



CR8

Creative Sampler

User Guide



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Introduction

Thank you for choosing Waves! To get the most out of your new Waves plugin, please take a moment to read this user guide. To install software and manage your licenses, you need to have a free Waves account. Sign up at www.waves.com. With a Waves account you can keep track of your products, renew your Waves Update Plan, participate in bonus programs, and keep up to date with other important information.

We suggest that you become familiar with the Waves Support pages: www.waves.com/support. There are technical articles about installation, troubleshooting, specifications, and more. Plus, you'll find company contact information and Waves Support news.

CR8 Creative Sampler

CR8 is an easy-to-use, versatile sampler. With CR8 you can use any audio material and instantly turn it into a playing virtual instrument. Stack up to eight sampler layers, whether one-shots or loops, mix them together or spread them across MIDI keyboard zones. Experiment with real-time modulations using classic Waves modulators; almost any parameter can be customized to quickly design your next sounds.

CR8 becomes even more powerful when used with the built-in COSMOS Sample Finder. Together, they help you find, audition, and load your samples inside CR8, within the context of your session. Plus, COSMOS automatically classifies the recorded instruments in samples, which helps CR8 pick up the suitable time-stretching schemes.

CR8 is simple yet feature-rich. Simply drop samples onto the CR8 Waveform display to play them with your MIDI keyboard. For advanced sound design, CR8 provides a wide array of filters, modulators, tune and speed controls, and more. CR8 helps you to create new instruments from your samples, play and stack synchronized loops, and launch one-shots quickly and easily.



Getting Started



Pretty simple. Drag a sample onto the CR8 editing panel. Play from your MIDI keyboard. That's it!

You can drag samples from your DAW or host computer or from Waves COSMOS Sample Finder.



Click the Find icon to open COSMOS.

Other good things to know:

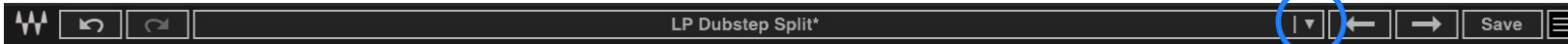
- Drag a sample file onto the “+” icon to create a new sampler for it.
- Drag a sample file onto an existing sampler tab to replace its contents. This resets all parameters for the sampler. Click the Swap button in the upper-left corner to preserve settings (see p. 9).
- Drag a sampler tab onto the “+” icon to duplicate it.
- Click the “x” on a sampler icon to remove it.
- Click the “+” icon to open a blank sampler.
- You can have up to eight samplers.

Of course, CR8 can do far more than play samples, but everything starts here.



Presets

If you're new to samplers or you want to get started quickly, try a preset. CR8 provides a diverse selection of factory presets. Use them for instant sampler gratification or as starting points from which you can tweak controls to quickly create a custom sound. Plus, presets are a great way to learn.



Click the down arrow in the WaveSystem Toolbar at the top of the window to open the Presets menu.

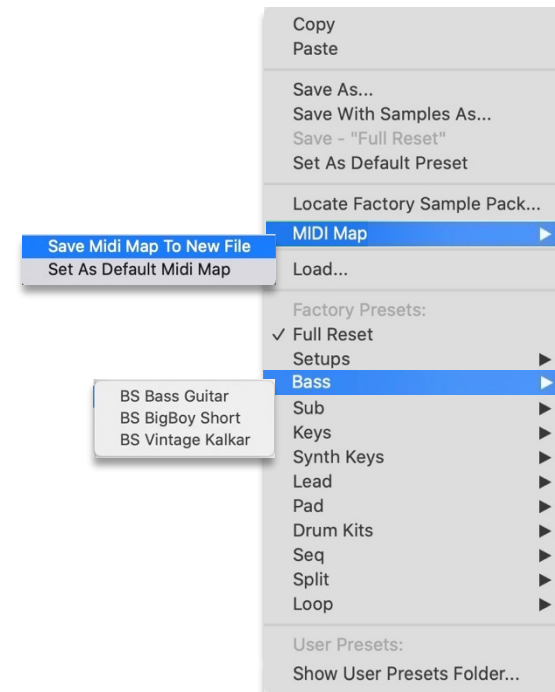
The Waves Factory Sample Pack is installed with the plugin. But if you chose not to install it, or if you moved the folder, use **Locate Factory Sample Pack** to establish the link—otherwise the presets won't work.

Save with Samples As... lets you save a CR8 preset with all its associated audio files. The sample folder is created next to the preset's xps file and will be named "[Preset Name] Samples." This enables you to move your project to another computer and take your sample files with you.

Use **Save MIDI Map to New File** to save a preset with only the MIDI Learn assignments. MIDI Map presets are marked "[MIDI]" at their preset name. These presets do not load or save plugin parameters other than the MIDI learn assignments.

The **Setups** presets do not contain audio, only settings. They can serve as convenient starting points when creating new sounds.

The WaveSystem Toolbar is also used to compare settings, undo and redo steps, and resize the plugin. To learn more, click the icon at the upper-right corner of the window and open the WaveSystem Guide.



Controls

CR8 is made up of four views: a **Sampler** view for adjusting the sample length and loop, as well as its sound, a **Keyboard Zones** view for determining how samplers interact with the keyboard, a **Mixer** that displays essential controls for each sampler, and a **Modulation** panel for controlling modulators and envelopes and assigning modulators to CR8 controls.

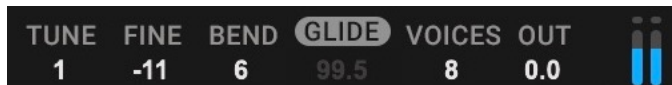
SAMPLER SELECTION TABS

Move between the samplers with the tabs at the top. You can select a sampler from any view.



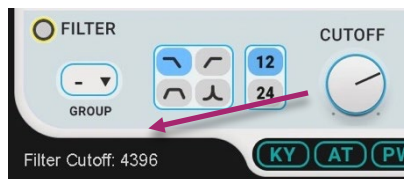
1. Selected sampler
2. Solo this sampler
3. Reset/Remove this sampler
4. Sampler On/Off
5. Create a new blank sampler or copy an existing one
6. Keyboard Zones tab
7. Mixer tab

GLOBAL CONTROLS



Settings for the entire plugin are controlled in the panel on the right side. These controls are described in the Global Controls section at the end of this user guide.

TOOLTIPS



Hover over any control and its name and value will be shown in the lower-right corner of the interface. Turn tooltips on and off in in the WaveSystem Toolbar drop-down menu, next to the Save button.



Sampler View

This is where each sampler is defined, shaped, and modulated.

The image shows the CR8 Creative Sampler interface with several sections annotated:

- Access COSMOS Sample Browser:** Located at the top left, indicated by a red arrow pointing to the sample browser icon.
- Waveform Display:** A large central area showing a waveform with markers. Annotations include "Set start, end, and loop markers" and "Create fades".
- Sample Controls:** A section below the waveform with knobs for GAIN, TUNE, FINE, SPEED, WIDTH, PAN, and VOL. Annotations include "Set sample characteristics" and "Click Auto icon to reanalyze".
- Filters Section:** A section below sample controls with knobs for CUTOFF, RES, and DRIVE. Annotation: "Filter and shape each sample".
- Global Controls:** Located at the top right, including TUNE, FINE, BEND, GLIDE, VOICES, and OUT. Annotation: "Controls affecting the entire plugin."
- Grid Controls:** Located below global controls, including UNISON and S.MONO. Annotation: "Grid offset, snap, crop".
- ADSR Controls Shortcut:** A section with buttons for ADSR (A1, A2, A3, A4) and LEGATO. Annotation: "Shows the control of the assigned ADSR".
- Collapse Modulator Section:** A section with buttons for modulators (M1, M2, M3, M4) and ADSR selectors (A1, A2, A3, A4). Annotation: "Click a modulator or ADSR selector to expand."
- Modulator Section:** A section at the bottom with a graph for ADSR 1 and knobs for ATTACK, DECAY, SUSTAIN, and RELEASE. Annotation: "Adjust modulators and ADSR controls. Assign modulators to other controls. Available from all views."

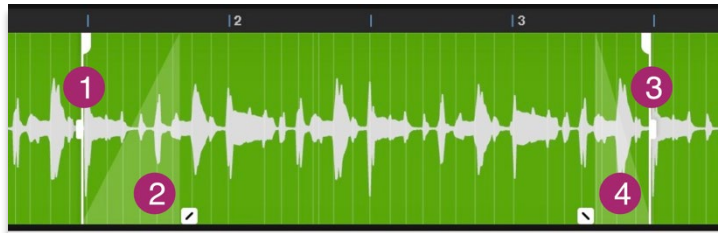
To preserve existing parameters settings while loading a new sample, click the Swap Samples button (see page 9).



Waveform Display

Use the waveform to set the start, end, and loop locations.

SETTING START AND END TIMES



- 1 **START MARKER**
Drag the marker to adjust playback start.
- 2 **FADE IN**
Drag this marker to create a fade in that begins at the Start Marker.

- 3 **END MARKER**
Drag the marker to adjust playback end. In Loop mode, the End marker is the Loop End marker.
- 4 **FADE OUT**
Drag this marker to create a fade out that ends at the End marker. In Loop mode, this marker controls the crossfade.

DEFINING A LOOP



Click the Loop button to enable looping.

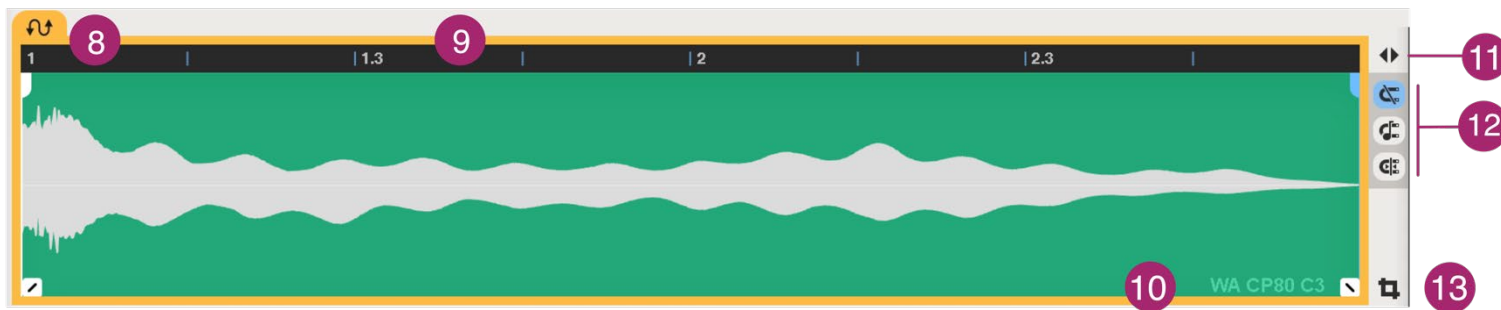


- 5 **LOOP START MARKER**
When the Loop button is On, the Loop Start marker defines the beginning of the loop. Alt+click on the Start marker and it will become the Loop Start. The End marker is the end of the loop.
- 6 **CROSSFADE**
In the Loop mode, the fade out icon becomes an “x” that controls the crossfade between the Loop Start and End markers. You cannot control the crossfade from the Loop Start.

- 7 **LOOP AREA**
This blue line identifies the loop area. Drag anywhere in this area to move the loop position without changing its length.



OTHER CONTROLS



8 SWAP SAMPLES

Click the tab in the upper-left corner to keep sample parameters when a new sample is added. This includes markers, sample controls, filters, modulators, and ADSRs. It does not include Sample Gain, Key, BPM, or an un-synced Loop Length that is dependent on Sample Length. A yellow frame indicates the Swap Samples mode.



9 RULER

Drag up or down on the Ruler to zoom. Drag the Ruler horizontally to pan left or right. If you cannot move horizontally, it's likely that you're looking at the entire sample.

10 SAMPLE FILE NAME

11 GRID OFFSET

Repositions the grid without affecting playback.

12 SNAP MODE

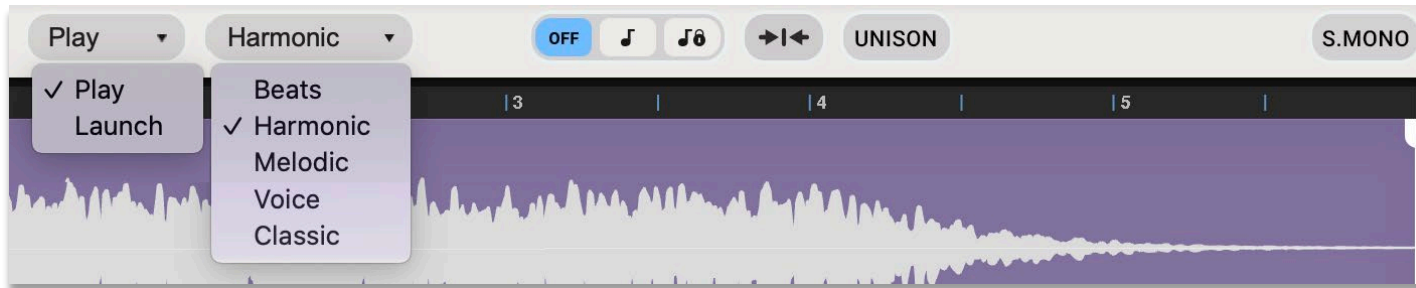
Sets grid snap-to behavior: no snap, snap to beats, snap to transients.

13 CROP

Removes unused segments from the Sampler (i.e., audio outside the Start and End markers).



Playback Controls



PLAY MODE

This drop-down menu sets the playback behavior of a note once a key is pressed.

Play (hold key)

Probably the most common mode, Play is used to treat the sampler as a virtual instrument. The note sounds until the key is released, subject to the ADSR settings.

Launch (one-shot)

- 1) **Plays the entire sample**, between the Start and End marks, when triggered by MIDI notes. This mode is usually used for drum hits, special effects, and cued sounds.
- 2) In Launch mode, the regular **ADSR doesn't take effect**; the sample is played from beginning to end. The assigned ADSR controls are disabled, except the velocity depth, which is still determined by the ADSR.
- 3) Samplers in Launch mode can only play **monophonically**. The last triggered note is the only playing note (i.e., a new note mutes the note that is currently playing).



SCHEMES (STRETCH ALGORITHMS)

Use this drop-down menu to choose how to time-stretch and pitch shift a sample. For cleanest results, the time stretching scheme should suit the content of the sample. You may need to try more than one scheme to achieve the best results.

Beats	Use this scheme when preserving the transients of the sample is more important than the preserving the sustain. Examples are drum loops and other percussive samples. The transients of the samples are kept in their position, while the audio between them is stretched up or down without further intervention by the algorithm. When stretching or pitch shifting to extremes, a short silence may occur before the transients.
Harmonic	Used on polyphonic and complex samples. This scheme works well on guitars, pianos, synths, strings, etc., and can also handle monophonic sounds.
Melodic	This scheme can successfully stretch and pitch shift melodies in monophonic instruments like bass or saxophone, and, of course, vocals. Because of the detector's accuracy, Melodic has a "Flat" switch, which forces the internal pitch changes in the sample to a single note.
Voice	Voice uses the same pitch detector as Melodic. It provides formant correction for pitch shifting that is less than two octaves up or down. This scheme is extremely useful for (you guessed it) human voice.
Classic	When there is no need to preserve the original length of the file or to sync it in time, choose the Classic scheme for simple sample rate conversion. There is no time stretching: as the pitch shifts up, the sample plays faster/shorter, and vice versa.



SYNC AND VOICE CONTROLS



- 1 SYNC ON/OFF
When Sync is Off, the sample plays at its original speed, disregarding host BPM.
- 2 SYNCED TO HOST
The sample playing speed is adjusted to fit to the host BPM (works with the analyzed BPM of the sample).
- 3 SYNC LOCK
Works like Synced mode, with the addition that when playing a note to the sampler, CR8 waits for the next Beat (1/4 note) from the host to trigger it. This ensures that the sampler is always in sync with the host.
- 4 PRESERVE TRANSIENTS
Reduces the amount of stretching around the detected transients of a given sample.
- 5 UNISON
Enriches the sampler playback with extra duplicated voices. The added voices are played back with slight changes in tune and are spread to the extremes of the stereo fields, creating a wider stereo image
- 6 FLAT
Forces the internal pitch changes in the sample to a single note.

SOFT MONO

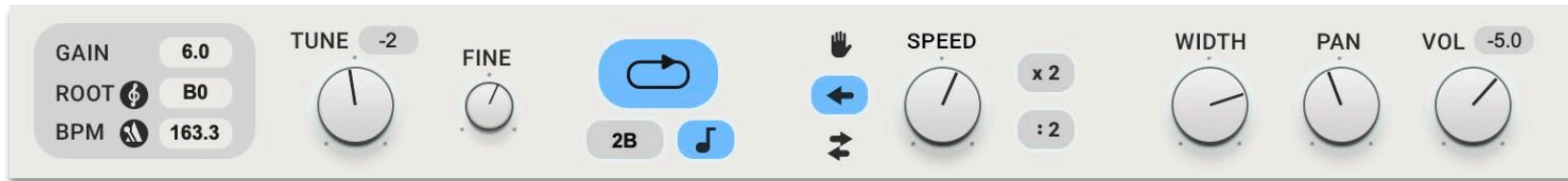
S.MONO

Forces a particular sampler to not play more than a single note at a time, even if the global number of voices is polyphonic and multiple keys are played in its zone. Soft Mono plays only the last incoming note.



Sampler Controls Panel

Use this panel to adjust the pitch and tuning, tempo, playback behavior, and output signal characteristics of the current sample.



GAIN

Drag over this value box to adjust the gain of the current sample. When a sample is loaded, it is normalized to 0 dBFS. The value box shows how much of a gain offset was required to reach 0 dBFS. To reset the sample to its original gain, hold opt (Mac) or Alt (Windows) and click on the value box. *Range: -36 dB to +36 dB*

ROOT

Root is the center key of a sample, the point at which no pitch shifting will occur. Root describes the keyboard, not the source. However, when setting the Root to the sample's pitch, the entire keyboard is in tune: every key plays its corresponding pitch (A3=440Hz).

Click the clef sign next to the value box to automatically set the Root to the pitch suggested by CR8's detector. Note that some files may have more than a single pitch or may be too complex to analyze.

Default Value: C3

Range: C-2 to G8

BPM

Sets the BPM of the sample for the time-stretching algorithms, adjusted to fit the sample length to whole bars. The initial value is derived from a BPM analysis algorithm. Click the metronome sign to impose the analyzed BPM onto the sample without adjustments.

TUNE

Transposes the pitch of the sample in semitones. This control can be modulated.

Range: -24 semitones to +24 semitones



FINE

Used to fine tune the pitch in cents. Range: -100 cents to +100 cents

LOOPING ON/OFF



Enables looping of the sample or a defined region of the sample. When Loop is On, the Loop Marker and Loop crossfades are visible. The sample will play from the Start marker, reach the End marker, and then loop between the Loop Start marker and the End marker.

LOOP LENGTH

Use the value box to adjust loop length, in musical notation, based on the sample/Host BPM. When Loop is Off, Length Source and Loop Length are disabled. Range: 1/64T to 8 bars

LENGTH SYNC



When the Note button is On, the Loop Length is determined by the Host BPM. When Length Sync is Off, the length is determined by the sample's own BPM, as analyzed in the BPM setting.

SPEED AND DIRECTION CONTROLS

SPEED/OFFSET



Sets the speed at which the sample is played. When Freeze is On, the Speed control is replaced by the Offset control. Turn this knob back and forth to scrub the cursor and determine the Freeze point of the sample.

Range: ±64x sample's native playback speed

X2 Doubles the selected speed value.

:2 Divides the selected speed value by 2.

For synced samples, use the x2, and :2 controls to stretch the sample while keeping it in sync.

This is not available in Classic algorithm mode.

FREEZE ON/OFF

Pauses the sampler's play head on a certain segment.

REVERSE ON/OFF

Sets the direction of play (start to end or end to start). When reversed, the loop starts playing from Sample End to Sample Start. When Loop is On, it plays from Sample End to Loop Start.



SEESAW

The sample plays back and forth. When Loop is Off, the sample will reach the End marker and then play in reverse until it reaches the Start marker and stops. When Loop is On, the sample will play back and forth within the Loop region.

IMAGE AND VOLUME CONTROLS

Use **Width** and **Pan** to control the stereo image of the sample.



Width controls the size of the stereo image

Range: zero (mono) to 1 (sample's natural width) to 2 (very wide stereo image)

Pan controls the position of the sampler in the sound image.

Range: -45 to +45

Volume controls the playback volume of the sample.

Range: -inf to +12 dB

Filter Section



FILTER ON/OFF

When Off, the filter section is bypassed.

FILTER TYPE

Sets the filter type.

Range: Lo-Pass, Hi-Pass, Band-Pass and Peak (only resonance)

FILTER SLOPE

Sets the order of the filter.

Range: 12 dB or 24 dB per octave



CUTOFF:

Controls the filter cutoff frequency.

Range: 20 Hz to 20,000 Hz

RESONANCE

Controls the amount of filter resonance. Higher settings boost frequencies near the cutoff frequency.

Range: 0 to 100

DRIVE

Controls the amount of overdrive added to the filter signal.

Range: 0 dB to 36 dB

FILTER GROUPS



Groups link Filter controls between samplers. When filters from more than one sampler are assigned to a group, their filter parameter controls will move together. This lets you simultaneously control filter settings for several samplers.

To create a Filter Group from scratch, follow these steps:

1. Select a sampler and adjust its filter settings as needed. Assign the sampler to a filter group.
2. Assign other samplers to this new group. The filter settings of the first member of the group (step 1) will be copied to samplers as they are assigned to the group.
3. From this point on, filter parameter changes made in any group member will be duplicated in all other members of the group.

Once a group is established, assign a sampler to it and the filter settings of the group will be applied to the new sampler.

All filter controls, including modulator assignments and depth, are controlled with the group.



Keyboard Zones



Use this view to set the keyboard ranges of pitch and velocity for each sampler. This determines the spread of the samplers across the keyboard by incoming MIDI Notes. The zones can be set using the graph—represented as rectangles that can be dragged—or with the of controls below it.

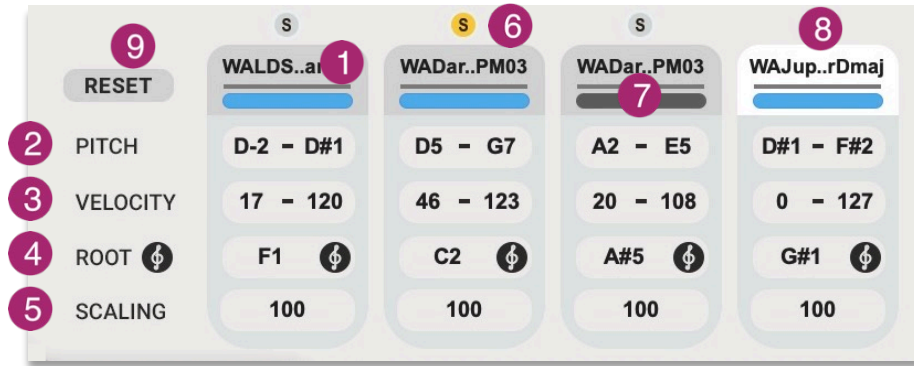
The screenshot shows the CR8 Creative Sampler interface in the 'Keyboard Zones' view. At the top, there's a piano keyboard with MIDI notes labeled from C-2 to G8. Below the keyboard is a graph showing velocity zones for various samplers. The y-axis represents velocity from 0 to 127. The x-axis represents MIDI notes. A blue zone is visible for the 'WAClavientG2' sampler, covering notes C4 to G8 with a velocity range of 61 to 127. Below the graph is a control panel with parameters for each sampler:

Parameter	WAClavientB1	WAClavientA1	WAClavientC2	WAClavientC3	WAClavientF1	WAClavientG2	WAClavientG2	WACla..choke
PITCH	C-2 - B0	C1 - E2	F2 - B3	C4 - G8	C-2 - B0	C1 - E2	F2 - G8	C4 - G8
VELOCITY	80 - 127	80 - 127	80 - 127	61 - 127	0 - 79	0 - 79	0 - 79	0 - 60
ROOT	B0	A1	C2	C3	F0	G2	G2	D3
SCALING	100	100	100	100	100	100	100	100

At the bottom of the interface, there are several colored buttons labeled with letters: KY, AT, PW, MW, VL, MT, M2, M3, M4, A1, A2, A3, A4.



Sampler Zones Controls



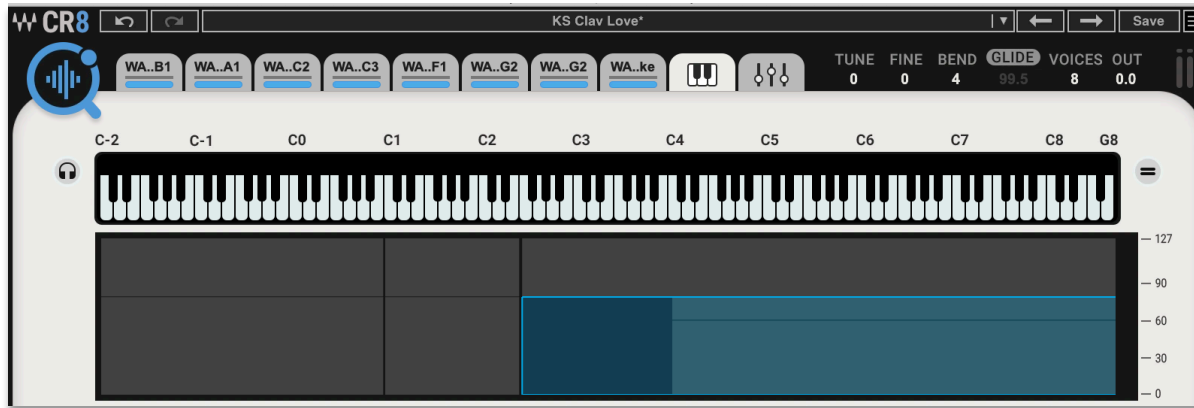
These controls are used to define the range of notes that will trigger the sampler.

1	Sample name	Abbreviated sample name (10 characters).
2	Pitch	Range of keyboard keys that will activate this sampler. This is illustrated by the width of the zones on the graph.
3	Velocity	Determines the note velocity values to trigger the samplers. This is represented by the height of the zones in the graph.
4	Root	Sets the note that will be center point of the sampler's pitch. Click the clef sign on the sampler to reset the Root to the pitch suggested by CR8's detector. Click the clef next to the Root title (left) to automatically set the suggested pitch for <i>all</i> samplers at once.
5	Scaling	The amount of pitch shifting that occurs while playing above or below the Root note. When scaling is set to 100%, (default) pitch shifts one semitone for every key on the keyboard. When scaling is set to 0%, there is no pitch shifting from the keyboard, and all the notes play the same pitch. Values greater than 100% increase pitch shifting by more than one semitone per key. A value of 200% results in a whole tone per each key. Values less than 100% result in the scale being inverted: the pitch goes down as you go up at the keyboard.
6	Solo	Only this sampler will play.
7	Sampler On/Off	Same function as the On/Off buttons on the sampler tabs.
8	Selected sampler	The pitch/velocity zone of this sampler is highlighted in the graph.
9	Reset	Returns the Pitch and Velocity settings for all samplers to their default values. (Pitch=C-2 to G8; Velocity=0 to 127). As a result, all samplers play on every note.



Keyboard Zones Graph

Use this graph to set which MIDI notes will activate the selected sampler, and to control velocity distribution for each sampler.



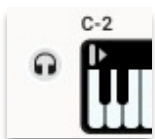
The keyboard at the top spans from C-2 to G8 and reflects the activity of the MIDI keyboard.

The graph indicates the relationship between the keyboard and each sampler.

- The horizontal axis of the graph displays the range of the keyboard that applies to each sampler. Only the keys within the zone will play for the sampler.
- Drag an edge of a zone horizontally to narrow or widen the pitch range; drag the entire zone left or right to move it along the keyboard while maintaining its range.
- Notes will play within their entire range, even if zones are overlapped. Two or more samplers will play where zones overlap.
- Velocity range is adjusted vertically.
- Dark areas between zones will not play, as they are not assigned to any note.

The zone of the selected sampler is shaded blue.

LISTEN MODE



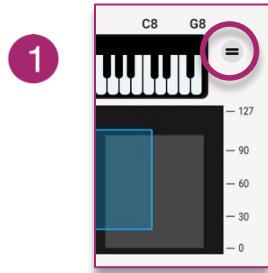
Listen Mode enables you to monitor the sampler's distribution. When Listen is On, each click on the graph plays back the appropriate MIDI note from CR8. Listen must be Off to edit zones in the graph.

You can momentarily enter Listen Mode by holding the Shift key while clicking on the Zones graph.

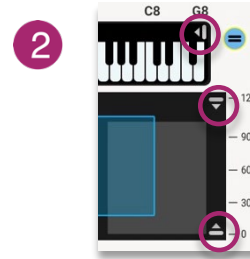


SETTING EQUAL RANGES

You can evenly spread all activated samplers across a keyboard range: velocity zones and pitch zones.

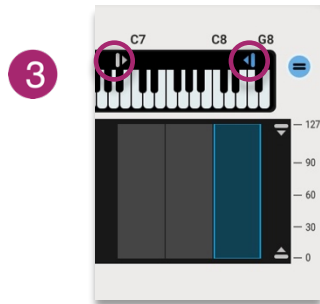


1 Click the small “=” button to the right of the keyboard.

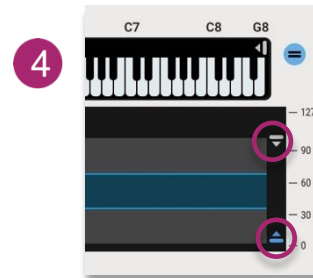


2 Horizontal and vertical arrow markers will appear on the minimum and maximum points of the graph axis.

Use the arrows to set the zone in which all activated samplers will spread as evenly as possible.



3 Drag the arrow markers on the keyboard to define a range. All available pitch zones will be spread as evenly as possible within this range.



4 Drag the vertical markers to define a velocity pitch range. All available velocity zones will be spread as evenly as possible within this range.



Moving these arrows overwrites the current pitch and velocity settings.



Mixer View



The Mixer view provides a side-by-side overview of the critical controls of each sampler.

In the Mixer you can control several samplers in one view and link controls.

Use the mouse to draw a box around the controls you want to adjust together. The controls will move as a group until you click elsewhere. You can select controls that are not adjacent by holding Shift while you click the desired controls. Refer to the WaveSystem user guide to learn more about linking controls.



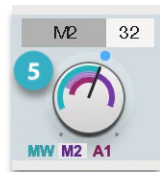
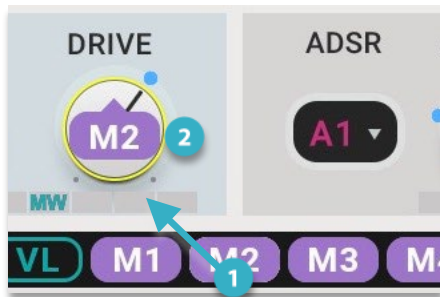
Modulating the Controls



CR8 offers several ways to modulate most of its controls. There are four LFO/Sequencer modulators, four ADSR envelopes editors, and six MIDI keyboard modulators. Click any “M” or “A” button at the bottom of the screen to access the Modulation/Envelope section. To collapse the section, click the small arrow next to the A4 Modulator button.

There are two ways to assign a modulator to a control:

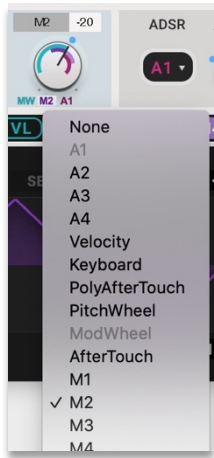
DRAG A MODULATOR ONTO A CONTROL



- 1 Grab and move** a modulator’s label. The controls that are available for modulation will be highlighted. Modulation controls themselves can usually be modulated.
- 2 Drop** the label of the modulator onto any available control. In this example, “M2” is being assigned to the Drive control. Once the modulator is dropped, it will appear in a modulation slot below the control. Each control has four modulation slots.
- 3 Click and drag vertically** over this populated slot to adjust the modulation depth.
- 4** A small arc inside the modulated control knob indicates the applied depth for each modulator. The arcs are color-coded to match the modulator label. A dot outside the knob moves in real-time to indicate the knob position while modulated. It reflects the sum of all modulators assigned to the knob.
- 5 Hover** over a modulator slot to see its numeric value.



SELECT A MODULATOR FROM A CONTROL



You can also assign a modulator directly from a control. Right-click on a modulation slot—whether empty or populated—to open a list of the available modulation sources. Select the desired modulator.

To remove a modulator assignment, select “None.”

Modulator Types

Click any of the “M” or “A” buttons at the bottom of the screen to access the Modulator/ADSR section. To collapse the section, click the small arrow next to the A4 button.

MODs 1–4

These modulators can be set to LFO or Sequencer. You can determine their Rate and Shape and decide how they are triggered.

ADSR 1– 4

These act as traditional envelope modulators that are triggered by incoming notes. Note that A1 is normally connected to the gain of the internal oscillators and the noise generators, as they control the opening and shutting of the synth voices.



KEYBOARD MODULATORS



There are five MIDI modulator shortcuts visible in the modulators bar:

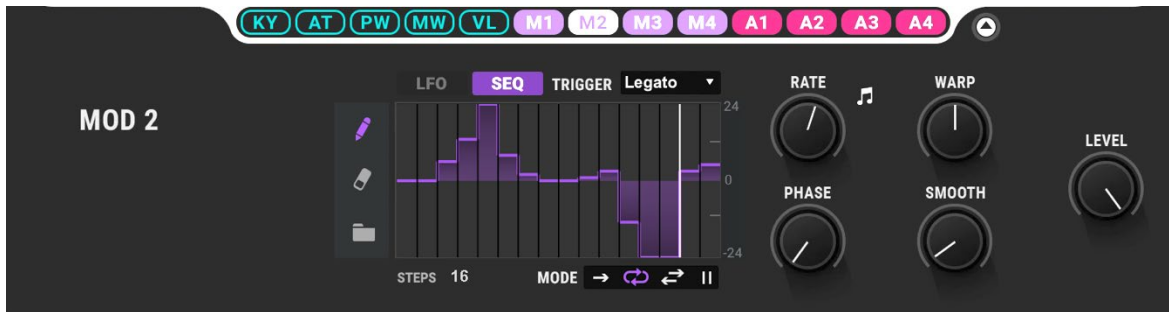
KY	Keyboard	Uses the pitch of the incoming MIDI notes to modulate controls. Center is 60 (C3), notes above it modulate up and vice versa.
AT	Aftertouch	Where applicable, the pressure applied to the keyboard while MIDI notes are held will determine the modulation value. Note that not all MIDI keyboards support aftertouch.
PW	Pitch Wheel	Applies modulation by the pitch wheel on the MIDI keyboard. Note that the pitch wheel normally affects the pitch of the entire instrument (Global Controls, Bend).
MW	Mod Wheel	Applies modulation by the modulation wheel on the MIDI keyboard.
VL	Note Velocity	Applies modulation by the velocity value of any incoming MIDI note.

One additional control is available from a control's modulation slot.

PA	Poly Aftertouch	Poly Aftertouch works the same as Aftertouch, except that the pressure applies to each note independently, rather than to the entire keyboard.
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Modulators: LFOs and Sequencers



TYPE

You can change the behavior of a modulator by switching it between **LFO** and **Sequencer**. Most of the controls remain the same, but certain behaviors are different, depending on the Type selection.

The sequencer's values are quantized to whole numbers between -24 and +24. They represent semitones when the modulator is assigned to "Tune" or "Frequency" when the modulation depth is set to 100%.

When LFO is selected, "Rate" determines the time it takes to complete a full cycle; in Sequencer, it determines the time to complete a single step.

Range: LFO/SEQ

SHAPE CONTROLS

There are several ways to shape the modulator:



Draw Mode (pencil) allows you to manually draw the shape you want.

Erase resets the currently loaded shape to "None."

Click on the folder icon to **Browse** a factory library of LFO shapes and sequencer patterns, depending on the current Type. Click on a shape to replace the one you're currently using.



SAVE (DISK ICON)

Click on disk icon (next to the Trash) to save the current user-drawn modulator shape to an empty cell. User shapes appear in blue. Factory shapes are purple. You can manage and access the saved shapes at:

Mac: /Users/Shared/Waves/Plug-in Settings/OVox/LFOShapes

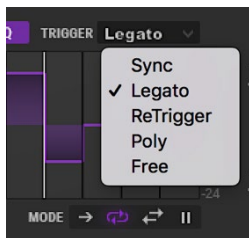
PC: C:\Users\Public\Waves Audio\Plug-in Settings\OVox\SEQShapes

DELETE (TRASHCAN)

Click the Trashcan icon, then click on the user shape you wish to delete. You cannot delete factory shapes.

LFO TRIGGER

Determines when the modulator resets its position. It has five states:



Sync locks the modulator to the host. It syncs to BPM, as well as transport position.

Retrigger resets the modulator every time a new note is received.

Legato resets the modulator whenever a new note is received, unless another note is already playing.

Poly triggers a new modulator per voice for each new note. When patched to polyphonic destinations (e.g., the internal synth controls), an independent modulation will be applied to each voice.

Free sets the modulator to be free running, never reset.

Range: Sync, Retrigger, Legato, Poly, Free

PLAY MODE



Sets LFO playback characteristics. Select a playback mode from the MODE panel.

One Shot: the modulator completes a single cycle and stops running.

Loop: the modulator plays continuously in a loop.

Seesaw: the modulator moves back and forth within its cycle.

Hold: the modulator pauses at its current location. You can use the Phase control to alter its relative position.

STEPS (ONLY IN SEQ MODE)

Determines the number of sequencer steps.

Range: 2 steps to 16 steps

RATE

Sets the rate of the modulator. Display units and range are dependent on the Rate Sync setting.

Range: 0.06 Hz to 30 Hz or 1/64 bar to 8 bars



RATE SYNC ON/OFF



Toggles the Rate knob values. When On, the rate of the LFO is calculated by the Host BPM and displayed in musical notation. When Off, values are displayed in Hz.

PHASE

Controls the starting position of the modulator.

WARP

Warps the speed of the modulator, but keeps the overall timing of the cycle. When Warp value is lower than 1, modulation will start at a slow pace and increase its speed toward the end of the cycle. When set above 1, the pace is fast at start and then slows down at the end. Essentially, this is applying pulse width modulation on the cycle of the modulator.

Range: 0.1 to 100 (a value of 1 is linear)

SMOOTH

Applies smoothing to the modulation curve. Low settings result in distinguishable onsets and may result in clicks. High settings smooth the overall modulation curve, and in some settings may result in very low energy.

Range: 1 ms to 1000 ms

LEVEL

The overall level of the modulator. When the Level of a modulator is set to 0, no modulation takes place.

Range: 0 to 1



Envelopes: ADSR 1–4



Four traditional ADSR envelopes triggered by incoming notes provide control over the Attack, Decay, Sustain, and Release of a note and its curves.

ADSR values can be adjusted with the control knobs or by dragging the ADSR graph.

ATTACK

Sets the attack time of the ADSR envelope.

Range: 0.1 ms to 10,000 ms

DECAY

Sets the decay time of the ADSR envelope.

Range: 0.1 ms to 10,000 ms

SUSTAIN

Sets the sustain level of the ADSR envelope.

Range: 0 to 1

RELEASE

Sets the release time of the ADSR envelope.

Range: 0.1 ms to 10,000 ms

CURVE

(available for Attack, Decay, and Release)

Sets the curve of the time function. A setting of 1 results in linear behavior. Values lower than 1 yield exponential curves.

Values higher than 1 display logarithmic behavior.

Range: 0.1 to 10

Pitch and Frequency Modulations

When any modulator is assigned to a pitch- or frequency-related control (e.g., Tune, Cutoff), and the modulation depth is set to 100%, maximum movement will be precisely two octaves up and two octaves down.



Other Controls

LEGATO ON/OFF

Determines whether to reset or continue the envelopes when playing samplers.

Legato Off: Each note retriggers a new ADSR and all of the samplers attached to it.

Legato On: While holding more than one note, new notes join the ADSR and sample positions and do not retrigger.

VELOCITY

Determines how MIDI keyboard velocity affects the ADSR. A velocity setting of 100% means that the ADSR will have the same dynamic behavior as the keyboard. If set to zero, every note will exhibit the same velocity, regardless of how it is played.

Range: -100% (inverse velocity correlation) to 100% (complete correlation)

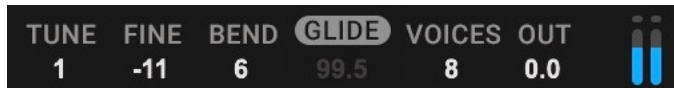
ADSR Panel (main view)



The ADSR panel in the main view lets you adjust the ADSR that is assigned to the sample while the Modulator panel is collapsed. To close the expanded view, click the small arrow next to the A4 button.



Global Controls



THE CONTROLS IN THE UPPER-RIGHT CORNER AFFECT THE ENTIRE PLUGIN.

TUNE

Transposes the tune of entire instrument. Range: -24 semitones to +24 semitones

FINE TUNE

Refines tune adjustment in cents. Range: -100 cents to +100 cents

BEND

Determines the range of pitch bending (in semitones) controlled by the MIDI keyboard pitch wheel.

GLIDE TIME

Sets the time in milliseconds for the portamento time between notes (pitch transition smoothing).

Range: 0.1 ms to 5000 ms

VOICES

Sets the number of “notes” that can be played together. Set this value to “1” to make CR8 monophonic. Range: 1 voice to 16 voices

OUTPUT LEVEL

Sets the output level of the plugin. Range: -inf dB to +12 dB; output range: -80 to +12 dB

OUTPUT METERS:

Peak meters with red clip indicators. Click on the meter to reset clip.



COSMOS Sample Finder

COSMOS is designed to find your sample files, even in the messiest of folders. COSMOS analyzes each sample file and extracts useful information (such as instrument, BPM, key, length, one-shot or a loop, and more) and organizes it using tags. Since you can search and filter by any number of categories, you will quickly find the sample you want, along with others that share its characteristics. Then you can create collections of samples, so that your samples are organized just the way you want. COSMOS supports these formats: WAV, AIFF, OGG, and FLAC.

COSMOS works hand in hand with the Waves CR8 sampler. One click on a sample in COSMOS, and it's loaded in CR8, along with the relevant metadata.

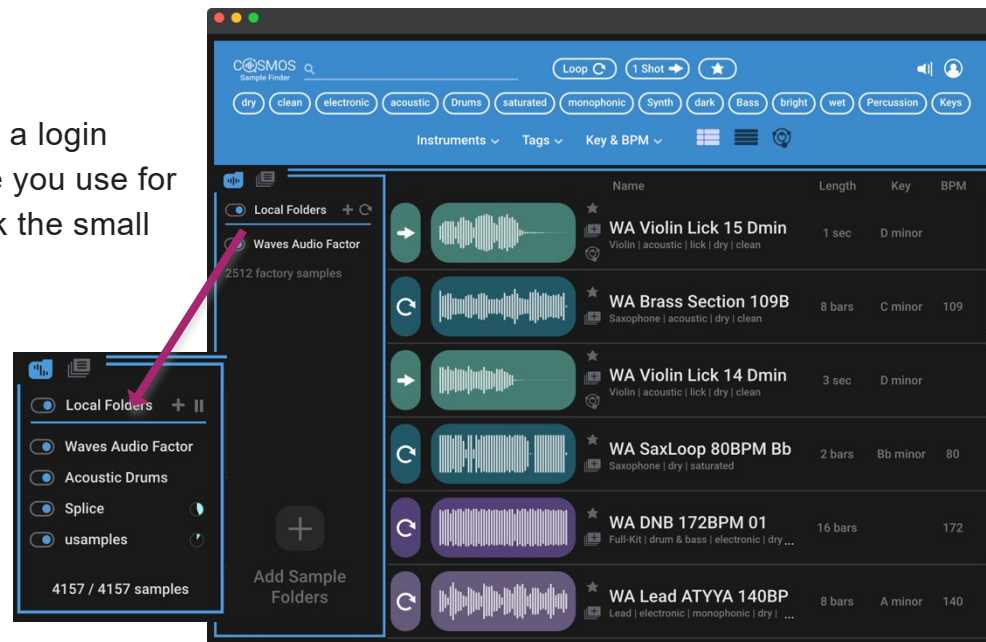
Getting Started

SIGN IN

When you launch COSMOS, you'll be taken to a login page. Enter your Waves credentials (the same you use for Waves Central), and COSMOS will open. Click the small user icon in the top-right corner to log out.

SELECT USER FOLDERS

Click the Folder icon to open the **Local Folders** panel. This is where your samples folders are listed and managed. To help you get started, the Waves Audio Factory Pack folder is supplied with COSMOS. It contains 2,512 diverse, multi-genre samples.



ADD USER FOLDERS

Click the “+” button to add an audio samples folder. COSMOS will scan the content of the folder, extract data, and create search tags for each sample. Scanning can use a lot of computer resources, so we suggest that you don't scan during a CPU-heavy session. You can stop and resume the scan from the Local Folders panel, or right click on the COSMOS tray bar icon.



Searching

There are several ways to find samples.

SEARCH



Search by file name or other specific information. This is the widest search.

LOOP VS. ONE SHOT



The most basic filter is **Loop** vs. **One Shot**, since samples are either one or the other. If you know which of these you're searching for, choose it. This greatly reduces the number of files you must search through.

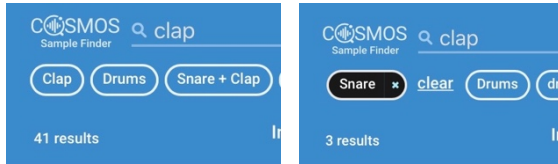
TAGS

A tag describes one attribute of a sample file, such as content, instrument, acoustics, style, and so forth. Tags are used to limit the scope of a search and make it easy to locate samples. Every time you add a tag to a search, you're creating a more specific set of results. When you select a tag, suggested tags are added or removed or changed in the Tags Suggestion bar. Tags that classify the instrument or the instrument family of a sample, such as "Electric Guitar" or "Strings," always start with capital letters. Tags that describe other characteristics of the sample, like "dark" or "acoustic," are lowercase.

In this example, the "acoustic" tag is selected, and the suggested tags reflect this choice. Press "Clear" to remove all selected tags and start a new search.



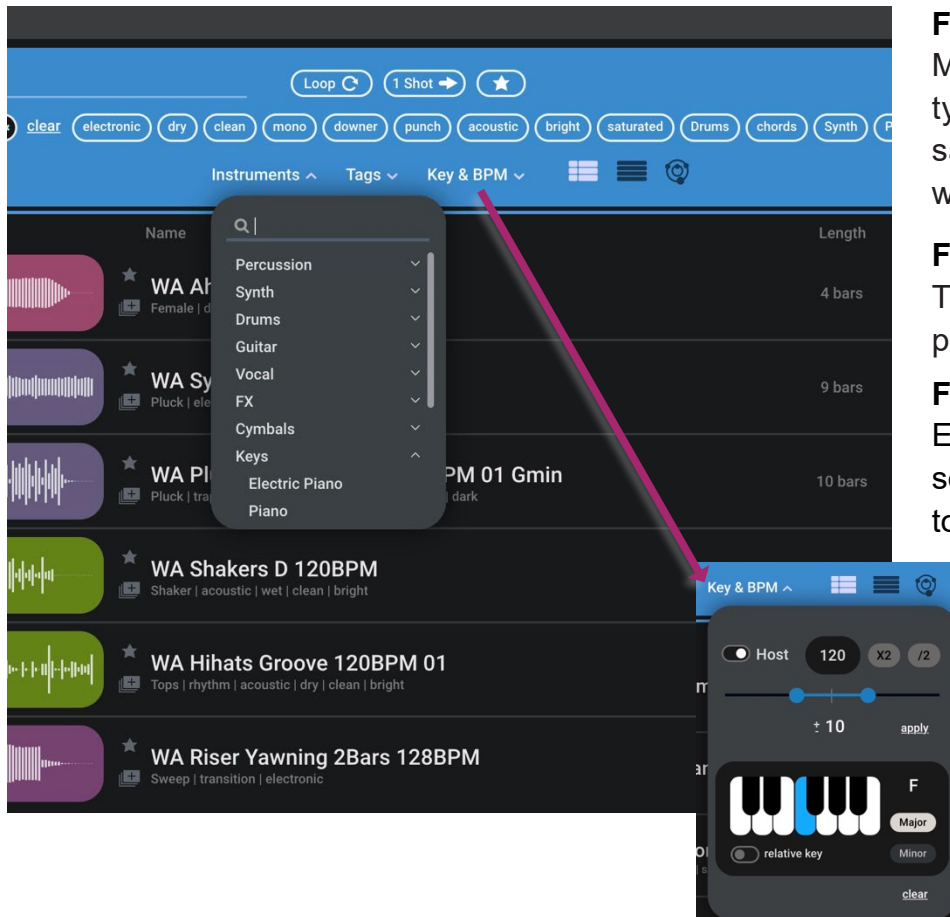
SEARCH AND REFINE



You can start your search with a name and then filter the results. Here, a search for “clap” yields 41 results. When filtered with the tag, “Snare,” the results are reduced to three samples.

Tag Menus

Three drop-down menus offer different ways to use tags. Filtered samples are displayed in the Search Results list, along with their names, waveforms, and assigned tags.



FILTER BY INSTRUMENT

Machine learning enables COSMOS to determine the type of instrument, or family of instrument, played in a sample. This provides very focused search results that would otherwise be difficult to attain.

FILTER BY TAGS

This is a list of all tags that are available, based on previous search and filtering choices.

FILTER BY KEY AND BPM

Enter the BPM in the text box. Use the bidirectional slider to set the search range around it. Click the “X2” or “/2” buttons to include double- and half-time samples in the results.

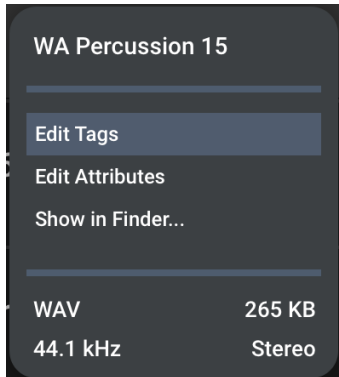
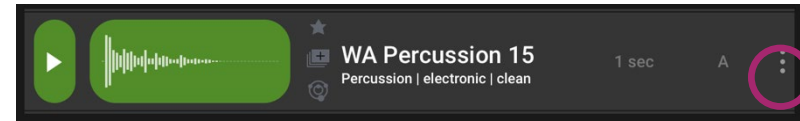
When COSMOS is used with CR8, there is no need to enter BPM, as CR8 sends this information to the DAW.

To filter by the **musical key** of your session, use the small keyboard. The selected key is shown to the right of the keyboard. Select “Major” or “Minor” to filter for a specific scale. Use the “Relative Key” switch to include samples that share the same key signature and may work with your session.



Tagging and Modifying Samples

When a folder is added, COSMOS automatically classifies and tags each sample file. Usually, analysis is done with impressive accuracy. There can, however, be mistakes in certain tag attributes.



To modify tag classification, click the three dots on the right side of a sample (circled above), or right-click on a sample's name or waveform. From the drop-down menu, choose "Edit Tags" or "Edit Attributes."



Working with Samples

To audition a sample, click on the play/stop button or the sample name. In the Waveform view, you can also click on the waveform itself. When using COSMOS with CR8, click on the sample name or double click on the waveform to load the sample into the sampler.

Use the up and down arrow keys to browse audio or load samples into CR8. Your last action determines the behavior of the up/down arrows. If the last action you performed was auditioning a sample, pressing the down arrow key will play the next or previous sample in the list.

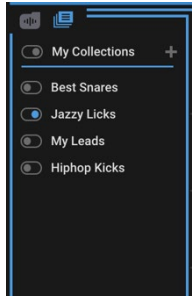
FAVORITES



Click the star at the top of the plugin to display only your favorite samples. To assign a sample to your favorites list, click the star next to the sample name.

COLLECTIONS

A Collection is a virtual folder that helps you organize samples that you have located. Create Collections using the “+” button in the “My Collections” sidebar.



Click the “Add to Collections” icon next to the sample name to assign it to your virtual collections. You can also drag the sample to the desired collection folder.

Once a sample is assigned to one or more collections, the “Add to Collections” icon next to it is turned on as an indication.

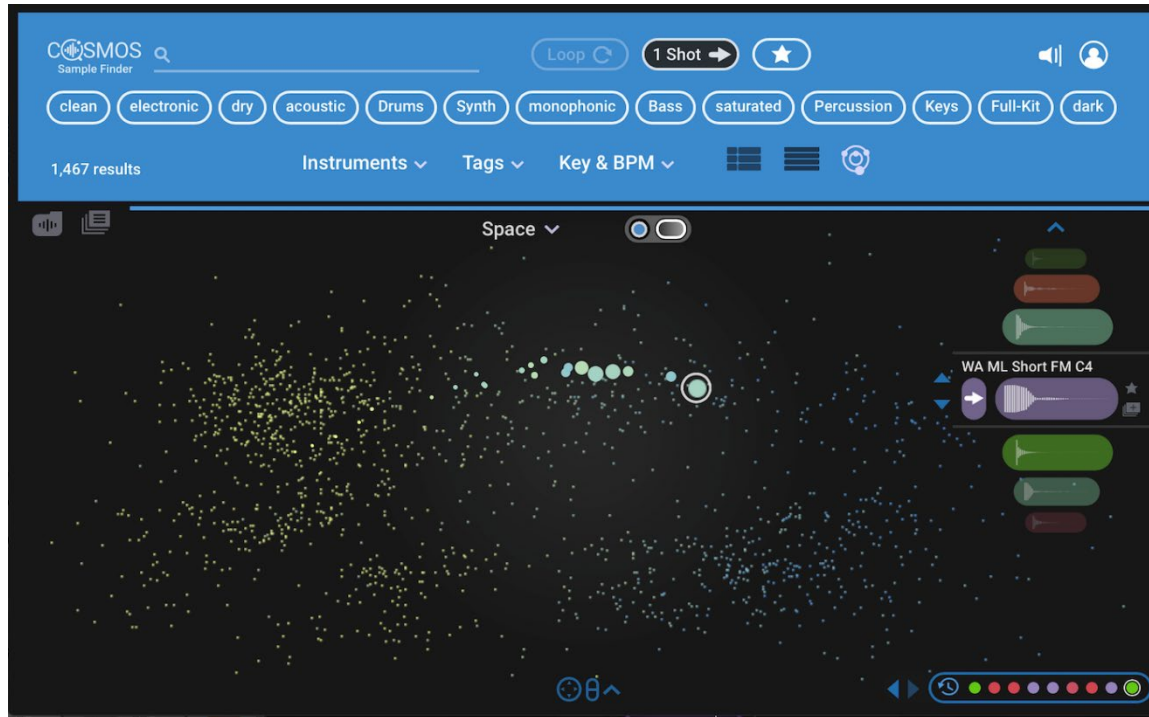


COSMOS Views

COSMOS has three views: WAVEFORM, LIST, and COSMOS.

The Waveform and List views display search results as lists. Waveform view displays the sample waveforms, with fewer search results visible, while List view shows more results, without waveforms.

COSMOS VIEW



In COSMOS view, your one-shot samples are analyzed and scattered throughout the COSMOS. Similar sounds will appear close to each other.

You can change the way that samples are arranged using the Map selections. This alters the weight on the horizontal axis given to certain characteristics of the sound when spread across the COSMOS.

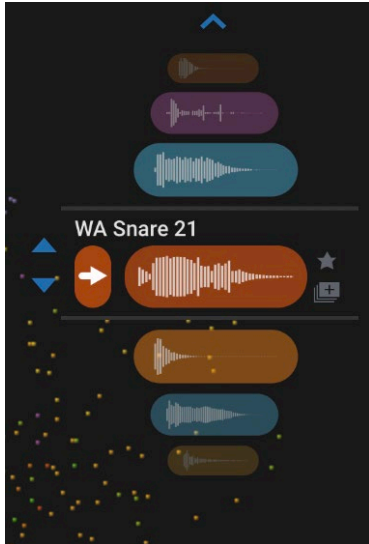
In this example, the “Space” map, dry samples appear on the left, wet on the right. The “Brightness” map arranges the darkest sounds on the left and the brightest sounds on the right of the screen, and so forth.

The Instrument map is slightly different, as samples of the same instruments are grouped into the same “galaxies.”

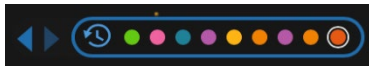




The Gradient On/Off control changes the color scheme of the samples to suit the selected map. When Gradient is Off, the samples are shown in their default colors (which are determined by the instrument families). Gradient On/Off is disabled in the Instrument map.



The selected sample appears at the top right of the screen. Press the arrow symbol to expand it and view adjacent samples. Use the up and down arrows (or the arrows on your computer keyboard) to browse through the neighboring samples. The selected sample can be dragged, loaded to CR8 (double click), or added to collections and favorites.



Use the left and right keys of the History Bar to browse back and forth between samples you previously auditioned. You can also use your computer keyboard arrow keys.

