

iris 2

REFERENCE MANUAL



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Introduction to Iris

THE WORLD IS YOUR INSTRUMENT

Out of the box, Iris 2 is an inspiring and playable musical instrument, packed with hundreds of inspiring patches and an intuitive interface to easily make them your own. Under the hood, Iris 2 is an innovative new approach to sound design. With the power of a sampler and the flexibility of a modular synth, the sonic options are limited only by your imagination. In place of digital oscillator algorithms, Iris 2 gives you samples of classic analog synths for warm, timeless sounds, and the ability to load and manipulate any other sample from your library. Apply modern modulation, filters, and effects to reveal an entirely new palette of musical possibilities. With Iris 2, designing musical sounds has never been so creative, intuitive, and fun.

KEY FEATURES

Build your own synth: Create sounds that are completely unique by layering up to four different samples from Iris 2's built-in collection of analog oscillator waveforms, the 11 GB Expanded Content Bundle, or your own personal sample library.

Shape your own sound: Develop expressive, dynamic, and evolving musical sounds with the powerful and flexible new modulation system.

Draw your own filters: Draw, select, and isolate sonic components from each sample layer using iZotope's award-winning RX Spectral Filtering technology.

Define your sonic signature: Load one of the hundreds of fresh and inspiring presets and immediately tweak the most important parameters with eight Macro Controls available right in the preset window.

SYSTEM REQUIREMENTS

Operating Systems: Windows and Mac (Intel-based Macs only)

Plug-in Formats: 32/64 bit Audio Units, VST, VST3, AAX, RTAS

Product Compatibility: For the most up-to-date system requirements and host compatibility details, [visit our website](#).

WHAT'S NEW IN IRIS 2

A flexible new modulation system

Iris 2's modulation system was completely rebuilt from the ground up. Now, over 100 parameters can be modulated using up to five LFOs, five Envelopes, MIDI Expression Controllers, and Macro Controls with a simple, single-click-and-drop assignment system.

The LFOs contain 20 different wavetable types, each with multiple shapes and a modulatable control to morph between them, all while monitoring the shape changes with real-time animation. The advanced ADSR envelopes offer adjustable curves, draggable nodes, invert mode, and modulation of all four parameters. MIDI Expression Controls like Key Tracking, Velocity, Aftertouch, and Mod Wheel can be hooked up through the same modulation system and saved with Patches. Macros are quick and easy to assign, and their controls appear in the Patch Browser, as well as an undockable window that can always be open for quick adjustments to customize your sound.

Every pool can load a sample or classic oscillator waveforms

To increase flexibility, the Sub section from Iris 1 has been replaced with a sample pool that allows you to load any sample. Additionally, dozens of classic analog oscillator samples or oscillator waveforms (OSC WAVs) are now available in all four sample pools and quickly accessible right from the spectrogram area.

A completely redesigned interface and experience

Each knob, button, panel, feature, and workflow has been reviewed with input from dozens of artists and users. We've optimized Iris 2 to be an instrument that helps inspire creativity and introduce new possibilities into your musical process.

Extensive visualizations and metering

Every modulated parameter meters the effects of modulation in real time, and a version of the spectrum analyzer from our award-winning Insight metering suite is included right in the master section to quickly identify the effects of your Spectral Filtering and processing.

Enhanced effects and filters

Iris 2 takes the best of iZotope's award-winning signal processing technology and offers up distortion and filters straight from Trash 2, a crystal-clean new delay, and modulatable controls of nearly every parameter within the Multimode Master Filter and four effects processors.

Fresh, inspiring, musical content

Every Iris 2 purchase includes an 11 GB sample library (all provided as 24-bit .WAV files for use in any sampler) and hundreds of exciting new patches by world-class sound designers.

NOTES FOR IRIS 1 USERS

Iris 2 has been completely redesigned and contains numerous new features and improvements that were not available in Iris 1. For this reason, Iris 2 installs in its own separate location with a separate library of samples and patches. We recommend that you keep Iris 1 on your system to recall original sessions that used Iris 1, because it will always have its own unique sound and character that you may want to recall.

Iris 1 patches can be loaded in Iris 2, but because of all the new features in Iris 2, some parameters (like Modulation and sample locations) may need to be reassigned. We **strongly** recommend that you **re-save any Iris 1 patch as an Iris 2 patch in the Iris 2 library** instead of simply 'updating' the patches in your Iris 1 library. This way, Iris 1 will always be able to find and open its original presets.

The Iris 1 'Sub' section used samples from our Moog Modular library. If you have Iris 1 patches that are missing their 'Sub' waveforms, you can simply replace them with samples from the OSC WAVs section of Iris 2, which are located in the 'Sub' folder of the Iris 2 directory.

Iris 1 Sub Waveform

Pink Noise Filtered.irss
 Pink Noise.irss
 Pulse.irss
 Saw.irss
 Sine Clean.irss
 Sine.irss
 Square.irss
 Triangle.irss
 White Noise Filtered.irss
 White Noise.irss

Iris 2 Oscillator Waveform

Iris 2/Sub/06-Noise/Noise Pink Filtered Moog.wav
 Iris 2/Sub/06-Noise/Noise Pink Moog.wav
 Iris 2/Sub/05-Pulse/Pulse Moog Modular.wav
 Iris 2/Sub/02-Saw/Saw Moog Modular.wav
 Iris 2/Sub/01-Sine/Sine Clean.wav
 Iris 2/Sub/01-Sine/Sine Moog Modular.wav
 Iris 2/Sub/04-Square/Square Moog Modular.wav
 Iris 2/Sub/03-Triangle/Triangle Mood Modular.wav
 Iris 2/Sub/06-Noise/Noise White Filtered Moog.wav
 Iris 2/Sub/06-Noise/Moise White Moog.wav

INSTALLATION & AUTHORIZATION

Downloading Iris 2

Downloading and installing Iris 2 is quick and easy, and the software that you download for our free, 10-day trial can simply be “switched on” to full activation by a simple authorization process.

If you want to try out a demo of Iris 2 for the first time, are upgrading from Iris 1, or you just purchased Iris 2 and are ready to install it on your computer, simply go to the Iris 2 page on the iZotope website and click the “TRY” button:



If you are not already logged into [the iZotope website](#), you will be prompted for an e-mail address to log in or set up a new account. Once the login/registration process is complete, you'll be directed to the Iris 2 download page, where you can download our software for Mac or PC.

As noted on this page, anyone can download the full version of Iris 2. If you haven't purchased Iris 2 yet, the software will operate in Trial mode. If you have purchased Iris, you can authorize the software with a valid Serial Number.

This single installer includes the Iris 2 software itself, a selection of our best presets, and a basic library of samples and oscillator waveforms. The Iris 2 Installer downloads as an .EXE or .DMG file that is just under 500 MB. For slower internet connections, this download can be paused using your web-browser's "Pause" feature, and resumed at a more convenient time.

Note to upgraders:

Downloading Iris 2 should not replace Iris 1 or any of its content. This means all the songs and sessions you have created with Iris 1 should load as normal. Iris 2 has been completely redesigned from the ground up, and because of this it will have a new sound all of its own, so you may want to keep Iris 1 installed on your computer to maintain that original sound you used on previous projects.

DOWNLOADING THE FULL IRIS 2 CONTENT LIBRARY

Once you have purchased and authorized Iris 2, you will have access to over 11 GB of royalty-free .WAV samples and hundreds of presets through [your iZotope account](#).

Note: This content will only become available after you have authorized the Iris 2 software.

On [your iZotope account page](#), you'll see a left-hand navigation button labeled "Iris Sound Libraries:"



IRIS SOUND LIBRARIES

Clicking here will bring you to a page filled with all your Expanded Content installers for both Mac and PC. Each content installer is over 1 GB, which means it may take a while to download. Once again, you can take advantage of your internet browser's "Pause" feature if you need to stop a download part way through.

If you have limited internet connectivity and are having troubles downloading any of your expanded content, please contact our [support team](#).

AUTHORIZATION

Each purchased copy of Iris 2 contains a unique serial number. After purchasing Iris 2 directly from iZotope or another reseller the serial number will be e-mailed along with the link to download the product. The serial number should resemble:

SN-IRIS2-XXXX-XXXX-XXXX-XXXX

LAUNCHING THE AUTHORIZATION WIZARD

The first time you open Iris 2, the Authorization Wizard will appear. You can choose to either authorize Iris 2 or use it in Trial mode for evaluation purposes. Please use your supplied Iris 2 serial number to fully authorize your product:

TRIAL VS. DEMO MODE

For 10 days after you first open Iris 2 as a plug-in or standalone application, it will run in Trial Mode, which offers full functionality. After 10 days, Iris 2 will revert to Demo mode. In Demo mode, Iris 2 will periodically mute audio output.

AUTHORIZING YOUR COPY OF IRIS 2 ONLINE

After opening Iris 2 and launching the Authorization Wizard, the following steps will complete the authorization process online:

1. Enter the serial number e-mailed to you or contained in the Iris 2 box you purchased. It should look like this: SN-IRIS2-XXXX-XXXX-XXXX-XXXX
2. You must also enter your name and a valid e-mail address. Make note of the e-mail address you use to authorize your license. Your license and iZotope account will be linked directly to this e-mail address. When you have confirmed that your serial number and e-mail information are accurate, click “Authorize.”
3. Lastly, click “Submit” to send your authorization message to the iZotope servers. If the authorization is accepted, click “Finish” button to complete the authorization.

AUTHORIZING YOUR COPY OF IRIS 2 TO A PORTABLE DRIVE

If you frequently move between different computers, or keep your audio workstation offline, you may want to keep your Iris 2 authorization on a portable hard drive or flash drive. After opening Iris 2 and launching the Authorization Wizard, the following steps will complete the authorization process:

1. Enter the serial number e-mailed to you or contained in the Iris 2 box you purchased. It should look like this: SN-IRIS2-XXXX-XXXX-XXXX-XXXX
2. You must also enter your name and a valid e-mail address. Make note of the e-mail address you use to authorize your license. Your license and iZotope account will be linked directly to this e-mail address.
3. Make sure the portable drive you will to store the authorization on is plugged in, mounted, and formatted.
4. Click “Advanced” and choose “Store response on disk,” then choose the desired disk in the list on the left.

5. When you have confirmed that your serial number and e-mail information are accurate, click “Authorize.”
6. Lastly, click “Submit” in order to send your authorization message to the iZotope servers. If the authorization is accepted, click “Finish” to complete the authorization.
7. You can now use this portable drive to authorize any computer it is connected to, as it simply reads the authorization file from the disk.

AUTHORIZING YOUR COPY OF IRIS 2 TO AN ILOK

If you frequently move between different computers, or keep your audio workstation offline, you may want to keep your Iris 2 authorization on an iLok. There are two ways of authorizing your Iris 2 license to an iLok.

Option 1

1. An authorization wizard will appear the first time you load Iris 2.
2. Select the “Use iLok authorization” option and enter your iLok account ID/username in the field below it. Once submitted, an iLok authorization will be sent to your account.

Option 2

1. Log into your iZotope.com account.
2. Click on the “Activate Software” link in the left-hand column of your account page.
3. Locate your iZotope product in the Software Authorization section and click “iLok ID.”
4. In the next page, enter your iLok ID and click “Submit.”
5. An authorization will be sent to your iLok account.

AUTHORIZING YOUR COPY OF IRIS 2 OFFLINE.

Some customers choose to keep their audio workstations offline, and a simple offline authorization option has been included. **You will need access to a device with internet access**, but it need not be the computer you are authorizing. After opening Iris 2 and launching the Authorization Wizard, the following steps will complete the authorization process offline:

1. Click on the option for “Offline Authorization” at the bottom of the authorization window, then select “Authorize with iZotope challenge/response” and click “Next.”
2. You will be given a unique Challenge Code or file that is specific to your computer only. Write down the exact Challenge Code or click the “Copy” button to copy the challenge code to your computer’s clipboard.
3. Next, using a system with internet access, log in to your customer account at the [iZotope website](#).
4. Enter the “Activate Software” menu and select the “Challenge/Response” option appearing for your plug-in license.
5. This will allow you to exchange your challenge code for a valid response code, which you can then bring back to your audio system to complete the authorization process.

QUICKSTART

The best way to learn Iris 2 is to start making music with it. You can instantiate Iris 2 as a plug-in in your favored audio editing software, or simply open the Iris 2 standalone application. Iris 2 works best when used in conjunction with a MIDI keyboard controller, but can also be used without one.



Once you've installed and authorized Iris 2, an "Introduction to Iris" window will pop open when you open, offering you links to this user manual and videos online that can help you get started. If you want to see this window in the future, you can simply check the box labeled "Show at Start." If you ever need to find links to this user manual, tutorial videos, or any of our help materials, just click on the question mark in the top right hand corner of the Iris 2 window. Just above the help button is an icon that looks like an open-ended wrench. Clicking here will bring you to the Options Panel, which can help you customize features we'll learn about later in the manual.



After clicking past the "Introduction to Iris" window, open the Iris 2 Patch Browser by clicking in the Patch Display in the Global Toolbar (it will likely say 'Bass - New Patch' when you first open). Here, you can choose from the sampling of the 45 trial patches built into Iris 2, or from the hundreds of factory patches if you've authorized your purchase and downloaded/installed the Core Content packs available in [your iZotope account](#).

Presets are organized into useful folders like “Leads” and “Pads,” and can be previewed by clicking on a preset to load it, then simply playing notes on your MIDI controller or the keyboard displayed at the bottom of the Iris 2 window.



As you explore all the patches included with Iris 2, you'll notice there are eight Macro Controls located to the right side of this window. These knobs give you access to some of the most commonly adjusted parameters right from the preset browser so you can quickly tweak any preset. You can also easily attach these Macro Controls to knobs or sliders on your MIDI controller for real-time physical manipulation. Just click “MIDI Assign” located in the global panel. All the Macro names will light up yellow, but clicking on one will turn the name red. From here, you simply twist a knob or move a slider on your MIDI controller, and that knob will instantly attach to that Macro Control. After you've assigned MIDI controls, simply click the “MIDI Assign” one more time to turn MIDI Assign Mode off. These MIDI Assignments will be saved in your preferences so you can set up your MIDI controller with Iris 2 just once and it will always remember your settings.

Later in the manual, you'll learn how to create custom [Macro Controls](#) as part of the modulation system.

UI OVERVIEW

Iris 2 has a dynamic new user interface (UI) designed to make every control easily accessible and easy to use. In addition to being resizable, you can customize the UI to work best for your computer and workflow by hiding, revealing, or undocking different panels. Along with MIDI Assignments, the UI layout you set up will save between sessions so Iris will look and feel the same each time you use it.

This is an overview of the Main UI with all the panels open:



The view we see above is made up of seven panels, four of which can be dynamically opened and closed simply by clicking in each tab. Another four panels (Browser, Mix, Modulation, and Macro Controls) can be completely undocked from the UI to be arranged and displayed on a second monitor and set out of the way when not in use.

Every parameter, button, and knob in Iris 2 is equipped with a Tool Tip. Simply hover your mouse cursor over something and a short description, or Tool Tip, will pop up to help indicate what that object does. This feature can be disabled in the [Options Panel](#).

Global Panel: Located at the top of the Iris 2 UI, this panel contains basic controls for loading, saving, and displaying Patches, as well as voice modes and master controls for Glide (portamento), Intensity, and Output. From here, you can also navigate between Sample Pool views and access the most important mix controls for each sample, like Solo, Mute, and Gain.

Sample Panel: This panel offers parameters for control over whatever sample you are viewing in the spectrogram area. It is represented not only as a collapsible panel in the Main UI, but also in the [Mix Window](#). In here are many of the important Sample Playback controls (direction, pitch mode, loop, and retrigger) as well as modulatable tuning adjustments (Coarse and Fine), mix controls (Pan and Gain), and effects sends.

Master Panel: Another collapsible panel that is replicated in the Mix Window, this provides modulatable master controls for Pan and Gain, the Multimode Master Filter section, and Dry/Wet controls for the Master Effects.

Modulation Panel: Both collapsible and undockable, this provides access to the controls and drag-and-drop assignment buttons for the five LFOs, five Envelopes, MIDI Expression Controllers, and Macro Controls.

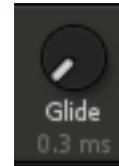
Keyboard Panel: A playable keyboard for auditioning sounds, this section also contains the controls for setting sample mapping/split points and pitch bend range.

Spectrogram Area: The heart of Iris 2's Spectral Filtering, this is where you can view your sample as a Spectrogram (Frequency/Time), Waveform (Amplitude/Time), or combination of both. This is also the area where you can draw filter shapes and modify sample playback options like loop points and crossfades between those loop points, as well as playback offset and delay.

Tools Panel: Always open at the left side of the main UI, these are the tools used to Zoom, Draw, and Preview spectral filter selections made on the Spectrogram.

ADJUSTING PARAMETERS IN IRIS 2

There are over 100 modulatable parameters in Iris 2, and they share a specific knob type, each with three modulation target slots/range adjustments. There are only 13 other parameters in Iris 2 which are not modulatable, and they use a slightly different knob type that omits the three modulation target circles. Finally, there are five non-modulatable text controls located in each Spectrogram area. For each of these controls, there are multiple different ways to adjust parameter values with varying degrees of control. For more information on assigning, visualizing, and setting ranges of modulators, see the chapter on [Modulation Routing](#).

*Modulatable Knob**Non-modulatable Text Control**Non-Modulatable Knob*

To adjust one of these controls, you can:

1. Click and drag up or down on the knob or text value using your mouse or trackpad.
2. Click on the knob or text value and then use your mouse scroll wheel or trackpad.
3. Click on the knob or text value and then use your keyboard up/down arrows.
4. Double-click on the text value and enter the desired amount utilizing the full resolution of the parameter, up to 5 decimal places (e.g. - 0.12345 dB).
5. Right-click on the knob or text value and select “Edit” to enter the desired amount.
6. Right-click on the knob or text value to copy/paste the desired amount across controls.

Using modifier keys can offer even more flexibility:

1. Holding Command (Mac) or Ctrl (PC) while adjusting a parameter provides fine control.
2. Holding Shift while adjusting a parameter provides coarse control.
3. Holding Option and clicking or double-clicking on a parameter restores it to its default value.

Right-clicking on a parameter will reveal additional options for copying, pasting, or editing parameter values, assigning or clearing modulators, and setting modulation combination amounts.

Another useful keyboard navigation feature allows you to use the Tab key to move between each of the four sample pools and the All View.

Use of other common key combinations (like Command/Ctrl+Z for “Undo” or spacebar for “Preview”) is not enabled, because a host application will use these keyboard commands when Iris 2 is used as a plug-in. For example: if you have Iris 2 instantiated in your host, and press spacebar expecting to preview your sample, the audio editor will instead start playback as it would if you didn’t have Iris 2 open.

Browser and Macro Panels

To access the Simple or Full Browser, click on the Patch Display in the Global panel.

SIMPLE BROWSER



Iris's Simple Patch Browser is designed to allow you to explore the extensive Iris 2 Sound Library in an easy and concise manner. Categories will be displayed on the left, the patches on the right. Select a patch and play it with your MIDI keyboard or the keyboard located at the bottom of the Iris 2 window to audition the sound. While in the browser, you can also use the up/down arrow buttons to move up or down your patches in the current category, then click "Enter" or "Return" to load the patch. Because Iris 2 loads up to four full-fidelity samples with each patch, there may be a short delay when scrolling between patches.

Undocking the Patch Browser

Iris's Patch Browser can be undocked and resized to fit your screen by clicking on the icon to the left of the Close button. Click the same icon again to bring the Patch Browser back into the main interface.

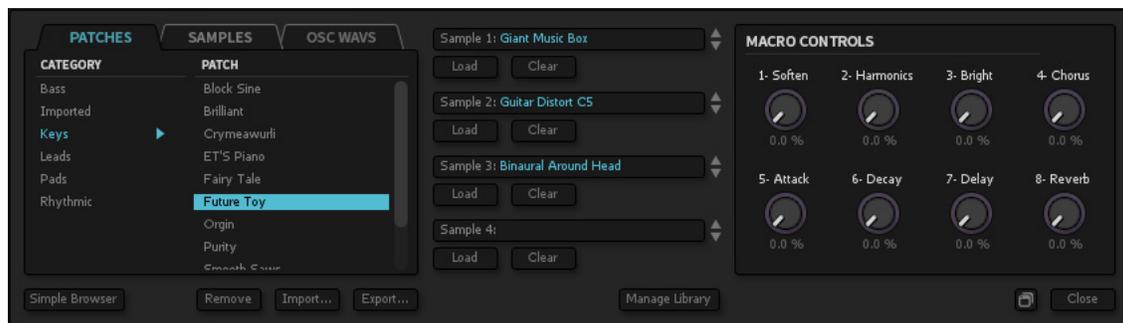
MACRO CONTROLS

Iris 2 includes eight Macro Knobs to allow for easy manipulation of several parameters simultaneously. Macros have been assigned to each patch in the Iris 2 library by the sound designers themselves to provide you with quick and easy access to the most relevant parameters for each patch. The macro controls are available in both the simple and full versions of the Iris 2 Patch Browser, and as an undocked window which can be opened by clicking on the small arrow next to the Macro Assignment Buttons in the Modulation Panel.

For more information on assigning and using the knobs, see the Macro Controls section in the chapter on [Modulation](#).

FULL BROWSER

The Full Browser gives you a more detailed view of your currently loaded patch and also allows for the importing and exporting of patches, as well as the selecting and auditioning of samples or oscillator waveforms (OSC WAVS):



At the left side of the browser you can choose to view patches, samples, or oscillator waveforms. When viewing patches, categories of sounds (like bass, lead, or pads) will be listed on the left with the patches in those categories listed along the right. Samples loaded along with the patch will be shown to the right. The Patch library cannot display sub-categories or folders, however a user can create additional custom folders in their designated library location.

When viewing samples in the Full Browser, the folders of your Sound Library will be shown in the left column and the individual sample files for the selected folder in the right column. Use the expand/collapse arrows or double-click on a folder to access any sub-folders in your sample library.

To load a sample into one of the sample pools, click and drag any sample onto the areas along the right labeled “Sample 1,” “Sample 2,” “Sample 3,” and “Sample 4,” or drag the sample directly into a spectrogram.

Preview

To audition samples or oscillator waveforms before committing them to a sample pool, select the checkbox labeled “Preview.” This will engage automatic playback of any selected audio file in your Sample or OSC WAV browser. The Preview volume corresponds to the current Global Gain setting.

IMPORTING AND EXPORTING PATCHES

Within Iris’s Full Browser are options for how you can work with your patches. Iris’s Sound Library is comprised of patches and samples which live and are referenced within two separate folders. When moving, copying, or deleting patches or samples, be aware that if the hierarchy is not maintained, certain patches may break.

When exporting patches, your .IRIS patch files will be saved with the audio samples within them. This is so that patches can be easily shared without worrying about creating sample directories in the same places as the sound designer.

Import

You can import any .IRIS patch file into your Sound Library by clicking the Import button and navigating to the patch you wish to import.

Your imported patch will be copied into the Imported folder which will be created the first time a patch is imported. Imported patches are kept in their same state when copied into the Sound Library. If the patches were exported and contain their audio samples within them, that sample information will be preserved within the copied file.

Export

In order to easily share and spread patches between machines or users, click the Export button in order to save your currently loaded patch into a specified directory. As mentioned above, the exported .IRIS patches will be saved with their pertinent audio samples inside of the .IRIS patch file for easy loading onto other machines.

Remove

Click the Remove button in order to delete the currently selected patch from your Sound Library.

Manage Library

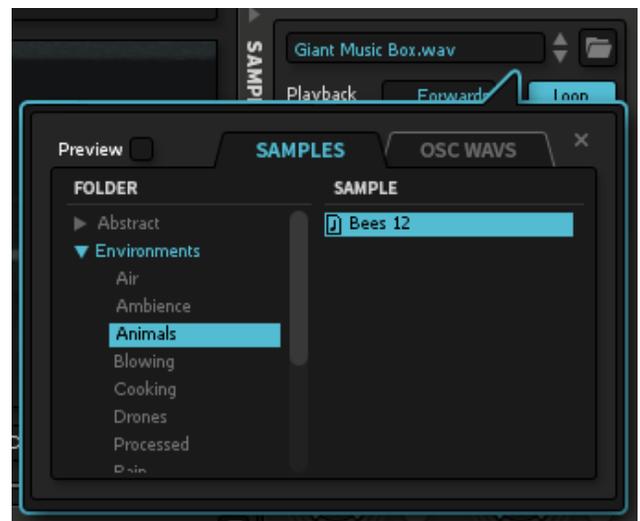
Click the Manage Library button to launch the Options window where you can set your exact Sound Library folder location on your hard drive. For more information, please visit the [Options](#) chapter.

Your purchase of Iris 2 includes a full library of content consisting of over 11 GB of sample content and hundreds of patches to explore. If you have not yet downloaded and installed the multiple content installers, be sure to log in to [your iZotope.com account](#) after you have completed the authorization process to access this resource. When you use Iris 2 in Trial mode or without installing this extra content, you will only see a small selection of the patches and samples that are available with a completed purchase.

Samples and Oscillator Waveforms

Your purchase of Iris 2 includes over 11 GB of samples as .WAV files that you can use both in Iris 2 and in other software. These collections include samples from classic synthesizers, acoustic instruments, and unique abstract sounds and environmental textures that lend themselves particularly well to musical sound design.

The delineation between samples and oscillator waveforms (OSC WAVs) is purely organizational. The OSC WAVs give you quick access to samples of classic analog oscillators, which can be easily auditioned and layered. The OSC WAVs take the place of the Sub waveform that existed in Iris 1, effectively giving a user the option of up to four samples or Sub waveforms in any patch. The included samples are grouped by seven simple source descriptions, and have sub-categories within these folders.



LOAD A SAMPLE

There are multiple ways to import your own .WAV or .AIF samples into Iris 2, but you can also build folders in your designated [sample library location](#) to customize the sample organization to fit with your workflow.

Note: Changing the name or location of sample folders included with the Iris 2 content will break patches. However, these missing samples can be relinked using the Missing Samples dialog box which will appear automatically when a patch is loaded.



Samples and OSC WAVs can be loaded in a multitude of ways:

1. From the Full Browser, you can:
 - ◆ Preview and select a sample or OSC WAV, then simply drag it to one of the areas labeled “Sample 1,” “Sample 2,” etc.
 - ◆ Click one of the Load buttons below each Sample section to open an OS browser to use any .WAV or .AIF file on your computer.
2. From the Sample panel, you can:
 - ◆ Click on the Sample File Name at the top of the Sample Panel to open a Sample Browser where you can preview and select a sample or OSC WAV. Double-click to load it.
 - ◆ Click on the folder next to the Sample File Name to open an OS browser to use any .WAV or .AIF file on your computer.
3. From the spectrogram area, you can:
 - ◆ Preview and select a sample or OSC WAV from the embedded browser in an empty spectrogram. Double-click to load it.
 - ◆ Drag a .WAV or .AIF file directly onto the Spectrogram area.
 - ◆ Double-click on the empty spectrogram area to load a sample using an OS browser.
 - ◆ Right-click on an empty or populated spectrogram, or pool selector button, and from the context menu click “Load Sample” to find a sample using an OS browser.

When replacing a sample that has a Spectral Filter selection made to it, you can choose to have selections remain for the new sample, or to have samples cleared out when the new samples load. This option is in the [Options Menu](#).

CLEAR A SAMPLE

Clearing a sample will remove the sample itself and any Spectral Filter selections that have been made. To clear a sample from a Spectrogram, you can:

1. Press the Clear Sample button in the Sample Panel.
2. Right-click on a spectrogram or pool selector button, and from the context menu click “Clear Sample.”

Global Panel

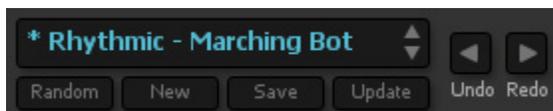


At the very top of the Main Interface, we see a display of some of the most critical Iris 2 controls, called the Global Panel. At the far left of this panel, we see two buttons that quickly take you to our help section and the options panel:



PATCH CONTROLS

To the right of these buttons and the Iris 2/iZotope logos, we see the Patch Display and controls:



Here, the name of the currently loaded patch will be displayed, and you can easily scroll through other patches by pressing the up/down arrows to the right of the patch name. In the image above, you'll also notice an asterisk (*) to the left of the patch name. This tells you that the patch has been modified since it was loaded, and reminds you to save any edits that you want to keep.

Four useful patch control buttons are located underneath the patch Display:

Random will choose a random patch. This is intended to help you explore the vast library of Iris 2 patches and perhaps even be inspired by a patch you hadn't discovered previously.

New will create an empty "blank slate" for you to build a new patch on. All controls will revert to their default states, and all sample pools will be empty. There is a feature available in the [Options Panel](#) which will have Iris 2 will ask you before clearing out your patch so you don't lose any unsaved work.

Save will save a new patch with the settings and samples you have currently loaded. You can choose a name and appropriate folder for this new patch. Patches themselves are very small files, so you can save the same patch (or variations) in multiple folders without using up excessive amounts of hard drive space.

Update will update the patch you currently have loaded with any changes you have made to it since loading.

Note: Updating a patch from the Iris 2 Library means you will have overwritten the original patch. You might consider using the Save button instead to create your own modified version while retaining the factory patch in your library.

UNDO/REDO

To the right of the Patch Display and controls, you'll see two opposite facing arrows labeled "Undo" and "Redo." Just like Undo and Redo in your audio editor or forward and back buttons in an internet browser, these offer you the flexibility to back up in case you made a mistake or just don't like where your sound is going. This will work for nearly every function in Iris 2: loading patches, updating patches, making spectral filtering selections, or just changing a knob setting.

FAQ: Why doesn't Command/Ctrl+Z work with undo in Iris 2?

Answer: When plug-ins are used in most major audio editors it's the host that receives the Command/Ctrl+Z command and would engage its own undo system, meaning it will probably un-instantiate the plug-in! That's why we gave you prominent buttons right in the center of the Iris 2 UI so you can always find them.

VOICE MODES

Next to the undo/redo controls are the Voice Mode controls, Global parameters knobs, and master output level meter:



The **Voice Mode** controls allow you to choose between Mono, Legato, and Poly voice structures.

Mono means only one pitch can be played at a time. Every note that is played *will* retrigger envelopes and LFO attack.

Legato means only one pitch can be played at a time, but playing notes consecutively *will not* retrigger envelopes or LFO attack.

Poly (or polyphonic) means multiple pitches can be played at once (known as polyphony) like chords, with lines or melodies that might have overlapping voices.

Polyphony is limited to the amount of voices allocated in the software. Just under the Voice Mode controls are two numeric displays next to the label “Voices.” The first of these numbers states how many notes or “voices” Iris 2 can play at once. You can adjust this value by double-clicking on it and typing one in, or clicking and dragging on the number. Just to the right of this number you’ll notice a second number that changes depending on how many notes you’re playing. This displays how many voices you are using at a given time.

Note: Higher voice counts can affect CPU usage.

At the top-center of the UI, embedded next to the Voice Controls, is a red PANIC button which will flush all MIDI data when pressed. Hopefully, this won’t be a button you’ll need to use very often, but when working with complex modulation schemes, it can be easy to trigger a cacophony of sound and not immediately know how to make it stop. Don’t panic, just click “PANIC.”

MIDI ASSIGN

Pressing the MIDI Assign button gives you the ability to assign knobs and sliders on your external MIDI controller to many of the parameter controls in Iris 2. When you click “MIDI Assign,” you’ll notice the names of all the parameters eligible for MIDI control will light up yellow, but clicking on the parameter name will turn the name red. From here, you simply twist a knob or move a slider on your MIDI controller, and that controller will attach to that parameter. After you’ve assigned MIDI controls, simply click “MIDI Assign” one more time to turn MIDI Assign Mode off. These MIDI assignments will be saved in your preferences so you can set up your MIDI controller with Iris 2 just once and it will always remember your settings.

Note: Some audio editors take over MIDI controller assignments in their own way. If you are having problems attaching controllers using the MIDI Assign feature, please refer to your audio editor’s manual to see if their software has a unique way of doing this.

GLOBAL CONTROLS

There are three important Global Parameters that affect all the sound coming out of Iris 2:

Glide adds a sliding *portamento* effect between single notes. This knob adjusts the time it takes for one note to slide into the next. Iris 2 employs a Constant Time Linear glide effect, meaning that no matter the distance between notes, the glide time will always be the same. Set it to 0.0 ms to disengage the effect.

Iris 2 supports Glide in Mono, Legato, and Poly voice modes, giving you access to some interesting possibilities using polyphonic portamento.

Intensity engages a special blend of iZotope’s signature compression and limiting algorithms to give your patch an extra boost of loudness to help cut through the mix.

Output is the final gain stage of Iris 2 before it goes to your host.

Next to these Global Parameters is a simple Master Output Level Meter. Through mindful gain staging and adjustments to the Intensity and Output controls mentioned above, you can ensure Iris 2’s output won’t cause digital distortion by keeping these meters blue, and never peaking into the red clip lights.

POOL SELECTION AND MIX CONTROLS

All the way to the left of the Global Panel are the Sample Pool Selectors and Balance Controls:



Each Sample Pool Selector is labeled “1-4,” and has controls for Solo, Mute, and Gain located right next to the selector. This allows you to quickly navigate between samples while still having access to important controls for every sample all the time. When a number is highlighted blue (like Sample Pool 4 in the picture above), that is the Sample Pool that is displayed in the Spectrogram Panel and represented by the Sample Panel. There is also an All view where you can see all four Sample Pools displayed at once. To quickly toggle between these views, simply use the Tab key (or Shift+Tab to move backwards).

Also to the far right is the Mix button, which will pop-out an undocked [Mix View](#). This allows you to see the parameters for all four samples at once, as well as the master section. Because it undocks, you can easily leave this up on a second monitor, and perhaps even close the sample and master panels on the main UI to give you an extra-large spectrogram.

Sample Panel

The Sample Panel is one of four collapsible panels in the main Iris 2 UI. Four versions of the Sample Panel also appear as part of the [Mix Window](#): one for each sample pool.

SAMPLE LOADING

The sample view contains important controls for loading and manipulating each sample. At the very top is the Sample File Display which displays the name of the loaded sample. If there is nothing listed in this area, it means there is no sample currently loaded. Clicking on the Sample File Display will open a Sample Browser where you can preview and select a sample or oscillator waveform to load. If you would prefer to load a sample using a standard OS browser, you can access one by clicking on the folder to the right of the file name, or you can always just drag an audio file directly into the Spectrogram area. The up/down arrows between the display and the folder icon let you scroll up and down through samples located in your current folder. For instance: If you're in the oscillator waveform folder labeled "05-Pulse," you could scroll up and down using these arrows, trying out each Pulse waveform until you find one you like. If you have a sample loaded, you can find its complete local path by hovering your cursor over the file name.



SAMPLE PLAYBACK CONTROLS



Once you have loaded a sample, now you can decide how it will play back. The Playback menu gives you four simple options. You can set your sample to play forwards, forwards then backwards, backwards, or backwards then forwards (the titles of these modes are abbreviated in the interface for brevity). You can also choose whether you want your sample to loop or play as a “one-shot” by pressing the Loop button located next to the Playback Menu. For information on adjusting the start/end points of your loop, delaying a sample to play later than other samples, or setting an offset for the samples start point, see the chapter on the [Spectrogram Area and Tools Panel](#).



You can also select how the sample is pitch-shifted (or not) as it is played at different notes. The default Pitch Mode option uses one of our most efficient resampling algorithms to change the pitch (and respectively speed) at which a sample plays back, just like a conventional sampler might. If you want the pitch to change but the speed to stay the same (for instance, a rhythmic loop), you can use our ultra-high-fidelity Radius RT pitch-shifting algorithm. However, this is a very resource-intensive process, meaning CPU usage will increase substantially. Engaging Radius RT for the first time will bring up a warning dialog box to inform you of this, but there is a checkbox you can select that will eliminate that dialog from appearing again. For more information, read the section regarding Radius RT in [Options](#). Lastly, you may choose to have the sample not change pitch at all by selecting “Fixed.”

To the right of the Pitch Mode selector is a button labeled “Retrigger,” which is engaged by default. With this engaged, every new “note on” MIDI message will start playback of the sample over again (notes that had been played previously may continue to sustain if their respective amplitude envelope is set with a long decay time). With this disengaged, you can play through multiple pitches and each one will pick up at the sample location where the last one left off.

The Root Note, or MIDI note at which the loaded samples plays back at its native speed and pitch, can be adjusted using the non-modulatable Root Note knob. Root note is detected and set automatically by Iris 2 as soon as a sample is loaded, but you can adjust this by adjusting the Root Note knob or by dragging the flag to the desired pitch in the [Keyboard Panel](#). Note that after making a Spectral Filter selection, the fundamental pitch of the sample may change. In a case like this, Root Note can be detected and automatically reset after a selection has been made by right-clicking on the Spectrogram and clicking on ‘Set Auto-Detected Root Note’.

There are additional sample playback controls like Loop Start/End, Crossfade, Offset and Delay in the Spectrogram View.

SAMPLE TUNE CONTROLS

Below the Sample Playback controls are knob controls for Coarse and Fine Tune. Both are modulatable, and their default position of zero (no pitch change) is when the knob pointer is pointing straight up.

Coarse Tuning is measured and adjusted in semitones (also called half-steps), but ramps smoothly across its entire six-octave range when modulated. Fine tuning is measured and adjusted in cents (100 ct = 1 semitone in equal temperament) and also ramps smoothly when modulated. Adjust the Fine Tune control by clicking and dragging on the knob. This will move up/down in 1 ct steps. If you hold down Command (Mac) or Ctrl (PC) while clicking and dragging, you can move in .1 ct steps. You can also select the knob by clicking on it once, and then use the up/down arrows on your keyboard to increase in .5 ct steps, or hold down Command (Mac) or Ctrl (PC) while using the up/down arrows to move in .1 ct steps. If you need even more resolution than this, you can double-click on the value and type in a value out to 5 decimal places (e.g., 5.98423 ct).

To restore either of these controls to their default state of zero (no pitch change), simply hold down the Option key and click on the knob itself.

SAMPLE MIX CONTROLS

Below the Tune controls are knobs for Pan and Gain. These are also both modulatable.

Pan is a linear control that controls the left/right balance of the sample across the stereo spectrum. Like the tuning controls, its default position places the sound at the center of the stereo spectrum when the knob pointer is positioned straight up.

Note: Because Iris 2 supports stereo samples, the Pan control will only affect the balance of that stereo sample. For example: A stereo sample that is right-channel only cannot be panned to the left.

The Gain control is logarithmic and adjusted in decibels. You will also notice that attached modulators will affect the Gain control (and be represented on the outer rings) in a logarithmic way. There is a range of 105 dB in the Gain Control (-Inf to +6 dB).

The Pan and Gain controls can be adjusted in the same way you adjusted the Fine Tune control, by clicking and dragging on the knob. If you need even more resolution for your Gain control, you can double-click on the value and type in a value out to 5 decimal places (e.g., 5.98423 dB).

SAMPLE EFFECTS SENDS

Iris 2 has four dedicated [effects processors](#) that can be selected to operate in Send Mode (a Gain control that controls the amount of effects applied to each individual sample) or Master Mode (a dry/wet control that adjusts the balance of how much of the effects will be applied to the complete mix of all the samples).

The four modulatable effect send knobs located in each sample panel will only be activated when Send Mode is enabled. Send Mode can be enabled by clicking “Send” next the Master Effects label on the [master panel](#):



When the Send button is lit up in a blue color, that indicates that Iris 2 effects are in Send Mode. The text in the Sample Panel Effects Sends will also become white. All text and knobs are greyed out when Send Mode is disabled.

An effect must be turned on before its respective knob will become operable. There is a power button at the top-left above each knob which can turn on the effect. The image below shows the Distortion effect is turned on, with the knob operable and ready to be turned up (or have modulators applied). We can see the Chorus effect is turned off, signified by the power button and knob being greyed out:



These power buttons also give you a quick way to bypass the effects without changing your send values. The arrow to the right of each Effect Power Button will open a pop-over window containing all the effects parameters. For more information on the individual effects and their respective parameters, refer to the section on [Effects Processing](#).

Master Panel

The Master Panel is another of the four collapsible panels in the main Iris 2 UI. It also appears in the [Mix Window](#) to the right of the four Sample Controls for each sample pool.

MASTER MIX CONTROLS

Like the Sample Mix Controls, there are two modulatable knobs located in the Master Panel to control the pan and gain of the entire mix of samples. They function just like pan and gain do in the sample panel, with a couple of additional features:



Pan is a linear control that controls the left/right balance of the mix across the stereo spectrum. Its default position represents an equal balance of left and right when the knob pointer is positioned straight up.

Note: The Pan control will only affect the balance of the stereo mix. For example: If all samples are panned to the right, the mix cannot be panned to the left.



Gain is a logarithmic control and adjusted in decibels. You will also notice that attached modulators will affect the gain control (and be represented on the outer rings) in a logarithmic way. There is a range of 105 dB in the Gain Control (-Inf to +6 dB).

Velocity can easily be applied to master gain with its own dedicated knob located above the Master Gain control, and is applied at +60.00% by default when starting a new preset. The range of this velocity knob goes between -100.00% (striking a key with more pressure will cause the Master Gain to decrease) and +100.00% (striking a key with more pressure will cause the Master Gain to increase, as if to mimic the effect a piano has where notes are louder when articulated with more pressure). To turn velocity sensitivity off, simply set the Velocity knob to 0.00%.

When starting a new preset in Iris 2, Envelope 5 is assigned to Master Gain by default (inverted, and with a range of -100%) to give you quick access to an amplitude envelope that will apply to your entire mix of samples. This Envelope Assignment can be removed (for instance if you choose to apply amplitude envelopes to each sample individually), but can result in clicking or stuck notes if amplitude envelopes are not applied somewhere in the signal chain.

The Pan and Gain controls can be adjusted by clicking and dragging on the knob. If you need even more resolution for your Gain control, you can double-click on the value and type in a value out to five decimal places (e.g. 5.98423 dB).

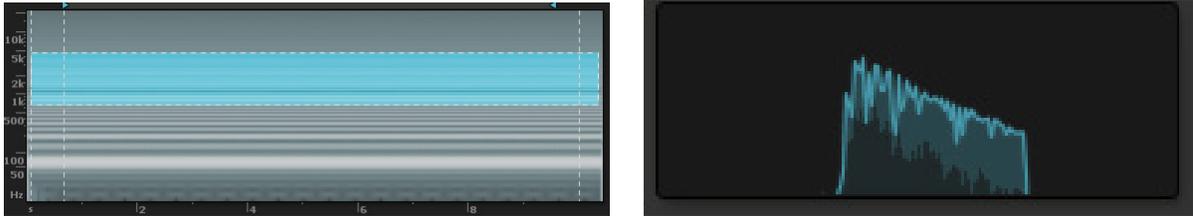
MASTER SPECTRUM ANALYZER

Here you can easily visualize the frequency content of your entire mix:



A Spectrum Analyzer is a meter that measures amplitude across the frequencies which encompass the spectrum of human hearing. The vertical axis represents amplitude while the horizontal axis represents frequency. The spectrum analyzer in Iris 2 displays frequencies from 20 Hz (at the far left) to 20,000 Hz (at the far right).

Using the Spectrum Analyzer, you can easily see the precision of our Spectral Filters. For example, on the Spectrogram pictured below, we see a simple square wave sample with a selection made with the Frequency Selection tool between 1k and 5k, and its corresponding Spectral Analysis:



The Spectrum Analyzer displays your entire mix, including any master filtering or effects you have applied, and reflecting any solos or mutes you have engaged. The only parameters that would not be displayed are [Intensity and Output](#).

MASTER FILTER

The multi-mode Master Filter section of Iris 2 provides 17 models of classic synthesizer filters and modulatable control over their cutoff frequency and resonance.

To engage the Master Filter, it must first be turned on using the power button immediately to the left of the Master Filter label. The label, knobs, and filter-type selector will all be greyed out until it has been turned on. This power button also allows you to quickly and easily bypass the filter without losing any of your settings. As we can see in the picture below, the Master Filter is turned on (as indicated by the power button being lit blue):



You can choose your filter model by clicking in the box below the Master Filter label (where we see “New York LP” displayed in the picture above). This will open a menu with folders for each of the multiple modes (Low Pass, High Pass, Band Pass, and Peak). You can also navigate up and down through a selected mode filter by using the up/down arrows to the right side of the display box.

The filter models are grouped into four types of modes (thus “Multi-mode”):

Low Pass: Frequencies above the cutoff frequency are filtered out with a gentle slope. (The low frequencies pass through without being filtered.)

High Pass: Frequencies below the cutoff frequency are filtered out with a gentle slope. (The high frequencies pass through without being filtered.)

Band Pass: Frequencies above and below the cutoff frequency are filtered out over a gentle slope. (The frequencies of that particular band pass through without being filtered.)

Peak: Much like a Band Pass filter, this imparts a steep boost at the resonant frequency.

Each of the filter models has its own distinctive character:

New York (LP, BP, HP): This filter is based on a famous four-pole, 24 dB/octave analog filter design originally developed in upstate New York in the 1960s. You may find this filter brings down overall output level slightly by its nature.

Retro (LP, BP, HP): The Retro filter types are based on old-school filter designs and can give a slightly thinner albeit more biting sound that tends to have a retro synth feel.

Saturated (LP, BP, HP): This filter type gives a saturated-valve filter sound to your samples and is the fuzziest of the bunch, adding its own saturation flavor and valve characteristics to any audio passing through.

Rez (BP, HP): These fixed-slope filters can be similar to the Retro BP and HP filters however their response lends them a stronger resonant presence that can give them a slightly thicker sound.

Tokyo (LP, HP): Based on a famous two-pole, 12 dB/octave Japanese analog filter designed in Tokyo in the 1970s.

Warm Synth (LP): This warm, analog-modeled low-pass filter has a smooth response and can provide a gritty, warm, and thick presence to your samples. It is particularly great with leads, bass sounds, and lush pads.

Formant & Formant Bright (BP): Modeled on multiple-formant vocal filters with varied shapes and vowel types based on the cutoff frequency.

Screaming Peak (Peak): Less of a filter and more of an analog resonant boost, Screaming Peak provides strong saturated-valve resonant peak at the cutoff frequency specified. Use the Resonance control to adjust the strength of the peak.

Note: New York and Tokyo filter models use 3-4% more CPU power than the others.

Master Filter Controls

The Master Filter has two modulatable controls: Filter Cutoff and Filter Resonance.

Filter Cutoff is the frequency at which the filter begins to take effect. In Iris 2 the filters have a range of 30 Hz to 20,000 kHz, and Filter Cutoff will default to 800 Hz. This means that in its default setting, if you were to engage one of the Low Pass filters, frequencies above 800 Hz would gradually be filtered out. This is one of the most commonly modulated parameters in synthesis.

An envelope applied to Filter Cutoff on a low-pass filter can have the effect of opening the filter (raising the cutoff frequency so the entire spectrum is passed through) when a key is depressed, and then closing the filter while the note sustains. A host-synced LFO attached to Filter Cutoff on a filter can provide exciting rhythmic effects.

Filter Resonance is a natural byproduct of active analog filter circuits, and simply means that certain harmonics (usually right below the cutoff frequency) will be boosted (or resonate) when filtering is activated. Because the filters in Iris 2 are authentic analog models, this resonance is built in, but the amount can be adjusted using the Filter Resonance control. This control has a range of .05 to .95 with no particular unit assigned to it. It defaults to .10.

The Track knob automatically routes Key Tracking to Filter Cutoff to allow the Master Filter to be gradually scaled to be more open or closed depending on the pitches of the incoming notes. With positive Filter Tracking values, as higher notes are played on your keyboard, the Filter Cutoff frequency will be proportional raised to allow higher frequencies through. This is done to mimic the effect of higher notes sounding “brighter.” Conversely, negative Filter Tracking values will progressively close the Filter Cutoff frequency as lower notes are played on the keyboard.

MASTER EFFECTS

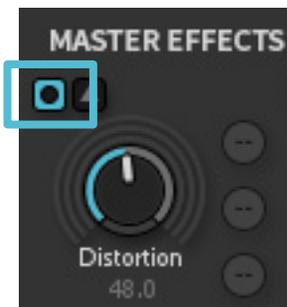
Iris 2 has four dedicated [effects processors](#) that can be selected to operate in Send Mode (a gain control that controls the amount of effects applied to each individual sample) or Master Mode (a dry/wet control that adjusts the balance of how much of the effects will be applied to the complete mix of all the samples).

The four modulatable-effect dry/wet knobs located at the bottom panel will only be activated when Master Mode is enabled. Master Mode can be enabled by clicking on the Master button next the Master Effects label.



When the Master button is lit up in a blue color, that indicates that Iris 2 effects are in Master Mode. The text in the Master Effects Controls will also become white. All text and knobs are greyed out when Master Mode is disabled.

An effect must be turned on before its respective knob will become operable. There is a power button at the top-left above each knob which can turn on the effect. The image below shows the Distortion effect is turned on, with the knob operable and ready to be turned up (or have modulators applied). We can see the Chorus effect is turned off, signified by the power button and knob being greyed out:



These power buttons also give you a quick way to bypass the effects without changing your send values. The arrow to the right of each effect power button will open a pop-over window containing all the effects parameters. For more information on the individual effects and their respective parameters, refer to the section on [Effects Processing](#).

Because the Master Effect knobs control the proportion of Wet (or affected) signal to Dry (or unaffected) signal, their units might be best thought of as a percentage. For example, if the Reverb control is set to 40.0, then 60% of Iris 2's output will be the Dry signal, and 40% will be only Reverb. These knobs are all modulatable, and can all be adjusted by clicking and dragging on the knob, or clicking on the knob once and then using the up/down keys for step-through values.

Mix Window

The Mix Window provides an overview of the primary controls for all four samples and the master section:

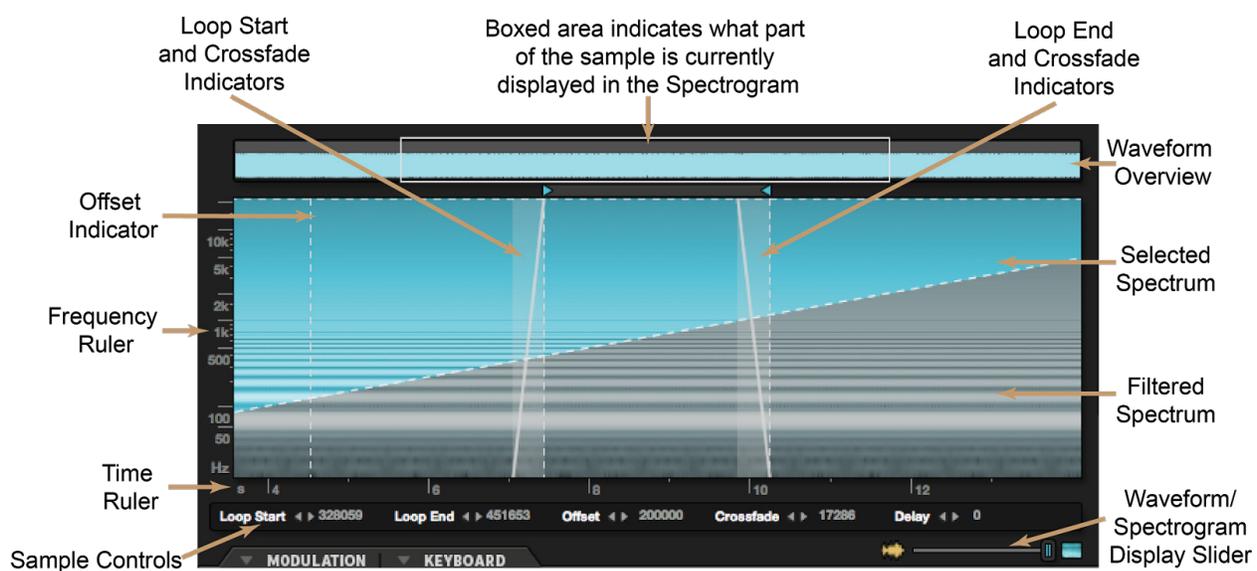


To access this window, click on the small button to the far right of the Global Panel labeled “Mix.” The Mix Window opens as a completely separate window that allows you to close the Sample and Master panels in the main UI and view the spectrogram with more detail. The [Modulation Panel](#) can also be undocked so it can be set up near the Mix Window and open up even more space in the spectrogram.

While the main Iris 2 window can be resized, the Mix Window is not resizable.

Spectrogram Area and Tools Panel

Some of the most unique features in Iris are the Spectral Filters and the visual way of interacting with them through a spectrogram. A spectrogram is a graph that displays frequency on the x-axis, and time on the y-axis, with the amplitude of each frequency represented by contrast. The spectrogram area in Iris not only displays this graph, but also allows you to implement filters directly on the graph by drawing, selecting, and isolating particular frequencies with a toolset similar to photo-editing and graphic design platforms and precision filtering algorithms.



WAVEFORM OVERVIEW

At the top of the spectrogram is the Waveform Overview. This displays the entirety of your sample for quick overview and navigation. If you are zoomed in to a part of the sample on the spectrogram itself, that area will appear as boxed in the Waveform Overview. You can use your mouse to move this boxed area across your sample to maintain zoom level while scrolling across.

THE SPECTROGRAM AREA

The spectrogram displays selected parts of the spectrum in a blue/green color, and any filtered part of the spectrum is represented in grey. Selections are made using the tools listed in the following section. You have the option of viewing the spectrogram with rulers for frequency and time (as it is displayed above). To show/hide these rulers, or change their scaling or units, see the [Options Panel](#).

Within this area, you can also view a traditional waveform representing amplitude across time, like you would see for audio files recorded into an audio editor. You can actually view both the waveform and spectrogram in combination by adjusting the Waveform/Spectrogram Display Slider at the bottom-right corner of this area.

As a sample plays back, solid white lines or ‘playheads’ will stream across the sample for each voice, illustrating what part of the sample is playing back, the playback speed, and direction.

SPECTROGRAM AREA SAMPLE CONTROLS

In addition to the Playback, Pitch Mode, Loop, and Retrigger controls in the [sample panel](#), there are five sample controls located in the spectrogram area, four of which have visual indicators on the spectrogram itself. All of the numeric value controls for these parameters are located just beneath the spectrogram, and are represented in samples for maximum resolution and fine control:



Loop Start and End: If you have set your sample to Loop, you may want to adjust the start and end points for the loop. You can adjust these with the two “handles” (indicated by blue arrows) appearing between the spectrogram and the Waveform Overview. By default, Iris 2 engages our Intelligent Zero Crossing technology when adjusting loop points using these handles. This means that any adjustments you make to the beginning or end of a loop point using the handles will automatically snap to a phase-coherent zero crossing so you won’t get radical

clicks and pops at your loop points. You can override the Intelligent Zero Crossing feature by modifying Loop Start/End points at their respective numeric value controls located below the spectrogram.

Crossfade: This allows you to apply crossfades to your loop, and is set by default to 176 samples to minimize any potential clicking. The crossfade will be indicated with diagonal lines over the spectrogram.

Offset: This control changes where playback will begin in the sample. This will be indicated by a dotted yellow line vertically across the spectrogram.

Delay: This control changes when playback will begin in relation to the other samples. There is no visual indication on the spectrogram for this parameter.

TOOLS PANEL

On the left-hand corner of the Iris 2 window, you will see the Tools Panel, a collection of 16 tools used for Spectral Filtering. They are grouped into four major sections—Zoom Tools, Selection Tools, Erase Tools, and Inversion Tools—and a single outlier, the preview button. When a tool is highlighted in the blue/green color, that is the tool that is currently active.

Zoom Tools

These tools let you zoom in or out on the spectrogram:



Zoom to Selection: Once you've made a selection in the spectrogram, clicking this button will zoom in specifically on that selected area so that you can see it more clearly, and make modifications to your selection with more precision.



Zoom out Full: This tool quickly brings the spectrogram back to a full overview of the entire file.



Zoom +/- Tool: This is simply a conventional zoom tool. Wherever you click on the spectrogram, you will see in more detail. To zoom out, simply hold down Alt/Option while clicking. You'll notice the mouse icon switch from "+" to "-."

You can also use your mouse wheel to zoom on the X-axis (for time-based zoom) or hold down Alt/Option to zoom on the Y-axis (for frequency based zoom). If the [Frequency or Time rulers](#) are displayed, you can also click and drag on these rulers to zoom in their respective domains.



Scroll Tool - When zoomed in on the spectrogram, you may want to scroll around through your audio file without having to zoom back out; this tool lets you do that! .

Selection Tools

These tools allow you to make draw in selections on the spectrogram, and are the key to Spectral Filtering:



Time Selection Tool: Allows you to make rectangular time selections in the horizontal plane across the entire spectrum. This is the default tool for making selections in Iris.



Time and Frequency Selection Tool: Allows you to make rectangular selections across time and frequency.



Frequency Selection Tool: Allows you to make rectangular frequency selections in the vertical plane across the entire length of the sample.



Lasso Tool: Allows you to make a freehand drawing, and will automatically connect beginning and ending points to create a complete shape.



Paintbrush Tool: Allows simple freehand drawing with a circular brush. An adjustment for brush size will appear next to the control once it has been selected. You can also adjust brush size with your mouse wheel by holding down Control + Command at the same time.



Magic Wand Tool: Automatically selects similar harmonic content in two ways:

1. Click on an unselected part of the spectrogram; the Magic Wand tool will automatically select the most prominent tone under the cursor.
2. Click on existing selection; the Magic Wand tool will automatically select the overtone harmonics or related audio components of your current audio selection. You can use the Brush or Lasso tools first to broadly define a sound and then use Magic Wand to refine your selection to include relevant harmonic material.

Using Selection Tools

Hold down Alt/Option while using any of these tools to make it a removal tool and erase selections. A '-' minus symbol will appear next to the cursor.

After using any of Iris 2's tools to select a portion of your audio (with the exception of the Magic Wand or Eraser tools), when the mouse is subsequently placed on top of any selection, a Grab and Drag hand cursor will be displayed automatically, allowing you to change the position of that selection.

You can also hold control-option (PC) or command-option (Mac) to move all of your current selections at once.

Selection Removal Tools



Eraser Tool - Similar to the paintbrush tool, the Eraser Tool allows simple freehand erasing with a circular brush. An adjustment for brush size will appear next to the control once it has been selected. You can also adjust brush size with your mouse wheel by holding down Control + Command at the same time.

Note: The Eraser tool only works after some initial selection has been made.



Clear All Selections - Removes all filtering selections from the Spectrogram. Keep in mind that Iris will playback your entire file if there is no selection present.

Selection Inversion Tools

This collection of tools takes your current selection and inverts it horizontally, vertically, or both. This can make for some interesting selection variations.



Invert Selection (Time Only) - Flips your selection in the horizontal/time domain.

Invert Selection - Flips your entire selection in both the time and frequency domains.

Invert Selection (Frequency Only) - Flips your selection in the vertical/frequency domain.

The last control in this section is the **Preview Selected Audio** button. This plays the currently viewed sample back through the Spectral Filter at its original speed and pitch.

SPECTROGRAM MENU

Right-clicking on the spectrogram (or any of the pool selectors) brings up a menu of additional options to help with your workflow:

Copy/Paste Sample: Quickly copy and paste samples across the sample pools.

Copy/Paste Sample and Selection: Copy and paste both the sample and any selections you have made on the spectrogram. Because spectrogram selections are made across time relative to the sample itself, selections cannot be copied without also copying the sample they refer to. However, you can apply a similar selection to a different sample by using this menu option, then simply replacing the sample after completing the action.

Copy/Paste Parameters: Copy and paste all the parameters applied to the sample (like tuning, pan, gain, send effects, and all modulation assignments and amounts) without copying the sample itself or any Spectral Filter selections.

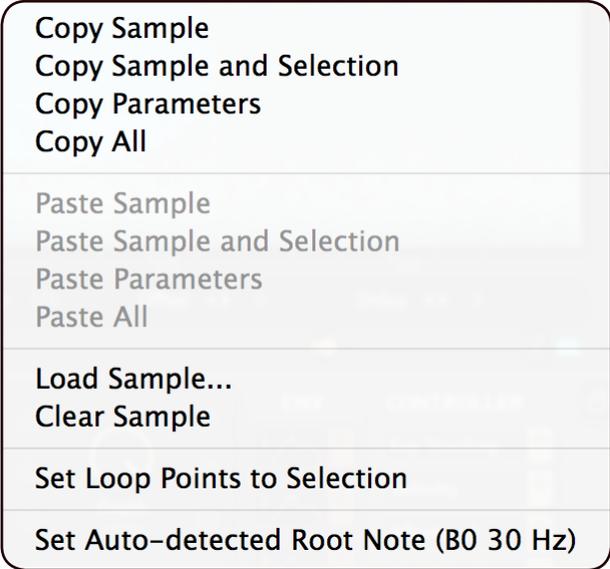
Copy All: Copy and paste all parameters as well as the sample and Spectral Filter selections.

Load Sample: Open an OS browser to import a new sample into the given pool.

Clear Sample: Remove the current sample from the pool.

Set Loop Points to Selection: Automatically bring loop points within the furthest boundaries of any Spectral Filter selection you have made.

Set Auto-detected Root Note: After making a Spectral Filter Selection, the fundamental pitch of the sample may change. Root Note can be detected and automatically reset after a selection has been made by using this option.



The image shows a screenshot of a software menu titled 'SPECTROGRAM MENU'. The menu items are listed in a vertical column, separated by horizontal lines. The items are: Copy Sample, Copy Sample and Selection, Copy Parameters, Copy All, Paste Sample, Paste Sample and Selection, Paste Parameters, Paste All, Load Sample..., Clear Sample, Set Loop Points to Selection, and Set Auto-detected Root Note (B0 30 Hz). The menu is displayed in a light gray box with a thin black border.

- Copy Sample
- Copy Sample and Selection
- Copy Parameters
- Copy All
- Paste Sample
- Paste Sample and Selection
- Paste Parameters
- Paste All
- Load Sample...
- Clear Sample
- Set Loop Points to Selection
- Set Auto-detected Root Note (B0 30 Hz)

All View

The All View gives you a quick and editable overview of all your currently loaded samples and their selections.



SELECTING A POOL

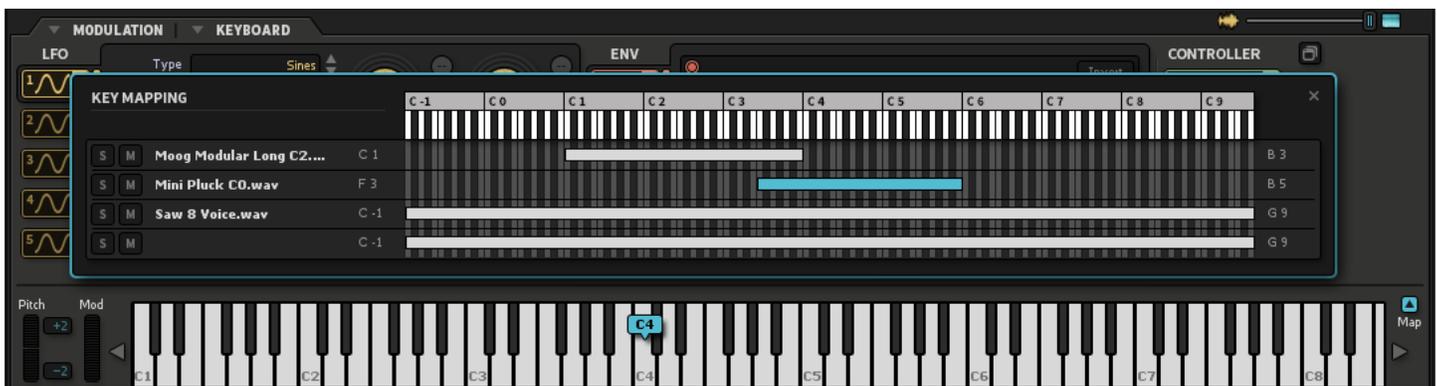
Single-click inside of any sample to view the corresponding Sample Panel and parameters for that sample. This includes all parameters within the Sample Panel, as well as the Loop Start/End, Crossfade, Offset, and Delay parameters represented in the Spectrogram Area. A thin white line will surround the sample whose parameters are currently being shown. In the image above, we can see that Sample One is currently selected.

Spectral Filter selections can still be made and modified in the all view. Additionally, playheads can be monitored across all four samples at once. In the example below, you see that the all view will resize when other Panels are closed or undocked to make for a practical, editable visualization and editing work surface.



Keyboard Panel

The Keyboard Panel serves both as a real-time control for auditioning sounds in Iris 2, and also the area where you can set the mapping, split points, and root notes for each sample as well as the pitch-bend range.



KEY MAPPING

In the preceding image, we see the Key Mapping panel open. This is accessed by clicking on the small “up”  arrow at the far left of the keyboard panel. Here, you can click and drag on the rectangular sample-range indicators beneath the keyboard to set the start and end points of where a sample will play back. This affords you the opportunity to have certain samples only play back at certain parts of the MIDI keyboard’s range. Notice there are also Solo and Mute controls available for each sample in the Key Mapping panel so that you can audition each one while you are setting the range.

PITCH AND MOD WHEEL

In the remainder of the keyboard panel, we see indicators for Pitch and Mod Wheel at the far right. These meter in real time any movements made by these MIDI controllers. You can also click and drag in these areas to apply or test these effects in real time. One unique and useful feature of Iris 2 is the ability to set Pitch Bend Range with different amounts in either direction (up to two octaves each way, measured in semitones). For example, you could set the pitch bend to make an octave leap when bent all the way up (+12) for radical effects, while the lower range could be set to -2 for subtle vibrato applications, all within the same patch.

KEYBOARD AND ROOT NOTE

Next to these controllers is the keyboard itself. The range of the keyboard that is displayed adjusts dynamically along with how the main UI has been resized, and how many panels are open. For example, if both the Sample and Master panels are open and the main UI is reduced to its smallest size, the keyboard will only display four octaves. However, if the Sample and Master panels are closed, the keyboard can display seven octaves. You can always adjust which octaves are displayed by pressing on the sideways arrows to the left and right of the keyboard.

Lastly, the Root Note, or MIDI note at which the loaded sample plays back at its native speed and pitch, is indicated by the blue flag with the pitch displayed in black letters (for instance “C4” in the image above). The displayed flag applies only to the sample which you are currently viewing and in the [All View](#), it applies to the sample you currently have selected (indicated by a white outline surround the spectrogram).

Root note is detected and set automatically by Iris 2 as soon as a sample is loaded, but you can adjust this setting by simply dragging the flag to the desired pitch, or adjusting the Root Note knob in the sample panel. Note that after making a Spectral Filter selection, the fundamental pitch of the sample may change. In a case like this, Root Note can be detected and automatically reset after a selection has been made by right-clicking on the spectrogram and clicking “Set Auto-Detected Root Note.”

You can always hide the Keyboard Panel by clicking on the arrow within its tab, but it cannot be undocked.

Modulation System

Modulation brings the sounds in Iris to life, giving them movement and expression that wasn't available in Iris 1. With Iris 2 we created an extensive modulation system that is intended to give users the flexibility and connectivity of a modular synth. Iris 2 has four types of Modulation Sources: LFOs, Envelopes, MIDI Expression Controllers, and Macro Knobs. These Modulation Sources can be connected to over 100 modulatable parameters in Iris 2.

MODULATING KNOBS AND SLIDERS



Any knob or slider that has three small circles  next to it is a Modulatable Knob or Slider. These small circles are called Modulation Inputs. These Modulatable Knobs and Sliders accept up to three modulation sources represented by the three small circles. Applying a Modulation Source to a knob or slider brings that knob or slider to life, giving it movement and expression. For example, a Low Frequency Oscillator (LFO) will continuously change the value of the knob or slider as you play notes. A modulation source such as Velocity will change the value of the knob depending on how hard you hit a MIDI key. After a Modulation Source has been connected to a Modulation Input, the circle turns into a small knob which allows you to adjust the modulation range.

APPLYING MODULATION TO PARAMETERS

Drag & Drop

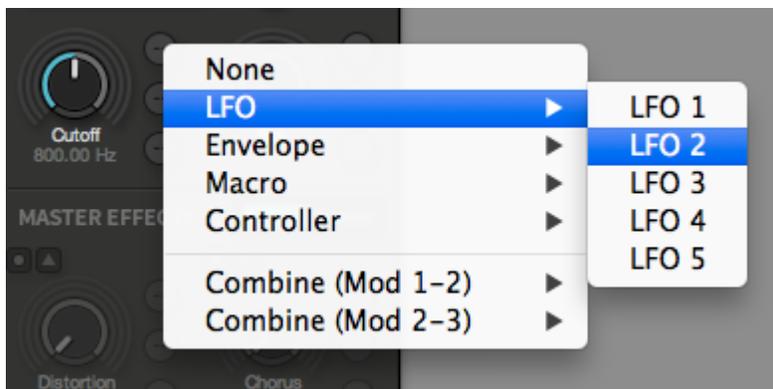
Modulation can also be assigned by dragging the Modulation Source to the desired parameter. Simply click on the four-arrow icon  located next

to a Modulation Source button and a circle will appear that can be dragged and dropped onto a Modulation Input. You can click anywhere on the interface (that isn't a Modulation Input) to get rid of the Modulation Assignment Circle.

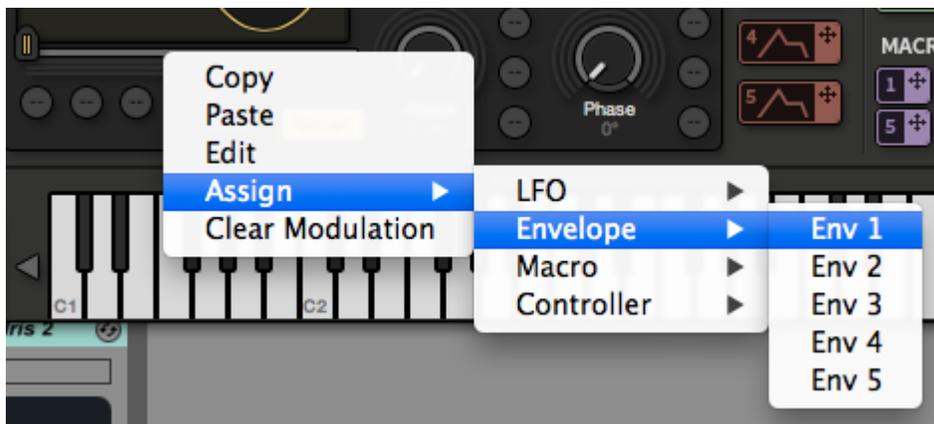


Assigning Modulation with Right-Click Menu

There are two ways to apply modulation to a Modulation Knob or Slider by right-clicking:

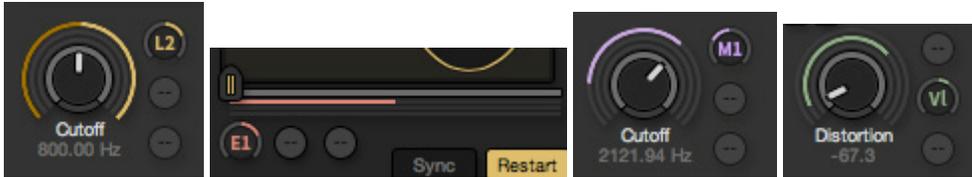


1. Right-click on one of the three Modulation Input slots  and choose a Modulation Source from the contextual menu.



2. Right-click on the knob or slider, select the Assign sub-menu and then choose an LFO, Envelope, Macro Knob, or Controller source from the sub-menus. The modulation source will be applied to the first available Modulation Input slot.

ADJUSTING MODULATION RANGE



After applying a modulation source to a Modulation Input slot, two things will happen:

1. The slot turns into a Modulation Range knob  to control the direction and amount of modulation applied to the knob.
2. A ring or line will be drawn representing the modulation range.

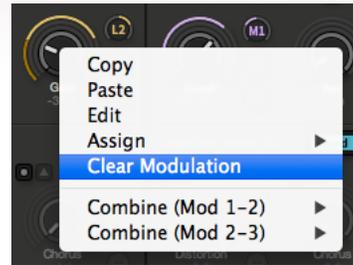
Each modulation source is represented by different colors, making it easier to quickly assess how a patch is being modulated.

To adjust the range or direction of the modulation, click and drag up or down on the Modulation Range knob. These knobs also support iZotope's standard keyboard and mouse support (see [Adjusting Parameters in Iris 2](#)). Clicking once on the knob will allow you to use the up/down arrow keys to alter the modulation range. Hovering over a Modulation Range knob with the mouse and using the mouse wheel or trackpad to scroll will also adjust the modulation range.

REMOVING MODULATION

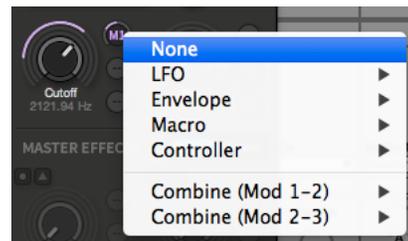
Clear All

Right-click on the Modulation Knob or Slider that has modulation applied to it. Choose Clear Modulation from the contextual menu. This will clear all applied modulation slots.



Clear a Specific Modulation Range Knob

Right-click on a specific Modulation Range knob and choose None from the contextual menu to remove the modulation applied to that modulation slot.



MODULATION SOURCES

Controls for Modulation Sources are located in the Modulation Panel. Each LFO and Envelope has its own button that is used to select a modulator and show its controls in the Modulation Panel.



LFO Selector and
Draggable Mod
Source icon



Envelope Selector
and Draggable Mod
Source icon



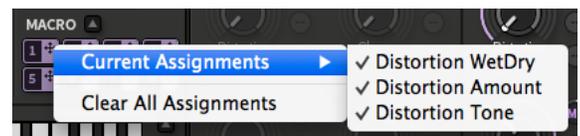
Draggable
Controller Mod
Source icon



Draggable Macro
Knob Mod Source
icon

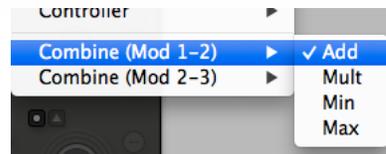
To the right of these selection buttons is a four-arrow icon  that can be dragged to one of the Modulation Inputs. Because Controllers and Macros have no controls that need to be displayed in the Modulation Panel, their entire button can be clicked and dragged to a parameter.

Right-clicking on a Modulation Source button will open a context menu that allows you to view all parameters that the Modulation Source is current assigned to. Additionally, you can clear all assignments from this menu.



MODULATION COMBINE MODES

Iris 2 modulation sources can be combined in one Modulation Knob or Slider by four means: Addition, Multiplication, Min, or Max. Modulation slots 1 and 2 can be combined in one mode while Modulation slots 2 and 3 can be combined in another mode.



Add

By default, when multiple modulation sources are applied to one Modulation Knob or Slider, the values of those modulation sources will add together. For example if an LFO and Velocity are applied to the Filter Cutoff knob, higher velocity MIDI notes will add to the LFO and cause the LFO to shift its modulation up the Filter Cutoff knob.



The figure above illustrates how the LFO's modulation shifts as it is added to the velocity of a MIDI note. The figure on the left is a lower-velocity note and the figure on the right is a higher-velocity note.

Mult

In Mult mode the two modulation sources will multiply together. The most useful things to multiply together would be LFOs with an Envelope, Velocity, Mod Wheel, Aftertouch, or Macro Knob. For example an LFO multiplied by Velocity will give the LFO greater modulation range when the velocity is increased.

Min

This mode will select whichever value is the lower between the two modulation sources at any given moment.

Max

This mode will select whichever value is the greater between the two modulation sources at any given moment.

LFOS



When a **Low Frequency Oscillator (LFO)** is applied to a Modulation Knob or Slider, that LFO will cause the parameter value to oscillate in a bipolar fashion around the center point of the knob. This pattern is decided by the shape of the LFO wavetable chosen in the LFO Type menu. By default the LFOs will start with a table of sine waves. If you drag the waveform display or Shape Slider located below it, you will interpolate between the shapes in the LFO wavetable.

There are five LFOs in Iris 2. You can view each LFO by clicking on the numbered selection buttons to the left of the LFO waveform display. Each of the LFOs have the following parameters:

Type: The basic shape wavetable for the LFO is chosen in the Type menu. These shapes range from conventional waveforms like Sine, Square, or Saw (many sampled directly from classic analog oscillators) to precision digitally-generated step patterns and even audio-rate multipliers for basic FM & AM modulation.

Shape: The Shape slider allows you to scroll through the various shapes stored within the wavetable that was chosen in the Type menu. This control is disabled for Sample & Hold.

Sync (off by default): With Sync turned on the Rate value changes from a decimal value in Hertz to a note division value based on the audio editor host tempo. This allows you to set the LFO to cycle at musical rate such as 1/8th note or one-bar.

Restart (on by default): With Restart turned on the LFO will restart its cycle each time a new note is played. With restart turned off as long as a voice is playing in Iris that LFO will continue to oscillate. This allows for slow-moving modulation over time while playing shorter notes.

Rate: This controls the speed at which the LFO will cycle through its waveform. The faster the rate, the faster your parameter will move between values.

Depth: This defines how much of the modulation knob's range the LFO will be applied to. A depth of 0.5 will cause the LFO to only traverse half of the modulation range set in the modulation range knob.

Phase: This tells the LFO where along the x-axis to start playing the LFO waveform.

Attack: This sets the amount of time the LFO takes to ramp up to its full depth.

LFO Types & Shapes

Iris 2 offers a broad variety of LFO shapes and the capability to morph between them. This is made possible by using a wavetable oscillator for each LFO. Included with Iris 2 are twenty types of oscillator shapes, each with a range of variations that can be adjusted with the Shape Slider or by dragging on the waveform display. Modulating the Shape Slider allows you to morph between these shapes using a Modulation Source.

The types of oscillator shapes are grouped into four categories:

Analog

Modeled after pivotal vintage synths from the 50's to the 80's, the Analog category contains classic Sine, Square, Saw, Triangle and Sample & Hold shapes to add classic modulation to your patch. Adjust the LFO shape slider to move from harder (left) to softer (variants) of each analog shape.

Curve

The Curve category consists of a range of gradual sloping modulation shapes that are not typically found on classic Analog synths but are nonetheless extremely musical. Without any hard edges, each Curve shapes has its own flavor and provides an alternative to more generic forms of LFO modulation.

Digital

If you're looking for a modern hard-edged modulation sound, the Digital category has a range of stairs, pyramids, ramps and pulses to add an angular grid-like sound to any parameter. Turn on LFO Sync to further lock these shapes to your DAW's grid and tempo.

Multiply

To move beyond standard modulation and into the realm of Frequency Modulation (FM) and Amplitude Modulation (AM) synthesis, the Multiply shapes provide sped-up versions of the Analog Sine, Saw, Square, and Triangle shapes. This allows you to modulate up to 50 times faster than a standard LFO in order to generate audio sideband frequencies providing extra tone shaping and synthesis options.

ENVELOPES



An envelope is triggered by a MIDI note. Envelopes are used to shape the contour of a sound. This shape is broken into a number of parameters that describe how a sound changes over time. Iris 2's envelopes have four parameters: Attack, Decay, Sustain, and Release. The most common thing to apply an envelope to is the gain or filter cutoff. By default Envelope 5 is applied to the Master Gain knob to ensure that the default sound of Iris does not make undesired clicking sounds. If there is no envelope applied to gain then a sample can make instantaneous full-scale sound when a note is played which can cause clicking. The Envelope makes a very quick ramp up of the volume to smooth out those undesired clicks.

With Envelope 5 applied to the Master Gain of Iris 2 the ADSR parameters do the following with each note that is played:

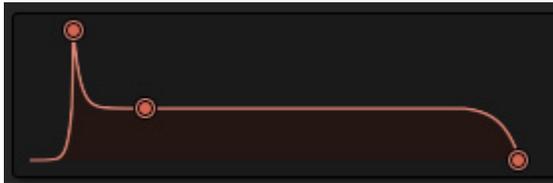
Attack controls the speed at which the gain is turned up from silence to full volume. The default setting is an instantaneous 0 milliseconds. Setting the attack to 500 ms would cause the gain to ramp up to full volume over half a second (500 ms).

Decay controls the speed at which the gain falls back down to the Sustain level. This value is in milliseconds.

Sustain controls the value that will continue for the remaining duration of the note that triggered this envelope.

Release is triggered by the end of a sequencer note. Release controls the speed at which the gain is turned back down to silence. A shorter value of Release time will cause the sound to silence faster. A longer Release time will give the sound a “tail” of sound that takes some time to fade away. Long Release times mixed with many notes played in quick succession will cause the Iris create many overlapping voices. This can cause Iris’s CPU usage to jump up due to all the voices sounding at once.

Envelope Curves



The Attack, Decay, and Release parameters each have an additional control that sets the shape of its segment of the envelope. By clicking and dragging up or down on the curved line segments that go between the Attack, Decay, and Sustain nodes of the envelope display, you will curve the line up or down. These curves can give your modulated sound more “snap” on the attack and decay or a more gentle release tail.

MIDI EXPRESSION CONTROLLERS



Drag and Drop
one of these icons
to assign a MIDI
controller to a
Modulation Knob or
Slider

You can assign MIDI CC to nearly all of the parameters in Iris 2 using [MIDI Assign](#). However, expression controllers like Key Tracking, Velocity, and Aftertouch can't easily be assigned using [MIDI Assign](#), so they're included in the modulation system for easy attachment and range setting. We've also included Mod Wheel as a modulation source, so that it can be assigned just as easily as other modulators, and save with patches (Mod Wheel can also be assigned through MIDI Assign, but doesn't save with patches).

To assign a MIDI Expression Controller, identify the parameters you would like to control, and either right-click on one of each parameter's Modulation Input, or drag and drop the desired Controller Button to a Modulation Input. The effective range is automatically set to 50%, and is indicated with a green line around the parameter knob. To adjust the effective range of the Controller, click and drag up or down on the Assignment Slot to set the range across which the Controller will adjust. (See [Adjusting Modulation Range](#)).

Key Tracking follows the notes played and outputs a higher value for higher notes and a lower value for lower notes. This is most often attached to Filter Cutoff to raise the cutoff frequency as higher notes are played. Because this is so common, we've added a default Key Tracking connection to the Filter Cutoff with its own amount knob, so you can easily dial in your desired amount of Key Tracking effect and still have three Modulation Inputs available for other modulation effects.

Velocity reacts to how hard or soft a note is played, so that a harder articulation outputs a higher value and a soft articulation outputs a lower value. This is most often attached to amplitude so that playing softly sounds quieter, and playing hard sounds louder. Like Key Tracking, this is another use case that is so common that we've added a default Velocity connection to Master Amplitude with its own amount knob, so you can quickly and easily create dynamic, playable sounds.

Aftertouch is just what it sounds like. After a note has been articulated, you can apply more pressure to a key as you hold it and Aftertouch will output a higher value. In turn, less pressure outputs a lower value. Unlike Key Tracking and Velocity, Aftertouch isn't attached to anything by default. However, some creative uses could include:

A vibrato effect

1. Attach an LFO to Fine Tune on each active sample.
2. While holding a note, adjust the settings of the LFO and its effective range on the Fine Tune parameters.
3. Attach Aftertouch to the LFO's Depth and set the Depth knob to its lowest amount.
4. Play a note and apply pressure as you hold it.
5. Adjust the effective range of Aftertouch to set the maximum amount of vibrato you would want.
6. When playing, applying more pressure will add vibrato.

A sweeping bandpass filter effect

1. Turn on the Master Filter.
 2. Engage the Bandpass>RezBP filter.
 3. Find your desired cutoff frequency lower limit and resonance.
 4. Assign Aftertouch to Filter Cutoff.
 5. Play a note and apply pressure as you hold it.
 6. Adjust the effective range of Aftertouch to change the frequency upper limit.
 7. When holding notes, applying more pressure will raise the bandpass frequency.
- Iris 2 responds to both Channel Pressure and Polyphonic Pressure messages.

Note: Not all MIDI keyboards and controllers support Aftertouch.

MACRO CONTROLS

Click on the  symbol to reveal the Macro Controls Window



Drag and Drop one of the icons above to assign a macro control to one or more parameters



Macro controls give you the ability to adjust multiple parameters at once from one knob. They're particularly useful when you use the [MIDI Assign](#) function to assign them to physical knobs on your MIDI controller. Additionally, every patch in Iris 2 has all eight macro knobs assigned by default to commonly adjusted parameters, so you can quickly and easily audition patches and tweak them to your liking. The Macro Control Knobs are also available inside the [Patch Browser](#) in addition to the undocked window shown above.

You can also easily build macro controls yourself. Identify the parameters you would like a Macro Knob to control, and either right-click on one of each parameter's Modulation Input, or drag and drop the desired Macro Button to a Modulation Input. The effective range is automatically set to 50%, and is indicated with a purple line around the parameter knob. To adjust the effective range of the Macro Control, click and drag up or down on the Modulation Input to set the range across which the Macro Control will adjust (See [Adjusting Modulation Range](#)).

Effects

Iris 2 has four dedicated effects processors that provide users with a selection of iZotope's award-winning effects chosen specifically for synthesis and sound design. While many users may choose to use additional effects plug-ins in their signal path after Iris 2, these effects and their settings save right along with patches to be easily shared, recalled, and used again in other projects. Also, nearly all of the parameters for each effect are fully modulatable.



SEND AND MASTER MODES

These effects processors can be selected to operate in Send Mode (each sample can have a unique amount of each effect), or Master Mode (the entire mix of all samples is subject to the effect). Only one mode (send or master) can be used at a time.

To select between Send and Master effects modes, simply use the buttons in Master Panel labeled “Send” and “Master.” As you can see in the illustration, the engaged mode is highlighted in blue, and the Master Effects appear white while the label and controls of the unselected mode (Send Effects) all appear greyed out.

In either mode, the Effects returns come Post-Filter.

Send Mode

In Send mode, each effect is configured as a separate effect sent parallel to your audio output. Distortion, Chorus, Delay, and Reverb each exist in parallel to each other, and the Send Effects knobs control how much of each sample’s output is sent to that effect. This allows for each sample to have a unique amount of each effect’s processing.

The Send Effects knobs are configured to work as “post fader” auxiliary sends, meaning that they are dependent upon the level of each Sample Gain Knob. This allows for gain modulation effects (like amplitude envelopes) to be reflected in the effects processing as well. However, if Send Effects are engaged but an amplitude envelope has only been attached to the Master Gain (for the entire mix of samples) this will not be represented in the send effects.

In Send mode there is still only one of each effect module and the settings for that effect module will apply to all sample audio that is sent to it.

Master Mode

In Master mode, the effects process the complete mix of all the samples together post-filter. The Master Effects knobs serve as a dry/wet balance control for each effect.

Distortion, Chorus, Delay, and Reverb are processed one after the other in series from left to right in the order they are displayed in the interface.

DISTORTION

Iris 2 includes six of the finest distortion algorithms from Trash 2, from classic amp modeling to radical digital number-crunching.

Distortion Types

Tube is an emulation of tube saturation with a mix of even and odd harmonics.

Saturate is a subtle crossover distortion inspired by push-pull style amplifiers.

Clipping is a harsh, solid-state style distortion.

Asymmetrical is a radical distortion that exhibits an extreme response to the incoming audio.

Scream is also an asymmetrical distortion and gives a fuzzier, more tonal quality to allow for high-gain (“singing”) distortion.

Aliasing engages lower sample rates resulting in a lo-fi digital distortion.

Distortion Parameters

Amount controls how much of the distortion algorithm is applied to the signal sent to the distortion module.

Tone allows you to blend between dark and bright tones. Values of 0-49 remove high frequencies and boost low frequencies to give a darker distortion sound. Values of 51-100 remove low frequencies and boost high frequencies to make a brighter distortion. A value of 50 leaves the tone control neutral or “flat.”



CHORUS

The Chorus module in Iris 2 is modeled after a classic '80s digitally controlled synthesizer with a famously rich chorus. It can be used to add subtle, unison-style effects or radical spreading and flanging effects.

Chorus Parameters

Depth - controls the depth of the pitch wavering applied in the Chorus effect and therefore the amount of Chorus that is applied.

Rate controls how fast or slow the Chorus-affected signals will modulate in pitch.

Width controls the overall stereo image of the Chorus effect. A value of 0 is mono and value of 100 is stereo.

Delay controls the amount of delay that is applied to the Chorus-affected copies, effectively changing the frequency response of the effect.

Feedback controls how much of the delayed Chorus signal is fed back into its input. At high values this can create an effect akin to a Flanger.



STEREO DELAY

Iris 2 actually contains two distinct delay models: the default ultra-clean digital delay, and a classic analog delay model which includes moderate tape-style saturation when used aggressively.

Delay Parameters

Sync locks delay times to the Host Tempo for distinct rhythmic delay effects.

Delay Time (L/R) determines the amount of time that will pass before each successive repeat of your incoming audio. When Host Sync is enabled, these values can be specified in subdivisions or multiples of one musical beat determined by your host's time signature and beats per minute. For example: $\frac{1}{4}$. means "dotted quarter note," or $\frac{1}{4}T$ means "quarter note triplet."

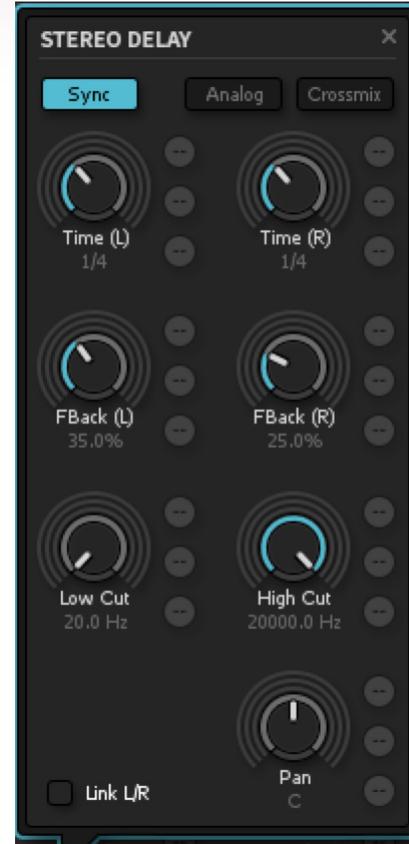
Feedback (L/R) determines how much the signal is fed back through the delay. To create longer delays, increase the Feedback control. Shorter feedback times result in very short, single repeat "slap back" or "tape slap" echoes.

Low and High Cutoff controls the high- and low-pass filters applied to the delay, effectively controlling the timbre of the delay without affecting the dry signal to create added spectral sensations of distance.

Crossmix feeds the left delay channel output back into the right delay channel and vice versa, creating a varied stereo delay image.

Pan adjusts the overall stereo balance of the left and right delay channels.

Link L/R connects the left and right sides of the controls for Delay Time and Feedback.



REVERB

This Reverb is a carefully selected model of a Plate Reverb, offering a rich warmth that complements the extensive acoustic and environmental samples of the Iris 2 library as well as the analog oscillator waveforms.

Reverb Parameters

Size controls the overall amount of reverb decay that will be used. Larger Size values result in much longer, larger reverb tails, while smaller Size values create very quickly decaying and tight room ambience.

Predelay (ms) determines the amount of time that the dry signal will be delayed before being sent to the reverb. This can help to keep the wet processed audio from sounding directly on top of the dry samples. Predelay is also useful for simulating larger spaces in which it takes a longer amount of time for the sound to travel and reflect off of the simulated reverb chamber.

Density can be used to adjust how sparse or dense your reverb is. With lower settings, your reverb can sound more bright and reflective whereas higher settings will give your reverb a denser, slightly darker, and lush sound.

Low and High Cutoff control the amount of low- and high-frequency material that is sent to the reverb. Lowering the High Cutoff control will filter out a large portion of the high frequencies of the dry input signal that is sent to the reverb, resulting in an overall darker reverb. The same is inversely true for the Low Cutoff control.



Configuring Iris 2

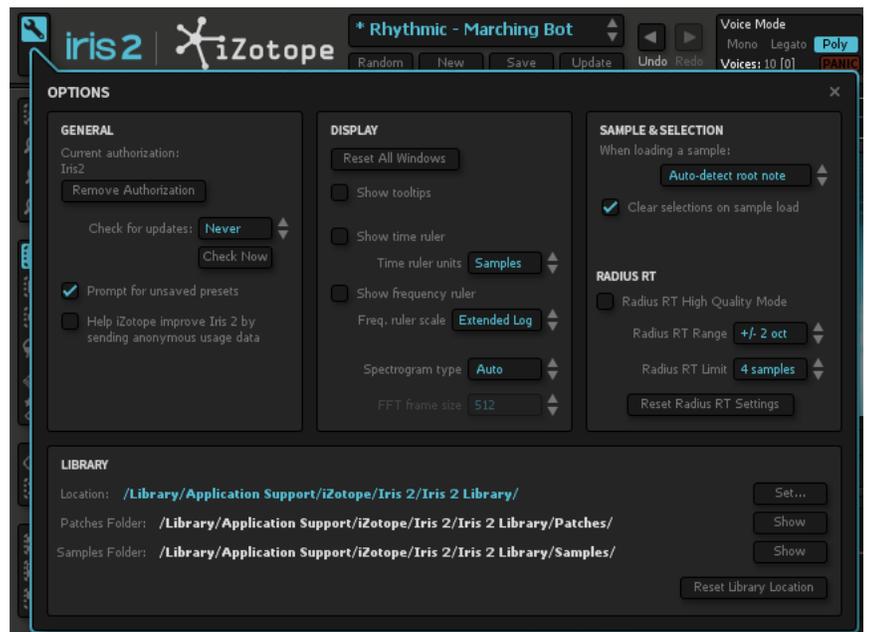
Iris 2 can operate both as a plug-in within an audio editor like Ableton Live, Logic, ProTools, or FL Studio, or as a standalone application. This chapter outlines some of the options available to customize your Iris 2 workflow, and make some recommendations on how to optimize your Iris 2 patches for optimal CPU performance.

OPTIONS PANEL

To find the Iris 2 Options Panel, click on the open-ended wrench icon at the top-right on the Iris 2 main interface:

General Options

Remove Authorization: When Iris 2 has been authorized online, that authorization remains with the computer. Use this button to remove the current authorization so you may move your Iris 2 license on another computer, portable hard drive, or iLok. This will place Iris 2 back into Trial Mode, where audio will mute every 10 seconds until the software is authorized again. See the [iZotope License Agreement](#) for more information.



Check for Updates: This option selects the frequency with which Iris 2 looks for version updates. Choose between daily, weekly, monthly, and never. Click “Check Now” to instantly check if your version of Iris is currently up to date. This will open an accessory application called the iZotope Updater, which will also look for new versions of other iZotope products you have on your computer.

Prompt for unsaved presets: When this is checked, each time you press the New button in the global panel, you will be asked if you want to save any changes you have made to the current preset.

Anonymous Usage Data: Usage information (information on how you interact with the software) is utilized by iZotope for statistical analysis for improving the software, and to provide you with a more relevant user experience. No direct personal information or audio files/samples are collected as part of this usage information. If you have an active internet connection on your computer, this feature will send a small package of information out each time you close Iris 2. See the [iZotope License Agreement](#) for more information.

Host Tempo (standalone only): This option allows you to define a tempo for synced effects and LFOs when using the standalone application. When used as a plug-in, Iris 2 will automatically detect tempo from the host application.

Audio Hardware Setup (standalone only): This option allows you to select the audio driver and buffer size you would like the Iris standalone application to use. A test tone page is also provided in order to check that your audio drivers are being recognized correctly.

Note: This hardware setup dialog contains no MIDI options. To rescan for MIDI controllers or any MIDI control related tasks, please use your OS MIDI setup utility (e.g. “Audio MIDI Setup” in the OS X Applications>Utilities folder)

Display Options

Reset All Windows: Reverts any of Iris 2’s windows back to their default size.

Show Tooltips: When enabled, this allows informational notes to appear when the cursor/pointer is hovering on top of the features’ controls.

Show Time Ruler: When engaged, a time ruler will be displayed along the bottom of each sample in your display window. The ruler can be displayed in seconds or in samples. You use your Mouse wheel or the “+” and “-” buttons in the bottom-right corner to zoom in and out.

Show Frequency Ruler: Shows a frequency ruler along the left side of each sample in the main display. There are different options for the way in which frequencies are represented in the spectrogram:

Linear: Linear scale means that Hertz are linearly spaced on a screen.

Mel and Bark: Mel and Bark scale are frequency scales commonly found in psychoacoustics, i.e. they reflect how our ear detects pitch. They are approximately linear below 0.5 kHz and approximately logarithmic above that. Mel scale is reflecting our perception of pitch; equal subjective pitch increments produce equal increments in screen coordinate. Bark scale is reflecting our subjective loudness perception and energy integration. It is similar to Mel scale, but puts more emphasis on low frequencies.

Log: In this mode, different octaves occupy equal screen space. The screen coordinates are proportional to the logarithm of Hertz down to 100 Hz.

Extended Log: This extends the logarithmic scale down to 10 Hz, so that it puts even more attention on lower frequencies.

Spectrogram Type: Select the type of spectrogram calculation algorithm that is used to visualize your samples. In Manual and Precise mode, you can set the FFT size for spectrogram calculation in samples.

Sample & Selection Options

When Loading a Sample: When a sample is dropped into Iris, you can set how Iris 2 will assign a root note to that sample.

Auto-detect root note: Iris will analyze the current audio file and its harmonic content to determine the fundamental frequency of that sample. Iris will then automatically set the root note for the newly loaded sample to the determined fundamental frequency.

Auto-detect Root Note can be manually engaged for any sample or refined with any selection by right-clicking on the spectrogram at any time. This is true, even if Auto-detect Root Note is not the selected mode.

Set root note to C4: Iris will automatically set the newly loaded sample's root note to C4, regardless of the sample's pitch.

Clear selections on sample load: When checked, this removes any Spectral Filter selections made on the spectrogram when a new sample is loaded. For example, if you make a complex Spectral Filter selection and want to try a new sample with this selection, you would uncheck this box.

Radius RT Options

When Radius RT is used as a sample playback mode, CPU performance is influenced significantly by the range and limits within which Radius RT must function.

Radius RT High Quality Mode

Enabling this feature will provide higher quality pitch-shifting for any samples making use of the Radius RT pitch mode, at the expense of significantly increased CPU usage. If you are experiencing difficulties with seamless playback using High Quality Mode, we recommend disabling this option to allow Radius RT to run at its default settings.

Radius RT Range

This sets the maximum allowed range above and below each sample's root note that Radius RT will perform its pitch shifting. If any notes are played outside of the specified octave range, they will simply playback as the highest available note in the set octave range.

When using Radius RT on any particular sample, the higher that the sound is pitch shifted up from its root note, the more CPU intensive the process gets in order to maintain its quality. Increasing the Radius RT Range can therefore lead to more CPU-intensive operation of Iris when performing large pitch shifts.

Radius RT Limit

With samples that are using the Radius RT pitch mode, each time a note is played, an instance of Radius RT will be needed to process that audio for that particular sample. The Radius RT Limit determines the maximum number of Radius RT instances that will be available. The more Radius RT instances that are made available the more CPU-intensive playback in Iris can get.

The number of voices that can be played using Radius RT is dependent upon how many samples are using the Radius RT pitch mode. If two samples are using Radius RT, and your Radius RT Limit is set to four samples, only two voices will be available for playback. If your Limit is the same with only one sample using Radius RT, four voices would be available.

MIDI note input functions as a stream and therefore, even if only four voices are available, hitting 10 notes on your keyboard will still require that we instantaneously try to process those 10 notes. As such, while using Radius RT, you may find that hitting many keys at once will give you worse performance, even if your Radius RT options are set to be more conservative.

Reset Radius RT Settings

Restores your Radius RT settings to Iris 2's factory defaults.

Library Options

Iris's Sound Library is constructed within a single folder containing Patches and Samples sub folders. This hierarchy must be maintained in order to Iris to locate its patches and samples correctly.

By default your Sound Library will be installed to the following directories:

Windows: C:\Users\\Documents\Iris 2\Iris 2 Library\

Mac: /Library/Application Support/iZotope/Iris 2/Iris 2 Library/

Location

The directory in which Iris will be looking for your 'Iris 2 Library' Folder. Click the Set button to navigate to a different directory for Iris to look for your factory library.

Patches & Samples Folders

Once the factory library location is set, the Patches and Sample Folder location readouts serve as a visual confirmation that Iris is successfully linked to the correct folders within your Iris Library directory. Click 'Show' to reveal these directories in a file window.

Reset Library Location

This will change your Iris Library location back to its default state.

CPU OPTIMIZATION

Iris 2 is a powerful, one-of-a-kind tool that pairs high-quality digital signal processing for resampling, modeling, and effects along with remarkably flexible modulation options, resulting in a lot of complex math and data streaming that needs to happen quickly. This can tax your computer's resources substantially, but here are some recommendations for maximizing Iris 2 performance on your machine:

Freezing or Bouncing Tracks

Freezing or bouncing your Iris 2 tracks offers you the most substantial gains in CPU performance. Check your audio editor's user manual for instructions on how to do this.

Hide the UI

Iris 2 offers real-time metering for numerous parameters including modulation dots around modulatable knobs, morphing wavetable shapes, playheads moving across the spectrogram, and a spectrum analyzer. These can be resource-intensive. Hiding the Iris 2 UI during playback can conserve 2-3% of CPU processing power.

Buffer size

Set the buffer size of your audio editor (or the standalone Iris 2 application) to a higher amount (2,048 samples is recommended) during playback. This will increase latency during recording, but should only make things better during playback and mixing.

Avoid the most resource intensive filters

The New York and Tokyo Filter models can use up to 4% more than other filter types.

Lower your voice count

As more voices play back simultaneously (for example, if you're holding down eight notes at once), the more of an impact this has on your CPU performance. Reduce voice count to only what you anticipate needing. For example, try to use Mono mode for bass or lead parts where you will not need polyphony, so that envelope releases silence previous voices.

Reduce envelope release times

Longer envelope release times mean more voices continue to play after you have released a key, and this will increase CPU usage.

Reduce sample distance from original pitch

Both Iris 2 algorithms (Radius RT and the Resampler) perform best within an octave of the original root note. The further away from the root note you get, the higher the impact on CPU performance.

Lower sample rate/bit depth

With sessions at higher sample rates and bit depths, fewer instances of Iris 2 will be possible before encountering CPU issues.

Store samples on a solid state drive

As with all sample-based instruments, streaming media off a hard drive can only happen as quickly as the hard drive can access the files. Solid-state drives offer optimum performance.

We chose to ensure audio fidelity and sonic possibilities are the top priority in Iris 2, anticipating faster and more powerful computers will continue to be developed in the future.