GUIDE CURRENT PRE-RELEASE BUILD

Voltage Drums. *From first hit to full routing.*

This guide covers the capabilities present in the current product wrapper: Voltage 80 and Substance. Voltage 78 is part of the family but is not selectable in the current plug-in.

LOAD, CHOOSE, PLAY
START WITH THE ESSENTIALS

01

ESSENTIALS

Quick start

1. Load Voltage Drums

Insert the instrument in a host using the supplied CLAP, VST3 or Audio Unit build. The format changes the wrapper, not the synthesis engine or saved parameter contract.

2. Choose the instrument

Click the **MODEL** display in the header to switch between **Voltage 80** and **Substance**. Voltage 80 is selected by default.

3. Choose a starting point

Use the arrows beside the **PRESET** display. Voltage 80 has eight complete kits; Substance has 10 presets. An asterisk after a Voltage 80 kit name means a parameter has changed.

4. Play or program

Send MIDI to either model. On Voltage 80, click voice labels to audition sounds or program the sixteen-step grid and press the panel play button.

PANEL GESTURES

Drag a knob vertically. Hold Shift for fine adjustment. Double-click a parameter control to restore its default.

INSTRUMENT	CURRENT STATUS	OUTPUT	FACTORY CONTENT
Voltage 80	Playable in current build	Main + 14 individual stereo buses	8 kits · 24 patterns
Substance	Playable in current build	Stereo main; drum auxiliaries silent	10 presets
Voltage 78	In development; not selectable	Not a current plug-in capability	Not exposed

02

SIXTEEN SYNTHESIZED VOICES

Voltage 80

Machine controls

Master sets the complete main-output level. Individual buses are tapped before Master.

Accent controls how far accented hits rise above normal hits. It changes the circuit drive, not only the final gain.

BD Tune continuously retunes the bass-drum resonator from −12 to +12 semitones without changing the measured default at 0.

MAP / CH16 selects the bass-drum MIDI performance policy described below.

Voltage 80 kits

The preset arrows cycle complete parameter states, so a kit never inherits values from the previously selected kit.

> Reference Circuit · Deep Foundation · Tight Current · Airlock Hats · Copper Claps · Tom Voltage · Sparse Start · Full Current

VOICE	PANEL CONTROLS	MIDI NOTES
BD · Bass drum	Level · Tone · Decay · BD Tune	35, 36
SD · Snare drum	Level · Tone · Snappy · early-unit revision	38, 40
LT · Low tom	Level · Low tuning	41, 45

VOICE	PANEL CONTROLS	MIDI NOTES
MT · Mid tom	Level · Mid tuning	43, 47
HT · High tom	Level · High tuning	48, 50
LC / MC / HC · Congas	Level · shared Low / Mid / High tuning	64 / 63 / 62
RS · Rimshot	Level	37
CP · Handclap	Level	39
CB · Cowbell	Level	56
CY · Cymbal	Level · Tone · Decay	49, 51, 57
OH · Open hat	Level · Decay	46
CH · Closed hat	Level · closes the open-hat envelope	42, 44
MA · Maracas	Level	69, 70
CL · Claves	Level	75

VELOCITY

Velocity drives accent.

Higher note velocity increases the modelled trigger voltage according to each voice's response. It is not a sample-layer switch.

CHOKE

Closed hat ends open hat.

A closed-hat trigger terminates the open-hat envelope. MIDI note-off does not choke drum tails.

RETRIGGER

Tails remain live.

Repeated bass-drum hits re-excite the existing resonator state. Chromatic note-off also leaves the kick tail running.

KICK PERFORMANCE MODES

Drum Map is the default and uses the note table above on every MIDI channel. **Chromatic Ch 16** keeps that map on channels 1–15 and reserves channel 16 for the bass drum. Notes 8–55 are accepted on channel 16; notes outside that measured range are ignored. BD Tune is added to the incoming note offset.

03

ONE EDITABLE PATTERN

Sequencer and Beat Library

01

Enter hits

Click a cell in an instrument row to toggle that hit on or off. The top **ACCENT** row marks a column as accented. Click a voice label to audition it without changing the grid.

02

Set tempo and swing

The panel Tempo and Swing controls belong to the internal sequencer. Swing alternates the two sixteenth-note lengths while preserving the length of each eighth-note pair.

03

Choose the clock

Set the host parameter **Sequencer Clock** to **Internal**, **Host** or **Off**. Internal follows the panel play button. Host follows transport, position, tempo, seek and loop. Off generates no pattern hits while incoming MIDI remains active.

04

Use pattern actions

Copy stores the current grid in the editor clipboard, **Paste** replaces the grid from it, and **Clear** turns every step off.

Open the Beat Library

01 Double-click the Voltage Drums logo on the Voltage 80 panel.

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02 Select one of the twenty-four curated patterns.

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03 Choose

Play to audition or

Load to place it in the editable grid without playing.

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04 Choose

Stop to end playback. Double-click the logo again to close the library.

Import and export MIDI

Import reads `.mid` files from `~/Music/VoltageDrums/imports` and `~/Music/VoltageDrums/exports`.

Note-ons are quantized to the nearest sixteenth and folded into the sixteen-step pattern. Unsupported MIDI data is ignored.

Export writes a format-0 MIDI file at 480 PPQ into `~/Music/VoltageDrums/exports`.

Export preserves mapped notes, step positions and the normal/accent velocity classes.

> **HOST-CLOCK REQUIREMENT**
>
> Host mode stays silent when the host is stopped or does not provide quarter-note position. This prevents the plug-in from inventing a free-running position that could drift.

04

MAIN PLUS FOURTEEN

Multi-output routing

Signal contract

Main always carries the complete stereo mix.

Individual 01–14 are stereo buses carrying the mono circuit tap identically on left and right.

Individual buses are post-voice-level, pre-master and dry.

The fixed bus order does not change when the selected model changes.

Substance uses Main and writes silence to every drum auxiliary.

In your host

Enable the auxiliary outputs exposed by the instrument, route each required bus to a track or channel, then process or print those returns independently. Keep Main when you want the complete mix; mute it if you are rebuilding the drum mix exclusively from individual returns.

Hosts display the stable names **Individual 01** through **Individual 14**; use the assignment table to identify each circuit section.

BUS	VOLTAGE 80 CIRCUIT OUTPUT	BUS	VOLTAGE 80 CIRCUIT OUTPUT
01	Bass drum	**08**	High conga
02	Snare drum	**09**	Rimshot / claves
03	Low tom	**10**	Handclap
04	Mid tom	**11**	Cowbell
05	High tom	**12**	Cymbal
06	Low conga	**13**	Open / closed hats
07	Mid conga	**14**	Maracas

Substance

Oscillators

Two triangle, saw or pulse oscillators provide independent octave, tune, PWM and level controls. Oscillator two adds hard sync and cross-modulation. A square sub and seeded noise complete the source mix.

Filter and drive

The driven transistor-ladder core provides low-pass, band-pass or high-pass output at 12 or 24 dB per octave, with cutoff, resonance, key tracking, envelope amount and accent amount.

Envelope and LFO

ADSR shapes the VCA and filter path. The triangle, saw or square LFO runs from 0.1 to 20 Hz and can target cutoff, PWM or pitch, with optional retrigger.

Performance

Substance uses last-note priority with fallback to earlier held notes, optional constant-rate portamento, ±2-semitone pitch bend, velocity, accent and channel or poly pressure.

First patch workflow

01 Click

MODEL until Substance is shown.

02 Choose a preset with the header arrows.

03 Balance oscillator one, oscillator two, sub and noise.

04 Shape the tone with Cutoff, Resonance, Drive, filter mode and slope.

05 Use Glide with Portamento for connected mono lines; use the transpose controls for octave moves.

Substance presets

> Burgs · Fat Stack · Dirty Growl · Acid Bite · Rubber Sub · Funk Pluck · Warm Pulse · Hooky Lead · Glide Solo · Hollow Lead

Substance produces audio on the stereo Main output. The fourteen Voltage 80 individual buses remain silent while Substance is selected.

06

PROJECT STATE

Save, reload and automate

MODEL

The selected instrument returns.

The host state records the model and its parameter values. Voltage 80 and Substance parameters retain stable host identities.

PATTERN

The complete sequencer returns.

Clock mode, play state, tempo, swing, Beat Library selection and every grid cell are stored with the session.

FORMATS

One state contract.

CLAP, VST3 and Audio Unit wrappers use the same underlying parameter and state implementation.

DETERMINISTIC RENDERING

The same input, transport and saved seed produce the same samples across changing buffer partitions. Free-running noise and metallic sources still move between hits; their evolution is reproducible rather than hidden randomness.

07

WHAT THE CURRENT BUILD DOES NOT CLAIM

Current boundaries

Voltage 78 is not selectable yet.

Its engine is implemented and tested behind a release gate, but it is not part of the current product wrapper described by this guide.

Effects are not onboard yet.

The current Voltage Drums build provides dry synthesis and dry individual circuit buses. Voltage Spaces integration is not part of this build.

The sequencer is intentionally focused.

It provides one editable sixteen-step pattern. Pattern chains, probability, ratchets, polymeters and song arrangement are not current features.

Chromatic performance is kick-only.

Channel 16 retunes the bass drum only, over notes 8–55. It does not add glide or turn the other drum voices into chromatic instruments.

08

FAST CHECKS

Troubleshooting and support

No sound from Voltage 80

Check the host's MIDI input, Voltage 80 Master level, the triggered voice level and the note map. If the sequencer is in Host mode, start the host transport and ensure the host supplies musical position.

No sound on an individual output

Channel 16 does not tune the kick

The Beat Library is not visible

MIDI import shows no files

When reporting a problem, include your operating system, host, plug-in format, sample rate and the shortest sequence that reproduces it.

CURRENT STATUS AND CONTACT

OPEN SUPPORT