BLEVINS TONE CO.

BOUTIQUE 20

20-WATT BOUTIQUE OVERDRIVE COMBO · TANK SPRING REVERB · PEDALS · STUDIO · AU · VST3

User Manual



WELCOME

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SECTION 1

Introduction

Boutique 20 is a guitar amplifier plug-in in the boutique "overdrive special" style of hand-built amp, in its compact 20-watt combo form: two EL84 power tubes, one 12-inch speaker in a shallow open-back cabinet, a clean preamp with a passive tone stack, a relay-switched overdrive section, a Preamp Boost and a spring reverb. It's the amp for glassy, touch-sensitive cleans that turn into a smooth, singing, vocal lead at the flip of a switch.

Boutique 20 shares Crumble, Hot Toddy and Tweed 59's studio world: strobe tuner, pedalboard, studio strip, opto leveler, SD-2 delay, SV-1 reverb, BOZEMAN and Dual Amp.

What makes it different

Like Tweed 59, Boutique 20 is a component-level model, built from the schematic of Roger's own amp of this kind. Every tube, resistor, capacitor, pot, switch and relay is solved as a circuit, sample by sample, together with the power supply, the output transformer and the speaker's own electrical load. The tone stack reacts the way the real one does when you flip Bright, Mid Boost, Rock / Jazz or Preamp Boost; the overdrive is a second pair of real gain stages switched in by a relay; and the solid-state spring reverb drives physically modelled springs.

Inside Boutique 20

- A clean preamp with Volume, Treble, Middle and Bass, and Bright, Mid Boost and Rock / Jazz switches.
- An overdrive section with Level and Ratio, plus OD Trim on the rear panel.
- Preamp Boost, which takes the tone stack out for more level, mids and drive.
- Overdrive and Preamp Boost switches on the front panel, with a Reverb on / off switch and the Cab Back switch (open or closed).
- Master and Presence on two EL84s with negative feedback; power-tube bias with a live current readout, mains, OD Trim and hum on the rear panel.
- The TANK page: the amp's spring reverb, with four tanks, three decay times, Dwell, Tone and Drip, and a choice of driver: the amp's own op-amp or one of three tubes.
- Three speakers, Type-A 50, Classic 65 and Black Label 12, in the stock open-back cabinet or the same box closed up, or your own impulse response, with five close-mic types and a mic distance control.
- Dual Amp, a pedalboard with a strobe tuner and twenty-one pedals, and the full studio rack.
- Ten factory presets, starting with Texas Clean.

New in version 1.2.0

- **A new, leaner engine.** The amp is the same part-by-part circuit, now solved by a faster engine that matches the full solve to well under a dB after the speaker, at a fraction of the CPU. It runs at 2x oversampling (4x in HQ), which is all it needs; the pedals stay at 4x (8x in HQ). Sessions sound the same.
- **Component-modelled drive pedals.** Lift, Minotaur, Midhump, Vermin and Sizzle are now built from the original pedals' schematics and solved part by part, and two new pedals join them: **Bobby**, a two-stage transparent overdrive, and **Fonkelope**, a transistor-ladder envelope filter. Twenty-one pedals in all. See *Pedal guide*.
- **14-day trial.** The free trial is now 14 days.

New in version 1.1

- **A new look.** Every module is a photographed panel, and the amp is a head sitting in the rack, with real knobs, switches, pilot lamp and cable.
- **The front panel** now has the CAB BACK switch (open or closed back) and a REVERB on / off switch above the REVERB knob. The floor footswitch is gone: OVERDRIVE and PREAMP BOOST are switches on the front panel.
- **TANK** has the same panel as every Blevins amp: an IN / OUT switch, KICK, and four DRIVER buttons, the amp's own OP-AMP or a 6K6, 6V6 or 12AT7 tube.
- **MIDI Learn** on every control.
- **Speaker and mic low end corrected:** less boom, a clearer bottom end.

SECTION 2

Installing Boutique 20

Boutique 20 comes in the Blevins Tone Co. installer, a standard Mac installer. It installs three versions, so it works in almost any recording app, or with no recording app at all:

- **Audio Unit (AU)** for Logic Pro, GarageBand, MainStage and other AU hosts.
- **VST3** for most other recording apps that load VST3 plug-ins.
- **The Boutique 20 app**, a stand-alone Mac app in Applications › Blevins Tone Co.: plug in and play without a recording app.

What you need

- A Mac running macOS 11 or later (Apple silicon or Intel; it runs natively on both).
- A 64-bit AU or VST3 host.

Install

1	Quit your recording app.
2	Double-click **Install Blevins Tone Co.pkg** and follow the steps. Click **Customize** if you only want some of the plug-ins.
3	Open your recording app. If Boutique 20 doesn't appear, ask the app to rescan its plug-ins.
4	**Logic Pro:** on a guitar track's Audio FX slot, choose **Audio Units › Blevins Tone Co. › Boutique 20**. **Other apps:** look in the VST3 list under Blevins Tone Co.

If something goes wrong

Problem	What to do
Boutique 20 doesn't appear in Logic	In Logic, open Settings › Plug-in Manager, find Boutique 20, and click Reset & Rescan Selection.
Boutique 20 doesn't appear in another app	Make sure the app is scanning /Library/Audio/Plug-Ins/VST3, then rescan its plug-ins.

UNINSTALLING

Open Applications › Blevins Tone Co. › Blevins Tone Co. Uninstaller and choose what to remove. Keep your licences if you might reinstall. Presets you've saved are always kept.

SECTION 3

Trial and activation

Boutique 20 runs as a full, free 14-day trial on each computer: every feature works. When the trial ends, it goes quiet until you activate it with your licence from your Blevins Tone Co. purchase.

Start a trial or activate

- Open Boutique 20 in your recording app (or open the Boutique 20 app). The first time, the activation panel covers the window. Click **Activate online**.
- Your browser opens your Blevins Tone Co. account. Sign in, or create an account with your email. If you have bought Boutique 20, your licence activates; if not, your 14-day trial starts. Go back to your recording app: Boutique 20 unlocks within a few seconds. There is no serial number to type.
- During the trial, a small Trial pill in the bottom-right corner shows the days left. Click Unlock on it to open the activation panel at any time.

Your licence and your computers

- Each licence works on up to 3 computers. Once activated, Boutique 20 keeps working without an internet connection.
- To move it to another computer, deactivate it from the licence panel on the old one, or sign in to your account and remove the old computer; then activate on the new one.
- Bought a bundle? Each plug-in in it has its own licence in your account; activate each one the same way.
- Studio computer never online? Click **No internet? Activate offline** in the activation panel and follow the steps.

THE BOUTIQUE 20 APP

The stand-alone Boutique 20 app comes with Boutique 20: the same licence covers it. If its activation panel appears, activate it the same way as the plug-in.

SECTION 4

Quick start

1	**Plug in.** Connect your guitar to your interface's instrument (Hi-Z) input, create an audio track, turn on input monitoring and add Boutique 20 to the first effect slot.
2	**Check your level.** Strum hard and watch the LEVEL meter beside INPUT on the studio strip: aim for the green lamps. Set your interface's gain if needed and leave INPUT at 0 dB.
3	**Tune up.** Press PEDALS and click the Strobe tuner's footswitch. Boutique 20 is silent while you tune.
4	**Start from Texas Clean.** Boutique 20 opens on Texas Clean, the amp's standard sound: mostly clean, a hair of breakup when you strum hard, and a touch of spring reverb.
5	**Set the clean.** Volume sets how hard the preamp works (and how hard it drives the overdrive). Shape it with Treble, Middle and Bass, and try Bright, Mid Boost and Rock / Jazz.
6	**Step on it.** Flip the OVERDRIVE switch up for the lead sound. Level sets the drive, Ratio balances the overdrive's level against the clean. The PREAMP BOOST switch adds level, mids and drive to either.
7	**Set the power amp.** Master sets how loud and how hard the EL84s work: they start to break up past about halfway. Presence adds bite on top.
8	**Place it.** Choose a speaker, set CAB BACK to open or closed, pick a mic type, set MIC between the dust cap and the edge and DIST for how close it sits, and add a little Room Mix.

PLAYING LIVE

Set your recording app's buffer to 64 or 128 samples and leave the quality switch on NORMAL or HQ BOUNCE while you play.

SECTION 5

The window



The studio strip at the top, the module buttons, and the amp.

The studio strip is always at the top. Under it is a row of lighted push buttons: PEDALS · TANK · AMP · COMP · DELAY · VERB · BOZEMAN. Press one and that module appears below; the window resizes to fit it. The preset box sits at the right end of the row. Boutique 20 remembers which module you had open, which side of the amp you were looking at, and the window size, with your project.

Bypass switches

- **AMP BYPASS** (at the top of each amp) skips the whole amp, including its reverb. You hear the pedalboard going straight into the studio strip, so it's much quieter: that's your guitar's own level.
- **BYPASS** on the studio strip takes out the input trim, gate, speaker, room and output.
- The spring reverb has an IN / OUT toggle on the TANK page (the same as the REVERB switch on the front panel). The opto leveler has an IN / OUT switch, the SD-2, SV-1 and BOZEMAN each have a toggle switch on their panel, and the Program EQ has IN.

Resizing

Drag the bottom-right corner to make Boutique 20 any size you like. It keeps its proportions.

SECTION 6

The Boutique 20 app

Boutique 20 also comes as a stand-alone Mac app, so you can plug in and play without opening a recording app. It's the same amp, pedals and studio rack as the plug-in, in its own window, in Applications › Blevins Tone Co.

1	**Turn down first.** Turn your speakers down or put on headphones before you open the app.
2	**Plug in** your guitar to your interface's instrument (Hi-Z) input.
3	**Open Boutique 20.** The first time, macOS asks whether Boutique 20 may use the microphone. Click OK: that's how macOS describes your interface's input.
4	**Plug in and strum.** The first time, a screen asks you to strum: the app finds the input your guitar is plugged into. The GUITAR IN menu at the top of the studio strip shows and changes it later.
5	**Choose a small buffer** (64 or 128 samples) under Options › Audio/MIDI Settings…. If a bar says *Audio input is muted to avoid feedback loop*, click Settings… and untick Mute audio input.
6	**Play.** The app remembers your audio settings and your last sound when you quit.

Tempo-synced delays follow 120 BPM in the app. To record what you play, use the plug-in in your recording app.

SECTION 7

Signal flow

Stage	What happens
Guitar, Input, Gate	The studio strip's input trim and noise gate.
Tuner and pedals	The strobe tuner (mutes when on), then six pedal slots in any order.
Preamp	A 12AX7 input stage, the passive tone stack with its Mid Boost, Rock / Jazz and Preamp Boost switches, Volume with its Bright cap, and a second 12AX7 stage.
Overdrive	A relay switches the overdrive in: two more 12AX7 gain stages with Level, OD Trim and Ratio. With it off, the preamp goes straight to Master.
Master and effects loop	Master, then a JFET buffer that drives the internal effects loop.
Spring reverb (TANK)	Inside the amp, where it is on the real one: an op-amp (or the tube driver you choose on the TANK page) drives the tank, a second op-amp recovers the springs, and REVERB mixes them back in at the loop's return.
Phase inverter and power amp	A 12AX7 long-tail phase inverter and two EL84s on fixed bias, with negative feedback and Presence.
Output transformer and speaker	The transformer (4, 8 or 16 tap) drives the chosen speaker's electrical load; what you hear is the speaker cone.
Speaker cabinet and mic	The open- or closed-back 1x12, the close mic (type, position and distance), or your own IR.
Pan, level, room and studio rack	Pan and Dual Amp level, room (with its own low cut), opto leveler, SD-2, SV-1, BOZEMAN, Program EQ and Output.

The pedals run at 4x oversampling (8x in HQ) and the amp at 2x (4x in HQ). Everything after the speaker shapes what you hear but never changes how the amp responds to your playing.

SECTION 8

Quality: Normal, HQ and HQ Bounce

The three QUALITY buttons at the top right of the studio strip choose how much Boutique 20 oversamples the amp and pedals. Oversampling runs the distortion at a higher internal rate, so the harmonics it creates don't fold back as harsh, unrelated tones (aliasing).

Setting	What it does	When to use it
NORMAL	Pedals 4x, amp 2x oversampling. Lowest CPU and latency.	Playing live and tracking
HQ	Pedals 8x, amp 4x: less aliasing on hard-driven high notes, about twice the CPU for the amp and pedals.	Mixing a part with lots of high, saturated lead lines
HQ BOUNCE	NORMAL while you play; HQ automatically when you bounce or export.	Best of both

CPU

Boutique 20 solves the whole circuit for every sample, so it uses more processing than Crumble or Hot Toddy. Dual Amp and HQ each roughly double it. If you hear crackles, raise your buffer one step or use HQ BOUNCE. The reverb rests when the springs have died away and nothing is playing.

SECTION 9

The pedalboard



The pedalboard: the strobe tuner and six pedal slots.

Six pedal slots sit between the tuner and the amp, wired left to right. Any pedal can go in any slot. Click a pedal's footswitch to switch it on; its LED lights. Drag a knob to turn it, and double-click to reset it.

The strobe tuner

Always first on the board. Click its footswitch to tune; the output is muted while it's on. The strobe stripes drift left when you're flat, right when you're sharp, and stand still (and turn green) when you're in tune. CAL sets the reference from A = 430 to 450 Hz.

Choosing and moving pedals

Click the menu under a slot and pick a pedal; the menu is grouped by type with a short description of each. Drag a pedal by its body to move it; it keeps its settings. Echoes and Spool have a SYNC button that locks their time to your project's tempo.

SECTION 10

Pedal guide

Knob values are 0–10 like the real pedals.

Pedal	Style	Controls	What it's for
Lift	Clean boost in the style of a tape-echo preamp, component-modelled	Boost, STOCK / UNITY / VINTAGE	Pushes the amp harder and adds a little sparkle. STOCK is the factory setting; UNITY turns it down to unity at minimum; VINTAGE also rolls off the extra treble.
Halo	Transparent overdrive	Gain, Treble, Output	Fat clean boost to smooth, open overdrive.
Bobby	Two-stage transparent overdrive, component-modelled	Volume, Gain, Bass, Treble, ASYM / SYM / COMP	Open, amp-like drive that keeps your guitar's voice. Bass and Treble cut as you turn them up, as on the original. New.
Minotaur	Germanium-diode overdrive in the style of the gold boutique classic, component-modelled	Gain, Treble, Output	Warm, mid-forward drive with some clean always underneath.
Midhump	Mid-hump overdrive in the style of the green '80s classic, component-modelled	Drive, Tone, Level	In front of a driven amp: Drive low, Level high.
Bayou	Blues overdrive in the style of the blue amp-in-a-box pedals	Level, Tone, Gain	Amp-like breakup that cleans up with your guitar's volume.
Vermin	Op-amp distortion in the style of the black '80s classic, component-modelled	Dist, Filter, Volume	Gritty to thick, compressed distortion.
Sizzle	Two-transistor fuzz in the style of the round '60s fuzz, component-modelled	Fuzz, Volume, SILICON	Splattery to thick, saturated sustain. Germanium transistors, or silicon with SILICON on.
Squeeze	Optical compressor	Squeeze, Gain, Mix, LIMIT	Even out picking, add sustain.
Cluck	Squash compressor	Output, Sens	Snappy attack, then the squish and long sustain.
Bloom	Auto volume swell	Sens, Attack, Mix	Fades each note in like a volume pedal.
Sweep	Envelope filter	Cutoff, Reso, Env, Drive, 4-POLE	Quack, auto-wah and synth tones.
Fonkelope	Transistor-ladder lowpass envelope filter in the style of the classic synth-maker's pedal, component-modelled	Drive, Cutoff, Reso, Amount, Mix, 4-POLE, FAST / SMOOTH	Deep, rubbery envelope filtering. Set Drive so your playing lights the LEVEL light yellow. New.
Contour	10-band graphic EQ	Ten faders (±12 dB), Level	Shape the guitar before the amp.

Pedal	Style	Controls	What it's for
Shimmy	Analog-style chorus	Rate, Depth, Mix	Shimmering cleans, wide leads.
Swirl	Four-stage phaser	Speed, SCRIPT	The swirling swoosh on cleans and funk.
Throb	Photocell vibe	Speed, Intens, Volume, VIBRATO	The lopsided, throbbing pulse.
Wobble	Tremolo	Rate, Depth, Shape	Vintage pulse to stuttering chop.
Oktave	Polyphonic octave down	Direct, Oct 1, Oct 2	One and two octaves below, tracking chords.
Echoes	Delay with darkening repeats	Time, Repeats, Mix, Filter, SYNC	Slapback, rhythmic delays, ambient trails.
Spool	Tape echo	Time, Repeats, Mix, Wow, SYNC	Warm, smeared repeats; self-oscillates near the top.

COMPONENT-MODELLED PEDALS

Lift, Bobby, Minotaur, Midhump, Vermin, Sizzle and Fonkelope are built from the original pedals' schematics and parts lists and solved part by part: every resistor, capacitor, diode, transistor and op-amp. They clean up with your guitar's volume and react to your pick the way the real ones do. Sessions that used the earlier Lift, Minotaur, Midhump, Vermin or Sizzle open with these in their place; give them a listen, as they sound closer to the originals than before.

SECTION 11

The TANK page: the spring reverb



Press TANK: the amp's spring reverb.

Unlike the tube reverbs in our other amps, this amp's reverb is solid state, as on the real one: an op-amp drives the tank's input coil with current, clipping at its own supply rails if you push it, and a second op-amp recovers the springs and cuts their boom before REVERB mixes them back in. The springs themselves are modelled as physical objects, so they ring, splash and drip like real ones. The stock tank is a short two-spring tank with medium decay.

Control	What it does
Dwell	How hard the springs are driven. 5 is the amp as built; lower is a softer halo, higher splashier, and near the top the driver runs out of headroom.
Mix	How much reverb: the same control as the amp's own REVERB knob. 0 is off.
Tone	Brightness of the reverb (not the dry signal). 5 is the amp as built.
Drip	How strongly each pick attack sets the springs chirping. 3.5 is the tank as it is; lower smooths attacks into the wash, higher makes every attack drip, and from about 7 up it goes beyond what a real tank does.
Spring type	LONG 2 (the classic 16" tank, two springs: the longest, splashiest decay), LONG 3 (denser and smoother, less boingy), SHORT 2 (a 9" tank: tighter, quicker echoes) and SHORT 3 (compact and dense).

Control	What it does
Decay	SHORT (about 1.6 s), MEDIUM (about 2.4 s) or LONG (about 3.4 s).
Driver	OP-AMP: a solid-state driver pushing current through the tank's coil. Clean and even, then hard-edged when Dwell runs it out of headroom. **The amp as built.** 6K6: the original outboard units' tube. Stays cleaner and smoother as you turn up Dwell. 6V6: as in the later reissues, a little hotter and more aggressive. 12AT7: both halves in parallel, as in many amps' built-in reverbs. Less power into the springs; it breaks up sooner and softer.
KICK	Bumps the tank, as if you'd knocked the amp: the springs crash.
IN / OUT	The toggle at the left; the amber lamp lights while the reverb is in. OUT takes the reverb out without moving your REVERB setting. It's the same setting as the REVERB switch on the amp's front panel.

SAME PANEL ON EVERY AMP

Every Blevins amp's TANK page is the same unit, with the same four DRIVER buttons. Each amp starts on its own driver. Switching drivers fades the reverb out and back in, and every driver is level-matched to the amp's own at moderate Dwell, so you can compare them fairly.

SECTION 12

The amp face



Texas Clean.

Control	What it does
Input	The amp's single input jack; the cable hangs from it.
Preamp Boost	Takes the tone stack out of the circuit: more level, mids and drive (see below).
Bright	Sparkle across the Volume control, strongest with the volume low. No effect with Preamp Boost on.
Mid Boost	A fuller, louder low-mid that pushes the overdrive harder; strongest with Treble up, and most obvious on Jazz. Still works with Preamp Boost on.
Rock / Jazz	Rock (down): fatter mids and a deeper, spongier low end. Jazz (up): a tighter bottom and a more hi-fi midrange. No effect with Preamp Boost on.
Volume	The preamp's level. It also sets how hard the overdrive is driven.
Treble, Middle, Bass	The passive tone stack. Like all passive stacks they interact: Middle, especially, changes how much the others do.
Overdrive	Up switches the overdrive section in by its relay, for the lead sound.
Level (Overdrive)	How hard the overdrive's gain stages are driven.
Ratio (Overdrive)	The overdrive's output level: balance the lead against the clean.

Control	What it does
Reverb on / off, Reverb	The switch takes the spring reverb in or out (the same as IN / OUT on the TANK page); the knob sets how much. 0 is off.
Cab Back	OPEN (up) is the stock shallow open-back cabinet; CLOSED is the same box closed up: fuller, tighter lows and a box resonance.
Master	The power amp's level. The EL84s start to break up past about halfway.
Presence	Bite and air on top, set in the power amp's feedback loop.
Standby / Operate	Mutes the amp; the blue pilot light goes dark.
Rear Panel / Amp Bypass / Dual Amp	The buttons on top of the head turn the amp around, bypass it, or add a second amp.

Preamp Boost

Preamp Boost lifts the tone stack out of the signal path, so it stops cutting level: you get more volume, more mids and more drive, with clean or overdrive. As on the real amp, Treble, Middle, Bass, Bright and Rock / Jazz do nothing while it's on (they're dimmed); Mid Boost still works.

SECTION 13

The rear panel



Click REAR PANEL to turn the amp around.

Control	What it does
Mains	The wall voltage, 100 to 128 V. Lower mains gives earlier breakup and more sag.
OD Trim	The overdrive's gain range. Set it once for your guitar, then use Level and Ratio on the front.
Bias	The power tubes' bias voltage. About 27 mA per tube is stock; 22–30 mA is safe. Hotter is fuller and breaks up sooner; colder is cleaner and grainier when pushed.
Hum	The power supply's hum. 0 is no hum at all; 3 is stock; toward 10 sounds like tired filter caps.
BIAS – mA PER TUBE	A live readout of each power tube's current (plate + screen).

Through the back you can see the tubes: three 12AX7s (preamp and overdrive, overdrive, phase inverter) and two EL84s. They glow while the amp is on.

SECTION 14

Dual Amp



Two amps, each with its own reverb, speaker, mic, pan and level.

Press DUAL AMP to add a second, completely independent Boutique 20, stacked under the first and labelled AMP 2, with its own reverb (on the TANK page, under the first). The pedalboard feeds both.

- On the studio strip, the speaker selector splits into one per amp, each with its own MIC, DIST, mic type, PAN and LEVEL.
- LEVEL (-24 to +6 dB) balances the two amps without changing how either one breaks up.
- Every knob, switch, rear-panel control, standby and bypass on Amp 2 is independent of Amp 1.
- When both amps are on, each is turned down 3 dB, so switching the second amp in doesn't jump in level.
- Dual Amp uses about twice the processing of one amp.

SECTION 15

The studio strip



The studio strip.

Control	Range	What it does
QUALITY	Normal, HQ, HQ Bounce	How much the amp and pedals are oversampled.
LEVEL meter		How hard your guitar is hitting the pedals and amp. Play your hardest and aim for the green lamps; the top lamp warns when your interface itself is clipping.
Input	-12 to +12 dB	Trims your guitar level before the pedals and amp.
Gate	Off, -90 to -30 dB	Noise gate before the amp.
Speaker	3 speakers + User IR	Chooses the speaker. Turn the selector or click a name.
Mic	Cap to edge	Where the close mic points: brightest at the dust cap, darker and smoother toward the edge.
Dist	0.5" to 24"	How far the mic sits from the grille (see the next section).
Mic type	DYN 1, DYN 2, DYN 3, RIBBON, LD COND	The menu under MIC and DIST: which microphone is on the speaker.
Pan	Left to right	Where each amp sits in the stereo field.
Level	-24 to +6 dB	Dual Amp only: each amp's level.
Room Size / Room Mix	0–100%	A room around the amp, from a small booth to a big live room.
Room Cut	Off, 21–600 Hz	A low cut on the room sound only; the close-miked amp isn't touched. Clears boom and mud out of the room.
Output	-24 to +12 dB	Final level into your recording app.
BYPASS	on / off	Takes the input trim, gate, speaker, room and output out of the chain.
EQ	open / close	Opens the Program EQ.

SECTION 16

Speakers, mics and your own impulse responses

Each speaker is a physical model. Its electrical load (its resonance, voice-coil inductance, and the way it heats up and compresses when driven hard) is part of the amp's circuit, so the power amp reacts differently to each one. Past its clean travel, the cone's motor loses grip, so big low notes compress at high volume as on a real speaker. Its cone break-up, voiced from the makers' published response curves, and the cabinet come after it.

Speaker	Character	Sound
Type-A 50	A 50-watt ceramic 12, the speaker in Roger's amp	Laid-back mids, full and rounded lows, a smooth, open top.
Classic 65	A 65-watt British-style ceramic 12	Tight lows, a forward upper-mid crunch, a crisp top.
Black Label 12	A heavy-magnet 300-watt American-style 12	Very clean and even, deep, tight lows and a hi-fi top; hardly breaks up.
User IR	Your own impulse response	The amp sends its true speaker-terminal signal to your IR.

Open back or closed back

The stock cabinet is a shallow open-back 1x12: the sound from the back of the speaker partly cancels the lows, and some of it reflects off the wall behind the amp. Flip CAB BACK on the front panel to CLOSED for the same box closed up: fuller, tighter lows and a low-mid thump from the box itself.

The close mic

Mic type	In the style of	Sound
DYN 1	The all-round close dynamic	The amp's own close-mic sound: balanced and direct.
DYN 2	The classic small-grille stage dynamic	Lean lows, a forward presence peak around 5–6 kHz, falling off past 9 kHz.
DYN 3	The large-diaphragm broadcast dynamic	Fuller low mids, a broad presence lift around 4–5 kHz, a smoother top that reaches higher.
RIBBON	A figure-8 studio ribbon	Big close-up bass, warm mids, a soft top that rolls off gently from about 5 kHz.
LD COND	The large-diaphragm studio condenser	Flat and open, a gentle lift around 8–10 kHz, the most top end.

Each type is level-matched at 1 kHz, so switching mics changes the tone, not the volume.

Mic distance (DIST)

At 1 inch (the default) the mic is where Boutique 20 was voiced. Pull it back and you lose the close-up bass a directional mic picks up near the cone: at 6 inches the lows around 80–100 Hz drop about 3 dB, at 12 inches about 8–9 dB. With the open back, the sound from the back of the speaker also comes round the box and thins the lows a little more as you move away; with the closed back it doesn't. The ribbon, a figure-8, changes the most. The level is matched at 1 kHz, as an engineer would trim the preamp after moving the mic.

Loading an impulse response

1	Turn the speaker selector to USER IR. A LOAD IR… button appears.
2	Click it and choose a WAV or AIFF cabinet impulse response (up to 1 second long).
3	The file name appears on the panel. Click the clear button next to it to unload the file.

- Impulse responses are level-matched and add no delay, and are saved inside your project and presets.
- With no file loaded, USER IR passes the raw amp signal with no cabinet, for your own loader after Boutique 20.
- MIC, DIST and the mic type are hidden with USER IR: your impulse response has its own mic.

SECTION 17

The Program EQ



Click EQ on the studio strip to open the Program EQ.

A broad, musical equaliser in the style of the classic passive tube program equalisers, near the very end of the chain. Click EQ on the studio strip to open it and IN to switch it on.

Section	Control	Range (default)	What it does
Low	Low Freq	20, 30, 60, 100 Hz (30)	The low frequency for both Boost and Atten.
	Boost	0–10 (0)	A broad shelf boost of the lows, up to about 13.5 dB.
	Atten	0–10 (0)	A cut just above the boost, up to about 17.5 dB, as on the original hardware.
High boost	High Freq	3–16 kHz (10 kHz)	Centre of the high boost.
	Boost / Bandwidth	0–10 (0 / 5)	How much the highs are lifted, and how broadly.
High atten	Atten Sel / Atten	5, 10, 20 kHz / 0–10	Frequency and depth of the high shelf cut.

THE CLASSIC LOW-END TRICK

Turn up Boost and Atten together at 60 or 100 Hz: the boost lifts the deep lows while the cut just above clears out mud.

SECTION 18

The opto leveler



Press COMP: the opto leveler.

A leveling amplifier in the style of the vintage optical tube compressors. Press COMP to see it. It's out by default.

Control	What it does
IN / OUT	The toggle at the left switches the leveler in.
METER	The toggle beside the meter: GR shows gain reduction; OUT shows output level.
Peak Reduction	How much compression.
Gain	Make-up gain through the tube output stage (-12 to +24 dB).
LIMIT / COMP	The toggle beside Gain. Comp is gentle, roughly 3:1. Limit is firmer, about 12:1.
HF Emphasis	Makes the leveler react more to treble, taming bright pick attack.
Mix	Blends compressed and uncompressed sound (parallel compression).

About 10 ms attack, a quick first release, then a slow, program-dependent tail: the more it works, the longer it takes to let go.

SECTION 19

The SD-2 studio delay



Press DELAY: the SD-2.

A stereo delay in a rack unit, after the opto leveler. Press DELAY to see it.

Control	What it does
IN / OUT	The toggle at the left switches the SD-2 in.
Style	Digital, Tape, Analog or Diffuse.
Routing	Stereo, Ping-Pong or Dual.
Time L / Time R	1 ms to 2 s each, or note values with SYNC.
Feedback	Number of repeats, up to near-infinite.
Low Cut / High Cut	Filters inside the feedback loop.
Mod Rate / Mod Depth	Gentle pitch movement on the repeats.
Drive	Saturates the repeats.
Duck	Turns the repeats down while you play.
Width / Mix	Stereo width, and dry/delay blend.

SECTION 20

The SV-1 studio reverb



Press VERB: the SV-1.

A stereo studio reverb for big, lush spaces, after the SD-2. Press VERB to see it. It starts switched out.

Control	What it does
Pre-Delay, Size, Decay	Gap before the reverb, size of the space (0.2–20 s decay).
Diffusion, Damping	Density, and how fast the highs die away.
Low Cut, High Cut	Keep the reverb out of the low end; warm the top.
Mod Rate, Mod Depth	Gentle movement inside the tail.
Width, Mix	Stereo width; dry/reverb balance.
IN / OUT	The toggle at the left switches the SV-1 in.
Algorithm	Hall, Plate, Chamber or Shimmer (an octave-up halo, its tail capped at about 7 s).

SECTION 21

BOZEMAN dual reverb



Engine A on top, engine B below.

Two complete reverb engines, A and B, each able to run any of twelve types: Room, Hall, Plate, Spring, Swell, Bloom, Cloud, Chorale, Shimmer, Magneto, Nonlinear and Reflections. It sits after the SV-1 and before the Program EQ, and it's off when you first open Boutique 20.

Control	What it does
ON	Switches BOZEMAN in. Switch it off and the tail rings out naturally.
ROUTING	Parallel: A and B each hear the guitar, and you hear both. Series: A feeds B, and you hear B only, so the width of the sound is B's: Reflections, Spring and Magneto are narrower than the others.
HOLD	Infinite keeps the tail going and building; Freeze holds it and stops listening.
TEMPO SYNC	Pre-Delay (and Magneto's echo time) follows your project's tempo.
MIX / B ON	Dry/BOZEMAN balance; switches engine B on.
Each engine	Decay, Pre-Delay, Tone, Mod, two type knobs, Level and Pan.

SECTION 22

MIDI Learn

Any control on Boutique 20 can follow a knob, fader, switch or expression pedal on a MIDI controller: amp knobs, pedal footswitches, the tuner, studio strip, rack units, BOZEMAN and the rear panel.

Map a control

1	Connect your MIDI controller (USB or Bluetooth). In the Boutique 20 app, tick it under Options › Audio/MIDI Settings.
2	Right-click the control (or Control-click) and choose **MIDI Learn**. An amber frame pulses around it and a LEARNING bar appears at the top of the window.
3	Move the knob, switch or pedal on your controller. Done. Click the LEARNING bar to stop without mapping anything.

Buttons that pick one of several choices, like DECAY on the TANK page or the SD-2's styles, step through their choices as you move the controller.

The right-click menu

Item	What it does
MIDI Learn / MIDI Learn again	Starts learning, or replaces the controller with a new one.
Moved by CC…	Shows which controller and MIDI channel move it.
Reverse it	Controller up turns the control down.
Pedal range	Shows the part of the control's travel the controller sweeps. Turn the control to where the pedal's heel should land and choose **Set pedal low point here**; turn it to the toe position and choose **Set pedal high point here**. **Reset range** returns to the full sweep.
Forget MIDI	Removes the mapping (and its range).
Forget all MIDI mappings	Clears every mapping on this instance.
MIDI controller input	In a recording app: which MIDI controller Boutique 20 listens to, or all of them.

- Each instance of Boutique 20 keeps its own mappings in your project, so two amps can answer two controllers. A new instance starts with the mappings you made last.
- Presets never carry or change your mappings.
- In a recording app, Boutique 20 listens to your controller directly, so it works on an ordinary audio track. Your recording app's own controller mapping (in Logic, Learn Assignment, Command-L) works too; use one or the other for each control, not both.

FOOTSWITCHES THAT TOGGLE

Set a footswitch to send a controller value of 127 for on and 0 for off, and map it to a pedal's footswitch. If your switch only ever sends 127, each press flips the pedal.

SECTION 23

Factory presets

Open the preset menu at the right of the module buttons. Presets you save there are shared with Logic's own preset menu. Every preset is built on Texas Clean, so they share its speaker, mic and studio strip.

Preset	The sound
Texas Clean (default)	Roger's standard sound: mostly clean with a hair of breakup when you strum hard, Master well up, deep Bass and a touch of spring.
Texas Lead	Texas Clean with the overdrive stepped on: a bluesy, vocal lead.
Sparkle Clean (Headroom)	Volume and Master down, Treble up: more headroom and a cleaner, brighter clean.
Glassy Jazz Clean	Bright and Jazz on, Bass trimmed and more reverb: a glassy, hi-fi clean.
Edge of Breakup (PAB)	Preamp Boost on, overdrive off: the clean channel pushed right to the edge.
Roadhouse Crunch	Volume, Ratio and OD Trim up with the overdrive on: a raw, crunchy rhythm sound.
Smooth Singing Lead	Overdrive with Mid Boost, more Level and Middle: a smooth, sustaining, singing lead.
Big Lead (OD + PAB)	Overdrive, Preamp Boost and Mid Boost together: the biggest, thickest lead.
Closed Back, Big Room	The overdrive through the closed-back cabinet, Bass trimmed, in a much bigger room.
Clean + Lead (Dual Amp)	Two amps panned left and right: Texas Clean on one side, its overdrive on the other.

SECTION 24

How the amp is modelled

- **Preamp:** a 12AX7 input stage, the passive tone stack (treble, bass and middle networks, with Mid Boost, Rock / Jazz and Preamp Boost switching its parts exactly as the switches do), Volume with its Bright cap, and a second 12AX7 stage with its plate-to-grid feedback, all solved together.
- **Overdrive:** a relay switches in two more 12AX7 gain stages with Level, OD Trim and Ratio, and the small caps that smooth their top end.
- **Master and effects loop:** Master into a JFET buffer that drives the loop, and a JFET recovery stage after the return.
- **Spring reverb:** an op-amp current driver with its own supply rails, physically modelled springs, and an op-amp recovery stage that cuts the springs' boom, into REVERB and the mixing resistors.
- **Power amp:** a 12AX7 long-tail phase inverter and two EL84s on adjustable fixed bias, with screen resistors and negative feedback from the speaker output with Presence; the output transformer has 4, 8 and 16 taps.
- **Power supply:** a solid-state bridge, filter caps and dropping resistors feeding each stage, and the mains voltage; it sags and recovers with your playing.
- **Speaker:** the speaker's impedance loads the transformer, and its cone motion is what you hear, including its suspension stiffening and its motor losing grip at large excursions.

Values come from the schematic of Roger's own amp. A few parts that aren't on the schematic (the feedback and presence network, the output transformer, the power transformer's exact voltage) are carefully estimated.

SECTION 25

Tips and troubleshooting

If you hear…	Try this
No sound in the Boutique 20 app	Check the GUITAR IN menu and Options › Audio/MIDI Settings: the right interface and your guitar's input, and Mute audio input unticked. If macOS blocked the input, allow Boutique 20 in System Settings › Privacy & Security › Microphone.
No sound	Check the tuner is off, the amp is on OPERATE, and Volume and Master are up. With USER IR selected, check the file loaded.
The tone knobs do nothing	Preamp Boost is on: it takes the tone stack out. Flip PREAMP BOOST off on the front panel.
The lead is too loud or too quiet against the clean	Use Ratio to balance the overdrive against the clean.
Not enough (or too much) overdrive	Set OD Trim on the rear panel for your guitar, then use Level.
Too much low end	Pull DIST back, keep the cabinet open-back, set Rock / Jazz to Jazz, use LOW ATTEN on the Program EQ, or raise ROOM CUT for the room.
The reverb knob does nothing	Check the REVERB switch on the front panel is ON (the TANK page's IN / OUT is the same switch), and turn REVERB up from 0.
Too much hum	Turn HUM down on the rear panel; 0 is silent.
Crackles	Raise your buffer one step or switch from HQ to HQ BOUNCE. Dual Amp uses about twice the processing.
A delay between picking and hearing	Lower your recording app's buffer size, and play on NORMAL or HQ BOUNCE.

SECTION 26

Specifications

Item	Value
Formats	AU and VST3 effect, and a stand-alone app; universal binary (Apple silicon and Intel)
Channels	Mono or stereo in (summed to mono, like a guitar amp); stereo out
Processing	Component-level circuit model; pedals at 4x oversampling (8x in HQ), amp at 2x (4x in HQ) with minimum-phase, low-latency filters
Amp	20 watts; 3 x 12AX7, 2 x EL84; Volume, Treble, Middle, Bass, Bright, Mid Boost, Rock / Jazz; relay-switched overdrive with Level, Ratio and OD Trim; Preamp Boost; Master, Presence; Reverb on / off and Cab Back switches
Rear panel	Mains, OD Trim, bias with live current readout, hum
Reverb	Solid-state driver and recovery; four physically modelled tanks (long or short, two or three springs), three decay times; Reverb, Dwell, Tone, Drip
Speakers	Type-A 50, Classic 65, Black Label 12 in an open- or closed-back 1x12, with five mic types, mic position and distance; or User IR (WAV/AIFF up to 1 s, saved with the project)
Pedals	Strobe tuner plus six slots, drag to reorder; twenty-one pedals
Studio	Input, level meter, gate, room with low cut, output, Program EQ, opto leveler, SD-2 delay, SV-1 reverb, BOZEMAN dual reverb, Dual Amp with level
Presets	Ten factory presets (Texas Clean is the default); your own, shared with Logic
Requirements	macOS 11 or later; a 64-bit AU or VST3 host

SECTION 27

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