BLEVINS TONE CO.

TWEED 59

LATE-'50S TWEED 1x12 COMBO · TANK SPRING REVERB UNIT · PEDALS · STUDIO · AU · VST3

User Manual



WELCOME

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SECTION 1

Introduction

Tweed 59 is a guitar amplifier plug-in in the style of a late-1950s narrow-panel tweed combo: about 15 watts, two 6V6 power tubes, one 12-inch speaker in an open-back pine cabinet, two channels and four input jacks. It's the amp that turns from sweet and glassy to fat, saggy and roaring as you turn it up, and it reacts to your pick and your guitar's volume knob like the real thing.

In front of it sits a separate early-'60s tube spring reverb unit, with its own page, TANK: Dwell, Mix, Tone and Drip, a choice of tanks and driver tubes, and the springs themselves modelled as physical objects. Tweed 59 shares Crumble and Hot Toddy's studio world: strobe tuner, pedalboard, studio strip, opto leveler, SD-2 delay, SV-1 reverb, BOZEMAN and Dual Amp.

Modelled part by part

Unlike a typical amp plug-in, Tweed 59 is a component-level model. Every tube, resistor, capacitor and pot in the amp and the reverb unit is solved as a circuit, sample by sample, together with the tube rectifier and power supply, the output transformer and the speaker's own electrical load. That's why the two channels interact, why the amp sags and blooms when you dig in, and why each speaker makes the amp itself respond differently.

Inside Tweed 59

- Two channels, Normal and Bright, with four input jacks and a JUMPER to run both at once.
- Volume, volume and one Tone control, numbered 1 to 12, plus a REVERB knob on the front.
- The TANK page: the reverb unit, with four tanks, three decay times, three driver tubes, Dwell, Mix, Tone and Drip.
- A rear panel with the chassis options: preamp tube, rectifier, mains voltage, bias and hum.
- Three speakers modelled on the classic choices, Alnico 12-R, Alnico 12-Q and Cobalt 12, 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.
- MIDI Learn: right-click any control and move a knob, fader, switch or pedal on your MIDI controller.
- Fifteen factory presets, starting with Chewy We're Home.

New in version 1.3.0

- **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 about a third 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 1.2.1

- **Lighter on memory.** Each module's photos load only while its page is showing, a delay pedal's memory is reserved only in a slot that holds one, Bozeman is set up the first time you switch it in, Dual Amp gives its memory back when you switch it off, and the window draws more efficiently. The knobs turn smoothly instead of in small steps.
- **A new default preset,** Chewy We're Home. Ft Worth is still in the list.

New in version 1.2

Because Tweed 59 is modelled part by part, this update reads like a service ticket: we went back over the amp against the original layout and replaced the parts that weren't right.

- **Phase-inverter coupling cap: 0.1 µF replaced with 0.02 µF** (the stock value). Clean, you won't hear it; cranked, the bigger cap charged up on hard low notes and choked the amp for a moment. Now it recovers at once, with tighter lows when it's pushed.
- **Filter caps: 32 µF replaced with 16 µF** (all three, stock). The power supply now sags and blooms the way the original does when you dig in. HUM sounds the same as before at every setting.
- **Tone circuit rewired to match the original.** The 500 pF bright cap now runs from the Bright volume to the top of the tone pot, and the tone pot's wiper feeds the second gain stage directly; the tone pot is linear. Both channels now sit where a real one does.
- **Speaker and mic low end corrected.** The speakers' cone resonance is damped per model, the cone's low-mid balance is corrected, and the close-mic bass boost is 1.5 dB lower: less boom, a clearer bottom end.
- **A new look.** Photographed panels for every module, the amp's rear panel with its own switches and knobs, and a redesigned TANK.
- **MIDI Learn.** Right-click any control to map a knob, switch or pedal on your MIDI controller, with a pedal range for each.
- No zipper noise when turning Room Size, the SV-1's Size and Pre-Delay, or the Normal, Bright and Tone knobs. Tweed 59 also opens faster and uses less memory.

YOUR SESSIONS

Sessions and presets from earlier versions open with every knob where you left it. They'll sound a little different, because the circuit underneath them changed.

SECTION 2

Installing Tweed 59

Tweed 59 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 Tweed 59 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 Tweed 59 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. › Tweed 59**. **Other apps:** look in the VST3 list under Blevins Tone Co.

If something goes wrong

Problem	What to do
Tweed 59 doesn't appear in Logic	In Logic, open Settings › Plug-in Manager, find Tweed 59, and click Reset & Rescan Selection.
Tweed 59 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

Tweed 59 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 Tweed 59 in your recording app (or open the Tweed 59 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 Tweed 59, your licence activates; if not, your 14-day trial starts. Go back to your recording app: Tweed 59 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, Tweed 59 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 TWEED 59 APP

The stand-alone Tweed 59 app comes with Tweed 59: 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 Tweed 59 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. Tweed 59 is silent while you tune.
4	**Start from Chewy We're Home.** Tweed 59 opens on Chewy We're Home: the Normal channel's Hi jack a little past halfway, a 12AX7 in V1, the GZ34 rectifier, low mains and a hot bias, through the Alnico 12-R, with a touch of long spring reverb and a small room.
5	**Pick a jack.** Click a jack to move the cable: Normal 1 / 2 or Bright 1 / 2, or JUMPER for both channels at once. Jack 2 is lower, for hot pickups.
6	**Set the volumes.** These amps break up early. Around 3–4 is clean-ish, 6–8 is crunch, 10–12 is full roar. The volume you're not using changes the sound too: turn it down for more grit.
7	**Shape it.** One Tone knob for both channels. Add REVERB to taste, and press TANK for the reverb unit's Dwell, Tone, Drip and tanks.
8	**Place it.** Choose a speaker on the studio strip, 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. Tweed 59 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. You hear the pedalboard and reverb unit 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 reverb unit has its own IN / OUT toggle on the TANK page. 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 Tweed 59 any size you like. It keeps its proportions.

SECTION 6

The Tweed 59 app

Tweed 59 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, reverb unit, 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 Tweed 59.** The first time, macOS asks whether Tweed 59 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.
Reverb unit (TANK)	Between the pedals and the amp's input jack, exactly where the original outboard unit was plugged in. Its tubes, tank and mixer are part of the circuit, and the amp's input loads its output.
Preamp	The input jacks and a 12AY7 (one triode per channel), both volume pots, the bright cap and the tone control, solved together.
Second stage and phase inverter	A 12AX7: one triode for gain, the other as a split-load (cathodyne) inverter.
Power amp	Two 6V6s, cathode-biased, no negative feedback, a tube rectifier and a sagging power supply.
Output transformer and speaker	The transformer drives the chosen speaker's electrical load; what you hear is the speaker cone.
Speaker cabinet and mic	The open-back pine 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 Tweed 59 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

Tweed 59 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 unit 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 reverb unit, 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 reverb unit



Press TANK: the reverb unit.

A separate, three-tube spring-reverb box of the early '60s, sitting between your pedals and the amp's input, exactly as people used them. Its own preamp tube drives a power tube, which drives the spring tank through a transformer; a third tube recovers the springs' tiny signal and mixes it with the dry guitar. The springs themselves are modelled as physical objects, so they ring, splash and drip like real ones, and every tank and decay time has its own sound.

Control	What it does
Dwell	How hard the springs are driven. Low is a soft halo; high is a dripping, splashy surf reverb. Near the top the driver tube itself breaks up.
Mix	Dry to wet. Like the original, turning it up loads the dry signal a little (a touch less top end). The amp's front-panel REVERB knob is the same control.
Tone	Brightness of the reverb (not the dry signal), across the whole knob.
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" outboard 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, as fitted to the outboard units).
Driver	OP-AMP (a solid-state driver in place of the tubes: clean and even, then hard-edged when Dwell runs it out of headroom), 6K6 (the original: stays cleaner and smoother as you turn up Dwell), 6V6 (as in the later reissues: a little hotter and more aggressive) or 12AT7 (both halves in parallel, as in many amps' built-in reverbs: less power into the springs, breaks up sooner and softer).
KICK	Bumps the tank, as if you'd knocked the cabinet.
IN / OUT	The toggle switch at the left; the amber lamp lights when the unit is in. Out unplugs the whole unit, so the guitar goes straight into the amp.

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.

SESSIONS FROM BEFORE 1.1

The reverb unit was rebuilt around the new springs in version 1.1. Sessions and presets made before then open with the reverb at the same level as before, on the LONG 2 tank with LONG decay.

SECTION 12

The amp face



The amp page.

Like the original, the amp itself has only three knobs, numbered 1 to 12 (1 is off), and four input jacks; the fourth knob, REVERB, belongs to the reverb unit. Which jack the guitar is in matters as much as the knobs. Click a jack to plug in.

Control	What it does
Normal 1 / 2	The Normal channel. Jack 1 is the "high" input; jack 2 is about 6 dB lower, for hot pickups.
Bright 1 / 2	The Bright channel, which has a small treble capacitor across its volume control.
JUMPER	Patches a short cable between the channels (guitar in Bright 1, Bright 2 to Normal 1) so both play at once. The classic way to run these amps: Bright for cut, Normal for body.
Normal / Bright volume	Each channel's level. They interact like the original: the channel you're not using still loads the other, so turning the unused volume down gives you more gain and grit.
Tone	One knob for both channels, with a linear pot as on the original. Low is dark and smooth; turned up, it opens the top end, most of all on the Bright channel.
Reverb	The reverb unit's MIX, repeated here so you don't have to change pages.

Control	What it does
Standby	Mutes the amp; the pilot jewel dims.
Rear Panel / Amp Bypass / Dual Amp	Turns the amp around, bypasses it, or adds a second amp.

The Bright channel

The bright cap passes treble around the Bright volume control: the lower the volume, the brighter it sounds. At full volume it does nothing. It runs to the top of the tone control, so the Tone knob works on it too.

The volume you're not using

The two volumes share one circuit, so the channel you're not plugged into still changes the sound. Turned down, it gives you more gain and grit. From about 3 o'clock up it takes away some gain and low mids, and around 10–11 gives the most scooped tone. All the way up to 12, its tube connects straight to the mixing point and soaks up most of the signal from the channel you're playing: the amp gets much quieter, and almost all of that happens in the last notch of the knob. The original does exactly the same.

CAVE-IN, IT'S NOT A BUG

Cranked hard (volumes past about 9, or jumpered), these amps "cave in": hit a big chord and the sound collapses for a moment, goes farty and quieter, then swells back. Tweed 59 does it too, on purpose. The amp is overloaded: coupling capacitors charge up while you dig in, pushing the phase inverter and output tubes toward cutoff, and the tube rectifier sags. Players use it as part of the feel. For less of it: turn the volume down a little, use the GZ34 rectifier, raise the mains voltage, or play a bit lighter.

SECTION 13

The rear panel: chassis



Click REAR PANEL to turn the amp around: the chassis plate at the bottom, and the tubes glow when the amp is on.

The chassis plate at the bottom of the cabinet holds two switches and three small knobs.

Control	What it does
PREAMP switch	12AY7 (stock: softer and cleaner) or 12AX7 (more gain, earlier breakup). Click the top or bottom of the switch.
RECTIFIER switch	Three positions: 5Y3GT (stock: the most sag), 5U4GB (firmer) and GZ34 (tightest and loudest). Click the position you want.
MAINS	The wall voltage, 100 to 128 V. Low mains is the old "brown sound" trick: lower plate voltages, earlier breakup, more sag.
BIAS	The power tubes' cathode resistor, 180 to 470 ohms (stock 250). Lower is hotter; higher is colder, cleaner and grainier when cranked.
HUM	The power supply's 120 Hz hum. 3 sounds like a stock one; 0 is no hum at all; toward 10 sounds like tired filter caps.

When you change a tube, the amp fades out for a moment while the new one settles, as a real one would.

STOCK VALUES THROUGHOUT

Version 1.2 returned the amp to the original's parts, including its 16 µF filter caps and the 0.02 µF cap into the phase inverter. A schematic of the circuit Tweed 59 simulates, with every value, is available from Blevins Tone Co.

SECTION 14

Dual Amp



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

Press DUAL AMP to add a second, completely independent Tweed 59, stacked under the first and labelled AMP 2, with its own reverb unit (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. These amps have no master volume, so it's the way to set one against the other without changing how either one breaks up.
- Every knob, jack, 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 amp itself 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 open-back pine cabinet come after it.

Speaker	In the style of	Sound
Alnico 12-R	The lightweight alnico 12 most of these amps left the factory with	Bright, open and a little scooped; breaks up early and sweetly; loose lows.
Alnico 12-Q	The other common original alnico 12	More midrange bite, a smoother top and tighter bass.
Cobalt 12	The British-style 15-watt alnico upgrade	Warm, efficient, chimey and bell-like on top.
User IR	Your own impulse response	The amp sends its true speaker-terminal signal to your IR.

The close mic

Mic type	In the style of	Sound
DYN 1	The all-round close dynamic	The sound Tweed 59 always had: 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 Tweed 59 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. On this open-back cabinet the sound from the back of the speaker also comes round the box and thins the lows a little more as you move away. 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.

TAMING THE LOW END

Tweed 59 has a big, loose bottom, as a real tweed does: with no negative feedback, the amp lets the speaker's resonance through. For a tighter low end, pull the mic back to 4–6 inches, use LOW ATTEN on the Program EQ at 60 Hz, or choose DYN 2.

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 Tweed 59.
- 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.

LOW ATTEN reached 10 dB before version 1.1. Sessions and presets saved before then have their knob moved so the cut stays exactly the same.

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 Tweed 59.

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 Tweed 59 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 Tweed 59 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 Tweed 59 listens to, or all of them.

- Each instance of Tweed 59 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, Tweed 59 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.

Preset	The sound
Chewy We're Home (default)	Roger's own: the Normal channel on its own, a little past halfway, with a 12AX7 in V1, the GZ34, low mains and a hot bias. The Alnico 12-R with the condenser mic, a touch of long spring and a small room: warm, open and just breaking up when you dig in.
Ft Worth	Both channels jumpered with a 12AX7 in V1, the GZ34 rectifier, low mains and a hot bias: tight, punchy and fat. The Alnico 12-Q with the condenser, a touch of spring, and the room's lows cut.
Chewy	Both channels jumpered, Normal a little past halfway: a soft, dark splash of spring reverb and a small room.
Too Tweeds	Two amps. Left: the Normal channel dimed and dark, with the mic out at the edge. Right: the Bright channel, bright and dry, through the Alnico 12-Q.
Beautiful Dream	Two jumpered amps turned way up, hard left and right: the ribbon-and-condenser on the 12-R against the Cobalt 12, washed in BOZEMAN.
Beautiful Dream Spring	The same pair of amps with the springs instead: a long three-spring tank, Dwell up.
Chewy (mine)	Roger's own Chewy: jumpered, both volumes up a little, the Alnico 12-Q with the broadcast dynamic out toward the edge.
Chewy (first version)	The original Chewy: the Bright channel on its own with its volume all the way up, panned a little left.
Double Trouble	Two big jumpered amps, hard left and right, with spring reverb from a 12AT7-driven tank.
Fuzzy Was He?	The Bright channel dimed, ready for a fuzz in front.
Let's Dual	Two jumpered amps, both pushed hard, hard left and right, with a splashy 12AT7-driven tank on the first.
Splitsville	Two big jumpered amps, hard left and right: dry on the left, a little spring on the right.
Tame the Bridge	The Normal channel past halfway with a 12AX7, GZ34, low mains and a hot bias, and the opto leveler: a bridge pickup, smoothed out.
Too Tweeds (mine)	Roger's take on Too Tweeds: the same two amps panned hard, a brighter tone on the left and the Program EQ in.
Tweed 59 Default (mine)	Jumpered, Normal nearly full, Bright halfway, with the reverb unit switched off.

SECTION 24

How the amp is modelled

- **Preamp:** a 12AY7 shared by both channels, with their shared cathode resistor and bypass cap, the four-jack input network, both volume pots, the bright cap and the tone control, all solved together.
- **Second stage and phase inverter:** a 12AX7, one triode as a gain stage feeding the stock 0.02 µF cap, the other as a split-load (cathodyne) inverter, driving the output tubes through coupling caps. Grid current and blocking are modelled.
- **Power amp:** two 6V6GTs, cathode-biased with a shared bypass cap and no negative-feedback loop; the output transformer includes its leakage and magnetising inductance and core saturation.
- **Power supply:** rectifier tube, the stock 16 µF filter caps and dropping resistors, 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.
- **Reverb unit:** 12AT7 input stages and Dwell, a 6K6GT (or 6V6GT or 12AT7) driver into the tank transformer, physically modelled springs, a 12AX7 recovery stage with Tone and the small coupling cap into Mix, and a dry cathode follower.

Values come from published schematics, layouts and parts lists of the original circuits, and the amp's idle voltages match the published ones within a few volts.

SECTION 25

Tips and troubleshooting

If you hear…	Try this
No sound in the Tweed 59 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 Tweed 59 in System Settings › Privacy & Security › Microphone.
No sound	Check the tuner is off, Standby is on ON, a jack is plugged in, and the volume for the channel you're plugged into is above 1. With USER IR selected, check the file loaded.
Too dirty at low volume	That's the amp: it breaks up early. Use jack 2, lower the volume, turn the unused channel's volume up, or try the 12AY7.
Too much low end	Pull DIST back to 4–6 inches, use LOW ATTEN at 60 Hz, try DYN 2, or raise ROOM CUT for the room.
The sound collapses on big chords	Cave-in. See The amp face.
The reverb knob does nothing	The reverb unit must be switched IN on the TANK page.
Much quieter with the other volume on 12	That's the original circuit: see The volume you're not using. Turn the unused volume to 10 or 11.
A MIDI controller doesn't move anything	Right-click a control and check MIDI controller input, or in the app tick the controller under Options › Audio/MIDI Settings. Over Bluetooth, connect it in Audio MIDI Setup › Bluetooth Configuration.
Too much hum	Turn HUM down on the rear panel; 0 is silent.
The Bright channel is too bright	Turn its volume up (the bright cap matters most at low volume) or Tone down, or move the MIC toward the edge.
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	Two channels, four input jacks and JUMPER; two volumes, one tone; 12AY7 / 12AX7 preamp, cathodyne inverter, 2 x 6V6, tube rectifier (5Y3GT, 5U4GB, GZ34)
Reverb unit	Three tubes; 6K6, 6V6 or 12AT7 driver; four physically modelled tanks (long or short, two or three springs), three decay times; Dwell, Mix, Tone, Drip
Speakers	Alnico 12-R, Alnico 12-Q, Cobalt 12 in an open-back pine 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
MIDI	MIDI Learn on every control, with reverse and pedal range; saved with each project
Presets	Fifteen factory presets (Chewy We're Home 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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