



GOLDEN RATIO

ϕ (Phi) has been updated to include 3 separate compressor circuits at a flip of a toggle switch. An internal smart switching circuit lets you decide which type of compression works best for you. Each all-analog circuit has its own voice with different compression characteristics, range and response of controls to suit every style.

FET compressor: This is a feed-back detector/control compression circuit that relies on a FET transistor for gain reduction. It adds a distinctive color to the signal and can be set for super-fast response, but it may also introduce a bit of distortion (1).

OTA compressor: The majority of guitar compressors use this technology. Our interpretation uses a feed-forward detector circuit thus being able to "squeeze" things harder, ideal for catching fast transients and limiting *. It is the most controllable circuit with punchy and direct sound.

OPTO (Optical) compressor: A hand selected photocell combined with a feed-back detector circuit offer smooth attack and release characteristics resulting in very musical and organic compression even on extreme settings. It can also be set very neutral so that you won't be able to tell when it's on but you sure going to miss it when it's gone.

Phi will fatten up your tone even with no compression added. With the parallel compression technique of blending the compressed signal with the original – uncompressed signal, you will experience clarity and precision only found in studio recordings. Features superb low-noise floor performance and full frequency response making it ideal for guitar, bass and virtually every stringed instrument either on studio or stage. An internal switch (2) selects between 9 or 18V DC of operation from a standard 9V DC power supply. Use the 18V setting for increased headroom and enhanced compression characteristics.

Controls:

Compression circuit selection toggle switch: select between 3 separate and independent compression circuits.

NOTE: THE RANGE AND TAPER OF RATIO, ATTACK, RELEASE AND THRESHOLD CONTROLS DIFFER FOR EACH COMPRESSION CIRCUIT.

Threshold/red LED compression indicator: adjust the amount of signal that goes into the compression detector circuit. When the red LED flashes brighter** compression is engaged. Higher levels of signal will result in more compression / LED brightness.

Ratio: adjust the amount of compression/gain reduction. Range from full counter clockwise to full clockwise

FET: from 1.5:1 to 10:1 (1) • OTA: from 1:1 to 20:1 • OPTO: from 1.5:1 to 15:1

Attack: set the time until compression (gain reduction) begins. Time constant increases as you turn clockwise. ***

FET, OTA circuit range: 1ms to 30ms • OPTO circuit range: 3ms to 33ms

Release: set the time until compression (gain reduction) stops and returns to the initial level. Time constant increases as you turn clockwise. ***

FET, OTA circuit range: 50ms to 4s • OPTO circuit range: 80ms to 4s

Blend: set the perfect mix between dry-uncompressed signal (100% counter-clockwise) and wet-compressed signal (100% clockwise). Add punch and sustain without losing the dynamics of your signal.

Volume: set the output level of your compressor unit. Use for makeup gain or as a clean boost (3)

Bypass footswitch (soft-click): engage or true bypass your effect via a high-quality relay. White LED indicates that the compressor effect is engaged.



Internal controls:

(1) FET compression circuit ratio/distortion trimmer (located on bottom PCB). This control will become handy when using high output pickups or bass guitar. Use a tiny/long screwdriver to adjust audible distortion of FET compression. Trim setting also affects compression ratio range of the FET compression circuit; it does not affect OTA and OPTO circuits. You will hear less distortion and lower compression ratio as you turn clockwise.

(2) HEADROOM switch. Select 9 setting for standard 9V DC operation or 18 for increased headroom. 18V DC is provided by an internal charge pump circuit. **DO NOT** plug a 18V DC power supply.

(3) OUTPUT/make up gain internal switch. Select between High or Low output/make up gain circuit. High make up gain setting adds an extra 8db boost to the output signal.

* Feed-forward detector designs tend to be suited towards quick chops and stops. We advise to use longer release time settings for slow chord work.

** A dim red light of compression indicator LED on bypass or when no signal is applied is perfectly normal.

*** Super-slow attack and/or super-fast release times may yield audible distortion on FET and OTA circuits.

Input Impedance: 1M

Output Impedance: 1k

Power supply: 9V DC center negative, regulated / stabilized.

Max current consumption 50ma at internal 9V headroom setting, 80ma at internal 18V headroom setting.

Warning: voltage headroom is boosted internally – only use a regulated 9V DC center negative power supply to power your unit. 10V DC or higher voltage power supplies will damage your unit and void warranty.

Warranty: Golden Ratio (ϕ) comes with 5 years warranty from date of manufacture. We will provide service/repair at no cost within 5 years from date of manufacture - buyer is responsible for shipping costs or customs fees and taxes that may apply. This warranty excludes damages done due to misuse or improper handling.

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