Title: Gamechanger Audio Plasma Rack
Manufacturer’s SKU: GCAPRA
Model: Plasma Rack
UPC: 750258555196
Manufacturer: Gamechanger Audio
Made in EU, Riga, Latvia

Pictures: <https://www.gamechangeraudio.com/press-materials/> (chapter Product Photos for Listing)

Videos: <https://youtu.be/XQA_Ml0oqgY>

Description:

The PLASMA RACK is a 1U sized audio effects unit designed for professional and studio use.

A significant expansion of the unique High Voltage Distortion concept behind PLASMA Pedal, the PLASMA Rack features an extra large xenon tube that conducts audio signal at voltages of up to 5500 volts.Suitable and designed to use with guitar, bass, synthesizer and drum tracks.

Simplified Wet Signal Chain:
Input -> (EQ if on) -> Transformer to High Voltage -> Xenon Tube -> Antenna that picks up the electromagnetic vibrations surrounding the Tube -> (EQ if off) -> Blend with Clean -> Output

Product Details:

User’s manual: <https://www.gamechangeraudio.com/wp-content/uploads/2019/07/Plasma_Rack_User_Manual.pdf>

Power Supply is included.

The expected life of the xenon tube is 10,000 to 70,000 hours of active playing. The xenon tube is replaceable and easily available in lighting stores.

Simplified Wet Signal Chain:
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| **Specifications IO:** |
| **Unbalanced input:** |  |
| Connector | Tip-Sleeve ¼” Jack |
| Impedance | 1 MΩ |
| Maximum input level | + 11 dBu |
| Maximum undistorted input level | 0 dBu (Gain setting at minimum) |
| Type | Instrument input, RF filtered, true bypass to unbalanced output |
| **Balanced input:** |  |
| Connector | Combo connector: Female XLR and Tip-Ring-Sleeve ¼” (Pin 2 and Tip hot) |
| Impedance | 4.38 kΩ; 1.5 kΩ (PAD switch on) |
| Maximum input level | +17 dBu (Clamped by protection devices)+37 dBu (PAD switch on, clamped by protection devices) |
| Maximum undistorted input level | +2dBu (Gain setting at minimum)+22 dBu (PAD switch on, Gain setting at minimum) |
| Type | Mic/Line input, RF filtered, true bypass to balanced output |
| **Unbalanced output:** |  |
| Connector | Tip-Sleeve ¼” Jack |
| Impedance | 220Ω |
| Maximum output level | +7 dBu  |
| **Balanced output:** |  |
| Connector | Male XLR (Pin 2 Hot) |
| Impedance | 200 Ω |
| Maximum output level | + 10 dBu  |
| **FX loop send (1-3):** |  |
| Connector | Tip-Sleeve ¼” Jack |
| Impedance | 100 Ω |
| Maximum output level | +12 dBu (Line level)-6 dBu (Instrument level) |
| **FX loop return (1-3):** |  |
| Connector | Tip-Sleeve ¼” Jack |
| Impedance | 1 MΩ |
| Maximum input level | +14 dBu |
| **MIDI in/out/through:** |  |
| Connector | 5-pin DIN (180 degree) |
| Type | Optically isolated input, RF filtered |
| **Expression pedal:** |  |
| Connector | Tip-Ring-Sleeve ¼” (Wiper tip, CCW ring, CW sleeve) |
| Type | Designed for potentiometer-based expression pedals, RF filtered |
| **Gain and signal levels:** |
| Preamp gain range | -26 to +12 dB |
| Unbalanced input | recommended level for 0dB gain setting: -15 dBu |
| Balanced input (PAD switch off) | recommended level for 0dB gain setting: -9 dBu |
| Balanced input (PAD switch on) | recommended level for 0dB gain setting: +11 dBu |
| FX loop level (Line) | +4 dBu at recommended input level |
| FX loop level (Instrument) | -15 dBu at recommended input level |
| Volume control gain | -80 to +12 dB |
| PAD attenuation | -20 dB, applies for balanced input only |
| **EQ:** |
| Low frequency | 10 Hz, -20 to 20 dB Low-pass shelving filter |
| Mid frequency | 600 Hz, -6 to 6 dB |
| High frequency | 20 kHz, -10 to 10 dB, High-pass shelving filter |
| Type | Baxandall, MIDI controllable |
| **Tremolo:** |
| Rate range | 0.85 to 2600 Hz |
| Depth control | 0 – 100%, in (positive range) or out (negative range) of phase between clean and distorted signals |
| **Tube:** |
| Gas | Xenon |
| Discharge voltage | 5.5 kV |

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| **System performance:** |
| Frequency Response | 30 Hz to 20 kHz (±3 dB) |
| Signal to Noise Ratio | 69 dB clean channel (A weighted); 78 dB drive channel (A weighted); |
| Operating Temperature | 0º to 40º C |
| **Power supply:** |
| Type | Universal, switch mode |
| Operating voltage | 90 – 245 VAC, 50/60 Hz |
| Power consumption | 60 W |
| **Physical:** |
| Dimensions HDW | 1.75 x 10 x 19 in / 4 x 25.5 x 48.2 cm |
| Shipping box dimensions HDW | 4 x 15 x 21.3 in / 10 x 38 x 54 cm |
| Weight | 9 lbs / 4.1 kg |
| Shipping weight | 13.8 lbs / 6.3 kg |

Extended Description

The PLASMA is a revolutionary way of producing distortion by converting your instrument’s signal into a series of high-voltage plasma discharges in a sealed xenon filled tube.

The result is an incredibly sharp and sizzling overdrive that is extremely clear and responsive. This patent-pending technology of high-voltage electric discharge also acts as a natural noise-gating device that creates strong contrasts between staccato notes, as well as eliminating all unwanted noise and pick-up hum. The PLASMA’s electric discharge tube produces beautiful visible bolts of lightning that react to the input signal, thus creating a captivating experience for all players. In essence – you are playing a bolt of electricity.

Key Features

Unique Harmonic Saturation

PLASMA pedal converts your instrument’s signal into a rapid series of electric discharges, which results in a **large amount of non-linear harmonic saturation that causes extremely rich and responsive attacks, and brings out screeching sharp overtones and harmonics.** These harmonic artefacts, produced as a by-product of the high voltage discharge are uncommon in traditional signal amplification, and therefore PLASMA distortion is unlike anything you have heard before.

Natural Noise Gate, Clean Gate

As soon as you stop playing the electrical discharge within the gas-filled tube is interrupted, and the pedal will not produce any output signal at all. This feature allows you to achieve extreme contrasts between individual notes, by eliminating all in-between noises created by the instrument’s pick-ups or by humming strings. This is **noise gate can be set to affect the clean signal without added distortion**.

Extremely Wide 3-Band EQ

The PLASMA distortion **loses the original dry input signal and creates a new signal from fluctuations in the electromagnetic field** surrounding the gas-discharge tube. This allows for a very wide range of frequencies. The EQ can be switched to affect only the wet sound or dry sound.

Additional Features

Input Gain control to fine-tune the Plasma Rack for any type of input signal.

Sustain Mode lets you achieve long sustained notes even at Low Voltage settings.

Oversaturate Mode overpowers the Plasma tube to achieve an Octave Up / Overtone effect.

Built-in Plasma Tremolo is a unique Tremolo and Rig Mod effect with adjustable Depth and Dynamic response.

Built-in Distortion Channel that lets you add some High-Class Op Amp dirt to you Dry Signal.

3 Effects loops are located and different parts of the signal chain and work with line and instrument levels.

Connectivity of two inputs (unbalanced and balanced with PAD), Two outputs and MIDI

Full MIDI control lets you control all parameters and values via CC Messages and Program Change Messages with 8 Preset slots.

Expression input allows you to assign an expression pedal to any parameter of the PLASMA Rack.

Default Boot-Up Settings are saveable to make the Rack gig-ready.