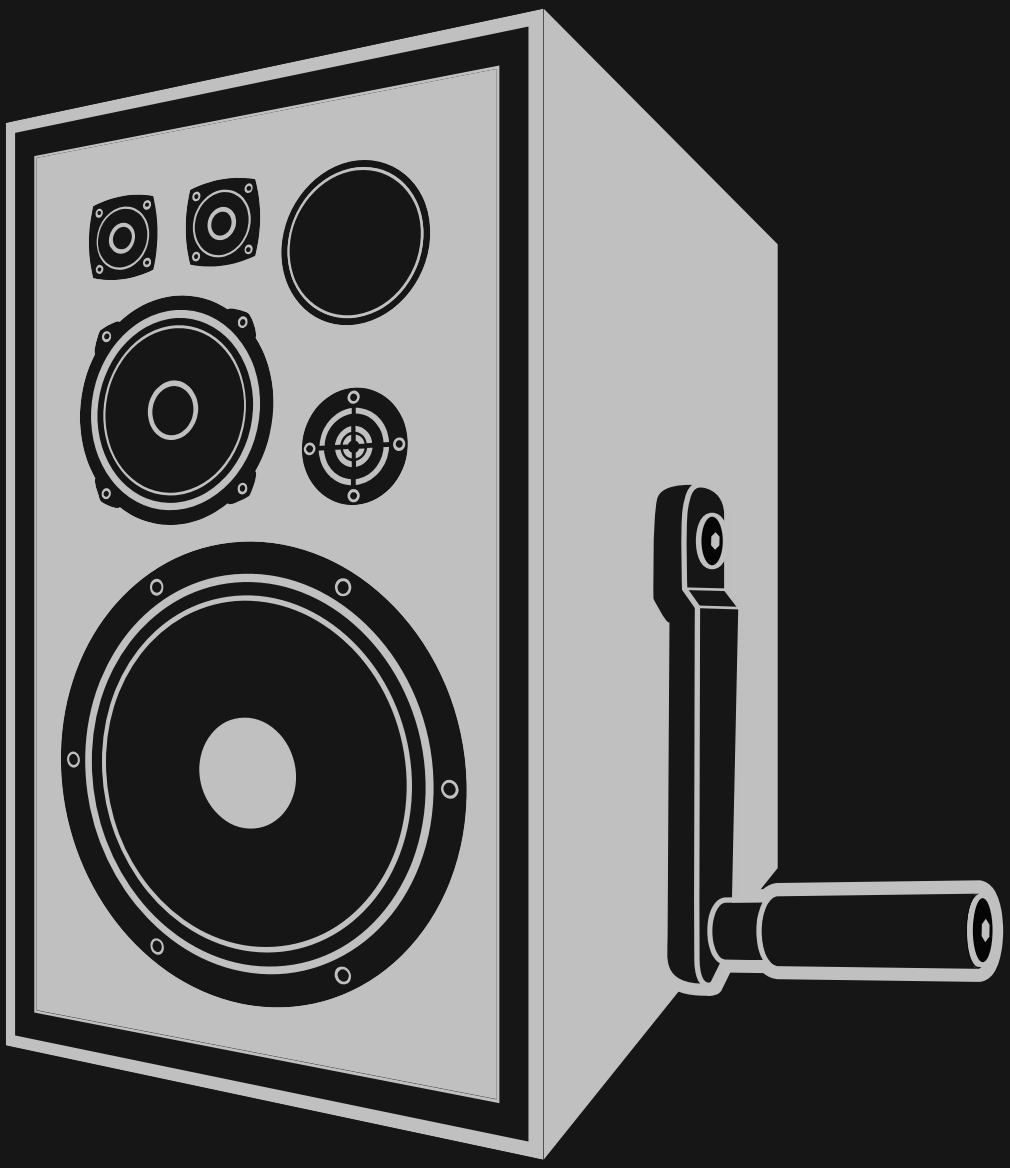

NEWFANGLED AUDIO

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Audio Units is a trademark of Apple, Inc.
VST is a trademark of Steinberg Media Technologies GmbH.
All other trademarks contained herein are the property of their respective owners.
Recirculate proudly uses the PFFFT library, which is available at `https://bitbucket.org/jpommier/pffft`.

Newfangled Audio
www.newfangledaudio.com

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Chapter 1

Newfangled Audio Recirculate



A feedback echo is a beautiful thing. More than just repeating the signal ad nauseam, the processing in the feedback path is applied each time the signal passes through. The right combination of processing will cause the signal to slowly morph into something beautiful, ugly, or just unrecognizable. But that repeated processing is magical, and most importantly, it sounds interesting.

Recirculate is a feedback echo plug-in with a focus on the processing in the loop. Instead of trying to recreate old technologies we focused on putting the highest quality processing in the feedback loop, and designed the UI to allow you to deftly pull up any combination of these effects to create any echo effect you'd like, and to quickly tune it to the sound in your head. We hope the combination of features inspires you, and that you have a good time using it..

Chapter 2

Installation and Instantiation

Every copy of Recirculate comes with a Newfangled Audio A.L. license, which is the quickest way to get up and running. If you'd rather use PACE's iLok system, you can also request an iLok license for Recirculate from your Newfangled Audio account. Either license provides two activations, so you can use Recirculate in two places at the same time. Once you've purchased your plug-in, you'll need to activate your license and install the plug-in on your computer.

2.1 A.L. License

When you purchase Recirculate at `http://www.newfangledaudio.com`, an A.L. license is deposited into your Newfangled Audio account automatically. If you purchased Recirculate from an authorized retailer, you'll receive an activation code instead; sign in to your account at `http://my.newfangledaudio.com` and register the code there to add the license to your account.

To activate Recirculate on your computer, open the plug-in, navigate to the SETTINGS page, and press the A.L. LICENSE MANAGER button. Sign in with your Newfangled Audio account and the License Manager will activate this computer. Each license includes two activations, so you can use Recirculate on two computers at the same time.

You can deactivate a computer or move an activation at any time, either from the License Manager in the plug-in or by managing your devices at `http://my.newfangledaudio.com`.

A.L. licensing is provided by the A.L. framework, which is installed alongside the plug-in. If Recirculate reports that the licensing framework is not found, press the INSTALL button on the SETTINGS page, or download

the installer directly from `http://al.audio/installer`. After installing the framework, restart your DAW.

2.2 iLok License

If you prefer PACE's iLok system, with or without an iLok hardware dongle, you can request an iLok license for Recirculate from your Newfangled Audio account. If you don't have an iLok.com account yet, you can create one for free at `https://www.ilok.com`.

First, link your iLok.com account to your Newfangled Audio account by following the steps at `https://www.newfangledaudio.com/getting-started`.

Once your accounts are linked, sign in at `https://my.newfangledaudio.com`, find Recirculate in your licenses, and choose GET ILOK LICENSE. Your iLok license will be sent to your iLok.com account.

To activate it, you'll need PACE's iLok License Manager, which you can download for free from `https://www.ilok.com`. Open it, sign in, and choose the Available tab. Your Recirculate license will be in the list. Drag it onto your computer or your iLok dongle on the left, and confirm. The next time you open Recirculate, it will find the license.

To move an activation later, plug in your iLok, find the license in iLok License Manager, and drag it to its new location. To deactivate it, right-click the license and choose Deactivate.

2.2.1 Already Have an iLok License?

If you bought Recirculate with an iLok license, the SETTINGS page shows a MANAGE LICENSES button. To claim your A.L. license as well, create a Newfangled Audio account and sync your iLok account in the User Area at `https://my.newfangledaudio.com`.

2.3 Installing Your Plug-In

You should have been given a link to the Recirculate plug-in installer when you purchased your plug-in, but if you haven't, you can find downloads for all of our plug-ins at `http://www.newfangledaudio.com/downloads`. Please download and launch the correct installer for your system.

Once you've launched the plug-in installer, it will take you through several pages of options. We have tried to choose defaults for these options which will best serve the majority of users, but it is worth a minute to make sure you understand these options before clicking through to the next page. A common issue with Windows VST plug-ins is choosing the correct VST directory, which can be different on each system. Please pay special attention to this setting. Once you have followed through the installer, your plug-ins and presets should be in your chosen locations, and you can hit finish to end the installer application.

At this point, you should be ready to use your Recirculate Plug-In.

2.4 Removing or Uninstalling your Plug-In

We're sure you'll love your Newfangled Audio plug-ins, but if you ever want to remove them from your machine it's as easy as removing the following files.

For Mac:

- Macintosh HD/Library/Audio/Plug-Ins/Components/<Plug-In Name>.component
- Macintosh HD/Library/Audio/Plug-Ins/VST/Newfangled Audio/<Plug-In Name>.vst
- Macintosh HD/Library/Audio/Plug-Ins/VST3/Newfangled Audio/<Plug-In Name>.vst3
- Macintosh HD/Library/Application Support/Avid/Audio/Plug-Ins/Newfangled Audio/<Plug-In Name>.aaxplugin
- /Music/Newfangled Audio/<Plug-In Name>/

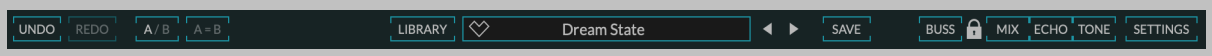
For Windows:

- c:\Program Files\Common\Steinberg\VST2\Newfangled Audio\<Plug-In Name>.dll
- c:\Program Files\Common\VST3\Newfangled Audio\<Plug-In Name>.vst3
- c:\Program Files\Common\Avid\Audio\Plug-Ins\Newfangled Audio
  <Plug-In Name>.aaxplugin
- My Documents\Newfangled Audio\<Plug-In Name>\

Chapter 3

Navigation Bar

At the very top of the plug-in is a navigation bar which allows you to undo and redo changes, access the preset librarian, settings, and manage several other global features of the plug-in.



3.1 UNDO/REDO

On the far left is an UNDO and REDO button. After changing any plug-in parameter in the plug-in interface the UNDO button will activate. Pressing it at this point will undo this action. At this point the REDO button will become active, and pressing it will redo this action. Multiple levels of undo are available and you can move back through several changes to reach an earlier state.

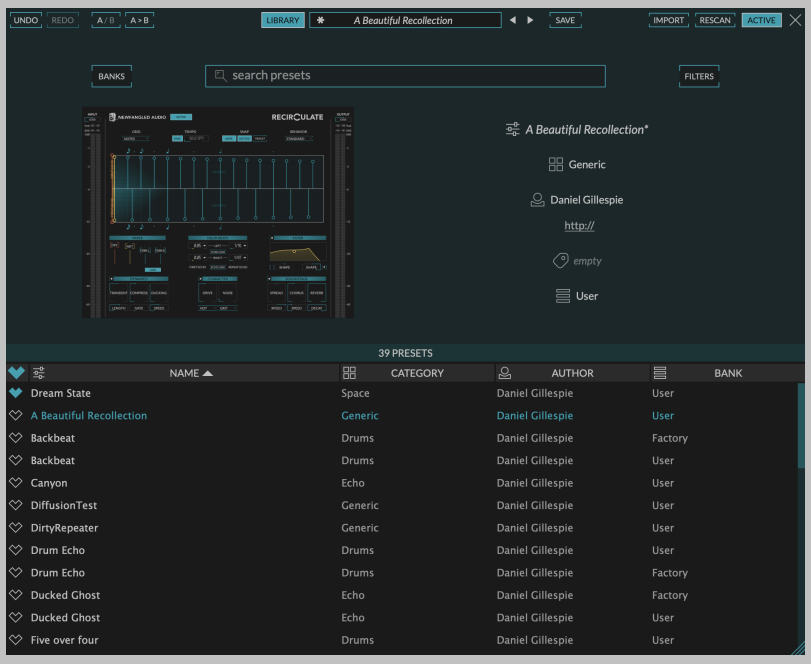
3.2 A/B COMPARE

Next you'll find buttons labeled A/B and A>B. These two buttons allow you to easily toggle between two states of the plug-in and compare the sounds. By default the plug-in is in the A state and you'll notice that the "A" is highlighted. In this state pressing the A>B button will copy the A state to the B state. Toggling the A/B button will switch to the B state, highlighting the "B" and switching the A>B button to B>A (allowing you to copy the B state to the A state).

Any changes you make in the plug-in interface will update the highlighted state. In this way, you can copy the A state of the plug-in to the B state, make changes to the A state, and use the A/B button to compare these two states.

3.3 LIBRARY

The Library button launches the Preset Librarian which can be used to explore the plug-ins presets based on any combination of category, author, tags, or favorites.



The Preset Librarian is split into four main sections.

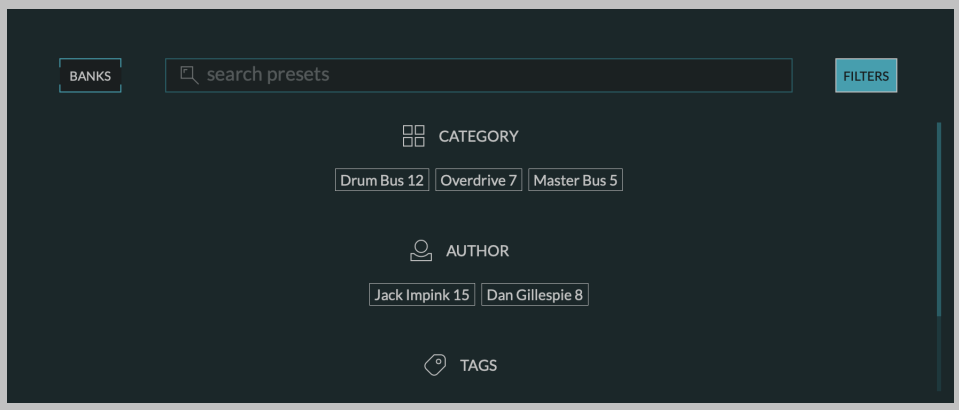
3.3.1 SEARCH and FILTERS

The top of the Preset Librarian shows the BANKS, SEARCH BAR, and FILTERS.

Typing a phrase into the search bar will allow you to search all the presets by a given phrase. You can further restrict this search by selecting a BANK or FILTERS.

Pressing the BANKS button opens a screen which allows you to restrict your search to the presets in either the FACTORY or USER bank. Or additional preset banks if you have any installed.

Pressing the FILTERS button opens a screen which allows you to restrict your search to presets matching a specific CATEGORY, AUTHOR, or one of several TAGS. Additionally, you can restrict your search to FAVORITES if desired.



3.3.2 PRESET LIST

The bottom of the Preset Librarian shows the list of presets which match the current criteria. It displays the FAVORITE status using a heart icon, the preset NAME, the preset CATEGORY, the preset AUTHOR, and the preset BANK. You can sort the list by any of these. The up and down arrows on your keyboard will allow you to toggle through the presets.

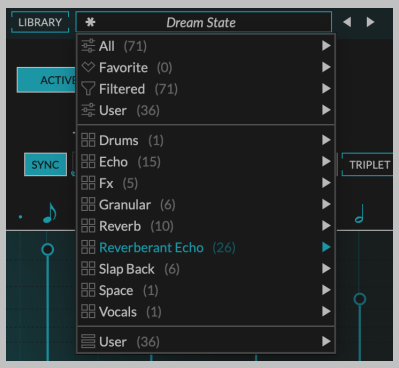
3.3.3 PRESET INFO

The center right of the Preset Librarian displays information about the currently loaded preset. This area shows the preset name, a short description if available, the category, the preset author - including a link to their work, the preset's tags, and its bank.

3.3.4 PLUGIN UI

The center left of the Preset Librarian displays a miniature version of the plug-in UI. This plug-in UI is not editable, but it is live and will show you the current settings of the plug-in, as well as any meters. We've found it incredibly useful to see this display as we've toggled through presets to get a sense of what each preset does.

3.4 PRESET SELECTOR



In the center of the navigation bar is a dropdown preset selector. Clicking on this preset selector will show you the plug-ins presets in several views.

1. All will show you all the presets in alphabetical order.
2. Favorite will show you all your favorite presets in alphabetical order.
3. Filtered will show you all the presets which correspond to the current filter in alphabetical order. This filter is set up in the preset librarian.
4. User will show you just your presets, saved in your USER folder.
5. Underneath these the presets are displayed according to their Category, as assigned when a preset is saved.

Once you load a preset from this dropdown list the Left and Right arrow buttons allow you to toggle through the selected subgroup in order. For more advanced preset selection click the LIBRARY button to enter the preset librarian.

Additionally, if you like the sound of the current preset you can click the heart icon to set the loaded preset as a favorite. If a loaded preset is modified the heart icon will become an asterisk and the preset name is italicized, indicating that the current sate no longer matches that of the saved preset.

3.5 SAVE

The SAVE button launches the preset save screen where you can save a preset and assign categories, tags, and descriptions, as well as set the default state of the plug-in.



3.5.1 PRESET NAME

This field sets the preset name. There can only be one preset with a given name.

3.5.2 SET AS DEFAULT

This button will set the current state of the plug-in as a plug-ins default. This means when you load the plug-in the it will default to these settings.

3.5.3 HEART ICON

This will mark this preset as a favorite when you save it.

3.5.4 SAVE BUTTON

This button saves the preset

3.5.5 EXPORT BUTTON

In order to be browsed by the plug-in the presets are saved in a particular folder. However, if you want to save the preset elsewhere on your computer you can use the EXPORT button to export it as a file.

3.5.6 PLUGIN UI and DESCRIPTION

This section shows the current settings of the plug-in, and how it will appear in the preset librarian.

3.5.7 CATEGORY

Set the category for the preset you are saving. A preset can have only one category. If the preset doesn't fit into any of the existing categories you can use the (+) button to create a new one.

The existing categories are based on those that are found in the existing presets. If you create a new one it will appear in this list with an "X" on it. If you decide not to use the newly created CATEGORY you can remove it by clicking on the "X". However, once the preset is saved this category will be permanent and available to all newly saved presets, unless you delete all presets which use it.

3.5.8 AUTHOR

The AUTHOR section allows you to add your name and a url if you maintain a presence on the web. This will be automatically populated with the information from the last saved preset, so you will only likely need to enter it once.

3.5.9 TAGS

You can add any number of TAGS to a saved preset. These TAGS will allow your preset to be found in the preset librarian. It's best to add the tags that apply to the preset, and don't add the ones that don't. You can create a new tag using the (+) button.

The existing tags are based on those that are found in the existing presets. If you create a new one it will appear in this list with an "X" on it. If you decide not to use the newly created TAG you can remove it by clicking on the "X". However, once the preset is saved this tag will be permanent and available to all newly saved presets, unless you delete all presets which use it.

3.5.10 DESCRIPTION

If desired you can add a short description to the preset. It's best to use this field to add information about what a preset is for, or any hints for a user about how to use it.

3.6 BUSS and PRESET LOCKS



The preset bar contains four buttons that control how the presets are loaded, a BUSS button, and a lock icon followed by three buttons labeled MIX, ECHO, and TONE.

3.6.1 BUSS button

BUSS is meant to be turned on whenever Recirculate is located on a buss, or aux return. Placing a delay effect on an buss is a technique used by pro producers and mix engineers to place many tracks in the same space. When BUSS is turned on all the presets will load with the DRY level at -100 dB. This will allow the dry level to come from the mix channel, and Recirculate will only provide the wet effect.

3.6.2 PRESET LOCKS

The LOCK buttons will lock groups parameters, keeping them from being loaded with a new preset.

MIX LOCK

MIX LOCK will lock the DRY, WET, DRYFX, and WIDTH parameters.

ECHO LOCK

ECHO LOCK will lock the DELAY TIMES, the FEEDBACK LELVELS, the various linking modes, and the GRID, TEMPO, and SNAP options.

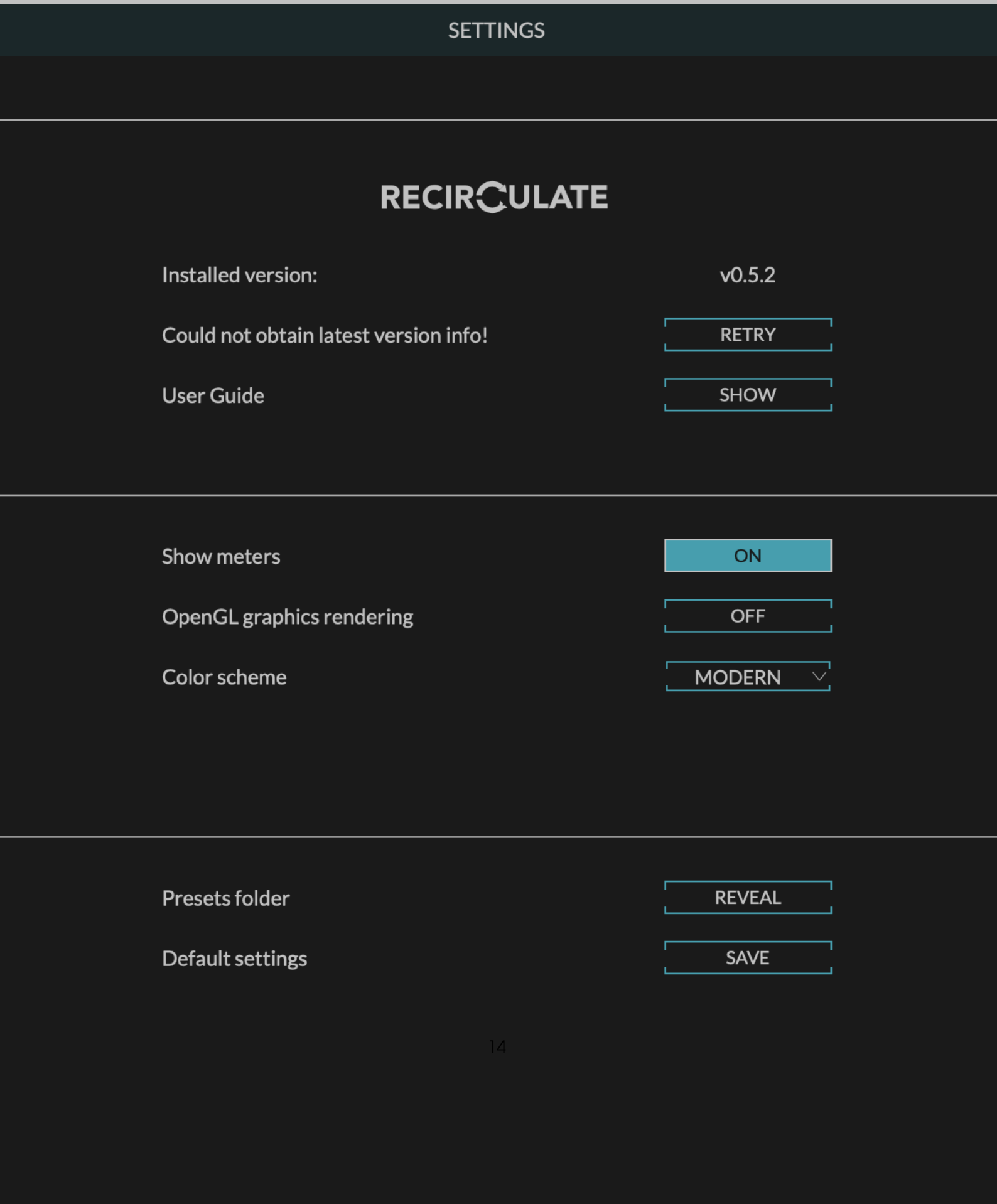
TONE LOCK

The TONE LOCK will lock the BEHAVIOR, FILTER, DYNAMICS, CHARACTER, and SOUNDSTAGE sections.

These three buttons will greatly expand the variety available in this plug-in. For instance, if you place Recirculate on a return you might want to pull down the dry level and turn on MIX LOCK so that you can load any preset in a wet only mode. Alternatively, if you like a particular rhythm and want to audition other sounds you can use the ECHO LOCK to lock the rhythm, and toggle through different tones. Finally, you can do the same with TONE LOCK; if you like the sound of a particular setting, but want to hear different rhythmic options, use TONE LOCK and shuffle through the presets.

3.7 SETTINGS

The SETTINGS button pops down a settings page which contains additional options.


SETTINGS
RECIRCULATE
Installed version:
v0.5.2
Could not obtain latest version info!
RETRY
User Guide
SHOW
Show meters
ON
OpenGL graphics rendering
OFF
Color scheme
MODERN
Presets folder
REVEAL
Default settings
SAVE

3.7.1 INSTALLED VERSION

This displays the version number that is currently installed. If you are running the latest version it will tell you. If there is an update an UPDATE button will appear. Clicking this button will bring you to the downloads page where you can get the latest version.

3.7.2 USER GUIDE

Pressing the SHOW button will launch this user guide.

3.7.3 SHOW METERS

The SHOW METERS button will show or hide the additional meters in the plug-in. Specifically, turning it off will hide the glow in the RADAR control, the envelope graph behind the LEVEL DETECTOR section, and the curve graphic behind the CURVE section.

3.7.4 BRIGHTNESS

The BRIGHTNESS control will control the brightness of the glow in the RADAR control, the envelope graph behind the LEVEL DETECTOR section, and the curve graphic behind the CURVE section.

3.7.5 OPENGL GRAPHICS RENDERING

The USE OPENGL button will enable OpenGL rendering of the UI. For this setting to take effect you must close and reopen the UI. If you that the plug-in UI renders better with OpenGL on or off on your computer you can save this as the default setting and new instantiations will always load using this setting.

3.7.6 COLOR SCHEME

The COLOR SCHEME dropdown will allow you to choose one of several different color schemes for your viewing pleasure.

3.7.7 PRESETS FOLDER

Clicking the REVEAL button will bring you to the presets folder. This is only necessary if you want to share you presets with someone else, or access these files for another reason.

3.7.8 DEFAULT SETTINGS

Pressing the SAVE button will save all the current settings as the default for the plug-in. This is useful if you'd like a different starting point than the one we've provided.

3.8 Resize

The bottom right corner of the UI will allow you to resize the plug-in. To change the default plug-in size drag the plug-in to the desired size and save over the default preset.

Chapter 4

Parameters and Metering

Recirculate has only two main controls, as well as a couple helpful controls. They are all described here.

4.1 Controls

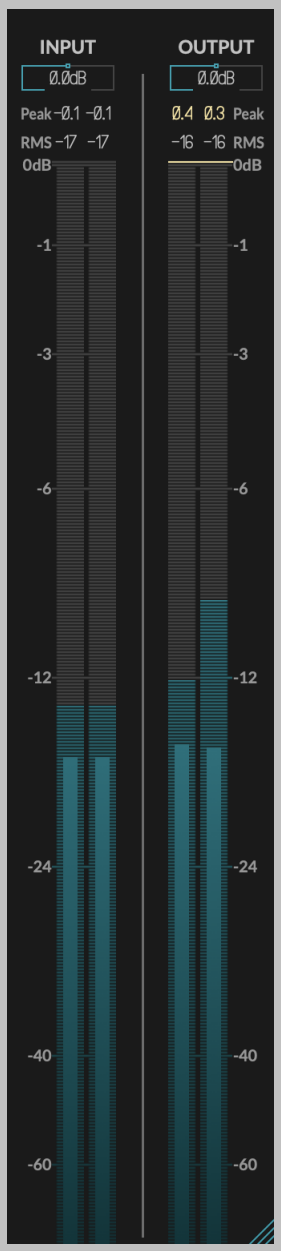
Recirculate has several control types, including horizontal sliders, rotary knobs, drop-down menus, and toggle and radio buttons, all of which have tool-tips which will give you more information about their function if you hover your mouse above them.

In general, all sliders and knobs can be double clicked to type in a specific value, option-clicked to return them to their default value, or command-clicked or control-clicked to enter a vernier mode for fine tuning.

Where appropriate, many controls have a related on/off button which will deactivate this control, or even the entire section.

4.2 Global Parameters

4.2.1 INPUT AND OUTPUT LEVEL AND BAR METERS

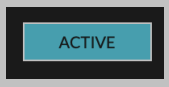


The left and right hand sides of the plug-in have matching vertical bar meters which display the INPUT (on the left) and OUTPUT (on the right) levels in levels in Peak (horizontal ticks), RMS (solid bar and numerical display), and Peak Hold (numerical display) formats. These meters are always present in the display and clicking the Peak Hold section, or by-

passing the plug-in will clear the held peak value.

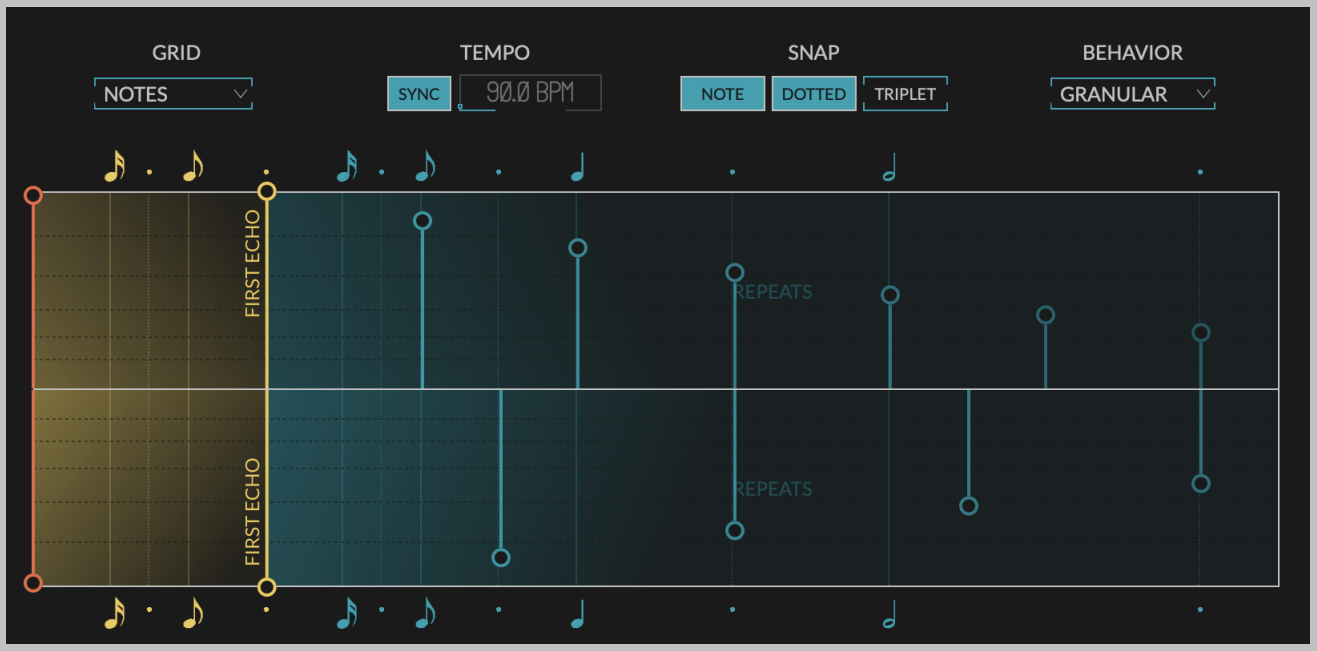
Above the INPUT meter is a knob for the MASTER INPUT LEVEL, and above the OUTPUT meter is an AUTO button which will allow you to automatically compensate for the level change introduced by the DRIVE control, or not. Alternatively, by clicking the down arrow next to this button, you can select a knob to manually set the MASTER OUTPUT LEVEL. The MASTER INPUT LEVEL is just before the INPUT meter and the MASTER OUTPUT LEVEL is just before the OUTPUT meter. With the AUTO button off the DRIVE control will add gain to your input signal. With the AUTO button on the DRIVE control will recirculate your input audio without adding any gain by reducing the headroom available to the signal by the DRIVE amount.

4.2.2 ACTIVE



The ACTIVE button is located near the top left of the plug-in UI near the NEWFANGLED AUDIO label in the header. It activates or bypasses all the processing in the plug-in.

4.3 STEM DISPLAY



The top half of Recirculate is dominated by the Stem Display. This Stem Display is the primary method of setting the delay time, mix, and feedback. It also allows you to sync the delay times to tempo or step, as well as set separate delay times for the first echo and the repeats, and for the two channels. Finally, it allows you to set the tempo syncing options, as well as Recirculate's behavior when you change the delay time.

4.3.1 SETUP

GRID

The GRID control allows you choose whether you set Recirculate's delay time in musical NOTES, sequencer STEPS, or MILLISECONDS. If STEPS is selected you may also choose the number of steps in your measure.

TEMPO SYNC

There are two controls under the TEMPO header. The SYNC button determines whether the tempo is provided by the host, or set in the plug-in UI. When SYNC is active the TEMPO slider is deactivated, but if you turn off the SYNC button you may use the TEMPO slider to set any tempo you desire.

SNAP

The SNAP buttons allow the STEM display to automatically snap to NOTE divisions, DOTTED note divisions, and note TRIPLET divisions automatically. If the GRID mode is in STEPS you may select whether to SNAP to the STEP value or not.

BEHAVIOR

The BEHAVIOR dropdown allows you to select between STANDARD, PITCH WARP, and GRANULAR delay behavior.

STANDARD: Changing the delay time will create no audible artifacts, and the SOUNDSTAGE section includes a CHORUS knob with rich modulation.

PITCH WARP: Changing the delay time will create pitch warps. This can create wonderful and fun effects when used in combination with feedback and the other sound shaping controls. Additionally, the SOUNDSTAGE section includes a MOD control with more extreme delay modulation.

GRANULAR: Recirculate will create no pitch artifacts at all, and the SOUNDSTAGE section includes a SPRAY and SIZE control which control the grain-size and randomization.

PING PONG: This sets up a PING PONG delay, where the repeats bounce from side to side. The SOUNDSTAGE section includes a MOD control

which allows for some pleasant delay modulation, and the XFEED knob is replaced with a PINGPAN knob, which controls where in the stereo field the first repeat is panned.

4.3.2 STEM CONTROL

The main section in the STEM DISPLAY is the STEM CONTROL, which is divided into 3 sections.

DRY LEVEL

The first set of (orange) stems controls the DRY level. This can be pulled up and down to set the amount of DRY signal being passed through Recirculate

WET LEVEL and FIRST ECHO time

The second set of (yellow) stems control the delay time of the FIRST ECHO and the WET level. Treating the FIRST ECHO and REPEATS separately is what makes Recirculate so powerful. By dragging these stems back and forth you set the delay time of that FIRST ECHO, which is the primary thing a listener will hear. Moving this stem up and down will set the WET level for the first echo, and all the repeats.

FEEDBACK and REPEATS time

The final set of (blue) stems control the delay time for the REPEATS, and the FEEDBACK level. When the FEEDBACK is turned all the way down you won't hear these repeats at all, but as it gets turned up you will hear several or many copies of them, each processed by all of Recirculates effects over and over again. This is what gives a feedback delay it's magical sound.

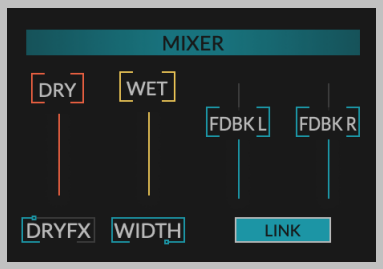
As mentioned, in Recirculate this repeat time can be different from the FIRST ECHO time. Because the FIRST ECHO is such a strong indicator of the rhythm of the song, this allows the repeats to be set much more liberally than they would be in most echo effects. You can treat these much more like ghost notes and they won't subtract from the driving rhythm of the song.

It's important to note that you can grab any of the REPEATS stems, not just the first one, and it will sync to any of the select SNAP divisions. This makes it easy to put 3 repeats in a quarter note, or 5, or 7. This can sound quite nice, when leaving that FIRST REPEAT on a strong downbeat like a quarter, eighth, or dotted eighth.

4.4 DELAY SETTINGS

The bottom half of Recirculate contains all the plug-in settings grouped into 6 convenient sections.

4.4.1 MIXER



The MIXER section sets the DRY, WET, and FEEDBACK levels.

DRY

This sets the DRY level that is passed to the plug-in output. This control is permanently linked to the DRY level in the STEM DISPLAY.

DRYFX

The wet path of Recirculate can be very effected at times. Sometimes you might want some of that effect on your dry sound, too. This control blends the effects in the delay into the dry path as well. You can set it from 0% to 100%.

WET

This set the overall WET level, for both the FIRST ECHO and the REPEATS. This control is permanently linked to the WET level in the STEM DISPLAY.

WIDTH

By default Recirculate can create a very wide stereo image. If this is ever too wide you can reduce the width of the wet signal by bringing down the WIDTH control.

FDBK L

This is the LEFT FEEDBACK control. This control is permanently linked to the FEEDBACK level in the top half of the STEM DISPLAY.

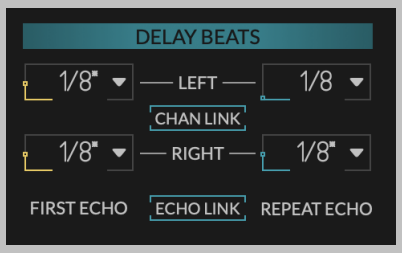
FDBK R

This is the RIGHT FEEDBACK control. This control is permanently linked to the FEEDBACK level in the bottom half of the STEM DISPLAY.

LINK

This button LINKs the LEFT and RIGHT FEEDBACK controls so that they move in tandem.

4.4.2 DELAY BEATS/DELAY TIME



The DELAY BEATS section sets the DELAY BEATS or the DELAY TIME for the LEFT and RIGHT FIRST ECHO and REPEATS.

LEFT

The two controls labeled LEFT refer to the times of the FIRST ECHO (yellow) and REPEATS (blue). These are usually set in the top half of the STEM DISPLAY, but can also be set here if desired. If the GRID control is set to NOTES or STEPS these are set in beats and can be selected from a dropdown of common values, or they can be set freehand by clicking and dragging on the control. If GRID is in MILLISECONDS than these controls are in MILLISECONDS.

RIGHT

The two controls labeled RIGHT refer to the times of the FIRST ECHO (yellow) and REPEATS (blue). These are usually set in the bottom half of the STEM DISPLAY, but can also be set here if desired. If the GRID control is set to NOTES or STEPS these are set in beats and can be selected from a dropdown of common values, or they can be set freehand by clicking and dragging on the control. If GRID is in MILLISECONDS than these controls are in MILLISECONDS.

CHAN LINK

When the CHAN LINK button is active the left and right channels are linked together and have the same delay time. (Excepting the SPREAD control)

ECHO LINK

When the ECHO LINK button is active the FIRST ECHO and the REPEATS are linked together and have the same delay time. In this mode Recirculate acts as a standard delay.

4.4.3 FILTER



The FILTER section incorporates a powerful set of highpass and lowpass filters that are inside the feedback loop of the delay. This means each repeat gets progressively more filtered.

ON/OFF BUTTON

The FILTER header incorporates and ON/OFF button that allows you to deactivate the whole section and it's processing.

FILTER GRAPH

The two filters are incorporated into a FILTER GRAPH with two CONTROL POINTS that set the CUTOFF and SHAPE of each filter. Moving the CONTROL POINT left and right will set the filter's CUTOFF frequency, while moving the CONTROL POINT up and down will set the SHAPE, the exact behavior of which is determined by the FILTER MODE dropdown explained below.

Additionally, clicking and dragging on the FILTER GRAPH background will move the CONTROL POINTS in tandem. Dragging left and right will slide the filter cutoffs to higher and lower frequencies. Dragging up will move the cutoffs away from each other, opening the filter, and dragging down will move them toward each other, closing the filter.

This control should become very intuitive after trying it and listening to the output.

FILTER MODE

The lowpass and highpass filters each have a dropdown which allows you to select the FILTER MODE. Clicking this will allow you to select from one of five modes.

SLOPE MODE: The SHAPE control morphs the filter from a 1 pole filter with a 6dB/Octave slope to a 3 pole filter with an 18dB/Octave slope.

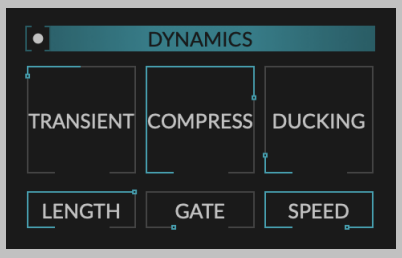
RESO MODE: The SHAPE control adds or subtracts resonance creating a sharp peak or a smooth rolloff.

NOTCH MODE: The SHAPE control adds a notch at the cutoff frequency of a 6dB/Octave filter, because this notch is inside the feedback loop, the delays get progressively softer.

COMBO MODE: The SHAPE control adds or subtracts resonance forming a hard peaking or soft notching shape.

SCOOP MODE: There is no highpass or lowpass characteristic. The SHAPE control adds a cut at the CUTOFF frequency. This is wonderful for a full band echo with no buildup in the mids.

4.4.4 DYNAMICS



The DYNAMICS section gives you control over the dynamics of the signal in the feedback chain, including transient modulation, compression, ducking, and gating. These controls help your repeats sit in the mix and and keep them from becoming overwhelming.

ON/OFF BUTTON

The DYNAMICS header incorporates and ON/OFF button that allows you to deactivate the whole section and it's processing.

TRANSIENT

The TRANSIENT knob goes from -200% to +200%. When it's at 0% it passes your audio completely normally.

As you turn it up to 100% it removes the sustained part from your audio, leaving only the transient. This can be very useful in creating rhythmic echo patterns on drums that give a sense of a complicated rhythm without overwhelming the listeners with many copies of each drum. It's like playing ghost notes.

As you turn it up past 100% it removes even more of the sustained part, leaving only the most transient material.

Turning the TRANSIENT knob toward -100% will remove the transients, leaving only the sustained signal. This can be very useful on vocals or other legato instruments where you want to create a sense of space without hearing distinct echoes.

Turning the TRANSIENT knob past -100%, toward -200% will remove all transients letting only the most legato signals through.

Note: Because the TRANSIENT control removes signal content this can effect the behavior of the FEEDBACK controls in a signal dependent way. If you play an instrument with no attack while the TRANSIENT knob is turned all the way up, it may be that no sound passes through at all. Likewise, if you play a staccato sound with TRANSIENT all the way down, no sound will pass.

LENGTH

This knob controls the TRANSIENT LENGTH. A low value will let just the shorted transients and not onsets through, while a longer LENGTH will include more of the note body.

COMPRESS

The sound of many classic feedback echo topologies is, in part, due to natural compression in the feedback loop. This sound is recreated here with a dedicated knob. Turning COMPRESS up will add density and weight to the repeats and give them a slightly "organic" quality, for lack of a better word. Try it and listen, it sounds great.

DUCKING

A ducker is a signal processor that pushes one sound out of the way of another. A ducked delay is a delay that reduces the delay output when the dry signal is present, but lets it ring out when the dry signal retreats. On vocals, for instance, this allows the listener to hear the vocal line clearly, while the singer is singing, while allowing for lush repeats to ring out while they are silent.

The DUCKING knob controls the amount of DUCKING applied in Recirculate.

GATE

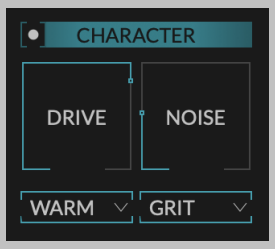
The opposite of DUCKING, the GATE is designed to allow the effect through only when there is dry signal present. This can create a nice depth that happens only when the instrument is playing, and has the result of tying the delay more closely to the envelope of the sound, allowing the effect to be heard as a timbral modification of the sound, rather than a discrete sound, itself.

Note: Turning GATE and DUCKING up at the same time may reduce or eliminate the wet signal coming out of Recirculate.

SPEED

The speed of the DUCKING and GATE are controlled by this knob. Turning it up will make the ducker and gate act much more quickly, while turning it down will slow down their action.

4.4.5 CHARACTER



The CHARACTER section allows you to add nonlinear processing and noise in the feedback path. Instead of modeling specific old technologies we looked to them for inspiration and added a selection of processing we thought sounded good.

ON/OFF BUTTON

The CHARACTER header incorporates an ON/OFF button that allows you to deactivate the whole section and it's processing.

DRIVE

The DRIVE knob controls the signal level into the nonlinear processor. Turning it down will remove all distortion for most of the nonlinearities, but BITE and DIRTY include some crossover distortion that applies at low signal levels as well.

DRIVE SELECTOR

Underneath the DRIVE knob is a dropdown that allows you to select one of 7 DRIVE CHARACTERs. These include:

NONE: The nonlinearity is disconnected and the DRIVE knob does nothing. HOT: This is a clean, bright distortion with no inherent filtering. When DRIVE is 0dB only the hottest signals will cause any distortion, but you can generate significant distortion by turning it up. CRUNCH: This is a bright distortion with meat on it's bones. When DRIVE is 0dB only the hottest

signals will cause any distortion, but this turns into a crunchy, meaty distortion as you increase DRIVE. BITE: This is a very dirty, almost fuzzy distortion with no inherent filtering. It has both a saturation character, which means driving into it will create more fuzz, but also crossover distortion, meaning that quiet signals are distorted as well. This has the effect of truncating the repeats when the signal gets quiet enough, which can be a nice effect. WARM: This is a smooth distortion, with a pleasant lowpass characteristic reminiscent of several old delay technologies. With DRIVE down there is no audible distortion, but it will become apparent as DRIVE is increased. DARK: This is a crunch distortion with a strong lowpass character. This creates a really nice vintage feel with either no distortion (DRIVE at 0dB) or plenty (DRIVE increased). DIRTY: This is a very complicated nonlinearity. It is both dark and bright at the same time, and adds distortion to both quiet and loud signals in differing amount. Using this with high FEEDBACK can create beautifully changing soundscapes, but there's a strong effect at all settings.

NOISE

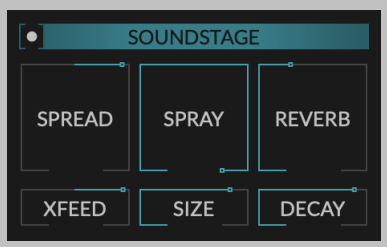
Noise is inherent in the Universe, and therefore all old delay technologies included at least one source of noise. The characters of this noise was dependent on the technology used, and noise has often been critical to the sound of echo effects. The NOISE knob on Recirculate allows you to add noise in one of three characters.

NOTE: Recirculate's NOISE knob is the only process in Recirculate which adds any noise at all. You can always remove the noise in setting by turning this knob all the way down.

NOISE SELECTOR

Below the NOISE knob there is a dropdown that allows you to select one of 3 NOISE CHARACTERs. These include: GRIT: This is a signal dependent that can sound a bit harsh. The noise is not constant, but added only when signal is present. GRIME: This process mimics the noise created by a tape machine. The noise is not constant, but added when signal is present, and in a signal dependent fashion. This is a noise that softens and smooths the signal. BIT: This is a classic bit reduction sound. HISS: This is a classic hiss noise with a very little bit of signal dependency.

4.4.6 SOUNDSTAGE



The SOUNDSTAGE section controls the aspects of Recirculate that add a sense of depth and dimension to your sound.

ON/OFF BUTTON

The SOUNDSTAGE header incorporates and ON/OFF button that allows you to deactivate the whole section and it's processing.

SPREAD

The SPREAD knob adds a little bit of extra delay to the left channel delay, and subtracts it from the right, or vice versa. Adding small offsets to the delay time can increase the stereo image, and increase the diffusion of the repeats.

XFEED

The XFEED knob changes the feedback structure of Recirculate allowing the left and right delays to feedback into each other. When XFEED is at 0% the left and right delays are totally independent. As XFEED gets turned up the left delay feeds back into itself, but also into the right delay, and the right delay feeds back into itself, but also to the left delay. When XFEED is at 100% the left delay only feeds into the right delay, and the right delay only feeds into the left delay, just like a ping pong delay.

CHORUS

When Recirculate's BEHAVIOR is set to STANDARD or PITCH WARP a CHORUS and SPEED knob are present.

The CHORUS knob allows you to add some subtle modulation to the delay creating a pleasant chorusing sound which gets stronger with each repeat. The amount of detuning, and therefore the amound of percieved chorusing effect is dependent on both the CHORUS amount and the chorus SPEED.

SPEED

The SPEED knob controls the speed of the modulation LFO, and together with CHORUS sets the amount of detuning. A fast SPEED and a low CHORUS can sound very nice, as can a slow SPEED and a high CHORUS. Turning both up can be a bit extreme, but still fun.

SPRAY

When Recirculate's BEHAVIOR is set to GRANULAR a SPRAY and SIZE knob are present.

The SPRAY knob sets the amount of randomization in grain selection, which causes the read head to jump around. When SPRAY is at 0 the delay acts as a totally normal delay. As you turn it up the delay read point jumps randomly around the set delay length. The higher SPRAY goes the larger the jumps can be. This is what gives a granular delay its sound.

SIZE

The SIZE knob sets the grain size. Small grain sizes can create a quite noisy sound with SPRAY up, while larger grain sizes will allow discernible chunks of audio to come out at random. 100 mS is quite nice, but have fun.

REVERB

Natural echoes are never totally dry copies of the original audio reflected back at you, they always include at least a little diffusion smoothing from the irregularities of the reflecting surface. This inspired us to add a REVERB section to Recirculate that allows everything from the most subtle smoothing to gigantic reverberant chambers.

The REVERB control sets how much of this reverb is blended in with the dry signal and the DECAY control effects the length of that diffusion. Different DECAY settings will change how perceptually "wet" the reverb sounds, so the REVERB amount desired may be somewhat dependent on the DECAY setting.

DECAY

The DECAY control controls the amount of reverberation happening the in the reverb, essentially the length of the tail.

When DECAY is very low this doesn't sound like a reverb at all, but just a really subtle softening of the repeat. However, because this reverb is inside a feedback delay each repeat is increasingly softened, creating a very natural echo sound.

Turning DECAY up will quite quickly add diffusion to that echo such that each consecutive echo gets longer and they quickly blend into each other.

At around 50% DECAY the echoes cease to be distinct and the sense of reverb takes over.

As you push DECAY up toward 100% the sense of distinct echoes returns, but now bathed in an almost infinite wash of lush reverberation.

At any of these settings the amount of reverberation can be dialed down using the REVERB knob.

Note: At some settings there can be a slight loss of energy in the reverberation algorithm, meaning that you might need to turn FEEDBACK above 100% in order to get truly infinite feedback.

Chapter 5

Conclusion

We hope you enjoy Newfangled Audio's Recirculate Feedback Echo plug-in. If you have any questions, comments, or concerns please write us at support@newfangledaudio.com

Chapter 6

About Newfangled Audio

The Oxford English Dictionary defines Newfangled as "objectionably new".

Music technology can sometimes be a backward looking pursuit. This is understandable, the purpose of music technology should be to help musicians make great music. There have been many great pieces of gear in the past and we should seek to keep these pieces and make them available to people who want to use them, and the time and dedication required to master a musical instrument means that changes in their design are often evolutionary rather than revolutionary.

However, the great pieces of gear from yesteryear are more often than not those that contained new ideas in their time. The reverence we have for these pieces can sometimes turn into fetishism, and mindless re-creation of classic gear can fail to inspire musicians and artists to take new risks. It's important to make sure artists and engineers have access to good tools that inspire them and don't stand in their way, but these tools should never be used as a security blanket to stand in the way of an artist or engineers ears and taste.

Newfangled Audio seeks to only make gear that incorporates new ideas. We want to make gear that is great, but only using ideas that others are not. We realize that deviation from the norm might sometimes be objectionable. The Oxford English Dictionary defines Newfangled as "objectionably new".