DOTMATRIX / LIGHTWEIGHT AUDIO PLUGINS

ADHESIVE

The SL 4000 G bus compressor and channel strip, rebuilt from the schematics, and kept clean.



Adhesive by Dotmatrix

USER GUIDE | VERSION 1.1.1 | AU | VST3 | CLAP | macOS 10.14+ | INTEL + APPLE SILICON

4:1, 30 ms, Auto. The glue, with a full G-series channel strip in front, and none of the aliasing.

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— ABOUT ADHESIVE

Adhesive is a bus compressor from Dotmatrix: the SL 4000 G quad bus compressor, the glue on countless records, rebuilt from the console's own schematics and placed behind a complete G-series channel strip. The compressor keeps the hardware's two-VCA design, in which a second VCA in the side-chain lets the detector hear the compressed signal, with its 2:1, 4:1 and 10:1 ratios, attack from 0.1 to 30 ms, release from 0.1 to 1.2 s and the programme-dependent Auto release, plus make-up, a parallel mix and a side-chain high-pass filter for big low end. A backlit needle meter shows every decibel of gain reduction. In front of it sit the 291 mic amp's gain-compensated saturation, the 292 pink and 242 black EQs with their 18 dB/octave high-pass and 12 dB/octave low-pass filters, the 82E10 channel compressor and expander/gate, and a VCA fader with optional colour. Where most console emulations add aliasing, Adhesive is built to stay clean: magnitude-matched EQ curves, its own linear-phase oversampler (4x by default, up to 8x), anti-aliased saturation and band-limited detectors keep the sound free of digital grit. Twenty-two factory presets start with the classic mix-bus glue settings and cover the master bus, drums, lead synths and bass; you can save your own too. Adhesive runs as an AU, VST3 and CLAP plug-in, universal for Apple Silicon and Intel Macs on macOS 10.14 or later, with a dark or light panel.

— QUICK FACTS

Type	Bus compressor with a complete console channel strip in front of it. An audio effect for the mix bus, groups or any track.
Formats	Audio Unit, VST3 and CLAP effects. Universal: Apple Silicon and Intel, macOS 10.14 Mojave or later on Intel, macOS 11 or later on Apple Silicon.
Sections	G-Series Bus Compressor; Input (291 mic amp); Equaliser + Filters (292 pink or 242 black); Channel Dynamics (compressor and expander/gate); Output (VCA fader).
Clean	Oversampling 4x by default (none, 2x, 4x or 8x), magnitude-matched EQ curves, anti-aliased saturation and band-limited detectors.
Presets	22 factory presets: glue, master, drums, lead & bass. Your own are saved in ~/Music/Adhesive Presets.
Identity	Manufacturer Dotmatrix (Dtmx). AU code: Adhs.

SECTION 01

Getting started

Put Adhesive on a bus, pick a preset, set the threshold last.

— NEW IN VERSION 1.1

1.1.1	The user guide and web images now show the vertical layout and the light panel too. The plug-in itself is unchanged from 1.1.0.
Vertical layout	The VERTICAL key stacks every section in its own column, like an SSL console strip: input and dynamics, the filters over HF, HMF, LMF and LF, the bus compressor, then the output.
Any size	Drag the corner of the window to resize it from 60 to 200 %. The size and the layout are kept with your session and used for new windows.
Tidier header	A smaller preset box, a wider LCD, and gain reduction above 10 dB shown in whole dB so it always fits.
1.0	The G-series bus compressor and channel strip, a dark and a light panel, and 22 factory presets.

— INSTALLING

Copy each plug-in from the download's **Plug-Ins** folder into its folder: **~/Library/Audio/Plug-Ins/Components** (Audio Unit), **~/Library/Audio/Plug-Ins/VST3** and **~/Library/Audio/Plug-Ins/CLAP**. The release is not yet signed through Apple's developer program, so macOS needs one Terminal line before it will load it; **READ ME FIRST.txt** in the download has the exact steps. Logic Pro checks new Audio Units the first time it starts; Adhesive appears under **AU Effects › Dotmatrix**.

— FIRST STEPS

1	**Insert it**	Put Adhesive last, or second to last, on the mix bus or a group (in Logic: Audio FX > Dotmatrix > Adhesive).
2	**Pick a preset**	It opens on **Classic Mix Glue**: 4:1, 30 ms attack, Auto release. Click the preset name for the other 21, or step with the arrows.
3	**Ratio, attack, release first**	Dial in the ratio, attack and release you want before you touch the threshold.
4	**Threshold last**	Play the loudest part of the song and lower THRESHOLD until the needle moves 1 to 3 dB. On a drum bus, 4 to 6 dB.
5	**Match the level**	Raise MAKE-UP until switching COMP IN on and off makes no jump in volume, so you hear the glue, not the extra loudness.

— BASIC HANDLING

Dials	Drag up or down. Double-click to reset. Click the value under a dial to type one.
Keys	Lit keys are on. Ratio, G 292 / E 242 and PRE EQ / POST EQ pick one of a set.
Meters	The needle shows the bus compressor's gain reduction; the LCD shows the same in numbers. The LEDs in Channel Dynamics show the channel compressor and gate.
Help line	Hover over any control and the strip at the bottom of the panel says what it does.
Light	LIGHT switches to the light panel and back. Every Adhesive window remembers your choice.
Layout and size	VERTICAL switches to the console-strip arrangement and back. Drag the window's corner to make it bigger or smaller.

SECTION 02

The panel

The bus compressor across the top, the channel strip below it, in signal order.



Header	LIGHT, VERTICAL, the preset name with its arrows, SAVE, and the LCD with the bus gain reduction.
G-Series Bus Compressor	The needle meter, the ratio keys and THRESHOLD, MAKE-UP, ATTACK, RELEASE, MIX and S/C HPF. COMP IN switches it.
Input	LINE, MIC GAIN and DRIVE, PHASE and the alignment.
Equaliser + Filters	HPF and LPF, then the LF, LMF, HMF and HF bands, low to high, with G 292 / E 242 and EQ IN.
Channel Dynamics	The compressor and the expander/gate, with their meters, PRE EQ / POST EQ and LINK.
Output	The VCA fader, the output trim, the output meter, the oversampling, VCA COLOUR and BYPASS.

SECTION 03

Layouts and looks

The same controls, arranged two ways and lit two ways. VERTICAL and LIGHT switch them; drag the window's corner for any size from 60 to 200 %.

— VERTICAL

Every section in its own column, like an SSL console strip: input, compressor and gate; the filters over HF, HMF, LMF and LF; the bus compressor; the output.



— LIGHT

A light panel with light grey dials and keys, for bright rooms. The LCD, the needle and the LEDs stay lit the same way.


DOTMATRIX
ADHESIVE
BUS COMPRESSOR
PRESET
FACTORY
LIGHT
VERTICAL
Classic Mix Glue
SAVE
BUS GR
4X ALIAS-FREE
2.6
DB
G-SERIES BUS COMPRESSOR
COMP IN
20
14
10
6
4
3
2
0
GAIN REDUCTION DB
4:1 30 MS AUTO
2:1
4:1
10:1
RATIO
4.0 dB
THRESHOLD
2.0 dB
MAKE-UP
30 ms
ATTACK
Auto
RELEASE
100 %
MIX
Off
S/C HPF
INPUT
0.0 dB
LINE
0.0 dB
MIC GAIN
0 %
DRIVE
ALIGNMENT
Ø PHASE
+4 dBu = -18 dBFS
EQUALISER + FILTERS
G 292
E 242
EQ IN
FILTERS
18 / 12 DB
LF
SHELF
LMF
BELL
HMF
BELL
HF
SHELF
OUT
HPF
OUT
LPF
0.0 dB
GAIN
100 Hz
FREQ
0.0 dB
GAIN
600 Hz
FREQ
1.00
Q
0.0 dB
GAIN
3.00 kHz
FREQ
1.00
Q
0.0 dB
GAIN
8.00 kHz
FREQ
TO S/C
SPLIT
BELL
÷3
×3
BELL
CHANNEL DYNAMICS
PRE EQ
POST EQ
LINK
COMPRESSOR
1.0:1
RATIO
0.0 dB
THRESHOLD
400 ms
RELEASE
FAST ATK
AUTO MU
GR DB
EXPANDER / GATE
-20.0 dB
THRESHOLD
0.0 dB
RANGE
300 ms
RELEASE
FAST ATK
GATE
ATT DB
OUTPUT
VCA COLOUR
BYPASS
0.0 dB
VCA FADER
0.0 dB
OUTPUT
L
R
OUTPUT DBFS
PEAK -3.7
OVERSAMPLING
4x
HELP
Hover over any control for a description. Set the bus compressor's THRESHOLD last, until the needle shows 1 to 3 dB.

SECTION 04

G-Series Bus Compressor

The glue: the quad bus compressor from the SL 651G master module, card 82E26.

— HOW IT WORKS

The mix goes through one VCA; a second VCA in the side-chain gets the same control voltage, so the detector hears the **compressed** signal. That feedback design is a big part of why the G bus compressor sounds smooth and glues so well. Adhesive solves the loop exactly on every sample, so even 10:1 with a 0.1 ms attack stays stable and clean.

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Comp In	on / off	on	Switches the bus compressor. The channel strip keeps running either way.
Ratio	2:1, 4:1, 10:1	4:1	4:1 is the classic G-bus sound. 2:1 is gentler and more transparent; 10:1 is for drum smash.
Threshold	-15 to +15 dB	+4 dB	In dB above the alignment level (+4 dBu, -18 dBFS by default). Set it last, by ear and by the needle.
Make-Up	-5 to +15 dB	+2 dB	Gain after compression. Match the level with COMP IN on and off.
Attack	0.1, 0.3, 1, 3, 10, 30 ms	30 ms	30 ms lets kick and snare transients through untouched before the compressor acts; faster settings tame spiky transients.
Release	0.1, 0.3, 0.6, 1.2 s, Auto	Auto	Auto is programme dependent: it recovers fast after short peaks and slowly after sustained loud passages. 0.1 s lets the needle bounce with the beat.
Mix	0 to 100 %	100 %	Parallel compression: lower it to blend the uncompressed bus back in.
S/C HPF	Off, 60, 90, 150 Hz	Off	A high-pass filter in the side-chain only, so sub-bass and 808s don't pump the whole mix. The low end itself is untouched.

MIX BUS GLUE 4:1, 30 ms, Auto, and 1 to 3 dB on the needle in the loudest part. Use 2:1 for a more transparent touch.

DRUM BUS 4:1 or 10:1, 10 or 30 ms, 0.1 s release, and 4 to 6 dB of reduction for snap and weight.

ELECTRONIC MASTER 2:1, 30 ms (or 10 ms for spiky transients), 0.1 s or Auto, S/C HPF at 60 to 90 Hz, and no more than 1 to 2 dB.

SECTION 05

Input

The 82E291 mic/line amplifier: transformerless, an LM394 matched pair and a 5534.

— CONTROLS

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Line	-20 to +20 dB	0 dB	The clean line trim.
Mic Gain	0 to 50 dB	0 dB	Drives the mic amp into its rails. The same gain is taken off afterwards, so it adds the amp's saturation without changing the level.
Drive	0 to 100 %	0 %	The LM394 pair's imbalance: even harmonics, and a little more push into the amp.
Phase	on / off	off	Inverts the polarity.
Alignment	+4 dBu = -14, -18, -20 or -22 dBFS	-18 dBFS	Which digital level counts as +4 dBu. It sets where every threshold and analogue stage sits.

WARMTH MIC GAIN 10 to 20 dB with a little DRIVE adds the console's colour gently. At 0 dB with DRIVE at 0 the amp is mathematically clean.

SECTION 06

Equaliser + Filters

Card 82E292: four bands and two filters, laid out low to high.

— FILTERS

CONTROL	RANGE	DEFAULT	WHAT IT DOES
HPF	Out, 16 to 350 Hz	Out	High-pass, 18 dB per octave. Fully anticlockwise is OUT.
LPF	3 to 22 kHz, Out	Out	Low-pass, 12 dB per octave. Fully clockwise is OUT; the ring shows how much is cut.
To S/C	on / off	off	Moves the filters into the channel dynamics' side-chain: they shape what the compressor and gate hear, not the audio.
Split	on / off	off	With the dynamics before the EQ, puts the filters in front of the dynamics.

— BANDS

G 292 (pink) has proportional Q, so small boosts are broad and big ones tighten, and steeper shelves with a musical over/undershoot at the corner. **E 242** (black) has constant Q and gentler shelves. EQ IN switches the four bands.

CONTROL	RANGE	DEFAULT	WHAT IT DOES
LF	+/-18 dB, 30 to 450 Hz	shelf	Low shelf, or a bell with BELL.
LMF	+/-22 dB, 200 Hz to 2.5 kHz, Q 0.4 to 4	bell	Low-mid bell; the divide-by-3 key moves it down to 67 Hz.
HMF	+/-22 dB, 600 Hz to 7 kHz, Q 0.4 to 4	bell	High-mid bell; the times-3 key moves it up to 21 kHz, for air.
HF	+/-20 dB, 1.5 to 16 kHz	shelf	High shelf, or a bell with BELL.

NO CRAMPING Adhesive draws every EQ curve from the analogue circuit's response, so a 16 kHz shelf or a 21 kHz bell keeps its true shape instead of bunching up near the top of the audio band.

SECTION 07

Channel Dynamics

Card 82E10: a compressor and an expander/gate sharing one VCA.

— COMPRESSOR

An RMS detector with a soft knee. With AUTO MU on, lowering the threshold raises the output so the level stays put.

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Ratio	1:1 to infinity:1	1:1 (off)	At 1:1 the compressor is off.
Threshold	+10 to -20 dB	0 dB	Where compression starts.
Release	0.1 to 4 s	0.4 s	How quickly it lets go.
Fast Atk	on / off	off	A 1 ms attack (about 3 ms per 20 dB). Off: programme dependent, 3 to 30 ms.
Auto MU	on / off	on	Automatic make-up gain.

— EXPANDER / GATE

A gentle 1:2 expander, or a gate. It closes a little lower than it opens, more so at low thresholds, so notes can decay naturally.

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Threshold	-30 to +10 dB	-20 dB	Where it opens.
Range	0 to 40 dB	0 dB (off)	How far it turns down.
Release	0.1 to 4 s	0.3 s	How long it takes to close; with a smaller RANGE it closes sooner.
Fast Atk	on / off	off	0.1 ms. Off: 1.5 ms, which keeps a drum's first click soft.
Gate	on / off	off	A hard gate instead of the expander.
Pre EQ / Post EQ	one of two	Post EQ	Where the channel dynamics sit: after the EQ (the console's normal order) or before it.
Link	on / off	off	Links the channel dynamics across left and right.

SECTION 08

Output

The fader, the meters and how hard Adhesive works to stay clean.

— CONTROLS

CONTROL	RANGE	DEFAULT	WHAT IT DOES
VCA Fader	-inf to +12 dB	0 dB	The channel fader. With VCA COLOUR on, pushing it adds the VCA's soft second harmonic.
Output	-20 to +20 dB	0 dB	A clean output trim.
VCA Colour	on / off	off	Models the dbx 202 / THAT 2002 fader VCA. Off is perfectly clean.
Oversampling	None, 2x, 4x, 8x	4x	4x keeps every stage alias-free at normal settings; 8x for the most extreme ones; None for the least CPU and no latency.
Bypass	on / off	off	Bypasses everything, latency-matched, so A/B comparisons line up.

CPU At 4x a stereo instance with every section working uses about 6 % of one core on Apple Silicon; at None about 1.3 %.

SECTION 09

Presets

Twenty-two factory presets. The Glue set starts with the classic mix-bus settings; Master is for the stereo bus and mastering; Drums for drum groups and parallel smash; Lead & Bass for synths and basslines. Thresholds assume a typical level: set THRESHOLD by ear until the needle shows what the preset is for. SAVE stores your own in ~/Music/Adhesive Presets; they appear in the menu under User presets.

CATEGORY	23 PRESETS
Glue	Classic Mix Glue, Gentle Glue 2:1, Synth & Bass Glue, Acoustic Guitar Glue, Vocal Bus Control, Thick Synth Wall
Master	Master Polish, Master Four on the Floor, Master Heavy Bass, Master Ambient, Master Colour 1 dB, Warmth Without Squashing
Drums	Drum Bus Punch, Snare & Kick Snap, Drum Bus Smash 10:1, NY Parallel Smash, Room Crush, Drum Bus Console
Lead & Bass	Lead Synth Forward, Lead Synth Thick, Lead Synth Pumping, Tight Bass Lock
Yours	Every preset you save, listed under User presets

— RECIPES

01	**Classic mix glue**	**Classic Mix Glue** on the mix bus; THRESHOLD down until the needle dances around 1 to 3 dB in the chorus; MAKE-UP to match.
02	**Punchy drums**	**Drum Bus Punch** or **Snare & Kick Snap**: 4 to 6 dB of reduction, 0.1 s release.
03	**New York smash**	**NY Parallel Smash**: 10:1 at 0.1 ms crushes the transients for 10 dB or more, and MIX at 40 % brings the dry drums back.
04	**Pumping synths**	**Lead Synth Pumping**: 4:1, 3 ms, 0.1 s; lower the threshold until the pads breathe in time with the groove.
05	**Electronic master**	**Master Polish** or **Master Heavy Bass**: 2:1, a side-chain HPF at 90 Hz and barely 1 dB of reduction, before your limiter.

SECTION 10

Reference and troubleshooting

— TECHNICAL NOTES

Signal flow	Input, then the filters and EQ and the channel dynamics (in either order), the VCA fader, the bus compressor and the output trim.
Clean by design	Matched-magnitude EQ curves (no high-frequency cramping), a linear-phase half-band oversampler, antiderivative anti-aliased saturation, band-limited detectors, and a zero-delay solution of the bus compressor's feedback loop.
Latency	None at 1x; about 95 samples at 2x and 105 at 4x or 8x (the oversampling filters). Adhesive reports it to the host, which compensates.
Sessions	A project stores every parameter and the preset. Presets are small XML files.
Compatibility	Universal (Apple Silicon and Intel). VST2 is not available: Steinberg no longer licenses it. CLAP is built with the open-source clap-juce-extensions.

— TROUBLESHOOTING

The needle never moves	COMP IN is off, or THRESHOLD is above your material: lower it. Check the alignment if your mix runs very hot or very quiet.
It sounds louder, not glued	Match the level with MAKE-UP so COMP IN on and off are the same loudness.
The low end pumps	Raise S/C HPF to 60 or 90 Hz, or use a slower release.
It does not appear in Logic	Run the Terminal lines in READ ME FIRST.txt, then restart Logic. In Logic > Settings > Plug-in Manager, select it and click Reset & Rescan Selection.
My presets are missing	They live in ~/Music/Adhesive Presets. Copy the .xml files there on another Mac.



Adhesive by Dotmatrix

Lightweight audio plugins. Documentation for version 1.1.1.