

# ACOUSTIC REFRACTIONS

OPERATION MANUAL



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Special thanks to the Beta Test Team, who were invaluable not just in tracking down bugs, but in making this a better product.

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# 1. Welcome to Acoustic Refractions!

Thank you very much for purchasing ACOUSTIC REFRACTIONS. On behalf of the entire Native Instruments team, we hope that this KORE SOUNDPACK will truly inspire you.

ACOUSTIC REFRACTIONS adds 100 new sounds to your collection of instantly usable KORE SOUNDS®. These KORE SOUNDS have been designed to integrate seamlessly into your KORE SOUND database, making them easily accessible. Also, like the KORE 2/KORE PLAYER factory content, all KORE SOUNDPACKS utilize the KORE 2/KORE PLAYER's Integrated Engines: You only need KORE 2 or KORE PLAYER to make full use of their sonic capabilities. Furthermore, the sounds have been equipped with dedicated Control Page assignments, putting the most important musical parameters right at your fingertips. Individual Sound Variations have been created for each KORE SOUND of this product, adding to the number of preconfigured sounds.

This manual will help you get started with your KORE SOUNDPACK. If you want to start immediately, proceed to the Installation and Activation section. Please read that chapter carefully and fully, as it explains all the steps required to integrate the KORE SOUNDPACK into KORE 2/KORE PLAYER. Following the Installation chapter is an explanation of how to use the KORE SOUNDS within KORE 2/KORE PLAYER. If you are already familiar with KORE 2/KORE PLAYER, this will be straightforward, but it might be worth a look nonetheless. Finally, the last section of this manual adds some more details regarding the sounds that come with ACOUSTIC REFRACTIONS.

## 2. What is Acoustic Refractions?

ACOUSTIC REFRACTIONS is fresh and exciting exploration of the world of sound. Combining curious and engaging sampled material with advanced processing in KORE and ABSYNTH, this pack contains 100 completely original yet highly playable instruments that will resonate with modern musicians and sound designers. ACOUSTIC REFRACTIONS draws inspiration from many idiosyncratic sources, as well as everyday objects and circumstances. Their transformation into playable instruments is a triumph of imagination, creativity and advanced programming. Beautifully sampled from such diverse sources as melting ice, spinning washing machines, traffic on the Golden Gate Bridge, carpets being ripped, underground parking garages, and rain on a car windshield; ACOUSTIC REFRACTIONS is a celebration of refreshingly off-kilter sound design.

When loading a KORE SOUND from this collection, KORE 2/KORE PLAYER automatically loads its Integrated Engines and adjusts the specific sound. This all happens automatically, with no additional adjustments necessary.

After loading the sound, you are ready to tweak it. The Control Pages and Sound Variations, preassigned for each KORE SOUND, enable you to adjust each sound to your production needs or simply morph from one sound world to another.

## 3. Installation and Activation

The following section explains how to install and activate ACOUSTIC REFRACTIONS. Although this process is straightforward, please take a minute to read these instructions, as doing so might prevent some common problems.

### 3.1 Installing Acoustic Refractions

After downloading the KORE SOUNDPACK, unzip the compressed archive you received from Native Instruments. It contains this documentation as a PDF file, as well as an installer application.

To install ACOUSTIC REFRACTIONS, double-click the installer application and follow the instructions on the screen. The installer application automatically places the new KORE SOUND content files into the folders that KORE 2/KORE PLAYER expects them to be in. In the course of the installation procedure, the installer application will ask you to specify another folder for additional files, like this manual.

## 3.2 Activating Acoustic Refractions

When installation is finished, start the SERVICE CENTER that was installed with KORE 2/KORE PLAYER. It will connect your computer to the Internet and activate your ACOUSTIC REFRACTIONS installation. In order to activate your copy of ACOUSTIC REFRACTIONS, you have to perform the following steps within the SERVICE CENTER:

1. Log in: Enter your Native Instruments user account name and password on the initial page. This is the same account information you used in the Native Instruments Online Shop, where you bought your KORE SOUNDPACK, and for other Native Instruments product activations.
2. Select products: The Service Center detects all products that have not yet been activated and lists them. You can activate multiple products at once - for example, KORE 2/KORE PLAYER and your KORE SOUNDPACK, or several KORE SOUNDPACKS.
3. Activate: After proceeding to the next page, the Service Center connects to the Native Instruments server and activates your products.
4. Download updates: When the server has confirmed the activation, the Service Center automatically displays the Update Manager with a list of all available updates for your installed products. Please make sure that you always use the latest version of your Native Instruments products to ensure proper functioning.

Now, you are ready to use ACOUSTIC REFRACTIONS. Please start KORE 2/KORE PLAYER in the standalone mode. This will trigger the database update process automatically and integrate the new KORE SOUNDS into KORE 2/KORE PLAYER's database. The next chapter will explain how to use the new sounds in KORE 2/KORE PLAYER.



Activation of KORE SOUNDPACKS is optional. However, it will give you access to free updates.



Downloading updates is optional. After activation is complete, you can always quit the Service Center.

## 4. How to use Acoustic Refractions

The following sections will give you a brief overview over some basic operations: you will learn how to search for sounds you have in mind and how to load and play KORE SOUNDS. For details about these topics please read the KORE 2/KORE PLAYER manual.

### 4.1 Finding a KORE SOUND

All ACOUSTIC REFRACTIONS KORE SOUNDS are directly integrated into KORE 2's/KORE PLAYER's database. They will show up in the Browser's Search Results List alongside all the other sounds that match your specific search criteria – for example, a combination of Attributes. To restrict your search results to your specific pack's sounds, select the desired pack in the SOUNDPACK column of the Attributes List. The Search Results List shows the entire content of this particular pack.

There is another way to restrict your search results to your specific pack's sounds: simply enter the KORE SOUNDPACK's name into the QUICK SEARCH FIELD of the Browser, or even just a part of the name - for example, "refraction" The corresponding KORE SOUNDS automatically appear in the Search Results List.

If you don't want to limit the results to this KORE SOUNDPACK, but do want to have the display grouped by SOUNDPACKS, you can show the bank name within the Search Results List and sort the list according to this entry. To do so, right-click the Search Results List's header row and activate the Bank entry in the upcoming context menu. This will show each KORE SOUND's bank name in a new column of the Search Results List. Now click the Bank column's header to sort the list according to this specification. This will group the results.



KORE 2 users: if the Soundpack column is not visible in the Attributes List, right-click on the Attributes List header and select the *Soundpack* entry in the upcoming context menu.



## 4.2 Loading the KORE SOUND

### 4.2.1 Loading the KORE SOUND in KORE PLAYER

After you have located your KORE SOUND, load it by double-clicking its Search Results List entry. Alternatively, drag it onto KORE PLAYER's Global Controller. Both actions replace the currently loaded KORE SOUND – if it is the first KORE SOUND you are loading after start-up, it will replace an “empty” KORE SOUND.

When the KORE SOUND is loaded, its Control Page is mapped onto the Global Controller. This preassigned Control Page gives you access to the KORE SOUND's most important parameters. The exact buttons and knobs assignments on the Control Page are specific to each KORE SOUND, as well as the number of Control Pages. With the Global Controller, you also have immediate control of the KORE SOUND's Sound Variations. Please refer to the KORE PLAYER manual for details about Control Pages and Sound Variations.

If you are using KORE PLAYER as a plug-in in a host environment, you can save the positions/states that you set on the eight knobs and eight buttons of the Control Page: saving the host's project saves all settings of all incorporated plug-ins (among others, KORE PLAYER) and thus all changes you made to the loaded KORE SOUND.

### 4.2.2 Loading the KORE SOUND in KORE 2

After you have located your KORE SOUND, load it by double-clicking its Search Results List entry. Alternatively, drag it onto KORE 2's Global Controller. Both actions will replace the currently focused KORE SOUND – if it is the first KORE SOUND you load after start-up, it will replace an “empty” KORE SOUND. If you want to place the KORE SOUND into a specific Channel Insert within the Edit Area (instead of loading the KORE SOUND into the focused one), you can also drag it directly into the Sound Matrix.

When loaded, the KORE SOUND will automatically be displayed so that its Control Pages are directly mapped onto the Global Controller. For each KORE SOUND, a User Page has been pre-assigned, granting direct access to the KORE SOUND's most important parameters. The exact buttons and knobs assignments on the User Page are specific to each KORE SOUND. With the Global Controller, you also have immediate control of the KORE SOUND's Sound Variations. Please refer to the KORE 2/KORE PLAYER manual for details about Control Pages and Sound Variations.

If you have the full version of the Integrated Engine installed, you can also open the engine itself. Just click the **PLUG-IN EDITOR ICON** within the Global Controller, or double-click the **Channel Insert** within the Sound Matrix. This will give you full access to all parameters of the KORE SOUND, exceeding the options in KORE 2's Control Pages. Note that this will change the status of the KORE SOUND: After you have opened a KORE SOUND using its associated plug-in editor, it will always require the respective plug-in's fully licensed version to be installed. (Of course, opening the KORE SOUND in the plug-in's full version does not alter the original KORE SOUND file, but creates a copy that you might want to save as a separate file later.) If you do not use the full editor for editing a KORE SOUND, but instead only use the Control Pages and the Sound Variations, the KORE SOUND will again be loadable without the full license available.

After you have tweaked the KORE SOUND to your liking, you can save it to the User Sounds content by dragging it back onto the Search Results List – just the opposite of the loading process. Within the Save List, you can edit the KORE SOUND's name, enter your name as the KORE SOUND's author and so on. When finished, click the **DONE BUTTON** to save the KORE SOUND to the database. It is now available for each project you are working on.

Alternatively, the KORE SOUND and all changes you made are also saved when you store the Performance of KORE 2. However, the KORE SOUND is not automatically added to the Browser's database. The same happens if you are using KORE 2 as a plug-in: saving the host's project saves all settings of all incorporated plug-ins (like KORE 2) and thus all changes you made to the loaded KORE SOUND.



If these terms are completely new to you, chapter 3.1 of the KORE 2 manual provides general information, and chapter 3.1.4 covers the Control Page system and Sound Variations.

## 5. Content Description

The following paragraphs briefly describe the ACOUSTIC REFRACTIONS content. However, listening to the KORE SOUNDS tells much more than mere words. These descriptions will give you a starting point, but you'll probably learn most about this KORE SOUNDPACK by using it!

ACOUSTIC REFRACTIONS comes with 100 sounds created by Jeremiah Savage. They all use KORE 2/KORE PLAYER's ability to combine diverse sound engines within one KORE SOUND. KONTAKT is used to play samples recorded from a variety of sources: Their authenticity allows to immediately connect an idea, memory or emotion to each sound. Within the same sound, however, the synthesis power of ABSYNTH (and sometimes MASSIVE) complements these recordings, re-creating the samples' sound with other means – and other tweaking capacities. Due to this layering technique, unmusical sound sources have been converted to musical ones.

Always two KORE SOUNDS are based on the same sample set, resulting in a total of 50 recordings. The following list describes the sound sources. Written by Jeremiah Savage himself, the descriptions also explain the initial idea behind each sound.

- ▶ Spacetime Fabric: The sound of carpet tearing is almost as enjoyable as the process of tearing carpet with your bare hands. But when sculpted into an instrument that makes you feel like you are tearing the fabric of space-time, nothing compares. And sweeping through the variations does give you a sense of the Sci-Fi aspect.
- ▶ Aeolian Ropes: This sound was created by picking (not sure if picking is the right word) a very large rope that was chained inside a parking garage (mentioned in the Taiko Garage description). I saw the rope as a string of an instrument that's vibrations are too large and the frequency too low to the human ear. But the slight tonal vibrations of the wind make this a great textural sound that can still be played in a musical way.

- ▶ Taiko Garage: I went to a parking garage in the middle of the night when there were hardly any cars and no noise, and started banging on things. In hindsight I probably should've had more consideration to the people that may have been asleep. Hitting rails, glass windows, wood panels, etc.. The largeness of the sound reminded me of the huge Japanese Taiko drums. But those drums are bongos in comparison to this drum sound. Ok.. maybe that's exaggerating a bit, but the result was a big drum sound with great flexibility.
- ▶ Antique Saw: I found a very old saw in the garage of my parents house. It was an old antique with it's large (still sharp) jagged teeth. I couldn't hep but think running objects against it and cutting through them would make for an interesting sound. That combined with the familiar "singing" sound of a bowed saw programmed in ABSYNTH and flexible tonal morphing takes the idea of a 'musical saw' to a level beyond convention.
- ▶ Bridge Nether: While in San Francisco I walked under the Golden Gate Bridge and found the sound, of metal clanging and gates shaking when the vehicles above passed over it, interesting and thought it would make a great textural noise with the addition of slight tonal characteristics that could be played across a keyboard. It just goes to prove that any physical object can be made into a musical instrument no matter how large.
- ▶ Trapezither: Another sound taken from manipulating the strings of a Hammered Dulcimer with various metal bits and at one point even taking a guitar and sliding its strings across the strings of the Dulcimer in effect creating a double bowed instrument with each instrument being the bow.
- ▶ Agitated Dulcimer: Sampled a Dulcimer using "prepared" techniques and various articulations. This sound uses a sort of bouncing effect from the hammer as it struck the flexible strings. There are a wide range of tones to explore as you sweep through the variations.
- ▶ Jamaican Steel Pan: Sampled from a tuned steel drum a friend of mine and I picked up from Jamaica. Using mallets of various materials such as rubber, wood and bundled wood sticks, combined with the added tones from ABSYNTH, make it highly flexible while each variation turns an ordinary steel drum into an extraordinary one.

- ▶ Wind Tunnel: This sound takes the acoustics from a train tunnel set deep in the mountains close to where I live. I captured the sound of metal clinging against the tracks and the wind breezing through. Not to mention the noisy trains that went through it. There is also the sound of a wooden flute that I embedded in the sound to turn the non-musical, but interesting acoustics, of the train tunnel into a playable flute-like sound.
- ▶ Telestatic: For this sound I took the intrinsic qualities of some old television sets. Such as screen static, knob and dial clicks, bad reception, etc. Then combined them to give them a musical quality. Now instead of your TV having control over you, you have control over the TV and can exploit it's musical properties.
- ▶ Black Hole Piano: I wanted a very exaggerated and flexible piano sound that gives the impression of a sort of stretched out piano or what would happen if you threw a piano in a black hole. I sampled various aspects of a piano that give it it's character but without recording actual notes. Those were put in later by programming a piano sound in ABSYNTH. The result is an atmospheric piano sound that goes beyond even prepared techniques to uncharted realms.
- ▶ Inflatable Bass: Rubber material seems like the perfect compliment to Bass instruments, the only problem is by itself it doesn't create interesting tones. I sampled various rubber balls and other materials then complimented it with a sound designed in absynth. The result is the first playable instrument made from rubber.
- ▶ Liquid Steel Drum: This sound was made from sampling very resonant and flexible metal bowls. The bottom of the bowls is made from rubber. And when hit hard enough creates a slight pitch effect that I thought would be great with a bit of an under-water effect. I sampled different mallet effects to make it a bit more flexible in terms of playable techniques.
- ▶ Oil Barrel Drum: I found an old and nasty looking Oil Drum walking through the city. Of course I couldn't resist recording it. it had a nice, dirty sound. There are many outrageous tonal options to explore in this flexible barrel sound.
- ▶ Rain Blade: While I was driving in the rain - I realized the effect of the rain pelting the window and the windshield blades clearing it away had sort of a hypnotizing effect. So I wanted to create a sound that could approach a similar effect. This sound is the result of that experiment. The friction effect of the blades on the window and the sloshing sound of the rain evoke this image. And the sound variations take you beyond.

- ▶ Rubberband Bass: There are so many uses for rubber bands and now here's another. Compared to a string for a Bass instrument they don't have much of a tone but the actual sound of a rubberband vibrating when flicked or picked is much more exaggerated and interesting than a regular bass string. So this sound gives you the best of both worlds.
- ▶ Rusted Piano: I recorded many prepared techniques with various pieces of metals and tin foil placed on the strings of a piano. Of course this sound gives you the benefit of being tonally playable for those who like more control but has a touch of the abstract which involves the prepared technique.
- ▶ Waschine Drum: There are a lot of sound possibilities lurking in the most unglamorous places. Even the laundromat. So I sampled a rickety washing machine and came up with an aggressive and tight drum sound that makes washing your clothes fun again. You'll never look at an old washing machine the same way again.
- ▶ Xer Pagolin: This sound was made from samples of Dry Ice and various metal pieces rubbed against it or set on the dry ice. When you do this it causes the metal to vibrate at various frequencies depending on the metal object used and how it is applied to the dry ice. This sound has an attack effect that sounds like a comb used as a pick on a string instrument as well as various noises of the singing metal for it's very unique sound.
- ▶ Brass Didge: This sound was modeled after the Didgeridoo but made from samples of a trumpet using a bit of an extended technique to make the low frequency vibrations. I then programmed a sound in ABSYNTH that compliments and adds a unique, brassy didgeridoo sound. Morphing through the sound variations creates the character of mouth dynamics associated with the instrument as well. Since Didgeridoo's can only make one note this sound takes the instrument to an entirely different level of range and dynamics.
- ▶ Cathedral Graffiti: This sound conjures a synaesthetic image of a graffiti artist outside a cathedral building painting, while inside the choir is singing. Made from samples of spray paint and programming the choir sound in ABSYNTH. The combining of two ideas takes this sound beyond a typical synthetic sound to give more than an emotion in sound but also image. It's also possible, using controllers and variations, to morph from choir to organ.

- ▶ **Ethnic Banjo:** This banjo sound morphs into many ethnic instruments that are instantly changeable using the variation switches, as well as prepared banjo effects. Samples were taken from an American banjo and using extended techniques, such as wrapping tin foil around the strings. Ethnic sounds range from the far east Chinese sanxian to India with an hybrid banjo/sitar and beyond.
- ▶ **Jacobs Ladder:** This sound was created from samples of a real Jacobs Ladder that was made by a friend of mine. With additional programming done in ABSYNTH to make this electricity device an actual playable and flexible musical instrument.
- ▶ **Paper Shredder:** This instrument came together from sampling large rolls of paper being torn and smashed and programming a machine-like sound in ABSYNTH. With the two efficiently combined the result was an aggressive and mechanical paper shredder sound that is effective as a percussive and noisy tonal instrument. Sound variations and controllers help make this a very flexible and unique sound.
- ▶ **Plasmaphone:** I wanted to create what I imaged the sounds were like on the inside of a plasma ball. And take it further by imagining what it would be like if there was actually an instrument made from plasma balls that you could play using a Mallet. Sampling sparks and programming the rest in ABSYNTH, this sound represents that idea.
- ▶ **Plucked Tubes:** The idea for this sound came about while I was contemplating the sounds of a long flexible tube I had acquired. Then realizing that it was essentially a very long and very fat and very plastic version of a guitar string (or any other stringed instrument for that matter). So I sampled styles of guitar picking and even strumming and slides to create a very large plucked string (or tubed rather) instrument.
- ▶ **Pneumatic Plunger:** There was no instrument, that I have found, that has the unique sound of a suction cup or plunger device. So one had to be made. Essentially I made use of a plunger and combined it with a pneumatics spring sound I designed in Absynth to create another tonal/percussive machine-like instrument.
- ▶ **Propane Tank:** For this sound I actually made a tuned drum out of a propane tank by cutting tongues in it using a jigsaw. Very rich and harmonic sound similar to the hang drum but with it's own character. Then I sampled it and gave it some extras to make it entirely flexible beyond the range of a standard acoustic instrument. Using controllers and variations you can effectively alter the sound in ways that you could with a real instrument. Things such as dampening the sound and playing on the rim, etc.

- ▶ **Water Tin Gongs:** The inspiration for this sound came from hearing the Philippine set of four, large hanging gongs called the Gandigan. Using a large water tin I could effectively reproduce a sound which was similar and then followed it up by programming the rest in ABSYNTH. Similar to the Gandigan gong but an instrument that stands on it's own. Producing sounds that go beyond the standard tuned gongs to give a wider range of tone and characteristics.
- ▶ **Air Bow:** This is a friction idiophone sound that uses Swords and Ropes as the bow and Air as the “idiophone”. Of course it's a special kind of “air” (helped along with ABSYNTH programming) because there is also tones and resonances that are heard when playing this sound, effectively making it a playable instrument.
- ▶ **Bowed Guitar:** This sound uses a technique I discovered from Stephen Scott who writes music for the Bowed Piano Ensemble. To get the unique bowing sound I used several strands of fishing line well rosined on an acoustic guitar. A much welcome sound for guitarists as the only feasible strings a guitarist can bow on a standard guitar are the outside strings.
- ▶ **Bowed Piano:** Just as with the Bowed Guitar sound this sound was made using several strands of fishing line heavily rosined, with my piano. It's quite a different and unique sound compared to a standard bow.
- ▶ **Gamelan Wrench:** I was inspired to make this sound after hearing a Gamelan ensemble and watching the gangsa performers hitting their metallophones with a hammer. Originally I had the idea to make a xylophone out of wrenches but then I decided to combine the wrenchophone idea with this Gamelan sound which I found to be much more rich and rewarding.
- ▶ **Nail Violin:** Inspired by the nail violin which was invented by the German violinist Johann Wilde in 1740. For this nail violin I used the spokes of a bicycle wheel which is actually very perfect as a nail violin and extremely portable! It's a very bone-chilling sound that would work well as a texture for a soundtrack to an eerie movie.
- ▶ **Rakalimba:** For this sound I made a Kalimba using the metal tines from a rake and mounted it to a typewriter box that I cut a hole into which made for an interesting resonator box effect. Very realistic representation with a much larger note range. Not to mention that it's very flexible in tone and articulation.



- ▶ Thumb Drum: This sound was also made using the home-made Kalimba or Thumb Piano mentioned in the Rakalimba sound description. Playable using different articulations such as hitting the tines with a stick or strumming them. It's capable of tonal and atonal percussive sounds in its diverse sound variations.
- ▶ Verrophone: This musical instrument was made entirely from glass. It is actually two glass instruments in one. Using the mallets for the Verrophone instrument or you can turn it into a glass harmonica made using Wine Glasses. Compare variations A and E for example. But if you count all the other variations it's much more than two instruments as you can dramatically alter the sound into something completely original.
- ▶ Death Whistle: This sound was actually made from sampling a busted water pipe from a farm up the street from where I live. It was an eerie sound that gave me an idea to create something that could be associated with a horror movie. I used absynth to create an even thicker dissonant texture that complimented the sound quite well. Using sound variations you can build a unique texture to your next horror film.
- ▶ Drum Bone: I was inspired to build a drum bone sound when I was experimenting with PVC pipe and a vacuum tube in my garage. I dropped the pipe on the ground and remembered that it had the same sound as the drum bone the Blue Man Group made popular. Use the Pitch Bend to slide the pitch like you would a real drum bone. And of course the sound variations give many more possibilities than your average Drum Bone.
- ▶ Liquid Crystals: The most liquid sound ever created. I spent some time recording drops of water then I combined them with ABSYNTH to create a sound that makes you feel like you are physically playing water (instead of the keyboard) with your fingers.
- ▶ Musical Stones: I got the inspiration to make a Lithophone (Rock Xylophone) after hearing a band called 'Musical Stones' play one that was made over 200 years ago. Using the variations you can change from a percussive mallet sound to a scraping pad. This unique sound is very hard to come by, especially when performing live as lithophones tend to be enormously heavy and hard to carry. This instrument is essentially an extremely portable lithophone that pushes the boundaries even further.
- ▶ Prepared Bass: You don't have to have an arcane understanding of the strange world of prepared instruments to enjoy this prepared bass sound. The manipulation of the strings, which include everything from springs, paper clips, rocks, etc. give the bass the unique prepared feel while remaining totally playable and in tune.

- ▶ Punch Clock: This sound takes you back in time about 100 years. I found an old punch clock from the early 1900's in my parents garage. It turned out to have many musically interesting sounds locked up inside. So by letting them out I was able to create a musical instrument that normally shouldn't be one!
- ▶ Resonant Bowls: This sound was inspired by the Tibetan Singing Bowls. But of course there is much more than one note. In addition, there are many different tones in this contemplative singing bowl sound.
- ▶ Smoke Pipe: My friend was smoking a pipe the other day and the simple sounds of lighting, inhaling, and burning the tobacco was pleasant enough to give me the inspiration for this sound. The sound turned into an aerophone naturally. You get much more than a "buzz" with this sound.
- ▶ Taunted Strings: Another prepared instrument; this time using my acoustic guitar. This sound can really be morphed into something else using the sound variations. I replaced the string sound with absynth while keeping all the acoustic manipulations to make it flexible and realistic.
- ▶ Upright Springs: With this sound I had the idea to make an instrument out of some springs I had laying around. It turned out to be similar in sound to a plucked upright bass but the spring samples change it into an instrument that can only be imagined and realized through the modern technology of KORE.
- ▶ Caged Piano: Inspired heavily by prepared piano sounds. The programming of the piano was done in ABSYNTH and turned out to sound very realistic which gave it the ability to be manipulated easily using variations for a very flexible prepared piano sound. I sampled a grand piano for various articulations and acoustic noises to give the full prepared piano effect.
- ▶ Gas Pipes: I wanted to create a pipe sound that doesn't use air. So I took my blow torch and sampled various sounds and combined them with realistic pipe sounds. You can almost smell the propane when this sound is played.
- ▶ Lightbulb Garden: I sampled various light bulbs being struck and certain intrinsic qualities of lamps such as switches and buzzing from fluorescent lights to create syn-aesthesia garden of lamps when played.

- ▶ **Typewriters Block:** I found and sampled an old typewriter then brought it to life by molding it into a playable percussive instrument. As in most of my sounds there are various noises that come in and out of the sound that create a synaesthesia. Aside from the constant percussive element of different type writer key velocities there are more subtle characteristics that eventually are heard such as the indistinguishable carriage return.
- ▶ **Water Carver:** This sound is a derivative of the Waterphone, a sound often heard in horror movies that creates a sharp and eerie texture and causes your heart beat to reach high frequencies. I sampled the bowing of various metal rods and programmed the water texture using the liquid flexibility of ABSYNTH.
- ▶ **Hang Drum:** This sound is a model of a rare melodious percussive steel drum from Switzerland. The great thing about this one is that it sounds just like the real thing. But it's highly flexible in conjunction with sound variations, has a full keyboard range compared to the 8 notes of the real thing or a sampled one, and of course it's much smaller in size than a full sampled library.
- ▶ **Music Box:** I sampled various music boxes for their unique characters, including the clicking sound of the crank, and programmed other aspects using FM8. The result is a very flexible and realistic representation.
- ▶ **Pagophone (Pago is latin for ice)** was made by sampling mallets hitting blocks of ice. I also sampled ice melting and added various other effects to complete the impression of being a cold instrument. It can be played as a pad or mallet instrument. The inspiration for this sound came from the musician Terje Isungset who creates all his instruments out of ice.
- ▶ **Piano Attack:** I sampled a piano by striking the strings with a metallic mallet (essentially a carpenters hammer). I feel the result of this instrument sounded very similar to an Aphex Twin sound used in the song 'jynweythek ylow' - Using the Variations you can get some nice results.
- ▶ **Rós Feedback:** I sampled my guitar using an E-Bow then designed effects using Guitar Rig. I wanted a guitar feedback effect that was similar to Sigur Rós' sound. I thought it would be a nice idea considering that guitar feedback isn't exactly accessible or controllable in a keyboardist environment. Though this sound is meant to be played/articulated like real guitar feedback would be.

## 6. Credits

Sound Design by Jeremiah Savage.

Additional treatment by Alex Hofmann.