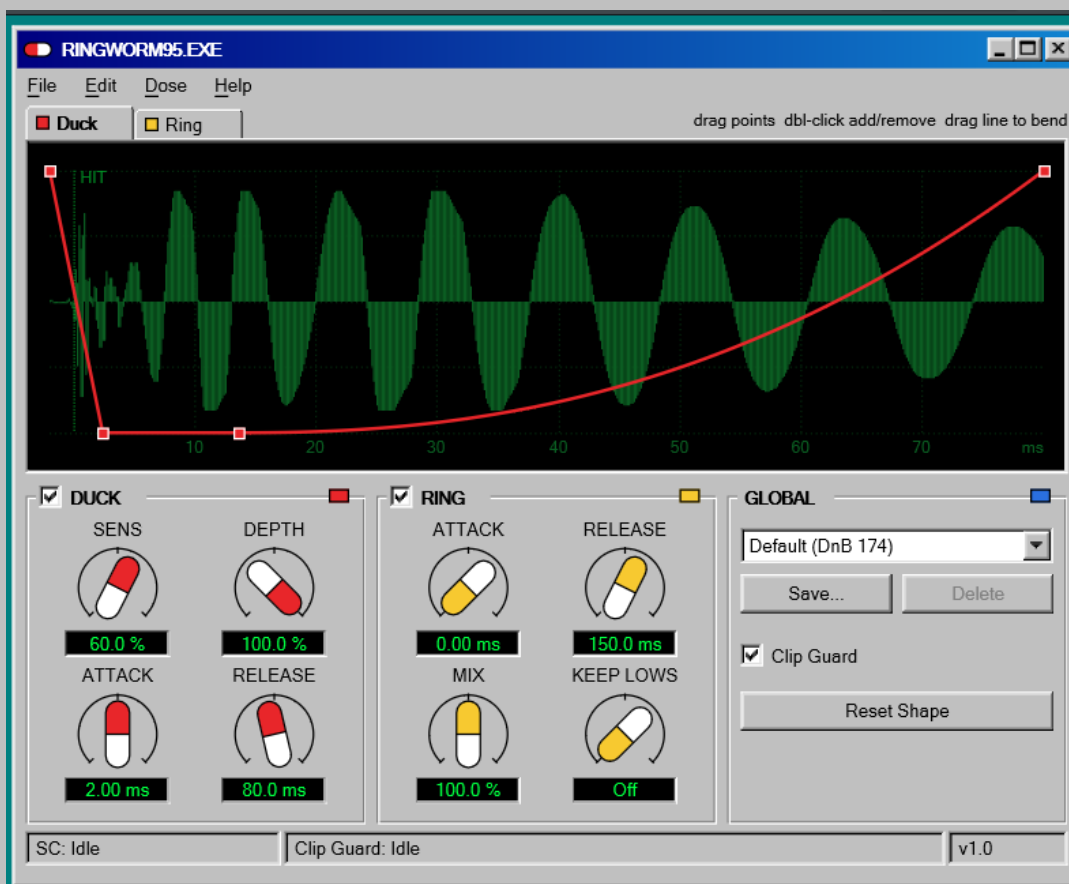


RingWorm95

Sidechain carving for bass: get the bass out of the way of your kick and snare



The Duck tab: a captured kick with the default volume shape drawn over it.

What RingWorm95 does

RingWorm95 goes on your **bass** track. You feed it a drum (usually the kick, or the snare) on its sidechain input. Every time that drum hits, RingWorm95 gets the bass out of the way, then puts it straight back. Between hits it leaves your bass completely untouched.

It has three tools that work together:

- **Duck**: a volume shape you draw. On every hit the bass follows your curve: down for the hit, then back up. This is the classic sidechain pump, but you control the exact shape.
- **Ring**: a ring-mod sidechain. The bass is carved out by the kick's own waveform, cycle by cycle, so the kick's low end and the bass's sub stop fighting. You draw where in the hit it happens, for example leave the click alone and carve only the boom.
- **Clip Guard**: makes sure bass + drum never sum above 0 dB on your master, so you don't have to push the mix into a limiter.

Made for: drum & bass, jungle and neurofunk (presets tuned for 174 BPM), plus techno and house presets. Works on any bass: subs, reeses, 808s, rumbles.

Requirements

- Windows 10 or 11
- A DAW that loads VST3 plugins and supports sidechain inputs (made and tested in FL Studio)
- Not available for Mac

Installing

RingWorm95 comes in two downloads. Pick the one that matches your **DAW**, not your Windows:

- **RingWorm95-v1.0-Windows-64bit.zip**: for almost everyone. FL Studio, Ableton Live, Bitwig, Reaper and other current DAWs are 64-bit.
- **RingWorm95-v1.0-Windows-32bit.zip**: only for an old 32-bit DAW. A 32-bit plugin won't load in a 64-bit DAW.

1. Unzip the download.
2. Copy the whole **RingWorm95.vst3** folder into your VST3 folder:

Version	Copy it to
64-bit	C:\Program Files\Common Files\VST3
32-bit on 64-bit Windows	C:\Program Files (x86)\Common Files\VST3
32-bit on 32-bit Windows	C:\Program Files\Common Files\VST3

3. If Windows asks for permission, click **Continue**.
4. Open your DAW and rescan plugins. In FL Studio: **Options** → **Manage plugins** → **Find plugins**. RingWorm95 appears under Effects, by "fx-idk".

Updating? Close your DAW completely before copying the new version over the old one. Windows can't replace the file while the DAW has it open. Your projects keep their settings and drawn shapes after updating.

Download warning? Windows or your browser may warn about a file from an unknown publisher. That's because the plugin isn't code-signed (normal for free plugins). Email services like Gmail block plugin files entirely, so share them by Google Drive, WeTransfer or Discord instead.

Uninstalling

Delete **RingWorm95.vst3** from the VST3 folder you copied it into. Your saved presets stay in %APPDATA%\RingWorm95\Presets (delete that folder too if you want them gone).

Setting it up in FL Studio

RingWorm95 needs to hear the drum it reacts to. That's the **sidechain**.

1. Put **RingWorm95** on your **bass** mixer track.
2. Select your **kick** mixer track. Then right-click the small arrow at the bottom of the **bass** track and choose "**Sidechain to this track**".
3. Open RingWorm95, click the **gear icon** at the top of the plugin window, open the **Processing** tab, and set the plugin's sidechain input to the kick's track.
4. Press play. When the kick reaches the plugin, its waveform appears in the black screen, the status bar shows **SC: Active**, and a green playhead runs across your shape on every hit.

Screen says "WAITING FOR SIDCHAIN..."? The kick isn't reaching the plugin. Recheck steps 2 and 3. RingWorm95 does nothing until it hears the drum.

Kick and snare: two instances

For DnB and breaks, use two copies of RingWorm95 on the bass, one after the other:

- **First:** RingWorm95 fed by the **kick**, with the **Kick** preset.
- **Second:** RingWorm95 fed by the **snare**, with the **Snare** preset (which sets **Keep Lows** to 150 Hz, so the snare carves the reese but leaves your sub alone).

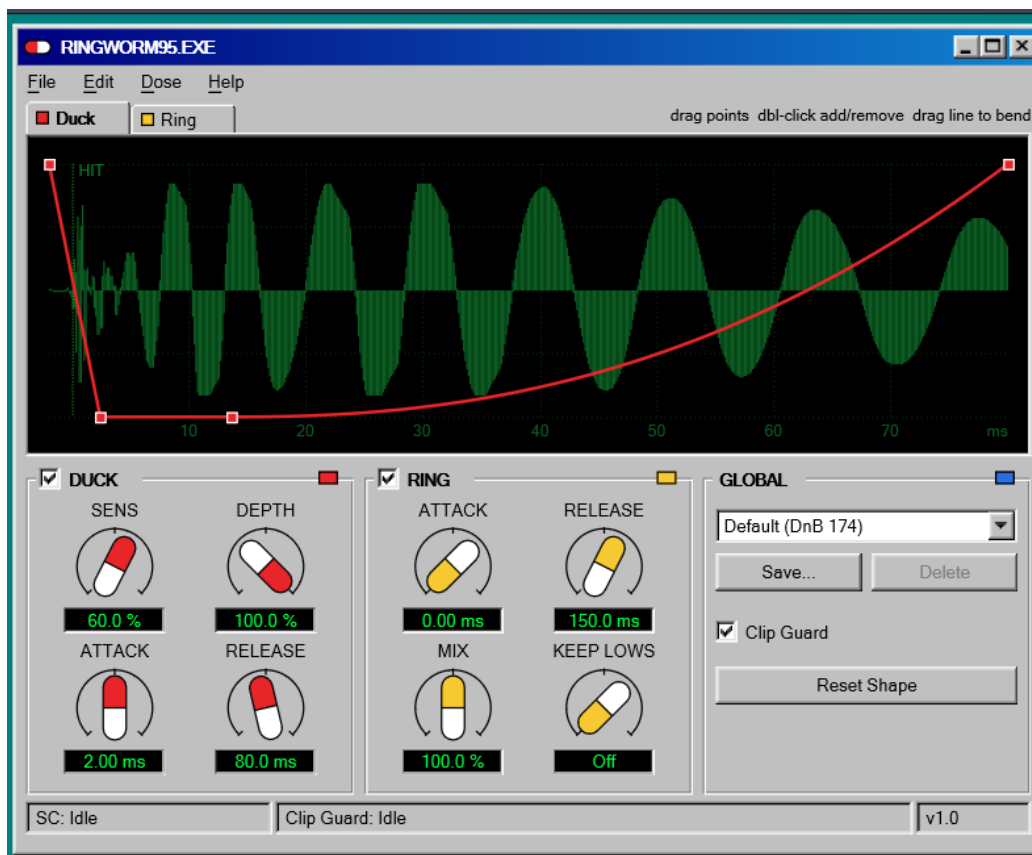
Each copy's Clip Guard protects its own pair (bass + kick, bass + snare), and the second copy never undoes the first one's protection.

Other DAWs

Put RingWorm95 on the bass and route the drum into the plugin's sidechain input; every DAW does this a little differently. Ableton Live and others that support VST3 sidechains should work, but RingWorm95 has only been tested in FL Studio so far.

The screen: drawing your shapes

The big black screen shows the **last drum hit it heard** (in green) with your shape drawn over it. Use the **Duck** and **Ring** tabs to switch between the two shapes. Time runs left to right in milliseconds, starting just before the hit. The dotted **HIT** line marks where the drum lands.

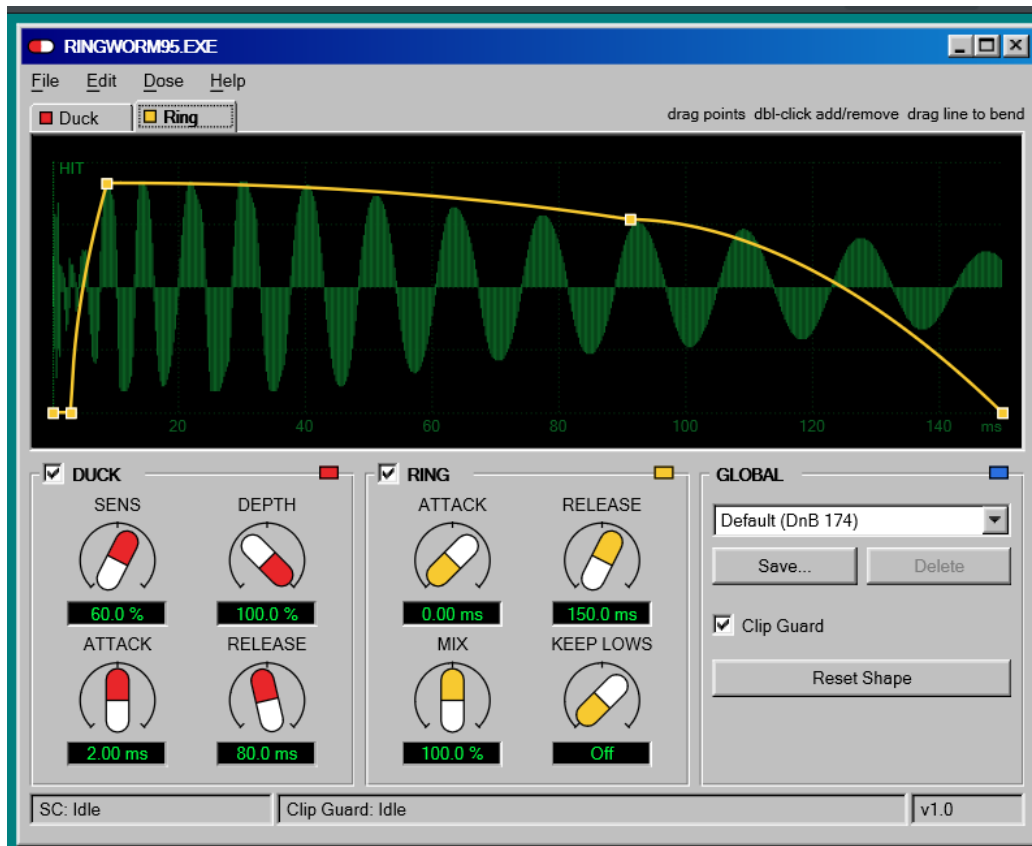


Duck tab: the bass drops to silence right at the hit, waits, then curves back up.

To do this	Do this
Move a point	Drag it
Add a point	Double-click an empty spot
Remove a point	Double-click it, or right-click it
Bend a line into a curve	Drag the line up or down
Straighten a curved line	Right-click the line
Start over	Click Reset Shape (returns the shape to the current preset's)

Reading the shapes

- **Duck shape:** height = how loud the bass is. Top = full volume, bottom = silent. The default drops to silence at the hit, holds briefly, then curves back up.
- **Ring shape:** height = how hard the kick's waveform carves the bass. Bottom = no carving, top = full carving. The default stays low over the kick's click, rises over its boom, then fades out with the tail.
- The **left and right edges** of each shape are set by its **Attack** and **Release** knobs, so changing those stretches the whole shape in time.



Ring tab: no carving on the click, full carving through the body, fading with the tail.

The knobs

Double-click any knob to reset it. Each value box under a knob shows the exact setting.

■ DUCK (volume shape)

The checkbox next to **DUCK** turns the volume shape on or off.

Knob	What it does	Range
Sens	How easily a drum hit is detected. Raise it if hits are missed; lower it if ghost notes or hats set it off. <i>It affects both Duck and Ring.</i> Each detected hit starts the green playhead on the screen.	0–100%
Depth	How far the bass follows your curve down. 100% = all the way, 50% = halfway.	0–100%
Attack	How early the shape starts before the hit. A few ms lets the bass get out of the way before the kick lands, which avoids clicks.	0–10 ms
Release	How long the shape lasts after the hit. Keep it shorter than the gap between hits (at 174 BPM a 16th note is 86 ms).	10–500 ms

■ RING (ring-mod carve)

The checkbox next to **RING** turns the ring-mod carve on or off.

Knob	What it does	Range
Attack	How early the ring shape starts before the hit.	0–10 ms
Release	How long the ring shape lasts after the hit; match it to how long the kick's boom rings.	10–500 ms
Mix	How hard the kick carves the bass. 100% = a full-scale kick carves the bass completely at each of its peaks. Above 100% lets a quieter kick still carve fully.	0–200%
Keep Lows	Below this frequency, <i>both</i> shapes leave the bass alone. Off = the whole bass is ducked and carved (right for kicks). About 150 Hz on a snare instance keeps your sub solid while the snare cuts through the reese.	Off–300 Hz

■ GLOBAL

Control	What it does
Preset menu	Factory presets, plus your own under User .
Save...	Saves everything (knobs and both drawn shapes) as your own preset.
Delete	Deletes the selected <i>user</i> preset (factory presets can't be deleted).
Clip Guard	Keeps bass + drum at or under 0 dB. See the next page.
Reset Shape	Puts the shape on the current tab back to the current preset's shape.

Clip Guard

When a drum that peaks at 0 dB and a bass that peaks at 0 dB play together, they can add up to about **+6 dB** on your master: instant clipping. Clip Guard prevents that.

How it works

- On every single sample, it checks what **bass + drum** will add up to on the master.
- If that would go over **0 dB**, it turns the **bass only** down by exactly enough. The drum is never touched.
- It looks 1 ms ahead so the turn-down is smooth, not a click, then lets go over 20 ms.
- When nothing would clip, it does nothing at all: your bass passes through untouched.

Getting the most out of it

- **Put RingWorm95 last** on the bass track. A plugin after it (EQ, saturation, limiter) changes the bass after Clip Guard has done its maths.
- **Keep the bass fader at or below 0 dB.** FL's fader comes after the plugins.
- **The sidechain must carry the drum at the level it hits the master:** send at 100%, and nothing after the drum track that changes its level.
- Watch the status bar: if Clip Guard says **Catching** on most hits, let the shapes do more of the work (more Depth or Mix), so the guard only handles the odd overshoot.

What it can't fix: if the drums by themselves hit 0 dB, your master will touch 0 dB on those hits. No bass plugin can lower a drum's own peak. Clip Guard guarantees the bass adds nothing on top. If two drums overlap (kick and snare together), turn the drum bus down slightly.

True-peak meters can read slightly above 0 dB (up to about +0.5 dB) even when every sample is at or under 0 dB. That's normal: Clip Guard works on the samples themselves.

The status bar

The bar along the bottom of the plugin tells you what's happening:

- **SC: Active / Idle:** whether the sidechain drum is reaching the plugin.
- **Clip Guard: Idle / Catching / Off:** "Catching" means it just stopped a peak.

Presets

Choose a preset from the menu in the GLOBAL box, or with the arrows in FL's plugin window. Choosing one sets every knob and both shapes.

Preset	Use it on	What it does
Default (DnB 174)	Anything, at 174 BPM	Full duck under the hit, back within a 16th; full ring carve of the body.
Amen	A chopped break	Shorter, shallower duck (70%) so ghost notes don't pump the bass; half-strength ring carve.
Kick	Kick-only sidechain	Full duck under the click, deep ring carve (85%) of the boom.
Snare	Snare-only sidechain	Quick 60% dip for the crack, light ring carve; Keep Lows 150 Hz so the sub stays.
Techno Kick	130–135 BPM	Tight, deep duck that's back before the off-beat hat; full ring carve for rumbles.
Techno Snare	130–135 BPM snare/clap	Short dip above 150 Hz; the rumble's sub keeps rolling.
House Kick	125–130 BPM	Longer, rounder duck (220 ms) for the classic house pump.
House Snare	125–130 BPM snare/clap	Gentle dip above 150 Hz, leaves the groove's low end alone.
Full Break	A whole drum bus	Medium duck and medium carve: a balanced all-rounder.

Saving your own

1. Set the knobs and draw the shapes you want.
2. Click **Save...**, type a name, and click **Save**.
3. Your preset appears at the bottom of the preset menu under **User**, in every project.

User presets are files in %APPDATA%\RingWorm95\Presets. Copy that folder to move your presets to another PC or share them. To delete one, select it and click **Delete**.

Your project always remembers the exact settings and shapes, even if you tweak after loading a preset. The preset name is just where you started from.

How-tos

Clean DnB kick and sub

1. Kick on the sidechain, **Kick** preset.
2. Watch the Duck screen: the bass should be at the bottom right where the kick's first big cycles are.
3. If the sub still muddies the kick, raise **Ring** → **Mix** toward 120–150%.
4. Check in a spectrum analyzer: the kick's body should sit in its own notch in the bass.

Let the snare cut through a reese

1. Second RingWorm95 on the bass, after the kick one, fed by the snare.
2. **Snare** preset (Keep Lows 150 Hz).
3. Too subtle? Raise Duck **Depth**. Snare body still masked? Lower Keep Lows to about 120 Hz.

House or techno pump

1. **House Kick** or **Techno Kick** preset.
2. Shape the pump by dragging the Duck curve's return: bend it up for a snappier return, down for a longer pump.
3. Set Duck **Release** to about a 16th or an 8th note at your tempo.

Gritty, ring-mod neuro carve

1. Turn **DUCK** off (checkbox) so only the ring carve is left.
2. Ring **Mix** 100–200%, and draw the Ring shape high across the whole hit.
3. This keeps the bass loud but chops it with the kick's own waveform: an aggressive, modern neuro sound.

Stop ghost notes from pumping the bass

1. Lower **Sens** until only the main hits trigger (watch the green playhead on the screen).
2. On busy breaks, try the **Amen** preset: shorter and shallower by design.

Get rid of a click on each hit

1. Raise Duck **Attack** to 4–6 ms so the bass is already moving before the hit.
2. Or drag the first point of the Duck curve right a little so the drop is less steep.

Troubleshooting

Problem	Fix
RingWorm95 doesn't show up in FL	Check it's in the right VST3 folder (see Installing), then Options → Manage plugins → Find plugins . Make sure the version matches your DAW: 64-bit DAWs need the 64-bit download.
Screen says WAITING FOR SIDECHAIN	The drum isn't routed to the plugin. Redo "Sidechain to this track" and set the sidechain input in the plugin's gear menu → Processing.
Nothing happens on some hits	Raise Sens .
It reacts to hats or ghost notes	Lower Sens , or feed it only the kick/snare instead of the whole drum bus.
The bass sounds thin or pumps all the time	Lower Duck Depth and shorten Release ; make sure Release is shorter than the gap between hits.
A click or tick on each hit	Raise Duck Attack , or soften the first drop of the Duck curve.
The master still clips	Put RingWorm95 last on the bass, keep the bass fader at or under 0 dB, and check the drums alone aren't over 0 dB. See Clip Guard.
Can't install the update	Close your DAW completely first; Windows can't replace a plugin that's in use.
Preset menu doesn't show my preset	User presets live in %APPDATA%\RingWorm95\Presets as .rw95preset files.

Specs

Format	VST3, Windows 10/11, 64-bit and 32-bit versions
Inputs	Stereo main input (bass) + stereo sidechain input (drum)
Latency	11 ms, reported to the host so it compensates automatically
Between hits	The bass passes through bit-for-bit untouched
User presets	%APPDATA%\RingWorm95\Presets*.rw95preset