

emp^{ress}
effects



COMPRESSOR

DELUXE

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.

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INTRODUCTION

When the idea arose of making a stereo version of our Compressor pedals, I figured doubling the circuitry would be a bit of a challenge, but I could make it happen. Then the idea was pitched that we take the Colour circuit from the Bass Compressor and give it a dedicated knob and stomp for more control. Not a problem, I'll shift some things around.

"Oh, but we just put a meter in our Drive pedal, so it would be a missed opportunity if we didn't put a Gain Reduction meter in a Compressor!"

Now, a GR meter takes up a lot of space, and of course no one was willing to give up any features. With a little creativity I figured out a way to make it all fit, but then came the hammer: people started asking if we could add a second compressor in front of the first... and make that one stereo too.

Here's where we landed: four compressors in one with tone shaping and saturation, all in our standard enclosure. All the bells and whistles you could ever need. Also a GR meter! That sounds pretty "Deluxe" to me.

IVAN T.

Ivan J. Plamondon
Senior Analog Designer

QUICKSTART SETTINGS

FUNK GUITAR

The slow-ish attack and a little dry signal bring out the guitar's percussiveness, while a moderate amount of compression levels the rest. The SC HPF is dialled up just enough that low notes and chords don't overpower the compressor.



COMPRESSION SUSTAIN

Stack rounds off your attack transient while the main compressor smooths out the rest of the note. Dry signal is blended back in to retain your natural dynamics and attack; as the note decays, the sustained compressed signal becomes more prominent.



BASS AT NOON

Rye Jackson (*Ella Langley*)'s favourite setting for all his basses. The moderate settings “ride the wave” for a super consistent bass sound, while the 50/50 mix brings back your bass’ natural character.



SO MUCH COLOUR

(Colour enabled)

Maximum Input levels + minimum compression settings = a lot of signal being sent to the Colour circuit. Sputters like a very abused piece of studio gear. Add a boost before the Compressor Deluxe if you want to create total destruction.



DR. PEPPER

The classic “10-2-4” default FET compressor setting, adapted for the Compressor Deluxe. A great starting point for any source: just adjust Input to control how much signal is sent to the compressor and Output for makeup gain.



DRUM ROOM

Stack handles attack transients to accentuate the room sound, while the second stage compressor keeps the overall performance even. Run at 100% compressed and it sounds like your mics have been moved back in the room!



MASTER BUS

Aim for 3–5dB of gain reduction with this setting. The slow 50ms attack lets transients through while gently controlling the overall mix, adding glue without making the compression sound like an “effect”.



VOCAL COMP

A versatile starting point for vocals. The slight Tilt EQ brings the voice forward without becoming piercing. Increase the Input for heavier compression, or experiment with higher Ratio settings for in-your-face rock vocals!



CONTROLS AT A GLANCE

INPUT: Sets the level entering the compressor circuit.

RELEASE: How quickly compression is removed. Ranges from 50ms (CCW) to 1s (CW).

ATTACK: How quickly the compressor engages. Ranges from 50 μ s (CCW) to 50ms (CW).

COLOUR: Blends the Colour circuit into your signal, from 20% (CCW) to 80% (CW).

STACK: Engages a fixed compressor before the main compressor. Has a 50 μ s attack, 100ms release, and a gentle ratio of ~2:1.

COLOUR STOMP SWITCH: Turns the Colour circuit on and off.

MIX: Controls the balance between the dry (CCW) and compressed (CW) signals. Blending in dry signal restores dynamics and attack that can be lost during compression.

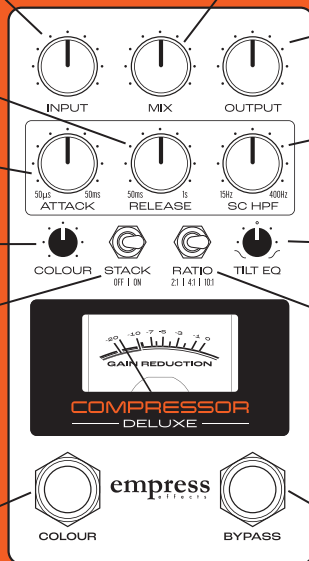
OUTPUT: Also known as makeup gain. Sets the overall output level of the pedal after compression.

SC HPF: A variable high-pass filter that removes low frequencies from the sidechain signal (page 12). Ranges from 14Hz (CCW) to 400Hz (CW).

TILT EQ: Centred at 500Hz. Turning counter-clockwise will cut treble and boost bass. Turning clockwise will boost treble and cut bass.

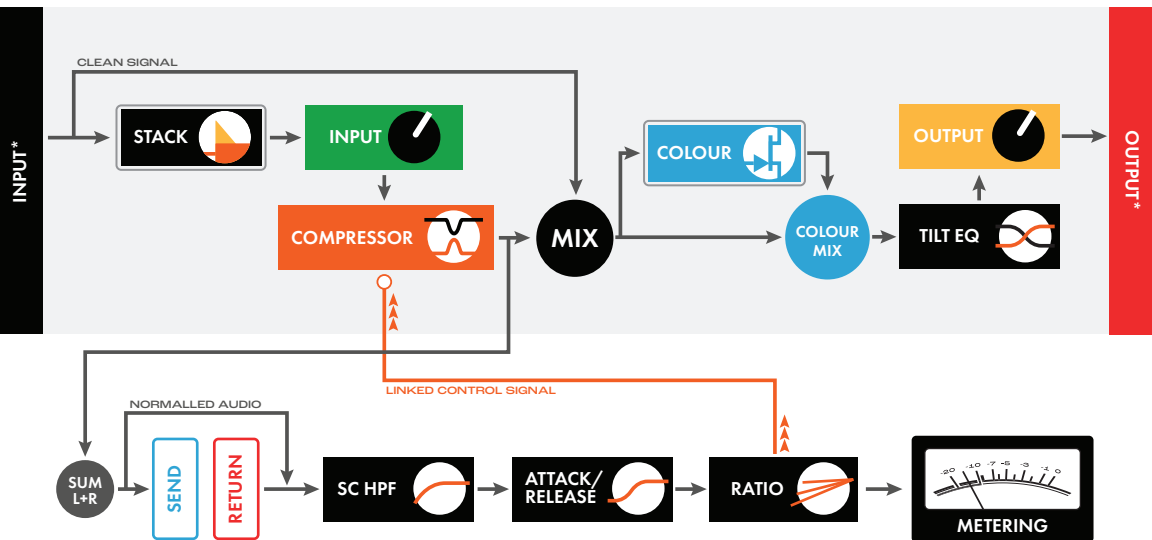
RATIO: Determines how aggressively gain reduction is applied. Threshold increases with ratio (page 10).

BYPASS STOMP SWITCH: Turns the pedal on and off. The Compressor Deluxe is buffered by bypass only.



CCW = Counter-Clockwise, CW = Clockwise

SIGNAL FLOW BLOCK DIAGRAM



*Audio path duplicated for left & right channels.

COMPRESSION BASICS

Fundamentally, compression reduces the difference between your loudest and quietest notes by turning loud signals down. It can add consistency and sustain to your playing, or be used to add punch, note definition, and other creative effects.

RATIO & THRESHOLD

Ratio determines how much gain reduction will be applied to the signal once it crosses above the threshold. So, at a ratio of 4:1, every 4dB of signal above the threshold becomes 1dB at the output.

The Compressor Deluxe uses a Ratio control inspired by classic FET studio compressors. As the ratio is increased, the threshold also rises. This changes both how aggressively the signal is compressed and how much signal is required before compression begins (Fig. 1).

2:1 – Gentle control with earlier compression onset.

4:1 – General purpose. Balanced control and feel.

10:1 – Heavy compression with highest threshold.

Lower ratio settings begin compressing earlier and react more gently. Higher settings require more input level before compression starts, but apply more aggressive gain reduction once it does.

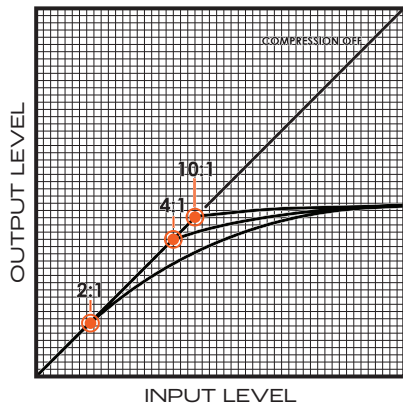


Fig. 1: Threshold (orange) increases with ratio.

PARALLEL COMPRESSION

Parallel compression blends the compressed signal with the original dry signal. The Mix control sets the balance between the two, from 100% dry at minimum to 100% compressed at maximum.

Blending in the dry signal can restore some of the dynamics and attack lost through heavier compression while retaining the sustain and consistency of the compressed signal. This lets you use more aggressive compression without completely sacrificing the natural character of your playing.

SIDECHAIN

The sidechain is the compressor's level detection circuitry. Based on the signal it receives, it determines when compression begins, how much gain reduction is applied, and how the Attack and Release controls shape its response.

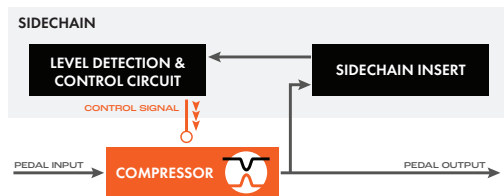


Fig. 2: Simplified feedback compression diagram.

On the Compressor Deluxe, the sidechain monitors the signal after it has passed through the gain reduction stage (Fig. 2). This “feedback” topology allows the compressor to continuously respond to its own output, resulting in a smoother, more natural compression response.

The external Sidechain connector and SC HPF control affect the main compressor stage only. The Stack compressor always operates with its fixed internal settings.

SIDECHAIN HIGH-PASS FILTER

The SC HPF (high-pass filter) knob is used to reduce the influence of high-energy low frequencies. This helps avoid over-compressing and keeps the low frequencies sounding full while still controlling errant high frequencies that pop out.

SIDECHAIN CONNECTOR JACK

The 1/8" TRS Sidechain connector jack (Tip = Send, Ring = Return, Sleeve = Ground) provides access to the Compressor Deluxe's sidechain signal. By inserting an external processor, such as an EQ, you can tailor how the compressor responds without affecting your direct audio signal. You can also trigger the compressor from an external audio source by sending audio into the Return connection.

One common application is sidechain “ducking”, where a kick drum triggers compression on another signal, causing it to briefly drop in level each time the kick hits.

STACK

Stack mode is inspired by the classic studio trick of placing a fast FET compressor before a slow optical compressor to transparently level audio.

Stack works great for levelling out heavy-picked guitar or slap bass, and for making drums feel bigger by controlling sharp transients before they hit the main compressor.

The Stack compressor is first in the compressed signal path and features a gentle ratio of roughly 2:1, with a very soft knee and fixed attack and release times of 50µs and 100ms, respectively. It catches fast peaks and transient spikes, so the main compressor spends less time chasing quick pops and more time shaping the overall dynamics.

STEREO OPERATION

The Compressor Deluxe can either be used as a mono or stereo compressor by using TS or TRS cables, respectively. It can also be configured in Mono In / Stereo Out mode through Advanced Configuration (see page 16).

It is important to note that, when used as a stereo compressor, the Compressor Deluxe uses a linked compression circuit. This means that if the right channel triggers 5dB of gain reduction, the left also receives 5dB of gain reduction, and vice versa.

COLOUR

The Colour circuit is a post-Mix FET saturation stage inspired by the sound of overdriving classic studio hardware. When engaged, turning the Colour control clockwise increases the amount of the Colour circuit blended into your signal, from 20% at minimum to 80% at maximum.

Since it sits after the Mix control, heavier compression reduces the peaks that drive the circuit, resulting in gentler saturation. Back off the compression, increase the Input, and Colour begins behaving much more like an overloaded piece of vintage studio gear.

GAIN REDUCTION METER

The Gain Reduction (GR) Meter shows how much the compressor is turning your signal down, measured in decibels (dB).

Beyond showing the amount of compression, the movement of the meter is a useful reference when setting Attack and Release. Watch how it responds to and recovers between peaks to see whether the gain reduction is riding the dynamics of your source or remaining constant.

ADVANCED CONFIGURATION

EDITOR'S NOTE

You're about to see the word "colour" a lot. Whenever **Colour** is capitalized and bold, we're referring to the **Colour circuit**. Otherwise, we're talking about colours.

Advanced Configuration lets you customize set-and-forget parameters.

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

WHILE IN ADVANCED CONFIGURATION:

To cycle through available GR Meter LED colours*, press the **Colour** stompswitch. The selected colour becomes the GR Meter default when the **Colour circuit** is engaged.

To change the routing mode, press the Bypass stompswitch:

Solid GR Meter = Stereo (default)

Blinking GR Meter = Mono In / Stereo Out

When Mono In / Stereo Out is enabled, the GR Meter LEDs will briefly flash during startup to indicate

that this mode is active.

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

Orange is reserved to indicate that the Compressor Deluxe is engaged without the **Colour circuit.*

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 Compressor Deluxe to engage automatically when powered on.
- Holding the Colour stompswitch on power-up sets the Compressor Deluxe to power up with the Colour circuit active when the pedal is engaged.

If both preferences have been enabled, the Compressor Deluxe will power up engaged with the Colour circuit active.

To disable a startup preference, repeat the same action. For example, if the Compressor Deluxe

powers up engaged, holding the Bypass stompswitch on power-up will return it to bypass on startup.

The GR Meter 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 COMPRESSOR DELUXE

Any 9V DC power supply with centre-negative polarity (+-) and a minimum current rating of 300mA is required to properly power the Compressor Deluxe.

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

Ivan J. Plamondon

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Designer

Empress Effects Inc

August 12, 2026

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:	1 M Ω
Output Impedance:	100 Ω
Sidechain Impedance:	500 Ω (Send) 1 M Ω (Receive)
Frequency Response (-3dB):	<10Hz to >20kHz (Bypass) 15Hz to >20kHz (Engaged)
THD+N (20Hz-20kHz):	< 0.1% (Bypassed, 1Vrms) < 0.5% (Dry, 1Vrms) < 1% (Wet, 0.1Vrms)
Noise Floor:	<-140dBu (Bypassed) <-120dBu (Dry) <-100dBu (Wet, w/o Stack) <-90dBu (Wet, w/ Stack)
Headroom:	+17dBu
Input Voltage:	9V DC 
Required Current:	300mA
Power Input Connector:	2.1mm Barrel Connector
Size (W x L x H):	2.6" x 4.8" x 2.5"
Weight:	1lb