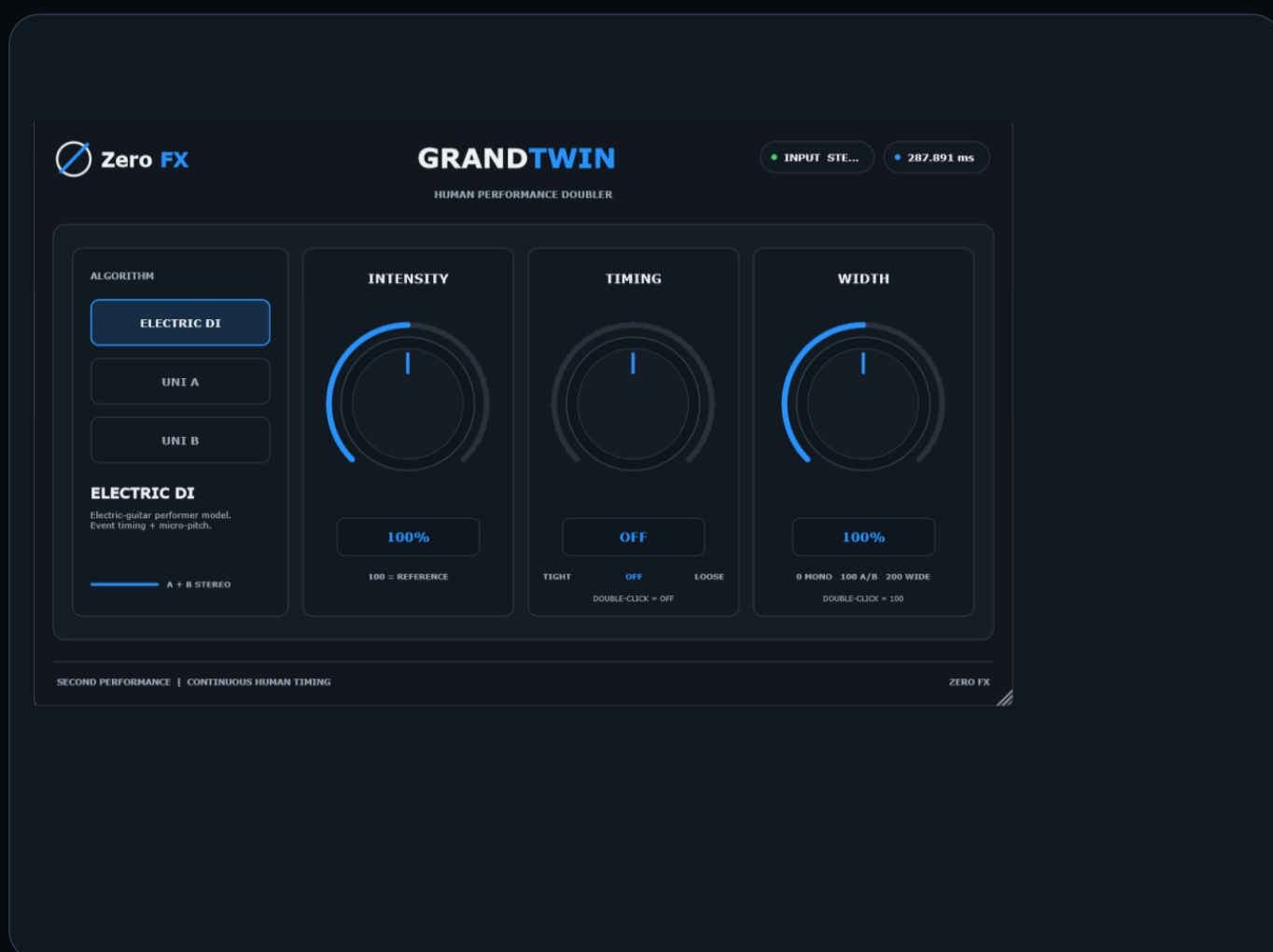


GRANDTWIN

Human Performance Doubler

VERSION 0.3.14 | ENGLISH



ELECTRIC DI | UNI A | UNI B | VARIATIONS | WIDE | ARA

One take. Two performances. A true double-track.

1. Overview

GrandTwin is a Human Performance Doubler. It does not create a delayed or modulated copy. It generates a second performance of the same part with its own timing, transient behaviour and motion, so the result behaves like a real double-track rather than a stereo effect.

CORE IDEA

ONE TAKE > TWO PERFORMANCES > TRUE DOUBLE-TRACK

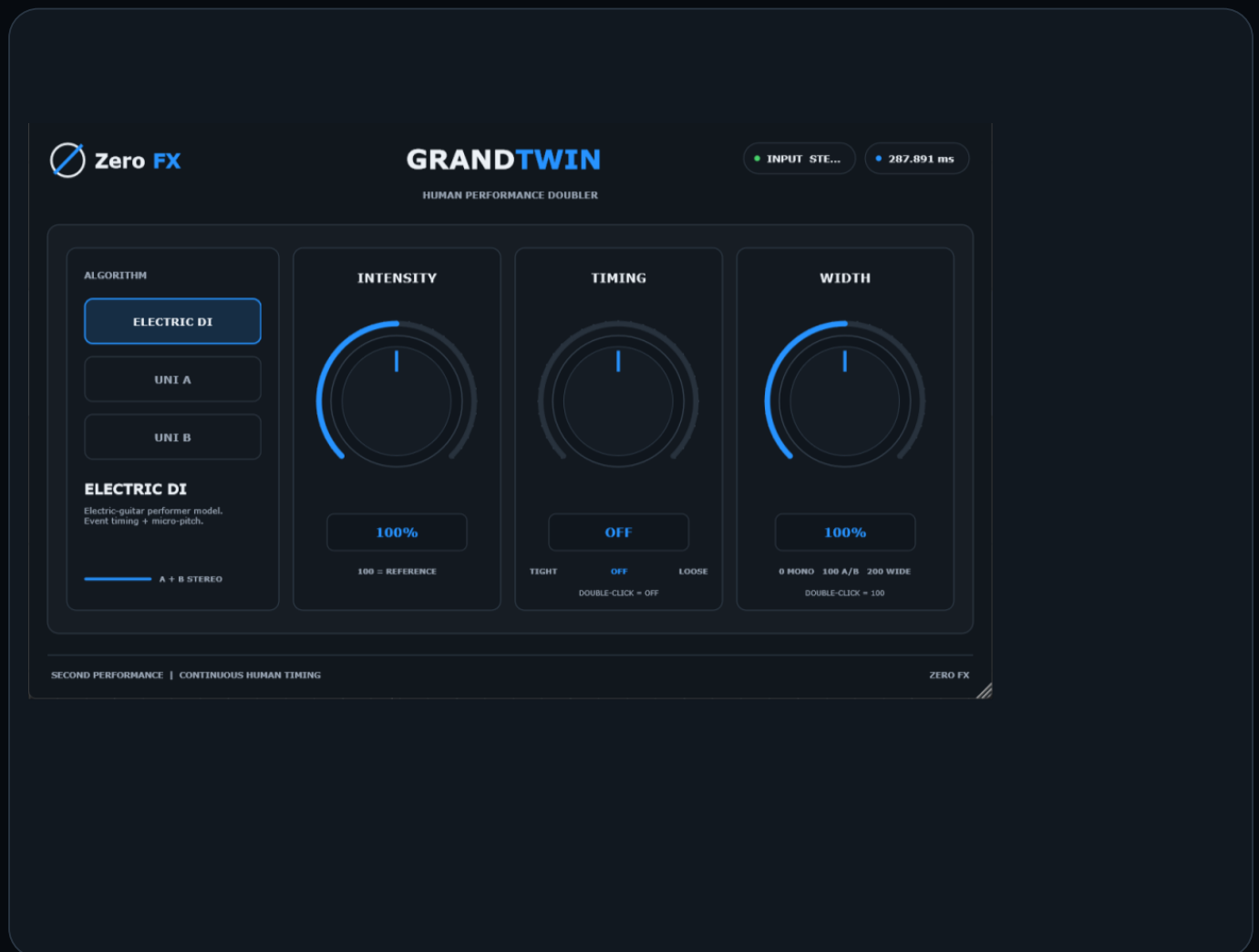
Width is a consequence of two different performances - not the goal of a copied signal trick.

- Designed for guitars, vocals, synths, bass, percussion and other sources.
- Preserves the identity of the source while separating the second performance from it.
- Available as a normal realtime VST3 and as ARA in compatible hosts.

2. Quick Start

- 1** Insert GrandTwin on the source track, or open it as an ARA extension on already recorded audio.
- 2** Choose ELECTRIC DI for electric-guitar DI, or UNI A / UNI B for general material.
- 3** Start with Intensity at 100%, Timing at 0% and Width at 100%.
- 4** Adjust Timing only if you need the second performance tighter or looser against the original.
- 5** Use Width to place the normal two-performance result from centre to a full A/B stereo pair.
- 6** Enable Wide when you want the original in the centre plus two independent generated side performances.

3. Interface



- Algorithm - ELECTRIC DI, UNI A or UNI B performer model.
- Intensity - amount of performance separation and generated behaviour.
- Timing - tight / loose relationship of the generated performance to the source.
- Width - stereo placement of the normal two-performance result, or side-pan spread when Wide is enabled.
- Wide - keeps the latency-matched original in the centre and adds DEFAULT plus the selected VAR as side performances.
- Top-right status - input channel format and current realtime latency, or ARA when the ARA renderer is active.

4. Performer Models

Three performer behaviours for different source material

ELECTRIC DI

Electric-guitar performer model. It is event-aware and adds natural timing behaviour plus micro-pitch differences around a DI performance.

UNI A

Universal performer model with dense continuous motion. A strong default for vocals and material where continuous resynthesis feels natural.

UNI B

Universal alternative with a cleaner continuous resynthesis character. Use it when UNI A feels too dense for the source.

- The modes are different rendering behaviours, not simple EQ or preset variations.

5. Intensity

0 - 100%

Intensity controls how strongly the second performance separates from the source. 100% is the current full-range reference; lower values keep the generated performance closer to the source.

0 - 40%

Subtle support, closer to the original performance.

50 - 80%

Moderate performance separation.

100%

Maximum performer separation available from the current control.

6. Timing

LOOSE < 0 > TIGHT

Timing changes how much the second performance is allowed to move in time relative to the original. It is not a fixed delay control. The relationship remains dynamic.

LOOSE

More timing freedom. Use when you want a more relaxed, obviously doubled performance.

0%

Natural reference behaviour of the selected performer model.

TIGHT

Reduces timing spread while preserving independent performance behaviour.

7. Width

0 - 100% stereo relationship

In normal mode, Width controls the stereo relationship between the source performance and the generated performance. It does not create the doubling itself - the performance engine already does that. When Wide is enabled, the same control becomes the pan spread of the two generated side performances.

0%

Normal: centred / combined. Wide: both generated side performances are centred.

50%

Intermediate stereo placement or side-pan spread.

100%

Normal: full A/B stereo pair. Wide: full left/right side placement.

8. Variations & Wide Mode

DEFAULT and VAR 1-6 are separate generations of the second performance. Each VAR uses its own fixed generation seed, so the same source and control settings produce a different but repeatable performance identity - with its own timing tendency, micro-pitch bias and motion. They are not EQ presets and they do not simply change Intensity or Timing.

VAR 1-6

Choose a different generated performance without changing the source or your main controls. A VAR is stable: reopening the same VAR reproduces that generation identity instead of creating random output every time.

WIDE ON

Wide changes GrandTwin into a three-layer arrangement: the latency-matched original stays in the centre, while DEFAULT and the selected VAR become the two generated side performances.

WIDTH + SIDE LEVEL

In Wide, Width controls only the left/right spread of the side performances. Wide Level controls their amount from 0 to 100%; the default is 50%.

DEFAULT SELECTED

If Wide is enabled while DEFAULT is selected, GrandTwin automatically uses VAR 1 as the second side so the left/right performances are not identical.

- Wet Only removes the centre original and leaves only the two generated sides. Wide is currently a realtime VST3 function; Variations themselves are also available in ARA.

9. Mono / Stereo Workflow

GrandTwin supports normal mono inserts, normal stereo inserts, and the important mono-to-stereo workflow where a mono source enters the plug-in and the two performances leave as a stereo pair.

MONO SOURCE

SOURCE A > GRANDTWIN > PERFORMANCE A / PERFORMANCE B

When the host allows mono-to-stereo output, this is the cleanest one-track double workflow.

- On a stereo source, GrandTwin keeps stereo input/output topology.
- The input-status pill in the UI shows MONO or STEREO.
- Host routing rules still decide whether a mono track can expose stereo output.

10. Latency & PDC

Why realtime GrandTwin has latency

GrandTwin is not a simple delay/modulation doubler. Its performer models use time-domain resynthesis and need future audio to construct a stable second performance. In a normal realtime VST3 stream, future samples do not exist yet, so the plug-in must buffer audio.

REALTIME VST3

The plug-in reports its current algorithmic latency to the DAW. The host can compensate it with normal Plug-in Delay Compensation (PDC). The exact value depends on sample rate and the selected performer model.

UI LATENCY READOUT

The value shown in the top-right corner is the latency currently reported by the realtime processor.

IMPORTANT

PDC keeps tracks aligned during playback and rendering. In realtime VST3 mode, GrandTwin's algorithmic latency is reported to the host and compensated on the DAW timeline.

11. ARA Mode

Why ARA exists in GrandTwin

ARA solves the one thing a realtime insert cannot solve: access to audio before the playhead reaches it. On already recorded material, the host gives GrandTwin direct access to the source region. GrandTwin can pre-roll its internal performer engine from the source itself, absorb the algorithmic look-ahead internally, and then return the processed performance directly on the original timeline.

0 SAMPLES PDC

When the ARA playback renderer is active, GrandTwin reports 0 samples of plug-in latency to the host because the renderer can read the recorded source directly and compensate its own internal lead-in before output.

SAME CORE CONTROLS

ELECTRIC DI / UNI A / UNI B, Variations, Intensity, Timing and Width remain available in ARA mode. Wide is currently realtime-only.

RECORDED MATERIAL

ARA works from recorded source audio. Use it when you want GrandTwin to process an existing region directly on the DAW timeline with 0 samples of reported plug-in PDC.

12. Placement & Use Cases

GrandTwin can be used wherever you would normally record a second take. The best placement depends on whether you want the two performances to share later processing or to be treated independently.

ELECTRIC GUITAR DI

Place GrandTwin before the amp sim so the generated performance drives the amp like a separate player.

ACOUSTIC GUITAR

Start with UNI A or UNI B, moderate Intensity and Timing near 0 for a natural second acoustic performance.

STRINGS

For violin, viola, cello and string parts, use UNI A / UNI B. Keep Intensity moderate for ensemble thickening; raise it for a more independent player.

VOCALS

Use UNI A or UNI B on a clean vocal before heavy spatial or bus processing.

SYNTH / BASS / PERCUSSION

Use the Universal modes and begin conservatively; increase Intensity only when a clearly separate layer is useful.

ARA EDITING

For recorded regions, use ARA when you want the GrandTwin result directly on the timeline with 0 samples of reported plug-in PDC.

13. Demo & Installation

GrandTwin is supplied as a VST3 plug-in for Windows. The demo build uses ZeroFX's offline seven-day demo protection and does not require an online account for normal demo operation.

- Run the GrandTwin MSI installer.
- Rescan VST3 plug-ins in the DAW if GrandTwin does not appear immediately.
- The demo status is shown in the plug-in header, including remaining days.
- ARA availability depends on the host exposing GrandTwin as an ARA extension.
- Use the same installed VST3 for both normal insert and ARA operation.

14. Quick Reference

ELECTRIC DI	Electric-guitar DI performer model
UNI A	Universal dense continuous performer
UNI B	Universal cleaner continuous performer
INTENSITY	0-100%; amount of performance separation
TIMING	LOOSE < 0 > TIGHT; dynamic timing freedom
WIDTH	0-100%; A/B stereo placement, or side-pan spread in Wide
VAR 1-6	Alternative repeatable generations of the second performance
WIDE	Centre original + DEFAULT and selected VAR as side performances
REALTIME VST3	Reports algorithmic latency; DAW compensates with PDC
ARA	Recorded-source workflow; 0 samples reported PDC
INPUT	Mono, stereo and mono-to-stereo where supported by the host