodate for this differently. Consult your manufacturer's documentation for how it handles Pan Law. Because all mixer channels in DrumCore 4 are stereo, Pan Law is not applied, and this should be considered when using the Mixer within the plug-in.

Sample: 1. A Sample is a discrete unit of a signal, the size of which is determined by the rate at which the signal is being sampled. Therefore, the smallest unit of measure for any recorded sound is a sample.
2. A Sample can also refer to a recorded unit of sound intended to be used as an instrument (or portion of one) within a piece of music or other audio recording. All of the drum kits within DrumCore 4 are sample-based, which means that they consist of the recorded audio of real drum kits, rather than generated audio (i.e., synthesis).

Sample Rate: A Sample Rate is the rate at which an analog audio signal is captured when it is being recorded by a digital medium. The most commonly used audio sampling rates are 44.1 kHz (the standard for CD audio), and 48 kHz (the standard for film and television).

Slices: A Slice is a discrete section of audio that has been analyzed for its tempo information. Typically, a piece of audio that that has been sliced is one that has been processed by an algorithm which detects transient information to determine what constitutes a musically significant section. Especially for rhythmic content, transient detection is the simplest method for determining what part of an audio signal is intended to be on beat, and once analyzed, the resulting audio can be stretched or compressed to match the tempo of a recording session.

Tempo: Tempo is the measure of the speed at which a musical piece is played. In digital recording, tempo is measured in beats per minute (BPM).

Tick: A Tick is the smallest unit of measure for timing when running a session in bars and beats (i.e., using a relative time scale), rather than in samples (i.e., using an absolute time scale).

Time Signature (Meter): The Time Signature, or Meter, of a musical piece is what indicates how many beats occur in a single bar of music, and what note length constitutes a single beat value. In the case of 4/4 time, this would mean that each bar has 4 beats per measure, and that one beat is equivalent to one quarter note, while 7/8 time would mean there are 7 beats per measure, and one beat is equivalent to one eighth note.

Time Stretching: Time (or Tempo) Stretching is process of changing the tempo of a piece of recorded audio without affecting its pitch. It is also therefore the opposite of pitch shifting.

Unity Gain: Unity Gain is when input and output signals are equal to one another, effectively passing an unattenuated signal, with no gain reduction or amplification. In a typical mixer circuit, setting a fader to 0dB will set it to Unity Gain. In DrumCore 4, all faders and gain knobs default to Unity Gain.

Velocity: When used in relation to music, Velocity refers to how fast or hard a key is struck. In MIDI processing, a velocity message falls within the standard 0-127 range, where 0 is the lowest value, and 127 is the highest. Velocity values are directly related to the dynamic range of a sound; the harder a key is struck, the louder its sound.

WAV: WAV is a lossless digital audio format that is the standard for professional-quality recording and commercially available music. It is universally recognized across all platforms, and therefore common to all digital audio workstations. All audio content within DrumCore 4 is in WAV format, and is recorded at 24-bit/ 48kHz.

64-bit Processing: A computer architecture that supports 64-bit processing is one which allows a system (and by proxy, the software on the system) to write to an exponentially higher number of memory addresses than a 32-bit system. This means that 64-bit data types require much more powerful processors than their predecessors, but the result is a higher-performance system overall. In terms of software, 64-bit processing is a reference to the type of virtual memory addresses that are available to an application. DrumCore 4 is a 64-bit plug-in, which means that it requires a host application (your DAW) that is also capable of this same kind of processing.

Appendices

A.1 - Key Commands and Navigation Tools in DrumCore 4

Function Description	Key Command (Mac)	Key Command (Win)
Navigate Loops and Fills (Browser and Timeline)	L/R Cursor Keys	L/R Cursor Keys
Navigate to Next Page of Loops and Fills in Browser	Mouse Scroll Wheel	Mouse Scroll Wheel
Delete Loop from Timeline	Delete	Backspace
Start/Stop Loop Playback	Spacebar	Spacebar