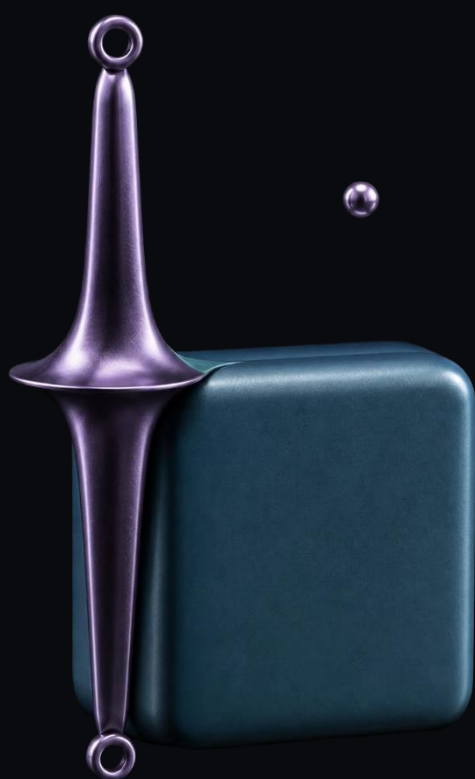


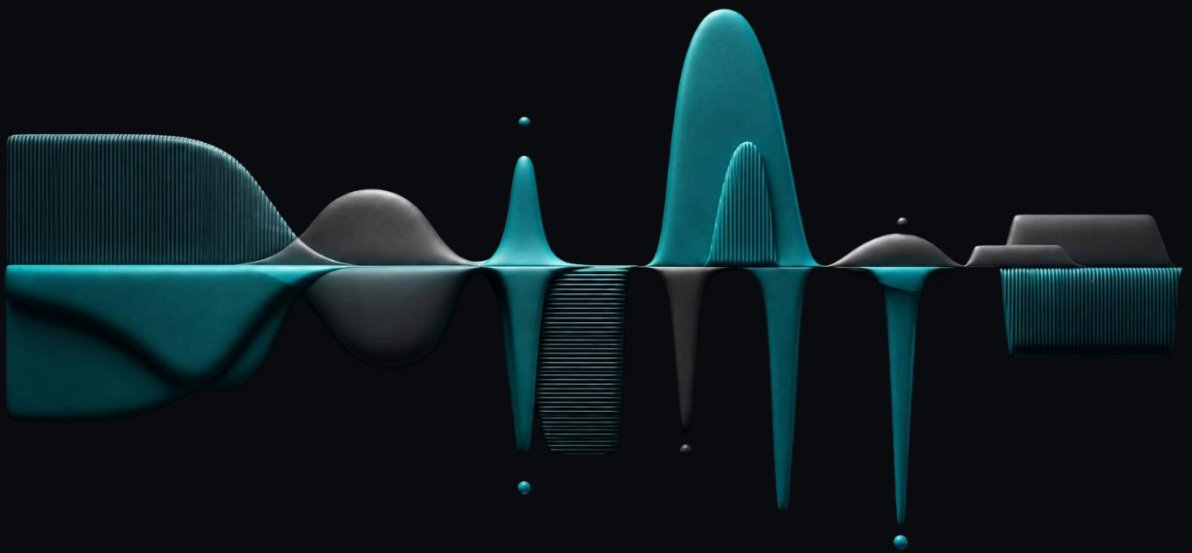




Re late

by Salvatore Versace | VST3 / AU

User Guide



INDEX

00. First Use

01. Introduction

02. System Requirements

03. Installation

04. Online Activation

05. Offline Activation

06. License Management

07. Trial Mode

08. Updates

09. Uninstallation

10. INPUT

a. INPUT 1

- Input source
- Link and REE

b. INPUT 2

- Names | Gain

11. Interface

a. Band_Eq

- Domains, % scale
- Frequency
- View filters
- FFT

b. FFTview

- Toggle + ● ~ Δ
- HP/LP filters
- PRE POST

c. Options | info and controls

- Footer and SYNC ‡
- Fader
- Relation, THRU, MUTE
- Physical sidechain
- XCLUD fader | MINUS fader
- Toggle \ info — Link fader
- Naming,
- FFT options

d. LOGO

- Presets
- FFT Size | Render HQ
- DC offset
- Phase
- XN
- Obj|Symbols

12. Objects: CURVE | QUAD

- CURVE geometry | Bell shaping
- QUAD geometry
- Processing resolution
- Creation and editing
- Footer lo—hi
- Constraints
- Multi-selection

13. Functions - Object menu

- LOCK
- QUAD/CURVE
- INERTIA
- Q
- VOLUME
- EMPHASIS
- CROSSOVER
- SØLO
- DELTA
- CROSS/DOM
- DELETE

14. The Relation

- Ghost objects
- REMOTE
- LINK (Global | Object)
- XCLUD
- MINUS

15. Monitoring (SØLO / DELTA)

16. Domain and Routing

17. Interface - skins and colors

18. Shortcuts

19. Troubleshooting

20. About

00. First Use

Insert Relate on two tracks competing for the same space, for example kick and bass or guitar and vocals.

When opened, each Relate takes a number and a color:
1 · kick, 2 · bass.

On the bass Relate, right-click the INPUT 2 circle and choose 1 · kick from the LINK list.

From this moment the two instances read each other.

The kick's spectrum also appears in the Band_Eq.

Double-click in the Band_Eq around 80 Hz: a CURVE is born. It is inert, the relation starts from 0; widen the extremes by dragging them with the mouse.

Move the M fader toward input 2 (kick): this way in the mid in the conflict zones the kick wins and the bass yields the space.

Press D for DELTA listening and hear only what the object is removing.

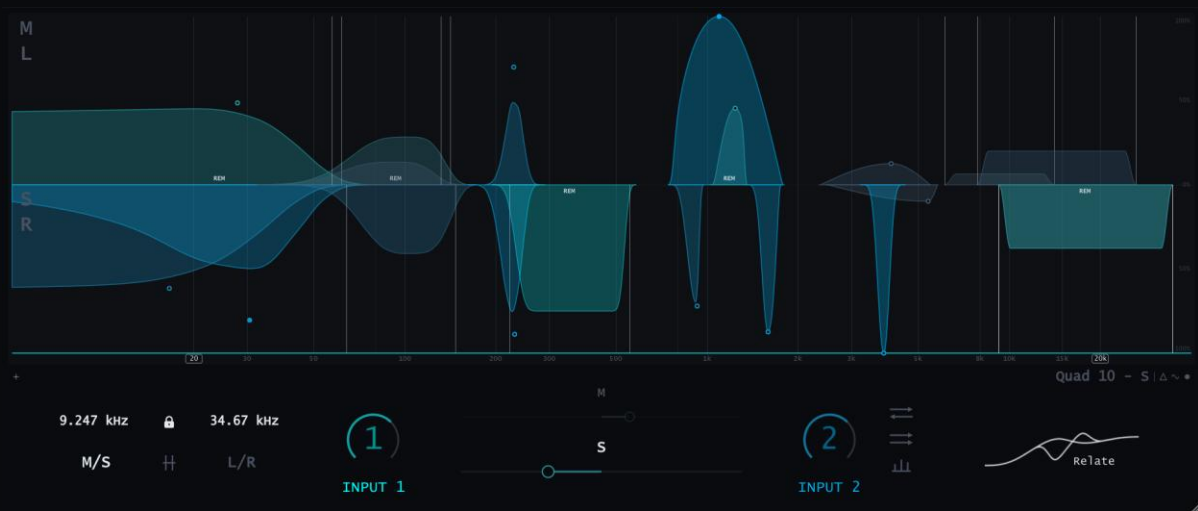
This is Relate: no buses, no sidechain routing, total respect for your sound. Only the relation of the conflict between elements, decided by you.

01. Introduction

Relate introduces the **REE (Relational Equalization Ecosystem)**, an inter-instance communication architecture that connects in real time all the Relate plugins active in the session. The system detects and manages conflicts between elements without requiring dedicated buses or sidechain routing.

- **Automatic Interconnection:** Each new instance instantly joins the REE circuit, obtaining a unique numeric ID and color code. The plugin transmits its signal into the REE and simultaneously reads that of the other active instances.

- **Relational System:** Through the **CURVE** and **QUAD** objects, each instance analyzes the frequency response of the other inter-object traces to redefine the overlap and masking points in %.



REE architecture with a maximum of 256 simultaneous Relate instances at 16 M/S or L/R bands, each individually relatable to any other Relate active in the session, for a maximum of 32 different relation links per instance.

02. System Requirements

- > Windows 10 or 11, 64-bit. DAW with VST3 support.

- > macOS 10.13 or later, Intel or Apple Silicon.
DAW with VST3 or Audio Unit support.

03. Installation

Windows

1. Run `Relate-Setup.exe` and follow the steps, keeping the default path.
2. The plugin is installed in
`C:\Program Files\Common Files\VST3\Relate.vst3`.
3. Open your DAW: if it does not scan automatically, run a rescan of the VST3 plugins.

Relate creates a data folder in your Documents:
`Documents\REE\Relate`. User presets live in
`Documents\REE\Relate\Presets`; this guide (PDF) lives in the same folder and opens with the GUIDE button in the About panel.

macOS

1. Extract `Relate-Setup-Mac.zip` and run `Relate-Setup.pkg`, following the steps.
2. Both formats are installed:
VST3 in `/Library/Audio/Plug-Ins/VST3`
AU in `/Library/Audio/Plug-Ins/Components`.
3. Open your DAW and rescan if necessary. In Logic Pro use the AU version: scanning happens when the application starts.

Relate creates a data folder in your Documents:
`Documents/REE/Relate`. User presets live in
`Documents/REE/Relate/Presets`; this guide (PDF) lives in the same folder and opens with the GUIDE button in the About panel.

04. Online Activation

After purchase you receive your license code by email, in the format RLT-XXXXX-XXXXX-XXXXX. Each license covers 2 computers.

1. Open Relate: without a license the unlock panel appears (later you can find it again from the logo menu, License entry).
2. Enter the purchase email and the license code.
3. Press ACTIVATE. On confirmation ("unlocked") the plugin is active on this machine.

Activation is the only moment when the network is needed.

Relate does not require a permanent connection: if the computer is offline the plugin keeps working without limitations.

05. Offline Activation

If the audio computer has no internet access:

1. In the unlock panel press OFFLINE.
The machine id of this machine appears: copy it with COPY.
2. From any connected device go to salvatoreversace.com/offline and enter the purchase email, license code and machine id.

You obtain an activation text, which you also receive by email.

3. Bring the text to the audio computer, paste it into the "activation text" field and press APPLY.

The activation text is tied to the machine id: it is valid only for the machine it was generated for. If you request it again for the same machine you get a valid text without consuming an additional seat.

Each new offline activation request after a deactivation requires a different code.

06. License Management

The license covers 2 computers. To move it to a new machine, first free the seat on the old one:

1. Open Relate on the machine to free: LOGO menu, About, MOVE LICENSE.
2. In the panel enter your license code and press MOVE LICENSE.
3. The seat is free: activate normally on the new computer (online or offline).

Without a network: pressing MOVE LICENSE still deactivates the plugin on this machine and saves a receipt on the Desktop (`Relate-deactivation-<id>.txt`). Upload that file to salvatoreversace.com/offline, in the section dedicated to deactivation: the seat is freed.

To reactivate the same machine later, a new activation text generated from /offline is required.

If both seats appear occupied and the old machine is no longer available (failure, formatting), write to support@salvatoreversace.com from the purchase email.

07. Trial Mode

Without a license Relate runs in trial mode, with all functions active and two limits: a maximum of 3 instances per session; 20 minutes of use per session, after which the audio goes silent.

Restarting the DAW starts a new trial session. Entering the license removes the limits, without reinstalling anything.

During the trial, at the bottom of the LOGO menu you find `License`, which reopens the unlock panel at any time. Once the license is activated the entry disappears: the only remaining operation (freeing the machine) lives in the `About` panel, via the `MOVE LICENSE`.

08. Updates

Relate checks at most once a day whether a new version exists, by reading a public version file: no personal data is sent. When an update is available a notice appears in the plugin, leading to the download page.

To update, simply install the new version over the existing one (Windows: run the new Relate-Setup.exe; macOS: run the new Relate-Setup.pkg).

License, settings and presets stay in place.

09. Uninstallation

If you are decommissioning the computer, free the seat with MOVE LICENSE before uninstalling (see section 6).

Windows: Settings, Apps, Relate, Uninstall. The Documents\REE\Relate folder (guide and presets) is not touched: if you no longer need it, delete it manually.

macOS: delete Relate.vst3 from /Library/Audio/Plug-Ins/VST3 and Relate.component from /Library/Audio/Plug-Ins/Components.

10. INPUT : instances, numbers, names

When opened, each Relate registers progressively in REE with an identifying number and color.



a. **INPUT 1** — the track the plug-in is inserted on.



The input is renamed automatically if the DAW exposes track names.

It is numbered automatically and colored progressively when a new Relate opens.

Input source (Stereo / L / R / Mid / Side)

Each Relate input has a source selector that determines which component of the signal enters the plugin. The selection happens at INPUT, so it defines what the engine processes; what you hear at the output is what the instance publishes in the REE for the other linked instances.

Anything you do not select does not pass through the plugin and is discarded.

In detail:

- **Stereo** — normal behavior: both channels enter, the whole signal comes out.

- **L** — only the left channel enters; it plays only on the left, the right side is muted.

- **R** — only the right channel enters; it plays only on the right, the left side is muted.

- **Mid** — only the mid component (the mono sum) enters: at the output you get the mid on both channels. The side is discarded.

- **Side** — only the side component (the difference) enters: at the output you get +side on the left and -side on the right. The mid is discarded.

The selection also applies in bypass and in delta: bypassing the plugin does not restore the discarded components.

If you select M, in bypass you still hear only the mid.

Link and REE

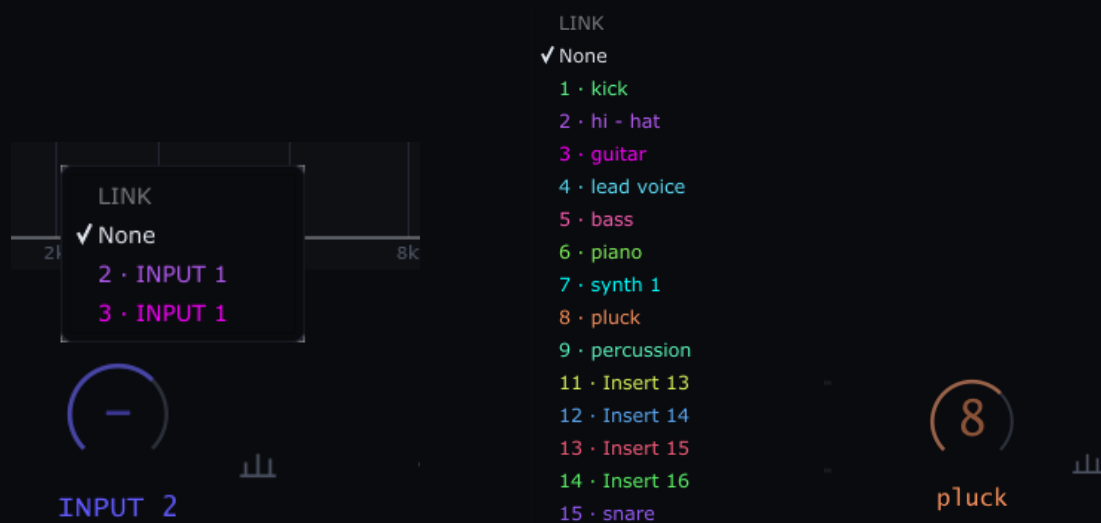
The spectrum published in the registry (PRE and POST) reflects the selected source, always at full level:

another instance that links reads exactly that component - only the mid with M, only the side with S, only the chosen channel with L or R.

To evaluate the components without touching the routing use the monitor SOLO (M/S/L/R at the output): it is a non-destructive monitoring listen that alters neither the processed signal nor what is published in the registry — the linked instances keep reading the processed signal, whatever you are listening to in solo.

Typical uses: the dedicated source is useful when you truly want to work on a single component - for example an instance that processes only the mid in an M/S chain built in the DAW - or for a "probe" instance placed on a track only to publish that component in the registry, where the audio output does not matter.

b. INPUT 2 - another Relate instance (REE link) or a physical sidechain if your DAW provides one.



Right-click the right-hand number to open the LINK list and choose the partner Relate. Instances are listed as number and name (if the DAW exposes naming).

the INPUT 2 number display is tied to the relation, which can be the instance's general one or the one specific to an object.

It will change when an object linked to an instance different from the general INPUT 2 one is selected, indicating the LINK of the Relate connected in that object.

If no link is active, INPUT 2 shows "-". With an active link it shows the number and color of the connected Relate.

Names are picked up automatically from the DAW track name (Cubase, REAPER, Live, FL Studio and the other hosts that expose it).

You can also rename an input manually: double-click the source name.



The manual name prevails over the automatic one and is shared across the whole ecosystem.

Renaming "snare" in any Relate renames it everywhere in the session.



The semicircles indicate the Gain in dB of the source entering the Relate or the per-object relation.

11. Interface



the interface is divided into 4 sections:

- Band_Eq
- FFTview
- options | info and controls
- LOGO

a. Band_Eq



The Band_Eq area is the main visual and control interface for analyzing and managing relational objects.

1. Domain Selectors M L | S R :

Located on the left margin, they indicate the current processing channel (Mid, Left, Side, Right). Clicking a single button acts as a dedicated SOLO On/Off switch for the selected domain.

2. % Scale :

Right vertical axis graduated 100%-0-100%, representing the width and intensity of the applied processing.

3. Frequency on the abscissa (5 Hz – 40,000 Hz) :

The upper scale limit adapts automatically to the Nyquist frequency imposed by the session sample rate:

- 44.1 kHz / 48 kHz : Nyquist 22 kHz / 24 kHz
- ≥ 96 kHz : Nyquist 40 kHz

4. View Filters [20 Hz] [20 kHz] :

Independent toggles on the abscissa for the graph frame. They let you exclude the sub-sonic (< 20 Hz) and ultrasonic (> 20 kHz) regions from the display to optimize working resolution.

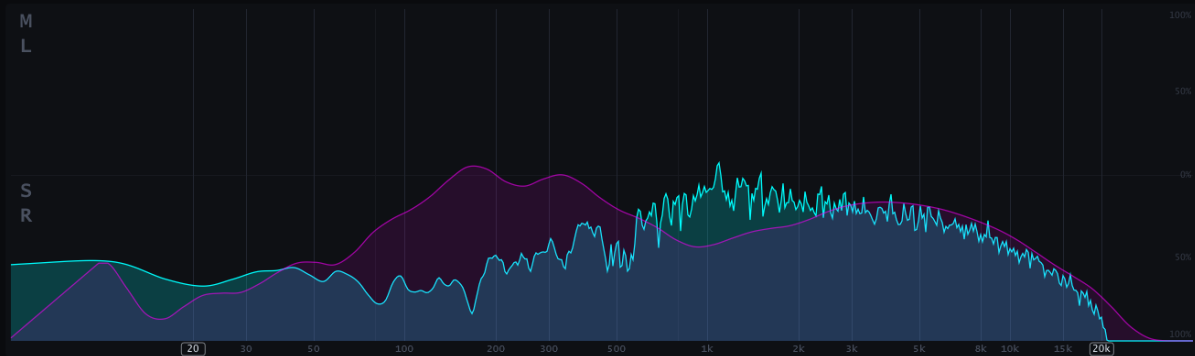
5. Interactive:

Display space for frequency spectra and object editing (*Section 12*). Supports quick insertion of new elements via double click or right click.

6. Dynamic State Controls (Δ Delta / Ø Solo):

Located at the top right, they appear only when the respective function is activated. They act as direct switches to quickly disable Delta or Solo listening.

Inside the Band_Eq the various FFTs of the linked Relates are displayed. The INPUT 1 instance's FFT is shown in white by default; the color can be tied to the INPUT color via the LOGO Menu, Interface, by enabling "N"view, where N shows the current Relate's number.



besides the FFTs of the general INPUT 1 and 2 signals, the FFTs of the objects related via LINK are shown individually, overlaid on the 2 already present.



(Section 14 LINK)

The changes the objects apply to the signal are published visually through the real-time FFT view.

b. FFTview



just below the Band_Eq we have toggles :



adds a new object band in the Band_Eq



switches the Band_Eq view to FFTview



enables the view of the changes created in the domains by the objects (white curves in the image below)



enables the instance's global delta listening



- FFTview



At the bottom left we have the HP LP toggles that enable the final filters on the processing chain; they can be dragged from the • and adjusted from — off / 6dB to 96dB via mouse scrolling.

clicking on the line or on the toggles disables the filter.

— at the sides of the FFTview are the dB values and at the top the toggles
PRE POST, which act as an active display and legend for the visualizer.

PRE POST

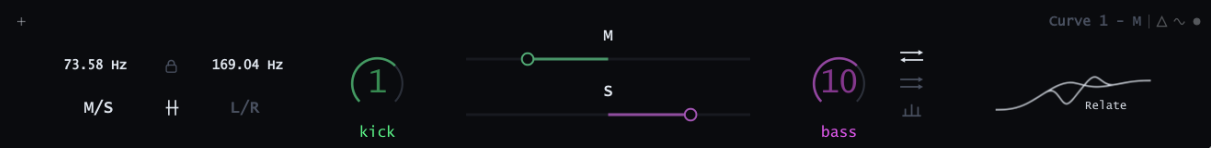


here we have the **PRE** colored, to which 4 objects have been applied: 2 in the mid, 2 in the side, plus the HP and LP filters.

The **POST** view is the output view.

Shared in the REE.

c. Options | info and controls



the section presents the following info controls:

- Footer
- Fader
- Toggle \ info
- LOGO

- Footer :



Here the Hz positions of the selected object's base are shown. They can be locked with the padlock toggle in the middle, or edited numerically via double click.

M/S L/R represent the domain in which the objects of the Relate instance work.

⚡ when active, indicates that the footer of the objects of the same band is synchronized, across both domains : L/R or M/S

If in sync the objects move together, otherwise they stay independent.

⚡ SYNC

With one object selected it couples the two components of that band, which move together (the object must have a relation). With exactly two objects selected (Shift+Click) in the opposite domain, it couples them creating a new band; use it again on the pair to uncouple them.

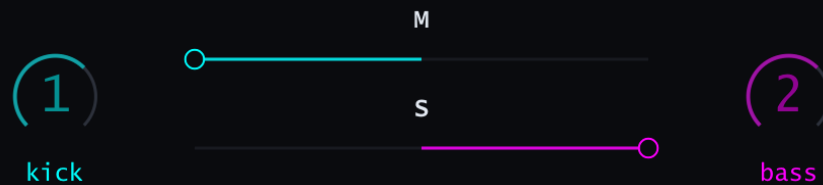
The selected object is redirected to the footer of the other related object belonging to the band.

- Fader

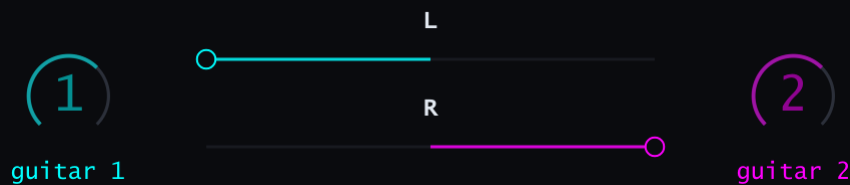
The Faders indicate the % position of the relation inside the selected object.

Where the center is 0 and the sides are 100% relative to the input.

Moving the Fader toward an input makes that input the winner in the conflict zones within the domain.



ex1. I have a kick and a bass and 2 full-band objects, one M and another S. In the mid the kick will win by moving the fader toward the kick input, while in the side the bass will win by moving the S fader toward the bass input.



ex2. I have 2 guitars: I'll make one win in the conflict zones on L and the other in the conflict zones on R.

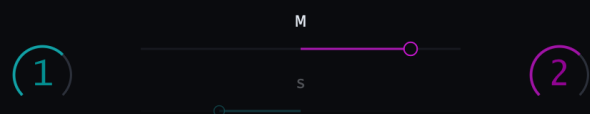
n.b. no signal of any kind is added; Relate only manages the conflicts between the elements shared in the REE and put in relation.



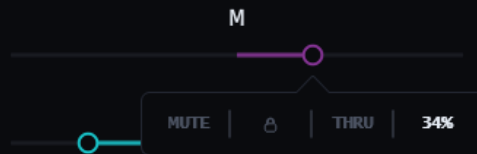
for a single object with no counterpart in the parallel domain there will be one central fader.



for non-sync objects the fader of the selected object in the pair is shown clearly, while its partner's in the parallel domain sits slightly in the background.



Right-clicking the faders gives access to the MUTE / THRU LOCK options and the %, which can be entered numerically via double click.



Relation, THRU, MUTE

Each object works in one of three modes.

Relation (default) the object acts on the conflict between INPUT 1 and INPUT 2 according to its fader.

This is the behavior described in section 14.

THRU (key T) - the region becomes transparent: inside the object's footprint INPUT 1 and INPUT 2 both pass at full level, with no processing. It serves to carve a protected window inside a processed zone.

MUTE (key M) - the region is zeroed: inside the object's footprint both inputs go to zero.

An important difference: MUTE does not follow the object's shape. While in Relation the bell's weight doses the intervention point by point, MUTE is a hard mask: 0 across the whole value covered by the footprint and 1 outside.

The shape decides where, not how much.
The edge is still smoothed by the CROSSOVER.

An object in THRU or MUTE has nothing left to relate: Q, EMPHASIS and VOLUME are disabled in the menu. The lock of these objects is called LOCK THRU and LOCK MUTE.



- Physical Sidechain



INPUT 2 can also be connected without REE: via sidechain to the plugin from your DAW's header (where available).

Relate detects the bus automatically; with the bus active the INPUT 2 circle shows the SC label.

In the display input 2 will have a dedicated FFT.

The relation works exactly like a REE link: the objects manage the conflict between INPUT 1 and the bus signal according to their fader.

The differences:

- Everything happens inside the instance: the plugin's output is the sum of the two routed inputs (the sidechain passes to the output), and INPUT 2 offers the Stereo / L / R / Mid / Side source selector, just like INPUT 1.

- The functions that travel through the ecosystem - ghost objects, REMOTE, XCLUD on the source instance do not exist: on the other side there is no Relate to command. MINUS instead gains a second fader and acts on both inputs (always and only inside this instance).

- The bus takes precedence over the link: as long as the physical sidechain is connected, any INPUT 2 registry link is ignored; disconnect it and the link resumes.

What the instance publishes in the REE remains its real output: the POST read by the other instances therefore also includes the summed sidechain signal.

When the sidechain is connected you can rename it: double-click the INPUT 2 name.
Leave the field empty to return to the default label.

- XCLUD Faders

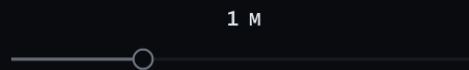


XCLUD is an object option.

When enabled from the **object options (right click)** or via the shortcut **"X"** inside the object the signal is dug out per bin on the separate sources, down to complete cancellation of the signal.

The faders are % from 0 to 100%, where 100 is the complete cancellation of that input within the selected frequency area. ($-\infty$ dB)

- Minus Fader



Minus is an object option.

It can be enabled via the **object options (right click)** or via the shortcut **"-"**.

This option concerns exclusively the volume of the Relate's INPUT 1; it works in %, where 100% is -30 dB of the volume in the object's frequency area.

With a physical Sidechain via direct connection (NOT REE) there will be 2 Minus faders (one per input in the instance), but they always affect only the Relate in which they exist.

- Toggle \ info



this toggle links the movement of the faders together,
moving one also moves the other in the opposite direction.



this toggle links the movement of the faders together,
moving one also moves the other in the same direction.

Naming

Curve 1 - M Quad 3 - S

Below the Band_Eq, on the right, the object/domain coordinates
are shown.

CURVE / QUAD : object type

N: 1-16 number of the Band it belongs to

M/S/L/R : domain of competence

The Toggle  **FFT options** opens a window in place of the logo with the display settings for inputs 1 / 2 and the object link source for the selected object.

1	INPUT 1	ON	FRZ	OFF
2	INPUT 2	ON	FRZ	OFF
3	INPUT LINK	ON	FRZ	OFF
SLOW		x.25 LUM		x4

The available options are ON / OFF and FREEZE.
with FFT brightness (LUM) and responsiveness to sound (SLOW),
adjustable by mouse scroll.

SLOW and LUM apply to the display of the whole REE and extend
to every Relate in the session.

ON/FRZ/OFF apply per instance.

SLOW	ATK	REL
X.25	instant	~ 37 ms
X.5	~ 10 ms	~ 84 ms
DEFAULT X1	~ 33 ms	~ 177 ms
X2	~ 75 ms	~ 360 ms
X4	~ 158 ms	~ 730 ms

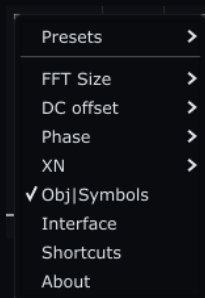
The milliseconds refer to display, not to signal modification.



d. LOGO

left click - Clicking the LOGO turns Relate off or on; it is a BYPASS.

right click - LOGO Menu.



→ Presets

Save... saves the current state as a named preset.

Default , reinitializes the plug-in.

Presets are files in : Documents\REE\Relate\Presets
Organize them in subfolders and they will appear as submenus.
Presets are shared by all Relate instances.

Loading a preset is an action like any other: undoable with Ctrl+Z.

→ FFT Size

Auto (default), 16384, 8192, 4096, 2048, 1024, 512, 256, 128, 64. Each entry shows on the right the real latency computed on the current sample rate ($N \times 1000 / SR$).

Auto — Relate starts at 4096 and goes up one size until the bin width drops to 12 Hz or less, with a ceiling of 16384. The result follows the session sample rate:

44.1 / 48 kHz → 4096

88.2 / 96 kHz → 8192

176.4 / 192 kHz → 16384

Frequency resolution therefore stays constant as the sample rate changes, and so does the latency: always between 85 and 93 ms.

Manual sizes — choosing a fixed size, you decide the trade-off between resolution and latency. Latencies at 48 kHz:

$16384 = 341.3 \text{ ms} \cdot 8192 = 170,7 \cdot 4096 = 85,3 \cdot 2048 = 42,7$

$1024 = 21,3 \cdot 512 = 10,7 \cdot 256 = 5,3 \cdot 128 = 2,7 \cdot 64 = 1.3 \text{ ms}$

The latency is declared to the DAW and compensated by PDC: in mixing you won't notice it, but if you record while monitoring through Relate, go down in size or bypass from the LOGO.

Render HQ : in offline render or bounce Relate automatically raises the FFT resolution by two sizes ($\times 4$) above the set one, up to the 16384 ceiling; at the end of the export it returns to the chosen value. Maximum precision in the final file, no realtime cost.

FFT Size	Render HQ	Increment
64 - 4096	$\times 4$	+2
8192	16384	+1 clamp 16384
16384	16384	None
Auto	(sample rate)	+2, up to 16384

→ DC offset

clicking the entry toggles it on/off; hovering opens the two submenus.

- DC Cut: 2 / 5 Hz (default) / 10 / 20 Hz.
- DC Slope: 6 / 12 / 24 dB/oct (default) / 48 / 96 dB/oct.
- Butterworth high-pass filter as a cascade of biquads (6 = 1° order; 24 = 2 sections Q 0.5412 and 1.3066; 48 = 4 sections; 96 = 8 sections). Applied at the input and at the output.

Plugin default: OFF.

→ Phase

Min (default) / Linear. This is the phase with which the masks are applied : Min = minimum phase (no pre-ring, tail entirely after); Linear = zero phase (symmetric ring before and after).

It does not change the magnitude, only the temporal distribution.

→ XN

Min-phase application grid:

2N / 4N (default) / 8N.

$N2 = X \cdot N$, the available impulse-response budget is $(X-1) \cdot N$, and that is what the label prints in ms.

48 kHz with $N = 4096$: $2N \rightarrow 85$ ms

$4N \rightarrow 256$ ms

$8N \rightarrow 597$ ms

Going down halves the min-phase CPU cost but shortens the IR tail; going up doubles it. Latency does not change (it stays N).

→ Obj | Symbols

Visibility of the glyphs at the base of the objects in the Band_Eq.



12. Objects CURVE | QUAD

Relate shapes the signal through objects, up to 32 per instance.

Each band occupies a frequency region and contains two independent objects:

A (upper lane: M/L) and B (lower lane: S/R).

A and B can have different shape, width and relation while living in the same band.

There are two types:

CURVE

A bell with an APEX (its central apical frequency) and two independently draggable slopes.

QUAD

A flat region, with no internal apex: the whole band acts at the same amount.



You switch from one shape to the other from the object's right-click menu (CURVE / QUAD): the region stays, only the composition changes.

CURVE / Geometry

A CURVE is defined by three groups of values, all independent:

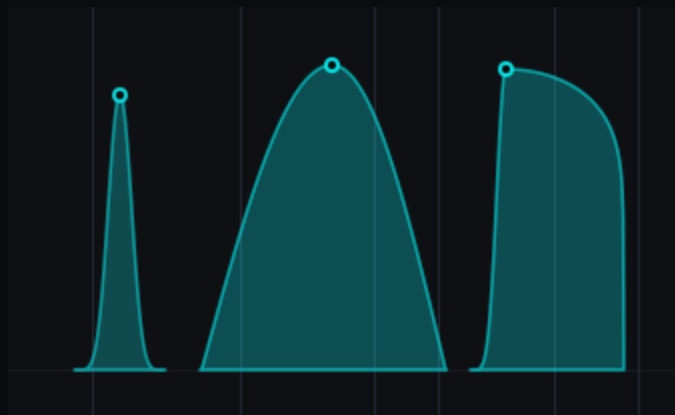
APEX - (apexA / apexB) - from 5 Hz up to min (Nyquist, 40kHz)

Extension - (extL / extR) - from 0.03 to 12 octaves,
default 0.6 / half-width of the left and right slope.

Curvature - (curveL / curveR) , from -1 to +1,
Default 0 (neutral) concavity or convexity of the slope.

Extensions are expressed in octaves, not Hz: a bell keeps the same perceived shape at any frequency.

The two slopes are free, so a CURVE can be perfectly asymmetric.



Bell shaping

At the foot of the bell the relational weight is exactly 0. Outside the extension the object touches nothing.

With curvature 0 (neutral) the weight is 100% at the APEX, 92.4% at a quarter of the extension, 70.7% at half, 0% at the base.

With curvature +1 (convex, broad shoulders) the weight at half extension rises to 95.8% and at a quarter to 99.0%: almost a plateau, which then collapses at the foot.

With curvature -1 (concave, narrow tip) the weight at half extension drops to 63% and at a quarter to 53.1%: the action concentrates entirely around the apex.

Curvature therefore moves neither the feet nor the apex: it redistributes the energy inside the region already defined by the extensions, keeping everything as musical as possible.

QUAD / Geometry

A QUAD is a flat region delimited by two walls (lo / hi) and applies the same % relation across the whole zone.

The edges are not vertical: there is a raised-cosine ramp of 1/8 octave per side (0.125 oct), automatically reduced to a quarter of the span if the QUAD is narrower than half an octave.

The minimum editable width is 0.06 octaves.



A QUAD is the right object when you need a uniform intervention over a range (an entire register, a crossover zone); a CURVE when you need a centered intervention that degrades at the edges.

Processing resolution

The drawn composition is the real action curve

The shapes the engine applies to the signal are those displayed in the Band_Eq.

1. Minimum-width clamp. No component can act on less than 1.5 FFT analysis bins per side.

A CURVE narrower than the limit is widened to the usable minimum, and the drawing shows this real width, not the set one.

QUADs do not receive this widening (*see point 4*).

2. Bin sampling. The weight is not continuous: it is read at the center of each analysis bin.

At low frequencies the bins are sparse relative to the logarithmic scale, so a narrow object in the lows is represented by very few points, and the drawing declares it.

3. Crossover skirt. The plane goes through two smoothing passes between adjacent bins (0.25 / 0.5 / 0.25). This is why the edges of a QUAD are never vertical and why a very narrow bell appears slightly wider and lower than what is written in the parameters: that is its true footprint.

4. Emptiness is information. A QUAD narrower than a single bin intercepts no bin center: it collects nothing and does nothing. In that case the drawing stays empty. It is not a graphical error, it is exactly what the engine is doing.

Between one bin and the next the profile is reconstructed with a monotone interpolation, which introduces no overshoot: the displayed curve does not invent peaks or dips the plane does not contain. The trace you see therefore includes minimum width, bin resolution and crossover skirt. In practice the object acts as you see it.

Creation and editing

Double click (left) on an empty area creates a CURVE at that frequency.



Right click on an empty area of the Band_Eq opens the creation menu:

CURVE / QUAD, FULL or per single domain MID SIDE LEFT RIGHT.



(Delta in the menu refers to the whole instance)

On creation the object is centered on the frequency "c" of the clicked point:

Apex A and $B = c$

Extension limit $lo = c / 1.5$ and $hi = c * 1.5$

Extensions 0.6 octaves on all four sides

Curvatures 0 (neutral)

Relation 0 the object is inert until you move the relation.

Band domain equal to the instance's
(M/S by default)

An object created as FULL is born with sync active.

Editing the object

Drag the apex: moves the frequency (horizontal) and sets the % relation (vertical).

The height in the lane is the depth of the action.

Double click on the apex: type the exact frequency in Hz.



Drag a side handle: changes that side's extension (CURVE) or moves the wall (QUAD).

Wheel on a CURVE's slope: adjusts that side's curvature, step 0.08 per notch.



Wheel on a QUAD: adjusts the relation, step 0.05 per notch.

Drag the body: shifts the object in frequency keeping shape and relation.

Ctrl + drag: isolates the object and moves it.

Right click on the object: opens the object's menu.

Footer lo - hi

Below the display the two numeric values show the real feet of the selected component.

They are editable:

Drag vertically on the left or right value: moves that foot.

Wheel on the value: the same thing in fine steps, 1.4% per notch.

Double click on the value: type the exact frequency (also accepts the 1.2k form).

Click the padlock in the middle: locks or unlocks the object.

The footer is the only place where you go below the visual scale floor: the mouse on the display stops at 5 Hz, while from the footer you reach down to 0.10 Hz. Below 5 Hz the object no longer has an axis to be drawn on and leans against the left edge of the display, but the foot is real and the engine applies it. It is the way to build tails that start from below the audible without the left slope being cut.

Constraints

Minimum model frequency: 0.10 Hz, reachable only from the footer (typing, dragging or with the wheel).

Minimum frequency reachable with the mouse on the display: 5 Hz, the visual scale floor.

Maximum editable frequency: $\min(\text{Nyquist}, 40 \text{ kHz})$.
At 44.1 and 48 kHz the wall is the Nyquist, not 40 kHz.

Extension per side: from 0.03 to 12 octaves.
Minimum width of a QUAD: 0.06 octaves.

Minimum effective width of any component:
1.5 analysis bins per side.

Two constraints sit above the 0.10 Hz limit and in practice almost always govern it.

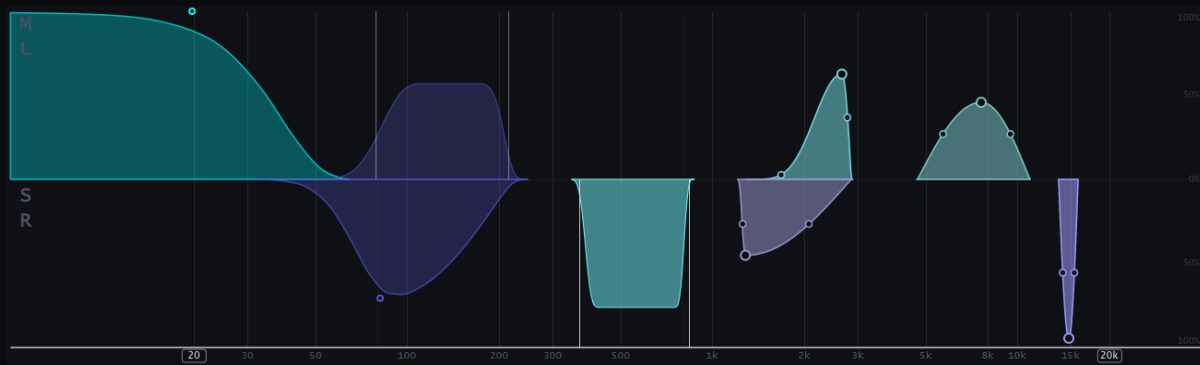
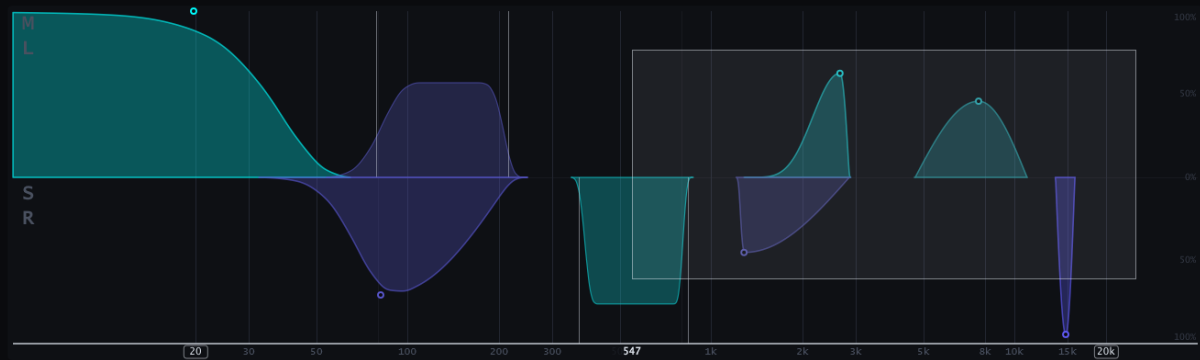
The first is the maximum extension: 12 octaves per side means the left foot never goes below apex / 4096. With the apex at 1 kHz the real minimum is therefore about 0.24 Hz; to truly touch 0.10 Hz you need an apex below 410 Hz.

The second applies only to CURVES: the left foot stays at least 1 Hz below the apex, the right foot at least 1 Hz above.

Below 0.10 Hz the footer writes 0.00 Hz.

Multi-selection

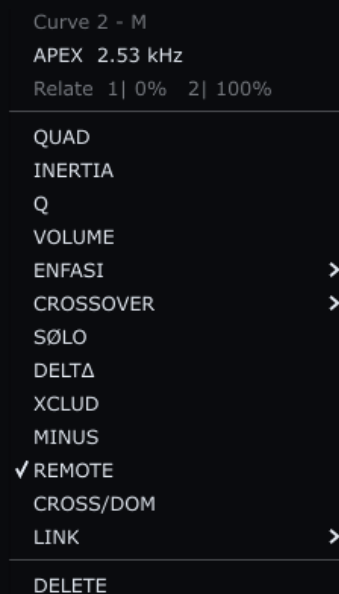
Drag the cursor over several objects to select them together: move them as a group holding SHIFT clicked, delete them, or right-click the selection for group monitoring (DELTA / SØLO / CLEAR).



Shift + click adds or removes a single object from the selection.

13. Functions

Object menu (right click)



Besides shape and relation, each object has a group of functions that are activated from its right-click menu or shortcut.

Changing the way the object acts.

In the first section we find:

- Naming of the object, matching the one shown on the right below the Band_Eq
- APEX value in Hz, which when clicked acts as LOCK APEX for a CURVE, LOCK footer for a QUAD, MUTE or THRU.
- Relation values between the 2 related inputs in %.

In order:

QUAD / CURVE - INERTIA - Q - VOLUME - EMPHASIS (x3 / x5 / x10) - CROSSOVER (Soft / Medium / Hard) - SØLO - DELTA - XCLUD - MINUS - REMOTE - CROSS/DOM - LINK (per-object source) - DELETE.

With XCLUD, MINUS, THRU or MUTE active the entries Q, EMPHASIS and VOLUME are disabled: they have no action on those paths.

LOCK (key A)

Objects can be locked (apex lock for CURVEs, footer lock for QUADs).

An object can also be locked with the  in the footprint section, so as to fix all its coordinates.

Two objects of opposite domain can be coupled in sync so they move together, or be locked into a single band via the sync toggle .

Select the object and press A, or use the first entry of its right-click menu (APEX for a CURVE, LOCK QUAD for a QUAD, LOCK THRU / LOCK MUTE for THRU and mute pass regions).

On a CURVE the APEX lock nails the apex frequency: the slopes remain editable, but any edit that would move the apex is rejected (APEX LOCKED). To lock the footer use .

On a QUAD the footprint lock freezes the whole zone; the edges cannot move (QUAD LOCKED / FREQUENCY LOCKED).

Press A again, untick the menu entry or disable  to unlock.

When a locked object enters a sync pair, the locked one commands: the partner adopts its footprint and follows it.

QUAD / CURVE

When clicked, this command changes the object's identity from CURVE to QUAD and vice versa.

INERTIA (key I)

Relational dynamics: Attack, Release and Threshold decide the interaction of the relation in the object.

Slow settings let the relation breathe; fast settings produce a ducking.



By default the relation is instantaneous: as soon as the analysis detects a conflict, the dig is there; as soon as the conflict disappears, the dig retreats.

INERTIA gives each object its own dynamics: it decides how quickly the action chases the conflict, in both directions.

The panel opens from the object's right-click menu (INERTIA entry, or with the I key on the selected object) and contains three controls:

- ATK (0–250 ms, default 0)

Attack: how long the dig takes to deepen when the conflict appears or grows.

At 0 the response is immediate; raising it makes the object "wait" before intervening, and short transients pass before the dig forms.

- REL (0–250 ms, default 0)

Release: how long the dig takes to retreat when the conflict decreases. At 0 the region rises back instantly; raising it makes the action dissolve gradually, without pumping.

- T (–80...0 dB, default –24 dB)

Threshold, off by default: it switches on and off by clicking the T label. With the threshold active the object measures the level of its own signal (INPUT 1) inside its footprint, in its domain:

Below the threshold the relation is not engaged; above it engages progressively (6 dB soft knee, full engagement about 9 dB beyond the threshold). Threshold engagement and disengagement also follow ATK and REL.

The T always measures only its own instance's signal: if you

need the threshold on the related signal, just build the relation from the parallel instance and use its T. It is the direction of the relation that decides who commands the engagement.

Numeric entry happens with a double click on the value.

At the top right the buttons `cpy` / `pst` copy and paste the three values onto another INERTIA panel: the clipboard is shared, it works between different objects and even between different Relate instances in the same session.

Paired with VOLUME, INERTIA turns the object into a band ducker with editable attack and release; paired with Q, the conflict bell appears and retreats with the same dynamics.

Availability. INERTIA acts on the relational path: the entry is off with XCLUD and MINUS active on the object. Like Q and EMPHASIS, it is also editable on shared ghosts: the target instance can adjust ATK, REL and threshold of a remote object from its own menu.

Q (key Q)

All objects have independent Q values.

The Q value is a % from 1 to 100 of the extension of the related field over the conflict between the 2 inputs. With an applicable smoothness value, SM.



An object in Relation digs across its whole area: every bin of the region receives the reduction dictated by the conflict. The Q option changes the shape of this dig: instead of acting uniformly, the intervention concentrates in a bell around the point of maximum conflict.

When Q is active, a single apex is elected inside the object's area: the bin where the conflict is strongest at that moment. The reduction bell starts there and degrades toward the object's edges, never invading adjacent objects. The result is a relation that follows the most crowded point, instead of every single bin of the region. The panel opens from the object's right-click menu (Q entry, or with the Q key on the selected object) and contains:

- Q (1–100) / width of the bell: at 1 the dig narrows to the apex bin alone, at 100 the bell covers the object's whole area (behavior equivalent to the full dig).

- SM (1–1000 ms) / time window of the Q apex: when the point of maximum conflict moves in frequency, the bell's apex reaches it with this time constant.

Low values make it snap to the new conflict, high values make it soft, avoiding aggressive changes when two nearby peaks compete for the election.

The power toggle is the Q label at the top of the panel; double click a value for numeric entry.

Availability. Q only makes sense for the relational dig: the entry is off on THRU and MUTE regions, with XCLUD and MINUS, and with VOLUME active (the volumetric ducker ignores the bell).

Q is instead editable also on shared ghosts: the target instance can adjust Q and SM of a remote object directly from its own menu.

VOLUME (key V)

In normal behavior the object digs frequency by frequency: inside its region every bin is attenuated according to the conflict it finds on that bin.

VOLUME changes the grain of the intervention. The object's region receives a single conflict value, computed on the overall energies of the two inputs integrated across the whole region, and that value is applied flat to all its bins. The region therefore goes down and comes back up as a whole, keeping its internal balance intact: it is no longer a dynamic EQ but a ducker.

The conflict is auto-normalized; attenuation only arrives where both sources have energy: if one of the two is silent, nothing happens.

The fader (the depth) and the CROSSOVER edges remain valid: the only change is that inside the region there is no longer frequency selectivity.

VOLUME and Q are mutually exclusive on the same object; with VOLUME active EMPHASIS is also off. Paired with INERTIA, VOLUME becomes a ducker with editable attack and release.

EMPHASIS

(right click on the object → EMPHASIS → x3, x5, x10)

is a severity multiplier of the relation.

It adds no energy.

The relation is a subtraction and the emphasis amplifies the dig it is already doing. Where the relation would have removed little, with emphasis it removes three, five or ten times as much, with a fixed floor: total removal of the content.

Emphasis works per bin, inside the object's shape: on the bell's slopes, where the weight drops, the emphasized dig drops with it; the geometry does not change, only the depth does.

Engaging and changing the factor fade in, never stepping. On the source instance, the REMOTE outline signals active emphasis with the ;E suffix in the object's glyph.

EMPHASIS exists only in Relation: the entry is disabled with XCLUD, MINUS, MUTE, THRU and with VOLUME active (the volumetric ducker ignores it). It coexists instead with INERTIA and the T threshold, which keep governing when the relation engages.

CROSSOVER (Soft / Medium / Hard)

Governs the steepness of the object's edge.

The engine's shape is softened by averaging passes on adjacent bins (0.25 / 0.5 / 0.25).

CROSSOVER decides how many passes that object's region receives:

Soft (default) - 2 passes. Wide edge, gentle transition toward the untreated zones, shorter and more discreet grain.

Medium - 1 pass. Middle ground.

Hard - no passes. The edge falls within a single bin: maximum selectivity, but a longer and more ringing grain tail, because a steep transition in frequency is a long tail in time.

CROSSOVER applies in all modes, not only in Relation: it also acts on the edges of MUTE and XCLUD. It is the way to make an exclusion QUAD sharp, or to soften a MUTE that cuts too dry.

(3. Crossover skirt, section 12)

SØLO (key S)

Listens only to the object's frequency range.

DELTA (key D)

Listens to what the object is changing (the difference).

CROSS/DOM (key C)

Moves the object to the domain family opposite the instance's. If the instance works in M/S the object switches to L/R, and vice versa; the lane stays the same (A above, B below).

It is useful when, within the same instance, you want to treat an object in a domain different from the general one.

Two things to know:

The engine allows one domain per band. If the band contains a single object, or a sync pair that counts as a single entity, the change affects the whole band. If instead the band hosts two independent objects, the one you are moving migrates to a free band: it therefore consumes one of the 16 available slots.

The sync with the partner drops, because sync requires the same domain.

CROSS/DOM objects stay in the opposite domain even when you change the instance's domain with the M/S and L/R switches: the flag always keeps them on the other side.

DELETE / Backspace

Deletes the selected object.

With a multi-selection it deletes all selected objects (a single undo step restores them).

14. The Relation

Each object is not limited to its own instance; it applies its shape in relation to the balance between INPUT 1 and INPUT 2, publishing it as a "ghost" in the other instance.



"Ghost" objects are objects tagged **REM** in remote view in the related instance, editable. They apply related changes on the matrix instance.

An object's relation control shows two percentages, 1|% and 2|%, indicating toward which signal the object is leaning.

At 1| 100% the object acts entirely on behalf of input 1; at 2| 100% it completely yields the space to input 2.

A ghost's glyph reports the instance number, domain and relation percentage. Two suffixes tell you the function active on the remote instance: X for XCLUD; E for EMPHASIS.

REMOTE

With a registry link, the fader side toward the source pushes the relation toward INPUT 2; the object acts directly on the source instance, remotely.

On that instance the action appears as a "ghost" object: dashed with vertical lines, in the color of the commanding instance, editable by the target remotely or from the matrix, with its own right-click menu with specific entries.

REMOTE is active by default; it can be disabled per object from the right-click menu → REMOTE.

When an object is commanding remotely it shows the REM glyph in the color of the instance it acts on.

LINK

Global source and per-object source.

By default each object relates to the global INPUT 2 link.

But each object can choose its own relation: right-click the object → LINK → choose any instance from the list.



The object shows an object N badge with the number of its source (dimmed if that source is offline).



When the object is selected, INPUT 2 shows its source, and a third spectrum trace appears in the Band_Eq, drawn in the registry color of the linked Relate.



Different objects can be linked to different Relates.

Sources are per component: each band hosts two objects that can point to a different source.

Relations can also be chained: if instance 1 relates to instance 3 and instance 3 to instance 7, instance 1 reads

instance 3 after its processing, so the effects naturally accumulate in cascade; each ring simply adds one analysis frame to the reaction time.

Avoid closing a ring:

(1 → 3 → 1) is handled automatically.

REE hosts up to 256 instances per session.

XCLUD (key X)

Turns the object from dynamic relational to static subtractive over the region.

With XCLUD active the two faders change role and show the number nomenclature: the left fader carries its own instance's number and decides how much the region is dug out of its own signal; the right fader carries the INPUT 2 number and decides how much signal to subtract from the source.

Both go from 0 to 100%: at maximum the region's content goes to exact zero (total exclusion); intermediate values give a dosed coexistence.



In registry mode the source fader commands at a distance: on the related instance, the region appears as a REMOTE outline with horizontal dashes and no apex dot, and from there it remains editable: drag to move it, edges to widen it, wheel to change the percentage.

There is no need to enable REMOTE: XCLUD has its own automatic channel. With the physical sidechain the right fader instead acts directly on INPUT 2 inside the footprint.

Domain exclusivity applies: all XCLUDs (and MINUSes) of an instance must live in the same domain, LR or MS. If an XCLUD is already on in the other domain the entry is disabled in the menu (switching off is always allowed).

With XCLUD active the object's relational options are switched off - INERTIA, Q, EMPHASIS, VOLUME, REMOTE - while SOLO, DELTA and CROSSOVER remain operational. The soft variant of this mechanism is MINUS, which travels on the same rails but with subtraction capped at -30 dB (see the dedicated chapter).

MINUS (key -)

Variant with static volumetric subtraction of the region.

Same faders, same region logic - but with a fundamental difference: the gain is capped at -30 dB.

The fader goes from 0 to 100%, which on the scale corresponds to an attenuation from 0 to -30 dB at the center of the region.

Next to the domain the pattern appears — as a reminder of the active object function.

MINUS is local only.

With a physical sidechain the second fader is dedicated to the SC INPUT.

The same coexistence rules as XCLUD apply: domain exclusivity (all XCLUDs and MINUSes of an instance in the same domain, LR or MS; the entry is disabled if the other mode is already on on the object or if there is an excluded object in the other domain, switching off is always allowed) and the same suspended options - INERTIA, Q, EMPHASIS, VOLUME, REMOTE - SOLO, DELTA and CROSSOVER remain operational.

15. Monitoring (SØLO / DELTA)

SØLO - listens only to the object's frequency range.

DELTA - listens to what the object is changing (the difference).

CLEAR - clears all region monitoring (in the multi-selection menu).

M/L/S/R - monitor a single stereo domain of the whole plug-in.

16. Domain and Routing

Objects live in a domain: FULL, MID, SIDE, LEFT or RIGHT is chosen at creation (right-click creation menu). The display's upper and lower lanes host the two components of each band.

Input routing: right-click INPUT 1 to select Stereo / L / R / Mid / Side for the analyzed signal. The same routing menu is available on INPUT 2 only when a physical sidechain is connected; with a registry link the source instance already provides its own signal.

Each input's channel selection is independent of the objects' domain; you can, for example, analyze the Side of input 1 against the Left of input 2. With a physical sidechain the plug-in's output is the sum of the two routed inputs.

17. Interface / skin / colors

The Relate window is resizable: drag the bottom-right corner to fit it to the session. The size is remembered per instance and is not changed by loading presets.

From the LOGO Menu, the Interface entry opens the colors and skins panel. Changes are global: they apply to all Relate instances and are remembered between sessions.

ID tab

The colors of the two inputs. Click a row to open the three RGB sliders. If the instance has a registry number, the chosen color becomes the shared color of that number: all instances will use it for legend, FFT traces and ghosts. Below the inputs you find the Nview checkbox: enabling it, the local POST FFT is drawn in the instance's color instead of white.

DOM tab

The colors of the four domains (L, R, M, S). The swatch is off by default: click the swatch to enable the domain's coloring, and the rest of the row to adjust its hue.

FLT tab

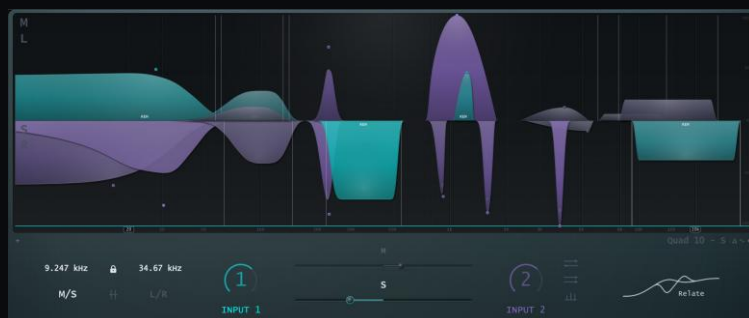
the color of the HP|LP filters and the M/S/L/R tints of the objects.

SKIN

Opens the skins page, divided into two groups:

BAND (the look of the bands)

GUI (the general look, which also decides the palette).



DEFAULT

Returns all colors to their initial values and clears the shared overrides of the registry numbers.

18. Shortcuts

Mouse	
Double click	Add Curve
Drag Apex	Position / Relation
Double click Apex	Type Hz
Drag "●" curve	Slope
Drag object	Move object
Scroll	Curvature Slope / QUAD Relation
Shift + Click	Multiple Selection
Shift + Drag	Move selection
Ctrl + Drag	Select object + Move
Right click	Menu

Keyboard	
DEL	Delete
A	Lock / Unlock QUAD Lock/ Unlock APEX
I	Inertia
Q	Q panel
V	Volume on/off
X	XCLUD on/off
-	Minus on/off
M	Mute on/off
T	Thru on/off
S	Solo on/off
D	Delta on/off
C	Change Object Domain
Ctrl	Object selection view
Ctrl + C	Copy
Ctrl + V	Paste
Ctrl + Z	Undo
Ctrl + Y	Redo

Ctrl+C / Ctrl+V copy the selected object: shape, extensions, curvature and type. Pasting creates the object in the first free band, adopts the domain of the instance you paste into and restarts with relation at zero.
The clipboard is shared between all Relate instances open in the session: copy in one instance, paste in another.

19. Troubleshooting

The plugin does not appear in the DAW

Run a plugin rescan from the DAW settings (or restart the DAW). Check that the VST3 format is enabled and that the standard installation folder is scanned. In Logic Pro the plugin is in AU format and scanning happens at startup.

"check email and code"

The email must be exactly the purchase one and the code must be entered in full, hyphens included. The safest way is to copy and paste it from the confirmation email.

"both seats are in use, free one first"

Both license seats are occupied. Free a seat on the old computer with MOVE LICENSE (or with the receipt on salvatoreversace.com/offline). If that machine is no longer available, write to support@salvatoreversace.com.

"no connection"

The machine cannot reach the server. You can still activate with the offline procedure (section 5).

"that text is not valid for this machine"

The activation text is tied to the machine id. Check that you generated the text with this machine's exact id (use COPY, do not retype it by hand) and paste it in full, without modifying it.

The audio went silent

In trial mode the session's 20 minutes have elapsed: restart the DAW for a new session, or activate the license.

I lost my license code

Write to support@salvatoreversace.com from the purchase email.

20. About

LOGO Menu → About shows the installed version and the credits.

Two commands:

GUIDE

opens this guide as a PDF, installed in Documents\REE\Relate. If the PDF does not open, check that the folder has not been moved or deleted (in that case reinstall Relate to restore it).

MOVE LICENSE

It appears only with an active license and is the way to free this machine when you want to move the license to another computer: it opens the license panel, where you enter your code and confirm (full procedure in Section 06). Without a license the button is not there: the unlock panel is reached from the License entry of the LOGO Menu.

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by Salvatore Versace