Cherwell Drum Gate

A fast, clean mid-90s digital-desk gate in two or three bands: each band opens and closes on its own timing, so the lows can breathe while the top snaps shut.

> **A Lab plug-in.** The Lab is where new GFX plug-ins are built in the open: they may change sound or controls between versions.

Overview

The Cherwell series is clinical digital-console processing in the spirit of a mid-90s British digital desk. The Stable Cherwell Drum Gate gates the whole sound at once; this Lab version splits it into two or three bands, each with its own gate.

So a kick's low end can open slowly and close gently while its top opens hard and fast, a snare's body can ring on while its top stays tight, and hat bleed can be cut out of the top of a snare mic without choking the snare.

By default every band hears the same key, so one hit opens them all, each on its own timing. With BAND KEY lit each band listens only to its own part of the key, and LINK lets one band's gate open another's. A 2 ms look-ahead (LOOK, on by default) lets each gate open just before the hit. There is no DRIFT and nothing is added to the sound: with every band open the bands add back flat.

Reach for it for

- Kick: slow, gentle lows with a fast, tight click
- Snare: body that rings on with the top gated hard
- Toms: low ring kept, cymbal wash in the top cut
- Taking low bleed out of hats and overheads
- Noise and hiss on guitar amps, bass DI and vocals, band by band
- Ducking only the lows under a key (EXT)

Controls

The header

PRESETS	Opens the preset list (with "Reset all to defaults" at the end).
◀ / ▶	Steps to the previous or next preset, wrapping round.
Preset display	Shows the preset's name. Click it for the preset list too.

The display

KEY LEVEL	The key's level over the last few seconds (0 to -60 dBFS), with each band's THRESH as a line in its colour. Underneath, a lane per band lights while its gate is open. The title shows GATE or DUCK; "LISTEN" appears while LISTEN is lit.

KEY

KEY HPF	OFF (20 Hz) to 6 kHz: a high-pass on what the gates hear (yellow cap).
KEY LPF	500 Hz to OFF (20 kHz): a low-pass on what the gates hear.
HYST	0 to 12 dB, default 4: each gate closes this far under its THRESH, so it doesn't chatter.
LISTEN	Hear the filtered key instead of the output.
EXT	Key from inputs 3 / 4 (a sidechain) instead of the audio itself.

BAND KEY	Dark (default): every band hears the whole filtered key. Lit: each band hears only its own band of the key (the highs open on the hat, the lows on the kick).
DUCK	Reversed: the bands drop by their RANGE while the key is loud.
LOOK	2 ms look-ahead (2 ms latency, reported to REAPER). Switching it dips the output for 5 ms each way.
IN	The whole unit in or out (crossfaded).

Bands and split

BANDS 2 / 3	Two bands (LOW / HIGH, split at the first SPLIT knob) or three (LOW / MID / HIGH). Switching glides, never a click.
SPLIT LOW | MID	40 Hz to 1 kHz, default 150 Hz: where LOW ends. The readout under it shows the frequency. In two-band mode it is the LOW | HIGH split.
SPLIT MID | HIGH	800 Hz to 12 kHz, default 3 kHz: where HIGH starts (always at least an octave above the first split). Three bands only.
The split	24 dB per octave crossovers with no latency. With every band left alone the bands add back flat in level; only the phase turns a little round the split points.
LINK	A menu (click the box): one band's gate opens another's - LOW opens MID, LOW opens MID + HIGH, or MID opens HIGH (two bands: LOW opens HIGH). The led band keeps its own RANGE, ATTACK, HOLD and RELEASE; its THRESH is greyed and shows "LINKED: LOW" (or MID). LINK matters with BAND KEY lit: with a shared key one hit already opens every band.

Each band's row

LOW / MID / HIGH	The band key: lit = that band is gated, dark = it passes untouched (the row greys).
SOLO	Hear that band alone. Click again to hear them all.

GR bar	How far that band is turned down right now, 0 to -60 dB.
THRESH	-80 to 0 dBFS: the gate opens above this level.
RANGE	-80 to 0 dB: how far the band drops when shut (-80 = silent, -6 = a gentle dip).
ATTACK	0.01 to 20 ms: how fast it opens.
HOLD	0 to 500 ms: how long it stays open after the key falls.
RELEASE	5 ms to 2 s: how fast it closes.

Output and meters

OUTPUT	A fader, -12 to +12 dB.
IN / OUT	Input and output level, -48 to +3 dBFS.

Knobs and the fader: drag up or down (hold Shift for fine moves) or use the mouse wheel; double-click or Ctrl-click returns to the default. Values show while you hover. S / M / L set the panel size; ? shows the credits and this manual's address.

Presets

Init	One setting on every band (-30 dB, -60 dB range, 0.5 ms / 50 ms / 120 ms): sounds as the original one-band gate.
Kick: Slow Lows Fast Top	LOW below 120 Hz opens over 3 ms and closes over 400 ms; HIGH snaps open and shut. Key LPF 4 kHz.
Kick: Tight Click	A short low end and a very tight, fast top.
Snare: Body Rings	Split at 400 Hz: the body only drops 18 dB and rings on; the top is gated hard.
Snare: 80s Gated	Both bands slammed shut after a long hold: the gated snare sound, with a darker tail.
Toms: Ring Low Only	Three bands, BAND KEY lit, LINK LOW opens MID + HIGH: the tom's own low end opens everything, the low ring lasts, the

	top closes fast.
Hi-Hat: Low Bleed Out	Key HPF 6 kHz: the hat opens the gate; the lows (kick and snare bleed) only open on loud hits.
Overheads: Tame the Wash	Three bands of gentle expansion (6 - 12 dB): less wash between hits.
Vocal: Breath Gate	Split at 2 kHz: the top of breaths and noise drops 18 dB between phrases.
Guitar Amp: Hiss Only	Split at 3 kHz: only the hiss band is gated; the body is barely touched.
Bass DI: Noise	Split at 400 Hz: hum and noise down between notes, mostly in the top.
Duck: Lows Under Key 3/4	EXT key and DUCK: the lows dip 12 dB under the key; the top barely moves.
Drum Bus: Own Bands	Three bands with BAND KEY lit: each band opens on its own hits, gently.

Tips

- Start from Init, set THRESH on one band, then copy the feel to the others and change only what that band needs.
- Use SOLO with LISTEN off to hear exactly what one band's gate is doing.
- On a snare mic, put the first split just under the snare's body (200 - 400 Hz): the top can be gated hard without choking the snare.
- For toms, BAND KEY lit with LINK LOW opens MID + HIGH means only the tom's own low end opens the gate - cymbal hits in the top can't.
- HYST of 3 - 6 dB stops chatter on a slowly decaying note.

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