

## GERMANIUM OPTION - USER INFORMATION



### Key Features:

- 100% Class-A discrete signal path
- Variable-headroom NOS germanium transistor output stage
- Low impedance balanced / unbalanced output connectivity
- Low-noise electronics
- Strictly limited to 100 units
- Designed and built in England

The Cali76 is a premium-quality, 1960s-style FET compressor, inspired by the legendary Urei 1176.

The germanium option works in conjunction with the pedal to provide the user with additional tone-options and connectivity.

Strictly limited to 100 units, the Cali76 Germanium adds a unique new flavour to the Cali range. Combining the Cali76's ultra-fast dynamics and transparent tone with a 1960s-style Class-A germanium transistor output stage, it perfectly captures the rich harmonics, smooth clipping and musical compression that defined the sound of the era.

Germanium circuitry delivers a stunning blend of warmth and grit. Using the unique variable headroom control at the rear, you can dial in exactly the desired amount of break-up and colouration.



Figure 1: Rear view of Cali76-G, showing signal & power connectivity as well as the limited edition GERMANIUM HEADROOM ADJ. control.

Figure 2: Top view of Cali76-G, showing regular Cali76 compression controls including ON switch and status LED.

# Cali76

## Output Connections: Type and Suggested Usage

The Cali76 Germanium is equally at home driving a guitar amp or the input of your DAW or console. The pedal automatically switches to a balanced output when you plug in a TRS jack, allowing it to interface happily with mixers, preamps and audio interfaces with a nominal "line" input-impedance of 10k to 22k Ohms.

Inserting an unbalanced guitar cable will configure the unit as a standard guitar pedal, with a conventional single-ended output.

## Headroom Adjustments

The headroom of the Germanium output stage can be finely controlled using the headroom knob on the rear of the unit.

Unlike a purpose designed overdrive device, this works in a very literal way, by actually scaling the power supply feeding the Class-A germanium circuitry. This limits the voltage swing of the output stage and is true to the definition of the term "headroom".

This approach allows the user to degrade the performance of the output stage by directly varying the characteristics of the germanium devices themselves. At lower voltages the transistors lose current-gain becoming increasingly non-linear in their performance. Clipping is more frequent whilst simultaneously becoming a little softer. Class-A performance is maintained through out with a very slight asymmetrical bias at the lowest settings.

The headroom control is designed to add subtle grit to the output of the unit. Having said this, grungy settings are achievable by cranking the input & output of the compressor to their maximum positions (though at these settings there will be a marked jump in level when switching from bypass).

## Headroom Modes & Transition Characteristics

A three-position internal PCB jumper determines at which times the headroom control is active. In position one, the headroom control is active at all times (i.e. during compression & bypass modes). In position two, the control is inactive and so all signals enjoy a high degree of headroom. In position three, the headroom control is active in compression mode only. Please refer to "Figure 3".

In position 3 there is a slight lag as the supply gradually ramps from the default value (high headroom) down to the new value corresponding to the position of the headroom control. Due to the technical challenges involved, the supply cannot be changed instantaneously, there is a 2.5 second lag between maximum and minimum headroom settings. With the compressor set-up around unity gain this amounts to a subtle transition where harmonics gradually creep in.

In situations where such a delay cannot be tolerated, the internal jumper can be used to select a fixed headroom mode.

## About Origin Effects

Origin Effects is the brainchild of Simon Keats, a guitarist, electronic engineer and analogue circuit designer who has worked for the likes of Vox, Focusrite and Trident Audio. Having built bespoke effects for professional musicians and producers for many years, he launched the Origin Effects brand in 2012 to bring his exceptional designs to a wider audience.

His first two pedals – the 1176-inspired Cali76 compressor and the unique SlideRig, which chains two 1176-style compressors together for near-infinite clean sustain – have been widely recognised as the best pedal compressors ever made. Users range from guitarists and bass players like David Gilmour, Pino Palladino and Steve Lukather to Grammy Award-winning producers like Paul Epworth, Ross Hogarth and Terry Britten.

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*Simon Keats / Origin Effects Limited is not affiliated with Urei or Universal Audio in any way. This product draws inspiration from the Urei "1176" compressor, but does not feature any "like-for-like" circuitry!!!*

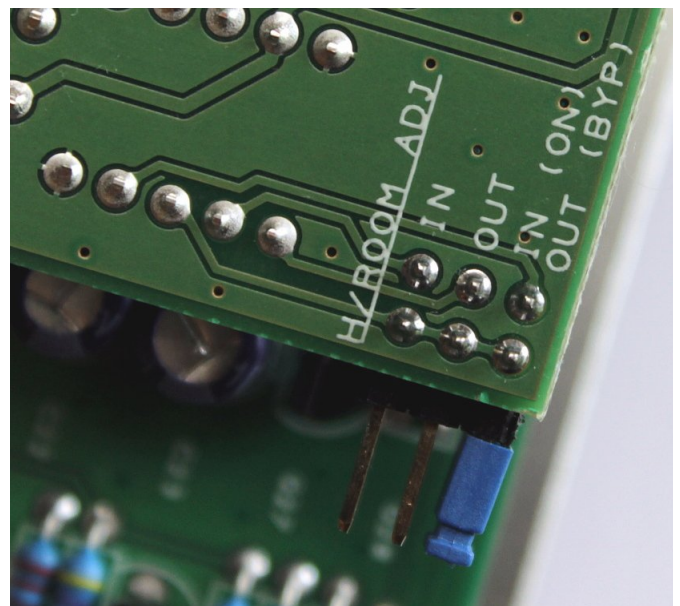


Figure 3: Internal headroom mode jumper.

LHS position: headroom control active during comp & bypass modes. Centre position: headroom control inactive during comp & bypass modes. RHS position: headroom control active in comp mode only.