BT PHOBOS

POLYCONVOLUTION SYNTHESIZER
USER MANUAL

CONGRATULATIONS

Thank you for purchasing BT - PHOBOS. Phobos is a must-have synthesizer for composers writing epic, cinematic electronic and hybrid compositions. Conceived by renowned composer and electronic music pioneer BT (The Fast and The Furious, Monster, Lara Croft: Tomb Raider), we've together developed a powerful new device to add a unique timbral expansion to your compositions by unlocking the liquid, morphing and transforming capabilities of convolution. With an asset base featuring over 20GB of unique hand built BT rhythms, pulses, textures and atmospheres and a revolutionary polyconvolver engine, you can quickly and easily create molecular loops, patterns and textures to energise your music and hold your audience at the edge of their seats.

Quick Specs

- 2422 Samples.
- Disk space required: 22.85GB.
- Disk space required during install: 46.00GB.
- Totally new dedicated plugin.
- Self optimisation.
- Unique Access to BT's enormous archive of sounds.
- Presets designed by BT himself.
- Presets designed by industry leaders.
- Number of presets: 716
- Number of Source Sounds: 2381
- 4 Slots for Source Sounds.
- 3 independent Colvolvers.
- Load any included loop/pad/sound as an impulse into a convolver.
- 90,471,680,541,391,700,000 possible combinations of sounds.

TABLE OF CONTENTS

WELCOME

Together with Spitfire, BT has combined over 20GB of his own personal bespoke new libraries (following on from Breaks from the Nu Skool and Twisted Textures) into a convolution synthesis engine that allows you to sculpt, filter, rhythmically cut and pulse impulse responses that are tonal, melodic and harmonic. Most importantly you can play them polyphonically.

This synthesizer, sound engine and bespoke library package represents years of diligent searching for new awe-inspiring sounds and sound design techniques. If you, like BT, are looking for a new wave of inspiration for your compositions that is evocative, emotional, expressive and truly new, you owe it to yourself to check out Phobos. It is a well of endless inspiration.

One of the greatest solutions Phobos provides is for composers wanting to engage their audiences for extended sequences and cues without things sounding repetitive or 'loopy'. Phobos allows for an all new real-time interface interaction that allows the user to evolve, warp and transform their molecular patterns according to nuanced changes within a scene.

What is Phobos?

One of Mars' moons? A synthesizer? A tool for creating massive cinematic and electronic rhythms? An engine for endless spectral combinations of wide, lush pads and ambiences with propulsive rhythmic figures? Is it a sound library of bespoke percussion, beats, micro rhythms, field recordings, live acoustic and orchestral treatments, textures and a massive vintage synthesizer collection? That is just scratching the surface.

At its core, Phobos is a synthesizer based on the unexplored precept of polyconvolution as a synthesis engine. BT came up with this idea many years ago doing sound design.
What does that mean exactly? Polyconvolution as a synthesizer? Well, it means instead of using convolution for reverb or modeling an amplifier's distortion circuit, why not make a "reverb" impulse response tonal?

Combining something rhythmic with something tonal (as an impulse response) yielded some of the most modern, liquid and percolating ambiences and textures BT had ever heard. These are the kinds of sounds he has been searching for whilst scoring; those elusive sounds where the director asks for "movement and a feeling of drive, yet subtly". That's not to say that Phobos only excels at subtlety - it can sound massive, driving and aggressive, like an army of monsters in its scope and power.

ABOUT BT

BT is the earliest of early adopters and widely accredited as a maven of modern sound techniques. "There is a very specific lineage of great composers who blazed a new path in music because they weren't afraid to experiment with new sounds, new techniques and new technologies. These progenitors – Cage, Stockhausen, Xenakis – are the people who set the foundation. Let's not forget that the piano was a radical new technology in its time. I had a music theory teacher as a boy who once said

to me, 'Nothing new will ever happen in the arts again. It's all about studying what's already been done and how you combine things.' I don't think I slept for weeks after that. I knew that was an incomplete idea and set out to prove it wrong ever since."

An avid lover of both mathematics and physics, BT looks for inspiration by experiencing natural phenomena, frequently discovering complex mathematical patterns and structural relationships in everyday objects and environments that are often taken for granted. "I find things in the natural world that resonate with me on a very humanist level, those things are typically the core drive for the creation process. My music is an expression of that awe and admiration of the natural world", he explains. "Quite simply, music is applied mathematics. It is aesthetically beautiful as well as practically beautiful. Rhythm, harmony and structure are all mathematical and math, quite simply, is beautiful."

Connection

"I am looking for the symmetry between patterns that are embedded in the natural world and emotions, feeling states and the human condition. I think my life's work is about dissecting, studying and defining that overlap. Music and mathematics are two sides of the same thing. I am constantly looking for a meeting point of these two ideas," BT clarifies.

"My ultimate goal is to keep the emotional counterpoint and the integrity of the song intact, even when pushing the envelope with style and technique. The faster things get, the less people are willing to take in a body of creative work. How many people can stand in front of a painting and deeply take it in? There are so few things now that will engage us. The intent of consuming music is usually to have an awareness or a feeling, to have an truly, empathic connection to others. Whatever it is that you're going through, music makes you feel less alone. You feel a primordial connection to people and the natural world. My hope is to create something that makes people feel that they have consumed something that completes a void. I want to create something lasting."

FEATURES

Revolutionary polyconvolution synthesizer, across 3 separate convolvers.

Contains 2381 unique sounds, created by BT, that can be used both as a source or as an impulse response.

716 presets showcasing the possibilities of Phobos.

Plugin that loads directly into any DAW that supports VST / VST3 / AU / AAX.

DOWNLOADING & INSTALLING

Thank you for buying this Spitfire product. If you are a total newbie to this kind of thing you can get up to speed here: spitfireaudio.com/info/basics/

If you have ordered the product on a hard drive, the first step is to copy the content onto your computer or the drive that you wish to play your samples from.

If you have ordered the product as a download, the Library Manager will download the product as well as install and authorise it.

Grab our 'Library Manager' app from this link: spitfireaudio.com/info/library-manager/
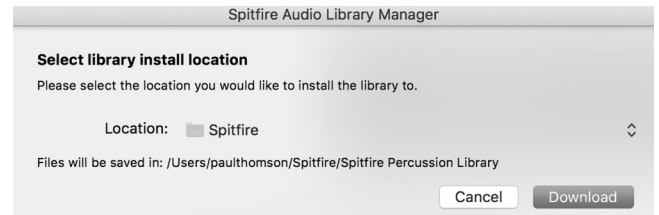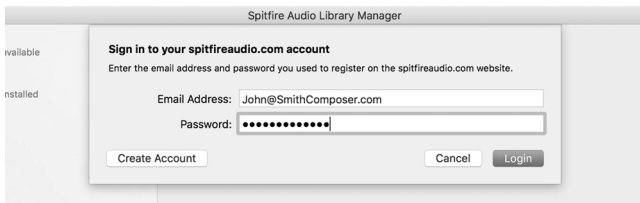
When you launch the app you will be prompted to sign in using the same details you use at our site. Then you'll see your available products:

Once you have selected what you wish to download on the left pane and clicked the 'download' button you will have the option to select a location for the sample content.
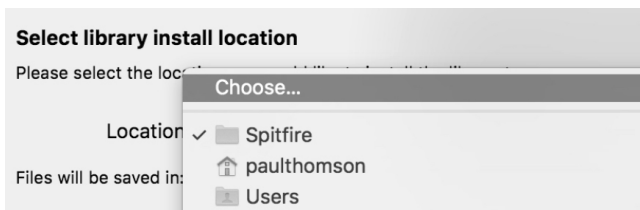
A default location will be generated but you'll most likely want to change this. Here's how! Click on the two little vertical arrowheads to the right of the default location. You will be presented with the following options, and you'll want to click 'CHOOSE'. If you have purchased the product on a hard drive, at this point you will need to point the library manager at the location you copied the sample content to.

Once you've selected the location you can proceed with the download. NOTE THAT THE DOWNLOADER WILL CREATE A SUB FOLDER FOR YOUR LIBRARY IN THE LOCATION SELECTED. This is important: if you have a multi part library, or an update, it means that the Library Manager app will look INSIDE the selected location for your library folder. If it's not there, it will create a new library folder. So, if you mistakenly select the actual library folder itself when adding content or doing an update, instead of the location (one folder level up) that CONTAINS this library folder, you'll end up with a nested mess!!

TOP TIP: You will need approx TWICE the amount of hard drive space as the library uses (see the product page on our site for this info) to download: this is because the zip files are all downloaded, and then unzipped. This process takes a while so don't panic if it looks like it's frozen!

TOP TIP 2: If you get in a total mess you can reset the download of either the whole library or just the latest update from the 'Library' menu of the app. This is limited to a couple of downloads as bandwidth is expensive! Please only do this if you actually need to.

You'll also see an option to Change Install Location, if you selected the wrong one. You can hit the PAUSE button at any time to pause the download, then select CHANGE INSTALL LOCATION and the app will move all the downloaded files to the new location. Once it has finished you'll be prompted if you want to proceed, THEN you can hit the RESUME button to continue the download in the new location.

Once everything is downloaded, the Library Manager will place the plugin files that it needs to enable the product to work in the right locations on the computer and authorise the library. If you ordered the hard drive, the Library Manager will have only downloaded any missing files (of which there should be none or very few) and then moved the system files to the correct location.

INTRODUCTION

Using the Manual

In a number of places through this manual you will see this logo:

This means that there is extra video content that we feel might help you while you use the product on the following page:

spitfireaudio.com/manuals-archive/bt-phobos/

A word on Polyconvolution

So what is convolution?

In mathematical terms it is used to refer to an operation on two functions producing a third function. In audio, convolution is usually mentioned in reference to an impulse response taken from a physical space, applied to a sound in order to simulate the reverb characteristics from that space. In Phobos, we convolve one sound with one or more others to produce totally new sounds.

What is Polyconvolution?

In Phobos there are four **Source units**. You can see them numbered 1 - 4 at the top of the interface. Each **Source unit** can load either a Loop or a Tonal sound.

When a loop is loaded into a **Source unit** the same sound plays regardless of which key is pressed. The pitch of Loop sounds is not directly affected by the key used to trigger the sound.

When a Tonal sound is loaded into a **Source unit** its maximum polyphony is determined by the number of keys in its key range and any overall polyphony limits that have been configured in the Settings page. The pitch of Tonal sounds is adjusted to match the key that was used to trigger the sound.

There are three **Convolver units** which appear in Phobos at the three points of the central triangle. Each **Convolver unit** can load any of the same Loop or Tonal sounds.

These **Convolver units** are slightly different from conventional convolution reverb-like effects. In a similar way to the **Source units**, the **Convolver units** are polyphonic. This means that for each key that triggers one of the **Convolver units** a separate and new impulse response is created. This impulse response will be generated on the fly. This is what we mean by the 'polyconvolution' engine in BT Phobos.

AN ALL NEW PLUGIN

Unlike many Spitfire libraries, you don't need Kontakt Player or the full Kontakt to run this library. Phobos is its own, all new, self contained plugin built for VST, AU and AAX, so once you've downloaded and installed you're ready to go.

The image above shows how you would open Phobos in Apple's Logic Pro X. We've clicked on software instrument and have scrolled to the stereo version of Phobos via the new dedicated 'Spitfire Audio' Folder.

A QUICK LOOK

SHE'S A BEAUT'!
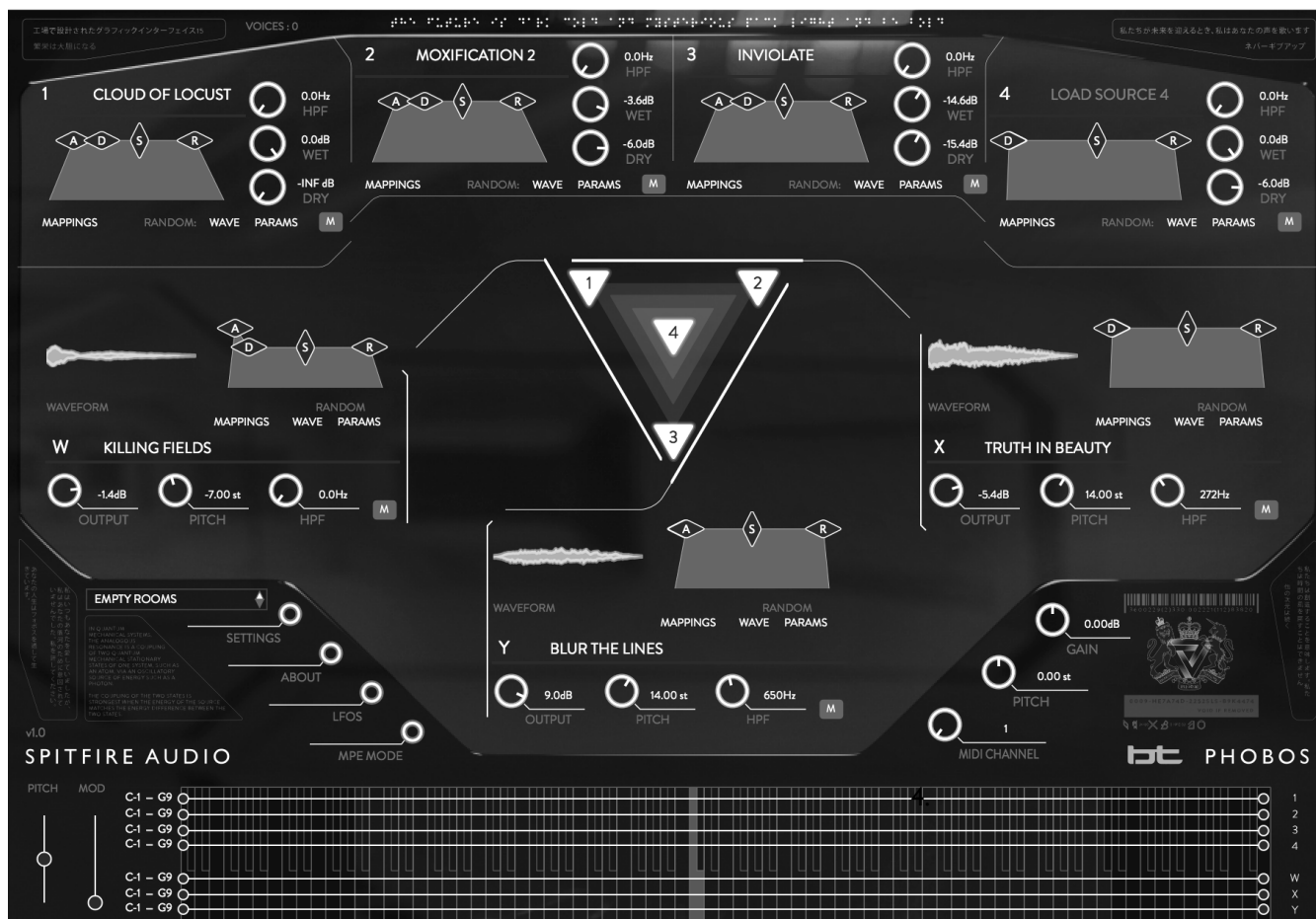
This is where your understanding of synthesis, sampling, convolution and the pre-understood ideas of what a loop, a tone or an atmosphere are will be challenged.

Each Phobos preset is constructed from up to four sound sources (1,2,3,4) put through up to three convolvers (W,X,Y) depending on where the sounds are placed in the central convolution triangle.

OPENING YOUR FIRST PRESETS.
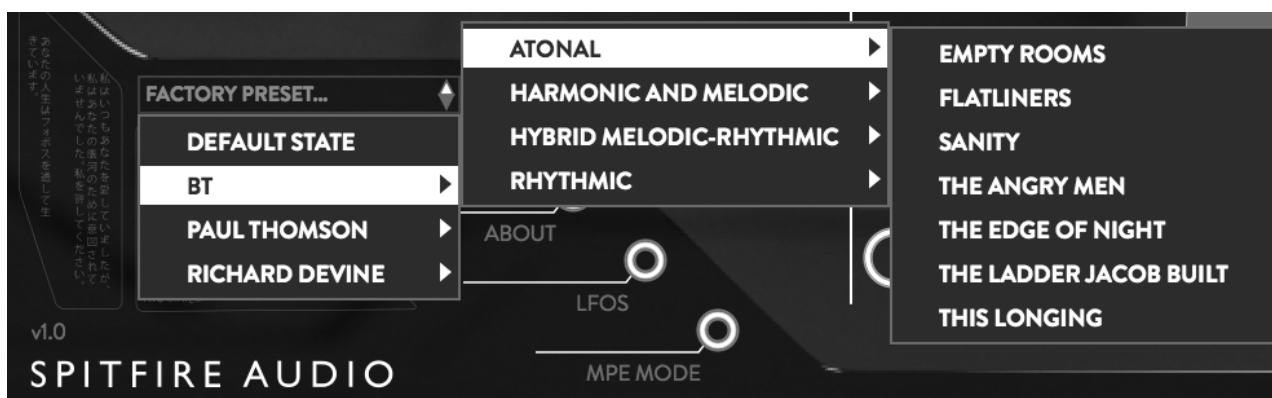
Whilst we know Phobos is going to have you tweaking and convolving into the wee hours we're all here because of BT's chops as a sonic architect. So without further ado here's the box you need to click on to start getting to grips with what this bad boy
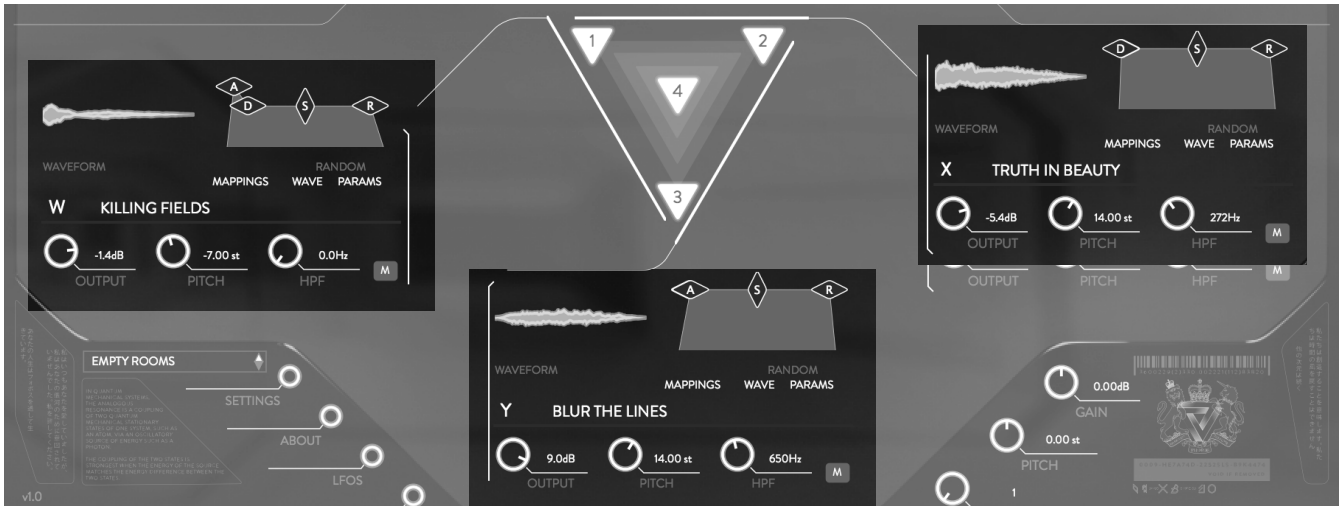
can do. Here is where you will find the 716 presets designed by BT himself and luminaries including Richard Devine. Scroll through names and themes or return Phobos to its "Default State"
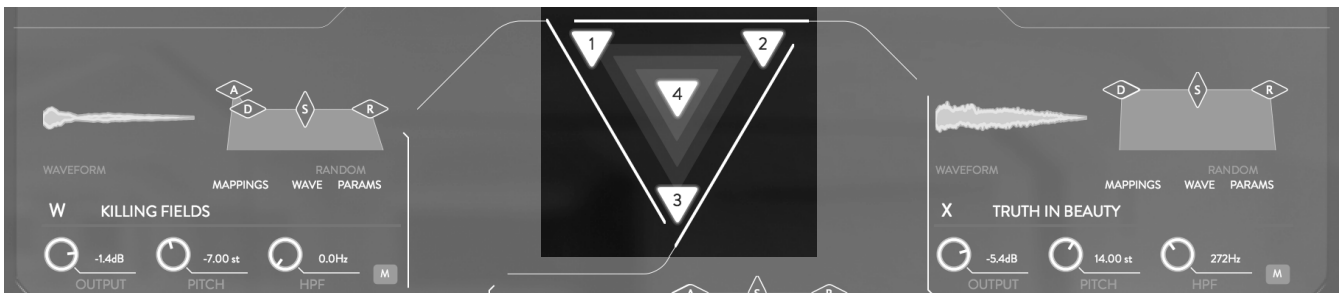
YOUR FIRST 'TOUR'

SOUND SOURCES 1,2,3,4

CONVOLVERS W,X,Y

CONVOLUTION TRIANGLE

MASTER CONTROLS & KEYBOARD RANGE
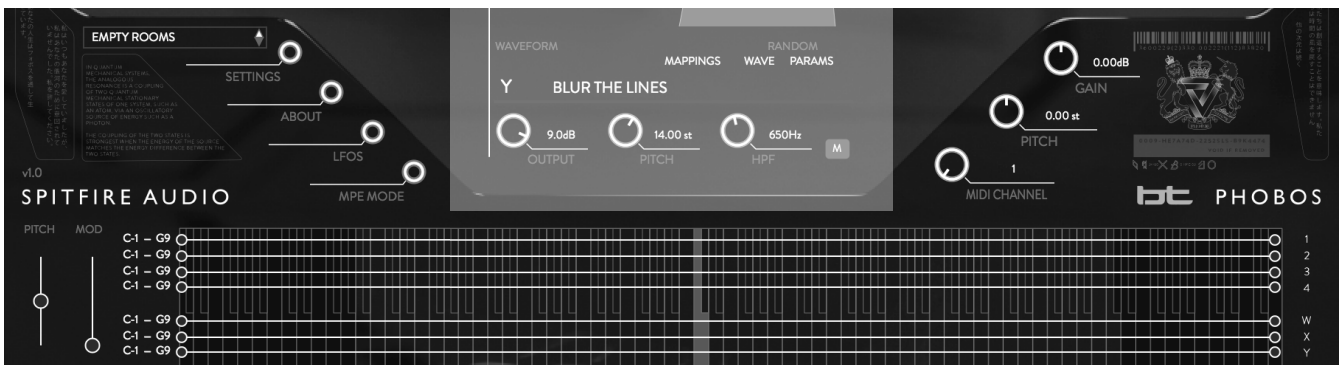
To give a simple intro into the world of Phobos, it starts at the Sources, which are triggered depending on their individual Keyboard Range, get processed through the Convolvers (with the mix of this controlled by the Convolution Triangle) and then fed direct to the output.

The Source section is where the signal starts, with four separate sources (1 to 4) that can be mixed and fed into the three Convolvers (W, X and Y).

BROWSING

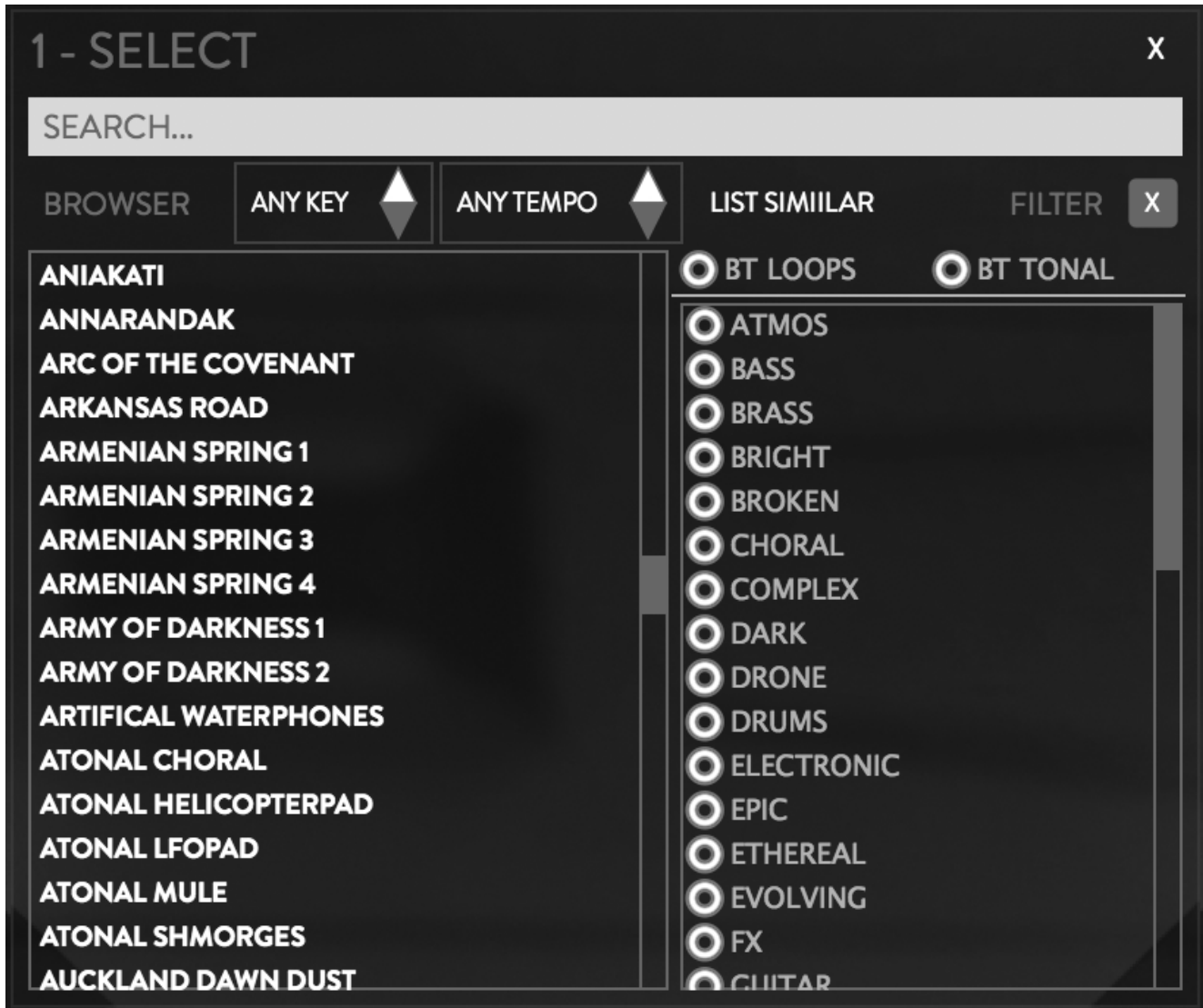## SELECTING SOUND SOURCES 1,2,3,4 & CONVOLVERS W,X,Y

Phobos challenges the convention of loops, tonal patches and how they are used in convolution which is why when clicking on the name of any of the sound sources OR any of the convolvers, you will be greeted with exactly the same browser...


The two dropdown menus below the text field allow you sort by original key or tempo range. Selecting different filter options from the list of categories on the right hand side will show you all the sounds that match those tags on the left hand side. There are also two global tags to select the looped, tempo-matched material ('BT LOOPS') or the pitched tonal material ('BT TONAL'). ALT-CLICK on the sound to audition it before loading it into Phobos.

If you hear something and you want to search for similar types of sounds, then click 'List Similar' and the browser will show you the tags corresponding to that sound.

To remove a sound from any of the sources or convolvers you can ALT-SHIFT click on the name section (as you roll over the name while holding ALT-SHIFT it will display "REMOVE WAVE").

To reset the parameter values for only one of the sources or convolvers at a time you can ALT-SHIFT click on the corresponding 1, 2, 3, 4, (which will display "R" when you roll over the button while holding ALT-SHIFT).

SOUND SOURCES 1,2,3,4
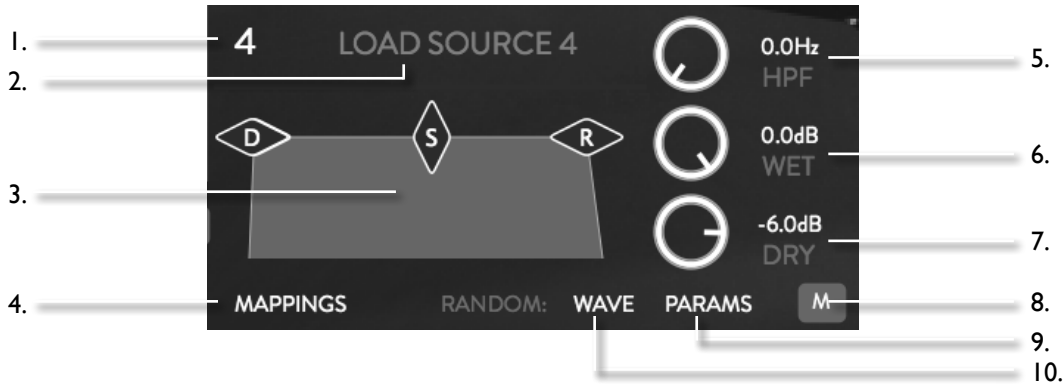
1. SOURCE NUMBER

The source number corresponds to the sound source number in the convolution triangle. Click on this to bring up the source sound 'controls' screen discussed in the **'Advanced Source Sound Controls'** chapter.

ALT/SHIFT/CLICK on this if you want to reset the settings you have made for the sound.

2. SOUND SOURCE NAME

Click on this to bring up the browser as discussed previously. ALT/SHIFT/CLICK to remove.

3. A,D,S,R

These diamonds control the Attack, Decay, Sustain & Release of a sound. The A,D&R control how quickly the sound changes so go left to right, the sustain is a level control so goes up and down. Attack controls how the sound comes in, decay determines how long it stays at full volume before dropping to the sustain level. Release governs how quickly the sound dies away when you let go of the key. You can adjust the curve of the attack and release by clicking and dragging up and down on the graph.

4. MAPPINGS

This opens the modulation mappings settings discussed in the **'How To Assign Controls and Automate'** chapter.

5. HPF

Or 'high pass filter', this is a filter that allows the higher frequencies (depending on where you set it) to come through whilst filtering out the low. With BT's super fat sounds this is a handy 'jump on' knob to control the bottom end. Double click on the value to enter a specific frequency.

6. WET

Whilst the convolution triangle controls which source sound goes through which convolver, the source sound still has its own dedicated mix stage. 'WET' allows you to balance how much pure convolved signal you can hear for the sound source while...

7. DRY

...controls the amount of pure unconvolved signal you can hear. Double click on the value to enter something specific.

8. MUTE

Mutes the source sound.

9 &10 RANDOM SELECTORS

For instant gratification there are also two randomiser buttons.

Clicking 'Wave' will randomly select a sound from the whole collection and load it in place. Holding "alt" while clicking this "Waves" button will limit the selection to the sounds in the "BT LOOPS" category. Holding "shift" while clicking this "Waves" button will limit the selection to the sounds in the "BT TONAL" category.

Clicking 'Params' will randomise the parameters on the sound by ±10% of the current value.

C O N V O L V E R S   W , X , Y

1. WAVE FORM DISPLAY

2. CONVOLVER

This signifies which of the three convolvers you're editing. Click on this to bring up the controls panel discussed in the **'Advanced Convolver Controls'** chapter.

ALT/SHIFT/CLICK on this if you want to reset the settings you have made for the sound.

3. CONVOLVER NAME

Click on this to bring up the browser as discussed previously. ALT/SHIFT/CLICK to remove.

4. OUTPUT

Whilst the convolution triangle controls which source sound goes through which convolver, and the sound sources can control the amount they're affected by the controller, the convolver still has its own dedicated mix stage to control the overall volume of the convolver against the others and the dry source sound signals.

5. PITCH

Controls the pitch of the convolver waveform. Hold shift for fine tuning or double click to enter a specific value.

6. A,D,S,R

Works just the same as with source sounds.

7. RANDOM WAVE & PARAMS

Again, for instant inspiration you can shake it up and randomise convolver selection just like you can with source sounds.

8. MAPPINGS

This opens the modulation mappings settings discussed in the **'How To Assign Controls and Automate'** chapter.
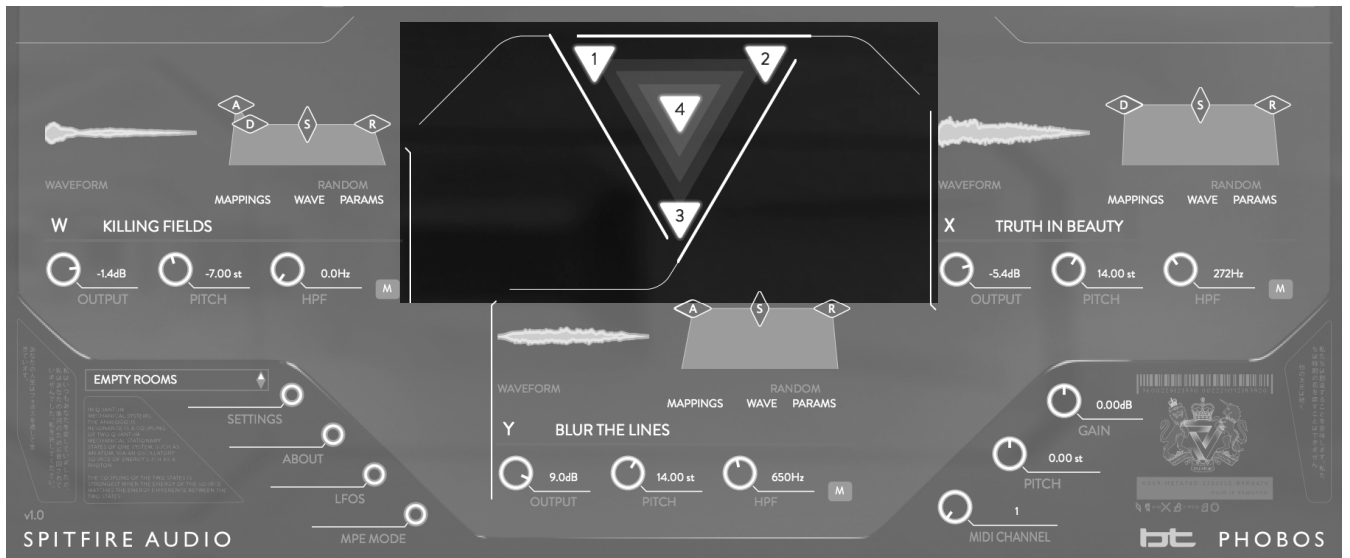
9. HPF

To give you ultimate control, alongside source sounds you also have a high pass filter stage on each convolver.

10. MUTE

Mutes the convolver.

THE CONVOLUTION TRIANGLE

At the centre of Phobos is the Convolution Triangle. Each Source is represented on the Triangle by a 'puck' with the number of the source sound on it. The placement of the puck on the Triangle controls the level sent to each Convolver.

▷ spitfireaudio.com/manuals-archive/bt-phobos/

The top left of the triangle controls levels to controller W, the top right X and the bottom W. So for an equal mix between the three Convolvers, place the puck in the centre of the Triangle (DOUBLE-CLICK on the puck). To have Source 1 processed only by convolver W, place the '1' puck in the top left corner as illustrated.

KEYBOARD RANGE
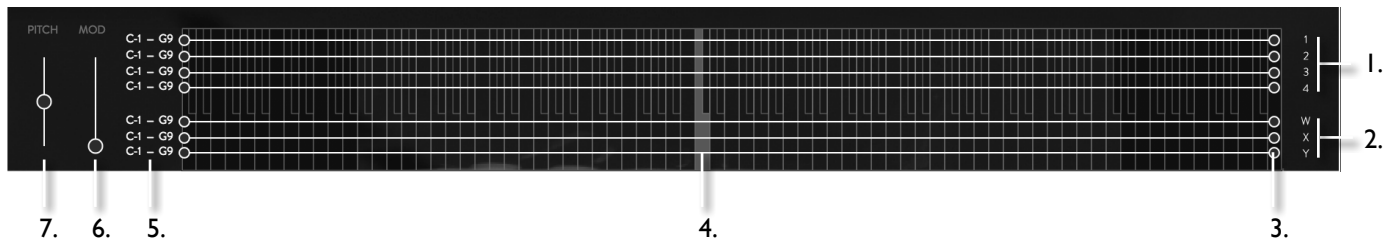
The Keyboard Range section dictates which range on the keyboard triggers which Sources and Convolvers. With the range spread across the whole keyboard, all Sources and Convolvers are triggered by the whole keyboard, but with interesting placements, you can use the Sources as triggers for the Convolvers, or even separate different sounds onto different octaves.

1. SOURCE SOUNDS

These four lines represent the ranges of each of the four source sounds 1,2,3,4.

2. CONVOLVERS

These three lines represent the ranges of each of the three convolvers W, X, Y.

3. RANGE NODES

Grab these from the left and right end of the range to determine what source sound and convolver sits where.

4. KEY INDICATORS

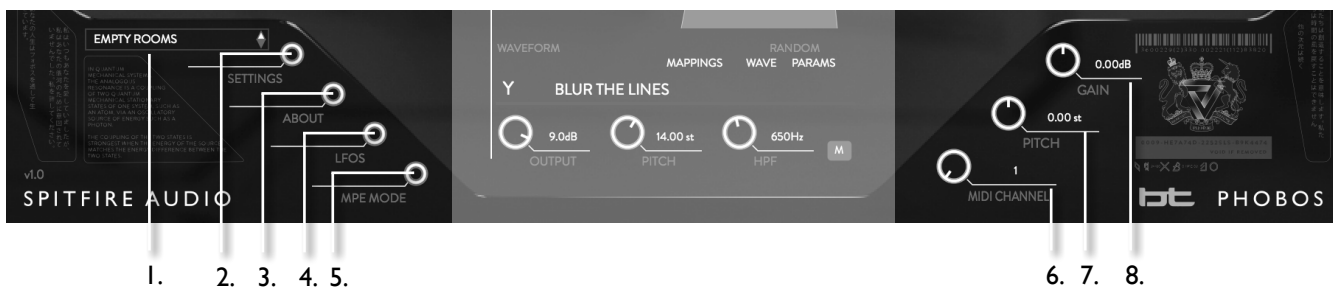These will light up when certain keys are being played. This key is always shaded to illustrate middle C (C4).

5. KEY RANGES

These indicate exactly which ranges you've determined.

6 & 7. CONTROLLERS MOD & PITCH

Indicating and controlling modulation and pitch.

MASTER CONTROLS

1.   2. 3. 4. 5.   6. 7. 8.

The master controls section is split on the left and right hand side of the interface. These controls affect the entire instance of the plugin and / or preset.

1. PRESET BROWSER

As shown before, this is where you get to browse through the awesome array of presets we've prepared for you. Use the arrows to skip through them incrementally.

ON SAVING YOUR OWN PRESETS.
USE YOUR DAW'S PRESET SAVING SYSTEM.

In this screen grab Christian is saving his new preset 'Sheffield '78' in Logic

2. SETTINGS

Phobos is a clever beast. When you boot up it checks out your system and optimises itself accordingly, so you get the very best out of this revolutionary synth. If you click on settings you can check out what it has set itself to and tweak if you want.
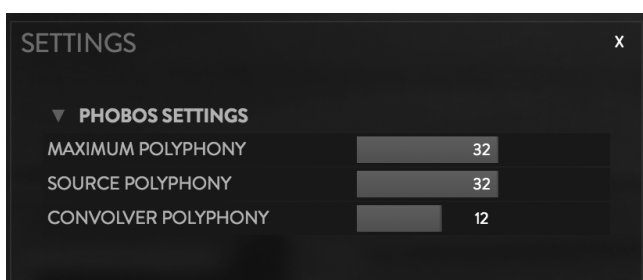
3. ABOUT

Contains our end user license agreement as well as a link to our webpage, containing this very manual!

4. LFOS

Contains all the settings for the LFOs that can be assigned in the modulation mappings. All the LFO frequencies are locked to your host tempo for ease of use with various adjustments that can be made to also help throw them off the grid! See the "Global LFO Controls" chapter to delve deeper.

5. MPE MODE

This is a toggle button that enables or disables MPE (Multidimensional Polyphonic Expression) support for devices such as the Roli RISE or Roger Linn LinnStrument.

GAIN

Or trim, or even volume! This sets the overall output of the plugin.

PITCH

Turn the dial to coarse tune by semi (half) tones. Press shift then move the knob to fine tune by cents.

MIDI CHANNEL

This sets the channel that the plugin recieves at. In most circumstances channel 1 is a standard default for your DAW.

NB It is advised that you keep this in channel 1 when using MPE as this defines the MPE master channel. Obviously if your MPE device has a different MPE master channel, adjust Phobos accordingly.

HOW TO ASSIGN CONTROLS & AUTOMATE

## CONTROLLING PARAMETERS DIRECTLY AND AUTOMATING

Within Logic, standard automation is possible: just choose the automation lane corresponding to the control you want to automate in Phobos. In order to control each parameter directly with a MIDI controller, use the "Controller Assignments" functionality within the Logic Pro X > Control Surfaces menu. "MIDI learn" for the puck needs an extra step because Logic will retain the H or V value, so press "shift" to switch to the other value.

▷   spitfireaudio.com/manuals-archive/bt-phobos/

In ProTools, you can automate the controls in the usual way by enabling automation on the plug-in and writing automation. To control parameters with a control surface, you'll need a Pro Tools compatible control surface that can control the plug-in parameters

MODULATION MAPPING

CLICK HERE
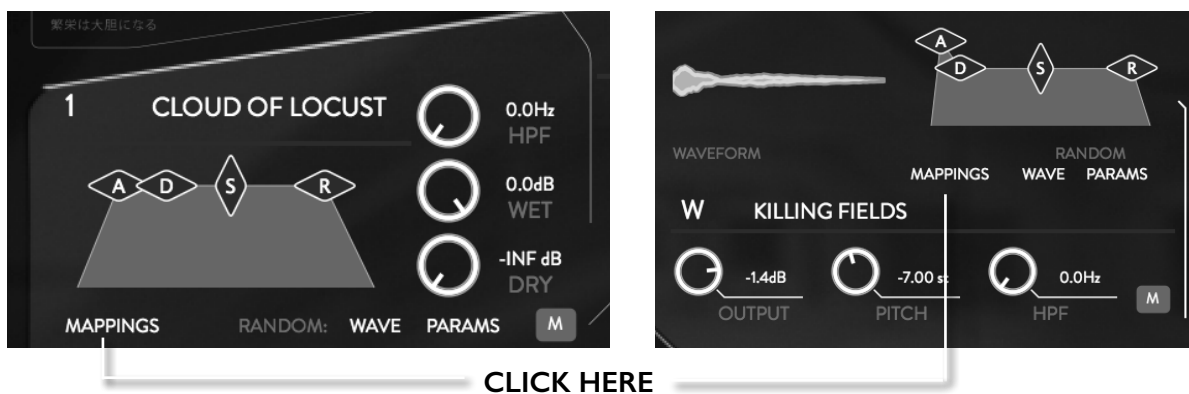
The ability to modulate many of the fantastic and unique controllers is central to the vision of Phobos, which is why modulation mappings - the way in which functions are mapped and then 'modulated' (or changed) in real time by LFOs or controllers - are key to many of our presets, and are applied both to Sources and Convolvers. To get through to the modulation mapping panel click on 'mappings' as illustrated above, or indeed within the advanced convolver controls panels detailed later on in this manual.
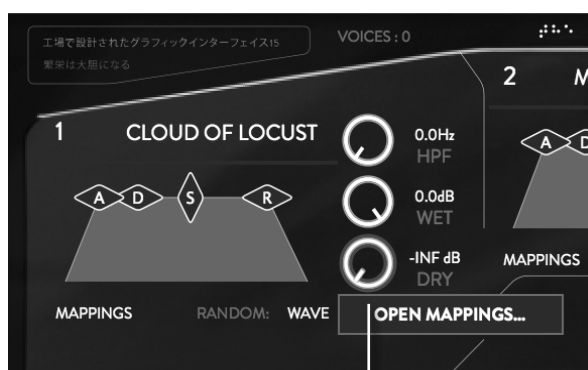
RIGHT CLICK

Alternatively, right-click on a control to get to the mappings menu
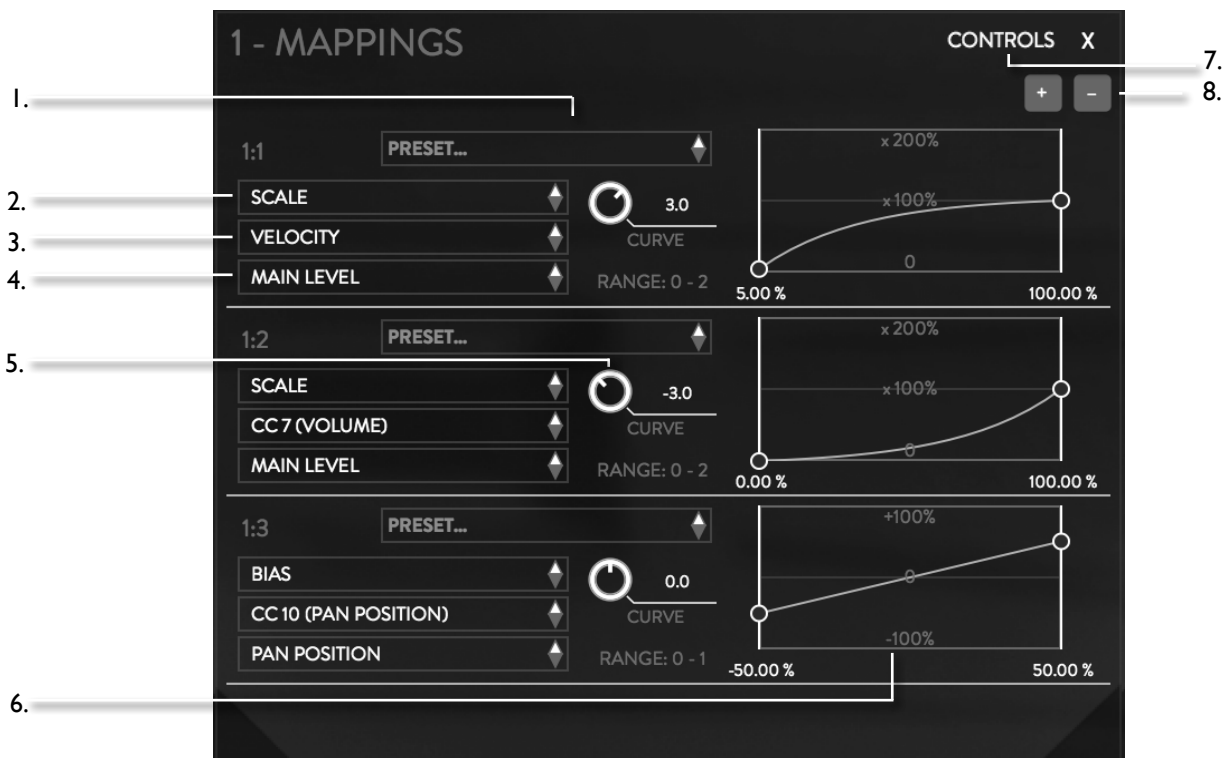
1. PRESET

The mapping preset menu contains a selection of predefined mapping parameters for ease of use, selecting one of these will alter the settings of the currently set mapping parameters.

2. SCALE/BIAS

There are two options here, Scale and Bias. Scale should be used when you want to alter from the amount already set on your 'Target' (e.g. a High Pass Filter Cutoff set at 15kHz and you want to scale the value between that and a percentage of this). Bias will set the value of the Target regardless of what it is currently set to, allowing you to control and automate parameters that might start at a value of 0, for example.

3. SOURCE

This sets the source for the modulation values, in this example we are looking at the velocity level played on the keyboard.

4. TARGET

This sets the target for the modulation, in this example this is set to the Main Level of the Sound Source. This means the velocity (the source) will control the main level (the target).

▷ spitfireaudio.com/manuals-archive/bt-phobos/

5. CURVE

This sets the curve of this modulation, this is displayed graphically on the right hand side, along with the min/max values. Using a curve at -7.0 for level or frequency changes helps to create a more 'even' transition. Double click on the value to enter something specific.

6. GRAPH

The min/max values of the modulation mapping can be changed using the small nodes either side of the graph, and show the percentage points that the mapping will modulate between. Double click on the percentage to enter something specific.

7. CONTROLS

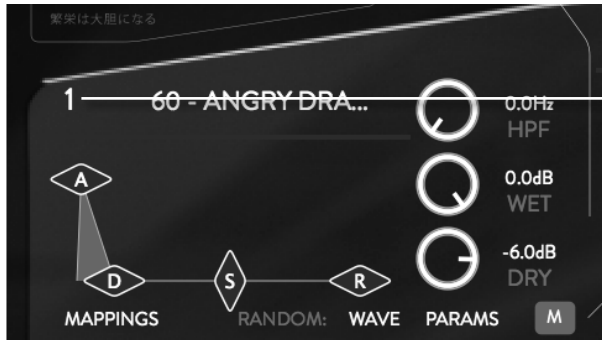This takes you back to the controls for that particular mapping

8. + / -

Additional mappings can be added by clicking on the plus (+) icon in the top right of the window, and unwanted mappings can be removed by clicking on the one you want to remove and clicking on the minus icon (-).

ADVANCED SOURCE SOUND CONTROLS

CLICK HERE

In addition to the options on the Overview screen of Phobos, there is a set of controls to further adapt each Source. These can be accessed by clicking on the number of the Source you wish to edit.

1. PAN & LEVEL

The level controls the overall output. Pan controls the stereo field of the source (PAN: L50 to C to R50).

2. ENV (ENVELOPE)

The envelope contains all the controls for the envelope across the amplitude of the source signal.

• **Attack** - Controls the speed from note on to when the signal gets to full level. (0.000-5.000s)

• **Hold** - Controls the length of time the source is held at full level, before decay. (0.000-5.000s)

• **Decay** - Controls the speed the source level reduces from full to the Sustain. (0.000-5.000s)

• **Sustain** - Controls the level the source plays after the Attack + Hold + Decay time. (-∞ to 0.0dB)

• **Release** - Controls the time taken after note off for the signal to reduce to -∞dB. (0.000-5.000s)

• **Curve** - Adjusts the contour of the release curve, 0.0 is linear, +10 is convex, -10 is concave.

3. START OFFSET

Using the Start Offset you can adjust the starting point of the source material, which is great for jumping into a certain part of a loop, or an evolving pad. Using the % knob you can jump in at any point (%: 0% to 100%). Combining this with the quantise option you can offset by beat related amounts, quantising the value of the % knob to the set value. (QUANTISE: OFF, 1/64 to 4/1). In addition to this, the quantise amount can be Dotted or turned into a triplet by using the relevant button.

4. PITCH & SPEED

The Pitch controls the overall pitch of the source (PITCH: -64 st to +64st) in addition to any pitch shifts introduced depending on the key used to trigger the Source. The pitch controls increase/decrease in single semitones. This can be then fine tuned by shift clicking, and super fine tuned by shift + alt clicking. The speed controls the speed (or tempo) of sample playback (SPEED: 0.25 to 4.0) relative to the DAW.

• **SIMPLE INTERP:** uses linear interpolation of the sample stream where both speed and pitch affect both perceived pitch and the playback tempo of the sample. This is the most efficient option and perfectly usable if pitch shifts are small and time-independent pitch shifting is not required.

• **HQ INTERP:** uses high quality interpolation of the sample stream where both speed and pitch affect both perceived pitch and the playback tempo of the sample. This is the highest quality option where time-independent pitch shifting is not required. (This is the default for the sources.)

• **TIME/PITCH:** this processes the time and pitch of the sample stream independently where the sample will be locked to the tempo of the DAW and pitch shifting may be applied independently of tempo changes.

5. FILTERS

These are two simple high-pass and low-pass filters which can be applied to the source. HPF controls the cutoff frequency of the high-pass filter (HPF: 0.0 to 24kHz), with the resonance of this being controlled by the Q control above (Q: 0.5-10.0). Similarly LPF controls the low-pass filter cutoff frequency (LPF: 0.0 to 24kHz), with the Q control above controlling the resonance.

NB - All parameters can be set by double clicking on the value

6. GATES

There are two different types of gates within Phobos, with both sharing the same Attack and Release knobs.

Gate Low is a standard noise gate, with the gate opening when the incoming signal is above the level of the threshold (THRESHOLD: -∞ to 0.0dB), and reducing the signal by the sensitivity when it is below (SENS: -∞ to -20dB).

Gate High does the reverse of Gate Low, whereby the signal is let through unless it is above the threshold level. If above the threshold level then the signal is reduced by the amount set on the sensitivity knob. The behaviour of Gate High may seem unusual at first, but when combined with the convolvers interesting textures can be produced.

The **Attack** controls the speed the gate opens once either Gate High or Gate Low is opened (ATTACK: 0.00 to 0.30s), and the Release controls the speed the gate closes (RELEASE: 0.00 to 1.00s).
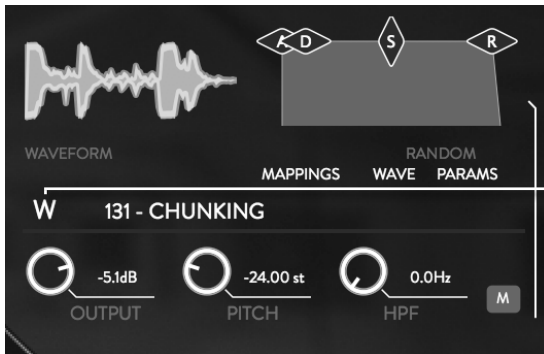
7. MAPPINGS

This opens the modulation mappings settings discussed in the **'modulation mapping'** section.
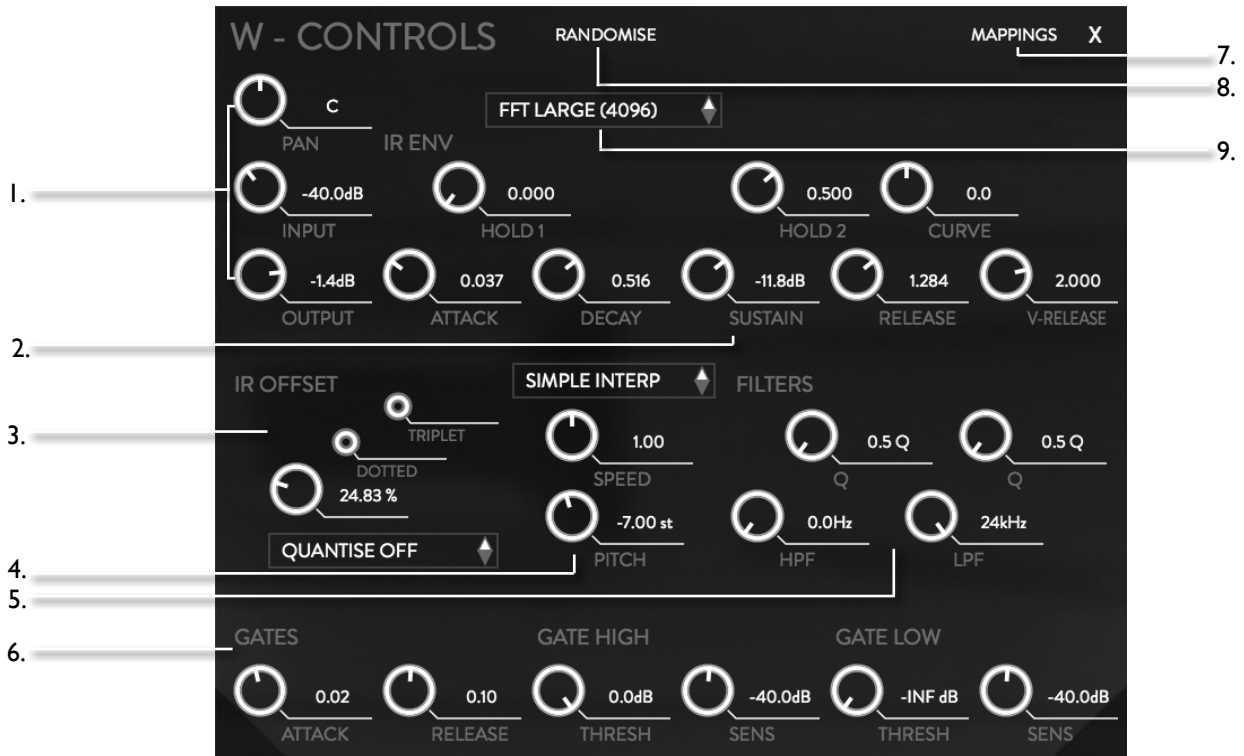
8. RANDOMISE

This will randomise the parameters on the sound ±10% of the current value.

ADVANCED CONVOLVER CONTROLS

CLICK HERE

In addition to the options on the Overview screen of Phobos, there are a set of controls to further adapt each Convolver and its impulse response. These can be accessed by clicking on the letter of the Convolver you wish to edit (e.g. [W] as shown).

1. PAN & LEVELS

The input controls the overall input level to the Convolver and the output controls the overall output. Pan controls the stereo field of the source (PAN: L50 to C to R50).

2. IR ENV (ENVELOPE)

The envelope contains all the controls for the envelope across the amplitude of the impulse response and the Convolver signal.

• **Attack** - Controls the time from note on to when the Convolver impulse response gets to full level. (0.000-5.000s)

• **Hold 1** - Controls the length of time the Convolver impulse response is held at full level, before decay. (0.000-2.000s)

• **Decay** - Controls the speed the Convolver impulse response level reduces from full to the Sustain. (0.000-5.000s)

• **Sustain** - Controls the level the Convolver impulse response plays after the Attack + Hold + Decay time. (-∞ to 0.0dB)

• **Hold 2** - Controls the length of time the Convolver impulse response is held at the sustain level. (0.000-2.000s)

• **Release** - Controls the time taken for the Convolver impulse response to reduce to -∞dB after Hold 2. (0.000-5.000s)

• **Curve** - Adjusts the contour of the release curve, 0.0 is linear, +10 is convex, -10 is concave.

• **V-Release** - (Voice Release) Controls the time taken after note off for the convolved signal to reduce to -∞dB. (0.000-5.000s).

3. IR OFFSET

Using the Offset you can adjust the starting point of the Impulse, which is great for jumping into a certain part of a loop, or an evolving pad to be used as an impulse, or randomising this using an LFO in the mapping. Using the % knob you can jump in at any point (%: 0% to 100%). Combining this with the quantise option you can offset by beat related amounts, quantising the value of the % knob to the set value. (QUANTISE: OFF, 1/64 to 4/1). In addition to this, the quantise amount can be Dotted or turned into a Triplet by using the relevant button.

4. PITCH & SPEED

The Pitch controls the overall pitch of the Convolver impulse response in addition to any pitch shifts introduced depending on the key used to trigger the Convolver (PITCH: -64st to +64st). The pitch controls increase/decrease in single semitones. This can be then fine tuned by shift clicking, and super fine tuned by shift + alt clicking. The speed controls the speed (or tempo) of the Convolver impulse response (SPEED: 0.25 to 4.0) relative to the DAW.

There are three Pitch & Speed modes to choose from, available in the popup menu above these controls:

• **SIMPLE INTERP:** uses linear interpolation of the sample stream where both speed and pitch affect both perceived pitch and the playback tempo of the sample. This is the most efficient option and perfectly usable if pitch shifts are small and time-independent pitch shifting is not required. (This is the default for the convolvers.)

• **HQ INTERP:** uses high quality interpolation of the sample stream where both speed and pitch affect both perceived pitch and the playback tempo of the sample. This is the highest quality option where time-independent pitch shifting is not required.

• **TIME/PITCH:** processes the time and pitch of the sample stream independently where the sample will be locked to the tempo of the DAW and pitch shifting may be applied independently of tempo changes.

It is important to note that all of the convolver parameters above, with the exception of the envelope "V-RELEASE" parameter, are applied to the generation of the impulse response at the moment a key triggers the convolver. The parameters below (plus the envelope "V-RELEASE" parameter) are applied to the result of the input to the convolver and the result of this convolved with the impulse response.

5. FILTERS

These are two simple high-pass and low-pass filters. HPF controls the cutoff frequency of the high-pass filter (HPF: 0.0 to 24kHz), with the resonance of this being controlled by the Q above (Q: 0.5-10.0). Similarly LPF controls the low-pass filter cutoff frequency (LPF: 0.0 to 24kHz), with the Q above controlling the resonance.

6. GATES

There are two different types of gates within Phobos, with both sharing the same Attack and Release knobs.

Gate Low, is a standard noise gate, with the gate opening when the incoming signal is above the level of the threshold (THRESHOLD: -∞ to 0.0dB), and reducing the signal by the sensitivity when it is below (SENS: -∞ to -20dB).

Gate High does the reverse of Gate Low, whereby the signal is let through unless it is above the threshold level. If above the threshold level then the signal is reduced by the amount set on the sensitivity knob.

The **Attack** controls the speed the gate opens once either Gate High or Gate Low is opened (ATTACK: 0.00 to 0.30s), and the Release controls the speed the gate closes (RELEASE: 0.00 to 1.00s).

7. MAPPINGS

This gets you straight back to your mappings panel as discussed in the section **"modulation mappings".**

8. RANDOMISE

This will randomise the parameters on the convolver by ±10% of the current values.

9. FFT SIZE

Here you can set the FFT (Fast Fourier Transform) of the Convolver, changing between Small, Medium and Large. What this affects is the latency of the convolved signal. With the FFT on small the delay between the source and convolved signal is reduced dramatically, however CPU usage is increased. With a larger FFT the delay is increased, but reduces CPU usage. Using a Small FFT with rhythmic material allows you to create really tight pumping melodic content with the Convolves.

NB - All parameters can be set by double clicking on the value

GLOBAL LFO CONTROLS

1. LFOs

There are four separate LFOs available and you can use any number of them in the modulation mappings. Here you can change the settings for the LFOs. All the LFO frequencies are locked to your host tempo for ease of use with various adjustments that can be made to also help throw them off the grid!

2. SHAPE

There are options for the shape of the wave (SHAPE: triangle/saw, pulse/square, random, sine). The transition knob adjusts the shape of the triangle/saw, pulse/square and random waves (TRANSITION: 0.000 to 1.000). The transition knob behaves differently depending on which of these three shapes is active:

• **TRI/SAW:** At 0.0 the shape is a down-saw, at 0.5 it is a triangle, and at 1.0 it is an up-saw.

• **PULSE/SQ:** The value is the pulse width with 0.5 producing a square shape. Closer to 0.0 will result a longer period of the low value and a shorter period of the high value. Closer to 1.0 will result in a shorter period of the low value and a longer period of the high value.

• **RANDOM:** The value controls the interpolation between random values. Closer to 1 the change to the random value will be more immediate and closer to 0.0 the values will be smoothed out (into a kind of randomised undulating wave).

This section also contains a control for the initial phase of the LFO (INIT PHASE: 0.000-1.000) meaning that the LFO will start oscillating at the point in the wave that you define.

3. RATE

Rate adjusts the frequency of the LFO based on your host tempo (RATE: OFF, 1/64 to 4/1) with the ability to scale this with the rate scale to throw these off the locked tempo (RATE SCALE: 0.125 to 8). Dotted and triplet can be toggled on or off.

4. RESYNC

The frequency with which the LFO is resynced can also be adjusted (RESYNC: OFF, 1/64 to 4/1) with the Dotted and Triplet options also available.

By using the rate scale in conjunction with the resync, interesting effects with the LFOs can really make Phobos shine!

▷ spitfireaudio.com/manuals-archive/bt-phobos/

NB - All parameters can be set by double clicking on the value

Q: WHAT ARE THE SYSTEM REQUIREMENTS?

Minimum: 2.8GHz i5 (dual core), 8GB RAM, 35GB free HD space.
Recommended: 2.5GHz i7 (quad-core), 16GB RAM, 35GB free HD space.

Mac OS 10.10 or later
Windows 7 or later
Machine must be connected to the internet

Q: I CAN'T SEE THIS IN THE KONTAKT LIBRARIES PANE AND WHEN I TRY AND LOAD IT INTO KONTAKT IT SAYS NO LIBRARY FOUND

This library does not run in Kontakt, it is a standalone plug-in that you can run in your chosen DAW.

Q: HOW DO I AUTHORISE PHOBOS ON A MACHINE NOT CONNECTED TO THE INTERNET?

It is currently not possible to authorise Phobos on a machine not connected to the internet. Authorisation is done with the Spitfire Audio Library Manager and an internet connection is required. We are working on an offline process.

Q: HOW CAN I REDOWNLOAD A PRODUCT?

This can easily be done via your Library Manager app. To reset both your entire library download or the latest update;

• Open up the Library Manager app and log in with your account email and password.
• Select the download you wish to re-download
• In the toolbar under Library > 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: CAN I USE MY OWN SAMPLES/LOOPS?

Phobos is restricted to the loops and samples that BT has created specially for this product.

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 or use a different drive. We recommend NTFS on PC and Mac OS Extended (journalled) on Mac.

• Free space on your hard drive, you'll need to have at least double the space available on the drive than is taken up by the 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 possible issues:

• Library Manager 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 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 HAVE FAST INTERNET, WHY IS MY DOWNLOAD SLOW?

We have no direct influence on your actual download speeds, our libraries are hosted on Amazon S3 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 Library Manager 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: I'VE LOST MY PATCHES AND PRESET FILES.

In some cases, patches and preset 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. It will ensure you will get all of the content you are missing. More information on this is available at spitfireaudio.com/phoboserror

Q: I'VE LOADED AND TWEAKED A PRESET. HOW DO I SAVE IT SO I CAN USE IT IN ANOTHER SONG / ON ANOTHER MACHINE / IN ANOTHER DAW?

To save your own presets, use the preset saving system within your DAW.

Q: I WANT TO AUTOMATE CONTROLS, HOW DO I DO IT?

The section on How To Assign Controls and Automate covers this, there are also tutorial videos at spitfireaudio.com/manuals-archive/bt-phobos/

Q: WHEN I TURN ALL THE SOURCE SOUND MIXES TO 100% CONVOLVED THERE IS A DELAY WITH THE LOOPS IN MY DAW.

There is a slight delay when processing through the Convolvers, and this produces the slight delay in the loops. This can be greatly reduced by changing the FFT size of a Convolver to the 'Small (128)' setting, thus giving it a much tighter sound with the source material. However this will increase CPU usage. See "Advanced Convolver Controls: 9. FFT SIZE" for more information.

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. You will need to download the library on each machine you wish to use it on as the Library Manager downloads, installs and authorises the product. If you have purchased the library on a hard drive, you should copy the contents of the drive on to the destination machine before beginning the installation and authorisation with the Library Manager.

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 LIBRARY MANAGER

A handful of customers may find that when they log into their Library Manager, some of their previously 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 we have, 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 library manager 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 library manager 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' (or the folder above) for all downloads and updates.

When it comes to downloading / updating - if you have a folder called 'Spitfire Audio' always point the library manager 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 Library Manager app, we have incorporated the ability to reset your own downloads. This can easily be done via your Library Manager app.

Open up the Library Manager app and log in with your account email and password.
- Select the download you wish to re-download
- In the toolbar under Library > 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 Library Manager App, we would advise to download the latest version of the library manager 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?

Currently it is not possible to transfer your authorised library from one machine to another. You need to run the installer from the library manager on the machine you wish to use it on.

Q: 'NO PATCH, SAMPLE OR PRESET' ERROR MESSAGE

In some cases, files may get lost when transferring libraries from the delivery hard drive or if an update has gone wrong. You may also get this error in some cases if you installed your library on a drive with just under the minimum necessary amount of space to install the library (remembering 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. It 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 question above.

Q: HOW DO I DL PRODUCTS ON MAC OSX 10.9?

The version of the Library Manager needed to install Phobos only supports Mac OSX 10.10 and upwards.

Q: 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.

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 supportwith 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 spitfire-audio.com/my-account/login/, 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.