

Sentence User Manual

Workflow design by _bES

Coding on planet Earth by DOODOV

Sentence is a creative tool for musical event scheduling with triggers and gates



Modules

On the left you have 4 identical modules RED, BLUE, YELLOW and GREEN that can play in any order. Each can be set to repeat a tempo-synced duration from as long as 1 Bar to as short as 1/32nd.



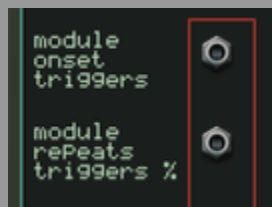
Left+Click and drag the [X] button to set the number of repeats from 0 (inactive) to 32

Left+Click and drag the [.] button to set the tempo synced duration as a division of a Bar /1, /2, /3, /4, /6, /8, /12, /16, /24, /32

The total length in time, repeats multiplied by duration, is calculated in ms (0.001 seconds) and displayed at the top of the module

The output of each module is a single short spike of voltage called a trigger. Once, each time the module becomes active (*module onset trigger*) and through a separate port, at the onset of each duration (*module repeats trigger*).

To make use of a pattern of triggers the signal must be manually routed via cable to a cv in port of any other device that is configured to give meaning to a trigger. A simple example is that a trigger will cause a Step Sequencer to advance one step.



Sentence can be used with only one module active, the two CV ports inside the RED lines on the back panel relate specifically to the RED module. As previously mentioned the upper port labelled *module onset triggers* will fire only once each time the module begins its activity. The lower port labelled *module repeats triggers* will send a trigger at the onset of each duration that the module is set to repeat for. When only 1 module is active it will reactivate itself when it has finished its pattern of triggers.

A single active module with a setting of 4 repeats of duration /4 would create a trigger pattern like this (4 cells = 1Bar)

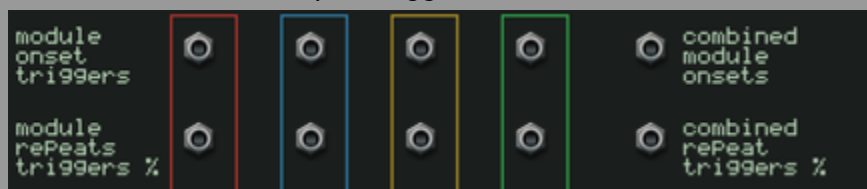
Module ONSET Triggers



Module REPEATS Triggers



This exact same trigger pattern will also be output on the ports labelled *combined module onsets* and *combined repeat triggers*



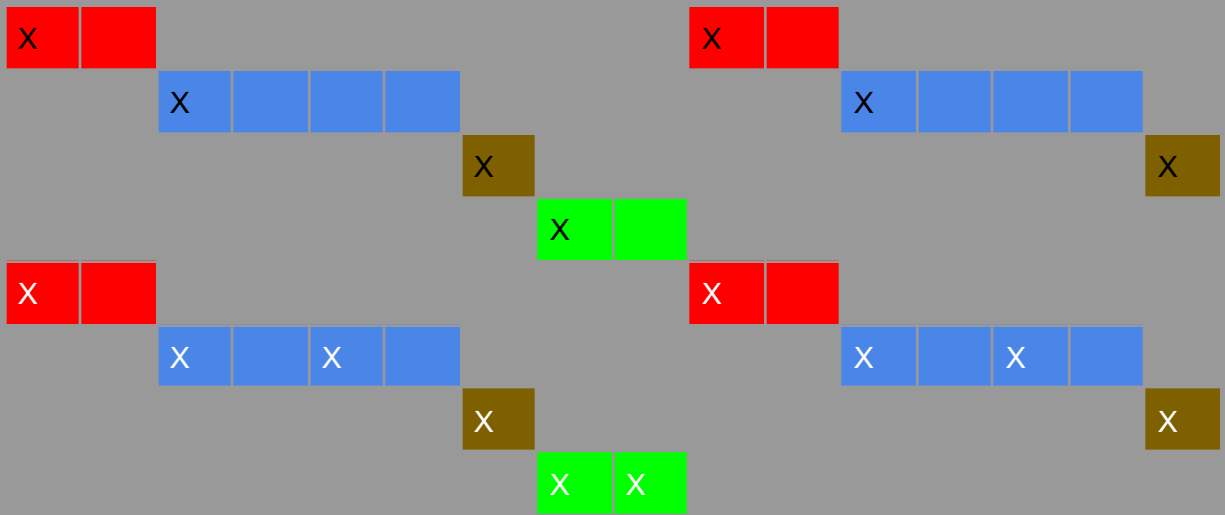
Two or more active modules will loop one after the other and setting them to different repeats and or durations will make a pattern.

(8cells = 1Bar) RED 1x /4 BLUE 2x /4 YELLOW 1x /8 GREEN 2x /8

Individual module ports RED BLUE YELLOW & GREEN:

ONSET Triggers in White

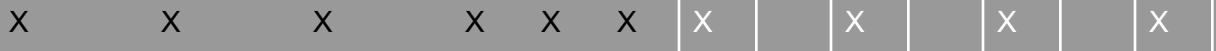
REPEATS Triggers in Black



Combined ONSET Triggers



Combined REPEATS Triggers



Module Control & Step Sequencer



Module Control

[X] & [.] adjust the number of repeats [X] and duration length [.] of all modules at the same time. You can reorder the sequence of modules by Left+Click and drag, the module labels top left of the display.

Top right is a readout of the combined length in ms (or sec) and the total number of repeats of a lowest common duration.

Probability

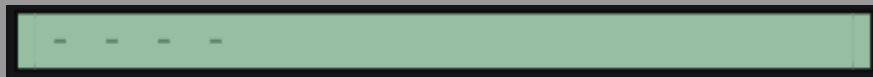
The lower portion of the display is dedicated to the probability of a trigger firing from the *individual* and *combined repeats triggers* ports.

The slider all the way to the right means 100% of the triggers will fire as expected by the module pattern.

All the way left (0%) means no triggers will fire, effectively muting the signal.

NB To fully describe the probability we will need to introduce the internal sequencer which is located below the modules

The Step Sequence has a total step length of 16 adjustable down to 1 by the knob on the bottom right of the Module Control.



The sequence is advanced by the *combined repeats triggers* of the modules and is NOT affected by probability.

A module with 4 repeats of duration $1/4$ will advance the sequence 4 times holding on each step for a $1/4$ bar.

Each step can be set active or inactive with the Left+Click of a mouse.

Consecutive active steps will output a stable voltage of 1 on the *individual* and *combined active stage gate* ports on the rear panel, until the sequence reaches an inactive stage.

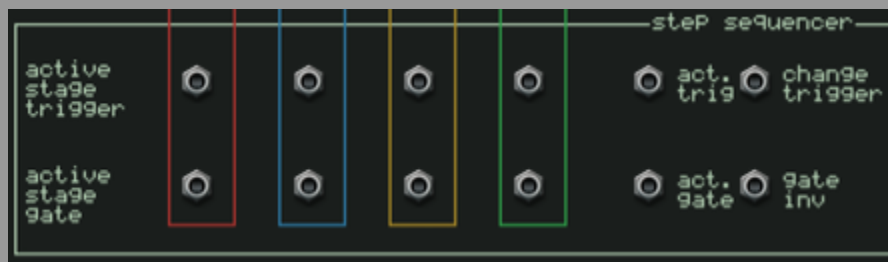
The pattern of active and inactive steps can be shifted left or right by Left+Click and dragging on the [$<$ $>$] button of the Module Control.

Probability Balance

When the *trigger probability* slider is less than 100% and more than 0% it will have some amount of effect on whether or not a trigger of the module pattern is sent on the control voltage signals.

That effect can be balanced or unbalanced, so the chance is more or less likely to occur when the Step Sequence is active or not.

This, is the parameters of the two sliders labelled *on active step* and *on inactive step* on the Module Control display.



The Step Sequencer group of signals has a marked out section on the back panel. The four sets (of two) ports that are bordered by a colour are linked respectively to the modules of each colour.

Active stage trigger will send a trigger at the onset of each duration ONLY WHEN the sequence is active and ONLY THROUGH the port linked to the currently driving module RED, BLUE, YELLOW or GREEN.

Active stage gate (otherwise 0) will send a control voltage of 1 for the duration of any active step, through the port linked to the currently active module.

Act. trig is similar to the *combined* trigger port of the modules, any stage of the step sequencer that is active will send a trigger through this port.

Change trigger sends a trigger through this port only if the state changed from its previous step. ACT to INACT or INACT to ACT.

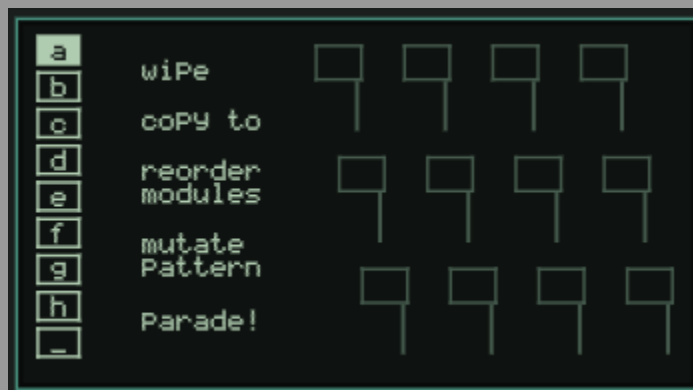
Act. gate (otherwise 0) will send the value 1 for the duration of the step or consecutive steps that are active.

Gate inv (otherwise 1) will send the value of 0 for the duration of the step or consecutive steps that are active.

NB. none of these ports are affected by the probability settings

That covers the left side of the front panel. **To quickly recap**, a trigger is a short spike of voltage and a gate is a sustained voltage greater than 0 for a period of time. **Sentence is a tool for building patterns of triggers** using tempo-synced durations as a division of one bar. **Sentence is also a tool for building patterns of gates** that can be poly-metric to the trigger patterns that drive them. **Sentence is designed to affect the probability that a trigger will fire if the gate is active or not.**

parade!



Sentence can store up to 8 trigger patterns.

Capital letters to show a slot has a saved pattern, lower case letters show the slot is empty.

A B C D E F G H and one more pattern of durations as _ which will count time as the other patterns but not output any triggers, acting as a silent pattern.
Storage slots A to H have their own internal step sequencer.

wipe will empty all data from the modules of the current storage storage slot.
copy to will paste the module data of the current slot to whichever storage slot you click next.
reorder modules will randomly swap the order of the modules.
mutate pattern will randomly change the number of repeats and the duration values of all modules at once.

Parade!

12 Flags take up the last of the space in the window.

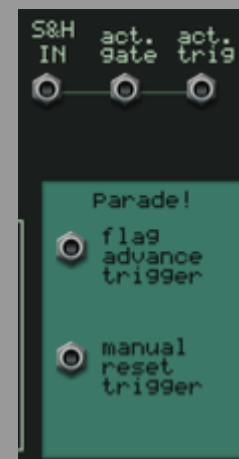
A storage slot with a capital letter is selected and Left+Clicking on the pole of any flag assigns that slot to that flag.

Each populated flag can be assigned a number from 0 to 8 by Left+Clicking and dragging on the flag square. This is the number of times the pattern at that location will play before advancing automatically to the next location.

Left+Clicking on the *parade!* command elevates the device to a new mode where the order of the flags (top left to bottom right) becomes a sequencer.

Flags with an assigned number of 0 and locations with no assigned storage slot will be skipped and after playing the final repeat of the final active flag the sequence will advance to the first flag location again and so on and on.

Each time the parade! advances from one location to the next a trigger is sent from the port labelled *flag adv. trigger* in the parade! section of the back panel



Global controls and S&H

Lead pushes all triggers and gates (except for the very first) forward or backwards against the Reason clock by 120 Ticks which is equal to tempo-synced duration of 1/32nd.

The *play* button will toggle the device on or off, if in parade! mode it will start playing from the first location otherwise the device will start playing whichever pattern slot is selected in the order of the modules listed in the module control.

This is the same behaviour as activating play on the Reason transport.

Reset will immediately restart the trigger pattern or if the device is in parade! mode it will restart from the first flag location, this will also send a trigger from the port labelled *manual reset trigger* in the parade! section of the back panel.

Mute will prevent all triggers and gates from firing on all signals while the pattern continues.

Send 1 overriding *Mute*, this will send a trigger once on all trigger ports for each time it is pressed. This is useful for advancing through an external step sequencer manually.

Finally we have included on the back panel, a port labelled *S&H IN* to receive external control voltage from a keyboard or lfo for example. The incoming signal will be sampled (the value will be recorded and kept static until the next sampling) at each active stage of the internal sequencer and the sampled voltage will be output through the *act. gate* and *act. trig* ports. The difference between the two outputs is where the voltage will only be sampled by the first of consecutive active steps for the *act. gate* port and every active step for the *act. trig* port.

We hope you get something out of Sentence

something that helps you have a better time in the Reason Rack whether you are a maker or a grower.

Send us feedback on the ReasonTalk forum, we look forward to hearing from you.

_bES and DOODOV

Triplets vs. Dotted Values

Feature	Triplets (T)	Dotted Notes (D)

Concept	Squeezes 3 equal notes into the space normally occupied by 2 .	Adds 50% duration to a single standard note (1 + 0.5).
Bar Subdivision	Odd denominators: 1/3, 1/6, 1/12, 1/24.	Fractional bar ratios: 3/8, 3/16, 3/32.