

SYMPHONIC ORGAN

SYMPHONIC ORGAN
USER MANUAL

CONGRATULATIONS

Thank you for buying Symphonic Organ. Achieve that awe-inspiring cinematic sound made famous in blockbuster scores such as Interstellar, 2001: A Space Odyssey and Tron. Presenting the Rugby School Chapel organ — a monstrous, 3,721-pipe, cathedral-sized organ housed in an intimate chapel, the combination of which creates an epic but immediate sound like no other. To capture the unique depth, power and beauty of this organ, we teamed up with world-renowned composer, producer and organ expert Andy Richards, who has curated ready-to-play stop combinations for instant playability, enabling you to get the very best out of this beautifully-voiced instrument. His impressive discography includes work on huge film scores, including Slumdog Millionaire, and records by iconic artists, from Grace Jones to George Michael. Every pitch has been recorded with multiple mic positions for ultimate realism and control, accompanied by 50 mind-bending warped presets presented in our groundbreaking eDNA engine.

Quick Specs

- 17760 Samples (48k recorded at 96k)
- 23.8GB disk space required
- 24GB disk space required during install
- NKS Ready
- Compatible with Native Instruments hardware
- Free Kontakt Player Included
- New intuitive GUI with inline help
- Multiple microphones (In, Cr, Cv, LR, St, Am)

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THE ULTIMATE ORGAN

“The space compresses the sound of this enormously powerful organ, creating a battering of the senses” — Paul Thomson

A hugely versatile instrument now widely used beyond its original church or horror film setting, the organ is perfect for adding depth, power and beauty to orchestral scores and compositions. As well as in renowned symphonic works such as Saint-Saens’ Organ Symphony, the organ provides the foundations for countless blockbuster film scores of various genres, including Koyaanisqatsi (Philip Glass), Vertigo (Bernard Herrmann), Interstellar (Hans Zimmer), 2001: A Space Odyssey (from Richard Strauss’ 1896 work Also sprach Zarathustra) and Tron (Wendy Carlos). There is no orchestral instrument that can go lower in pitch, giving you thunderous sub-bass like depth that you feel rather than hear.

As soon as Spitfire founder and composer Paul Thomson heard the Rugby School Chapel Organ, he knew that Spitfire had to sample it. Heard in the opening sequence to Tim Burton’s Sweeney Todd, the contrast of this cathedral-sized organ — 71 stops (of which 55 are speaking stops) and 3,721 pipes — with its intimate chapel acoustic setting creates an epic sound, producing a unique intensity and immediacy. Expertly recorded and presented, this definitive organ library has been designed to fit perfectly with our Symphonic range, enabling you to create rich sounding scores.

INSTANT PLAYABILITY

“The idea was to give people sound palettes and tones they could work with, rather than trying to understand the complexity of mixing various stops and pipes” — Andy Richards, composer, producer & organist

An organ of this size is in many ways the original analog synth. With a dizzying number of combinations of stops and pedals, it has the ability to create brass, wind and string sounds, comprising more components and tones than a symphony orchestra — which can be overwhelming for anyone unfamiliar with the instrument. Crucially, this library is entirely made up a comprehensive range of ready-made stop combinations, created by those who know and use the organ best — composer & organist Andy Richards and Rugby School organist & Head of Academic Music James Williams. This expert curation of pedals and manuals (keyboards) will save you a huge amount of work and will help you get the very best out of the instrument. Choose from 16 manual combinations, 13 pedal combinations for that extra bassy sound, and 8 ensembles, which span the whole organ.

Every pitch has been recorded, to give you that natural room sound. Choose our default curated mix, or mix and match six expertly placed microphone positions for extra control — from mics placed inside the organ itself for an amazing full-tilt sound, to ambient mics for a wider, more resonant tone. Presented in dynamic order, from quietest to loudest, you can mix presets by choosing any or all of the stop combinations.

We have also included 50 warped presets presented in our sophisticated eDNA engine, made from the original content, enabling you to create unique pads and textures to enhance your compositions.

ANDY RICHARDS

“This organ has a brightness and presence that no other instrument can provide, and thanks to this library, you’ll be able to do something with this organ that no organist has ever done.” — Andy Richards

To create this definitive organ library, our expert team of engineers and developers collaborated closely with composer, producer and organist Andy Richards, conducting detailed exploration and experimentation to make sure we got the very best out of the instrument.

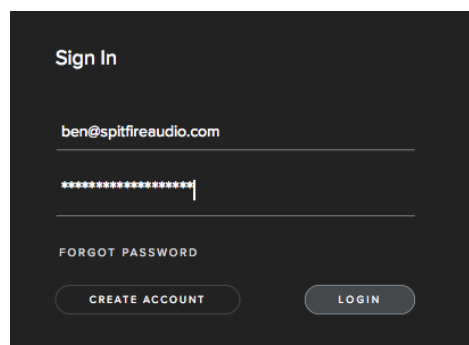
Richards took up the organ age 13 while attending Rugby School, and later went on to perform the Rugby School Chapel Organ on the score for Sweeney Todd. He has worked with a huge range of iconic artists since the 1980s, including Grace Jones, Rush and Pet Shop Boys, playing keyboards on George Michael’s Careless Whisper and Frankie Goes To Hollywood’s Relax. After setting up Out Of Eden studios in West London, he started programming and mixing blockbuster film scores, from Slumdog Millionaire to 127 Hours. He is currently working on his solo project titled This Time... An Imaginary Soundtrack, due for release in 2019.

DOWNLOADING & INSTALLING

Thank you for buying Symphonic Organ. If you are a total newbie to this kind of thing you can get up to speed here: <http://www.spitfireaudio.com/info/basics/>

First though, grab the 'Spitfire Audio App' from this link: this app will enable you to download the library
<http://www.spitfireaudio.com/info/library-manager/>

THE SPITFIRE AUDIO APP

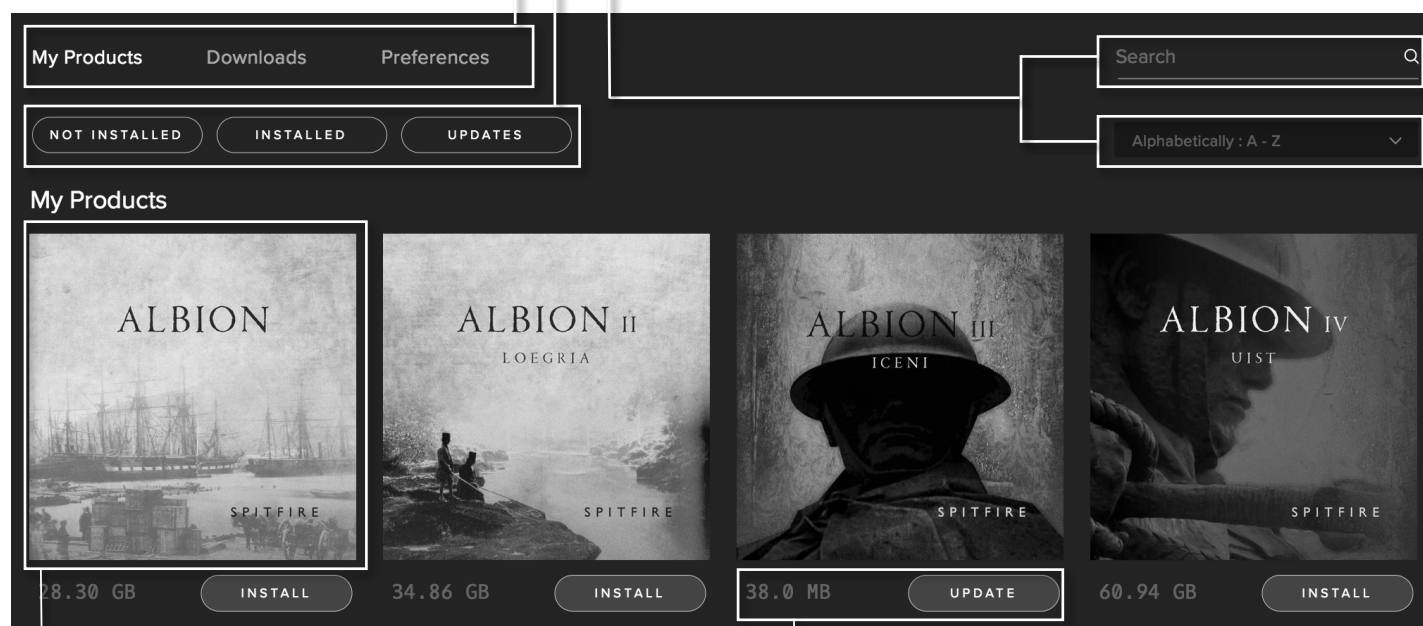


When you launch the app you will be prompted to login using the same details you use at our site. Then you'll see the page pictured below:

TABS the default tab is **My Products**, which shows all of the libraries on your Spitfire Account. **Downloads** will show currently downloading products and **Preferences** allows you to set default locations and behaviours as described on the next page.

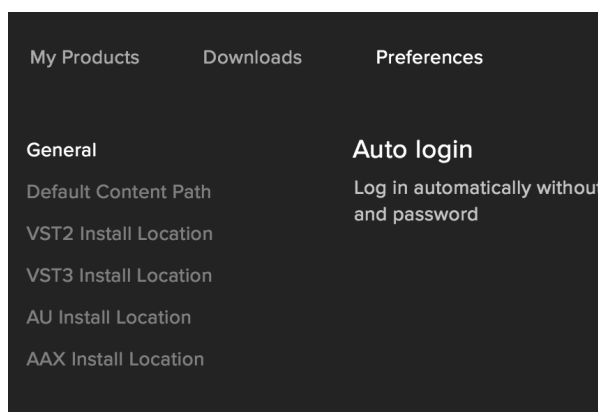
FILTERS clicking these filters will quickly display products you've yet to install, those already installed, and any available updates. Clicking again will remove the filter.

SEARCH and **SORT** allow you to quickly navigate through your collection and arrange your collection either by size or name.



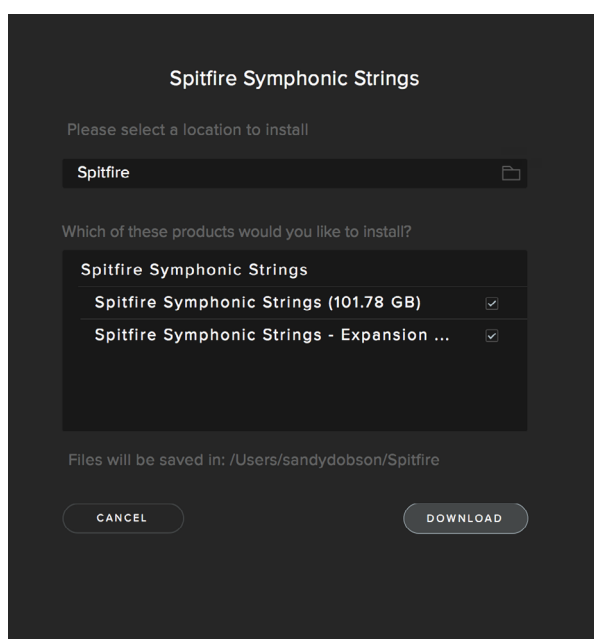
LIBRARY All libraries and plugins in your collection will appear with their artwork on the **My Products** tab. Clicking this artwork will open the product page. This is a great place to find information such as system requirements and instructions as well as where to find **Reset** and **Repair** options.

INSTALL/UPDATE buttons allow you to quickly start a download directly from the **My Products** tab, instead of clicking through to the **Library**. Next to the button the size of the download is shown, you will need twice as much available space to allow the download to unzip correctly.



If this is your first time using the Spitfire Audio App for a download you may wish to first navigate to the Preferences tab and make sure that the **Default Content** location is set to the location where you wish to download your libraries and that the **VST2 install location** is set to the folder where your DAW expects to find VST files.

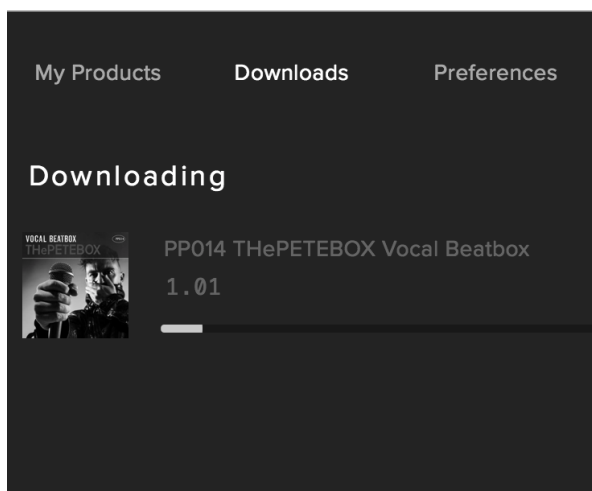
Here you can also enable **Auto Login** to save time in future.



Once you are happy with your preferences, simply click the **Install** button, either directly on **My Products** tab, or by clicking on the library image you wish to install and then clicking the **install** button on the page that appears.

Clicking either of these will prompt you for a location, the **default content location** in your preferences will be suggested but you can select any suitable location.

Once you are happy with the location click **Download**.



After clicking download you will be directed to the Downloads tab where you can watch the progress if you like. You can of course leave the Downloads tab and start other downloads but at this point you should leave the Spitfire App open until the download completes.

As this is a Kontakt player library, once it is downloaded you will need to activate it by following the steps on the next page.

REGISTERING WITH KONTAKT PLAYER

If you've never used one of our libraries before and you don't own a copy of Native Instruments Kontakt, you'll need to download the free "Kontakt Player" here:

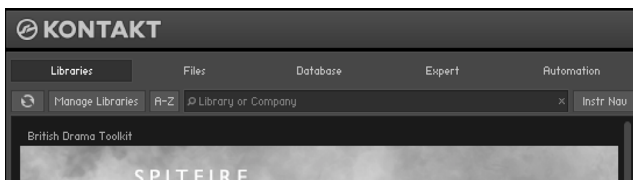
<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5/downloads/>

If you'd like to find out more about the differences between Kontakt and Kontakt Player) go to *Appendix A*.

If you'd also like to know what we recommend as an optimal set up please go to *Appendix B*.

1. Install Kontakt Player (skip this step if you already have it)

2. Open the player (or Kontakt 5 full version if you have that) and click **manage libraries** in the library browser window, then click **Launch Native Access** in the window that opens:



3. Once you have opened Native Access, click **Add Serial** in the top left of the window.

4. Enter the serial number in this format:

XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

...It can be found in your 'ready to download' email.

5. You will then be prompted for the location where you unzipped the library. Simply navigate to and select the library folder, in this case: the 'Spitfire Audio - Symphonic Organ' folder that contains your library's instruments and samples folders, and also contains the 'nicnt' file

6. Your library is authorised. If the library does not add to the libraries pane, or disappears when you re-open Kontakt, see *Appendix E - Troubleshooting and common problems*

If you have never used Kontakt before we wholeheartedly recommend that you familiarise yourself with the basics of patch (or instrument) loading, multi management, outputting and midi routing detailed in the Kontakt user-manual and native instruments website:

<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5/downloads/>

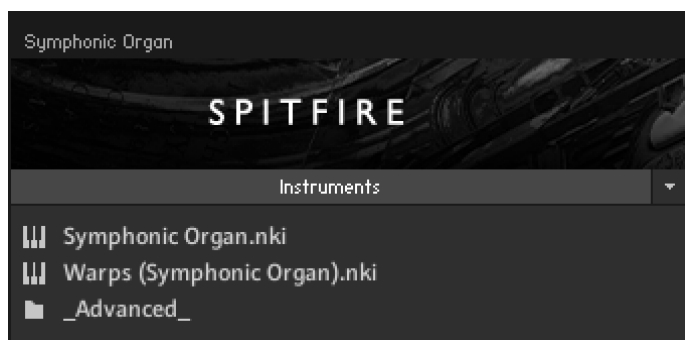
If you are an established Kontakt user please make sure you absolutely have the latest version of it downloaded via the NI service centre or the NATIVE ACCESS apps. Our libraries are frequently updated and often simply won't work on any previous versions. We cannot describe the multitude of painful symptoms you will experience if you don't do this!



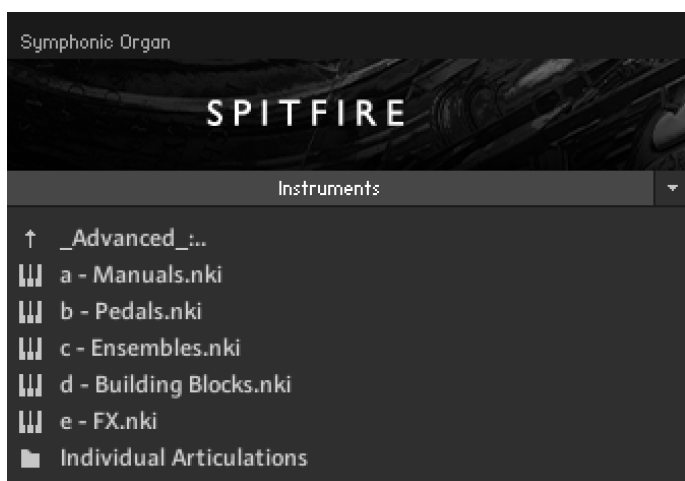
For more information about NKS and integration with Native Instruments hardware controllers and keyboards please checkout their online instructions:

<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5/downloads/>

FOLDER STRUCTURE



When you first open Symphonic Organ you will see two instruments *Symphonic Organ.nki* described on pages 8-13; and *Warps (Symphonic Organ).nki* explained on pages 14-29; as well as the *_Advanced_* subfolder pictured below:



Looking in the *_Advanced_* subfolder you will find patches for the following:

Manuals - Played with the keyboards, these are recorded presets with carefully selected combinations of stops, for this library, individual stops are not provided as the effect of recording them separately simply doesn't compare.

Pedals - Played with the feet, these use the longest pipes and produce the lowest notes, with the lowest register approaching a cinematic sub-bass.

Ensembles - These are recorded with the manuals and pedals together, again we feel the difference between recording these separately and layering them compared to a combined recording is worth the distinction.

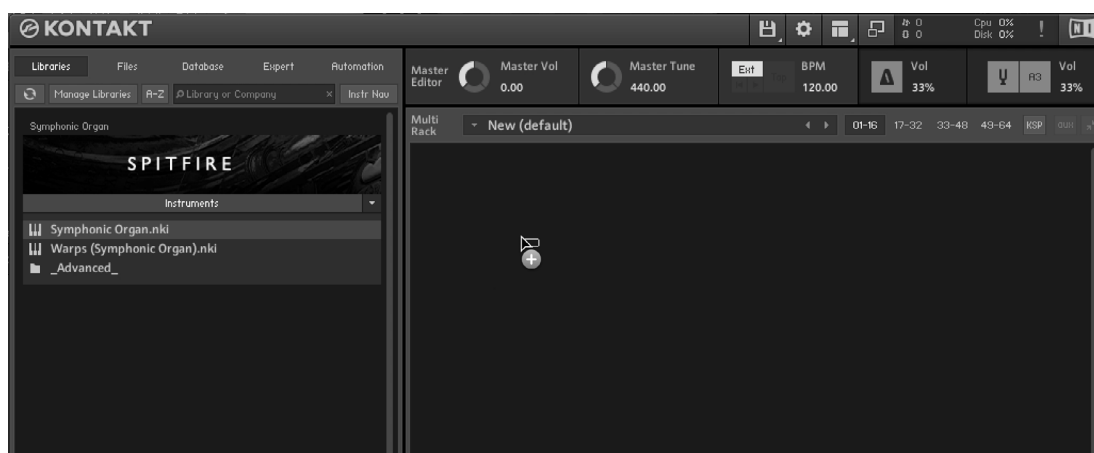
Building Blocks - These carefully curated combinations of manuals work well on their own and can be used together in various combinations without any doubling of the recorded stops.

FX - A small selection of unique effects such as stop noises.

These work in the same way as the *Symphonic Organ.nki* described on pages 8-13.

There is also a further subfolder containing all individual patches for Manuals, Pedals and Ensembles.

OPENING YOUR FIRST INSTRUMENT.

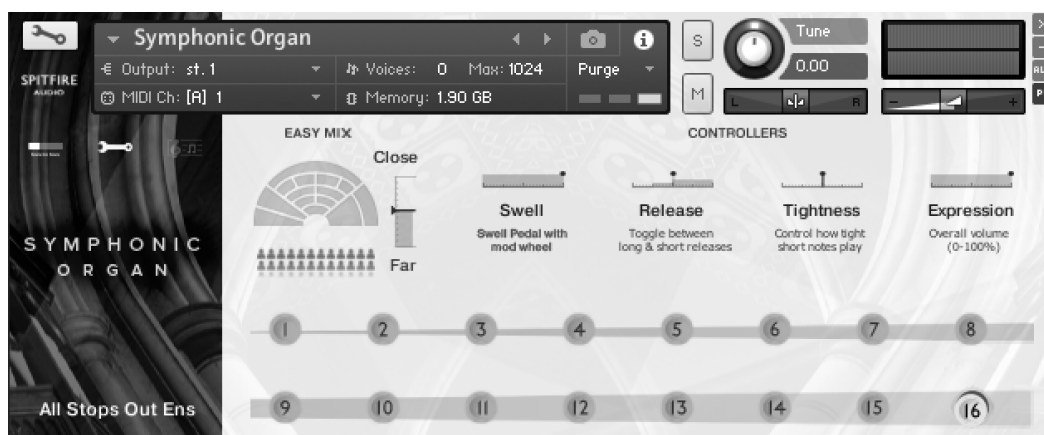


Simply double click an 'nki' file (this is Native Instruments' file extension for a Kontakt instrument) to load, or indeed drag the instrument (it'll have the little keyboard icon and the suffix .nki) from the left pane into the right pane.

If you can't hear anything double check first that the midi channel you are transmitting on with your keyboard is the same as the one in the Kontakt Instrument!

A QUICK LOOK

SWITCHING VIEWS



When you first load up a Spitfire Symphonic Organ.nki you'll be greeted with this GUI. This is one of 3 pages that you can switch between using the panel switcher...

ASSIGNING CONTROLS IN KONTAKT

All GUI controls can be assigned a unique controller number so you can automate or adjust via an external controller (vital when playing in virtual Organ parts). To un-assign, assign or just to see what CC number is assigned to any control RIGHT or CTRL CLICK.

You can then alter the controller parameters in the "Automation pane" if for example you want your mod wheel to go all the way from top to bottom but the control to have restricted bandwidth change from the default of 0-127 to 20-100. Or if you want the controller to make the GUI control in the reverse direction change from the default of 0-127 to 127-0.

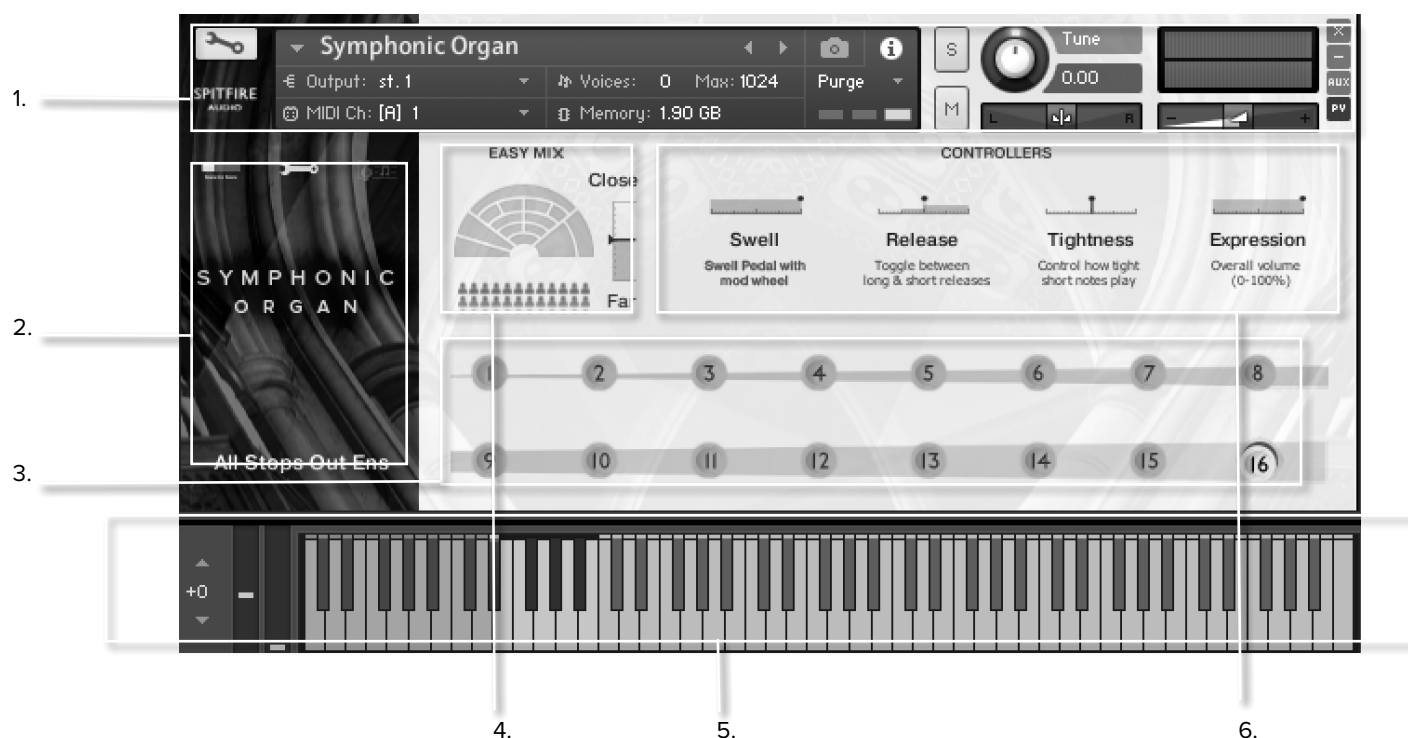


Click on these to switch views or pages:

1. General Overview (the view shown above)
2. Expert View
3. Ostinatum. (Unused in this library)

which are discussed in more detail over the next few pages

THE GENERAL OVERVIEW



1. KONTAKT HEADER

This area at the top of each instrument is where to set your audio and MIDI routing as well as see whether the patch is loaded, loading or purged. On the right you can solo, mute, pan, tune and adjust volume.

2. SIDEBAR

The sidebar displays the name of the currently selected articulation and is also where you change views (as described on page 8).

3. ARTICULATION SWITCHER

These musical note icons are the available articulations in your patch, you can change articulations by clicking on the icons and select multiples by shift clicking. These icons also correspond to the red keys in the Kontakt keyboard (see point 5.)

4. EASY MIX

The Organ was recorded with several different mic perspectives. Move this slider up or down to change the distance from the players. Note that moving this fader will load and unload samples so it is best to “set and forget”

5. KONTAKT KEYBOARD

With the Kontakt keyboard displayed you should see a red range of keys and a blue range. The red range is your Keyswitch range for selecting articulations, holding more than one red key will select multiple articulations. The blue range is the playable range of the selected articulation.

6. CONTROLLERS

The following controls are included in this library to allow you to control and automate various parameters:

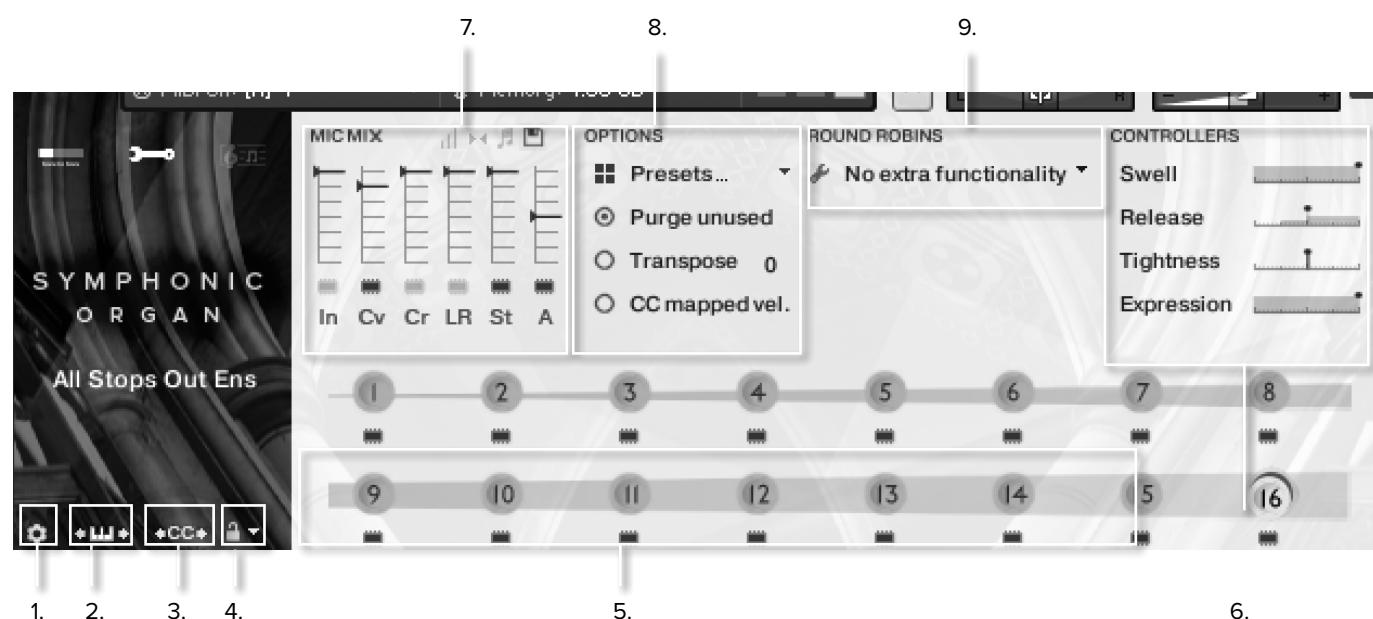
Swell - Similar to dynamics in many of our other libraries this is the swell pedal of the organ, assigned to the mod wheel (CC#1). This control is not recorded for all articulations, only those capable of using the swell pedal, these are listed on page 11.

Release - allows you to change the amounts of release trigger that you hear.

Tightness - the start of a note is often not the start of the ‘sound’ of the instrument. This cuts further into the note to make it tighter. But does detract from realism. Worth tightening up when playing in, then loosening and putting a negative delay into your DAW to compensate for ultimate reality!

Expression - This is instrument trim (CC11), so this adjusts the volume within the instrument volume (CC7) great when used in conjunction with expression.

THE EXPERT VIEW



1. THE COG

Clicking this cog allows you to tweak (change) the last played round robin (RR). You will have the option to tweak the last note you played, save the tweaks you've made, load tweaks and clear all of the tweaks to return to the default configuration.

The options you will have for each RR are:

SKIP THIS RR - Will simply make it always jump along to the next round robin in the cycle.

ADJUST TUNE/VOL - Will adjust the tuning and or volume of the last played note.

ADJUST RELEASE - This will alter the level of the release trigger (which will affect the perceived decay of that note).

SAMPLE START - If it feels loose adjust to the right, tight adjust to the left (Note that this is only available in full "cog" patches).

REMOVE ALL NOTE TWEAKS - This removes all custom changes you have made with the Cog for this note..

2. KEYBOARD SHIMMIER

This allows you to move/transpose the default key switches (the red keys) simply click and drag left to move the range left and drag right to move the range right. Note that this also transposes the key switch used for UACC KS described on point 4.

3. CC FOR SWITCHING ARTICULATIONS

When using UACC (described in point 4. and appendix E.) the default is CC#32, right clicking this icon allows you to re-assign this value, just like re-assigning any of the controllers).

4. ARTICULATION LOCK

There are multiple ways to select articulations in our libraries, the simplest of these is to use the default key switches but by selecting different options from this menu you can use the others:

Unlocked Artic. - Is the standard setting, select articulations via the front panel or key switches.

Locked Artic' - This locks your articulation so it doesn't change at all.

Locked Keyswitch - This locks your articulation via keyswitch but you're free to switch via the front panel.

Locked to UACC - This is a standard developed by Spitfire and detailed in appendix E. The default controller channel is #32 but this can be changed as described in point 3.

Locked to UACC KS - The functionality of UACC with the flexibility of a keyswitch. When activated, a single keyswitch is available. Pressing this key at varying velocities (corresponding to the UACC standard) changes articulation. Unlike standard UACC this allows for layering of articulations.

Points 5-9. continue on Pages 11-13

5. ARTICULATION SWITCHER

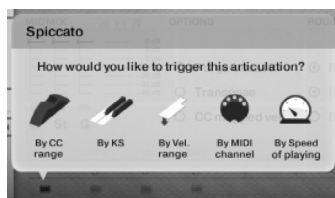
This works in the same way as the Articulation Switcher described on page 9 (point 3.) but with some additional features.

Loading/Unloading articulations

First you will notice there is now a “microchip” icon under each articulation, clicking this will load or unload the articulation from memory. Unloading unused articulations can help with memory load but bear in mind that an unloaded articulation will produce no sound. Also when loading an articulation make sure it is loaded (in the Kontakt Header) before playing back.

Custom triggers for switching articulations

In the expert view, Command+Clicking on an articulation (Control+Click on Windows) will pop up a menu with some options for customising how articulations are triggered or switched:



By CC Range - This will allow you to use a single MIDI CC message to switch between articulations. Set each articulation to a specific range and use a MIDI controller fader or indeed button with a single CC value assigned to select your desired articulation. Our default setting CC used is CC#32 as per our UACC protocol.

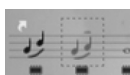
By KS - This allows you to create your own custom Key Switch for the articulation, please note that this is not as fully featured as the default KS range and does not allow for layering. This is only advisable if you have a specific KS layout you prefer.

By Velocity Range - This is great for designing intelligent staccato patches that can become staccatissimo when you hit the keyboard hard.

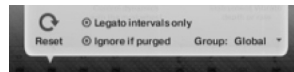
By MIDI Channel - This option turns your single instance into a multi-timbral instrument. MIDI channel lets the instrument change articulation based on the incoming MIDI channel. To use, place the instrument MIDI Channel to ‘Omni’ mode in the Kontakt Header. The single instance can now be configured to play based on the incoming MIDI channel. For example, set one articulation to channel 1, the next to channel 2, and then to channel 3 and so on.

By Speed Of Playing - This function allows you to switch articulations based on the playing speed of your performance. When selected, it provides options to specify a triggering time-range in milliseconds. For example, you could specify that ‘Horror Strings’ should be activated if the time between playing each interval is between 0 and 250ms. Fully configurable to suit the user’s play

Once a custom trigger is set you will see a small white arrow above the articulation to indicate this, Alt+Clicking on this will toggle the trigger on or off:



Each of the different trigger options has a trigger panel which allows you to specify if you want this trigger to apply only to legato intervals:



You will also see an option to specify a group for the triggers, this means that a trigger will only activate when another articulation in the same group is already activated. An example of this might be velocity triggers for shorts only, or playing speed for legato articulations only.

A quick tip

Whilst there are many ways to switch between articulations, many pros still prefer to have a different articulation in a single instance per track on their DAW. This enables them to assign different reverb levels and bake helpful stems that can be used in conjunction with live instruments (to work like this it’s best to load up articles from the individual articulations sub folder).

6. CONTROLLERS

These are essentially the same as the controllers in the general overview. The following controls are included in this library to allow you to control and automate various parameters:

Swell - Similar to dynamics in many of our other libraries this is the swell pedal of the organ, assigned to the mod wheel (CC#1). This control is not recorded for all articulations, only those capable of using the swell pedal, these are:

- 1 - Ethereal Swell
- 5 - Horror Strings
- 9 - Non Interstellar Flutes
- 13 - Full Organ
- 14 - Full Congregation

Release - allows you to change the amounts of release trigger that you hear.

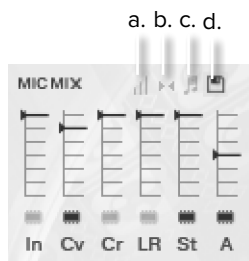
Tightness - the start of a note is often not the start of the ‘sound’ of the instrument. This cuts further into the note to make it tighter. But does detract from realism. Worth tightening up when playing in, then loosening and putting a negative delay into your DAW to compensate for ultimate reality!

Expression - This is instrument trim (CC11), so this adjusts the volume within the instrument volume (CC7) great when used in conjunction with expression.

7. MIC MIX

This is a more advanced mixer than the easy mix in the General Overview, with individual faders for each mic. Like the Articulation Switcher the chips beneath the faders load and unload different microphones and the faders above to tweak the balance of them. Turning a fader all the way down will also unload the mics and turning the fader back up will reload.

Right clicking the faders allows you to assign CC controllers so you can mix these live for shifts in the spacial nature of the samples. Click on the mic letters to assign a different output for each mic. On the top right of the mixer controller section are some extra mixing options:



a. VELOCITY RESPONSE CURVE

This parameter is not used in Symphonic Organ but is included as the library shares scripts with other Spitfire libraries.

Pick from 4 different velocity curves to suit your controller.

b. STEREO IMAGE CONTROLS



The mics are a stereo mix and this menu allows you to refine how the stereo image is handled. All our musicians are recorded in situ, i.e. where they would be seated on a standard scoring session, giving you a fantastic spectral spread when putting all the elements together. This panning tool helps you to manage and tweak this to your own tastes/ needs.

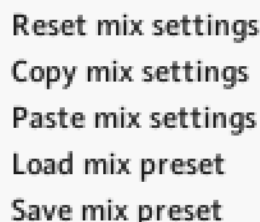
STEREO WIDTH - Allows you to control how far the stereo image reaches. All the way to the right would be like having your two pan pots panned hard. All the way to the left would be like having both pots centre,

STEREO PAN - Then allows you to control where in the pan field the centre of this image is placed.

c. MIC MIX TO ARTICULATION LINKER

The small notation symbol locks the microphone mix or tweak you've made to the articulation selected. This means if you want to boost any perceived inconsistencies in volume between say pizzicato and col legno you can. Or indeed if you want to roll off some of the hall ambience for a short versus the long articulations this is how to fine tune.

d. MIXER PRESETS



This menu is a way to transfer mixer settings between patches, or save and load presets to or from disk.

AUTOMATING MIXER FADERS

Each mixer fader has a dedicated #CC. To change this to suit your MIDI controller or surface, simply RIGHT or CTRL click on the fader itself to "learn" the new controller.

ROUTING MIC MIXES

To route each mic mixer channel to unique Kontakt channels simply click on the mic letter. Great for putting your ambient mics in the surround for example. Also good for track-laying individual mics for your engineer to control in your final mix sessions.

8. OPTIONS

PRESETS - These are memory presets which will load and unload both mics and articulations, this can be useful if you are concerned about memory load - on a travel rig for example.

PURGE UNUSED - This control keeps unloading any samples you are not using to keep your memory usage as low as possible.

TRANPOSE - Toggle this on and adjust the number to the right to transpose your instrument. Note this is not the same as tuning, the instrument will actually offset the samples to the selected pitch.

CC MAPPED VEL(OCITY) - Click this to control note velocity with the Dynamics slider. If you have re-assigned the dynamics slider, that same CC will control velocity now.

9.ROUND ROBINS & LEGATO

NO EXTRA FUNCTIONALITY(NEIGHBOURING ZONES)- This is the menu for RR behaviour. Next to this lies a drop-down menu with some useful functions:

- **“No extra Functionality”** - Is the standard default where round robins are used as they were intended.
- **“Neighbouring Zones”** - pulls from neighbouring zones, so for an ‘8RR’ instrument, you effectively cycle through up to 24 different sounding notes when pressing a key. It’s still just playing the one RR at a time, though giving you more of them.
- **“2x Round Robin With Skip”** - plays two RR simultaneously, so you get a thicker sound, it’s the equivalent of plopping two notes on top of each other in your DAW (and it drops the overall volume ~6db so that the levels remain the same but it just sounds thicker).

This plays the pairs and moves ahead by 2 RR. In this mode RR is effectively halved. E.g., if you press a note it would play RR1/RR2 then RR3/RR4 ,etc.

- **“Layer 2x Round Robins With No Skip”** - As above but this plays a pair but doesn’t move ahead by 2 so that RR isn’t halved. So if you press a note it would play RR1/RR2, then RR2/RR3, then RR3/RR4.

THE eDNA INTERFACE

When you first open an instrument the interface might look a little daunting as there are many controls, but breaking down the interface into sections, you will see it is quite simple and very powerful.



UNDERSTANDING THE INTERFACE

EDNA instruments are made up of two sounds loaded in the Sound Bays A and B (1) These sounds are sent through the Wobblers (2) then the Filter and Envelope (3).

The controls for how the notes are mapped, pitched and so on are included at this stage in the interface also (4) You will notice that areas 2-4 are mirrored for both sound bays.

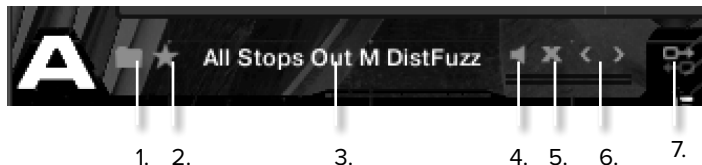
The signal flow is from top to bottom, so next the Mixer (5) crossfades between these two bays and this sound is fed into the Gate Sequencer (6).

The FX dash is at the bottom of the interface but these are quick access controls for the FX and Motor Page and may actually be in several different parts of the signal path (as described on page 15).

1. SOUND BAYS / EDNA BROWSER
2. WOBBLES
3. FILTER AND ENVELOPE
4. SAMPLE AND NOTE CONTROLS
5. MIXER
6. GATE SEQUENCER
7. FX DASH
8. PAGE BUTTONS

1. SOUND BAYS / EDNA BROWSER

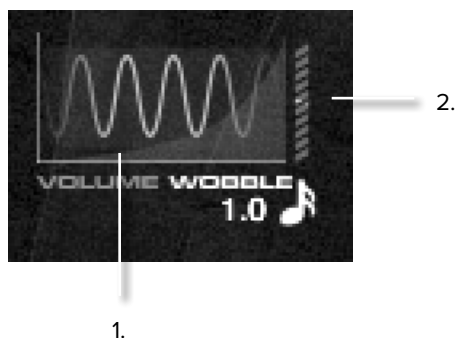
In the standard presets these simply display which sounds are loaded (3) and allow you to rate (2) and mute (4) the sound as well as swapping the bays with the button in the centre (7).



In the Factory Sounds and Presets (Full) patches you can also browse for and load different sounds with the browser (1) as well as unloading the sound (5) and navigating back and forth through the available sounds (6).

2. WOBBLES

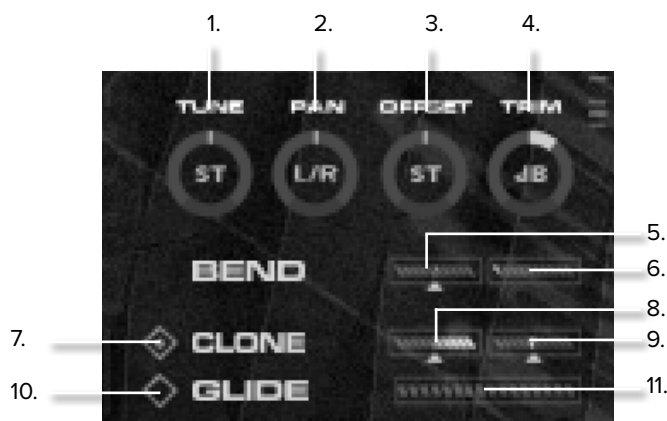
These are low frequency oscillators (LFOs) which are linked to volume, pitch and filter.



Each of these has a frequency (1) and a pitch (2) which you can change by simply clicking and dragging up or down. These can also be assigned to your MIDI controller by simply right clicking (control clicking on Windows).

3. SAMPLE AND NOTE CONTROLS

As with the wobbles, all knobs move by clicking and holding your mouse over them then moving your mouse up for clockwise down for anti-clockwise.



1. Tune - adjusts the pitch of the sample in 50 cent (quarter tone or half semitone) steps. To have a smooth dial (which moves in 5 cent steps) click SHIFT and then move the knob.

2. Pan - moves the instrument within the stereo field left and right.

3. Offset - is the quickest way of changing the samples you're using and a great way of warping the sound, use this in conjunction with the tune knob to get the desired effect. In our other libraries it's called transpose but we feel offset is a truer description. So if you're offsetting by + 7 keys, you will hear the sample for the note 7 keys higher. If you then tune down 7 semitones you will hear the correct note with a different sample.

4. Trim - is a gain stage that becomes a valuable tool in conjunction with the x-fade slider. As all the samples in eDNA Earth are normalised (the only Spitfire library to use this technique) it helps you tweak the volume balance between sound bay A & B. You'll find this particularly useful if the instruments seem to get quieter when the x-fade slider passes through the middle position, adjusting the trim of one of the instruments seems to fix this.

TOP TIP: Holding down ALT while moving a bay A and B control will duplicate the value on the mirror bay. i.e.. hold ALT and change the Tune and both bays sync value.

Bend Controls - These control what happens when you use the pitch bend wheel. Again a parameter that is independent between Bay A & B. So you can do some pretty cool stuff with this.

5. Bend Amount - This controller sets the extreme bend amount up to 2400 cents.

6. % Bend - This controller then sets how much in % the pitch bends. For example, if you set the right to 2400 cents, then the left to -100% you get a bend of -2400 cents. If you put the left slider to +50% you get a bend of +1200 cents. This is so you can specify how far you want to bend and then easily bend it.

7. Clone - Click this to do as it suggests, clone or double the sample playback, you can then:

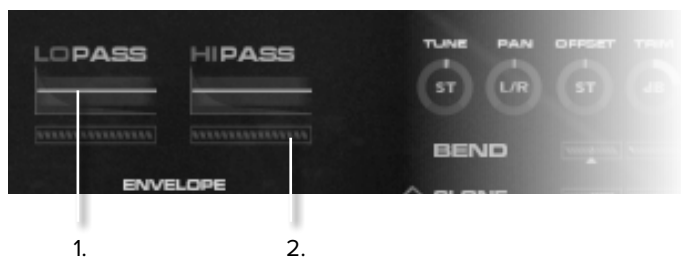
8. Coarse Tune - this tunes the clone up and down in 100 cent (1 semitone/halfnote) steps to +/- 1200 cents (1 octave)

9. Fine Tune - This tunes the clone further in smaller increments +/- 100 cents (1 semitone/halfnote)

10. Glide On/Off - click to activate portamento between notes.

11. Glide Amount - slide this amount up to increase the time it takes to reach the target note, exaggerating the glides between notes.

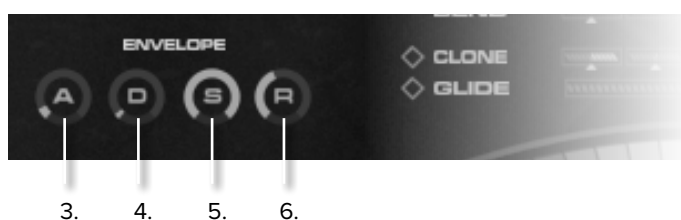
4. FILTER AND ENVELOPE



Here are two conveniently placed low pass (cuts frequencies above the LP cutoff point) and high pass filters (cuts frequencies below the cutoff point).

1. FREQUENCY - Move the wave up or down to adjust the frequency of the filter.

2. RESONANCE - Pull left to right to adjust the resonance



3. Attack - This moves your sound from a percussive hit to a slow entry.

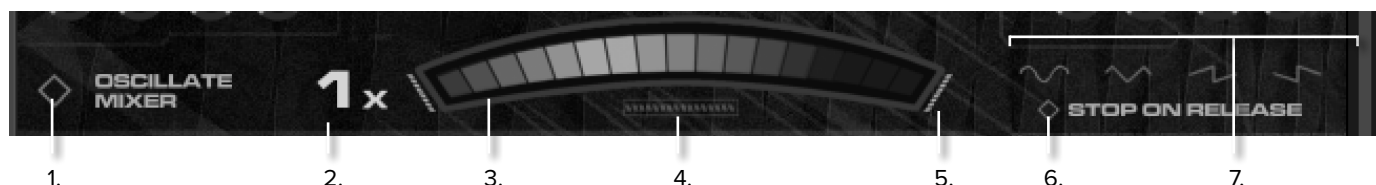
4. Decay - This is the time the sound takes to drop to the “Sustain” level that the instrument then plays at. This is a great dial to automate with more percussive sounds.

5. Sustain - This sets the level at which the decay drops to. So for spiky little arpeggiator type sounds pull sustain all the way down and set the decay to taste.

6. Release - This sets the time in which it takes the sound to die away, for sounds that have a lot of room in them it may be useful to leave a long release.

For those of you who are new to synthesis this array of controls “shapes” your sound.

MIXER



This is where the beautiful simplicity of eDNA Earth comes to life. The mixer crossfades between the sound in Bay A and Bay B, much like a DJ's mixer. In any patches with MW in the name, this is assigned to your Modwheel or CC#1.

Things get very interesting when you apply the built in oscillator to move the mixer back and forth, synced to your tempo.

1. Oscillate Mixer - Switches the oscillator for the mixer on. This will animate in the GUI.

2. Speed - Move this up or down to affect the frequency of the oscillator. From slow evolving soundscapes to fluttering madness! All synced to your host DAW tempo, or the internal Kontakt tempo.

3. The X-FADER - a simple crossfader with a large sweep so you can fine tune your instrument blends.

4. Start/ Phase - This slider controls where the x-fader starts and which way it goes at first.

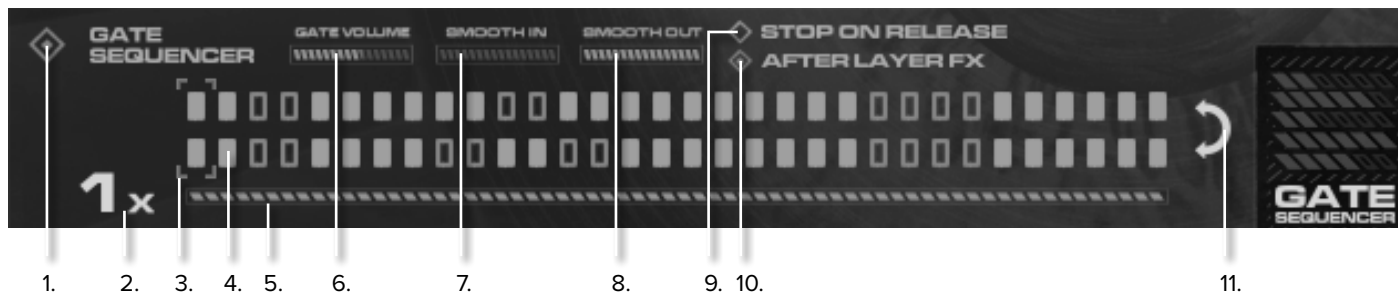
5. Direction Strength - You have two of these vertical sliders. They control the amount the XFader travels in each direction. The default position is 100% up on left and right. This will mean the sound from bay A&B will noticeably disappear at the apex of the oscillation. With both sliders at 50% it will simply oscillate half way in and out of each bay. These sliders don't need to be symmetrical and

can create all sorts of wonderful nuance.

6. Stop On Release - this toggle returns the fader to the 50/50 position on note release. When this option is off the x-fader still returns to 50/50, but only after the sound in bay a and b have stopped playing/decayed (for example, if they have a long ADSR release).

7. Oscillator Shape - These switches toggle between the standard ‘equal’ shape moving left and right, to a more jagged shape to uni-directional.

THE GATE SEQUENCER



With the Gate Sequencer running, you can rhythmically mute and unmute both sounds independently.

The top line is the gate for Bay A, the bottom for Bay B. The default position is everything “on” to gate either A or B simply click on the step you wish to gate.

1. Gate Sequencer - switches the machine on or off.

2. Speed - adjusts the speed of your gate sequence in relation to your DAW tempo. Low values are faster, high values are slower.

3. Transport Position - where you are in the sequence.

4. Gate Cell - This one is in the “on” position.

5. Division Slider - If you need more or fewer steps than the default then use the division slider. Note that this will not affect the gate speed, but the number of steps in your pattern, particularly useful when working in a 3/4 time signature or meter.

6. Gate Volume - This adjusts how much the gate cuts the sound. It's default position is all the way off, the more you adjust the slider the more you adjust how much the gate drops down to.

7. Gate In Smooth - changes the shape of the front of the gate and smooths it in.

8. Gate Out Smooth - the amount of tail the gate has. This is an especially cool tool to automate.

9. Stop on release - switches the gate engine off when you release your sound.

10. After Layer FX - This switches the gate stage to after the bank FX. Something we'll come back to but if you find your gate clicking when playing lower ended material, you may find that this is the quickest and easiest fix.

11. Flip - This swaps the sequence over so what you programmed for B will affect A and vice versa.

We have also have some quick keys that helps you tweak and experiment quickly and easily:

- Holding shift toggles a range of cells (i.e. press the 2nd cell, hold shift, press the 10th cell - cells 2-10 will change)

- Holding ALT affects both A and B cells (same as ALT and knob twiddling)

- Holding CMD/CTRL (Mac/PC) and clicking inverts the current sequencer track. On becomes off and vice versa.

FX DASH



A Quick Assignable Controller Stage

These controls are assigned on the FX page (explained on page 14) and offer quick access to your most needed controls for your audio effects.

1. Parameter Name - To remove this FX parameter click on the name. A numerical value of the parameter is also displayed.

2. Parameter Dial - You can click and drag on these knobs like any others and assign them to a MIDI CC by right/control clicking.

PAGE BUTTONS



1. The Mixer page - This is the default page. On the FX page you will need to click this to get back to the main interface.

2. FX/Motor Tab - Click this to get to the FX page.

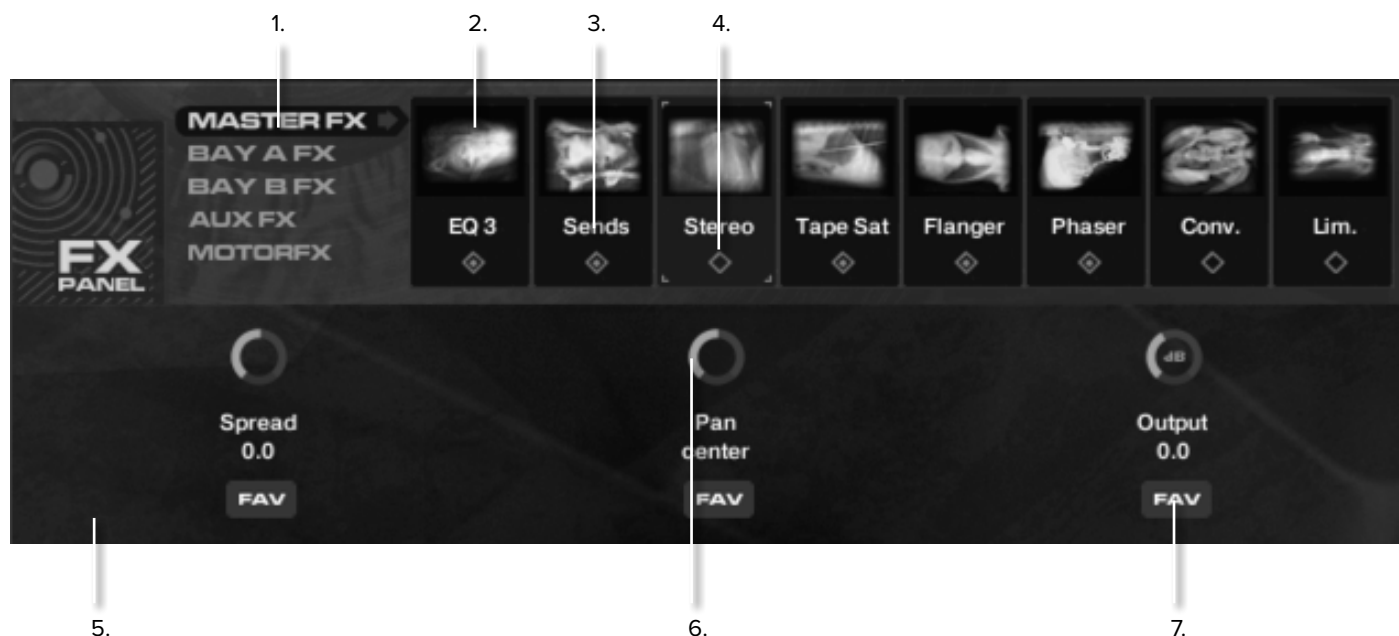
THE FX PAGE

As the eDNA engine is basically a complicated sample player, a lot of the effects one would create from traditional synthesiser modules are created here via FX plug-ins. We've curated a potent set of plug in effects that sit in different stages of the signal path.



AN FX RACK

There are 5 FX racks in the eDNA engine. Every one of them behaves the same, save for the motor FX rack discussed later. Here's how the master, bay A & B and Aux FX racks behave.



1. FX Stage - This toggles between the 5 different FX racks available to you in eDNA.

(Remember to assign a controller, Right/ CTRL click on the knob itself and wiggle your controller).

2. Effect Icons - These depict the different effect plug-ins available in the 8 enclosures per rack. click these to display the effect parameters on the dash below (5).

TOP TIP: The quick FX are displayed in the order you loaded them into the FX dash. If they get in a muddle simply unload them all (easily done on the FX panel itself) and reload them in the order you'd like.

3. Effect Name

4. Effect Bypass - or on/off. Shown here bypassed (or off). To activate click on this button.

5. The plug-in Dash - displays the plug-in parameters. Click on 2. to access the parameters for the effect you want to tweak.

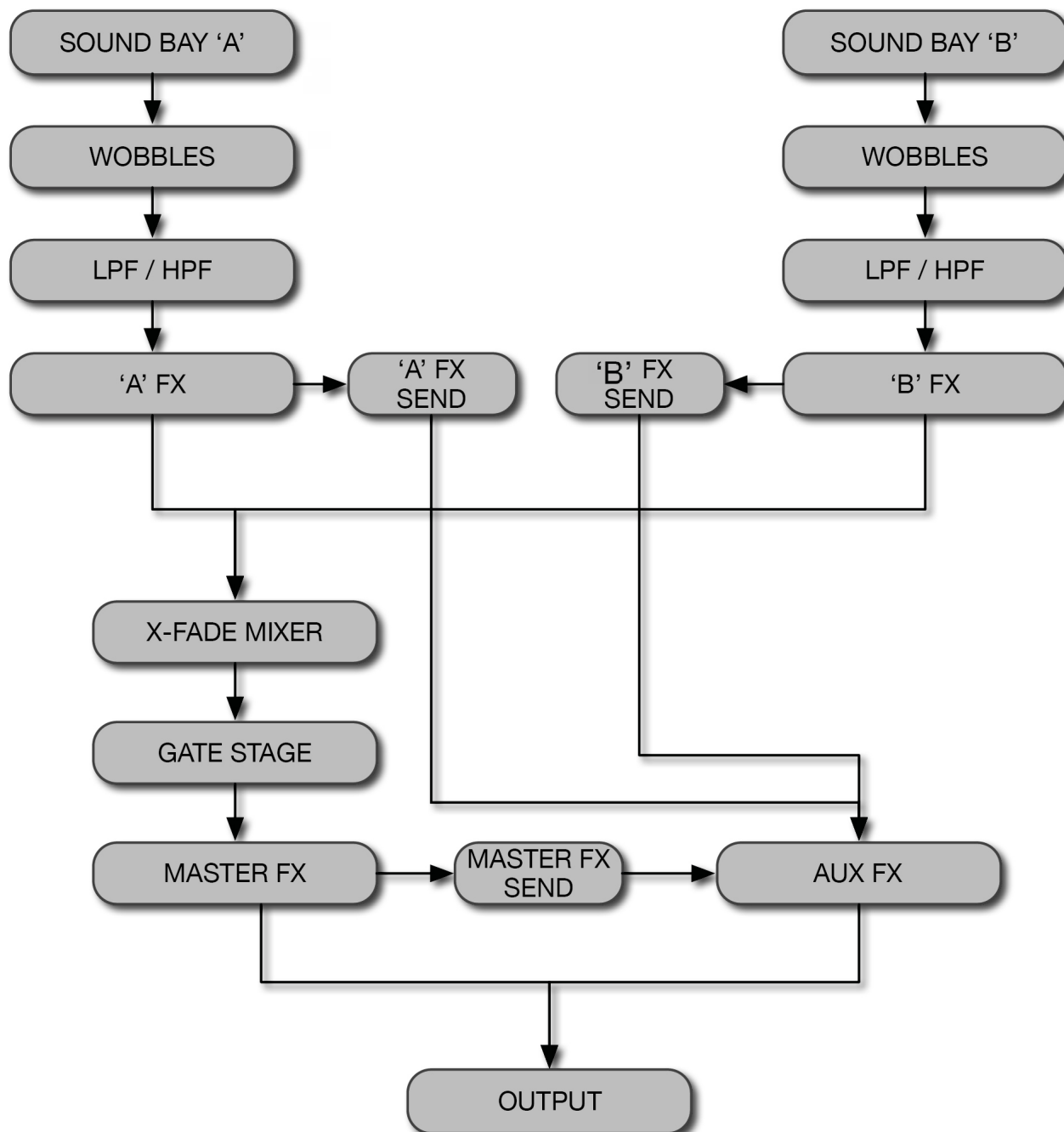
6. Plug-in Parameter - you will NOT be able to assign a controller to this parameter directly. It must first be loaded into the Quick FX dash on the main mixer page as described below

7. FAV Buttons - or "favourite". These allow you to load your favourite FX onto your "Quick FX" dash. You also need to do this if you want to automate any of the effects or tweak them via a controller. To remove simply click on the FAV button again.

Going back to the Dash on the main mixer page you will now see your FAV knobs in the FX dash.

eDNA'S FX SIGNAL PATH

Below is a diagram of what the signals are doing under eDNA's hood so you can best decide at which stage you wish to add and tweak your effects. We have pre-curated the FX racks according to their stage in the signal path. So verbs and FX more on sends with phases, flangers and distortion on more direct stages.



THE FIVE DIFFERENT FX STAGES (1.)

Master FX

Probably the easiest and most predictable FX to get your head around. These happen at the last stage and affect everything that is audible. So the x-fader and the gate will all have an impact on what is affected and what you hear. This is why we've put mainly mastering effects and some obvious modulators. The key thing to understand with the Master FX is they are layered on top of the whole "mix" of your sound, so in the case of the reverb you can have a 100% wet signal.

Layer FX A & B

These FX affect either sound bank A or B independently of each other and the mixer slider. You can also place the gate engine before or after the layer FX, depending on if you wanted to gate a reverb or keep the verb tail intact.

You will notice that the FX between the two sound banks are distinctly different. We've done this because that's the beauty of having several different FX stages. So here we're making the most of the independent sound banks and how much you can make them contrast each other. It also gives you more FX to pick from, and more veterinary x-ray pictures to display. Remember you can switch out and swap the sounds between different banks if you feel one suits a distortion type better than another for example.

ABOUT SENDS.

You will see in A&B and the Master FX racks, one plug in enclosure is occupied by an effect called "SEND". Clicking this on opens up the signal for your sound to route into the AUX FX rack. Click the send plug-in itself and adjust the different dials in the dash to control the amount of signal that gets to the specific FX within the SEND FX.

Remember, these FX will not sound unless switched on in the AUX FX Panel.

You can select specific sounds to go to the AUX and the amounts they send. It is therefore advised that you do not send a signal to the same effect plug-in via both the layer and master FX send as you will be duplicating the signal. Here's an example of how to mix and match the way in which you apply AUX effects to your sound.

I want to have delay 1 on sound bay A, also little delay 2 on sound bay A and more on B and a touch of reverb across the whole thing.

Go to all 3 sends in Layer A&B and master FX and switch them on, click on the send icon and pull down all the controllers (we default to a 0db send signal for your convenience).

In A Send, boost the delay 1 send to 0db. Then delay 2 to say -6db. In Send B set delay 2 to 0db, then in master FX dial up the reverb. Finally go to the AUX FX and make sure these FX are switched on! You may want to control the returns of these FX via the front panel so click on the "return" FAV button in delay 1 and 2 and the Reverb "Wet" FAV button. Now seeing as you care about the balance between A & B to Delay 2, you may also want to put the send levels to delay 2 on the front panel too. So go to A FX, click on send and assign the delay 2 send FAV button and repeat for FX B.

MOTOR FX



1. MAIN MOTOR
2. SUB TO MAIN CONTROLS
3. SUB MOTOR
4. ASSIGN CONTROL TO MOTOR
5. MOTOR POSITION IN SIGNAL PATH

The MotorFX Bay is slightly different from the other four FX Bays. You can select where in the signal path you would like it to sound (5) and assign certain parameters to one of the two Motors using the buttons under each parameter (4).

These parameters can be assigned to either of the two motors at the top of the page which are essentially complex low frequency oscillators.

Instead of a single LFO like the Wobbles, Motors have a main LFO (1) which is itself controlled by a second sub-LFO (3). Both the intensity and frequency can be oscillated by different amounts using the controls between the two (2).



1. Intensity - this controls how much the motor is going to affect your FX parameter.

2. Frequency - controls the speed of the LFO.

3. The 5 knobs to the right affect the shape in which your motor controls the parameter. So (just like wobble amounts) first try adjusting the depth of the sine wave (an equal smooth shaped wave) then to remove it pull the knob to the centre. Then try adding a rectangle (4.) wave etc. You can then create more chaotic shapes by dialling up more than one of these controls. But things can get out of hand quite quickly so remember, if you're in trouble, pull everything back to the centre.



1. Sub to Main Intensity - This slider controls the intensity of the sub motor control to the intensity control of the main motor

Go appendix C to find more out about the individual FX.

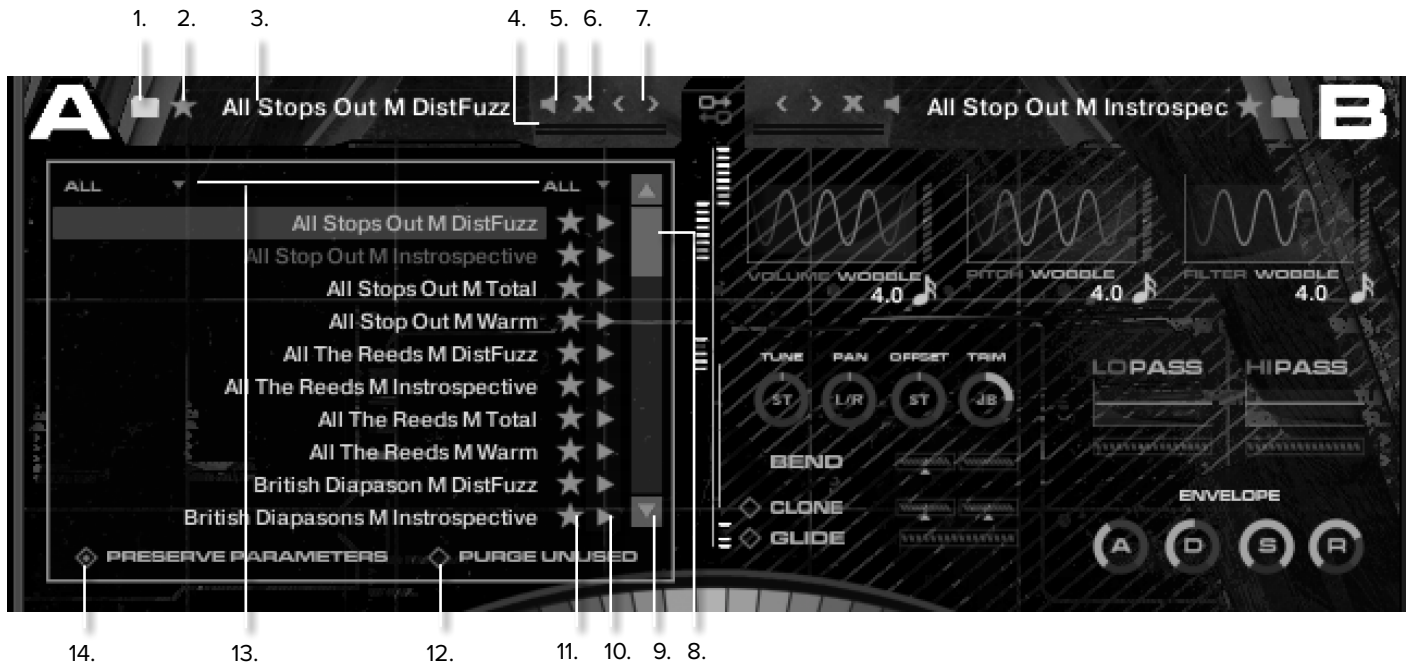
2. Sub to Main Frequency - This slider controls the intensity of the sub motor control to the frequency control of the main motor.

3. Sub Motor Frequency - This then controls the speed in which you're motorising the two possible parameters within the main motor.

Top Tip. This is the one area in eDNA that we think a slightly considered approach is called for. It is quite easy to get lost in these motorised effects. We find some of the best effects are created by using massive intensities and very slow frequencies. Carefully thinking about what you're motorising and how much you're going to motorise it by can reap rewards that sound totally awesome, anarchic and original. But it's only by careful experimentation that these rich rewards will avail themselves.

THE EDNA BROWSER

Once you've had a play with our specially prepared presets you may want to make some of your own. In both the Factory Sounds and Full Presets patches, you can browse the available sounds via the browser.



1. Browser button - opens/closes the browser window.

2. Rating - you can give your sound a rating from 1-5 to make it easier to locate using filters.

3. Sound name.

4. Level Meter - These are independent meters in each bay so you can see exactly who is outputting what.

5. Mute button - toggles the sound on and off independently of the xfader and/ or gate stage.

6. Purge Button - this empties the bay.

7. Scroll Buttons - These move the sound along to the next in the list, or back one. A quick and easy way to browse, but also you'll find that sounds are grouped together in similar sets. So if you're happy with a sound but would like it to be maybe a little different in character, this is often a quick way of checking out if we had another stab at it. Maybe something similar but a bit brighter for example.

Click on the folder next to the instrument name (1.). This will pop-down a hugely extensive list of sounds which you can scroll through, browse and rate according to your tastes. Having created some 1,900+ instruments you'll imagine that naming became a bit of a task, so we've organised the sounds into categories too for your convenience.

8. Scroll Bar - holding shift slows the scroll speed, or you can use the scroll avenues for finer detective work.

9. Scroll Arrows - these allow finer browsing still.

10. Audition Buttons - check the sound before you commit! (you

can also CMD click on the instrument name to preview).

11. Favourites Stars - displays sounds that you have tagged as favourites and also acts as toggles to tag more.

12. Purge Unused - Purges unused sounds from memory (anything not in an active layer). Use this to save memory when you've finished building your sound. When this is turned on 'previewing' each sound in the browser is unavailable. It defaults to off.

13. Instrument Browser Filters - allow you to refine your search based on ratings

14. Preserve Parameters - preserves the current bend/glide/tune/pan/LFO settings etc. when loading a new sound. By default this is turned on and each sound will share the LFO/tune/pan that you set it to. If turned off then each sound remembers its unique configuration.

THE FIVE DIFFERENT FX STAGES (1.)

Master FX

Probably the easiest and most predictable FX to get your head around. These happen at the last stage and affect everything that is audible. So the x-fader and the gate will all have an impact on what is affected and what you hear. This is why we've put mainly mastering effects and some obvious modulators. The key thing to understand with the Master FX is they are layered on top of the whole "mix" of your sound, so in the case of the reverb you can have a 100% wet signal.

Layer FX A & B

These FX affect either sound bank A or B independently of each other and the fade slider. You can also place the gate engine before or after the layer FX, depending say if you wanted to gate a reverb or indeed keep the verb tail intact.

You will notice that the FX between the two sound banks are distinctly different. We've done this because that's the beauty of having several different FX stages. So here we're making the most of the independent sound banks and how much you can make them contrast each other. It also gives you more FX to pick from, and more veterinary x-ray pictures to display. Remember you can switch out and swap the sounds between different banks if you feel one suits a distortion type better than another for example.

opens up the signal for your sound to route into the AUX FX rack. Click the send plug-in itself and adjust the different dials in the dash to control the amount of signal that gets to the specific FX within the SEND FX.

Remember, these FX will not sound unless switched on in the AUX FX Panel.

You can select specific sounds to go to the AUX and the amounts they send. It is therefore advised that you do not send a signal to the same effect plug-in via both the layer and master FX send as you will be duplicating the signal. Here's an example of how to mix and match the way in which you apply AUX effects to your sound.

I want to have delay 1 on sound bay A, also little delay 2 on sound bay A and more on B and a touch of splosh across the whole thing.

Go to all 3 sends in Layer A&B and master FX and switch them on, click on the send icon and pull down all the controllers (we default to a 0db send signal for your convenience).

In A Send, boost the delay 1 send to 0db. Then delay 2 to say -6db. In Send B set delay 2 to 0db, then in master FX dial up the splosh. Finally go to the AUX FX and make sure these FX are switched on! You may want to control the returns of these FX via the front panel so click on the "return" FAV button in delay 1 and 2 and the Reverb "Wet" FAV button. Now seeing as you care about the balance between A & B to Delay 2, you may also want to put the send levels to delay 2 on the front panel too. So go to A FX, click on send and assign the delay 2 send FAV button and repeat for FX B.

ABOUT SENDS.

You will see in A&B and the Master FX racks, one plug in enclosure is occupied by an effect called "SEND". Clicking this on

MOTORISED FX



OK, so if you've got a lovely sound up that you don't want to lose and want to experiment with these motorised FX we suggest that now would be a good stage to save your sound! The motorised FX are at first, a tricky set of tools to master.

To save your sounds in Kontakt first go to the top bar in Kontakt, change the name then click on the floppy icon, save instrument as. Make sure you don't save over the factory shipped patches if you ever want to get back to how it was originally shipped!

We've selected two effects that work best with these type of techniques, you'll notice that different cartridges have different effects loaded depending on the genre, and we have different combinations prepared in the Custom Cartridge Builders for users of the full version of Kontakt.



- Click on motorised FX (1.)
- Click on whether you want to apply this effect to instrument bay A or B or Both, for this demo let's pick A. (2.)
- Click on the effect you want to use, and click on the icon to access it's controls (3).

OK so far so good. Now have a fiddle with the different parameters and work out which one you'd like to motorise. Click on the motor beneath it and assign to the motor you want to use.

- Let's start with Motor 1 and let's use cutoff in the "ladder notch" (4.)



OK this one takes a little to get one's head around so we'll do our best to explain. The key thing is to ignore anything in red for now.

1. Intensity - this controls how much the motor is going to affect your FX parameter (in this example cutoff).

2. Frequency - controls the speed.

So pull the intensity all the way to the right and hear how the motor is dialling up your effect parameter (cutoff) from 1 - 100% (all the way to the left to all the way to the right). Pull the intensity back a bit and the parameter you're controlling will be motorised in a less extreme manner (i.e. 25% - 75%). Then move the frequency knob to adjust the speed.

3. & 4. The 5 knobs to the right affect the shape in which your motor controls the parameter (cutoff). So (just like wobble amounts)

first try adjusting the depth of the sine (3.) wave (an equal smooth shaped wave) then to neutralise it pull the knob to the centre. Then try adding a rectangle (4.) wave etc. You can then create more chaotic shapes by dialling up more than one of these dials. But things can get out of hand quite quickly so remember, if you're in trouble, pull everything back to midday.

THE SUB MOTOR

OK so Motor 1 is now turning your effect parameter (cutoff) dial back and forth a measured amount at equal intervals with a shape that you're happy with. Now move the Frequency slider back and forth, that's kind of cool, changing the speed that the effect parameter (cutoff) dial moves back and forth. So let's have a go at motorising this.



1. Main Intensity to Sub - This slider controls the intensity of the sub motor control to the intensity control of the main motor (told you it gets confusing!).

2. Main Frequency to Sub - This slider controls the intensity of the sub motor control to the frequency control of the main motor.

3. Sub Motor Frequency - This then controls the speed in which you're motorising the two possible parameters within the main motor.

Maybe you don't want to control the frequency that your effect parameter (cutoff) is going, but the amount of intensity. You want to vary that according to the sub motor frequency (3.). Dial up the intensity slider beneath the intensity knob (1.) and hear how this affects your sound. Oh and then you've got the whole range of shaping dials as with the first motor (4. & 5.). Combine this with a second motor, more effects, and all these dials, you can tie yourself in sonic knots.

Top Tip. This is the one area in eDNA that we think a slightly considered approach is called for. It is quite easy to get lost in these motorised effects. We find some of the best effects are created by using massive intensities and very slow frequencies. Carefully thinking about what you're motorising and how much you're going to motorise it by can reap rewards that sound totally awesome, anarchic and original. But it's only by careful experimentation that these rich rewards will avail themselves.

Go appendix C2 to find more out about the individual FX.

APPENDIX A - RECOMMENDED TECH SPECS

IF YOU PLAN TO USE THIS LIBRARY WITH THE FULL VERSION OF KONTAKT PLEASE MAKE SURE YOU HAVE THE LATEST VERSION OF KONTAKT 5 INSTALLED.

RECOMMENDED SPEC:

The better your computer, the better the performance of any Spitfire module. But not to worry if you're not spec'd up to the hilt. All programs are provided with a set of parameters that enable you to dial back the CPU demands of any given patch. But moving forward, we're confident this module will keep your computer busy for many years to come! We recommend a combination of high processor speeds, a good chunk of memory and a devoted SSD eSata, USB3, or Thunderbolt drive. The more memory you have, the less demand placed on your drive, and having a totally devoted drive gives you the chance to load less into memory and reduce load times. The higher the speed of your CPU, the more capable your computer will be to deal with some of the amazing, but complicated scripts we've written.

PCs:

We recommend Windows 7 or later (latest Service Pack, 32/64 Bit), Intel Core Duo or AMD Athlon 64 X2, 4 GB RAM (8 GB minimum).

MACs:

We recommend Mac OS X 10.10 or later (latest update), Intel Core 2 Duo, 4 GB RAM (8 GB minimum).

DRIVES:

USB3, Thunderbolt, or eSata SSDs. Ask your dealer for drives that are suitable for "AV use". If you can afford an SSD drive, this will massively increase the power of your system. Instead of 7-9ms seek time, the usual seek time is <0.1ms. These are fast enough to run a patch 'Purged' of all its samples, and they can load on the fly as you play the notes. You can also reduce your sampler's "pre-load" buffer tenfold meaning you'll be able to load enormous orchestral palettes into a single machine.

HOST:

The Kontakt 5 platform should work comfortably on most commonly found platforms and DAWs. As always make sure you're as up-to-date as you can afford! If your main DAW is not a newish machine, or has a limited spec, and you're planning on building or adding Spitfire to an already large orchestral palette, you could consider running your library independently of your DAW, either on your host computer (e.g. via Re-Wire) or on a slave device (e.g. via Midi or MQL). This will assist your loading times, and will allow your DAW to do what it does best, sort out all your note ons and note offs!

APPENDIX B - KONTAKT vs. KONTAKT PLAYER

Kontakt Player is a free version of the Kontakt sample playback engine available to download:

<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5/downloads/>

It works with libraries that the developer has paid a license fee for. Essentially, you've bought this playback engine along with your library.

The Kontakt player gives you full access to all the sounds and all the editable parameters on the front panel. Also, unlike non-Player libraries, these libraries will also have a banner that appears on the Kontakt Libraries pane.

If you want to go deeper into editing you'll need a full version. As you will already own the free Kontakt player and have bought one of our 'player' libraries you will be eligible for a discount upgrade to Kontakt via the NI website. See here for more details:

<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5/pricing/crossgrade-offer/>

If the library you want to use is NOT a 'Player' library then you need to buy the full retail version of Kontakt.

Then you can also load 'non-Player' libraries like some of our other ranges, , Harp, Felt Piano, Harpsichord etc. Please note that non-Player library instruments will not appear on the Kontakt libraries pane and so can't be added as a library as Player libraries need to be. Instead, these libraries will simply need to be loaded via the Kontakt files browser or alternatively you can add the library as a favourite to the Kontakt Quick Load window.

APPENDIX C1 - STOP REGISTRATION

Each of the articulations in Spitfire Symphonic Organ are a careful combination of stops on the organ. If you find yourself in the position to record a similar organ and wish to replicate the stop registration, please see the chart below. A higher resolution version will also be available on our site.

ORGAN			Manuals																Pedals												
Division	Key action	Stop Action	Ethereal Swell	Stopped Diapason	Mixtures	Great Diapasons	Horror Strings	Super Wooly Flutes	British Diapason	Swell	Non Interstellar Flutes	Wooly Hell	Festive Trumpet	Raw Brass	Full Organ	Full Congregation	All The Reeds	All Stops Out	Ethereal Swell	Facimithis	Super Wooly Flutes	Open Wood 32'	Open Wood	Horror Strings	Contra Trombone 32'	Base Reeds	Full Congregation	Raw Brass	All The Reeds	Full Organ	All Stops Out
Manual Couplers	Swell to Great					x	x	x	x		x			x	x	x	x				x			x			x		x	x	x
	Manual 4 to Great					x					x						x	x						x					x	x	x
	Choir to Great			x		x	x	x			x				x	x		x	x			x					x		x	x	x
	Choir to Pedal					x																x									
Pedal	1	Open Wood	32																			x	x	x				x	x	x	x
	2	Open Wood	16																				x	x				x	x	x	x
	3	Principal	16																												
	4	Violone	16																												
	5	Subbass	16																		x										
	6	Octave	8																												
	7	Flute	8																												
	8	Fifteenth	4																												
	9	Mixture	2 2/3																												
	10	Contra Trombone	32																												
	11	Fagotto	16																												
	12	Trombone	16																												
	13	Trumpet	8																												
Choir	14	Chimney Flute	8					x	x			x			x	x		x													
	15	Dulciana	8					x	x																						
	16	Principal	4							x					x	x		x													
	17	Coppelflute	4																												
	18	Nazard	2 2/3																												
	19	Fifteenth	2												x			x													
	20	Tierce	1 3/5																												
	21	Mixture	IV			x									x			x													
22	Cromorne	8																x													
Great	23	Double Diapason	16									x			x			x	x												
	24	Open Diapason	8				x			x					x	x		x	x												
	25	Harmonic Flute	8				x		x				x		x			x													
	26	Gamba	8				x		x																						
	27	Octave	4							x						x	x		x												
	28	Open Flute	4																												
	29	Superoctave	2							x					x			x													
	30	Mixture	1 1/3												x			x													
	31	Cornet	V																												
	32	Trumpet	8																												
	Swell	33	Bourdon	16					x		x		x			x	x		x	x											
34		Geigen Diapason	8					x	x	x		x			x	x		x													
35		Stopped Diapason	8	x	x			x	x			x																			
36		Salicional	8					x							x				x												
37		Voix Celeste	8	x				x	x																						
38		Principal	4							x	x					x	x			x											
39		Wald Flute	4																												
40		Octavin	2							x	x					x	x			x											
41		Mixture	2								x					x	x			x											
42		Double Trumpet	16													x	x			x	x										
43		Cornoepan	8								x					x	x			x	x										
Solo	44	Oboe	8													x			x	x											
	45	Clarion	4													x	x		x	x											
	46	Harmonic Claribel	8									x	x																		
	47	Viola	8						x				x																		
	48	Gemshorn	4																												
Bombarde	49	Flute Octivante	4								x																				
	50	Corno di Bassetto	8																												
	51	Vox Humana	8																												
	52	Bombarde	16												x			x	x												
	53	Festive Trumpet	8										x	x				x	x												
	54	Clarion	4												x				x	x											

APPENDIX C2 - eDNA EFFECTS

EQ3 - This EQ is a 3-Band, parametric EQ that allows you to boost or cut any frequency range throughout the entire spectrum by up to 18db, with adjustable Bandwidth parameters allowing you to choose between 'surgical' EQ-ing or gentle corrections.

Jump - The 'Jump' effect simulates the classic tone for British guitar amplifiers. It is ideal for creating smooth, singing lead sounds.

Limiter - A form of compressors with a ratio of one to infinity, a threshold just below the maximum level and a very short attack time. A limiter acts as a safety net to keep short signal peaks from overloading the system, which would result in audio clipping.

Tape Saturator - The Tape Saturator emulates the soft compression and distortion of recording to tape. It is mainly used to lightly add warmth and colouring to the sound, or alternatively, to add aggressive distortion.

Distortion - This module achieves Distortion by clipping or rounding off high sample value, therefore it simulates the behaviour of overloaded tube circuits or transistors by adding artificial harmonics to a sound.

Lo-Fi - This module adds various digital artefacts such as aliasing or quantising noise, to clean the signal. It is ideal for roughing up sounds that would otherwise be too plain and featureless, or to recreate those classic 8Bit video game sounds.

Saturation - A basic amplifier with a non-linear characteristic. This allows you to recreate the effect of tape saturation, which causes an increase of high-level energy in your signal.

Stereo Modeller - This allows you to control the width of your signal's stereo base, change the panning and also allows you to create a pseudo-stereo signal from mono sources.

Delay - This Delay effect is a process that creates a carbon copy of the sound and repeats it back after a period of time. It can optionally be synced to the tempo and provides an adjustable feedback level, a low-pass filter and a pan control for 'ping-pong' echo effects. Delay times lower than 20ms are not discernible as delays, but can produce interesting comb filtering effects.

Chorus - This is a method of adding "thickness" to the audio signal by splitting it up and detuning one version in relation to the original. Separate LFOs with an adjustable phase relationship detune each stereo channel independently to create a wide-panorama effect.

Flanger - This module splits the audio signal and delays one version in relation to the original signal. By modulating the delay time, as well as feeding an adjustable amount of the output signal back into the input, the Flanger creates a characteristic 'whoosh' sound. The Flanger module uses a separate LFO for each stereo channel, with the phase relationship between both LFOs being adjustable.

Phaser - This effect continually changes the phase relationships in the signal with an all-pass filter. As a result comb filtering occurs, which attenuates some frequencies while boosting others. The sound is of a similar nature to the Flanger effect, but it is more subtle.

Convolution - This is a type of reverb that allows you to replicate the acoustical behaviour of a linear system; such as a room, a speaker, a harp or even a hardware reverb unit, for your own signals. To accomplish this, a short audio recording of a wide-band

signal played through a system is fed into the convolution processor. This recording is usually a normal audio file called an 'Impulse Response' (or 'IR'). Convolution reverb is best known for achieving highly realistic reverbs. The convolution processor included in Kontakt fully supports multichannel signal flow, allowing you to use surround impulse responses if desired. It can be used within the 'Instrument Insert Effects', and the 'Instrument Send Effects' chances, or as an 'Output effect.'

Reverb - This reverb is algorithmic, it simulates the natural reverberation that occurs when a sound source is placed in an acoustic environment, this adding a feeling of spaciousness to the sound.

Formant I & II - Formants are acoustic resonances, the term often applies to the phonetics of the human speech. Formant Filters are designed to mimic the frequency response of the human focal tract and as a result, these types of filters are used to emulate the 'talk box' effect.

Vowel A - This module is similar to a Formant Filters as it also simulates the resonant frequencies of the human vocal tract in regards to forming a vowel sounds. The throat and mouth cavities will change their shape in order to create a complex, natural filter that emphasis certain frequencies in the sound created by our vocal chords. These characteristics allow human hearing to discern between different vowels, and are being replicated by this filter.

Vowel B - The Vowel B module is very similar to the Vowel A module, but it has a slightly different sonic characteristic.

Ladder Peak - Based on the classic ladder circuit use in early synthesis, these filters are the first choice for recreating synthetic sounds. The Peak is a filter than accents frequencies at the cutoff.

Ladder Notch - The 'Ladder Notch' module is very similar to the 'Ladder Peak' module with the difference being that the Notch cuts two narrow bands of frequencies either side of the cutoff.

APPENDIX D - MIC & MIX ACRONYMS

In - Inside Mics (inside the organ itself)

Cv - Close Valve

Cr - Close Ribbon

LR - Actually LCR essentially a stereo bounce down
of Left, Centre and Right omnidirectional mics

St - Stereo (Standard stereo pair)

A - Ambient

APPENDIX E - UACC

With the development of Spitfire's BML Sable it was proving quite difficult to standardise how to access the ever-growing number of articulations contained within instruments and libraries. While they worked adequately, Keyswitches and CC32 were inconsistent between sections and instruments and it could prove a pain to do something as simple as substituting a Viola for a Violin section.

To address the problem, Spitfire developed UACC, a specification that hopes to standardise articulation control between instruments and libraries. UACC is turned on via the Keyswitch locking option () and utilises the same CC as above (and can be customised identically). When UACC is activated you can change articulation by setting CC32 to specific values that correlative with different articulations. Here's the latest (v2) spec:

Long (sustain)	34	Detache	80	Synced - 120bpm (trem/trill)
1 Generic	35	Higher	81	Synced - 150bpm (trem/trill)
2 Alternative	36	Lower	82	Synced - 180bpm (trem/trill)
3 Octave				
4 Octave muted	Short		Phrases & Dynamics	
5 Small (1/2)	40	Generic	90	FX 1
6 Small muted	41	Alternative	91	FX 2
7 Muted	42	Very short (spicc)	92	FX 3
8 Soft (flaut/hollow)	43	Very short (soft)	93	FX 4
9 Hard (cuivre/overb)	44	Leisurely (stacc)	94	FX 5
10 Harmonic	45	Octave	95	FX 6
11 Tremolo/flutter	46	Octave muted	96	FX 7
12 Tremolo muted	47	Muted	97	FX 8
13 Tremolo soft/low	48	Soft (brush/feather)	98	FX 9
14 Tremolo hard/high	49	Hard (dig)	99	FX 10
15 Tremolo muted low	50	Tenuto	100	Up (rips/runs)
16 Vibrato (molto vib)	51	Tenuto Soft	101	Downs (falls/runs)
17 Higher (sultasto/bells up)	52	Marcato	102	Crescendo
18 Lower (sul pont)	53	Marcato Soft	103	Decrescendo
19 Lower muted	54	Marcato Hard	104	Arc
	55	Marcato Long	105	Slides
Legato	56	Plucked (pizz)		
20 Generic	57	Plucked hard (bartok)	Various	
21 Alternative	58	Struck (col leg)	110	Disco up (rips)
22 Octave	59	Higher	111	Disco down (falls)
23 Octave muted	60	Lower	112	Single string (Sul C/G/etc.)
24 Small	61	Harmonic		
25 Small muted				
26 Muted	Decorative			
27 Soft	70	Trill (minor 2nd)		
28 Hard	71	Trill (major 2nd)		
29 Harmonic	72	Trill (minor 3rd)		
30 Tremolo	73	Trill (major 3rd)		
31 Slow (port/gliss)	74	Trill (perfect 4th)		
32 Fast	75	Multitongue		
33 Run	76	Multitongue muted		

For example, turning on UACC and changing CC32 to 26 will change the current articulation to Legato - Muted. Setting it to 52 would change to Short - Marcato. You can set these manually in your DAW but it's much easier to utilise DAW functionality such as VST Note Expression, or a dedicate tablet app such as Lemur, TouchOSC, LiveControl, etc.

The advantages of UACC are that it's consistent between all supported libraries (i.e.. setting CC32 to 52 will change to Marcato regardless of the library or patch) and easily configurable on tablet apps such as Lemur. It remains consistent between updates (any product using v2 will have the articulations mapped to the above spec). It also takes up no space on the keyboard.

The disadvantages are that it's difficult to control for live playing (unless using a tablet) and it does not support articulation layering.

UACC KEYSWITCH

UACC keyswitching is a new feature in Spitfire products and updates. It is a mixture of keyswitching and UACC to provide the advantages of both methods. When UACC Keyswitch is activated via the lock panel menu () a single keyswitch is available. Using the UACC spec outlined above, this keyswitches velocity is used to switch articulation.

For example pressing the keyswitch at velocity 70 would switch to the Trill (minor 2nd) articulation while pressing at velocity 56 would switch to Short Pizzicato. As with UACC, you can manually input these velocity values but it's easier to use your DAW or tablet app's functionality.

The main advantage of UACC KS over UACC is that you can layer articulations by overlaying the keyswitch notes on the piano roll.

APPENDIX F - FAQs & TROUBLESHOOTING

Q: WHAT IS THE DIFFERENCE BETWEEN KONTAKT AND KONTAKT PLAYER?

See appendix B

Q: HOW CAN I REDOWNLOAD A PRODUCT?

With the continuous improvements to our Spitfire App, we have incorporated the ability to reset your own downloads, be it the entire library or the most recent update! This can easily be done via your Spitfire App. To reset both your entire library download or the latest update; Open up the Spitfire App and log in with your account email and password.

- Select the download you wish to re-download
- In the cog menu choose Reset Download > Entire Download/Latest Update

- This will reset your whole download/your latest update

You can repeat this process for any of the libraries you own. Note that there is a limit to how many times you can reset your downloads in a certain time frame. If you do exceed your reset limit please get in touch.

Q: DIFFICULTIES IN DOWNLOADING / INSTALLING

Customers may find that they have some difficulties in the downloading process. If you find that you are having some trouble, please check the list below for possible causes.

- The formatting of your drive, if it is FAT32 this will cause errors, because there is a maximum file size with this format of 4GB and our download files will exceed this limit. To solve this problem, reformat your drive to a more modern format, or use a different drive. We recommend NTFS on PC and Mac OS Extended (journalled) on Mac.

- Free space on your hard drive, please allow at least double the space for the respective library. This is because your library is downloaded compressed, then uncompressed into a separate location, then the original is deleted. So briefly during install, there are two copies of the library on disk. To solve this problem use a drive with more space (the size you'll need during install is listed on the website page of the product you bought).

Other issues;

- Spitfire App freezes in the "Extracting" stage for hours. This may be because our libraries are often very large files, and this is the stage where the compressed files are extracted and placed in their final locations on the hard drive. There could be hundreds of GB of content to unpack, so it really can take hours. If you're unsure whether it has crashed or is simply extracting files, visit the installation folder you chose when you started the install. If everything is working normally you'll see various files appearing in the folder (or one of its sub-folders).

- If you see a "Download interrupted" message, this may be caused by a change in IP, usually the case with people using a VPN, or people who for some reason started a download in one country and tried to resume it in another. In this case, please submit a support ticket and we can unblock you.

- If your download gets stuck and is continually cycling and not resuming, please get in touch with us, giving us as much detail as possible about your set up. It would be helpful if you can tell us: Your operating system, where you are downloading from (your country, and also whether you're at home or work), your ISP, and whether there are any proxy servers or firewalls between your computer and the internet.

Q: I'VE LOST MY INSTRUMENT FILES

In some cases, instrument files may get lost when transferring libraries from one place to another, or if an update has gone wrong. If this happens, the best way forward is to re-download the library in question. This will ensure you will get all of the content you are missing.

Q: WHAT IS YOUR REFUNDS / RETURNS POLICY?

If you have NOT completed the download / installation process, then we CAN refund/return your product, please contact support with your account email address and order number so we can handle this quickly. If you HAVE completed the installation process (even if you've not yet registered your serial number), please see our EULA in regards to why we do not accept refunds and returns. We can refund hard drive orders up until the point when the drive is dispatched from our office. This is usually 2-4 days after you order.

Q: I'VE FORGOTTEN MY PASSWORD?

If you have forgotten your password, please see this link, and click 'Forgotten Password'. If at some point in the past you asked us to merge two or more accounts but have since forgotten, you MAY find that the forgotten password isn't working for the email address you asked us to merge FROM. In this case, please contact support with your name, and any email addresses you think we might know about, and we'll work out what has happened.

Q: VEP - CONTROLS / GUI HAS DISAPPEARED!?

You need to 'connect' the instance of VEP to your sequencer, and send it some MIDI - then the controls will reappear. Unless the instance of VEP is 'booted up' by actually connecting it, Kontakt will not complete the setup of the instrument which includes drawing the GUI.

Q: WHAT IS THE NCW COMPRESSED FORMAT?

This is Native Instrument's new lossless compressed sample format - we have managed to reduce the sample data pool by around 55% and this also shows a benefit in streaming for you, along with reduced hard disk space required.

Q: I HAVE FAST INTERNET, WHY IS MY DOWNLOAD SLOW?

We have no direct influence on your actual download speeds, our libraries are hosted on Cloudfront servers which are normally very quick but it may well be that at certain times of the day when traffic is particularly busy, your ISP may throttle your connection speeds. We would advise you to leave your download running overnight as speeds should ramp up at less busy times. Our Spitfire App downloader aims to use as much of the available bandwidth as possible to give you the quickest possible speeds, and may take several minutes to reach its peak.

Q: CAN I INSTALL ON MORE THAN ONE COMPUTER?

With our products you have two licenses. This means that you are allowed to download and install on two computers you own, say your main rig and your mobile rig. The best way to get your library on both of your machines is to copy it from one to another via an external HDD. It saves you from having to re-download the whole library again!

Q: CAN I TRY BEFORE I BUY?

No - it is not currently possible to demo our products. If you go to our Youtube Channel you'll see many many walkthroughs containing detailed info about all our products -- you can hear them being played in real time with no smoke and mirrors!

Q: MY LIBRARIES ARE NOT SHOWING UP IN MY SPITFIRE APP?

A handful of customers may find that when they log into their Spitfire App, some of their previous purchased products do not show up in the 'Installed' section or in the 'Download Ready' section either. It may be that you have purchased these under another email address. Checking other possible email addresses for your previous purchases may help to find these missing products. If this is not the case, and these missing products were purchased a few years ago, please create a support ticket telling us your account email address, and any serial numbers you may have to go with these missing products. Our support team can also merge one or more accounts together if you'd like to consolidate all your purchases in one place. The more information, the quicker we can get you back up and running!

Q: HOW DO I UPDATE MY PRODUCTS?

The main premise of downloading our products is that our Spitfire App downloads into the folder you choose, so it is always good to choose the folder above where you want the download to go. The best file path for our products is something very simple, a long file path will cause errors as there is a character limit on how far the Spitfire App can read. We advise a file path of something along the lines of: Samples Drive > Spitfire Audio - always point the downloader to the folder 'Spitfire Audio' (the folder above the library) for all downloads and updates. When it comes to downloading/updating - if you have a folder called 'Spitfire Audio' always point the Spitfire App to the folder Spitfire Audio - never go into this folder and choose the actual library in question.

Q: HOW DO I REDOWNLOAD THE LATEST UPDATE?

With the continuous improvements to our Spitfire App, we have incorporated the ability to reset your own downloads. This can easily be done via your Spitfire App.

- Open up the Spitfire App and log in with your account email and password.

- Select the download you wish to re-download

- In the cog menu choose Reset Download > Latest Update

- This will reset your latest update

You can repeat this process for any other updates you wish. If you do not see the option to reset your download in your Spitfire App, we would advise downloading the latest version of the Spitfire App from spitfireaudio.com/info/library-manager/.

Q: I'VE BEEN WAITING AGES FOR MY DOWNLOAD LINKS?

We run all our orders through a fraud checking process. The automatic fraud check takes 20 minutes (but can take up to an hour during a very busy period, eg. Black Friday), but if your order gets caught at this stage, we run a manual order check, and this can delay the processing of your order for up to 24 hours (though this would be a rare and exceptional case).

You should however receive an order confirmation email IMMEDIATELY upon placing your order. This confirms that your order has successfully been logged in our system and that your payment was successfully taken. Please check your junk folders before contacting our support. The message will come from do_not_reply@spitfireaudio.com if you'd like to add us to your whitelist.

Q: CAN I DOWNLOAD ON A PC, THEN TRANSFER TO A MAC OR VICE VERSA?

All of our libraries are compatible on both PC and Mac computers (as they run inside Kontakt). You can download all of our libraries on either PC or Mac and they will work if you need to transfer them across to the other operating system. We advise to do this by copying the library you want to move across to an external HDD and then copying it to and then copying it to your other machine.

Q: 'SAMPLES MISSING' ERROR MESSAGES

In some cases, samples files may get lost when transferring libraries from one place to another, or if an update has gone wrong. You may also get this error in some cases if you installed library on a drive with just under the minimum necessary amount of space to install the library (remember that you need **DOUBLE** the size of the final library to install successfully - see above). If this happens, the best way forward is to re-download the library in question. That will ensure you will get all of the content you are missing. For more information on how to re-download a product, please see the beginning of this appendix.

Q: HOW TO BATCH RESAVE A LIBRARY?

There are two main reasons to batch resave: First it speeds up the loading of patches and secondly, it can help you find missing samples and relink them to the patches so that you don't need to search every time you load a patch. Bear in mind that it can sometimes take a few attempts to batch resave, and if Kontakt crashes the first time you try, you could go into the instruments folder and batch resave a bit at a time -- go by sub folders for example, just to lessen the load on Kontakt.

Q: I WANT TO BUY A COLLECTION, BUT I ALREADY OWN ONE OR MORE OF THE PRODUCTS IN IT?

Our cart will intelligently deduct the proportional cost of any products you already own from the total price when you get to the checkout.

Q: I'VE LOST MY SERIAL NUMBER FOR PRODUCT ACTIVATION

Emails get misplaced and you might find that you are out of luck when you need to find a past serial number. The best place to find all of your serial numbers would be to log into your Native Instruments account [HERE](#), and traverse to the My Products, Serials, and Downloads section. Under there you will find all of your serial numbers, including your Spitfire Audio serial numbers. If you find that the serial number you are looking for is not there, please contact us with all of the relevant information.

Q: I THINK I HAVE FOUND A BUG

In some cases we can't squash them all and bugs shamefully make their way through. If you think you have found a bug, please contact us with all the relevant information;

- A description of the bug you have found
- A screencast (video) of the bug happening, or an audio example
- The exact patch name (or patches) in question and also the library giving us as much detail as possible will help us get to the bottom of the issue.

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