

G-MATIC

A worn broadcast video deck's audio track, pushed into lo-fi: crunch, hiss, a tape you can run slow or fast, wobble, dropouts and stutter.

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

G-Matic is in the spirit of the cream 3/4-inch editing decks of the 70s and 80s - the ones in every broadcast edit suite - and what happens to sound that goes through one that has seen better days. The signal runs in this order: the record amp (DRIVE), hiss onto the tape, the tape transport (VARISPEED, WOW, FLUTTER, DRIFT), dropouts from tired oxide, the stutter buffer, a cheap digital track (CRUSH) and a small speaker (RADIO), then the output and the house clipper at -0.3 dBFS.

It is level-matched: pink noise at -18 dBFS goes in and comes out at -18 dBFS with every preset, and DRIVE changes the character, not the loudness. Every knob glides and every key crossfades, so nothing clicks; VARISPEED moves with the inertia of a motor, so a turn of the wheel bends the pitch the way a real transport does.

Latency: 12.5 ms (the tape heads' resting point), reported to REAPER; OS adds 31 samples at 2x, 37 at 4x.

Reach for it for

- Lo-fi and found-footage textures on drums, keys and vocals
- Slowed-down or sped-up tape sounds without a separate pitch shifter
- A tired, wobbly, hissy cassette or VHS feel
- Telephone and transistor-radio voices
- Stutters and tape glitches that happen on their own

Controls

Top: meters and the tape window

INPUT / OUTPUT	VU meters, 0 VU = -18 dBFS. The red LED in the OUTPUT meter lights for a second when the output goes above -3 dBFS.
Tape window	The reels turn at the tape's speed. The red counter (hours : minutes : seconds : frames, 25 a second) runs with REAPER's transport at the VARISPEED rate, and holds while the deck stutters.
STUTTER / DROPOUT / PLAY	Lamps: lit while a stutter plays, flickering with each dropout, lit while REAPER plays.

RECORD

DRIVE	The deck's record amp, 0 - 24 dB. A lopsided curve, so it adds even and odd harmonics: warm at first, crunchy towards the top. Level-matched.
TRIM	Input level, -24 to +12 dB. GUARD is always on: hot sources are eased towards -18 dBFS before the drive.
OUTPUT	Output level, -24 to +12 dB.

TAPE

WOW	The slow pitch sway of an uneven capstan, up to about ± 0.6 %.
FLUTTER	The fast pitch shimmer, up to about ± 0.25 %.
DROPOUTS	Oxide shed from old tape: short dips, 15 - 150 ms long and 3 - 30 dB deep, that dull the top end too. About one every 8 seconds at 20 %, one or two a second at 50 %, three a second at 100 %.
HISS (key) / LEVEL	Pink tape hiss, put onto the tape before the transport (so it slows and wobbles with it). LEVEL is its level in dBFS, -80 to -30.
DRIFT	The tired transport: the speed wanders slowly and the tape warps (an irregular slow wow). 0 is a perfect machine, 50 % the standard, 100 % twice that.

CRUSH and RADIO

Each is switched in and out by the lamp beside its title (lit = in); a section that is out is drawn greyed.

BITS	The digital track's resolution, 16 down to 4 bits.
RATE	Its sample rate, 48 kHz down to 2 kHz: lower is grittier and more metallic (the aliasing is the point).
BAND	The small speaker's band: from wide (80 Hz - 12 kHz) to a narrow telephone-like 700 Hz - 2.4 kHz.
RESONANCE	The peak at the top of the band, a worn speaker cone's honk.

TRANSPORT

STUTTER	The red key grabs the last SLICE of sound and repeats it until you press the key again.
SLICE	The length of the stutter, 50 - 250 ms.
GLITCH	The deck stutters by itself: at the end of each slice there is a chance of a stutter of 2 - 5 repeats of a full or half slice. Rare

	low down, frequent near the top.
VARISPEED (wheel)	The tape speed, 0.5x to 1.5x: the whole sound goes down or up, as a tape run at the wrong speed (an octave down at 0.5x, a fifth up at 1.5x). Drag it up or down, or use the mouse wheel; it has a light click-stop at 1x, and a double-click returns it there.

Header

Presets	PRESETS or the display opens the list; ◀ ▶ step through it. None of them presses STUTTER.
OS	Oversampling for DRIVE: each click goes 1x, 2x, 4x. Higher settings keep a hard-driven top end cleaner (2x and 4x cut the drive's aliasing from about -39 dB to -82 and -100 dB on a 7 kHz tone). CRUSH isn't oversampled: its grit is meant. A change dips the sound for a moment.
S M L ?	The panel's size; ? shows the credits, this manual's address and MAINS / EQUATOR PROXIMITY (see below).

Knobs: drag up or down, Shift for fine moves, the mouse wheel, double-click (or Ctrl-click) to reset. A knob shows its value while you touch it.

Mains and Equator Proximity

The ? pop-up holds the unit's power supply and its climate. Both start OFF and NEAR, where the unit sounds exactly as it always has.

MAINS: OFF / UK / US	The mains the unit is plugged into. UK and US add a mains hum, very faint (about -83 dBFS: at the edge of hearing), at 50 Hz or 60 Hz with its own overtones. Each instance's hum wanders slowly in phase, so many of them never pile up into one note. The supply also sags when you play hard with a faint ripple that grows with the load. UK is tight and recovers quickly; US sags deeper and recovers more slowly.
EQUATOR PROXIMITY	The room's climate, from FAR (a cold northern room) to NEAR (the tropics: always warm). Away from NEAR, the unit starts cold and warms up over a few minutes of use - about five at

FAR. A cold deck's motor runs a touch slow (about 3 cents flat, wandering) and its record amp is a little duller and lower; it settles as it warms. Hover over the dial to see how long it takes; double-click (or Ctrl-click) for NEAR.

WARMTH

The lamp shows how warm the unit is. The heat is saved with the project: reopen it a minute later and the unit is still warm; leave it overnight and it has cooled. While REAPER bypasses the unit, it cools (about a minute to cold at FAR).

Presets

Default, Clean Transfer, Worn Edit Master, Slow Motion, Fast Forward, Transistor Radio, Night Broadcast, Eight-Bit Track, Melting Tape, Glitch Deck, Oxide Shed, Dub Wobble.

Tips

- Automate the VARISPEED wheel for tape stops and start-ups: it glides, so a jump from 1x to 0.5x sounds like the motor slowing.
- For a voice on a radio, try RADIO with BAND at 70 % and RESONANCE at 40 %, a little DRIVE, and HISS at -50.
- GLITCH at 20 - 30 % with a short SLICE turns a steady loop into a broken tape that never repeats the same way twice.
- Put DRIFT to 100 % and WOW to 60 % for a warped tape; turn DRIFT to 0 for a deck that only crunches and hisses.

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