



**ADDAC System**  
Instruments for Sonic Expression  
Est.2009

**INTRODUCING**  
**ADDAC310**  
**PRESSURE**  
**TO CV**

USER'S GUIDE . REV01  
June.2024



From Portugal with Love!

# Welcome to: ADDAC310 PRESSURE TO CV USER'S GUIDE

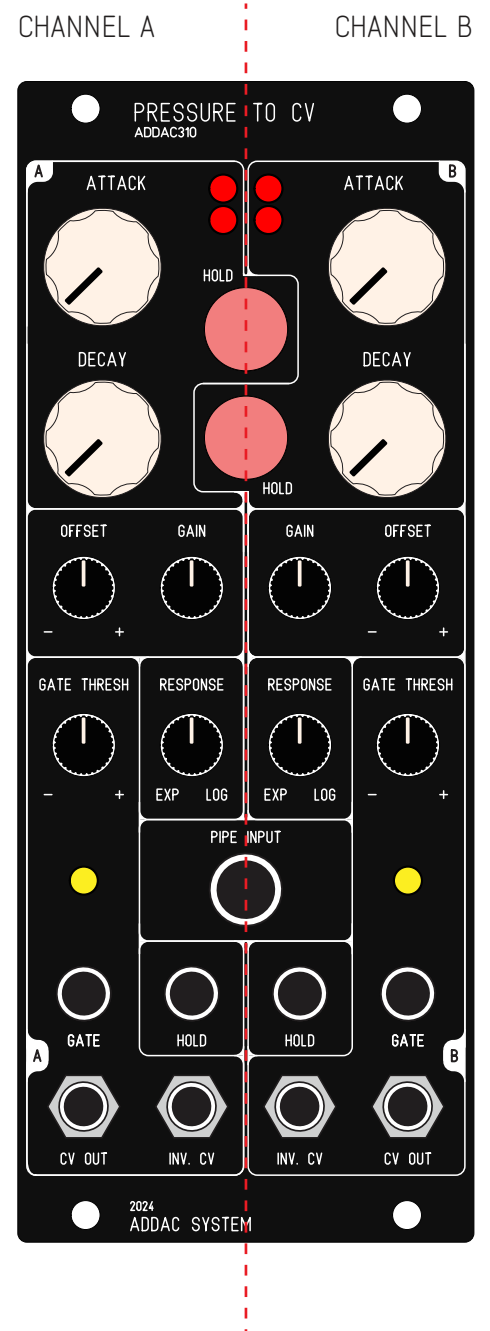
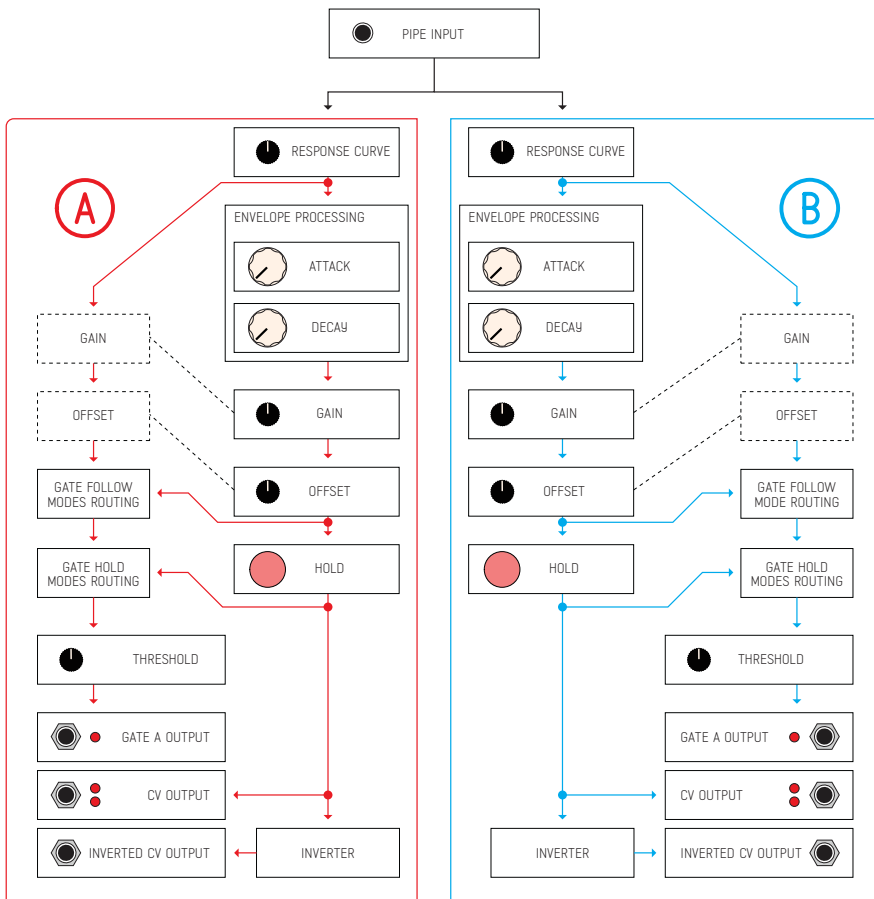
Revision.01 June.2024

## WELCOME

This module expands our line of expressive controls, it follows the heritage of wind/breath controllers with one major difference, the pipe has no air escape creating pressure inside the tube controlled by the user's mouth. For a seasoned woodwind or brass musicians this working principle may sound unorthodox, however this way pressure can be controlled for longer without the need to breath in or learning circular breathing techniques. It's relatively easy to control the pressure in your mouth while still breathing through the nose. The module is provided with a standard melodica pipe which connects to an air filter (providing a receptacle for condensation to form and isolate the sensor) and lastly connects to the module frontpanel.

The signal captured by the sensor is then sent to two independent sections with exactly the same functions as seen in the signal flow diagram below.

As an example the two sections can be used with different settings to independently control the VCA and VCF of any standard analog voice patch.



Tech Specs:  
10HP  
4.5cm deep  
70mA +12V  
40mA -12V

# CONTROLS DESCRIPTION

**[CV OUTPUT LEDS]** Two leds for each channel monitors the bipolar CV Output.

**[HOLD PUSH BUTTON]** Latch button turns the hold function On or Off.

**[ATTACK] & [DECAY]** Sets the Attack & Decay that will slew the sensor raw value.

**[GAIN]** Sets the channel CV gain.

**[OFFSET]** Sets the channel CV offset.

**[RESPONSE]** Sets the sensor calibration response curve.

**[GATE THRESHOLD]** Sets the threshold for the gate output.

**[PIPE INPUT]** The sensor input to connect the external pipe.

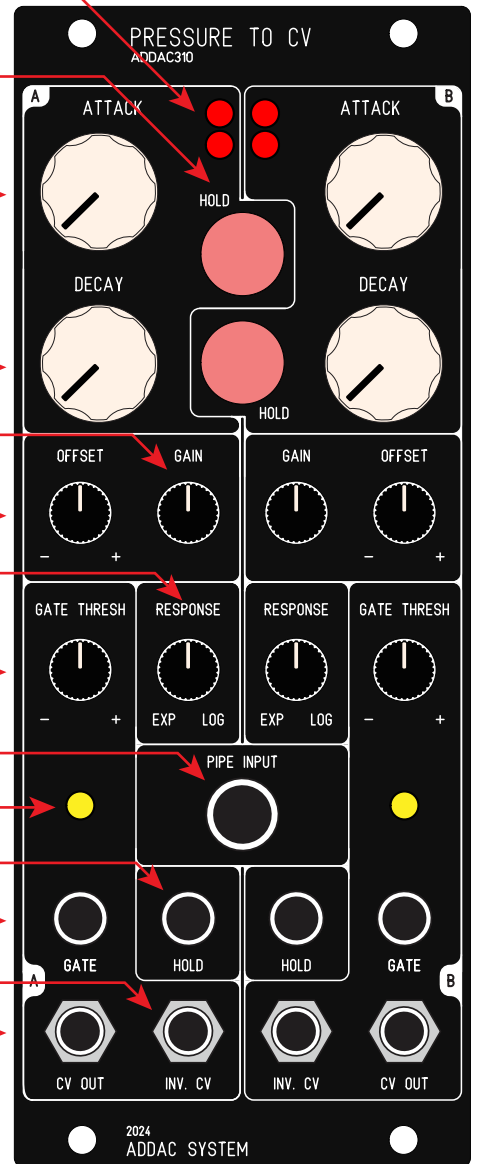
**[GATE STATE LED]** Monitors the Gate Output state.

**[HOLD GATE INPUT]** Gate input for the Hold function.

**[GATE OUTPUT]**

**[INVERTED CV OUTPUT]**

**[CV OUTPUT]**

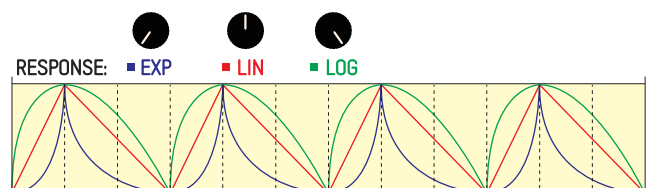


## PIPE

We're using a standard Melodica pipe into an air filter that will keep condensation away from the sensor. The air filter is then connected to the frontpanel sensor input using a silicone tube.

## SENSOR CALIBRATION

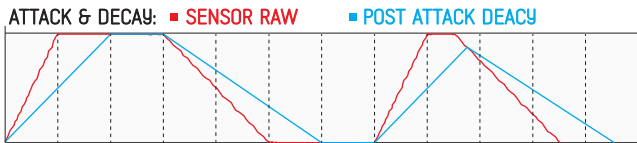
**[RESPONSE]** is the main control to calibrate the pressure curve, the knob goes from exponential to logarithmic with linear at 12 o'clock. Exponential will be more reactive to high pressures, logarithmic to lower pressures.



# CONTROLS DESCRIPTION

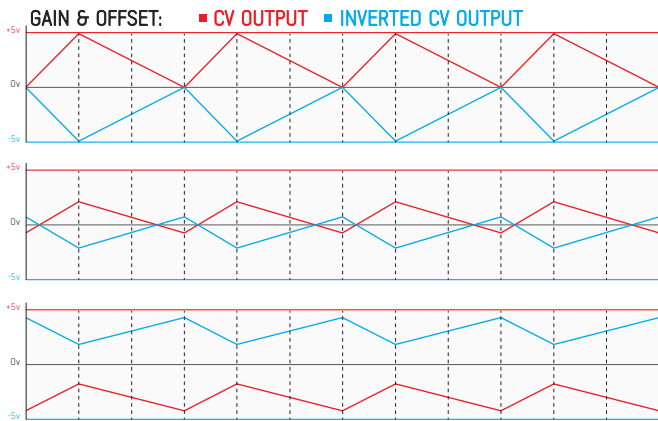
## ATTACK & DECAY

The [ATTACK] & [DECAY] controls will slew the incoming raw sensor value



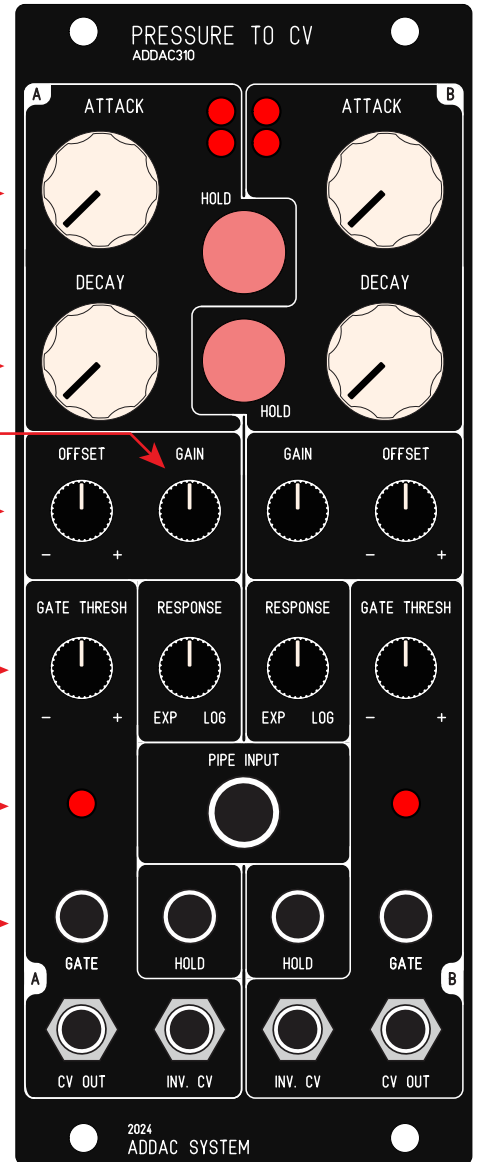
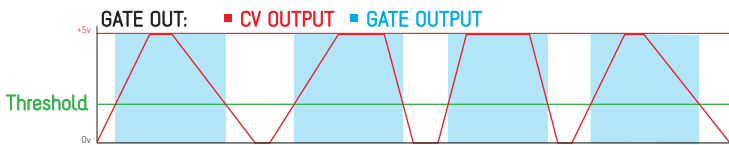
## GAIN & OFFSET

The [GAIN] & [OFFSET] controls allow to map the output voltages to the precise range needed.



## GATE THRESHOLD & GATE OUTPUT

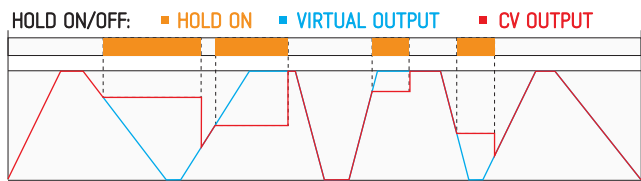
The Gate output will be ON when the voltage output is above the [THRESHOLD] control knob setting.



# HOLD FUNCTION

## HOLD FUNCTION

This feature allows to hold the current voltage value with the hold is engaged (button led on), the state can be changed either by the push button in a latching manner (push to change state) or via the gate input in a momentary manner (hold on while gate is on)



## GATE OUTPUT HOLD MODES

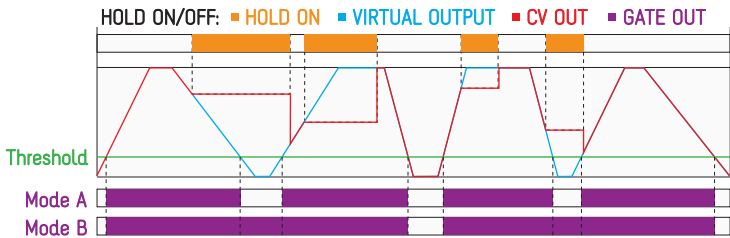
There are 2 modes for the behaviour of the [GATE OUTPUT] while the [HOLD] function is on. To change between modes just keep the [HOLD] button pressed for a second, after releasing the button the button led will blink once for Mode A and twice for Mode B.

Mode A (default):

[GATE OUTPUT] follows the virtual output

Mode B:

[GATE OUTPUT] follows the [CV OUTPUT]



## GATE OUTPUT FOLLOW MODES

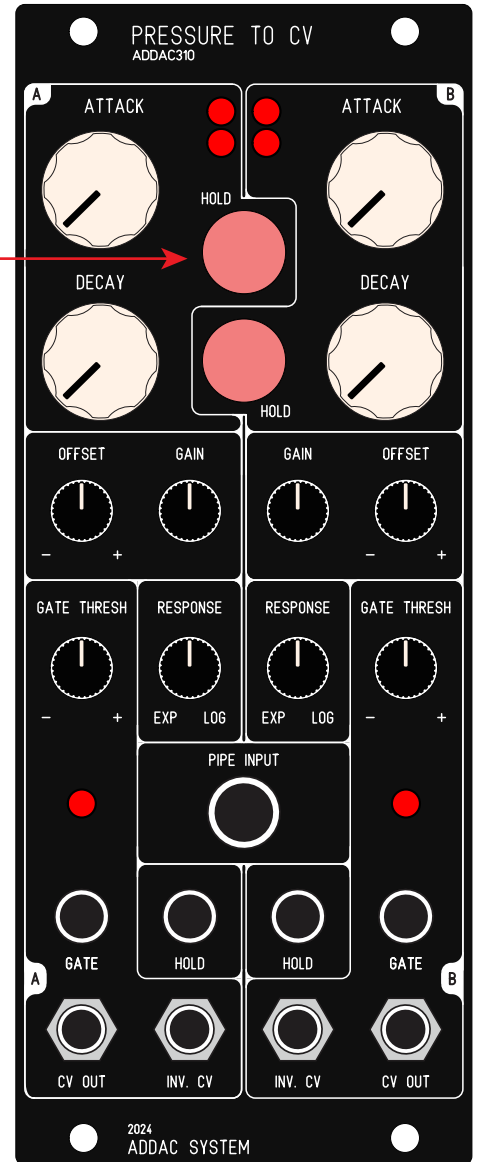
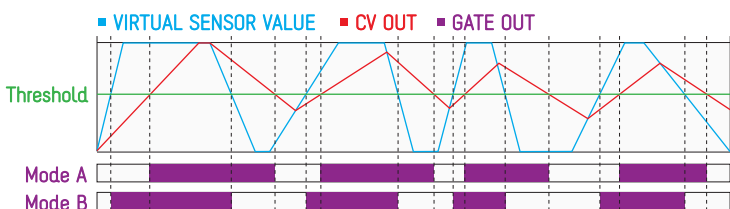
There are 2 modes for the behaviour of the [GATE OUTPUT] depending what the Gate is following. To change between modes quickly press twice the channel button you want to change. The button led will blink once for Mode A and twice for Mode B.

Mode A (default):

[GATE OUTPUT] follows the module [CV OUTPUT]

Mode B:

[GATE OUTPUT] follows the sensor value before the Attack and Decay slew is applied.



Both Modes are saved in internal memory and will be recalled at startup.

For feedback, comments or problems please contact us at:  
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