

Signal Manager

March 27, 2026

v1.0.1



Signal Manager ✕

Proio Signal Manager v1.0.1
build 4
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Max Active

Currently Active

Priority Queue

Clear All

	Label	Key	Priority	Active	Out
1	Mic 1		1	☒	☐
2	Mic 2		1	☒	☐
3	Mic 3		1	☐	☒
4	Mic 4		1	☐	☒
5	Mic 5		1	☐	☒
6	Mic 6		1	☐	☒
7	Mic 7		1	☒	☐
8	Mic 8		1	☐	☒



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Introduction

Signal Manager is a useful tool for managing multiple competing incoming signals through a first-in, first-out (FIFO) queueing methodology. Signals can be any type of control signal capable of activating the "Key" toggle button. Inputs that are keyed will be considered for activation or queueing depending on the "Max Active" setting and the number of currently active signals. This makes the plugin useful for gating signals beyond a certain limit.

A practical application of Signal Manager is to connect GPI buttons to the key buttons, then connect the "Active" output LEDs to the manual activation buttons of a gain-sharing auto-mixer. The result is a conferencing setup where participants can use a button to request permission to speak, while still limiting the number of open mics to maintain order in the meeting.

The plugin also features a priority ranking system for each input signal. Inputs with a higher priority number are treated as higher priority and will override active signals when the "Max Active" limit has been reached, ensuring that certain signals always take precedence.

Another practical application of Signal Manager is merging multiple control signals for control purposes. Each signal can be assigned a unique priority to create a hierarchy of actions, allowing only the highest-priority signal to prevail at any given time. Lower-priority outputs are gated when a higher-priority signal is active, which can be useful for control triggering, LED feedback signaling, or audio playback triggering based on the states of multiple inputs.



Properties

Signal Count

an integer between 2 and 100 that defines the number of available signals that may be connected



Controls

Max Active

sets the maximum number of simultaneously active signals at any given time. Signals activated after this limit is reached are queue.

Currently Active

shows the number of currently active signals

Priority Queue

toggles whether keyed signals that are queued should be ordered in strict FIFO mode (button is off) or ordered according to their priorities (button is on). See notes below for more details.

Clear All

a trigger button that will reset all outputs. Keyed inputs will need to be released and then reactivated.

Label

a useful textbox to identify incoming signals

Key

a toggle button used for requesting a signal to be activated, subject to the number of Currently Active threshold and the Max Active limit

Priority

an integer knob that sets the priority of the signal, between 1 and 100

Active

an LED that is ON when the signal is activated

Out

An LED that displays the inverse state of the "Active" LED (useful for working with negative logic controls such as mute buttons)



Priorities

Each input signal into Signal Manager has a priority assigned to it via the "Priority" integer knob. The priority is assigned upon input activation and does not change until the input is re-keyed. The priorities of all signals are evaluated whenever any signal is activated to determine where it should be placed in the queue. Priorities work in descending order; that is, the higher the number, the higher the priority. Signals with equal priorities are processed first-in, first-out. The FIFO scheme is maintained throughout all signals after sorting is first performed on the priority number. Therefore, to disable tpriority-based ordering, all signals should use the same priority number.

Should a signal be overridden by higher priority input, then it is placed at the beginning of the queue. Overridden signals are added to the queue in a first-in, last-out manner, that is, the most recently overridden signal will be the first to be reactivated. This allows a signal to immediately resume once the higher-priority signal deactivates (in the event of a temporary interruption) or another position is made available.

Priority Queueing

Once the Max Limit of active signals has been reached, any further keyed signals will be placed into an unseen queue. When the Priority Queue control is enabled, the queue will be sorted according to the priority number of the signal inputs in the queue. As previously mentioned, equal priority numbers will still maintain their activation order.

When Priority Queueing is disabled, all queued signals will be in a strict FIFO order. Upon the deactivation of an active signal, the next signal in the queue will be activated regardless of priority. In the event that a higher priority signal that is still within the queue is un-keyed and then re-keyed, it has the potential to skip the line and override any active signals according to the priority rules. If it is not of sufficient priority to override any active signals, it will be placed at the end of the queue.



Changelog

v1.0.1 – March 27, 2026

- Updated to ProIO branding

v1.0.0 – March 27, 2021

Original release