empress effects

TUBE-LIKE OVERDRIVE

*WITH **ADVANCED TONE CONTROL***

USER MANUAL

Further Information

On our website (www.empresseffects.com) you will find lots of further information and details on the following points:

Download: This manual is also available as a PDF file for you to download.

Keyword Search: Use the search function in the electronic version of this manual to find your topics of interest quickly.

Customer Support: If you have any problems with the device our Customer Support team will gladly assist you.

Symbols and Signal Words

Signal Word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning Signs	Type of Danger
	General warning sign
	Electricity Hazard
	Hot Surface
	Sudden Loud Noises

Intended Use

This pedal is designed for enhancing guitar tones in live performances and studio recordings. Use as outlined in the user manual.
The manufacturer is not liable for damages resulting from improper use or use under non-recommended conditions.

Safety

	**DANGER! Danger for children** Dispose of plastic bags and packaging properly to keep them out of reach of babies and young children to prevent choking hazards. Ensure children don't detach small parts like knobs to avoid choking. Never leave children unattended with electrical devices.
	**DANGER! Electrical shock** Risk of electrical shock from exposed wires or damaged components. Inspect pedals for damage before use. If damaged, stop use and seek professional repair.
	**DANGER! Power Supply Issues** Use the right voltage and current for your pedal's power supply to prevent damage and safety risks. Check the power supply's condition, and for multiple pedals, opt for a dedicated supply to avoid overloading by daisy-chaining.
	**CAUTION! Overheating** Avoid overheating. Do not stack pedals or place in confined spaces. If a pedal overheats, stop using and let it cool.
	**CAUTION! Tripping Hazard / Pedal Placement** Prevent tripping: Secure cables and place pedals firmly to avoid slips and falls.
	**CAUTION! Volume Spikes** Beware of volume spikes and unexpected sounds when adjusting pedal settings

NOTICE! Allergies or Sensitivities
Allergy Alert: Some pedal materials, like adhesives and coatings, may cause reactions. Stop use and seek medical advice if needed.

NOTICE! Fire Hazard
Keep away from direct heat and open flames.

CONTENTS

INTRODUCTION

The Drive started as a question we couldn't shake: what happens when you take the control and flexibility we're known for and pair it with a loose, amp-like overdrive? The fastest way to find out was to patch a discontinued Germ Drive circuit into the middle of a Heavy Menace. It wasn't elegant, but it sounded great — and more importantly, we all wanted to keep playing it.

From there, the project quickly grew more deliberate. Clipping options were compared, and EQ placement became a major focus. We even built a loop into a prototype so we could patch in a ParaEq and move it pre- or post-clipping, assessing how EQ affected not only tone but versatility and feel. Features stayed only if they made the pedal more usable, more predictable, or more expressive.

The result isn't a single "correct" overdrive sound, but a tool for shaping how overdrive behaves. The Drive has been tested on guitars, basses, and synths, at low and high gain, by players with very different ideas of what good tone means. Our goal was to give you the versatility to take full control of your overdrive. The rest is up to you.

Ivan T.

Ivan J. Plamondon
Senior Analog Designer

CONTROLS AT A GLANCE

GAIN: Adjusts the amount of gain applied. Ranges from 6dB (CCW) to 40dB (CW).

TONE CONTROL: Boosts or cuts each frequency band by up to 15dB.

BOOST: Adjusts the range of boost applied from 0 to 30dB. Can be configured to be pre- or post-overdrive in Advanced Configuration (page 13).

MID FREQ: Selects the centre frequency of the midrange EQ; sweepable from 200Hz - 2.5kHz.

BOOST FOOTSWITCH: Turns the Boost on and off.

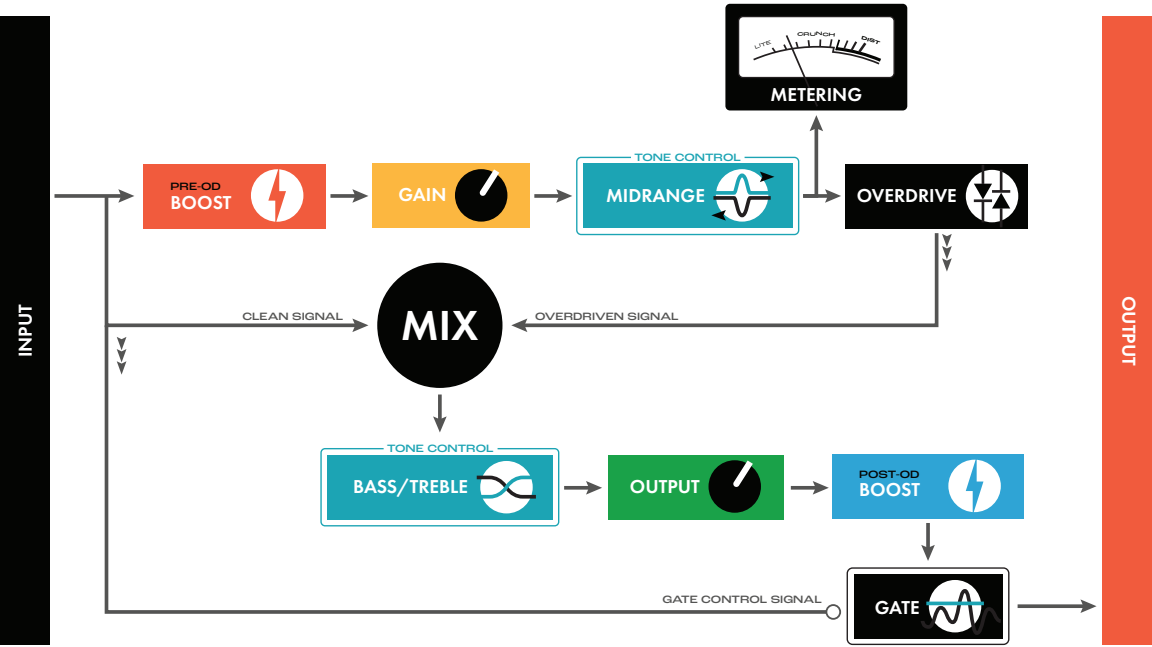
MIX: Lets you dial in how much of your clean signal is blended with the overdriven signal. Fully counter-clockwise is clean, fully clockwise is overdriven. Especially useful for bassists who want overdrive without sacrificing the low end of their clean tone.

OUTPUT: Adjusts the overall pedal volume.

GATE: Adjusts the threshold level for the noise gate.

BYPASS FOOTSWITCH: Turns the pedal on and off. The Drive is buffered bypass only.

SIGNAL FLOW BLOCK DIAGRAM



QUICKSTART SETTINGS

PARALLEL OVERDRIVE

(Pre-Overdrive Boost enabled)

Combines a pushed-mid overdrive tone with your clean signal, letting you slam the front of your amp by turning up the output level.

FUZZY

(Pre-Overdrive Boost enabled)

Pushes the overdrive circuit heavily with gain and boost, while pulling back on the mids so fewer harmonics are generated. Fits like a fuzzy glove.

BROKEN TRANSISTOR

Most of the overdrive here comes from the Midrange control, creating upper harmonics without a ton of gain. Try a neck pickup or roll off your tone knob with this one.

BRIT-ISH LEAD

(Pre-Overdrive Boost enabled)

Uses the Pre-Overdrive Boost to cut low end before the overdrive circuit, then pushes the mids to create loads of harmonic goodness and land you squarely in English territory.

BOOST

The Drive includes up to 30dB of stompswitchable Pre- or Post-Overdrive Boost, giving you control over whether you push the Drive's overdrive circuit or push whatever comes after it in your signal chain.

By default, the boost is assigned Pre-Overdrive. The boost position can be changed via Advanced Configuration (see page 13).

PRE-OVERDRIVE BOOST (DEFAULT)

When set to Pre-Overdrive, the boost increases the signal level going into the overdrive stage. This behaves much like hitting an amp with a clean boost, increasing saturation and changing the feel of the overdrive.

In this mode, a high-pass filter is applied to the boost to reduce low-frequency rumble at higher gain settings. This keeps the low end tight and focused, even when pushing the Drive hard.

To get a more "British Lead" sound out of the Drive, use less Gain and more Pre-Overdrive Boost to add saturation and sustain for lead tones while maintaining clarity and definition.

POST-OVERDRIVE BOOST

When set to Post-Overdrive, the boost is applied after the overdrive stage and raises the overall output level of the pedal.

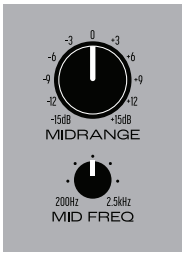
This is ideal for pushing the front of an amp or the next pedal in your signal chain without changing the Drive's gain character. You can use the Mix control to blend clean and driven signals to taste, then engage the Post-Overdrive Boost to increase volume for lead lines.

VU METER

Provides a visual indication of how hard you're hitting the overdrive circuit, making it easy to see when you're pushing the Drive into clipping.

TONE CONTROL

MIDRANGE & MID FREQ CONTROLS



The Midrange controls let you shape the character of the overdrive itself, rather than EQ it after the fact.

On the Drive, the Midrange tone control is placed before the clipping circuit. Adjusting the mids changes which frequencies are driving the gain response, directly affecting the harmonics that are created when the signal clips.

Instead of simply boosting or cutting mids after distortion, you are re-voicing how the overdrive behaves and responds under your fingers.

The Mid Frequency control selects which frequencies are affected, while the Midrange control sets how much of those frequencies are boosted or cut. At its minimum, the Mid Frequency is centred around 200Hz for thicker, lower-mid emphasis. At noon, it sits around 1.2kHz for presence and articulation. At its maximum, it reaches up to 2.5kHz, adding bite and upper-mid clarity.

The Midrange tone control uses a bell-shaped EQ whose bandwidth varies with the amount of boost or cut applied. Driving this control into the overdrive circuit increases or decreases the dominant harmonics generated, which can make the midrange feel wider or narrower than a traditional post-overdrive EQ. As a result, the response may not always feel perfectly one-to-one.

SETUP TIP

As you make adjustments, listen for how the harmonic content shifts. Small changes can dramatically affect how the Drive reacts, especially at higher gain levels.

BASS & TREBLE CONTROLS

The Bass and Treble controls are designed to help manage the low and high frequencies that most often cause overdrive tones to sound boomy, shrill, thin, or muffled.

Both use shelving filters with ±15dB of gain, allowing anything from subtle shaping to more dramatic tonal changes. The Bass control is centred around 200Hz, while the Treble is centred around 2kHz.

The Bass and Treble EQ is applied after the Mix control, ensuring that adjustments affect both the clean and overdriven signals together and preventing unexpected changes in low or high frequencies when blending clean signal back in.

NOISE GATE

The Drive's adaptive noise gate keeps your signal quiet when you're not playing, without getting in the way of your dynamics or note decay.

The gate is triggered directly from the signal at the input jack, before any filtering or clipping takes place. Its adaptive design responds to how you play, allowing sustained notes to decay naturally while clamping down quickly when it detects a sudden stop. This keeps the gate feeling musical rather than abrupt, even at higher gain settings.

When the gate is closed, the red LED beneath the Gate knob will be lit. When the gate is open, the LED will be unlit.

Turning the Gate control fully counterclockwise sets the threshold to its lowest value and disables the gate. Turning the control clockwise raises the threshold, requiring a stronger input signal to open the gate.

SETUP TIP

A good starting point is to raise the threshold until background noise is silenced when you aren't playing, then fine-tune from there so the gate responds as naturally or aggressively as you prefer.

ADVANCED CONFIGURATION

Advanced Configuration lets you customize how the pedal behaves.

To enter Advanced Configuration, press and hold both stompswitches during power-up. The VU Meter LEDs will cycle through a range of colours to indicate that you have entered Advanced Configuration.

WHILE IN ADVANCED CONFIGURATION:

To cycle through the available VU Meter LED colours*, press the Bypass stompswitch. The last colour selected will become the default VU Meter colour when the Drive is engaged.

To change the boost position, press the Boost stompswitch:

VU LEDs red = Pre-Overdrive Boost (default)
VU LEDs blue = Post-Overdrive Boost

To exit Advanced Configuration and save your settings, press and hold both stompswitches. The LEDs will cycle once more to confirm that the pedal has returned to normal operation.

**Red and Blue are not available VU Meter LED colours, as they are reserved for indicating boost operation and position.*

STARTUP PREFERENCES

By pressing and holding either stompswitch while powering on, you can toggle which state the pedal recalls on startup.

To toggle the startup behaviour, press and hold one stompswitch while powering on the pedal:

- Holding the Bypass stompswitch on power-up sets the Drive to engage automatically when powered on.
- Holding the Boost stompswitch on power-up sets the Drive to power up with the boost active when the pedal is engaged.

If both preferences have been enabled, the Drive will power up engaged with the boost active.

To disable a startup preference, repeat the same action. For example, if the Drive powers up engaged, holding the Bypass stompswitch on power-up will return it to bypass on startup.

The VU LEDs will flash several times to confirm the change, then the pedal will start up normally.

Note: Holding both stompswitches while powering on enters Advanced Configuration.

POWERING THE DRIVE

The Empress Drive requires at least 250mA of current to function properly. Any power supply rated at 9V DC with center-negative polarity (+-◉-) and at least 250mA of current should work.

Visit www.empresseffects.com/power for instructions on how to ensure your power supply works for your pedal.

REGULATORY COMPLIANCE INFORMATION

ICES-003 (Canada)
CAN ICES-003(B) / NMB-003(B)

FCC (USA)
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party in the USA
Americas Compliance Consulting LLC dba iCertifi
1001 SW Disk Drive, Ste 250
Bend, Oregon 97702 USA
FCC_sDoC@icertifi.com
icertifi.com

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio

communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CE (EU) and UKCA (UK)

This declaration of conformity is issued under the sole responsibility of Empress Effects Inc- 105-62 Steacie Dr, Kanata Ontario K2K 2A9. The device identified on the front page of this manual is in conformity with the requirements of:

- European Union: Electromagnetic Compatibility Directive 2014/30/EU
- United Kingdom: Electromagnetic Compatibility Regulations 2016 (SI 2016 No. 1091)

The following harmonized/designated standards have been applied:

- EN 55032:2015/A11:2020 – Electromagnetic compatibility of multimedia equipment - Emission Requirements
- EN 61000-3-2:2014 – Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
- EN 61000-3-3:2013 – Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
- EN 55035:2017/A11:2020 – Electromagnetic compatibility of multimedia equipment - Immunity Requirements

Colin King
Design Engineer
Empress Effects Inc
August 19, 2023
62 Steacie Dr, Suite 105, Kanata, Ontario K2K 2A9 Canada

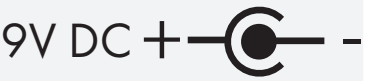
WEEE (2012/19/EU)

This product must not be disposed of with regular household waste. In compliance with WEEE regulations, please take this product to a designated collection facility or return to the supplier for proper recycling. Comply with local laws and regulations for disposal. Contact your local authority or support@empresseffects.com for specific information.

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling. Ensure that plastic bags, packaging, etc. are properly disposed of. Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

SPECIFICATIONS

Input Impedance:	1MΩ
Output Impedance:	100Ω
Frequency Response (-3dB):	20Hz - 22kHz
THD+N (buffer bypassed) (20Hz - 20kHz, 1Vrms):	< 0.1%
Input Voltage:	9V DC 
Required Current:	250mA
Power Input Connector:	2.1mm Barrel Connector
Height:	2.5″
Length:	4.8″
Width:	2.6″
Weight:	1lb