CARVE

The manual | version 1.0.0 | SynthYourSong

CARVE does one job. It keeps your synths out of the way of your guitars, and it only does it while the guitars are actually playing.

You know the fight. The chorus comes in with a wall of guitars and three synth layers, and suddenly nothing is clear any more. So you reach for an EQ and scoop the synths. Now the chorus works, but the verse sounds thin, because the scoop is still there when the guitars are not. So you automate it. Section by section. For every song.

I make heavy music with a lot of synths in it, and that fight is in every mix. CARVE is my way out of it. It listens to the guitars, finds the frequencies they are using at this very moment, and turns the synths down a little in exactly those places. When the guitars stop, the synths get everything back. You set it once and it follows the song.

If you only read one box, read this one

1. Put CARVE on your **synth bus**.
2. Send your **guitars** to CARVE's **sidechain input**. Chapter 3 shows how in your host.
3. Press play. The little **SC** light goes on and the orange curve starts moving.
4. Click **DELTA** to hear what CARVE removes. Turn **AMOUNT** until that sounds like "the part of the synth that was in the way". Click DELTA off again.

That is the whole plug-in. The rest of this manual is for when you want to know why it does what it does.

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1. What CARVE does, and what it does not

Inside CARVE there are 24 narrow EQ bands, spread from the low mids up to 10 kHz. Each band watches two things: the guitar and the synth. If the guitar is playing in that band right now, and the synth has something there too, the band turns the synth down. Never by more than 6 dB. If the guitar goes quiet in that band, the band lets go.

All 24 bands do this on their own, many times a second. So a low chug carves the low mids. A pick scrape carves the top. A held chord carves a wide, gentle dip. Silence carves nothing.

Why not just use a normal sidechain compressor?

Because a compressor turns the whole synth down. Every guitar hit pulls down the sub, the air, the stereo width, everything. You hear pumping. CARVE only touches the frequencies where the two instruments actually collide, so the synth keeps its size and you do not hear it move.

Why not a static EQ cut?

Because a static cut does not know when the guitars stop. CARVE does.

What CARVE is not

- **It is not a volume ducker.** If you want the synths to audibly pump with the kick, use a compressor. CARVE is built to stay invisible.
- **It will not fix an arrangement.** If the synth and the guitar play the same part in the same octave at the same volume, 6 dB in a few bands will not make them two instruments. Change the octave first.
- **It does not touch the very low end or the air.** Below where the range starts and above 10 kHz, CARVE leaves the synth alone on purpose. Your sub stays your sub.
- **It does not add anything.** No saturation, no colour, no delay. With no guitar coming in, what goes out is exactly what came in.

Six decibels does not sound like much. That is the point. It is enough to let a guitar through, and little enough that nobody notices the synth gave way.

2. Installing it

Mac	Open `CARVE-1.0.0-macOS.pkg` and click through. You get the VST3 and the Audio Unit. If you only want one of them, click **Customize** on the way. Needs macOS 12 or newer. Works on Apple Silicon and on Intel Macs.
Windows	Run `CARVE-1.0.0-Windows-Setup.exe`. You get the VST3, 64 bit, for Windows 10 and 11. Windows will probably show a blue box that says "Windows protected your PC". That is because the installer is not signed with a paid certificate yet. Click **More info**, then **Run anyway**.

Close your music software before you install, then open it again. CARVE shows up as an effect made by SynthYourSong. Some hosts need a plug-in scan before they see new plug-ins.

Logic Pro and GarageBand use the Audio Unit. Everything else uses the VST3. Pro Tools is not supported, there is no AAX version.

> **Windows only:** CARVE draws its window with a free piece of Windows called the WebView2 Runtime. Windows 11 has it, and so does an up to date Windows 10. If your computer does not, CARVE tells you so in its window and gives you the download link. Install it, close the CARVE window, open it again, done.

Getting rid of it

Mac: open Terminal, type `sudo bash ` with a space after it, drag the file `uninstall_carve_mac.sh` from the download into the Terminal window, and press Return. It asks for your Mac password, removes CARVE, and touches nothing else.

Windows: Settings, Apps, find CARVE, Uninstall.

3. Sending the guitars to the sidechain

This is the only step that takes a minute, and it is the one people get stuck on. CARVE has two inputs. The normal one is the track it sits on, your synths. The second one is the **sidechain**, and that is where the guitars go. CARVE never plays the guitars. It only listens to them. Use your guitar bus if you have one. If you do not, send each guitar track.

I test CARVE in Studio One. The steps for the other hosts follow each host's own manual. If a button has a different name in your version, search your host's help for "sidechain".

Studio One

Open CARVE on the synth bus. At the top of the plug-in window there is a **Sidechain** button. Click it and tick your guitar bus. The other way round works too: add a **Send** on the guitar bus and pick **Sidechains, CARVE** as its target.

Logic Pro

Open CARVE on the synth bus. In the top right corner of the plug-in window there is a **Side Chain** menu. Pick your guitar bus or track there.

Ableton Live

Put CARVE on the synth group. Unfold the device with the small triangle in its title bar and pick your guitar group in the **Sidechain** chooser.

Reaper

Drag the **Route** button of the guitar track and drop it onto CARVE in the synth track's FX list. Reaper sends the guitars to channels 3 and 4 of the synth track, and that is CARVE's sidechain.

Cubase

Open CARVE on the synth group. Click **Activate Side-Chain** in the top bar of the plug-in window, then add your guitar group as an input in the menu right next to it.

FL Studio

In the mixer, select the guitar track. Right click the small arrow at the bottom of the synth track and choose **Sidechain to this track**. Then open CARVE, click the gear icon, go to **Processing** and set the sidechain input to that track.

> **How you know it worked:** press play. The **SC** light in the top right corner of CARVE goes on, and the grey line at the bottom of the display starts to move. As long as the display says **NO SIDECHAIN SIGNAL**, the guitars are not arriving, and CARVE does nothing at all to your synths.

How loud should the send be?

Leave it at 0 dB. CARVE has no threshold. It looks at how the guitars play, not at how loud they arrive, so a quiet send works as well as a loud one.

4. A walk through the window



1 **SC light.** On while the guitars arrive. If it is off, start here.

2 **The display.** The thick orange line is what CARVE is cutting right now. It hangs down from the 0 line, and the numbers on the left are decibels. The thin orange lines are the single bands. The grey line along the bottom is the guitar. The darker areas on the left and right are outside the range, CARVE does nothing there.

3 **DELTA.** Plays only what CARVE takes out.

4 **CENTER.** How much of the cut reaches the middle of the stereo picture.

5 **SPEED.** How fast the cut lets go.

6 **RANGE.** Where the carving starts.

7 **AMOUNT.** How deep it cuts.

Things the window does that you might not find by accident

- **Rest the mouse on any control** for a second and a short explanation pops up.
- **Double click** AMOUNT or CENTER and it jumps back to where it started.
- **Hold shift** while you drag AMOUNT for fine steps.
- **The mouse wheel** works on AMOUNT and on CENTER.
- **Right click anywhere** to make the window smaller: 75, 85 or 100 %. The size is saved with your project. The last line of that menu tells you which version you have.

There is no on and off switch in the window. Use the bypass button of your host. CARVE fades in and out when you press it, so you can flip it back and forth while the song plays without a click.

5. The controls, one by one

AMOUNT

How deep CARVE cuts. At 100 % a band goes down by 6 dB at most. At 50 %, where it starts, it is about 4 dB. At 0 % nothing happens.

Most of the time you will end up between 40 and 70 %. If you need 100 % and it is still not enough, the problem is probably the arrangement or the balance, not CARVE.

> **What to listen for:** do not listen to the synth. Listen to the guitar. Turn AMOUNT up until the guitar steps forward and its pick attack gets clearer. Then stop. If you can hear the synth getting duller, you went too far.

DELTA

The most useful button in the window. With DELTA on, you hear only the part of the synth that CARVE is removing. Nothing else.

It should sound like a ghost of the guitar's rhythm, played by the synth: little bursts in the mids that follow the riff. If it sounds like the whole synth, AMOUNT is too high or the range starts too low. If you hear almost nothing, the guitars are not arriving or AMOUNT is too low.

> **Switch DELTA off before you bounce.** It is a listening tool. While it is on, your synth bus plays only the leftovers.

CENTER

CARVE always cuts the sides of the stereo picture fully. CENTER decides how much of the cut also reaches the middle. It starts at 35 %.

The idea behind the low setting: rhythm guitars are usually panned hard left and right, so that is where the fight is. The middle belongs to vocals, kick, snare and bass, and a wide pad can keep its body there.

- **Wide pads, strings, choirs:** leave it between 20 and 40 %.
- **Narrow or mono synths, leads, arps, a synth bass:** turn it up, 70 to 100 %. A mono sound lives only in the middle, so at 35 % it gets very little.
- **Guitars that are not panned wide,** a single guitar in the centre for example: turn it up as well.

If CARVE sits on a mono track, there are no sides. The slider then shows **MONO** and CARVE always cuts fully.

> **What to listen for:** with DELTA on, move CENTER. At 0 % you hear only wide, airy leftovers. At 100 % the leftovers get a solid middle. Pick the spot where the guitar comes through without the synth losing its weight.

SPEED

The cut always arrives fast, within a few milliseconds of the guitar. SPEED only sets how fast it lets go when the guitar pauses.

FAST	Lets go after about 40 ms. The cut opens in the gaps between fast chugs, so the synth fills every hole the guitar leaves. The busiest setting.
MEDIUM	Lets go after about 70 ms. Holds through fast chugs and opens between slower notes. The safe choice, and where CARVE starts.
SLOW	Lets go after about 150 ms. Holds through whole phrases and only opens in real rests. The calmest setting.

> **What to listen for:** on fast palm muted riffs, FAST makes the synth breathe with the riff. Sometimes that is exactly the energy you want. If the synth starts to flutter or sound nervous, go to MEDIUM. On big held chords you will hear little difference between the three, because the guitar never pauses.

RANGE

Where the carving starts. All three settings go up to 10 kHz.

ULTRA LOW	From 100 Hz. For guitars that are tuned very low and have their weight far down.
LOW	From 200 Hz. Fits most heavy rhythm guitars. Where CARVE starts.
STANDARD	From 300 Hz. Leaves the low mids of the synth alone. Good when the synth carries the warmth of the track.

The same 24 bands are spread over the range you pick. A wider range means each band is a little broader. When you switch, the bands glide to their new places, so you can switch while the song plays.

> **What to listen for:** pick the lowest setting that does not thin out the synth. If the low end of your synth bus starts to wobble with the guitars, go one step up.

6. How CARVE makes up its mind

You do not need this chapter to use CARVE. It is here because a plug-in that makes decisions for you should tell you how it makes them.

For each of the 24 bands, many times a second, CARVE asks four questions.

Is the guitar playing here, right now?

CARVE compares the guitar in this band with how the guitar has been playing over the last few seconds. A note that stands out against that counts as playing. This is why there is no threshold knob: the guitar is measured against itself. When the level of the guitars changes for good, a quiet verse after a loud chorus for example, CARVE notices within about a second and adjusts.

Very quiet stuff does not count. Amp hiss, hum and string noise in the rests sit far below the riffs, and CARVE ignores them. A gap stays a gap.

Does the synth have anything here?

If the synth is silent in a band, there is nothing to move out of the way, so nothing is cut.

Is there still a fight?

Where the guitar is already far louder than the synth, the synth is buried anyway, and cutting it harder would only make it thinner. There the cut gets lighter. Turning the synth up never makes CARVE cut less.

What are the neighbours doing?

Two bands next to each other never differ by more than 3 dB. That keeps the curve smooth and stops CARVE from punching narrow holes that would ring.

Then two more things happen. The cut is scaled by **AMOUNT**. And it is split between the sides and the middle of the stereo picture according to **CENTER**.

> **Why this matters in practice:** CARVE reacts to the guitar's playing, not to a level you set. So it behaves the same in the quiet bridge and in the last chorus, and you do not automate it. If you ever feel you need to automate AMOUNT, try SPEED or CENTER first.

7. Starting points

CARVE has no presets, because it has five controls and they depend on your song. These are the places I would start from.

Situation	AMOUNT	SPEED	RANGE	CENTER
Wall of rhythm guitars over pads or strings	50 %	MEDIUM	LOW	35 %
Fast chugs, and the synth should fill the gaps	60 %	FAST	LOW	35 %
Very low tuned guitars against a thick synth layer	50 %	MEDIUM	ULTRA LOW	35 %
Mono lead or arp that fights the guitars	60 %	MEDIUM	STANDARD	100 %
Big slow chords, cinematic section	40 %	SLOW	LOW	25 %
The synth carries the warmth, guitars only need bite	50 %	MEDIUM	STANDARD	35 %

Treat these as a first guess. Then switch DELTA on and let your ears finish the job.

It is not only for guitars

CARVE does not know what a guitar is. Whatever you send to the sidechain gets the room.

- **Vocals into the sidechain, CARVE on the pads or on the guitars:** the words get clearer without the backing getting quieter. Use SLOW and turn CENTER up, because the vocal sits in the middle.
- **A lead into the sidechain, CARVE on the rhythm bus:** the lead cuts through its own backing.
- **Snare into the sidechain, CARVE on a dense synth bus:** use FAST and CENTER at 100 %. The snare gets its crack back.

8. Habits that help

- **Set it in the densest part of the song.** The last chorus, the breakdown. If it works there, it works everywhere, because CARVE backs off by itself when there is less going on.
- **Use DELTA every time.** Ten seconds of listening to the leftovers tells you more than a minute of staring at the curve.
- **Compare at the same loudness.** Flip your host's bypass while the song plays. The guitar should step forward and the synth should not seem quieter. If the synth seems quieter, go down with AMOUNT.
- **One CARVE per synth bus.** If you have pads on one bus and leads on another, give each its own CARVE and send the same guitars to both. They will want different CENTER settings.
- **Put it last on the bus,** or at least after anything that changes the tone of the synths a lot. CARVE should see the synth the way the mix hears it.
- **Do not stack it on the same pair twice.** Two CARVEs in a row, both listening to the same guitars, just cut the same place twice. If 6 dB is not enough, something else is wrong.
- **Trust the guitars' own bus.** Send the guitar bus after its processing. CARVE should hear the guitar tone that ends up in the mix, not the dry signal from the interface.
- **It costs almost nothing.** CARVE adds no delay and uses about 1 % of one processor core on a current computer, so use as many as the session needs.

9. When something is off

What you see or hear	What to do
The display says NO SIDECHAIN SIGNAL	The guitars are not arriving. Go back to chapter 3 and check the routing. Then press play, CARVE only sees the guitars while the song is running.
The SC light is on, but the curve hardly moves	Turn AMOUNT up. If it is already high, check that CARVE sits on the synths and the guitars go to the sidechain, not the other way round.
I cannot hear a difference	Switch DELTA on. If you hear the leftovers, CARVE is working and it is simply subtle, which is how it should be. Flip the bypass in the busiest part of the song and listen to the guitar, not to the synth.
The cut is very weak on my bass synth or lead	That sound lives in the middle. Turn CENTER up.
The synth flutters or sounds nervous	Go from FAST to MEDIUM, or from MEDIUM to SLOW.
The low end of the synths wobbles	Go one step up with RANGE, from ULTRA LOW to LOW, or from LOW to STANDARD.
The synths sound thin	AMOUNT is too high, or CENTER is too high for a wide sound. Go down with one of them.
My bounce has only strange little noises on the synth bus	DELTA is still on. Switch it off.
CARVE does not show up in my host	Close the host and open it again. Run the plug-in scan if your host has one. Logic Pro needs the Audio Unit, the others the VST3.
Windows: the window says WebView2 is missing	Install the free Microsoft WebView2 Runtime with the link in the window, then open CARVE again.
Windows: the installer is blocked by a blue box	Click More info, then Run anyway.

If none of this helps, write to me. Tell me your host, your system and what you did, and if you can, add a screenshot of the CARVE window. The version is in the last line of the right click menu.

10. The small print

Formats	VST3 and Audio Unit on the Mac, VST3 on Windows. No AAX.
Systems	macOS 12 or newer, Apple Silicon and Intel. Windows 10 and 11, 64 bit.
Tracks	Mono and stereo. The sidechain can be mono or stereo.
Sample rates	44.1 to 192 kHz.
Delay	None. CARVE reports zero latency, so nothing in your session shifts.
Bands	24, spread from the start of the range up to 10 kHz.
Deepest cut	6 dB per band.
Automation	Everything can be automated. The names in your host are Amount, Center, Speed, Range, Delta and Carve On.
Saving	All settings and the window size are saved with your project. To keep a favourite setting, use your host's own preset menu.
Internet	CARVE never goes online and collects nothing.

About "Carve On"

There is one control without a button in the window: a hidden switch called Carve On that your host can automate. It is on unless something switches it off. If that ever happens, a small red **OFF** label appears at the top of the window. Click it and CARVE is back.

License, in one breath

CARVE is free. Use it in any music, private or commercial, for as long as you like. Do not sell it and do not offer it for download yourself. If you want to pass it on, pass on the link to synthyoursong.com, so people always get the current version. The full license is in the download.

Say hello

If CARVE saved a mix of yours, or if it did something stupid, I want to hear both. You find me at synthyoursong.com and on Instagram as @kesterls.

Now go and make something loud.

Kester

SynthYourSong