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WELCOME TO THE IRIS COOKBOOK!

Inside you’ll find a number of different recipes designed to help you explore some of the musical possibilities Iris has to offer, from spectral selections to special effects.

HOW TO USE THIS COOKBOOK

Each recipe explains how to achieve a specific sonic result in Iris, using spectral selections and other Iris features.

To help you learn, each recipe comes with an associated preset of the same name. This way you can see and hear an example of what the recipe is trying to teach, plus dive into the deeper settings on your own. The audio files referenced by the recipes are included within the example presets, so you’ll have everything you need—even if you’re just demo’ing Iris. Read on to add flavor to your Drum, Bass, Guitar tracks and more.

Download the Iris Cookbook Presets:
http://downloads.izotope.com/guides/izotope_iriscookbook2014_presets.zip

Please note: Instructions for how to import the Cookbook Presets into Iris are included in the ReadMe file within the presets folder.

Explore, enjoy, and most importantly...make great music!
The iZotope Team

PS: If you don’t have Iris yet, download it here:
ABOUT IRIS

Iris is a “visual instrument” that’s perfect for musical inspiration and sonic experimentation.

Iris includes a Sound Library with 4GB of audio content and hundreds of presets built from that audio content. Additional sound libraries are also available as add-on expansion packs. These sound libraries are centered around specific themes, such as the sounds of Glass, Wood, Voice and more.

Learn more about Iris:
http://www.izotope.com/iris

Check out the Iris Sound Libraries:
NAVIGATING THE IRIS INTERFACE

Let’s take a quick tour of Iris, so that you’ll know where the various features are located when each recipe talks about them.

A. The TOOLS tab hosts the selection tools used to ‘draw’ spectral audio selections.
B. The KEYBOARD tab is where you set the root note for your audio sample.
C. This slider allows you to blend between the waveform / spectrogram view.
D. This slider allows you to adjust the size of Brush and Eraser tools.
E. These buttons allow you to toggle between the Pools (1, 2, 3 and Sub), as well as the Mix view.
F. The Synth tab is where you can access parameters such as the tuning, the LFO, and the MASTER EFFECTS.
The Mix view allows you control over all of the synth parameters for each Pool in one place, as well as a Global LFO and Filter.

A. Here, you can switch the Effects between Send and Master modes.

B. The individual Effects can be tweaked in more detail here.
BUILDING A PRESET

In this section, we’ll take a look at creating some basic musical synth presets using a variety of source material.

BUZZING LEAD

An engaging lead sound needs to have interesting tonal content for melodic importance, and interesting noise content to create an engaging texture. In this patch, we are combining basic synthesized waveforms with exotic textures to give our lead movement and action.

1. In Pool 3, load a Square Wave. Use the Brush selection tool to create visual arcs, which imparts some harmonic movement. Adding Asymmetrical Distortion helps excite certain harmonics. Use the LFO to assign a Sine Wave to control Pitch, with an Attack of between 0.5 to 1 seconds to help the sound develop.

2. In Pool 2, load a texture with a repeating pattern (this preset includes “WoodBrushTap”, a sample included in the Wood Sound Library). To add some spectral movement, use the Eraser Tool to remove sections of the frequency spectrum.
3. In Pool 1, load another textural sound with a quicker repeating pattern. Use the Time-Frequency selection tool to select some high end buzz to add more edge to our sound. Add both distortion and reverb to give the buzz texture some space.

4. In the Sub Pool, load a Square shape, then select the fundamental harmonic and a few of the next harmonics to help emphasize the tonality of the sound. This can be sent to Distortion in order to emphasize some of the upper harmonics and make the sound a bit richer. If you choose to bring out some upper harmonics with distortion, this can be sent to Delay and Reverb in order to help the Sub Pool blend with Pool 3.
CRICKETS PAD

It is easy to add life and sparkle to pads by morphing textures and selecting or rejecting certain harmonics and sections of the frequency spectrum.

1. In Pool 1, load a sample with focused harmonic content (such as the “Clean 1” sample from the Glass Sound Library). Use the Magic Wand selection tool to select the fundamental, and then click again to select the upper harmonics. Add some slight pitch modulation with the LFO, and with the Distortion Master Effect enabled, add some Tube distortion to warm up the sound and further enrich the harmonic content. Send Pool 1 to a Delay and Reverb to give the sound space.

2. In Pool 2, load a noise-based sample and use the Time-frequency selection tool to grab some upper mid noise. Use the Eraser tool to help reshape the noise selection; you can think of this as using a band reject filter.

3. In Pool 3, load a sample with some non-rhythmic transient information (like the “Celery Shredding 2” sample from the Food Sound Library) and use the Select All function. Use the Eraser tool with varying eraser sizes to filter out sections of the frequency spectrum and keep the sound evolving. Send Pool 3 to Distortion to bring out some of the upper harmonics, as well Delay and a Reverb with a large size.

4. (optional) In the Sub Pool, load in a Sine wave and add Distortion in order to add a warm, almost organ-esque vibe.
DIGITAL SWELL

Swells are often used in songs to help propel the emotional drive from one section to another. By manipulating the Attack and Decay times of the envelope controlling the Cutoff Frequency of the Low Pass Filter on the Master, you can create an adaptive sound that can be used in several different sections of your song.

1. In Pool 1, load a sample of a mechanical sound, like an industrial drill. Use the Magic Wand selection tool to pull out some bright, isolated harmonic content. In the example preset, the spectral content we have selected creates almost a digital, glitchy vibe.

2. In Pool 2, load a breathy, soft, harmonic sound (such as “Chime Systems” found in the Resonant Sound Library) and use the Magic Wand to select the desired harmonics. This Pool will act as our higher octave of tonal content.

3. In the Sub Pool, load a Triangle wave to add some low end and help solidify the tonality of the swell.

4. In the Mix window, activate the Filter and set the type to Saturated LP. With the Cutoff at 42Hz and Resonance at .37, activate the Envelope and set it to 100%. Adjust the Attack and Decay times to fit the swell to the tempo of your music.
PLUCK BASS

Synthesized pluck/stab bass sounds have become very popular in both electronic pop and dance music in the past few years. They need a thick bottom end and just enough high end information to cut through the mix. This sound is often achieved by modulating the cutoff frequency of a Low Pass filter with an envelope, but with Iris, we can give each element of the sound its own unique amplitude and frequency modulation with tools like the Brush selection tool.

1. Load a sample with a distinct attack such as a picked or plucked bass into Pool 1. Using the Brush selection tool, draw in a deep downward slope from the initial transient so there is an initial burst of broadband information that quickly filters to only lower frequencies. Send the sound to Distortion, set to Tube, to bring out harmonics and brighten the initial attack.

2. In Pool 2, load in a tonal sample with a good amount of low end harmonics. Draw in a similarly deep downward slope with the Brush selection tool, then draw a second smaller slope next give it a two-stage attack/echo.

3. (optional) Load a Square or Sine wave into the Sub Pool for additional low end support.
RUBBER BAND PLUCK

The spacious, reverberant pluck has been the main focus of a number of chart topping songs lately.

1. In Pool 2, load in a sample with a powerful pitched transient with power in the low mids (such as the “Celery Plucks 2” sample included in the Food Sample Pack) and select one of the plucks with the Time selection tool. This will be the body of our sound. To add power and force to the sound, send the pluck sound to a large Reverb and add some Delay.

2. In Pool 1, add in a similar pitched transient sound with more high end to fill out the spectrum and command more attention in a mix. As with Pool 2, send to a large Reverb.

3. In Pool 3, load a sample with some metallic high end sizzle to help add more space to the sound.

4. (optional) Send Pool 1 to a Distortion, set to Scream, at about -7dB to emphasize some higher harmonics but still retain the body of the sound.
THROATY DISTORTED BASS

Throaty, monstrous, distorted basses have become a go-to secret weapon for many electronic artists. The Brush selection tool coupled with Asymmetrical distortion can create some truly wicked sounds.

1. For the main low end body of our sound, load a Square Wave into the Sub Pool. Using the Frequency selection tool, select the fundamental harmonic, then using the Brush selection tool, speckle in some upper harmonics. With the Effects mode set to Send, send the sound to Asymmetrical Distortion, Delay, and Reverb.

2. To add in some rough textured high end, load a metallic scraping sample into Pool 1 (such as “Swipe Rough 1” from the Resonant Sound Library) and use the Frequency selection tool to remove some of the low end.

3. Load a throaty distorted guitar sample into Pool 2 (in the example, we are using “Low Dirty” from the Resonant Sound Library). Use the Time-Frequency selection tool to select some of the mids and low-mids then use the Eraser tool to remove a good amount of the frequency information so that only certain frequency information will come through. After sending to Distortion, you can hear the resonant pitches that this highlights.
UNEASY PAD
Dark, creepy pads can be the key to driving tension.

1. To ground our pad to the desired tonality, in the Sub Pool, load a Saw shape and select the fundamental harmonic and the first few harmonics. With the Effects on the Master track, add a light Distortion, set to Tube. Set the Amount to around 17% and the Master Distortion amount for the Sub Pool to 74%.

2. In Pool 1, load a processed vocal sample and use the Magic Wand tool to select the fundamental harmonic, then click again to add the upper harmonics. Set the Loop mode to Bkwd/Fwd. On this sample, there are some slowly morphing harmonics that will add some strange resonances and harmonics to the pad.

3. In Pool 2, load a metallic resonance (such as “Amb Bowl Shimmer” from the Resonant Sound Library), then use the Magic Wand tool to select the fundamental harmonic and it’s harmonics.

4. In Pool 3, load a scraping texture and use the Time-Frequency selection tool to grab some mid to low end noise. Activate the LFO and set the Destination to modulate Pan with a Depth of about 36%. When coupled with Delay and Reverb on the Master channel, this will yield some very interesting stereo results.
PHAT BASS

Some waveforms have great bass characteristics, while others sound fat, harmonically rich, but not bassy enough. Here, we mix harmonics from different waveforms with different effects for a fatter, richer sound.

1. In Pool 3, load a Triangle Wave. Using the Frequency selection tool, select the first 16 harmonics. This comprises the solid low end of our synth preset. Add some Tube distortion to enhance the bass.

2. In Pool 2, load a Pulse Wave. Using the Frequency selection tool, begin selecting the high harmonics, moving down until you hear it start to blend with the Triangle wave in Pool 3. This is the more harmonically dense mid to high end of our preset. With the Effects mode set to Send, add some deep Chorus to enhance the space and movement of the richer high end.

3. In Pool 1, load some White Noise or a ‘Pluck Wave’ (such as the Minimoog ‘Pluck’ samples included in the Iris factory content). With the Brush tool, draw a quick downward swooping shape, no more than 0.5 seconds in length. Make sure the Loop parameter is set to One Shot. This is the aggressive attack portion of our synth preset. Add some of the same Tube distortion to enhance the bite of this attack.
4. (optional) In the Sub Pool, load a Sine Clean Wave, and transpose it to be an octave lower than the Triangle Wave in Pool 3. This adds some serious bottom end, which may or may not be required.

For more tips on Designing "Phat" Synth Sounds, check out the tutorial on YouTube.

http://youtu.be/gAgZ_hZdTwy
**GARAGE BASS**

Some genres of electronic music use this type of bass sound, reminiscent of an organ with synth overtones.

1. In Pool 1, load a high velocity held note from a Wurly or Rhodes electric piano. Using the Magic Wand tool, click twice to select all the harmonics. Then, use the Invert Selection tool to leave you with everything surrounding the harmonics selected. This uses the attack and noise of the sample to make up the atonal attack sound of this preset. Use the Eraser tool to further shape the attack. Set the Loop parameter to One Shot.

2. In Pool 2, load a held note by a stringed instrument, say a guitar or violin. Using the Magic Wand tool, precisely select the first few harmonics, and add some Chorus with a high feedback value. Use the Eraser tool to further shape the attack. Set the Loop parameter to One Shot. This makes up the tonal bed of this preset.

3. (optional) In Pool 3, load an audio recording of that ‘juicy’ sound you get by slapping the top of a glass bottle with your palm (if this sounds obscure, the Iris Glass expansion pack includes several). Use the Brush tool to draw around and select some of this spectral ‘juiciness’, and add some Reverb to this selection. This optional step adds some nice movement to the preset.
GAME AHOY

The sound and music heard in classic vintage gaming devices is still popular today, and often referred to as 8-bit... which has become a term used loosely to describe anything sounding bit reduced / aliased, whether or not it's actually 8-bit!

1. In Pool 1, load a sample of a party horn or whistle. These harmonics are usually stationary enough, but have a certain raspy quality to them. Select them all using the Magic Wand tool, and then set the Loop parameter to Fwd/Bkwd, adjusting the Crossfade as needed.

2. In Pool 1, turn on the LFO and assign a Sine Wave to control Pitch. Set a Rate of between 15 to 20Hz, and adjust the Depth as needed until the modulation creates a newly recognizable pitch. (optional) Manipulating the Attack parameter allows for vintage-style special effects, falls and sweeps.

3. With the Effects mode set to Master, add between 30 to 50% of Aliasing distortion, with an Amount of between 20 to 40%. Now you have the classic ‘8-bit’ sound!
**IDLING PAD**

Many different audio sources are ripe for manipulating into synth pads. Vehicle and general engine sounds are not all low rumble... many contain recognizable pitches and tonal elements that can be used to make pads with an edge.

1. In Pool 1, load an engine sound with a recognizable pitch. You will likely see some harmonics in the mid range, and a lot of general noise in the high end. Use the Magic Wand tool to select the harmonics. If the pitch isn’t always steady, adjust the Loop Start and Loop End parameters so that you’ve selected an area that maintains a steady pitch, as in this example. This makes up the tonal bed of the preset.

2. In Pool 1, use the Brush tool to draw in some selections of the high-end noise, to add a sense of ‘wash’ over the pad. Pulling in elements of this noise will make our preset breathier. You can then use the Eraser tool to create holes and sweeping shapes that will make our preset appear to move. It’s this high-end noise, and not the rumble, that’s useful and desirable in engine sounds.
3. With the effects set to Master, add some Delay and Reverb. Giving the left and right channels unique delay times creates a nice additional sense of space. Reduce the ‘Mix’ slider to 50%.

4. Experiment with adjusting the same node from Step 2 up or down to increase punchiness.

For more tips on Creating Synths from Machinery, check out our tutorial on YouTube.

http://youtu.be/zyU7Aq0G3_c
GUITAR CHIMES

Guitar pedals and processors are everywhere, but it’s the guitar itself that delivers the true magic. Delving into acoustic guitars, the sound design possibilities are endless.

1. In Pool 1, load an acoustic guitar chord. In this case we’re using some strummed harmonics, but you can use any type of chord you like. Use the Time-frequency selection tool to select the main body of harmonics, but make sure not to select the initial attack of the strings being plucked. Create a crossfading loop with the Loop parameter set to Fwd/Bkwd. By using the guitar harmonics without the attack, the guitar sounds smoother and more like a synth.

2. In Pool 1, use the Eraser tool to create steps where particular harmonics will not be heard. By creating movement within the preset, you’ll hear different tones come in and out of focus—much like listening to a wind chime.

3. With the effects set to Master, add some Delay and Reverb. Use the Width parameter in the Reverb to increase the sense of space, and play around with some other Reverb parameters to increase the magical qualities of this guitar- or wind chime-style preset.
BASIC WOBBLE

‘Wobble’ is a term popularized by the pulsing sound of a Dubstep bassline. It really refers to general rhythmic filter movement that is useful across a variety of genres and sound design applications. Indeed, the ‘wobble’ has been around longer than Dubstep (and older Dubstep didn’t even wobble!).

1. First, build up a synth lead or bass preset, using some of the techniques mentioned earlier in the ‘Phat Bass’ recipe. Square or Saw Waves tend to work well, because they have a lot of higher harmonic content that makes the wobble obvious.

2. In Mix view, engage a lowpass filter of your choice. Set the Res parameter to approximately 0.5. Set the Cutoff parameter fairly low, cutting out most of the mid range and high end (200 to 300Hz). This is the resting synth sound.

3. Engage the Global LFO, turn the Sync parameter on and set the Destination to Filter CF. Right click on both the Depth and Note parameters and then assign them to Mod Wheel. Set the Depth parameter to approximately 25%, and the Note parameter to ¼. Then for each parameter, right click and hover over Mod Wheel in the list, then click on Update Min. This locks in the values for these parameters when the Mod Wheel is at 0. Now explore how wobble effects different sounds.
4. (optional) Taking a closer look at this preset, you may notice that the Mod Wheel is controlling many different parameters, each with different Min and Max values. Each step enhances the effectiveness of a wobble-type sound, so dive in!

**MORPH HARMONICS**

If your synth preset is going to be sustaining longer notes, using the spectral selection tools in Iris in combination with the LFOs can help create interesting harmonic morphing effects. This can make the sustained notes more interesting over time.

1. In Pool 1, load an audio file that contains some tonal elements. Here, we’re using a bell recording because it contains interesting odd harmonics, but any sample can work. Use the Time-frequency selection tool to make a box selection that incorporates all the harmonics. Set the Loop parameter to One Shot.

2. In Pool 1, listen closely to the selection. Identify the quieter harmonics that add texture, but aren’t crucial to the pitch of the sound. Zoom in, and use the Eraser tool to create a slowly moving hole in the selection that centers around each of these harmonics. Use different shapes and cycles... this will create the effect of the partials fading in and out of the signal, a ‘twinkling’ effect.
3. In Pool 1, right click and select Copy Sample and Selection, then in Pool 2, right click to paste. Set the Loop parameter here to Rev One Shot, and adjust the Fine Tune parameter to +10 ct. Now we have both Pools playing simultaneously, but with spectral harmonic selections morphing the sound.

4. Try adding additional samples and Sub Waveforms to the preset. The next thing to explore would be engaging the LFO on several Pools. In each LFO, choose a different Rate value between 0.3 and 1.5, and have the rest of the parameters as:

   Wave: S+H (Sample and Hold)
   Dest: Pitch
   Sync: Off
   Restart: Off
   Depth: between 0.5 and 1

   Now our harmonics are all moving about differently, with different selections and directions making the sustained notes more interesting.

5. (optional) A useful tip, which you’ll see in action here, is using a smaller size of the Eraser tool to carve out little ‘bowl’ shapes at the end of harmonics. This creates mini fade outs of those particular harmonic selections—avoiding the nasty click a one-shot can encounter if a perfect zero crossing is not selected.
MANIPULATING PRESETS

In this section, we'll look at quick ways you can manipulate presets. These recipes will help you get a handle on how you might use the Iris synth and effects engine to transform existing presets.

SUBTLE AMBIENT PULSING

Introducing some pulsing movement can help add life to a stationary pad.

1. Select Ambient > Plankton preset from the menu.
2. Turn on the LFO for each pool and set the following:
   
   - Wave = Sine
   - Dest = Amp
   - Sync = On
   - Restart = On

3. Set the Depth parameter to around 75%, and the Note parameter to whatever best fits your track. Leave the attack at zero.
4. (optional) To take this effect further, you could create another track within your session, and load the preset again, with different pulsing values to add more variation and layering.
TAPE SPEED PITCH

One of the quirky things about tape as a recording medium was its tendency to drift in pitch if playback speed was not kept constant. These days, the effect is a nostalgic one that people often like the sound of.

1. Select Keys > Orgin from the preset menu.

2. In Pool 2 (Cheesy Organ C4), right click and select Copy Sample and Selection. In Pool 3, paste this in. Set the Coarse parameter in Pool 3 to a value of -12.

3. In Pool 3, engage the LFO, and set the Depth parameter to 2%, and the Rate to 0.1Hz. Hold chords for the warbly tape speed effect. Note that this technique will work on most samples that keep a specific tuning.
WIDENING SOUNDS

You can use classic synthesis techniques to create a wider synth preset, including subtle pitch shifting and panning.

1. Build a synth preset using Pool 1. Make sure the Pan parameter in Pool 1 is set to C.
2. Once you are done making your preset, right click and select Copy Sample and Selection, then paste it to both Pool 2 and Pool 3.
3. In Pool 2, set the Pan to 100L, and adjust the Fine parameter to a value of -20 ct. In Pool 3, set the Pan to 100R, and adjust the Fine parameter to a value of +15 ct.
4. (optional) In Pools 2 and 3, the wider pools, try using the Eraser tool to take away certain elements of your selection. Similar but varied spectral selections will keep the preset interesting in subtle ways, especially when coming from hard L and R panning.
THANKS

Thank you for reading the Iris Cookbook! We hope you have fun using these recipes to serve up fresh excitement in your tracks.

Bon appetit!

For more information, or to download a 10-day free trial of Iris, please visit www.izotope.com/iris

Watch videos on Iris and more at www.youtube.com/izotopeinc

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