

GENERAL SETUP

Run a cable (up to 3m) from your instrument to the INPUT jack located on the back of the device. Ensure the correct input impedance: set the impedance switch located next to the audio input to **LINE** position. **If using a piezo pickup check the *PIEZO INSTRUMENTS* section.**

WARNING: DO NOT plug cable longer than 3m to the INPUT!

Run Another cable from the OUTPUT of the device to the amplifier or monitoring/PA system (it's a good practice to pair with a passive transformer DI-BOX and run XLR cable), ensuring proper grounding of the installation. Plug the device to a high quality, low noise power supply (not included) – the device is ready to operate within **2 seconds**.

WARNING: DO NOT use switching power supply with your audio equipment!

To engage the device, use the BYPASS footswitch on the face of the unit. The various controls on the device allow you to modulate, shape, and adjust the effect in search of the desired sound.

Note: The interface control knobs remain permanently operative when the **INTERFACE locking switch** is set to *active* position **only**.

Note: Before disconnecting power source ALWAYS make sure the device is in BYPASS mode

PIEZO INSTRUMENTS

When plugging a passive piezo instrument (no active preamp) directly to the device input, you can benefit from the full potential of the High Impedance Preamp featured in this unit. This preamp is specifically designed to handle demanding nature of piezoelectric pickups commonly used in string instruments:

- Set the impedance switch located next to the audio INPUT to one of the Hi-Z positions matching the Capacitance of your piezo pickup: **HI-C** (high capacitance) / **LO-C** (low capacitance)

WARNING: Only use low capacitance instrument cable when enabling HI-Z preamp featured in this device!

*In case your instrument requires extreme input level headroom while preserving high input impedance you may consider pairing your instrument with active preamp dedicated to piezo pickups - **IMPEDANCE ROD** that serves as a pre-buffer. It features the same high impedance preamp with further enhanced input headroom (+20dBV) and adjustable output level. For more info please check [impulse9.pro](#)*

SPECIFICATION

Power Input
Voltage 9V DC
Current 600 mA

Input Impedance
HI-Z 1 MΩ
LINE 10 kΩ

Output Impedance 22 kΩ

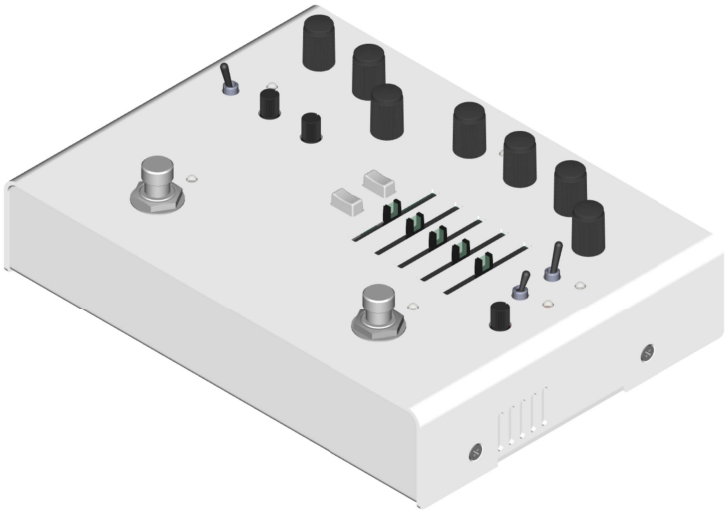
Max Input Level +7 dBV

Max Output Level +5 dBV

Bypass
True True Hardwire – signal bypasses all active electronics.
Digital Internal preamp's passthrough + zero latency ΔΣ (internal hardware passthrough)
Note: In Digital Bypass mode only the DSP unit is being bypassed, thus ensuring internal preamps keep the input and output impedances of the device stable.

ΔΣ
Sampling frequency 176 400 Hz
Sampling resolution 24 bit
I/O latency <2 ms

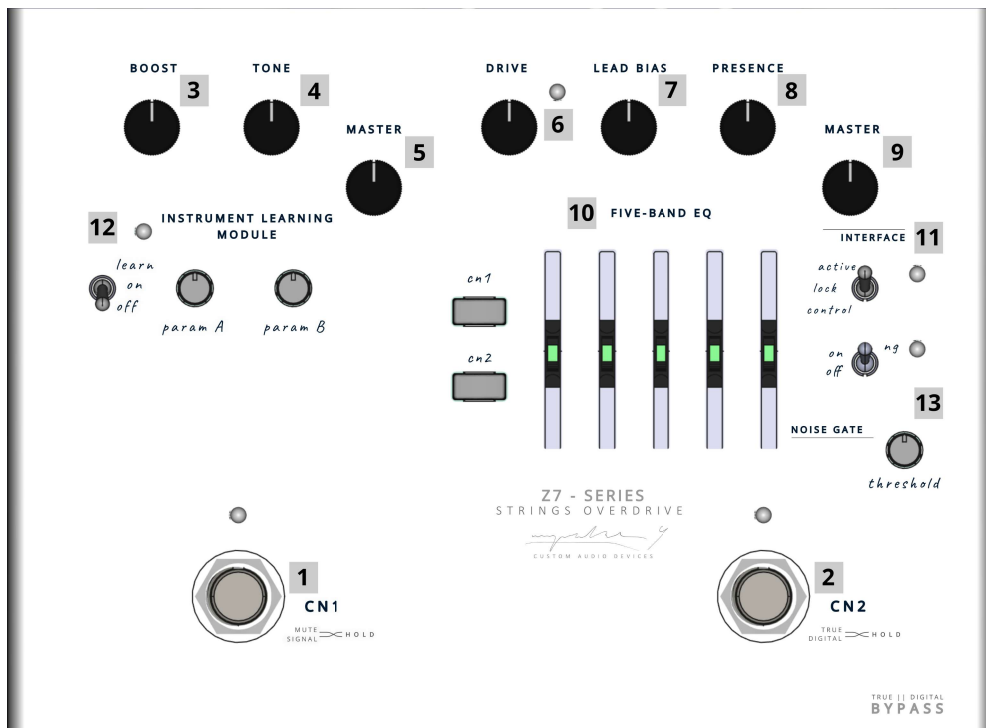
USER MANUAL



Z7-SERIES

STRINGS OVERDRIVE





1 – CN1 – Toggles **Channel 1** operation between **active** (DSP) and **passive** (BYPASS).

HOLD 3 sec to temporary **Mute** the output.

2 – CN2 – Toggles **Channel 2** operation between **active** (DSP) and **passive** (BYPASS).

HOLD 3 sec to temporary **Mute** the output.

HOLD both CN1 and CN2 simultaneously to toggle **Bypass** mode (true bypass / digital bypass).

Note: Only one channel can be active at a time – activating an inactive channel results in automatic deactivation of previously active channel.

3 – BOOST (CN1) – Adjusts **Gain level** for the saturation to be applied on the **Input** signal.

It's **neutral** (tonally transparent; +0dB) on the **min** position.

4 – TONE (CN1) – Adjusts **Voicing** to be applied on the **Input** signal.

It's **neutral** (tonally transparent) on the **center** (detent) position.

5 – MASTER (CN1) – Adjusts the **Output Signal Level** of **Channel 1**.

It's **neutral** (-0dB) on the **max** position.

6 – DRIVE (CN2) – Adjusts **Presaturation level** to be applied on the **Input** signal.

Dynamic range adjustment: from -inf to +48dB

7 – LEAD BIAS (CN2) – Adjusts the **offset of the input-signal band** (PRE) relative to the **primary** overdrive stage.

It's **neutral** (tonally transparent) on the **central** (detent) position.

Note: Fundamentally alters the overdrive's interaction with your instrument, affecting its tonal character, dynamic response and playability.

Below center: the overdrive acquires a more **vocal, lead-oriented** quality.

Above center: the overdrive becomes **harder, faster and modern/contemporary** — particularly useful in percussive contexts to tame the behaviour of the instruments resonant body.

8 – PRESENCE (CN2) – Enhances **clarity/definition** to help **cut through the mix** without changing the tone/responsiveness

It's **neutral** (tonally transparent) on the **min** position. Designed for **live/stage** environments.

9 – MASTER (CN2) – Adjusts the **Output Signal Level** of **Channel 2**.

It's **neutral** (-0dB) on the **max** position.

10 – FIVE-BAND EQ – Adjusts **Voicing** to be applied on the **Output** signal of selected channels:

Each band modulation is **neutral** (tonally transparent) on the **center** (detent) position.

cn1 – **Applies/Bypasses** the FIVE-BAND EQ settings on the **Output** signal of **Channel 1**.

cn2 – **Applies/Bypasses** the FIVE-BAND EQ settings on the **Output** signal of **Channel 2**.

Note: By using **INTERFACE** edit mode, separate FIVE-BAND EQ settings can be used and assigned to **Channel 1** and **Channel 2**.

11 – INTERFACE – Interface locking system: *Quickly lock/unlock the potentiometers (3, 4, 5, 6, 7, 8, 9, 10, 12, 13)*

active – All knobs are **active** and work **live** – what you turn is what you hear.

lock – Knobs are **inactive** (locked):
Each knob value is read from memory, physical knobs are ignored
(unless a knob had been unlocked in **Edit mode** – see control 1).

control – **TAPPING** toggles the **INTERFACE lock** between **Locked mode** (LED red) and **Edit mode** (LED yellow).
(momentary) **HOLDING** overwrites **active** (unlocked) knobs to memory.

Note: In **Edit mode** you can **unlock** any knob on the active channel by simply **moving/sliding** it to its **locked value**. Unlocked knobs become **active**; others stay at the **locked value**.

Note: If you **SNAP** (quick "jump") directly from **active** position to **control** position and **HOLD**, all current knob positions are saved to memory, replacing previous **locked values**.

12 – INSTRUMENT LEARNING MODULE – Mathematical module optimizing your instrument for overdriving purposes.

- learn**
- 1) Puts the device into **Learning mode**: the device listens to your instrument while the output is muted (led flashes violet slowly);
 - 2) Play the **lowest** possible note of your instrument **continuously** with standard and **constant velocity** – the module will start learning your instruments characteristics if done correctly (led flashes violet rapidly).
After enough data had been gathered **a profile of your instrument will be modeled** and saved to the device memory (overwriting the previous one if a new instrument setup is detected – lights blue for 2s after finished; if not – no significant changes to instrument characteristics has been made in comparison to the existing instrument profile).
 - 3) After the process had been finished successfully the device switches back to **performance mode** automatically.

on – **Applies** modeled instrument profile to the **processing engine**.

off – **Ignores** modeled instrument profile.

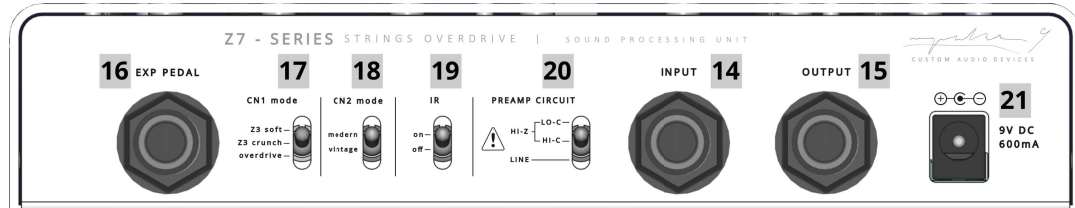
body – Adjusts additional optimization of the learned instrument resonant body resonance.

bow – Adjusts additional optimization of the learned instrument bow friction resonance.

Note: When in **Learning mode**, engaging with its switch, CN1 or CN2 footswitch will stop the learning process and activate the corresponding channel disregarding any changes made to **instrument profile**. A new **instrument profile** is only created when the LED lights blue after learning.

13 – NOISE GATE – A dedicated **Multistage Noise Gate** optimized for **bowed** instruments.

ng (on/off) – **Enables/Disables** noise gate **algorithms**. When enabled – **LED** shows the gates state in **realtime**.



threshold – Sets Noise Gate **activation level** – when signal falls below this level, the gate starts to **attenuate**.

14 – INPUT – Jack 6.3mm **Mono Audio Signal Input**.

15 – OUTPUT – Jack 6.3mm **Mono Audio Signal Output**.

16 – EXP PEDAL (CN2 only) – Jack 6.3mm **Expression Pedal Input**. Note: Only use Mono cable.

Takes full control over the **DRIVE** knob, offering consistent volume across entire overdrive spectrum and enhanced sustain on lower gain levels.

17 – CN1 mode – Determines the **Channel 1** paradigm:

Z3 soft – CN1 inherits the **Z3 CLEAN BOOSTER soft** character.

Z3 crunch – CN1 inherits the **Z3 CLEAN BOOSTER crunch** character.

overdrive – default **Z7** low gain drive dedicated to CN1

18 – CN2 mode – Determines the **Channel 2** paradigm:

modern – CN2 inherits the **Z5 modern** character.

vintage – CN2 inherits the **Z5 vintage** character.

19 – IR – **Enables/Disables** dedicated **Impulse Response** algorithm (overdrive only – has no effect on the CN1-Z3 modes):

Note: In case the device is to drive a guitar amplifier you may want to disable the Impulse Response algorithm (use on by default) to drive guitar speakers with proper bandwidth.

20 – PREAMP CIRCUIT – Determines the **Input Preamp**:

HI-Z | **LO-C** – **High Impedance**, **Low Capacitance** input preamp for **low** capacitance passive **PIEZO** INSTRUMENT

HI-Z | **HI-C** – **High Impedance**, **High Capacitance** input preamp for **high** capacitance passive **PIEZO** INSTRUMENT

LINE – **Low Impedance** LINE input preamp for **active** instruments electronics and other pedals.

21 – 9V DC – Power Supply input

Center negative, 9VDC, ≥600mA, High quality **linear power supply** required (not included).