

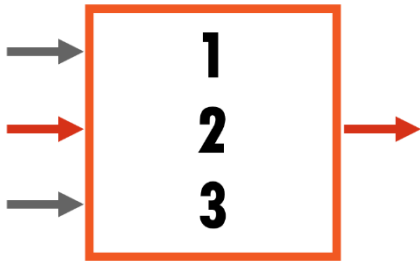
SIGNAL MANAGER

Version 1.0.0
March 27, 2021

Pro.io Signal Manager ✕

Max Active by Programation.io
Currently Active v1.0.0
Priority Queue Clear All

	Label	Key	Priority	Active	Out
1	<input type="text" value="Moderator"/>	<input type="text" value=""/>	<input type="text" value="3"/>	<input checked="" type="radio"/>	<input type="radio"/>
2	<input type="text" value="Chair Left 1"/>	<input type="text" value=""/>	<input type="text" value="2"/>	<input type="radio"/>	<input checked="" type="radio"/>
3	<input type="text" value="Chair Left 2"/>	<input type="text" value=""/>	<input type="text" value="2"/>	<input type="radio"/>	<input checked="" type="radio"/>
4	<input type="text" value="Chair Left 3"/>	<input type="text" value=""/>	<input type="text" value="2"/>	<input type="radio"/>	<input checked="" type="radio"/>
5	<input type="text" value="Chair Right 1"/>	<input type="text" value=""/>	<input type="text" value="2"/>	<input type="radio"/>	<input checked="" type="radio"/>
6	<input type="text" value="Chair Right 2"/>	<input type="text" value=""/>	<input type="text" value="2"/>	<input type="radio"/>	<input checked="" type="radio"/>
7	<input type="text" value="Chair Right 3"/>	<input type="text" value=""/>	<input type="text" value="2"/>	<input type="radio"/>	<input checked="" type="radio"/>
8	<input type="text" value="QA"/>	<input type="text" value=""/>	<input type="text" value="1"/>	<input type="radio"/>	<input checked="" type="radio"/>



SIGNAL MANAGER

is a useful tool to manage multiple, competing incoming signals through the use of a first-in, first-out (FIFO) queueing methodology. Signals can be any type of control signal that can activate 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 active signals. This is useful for gating more than a certain limit of active signals.

A practical application of the Signal Manager is to tie GPI buttons to the key buttons. The “Active” output LEDs may then be tied to the manual activation buttons of a gainsharing auto-mixer. The result is a conferencing setup where participants should use a button to request recognition 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. This is useful in ensuring that certain signals always take precedence.

Another practical application of the Signal Manager is when merging multiple signals for control applications. For instance, each signal may be assigned a unique priority to create a hierarchy of actions but only allowing one of them to prevail at a time. The outputs are thusly gated when a higher priority signal is activated. This may be useful for control triggering, feedback LED signaling, or audio playback trigger depending 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 that are activated beyond this limit are queued.

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

a 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 is the inverted 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. 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. Priorities that are equal will be first-in, first-out. The FIFO scheme is maintained throughout all signals after sorting is first performed on the priority number. Therefore, to disable the usage of priorities, all signals should use the same priority number.

Should a signal be overridden by a 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 queue 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 then re-keyed, it has the potential 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.

Change Log

V1.0.0 – MARCH 27, 2021

Original release