



# BLANK



LukeLabs





# POWER



**-12V**



**+12V**

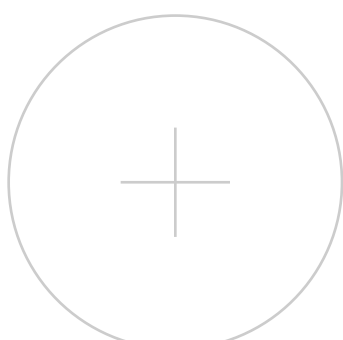


**Power  
Off**



**On**

**12V 1A**



# LukeLabs

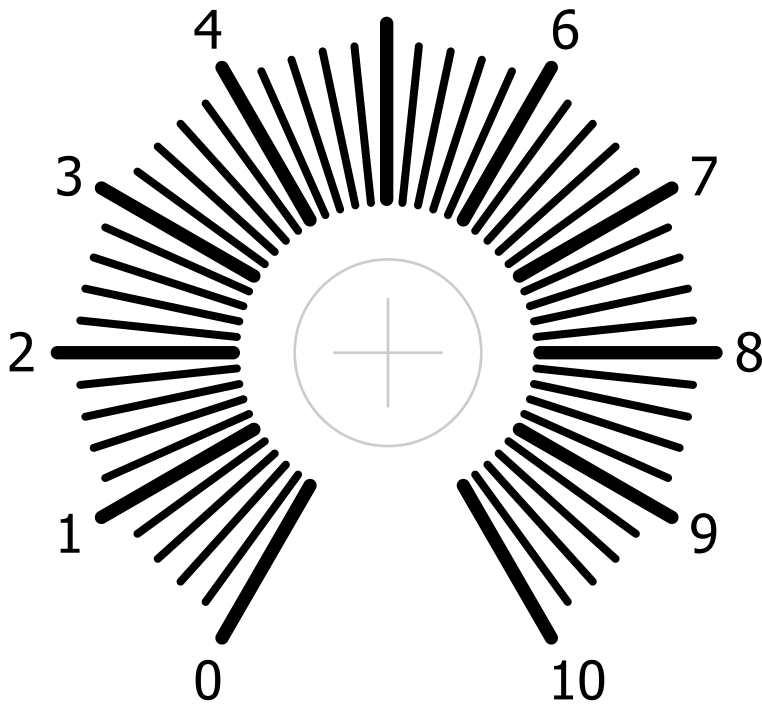




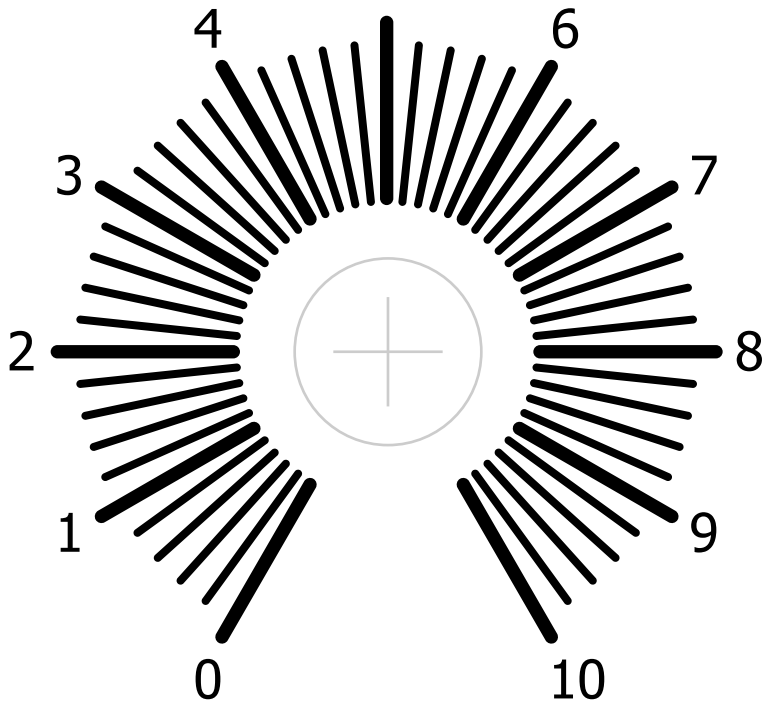
# ADSR



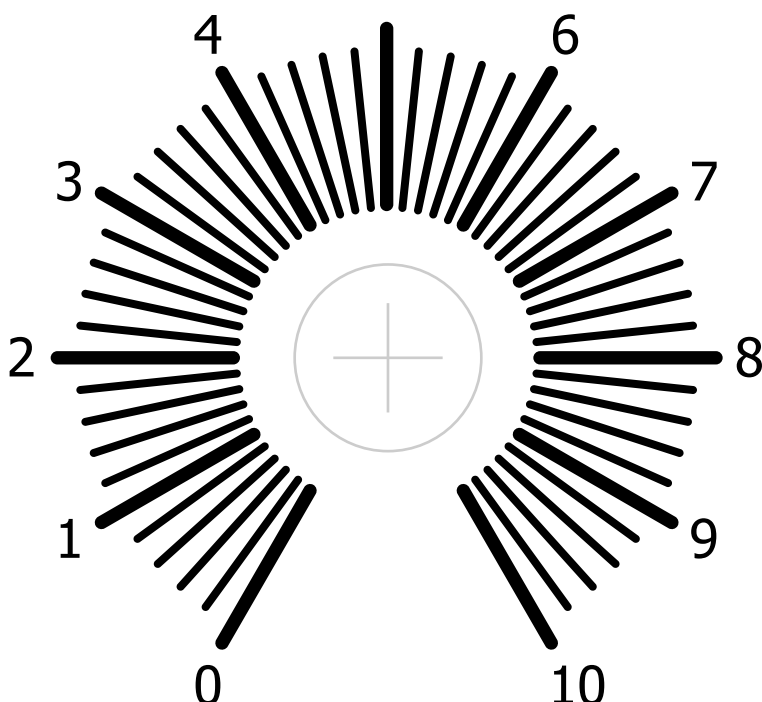
## Attack



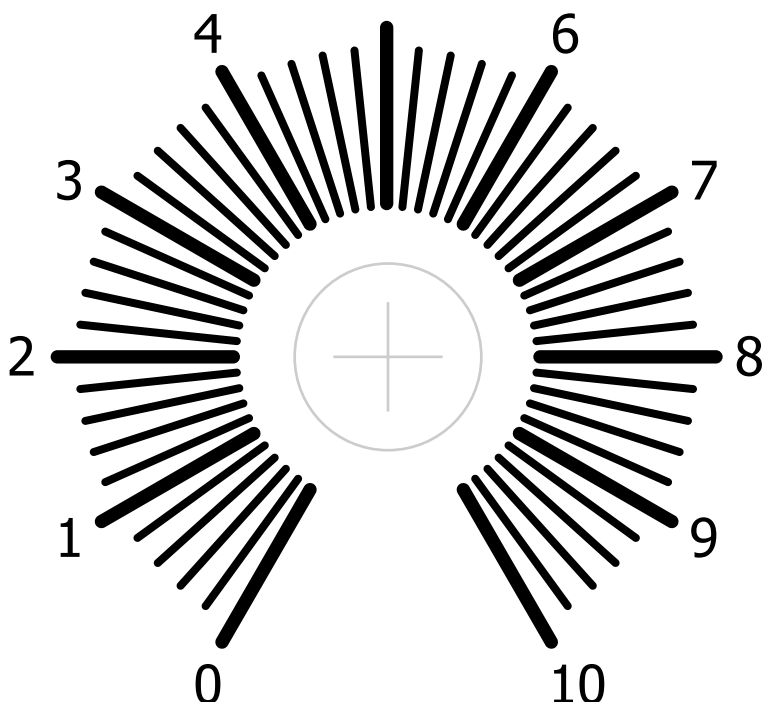
## Decay



## Sustain



## Release



**Manual**

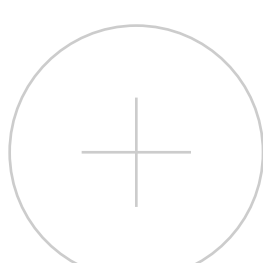
**Duration**

**Short**



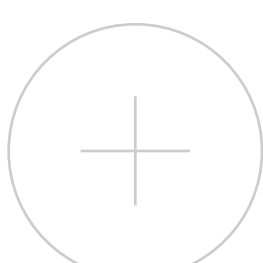
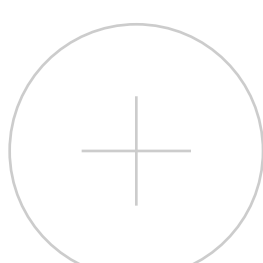
**Long**

**Gate In**



**Trigger In**

**Out**



# MFOS

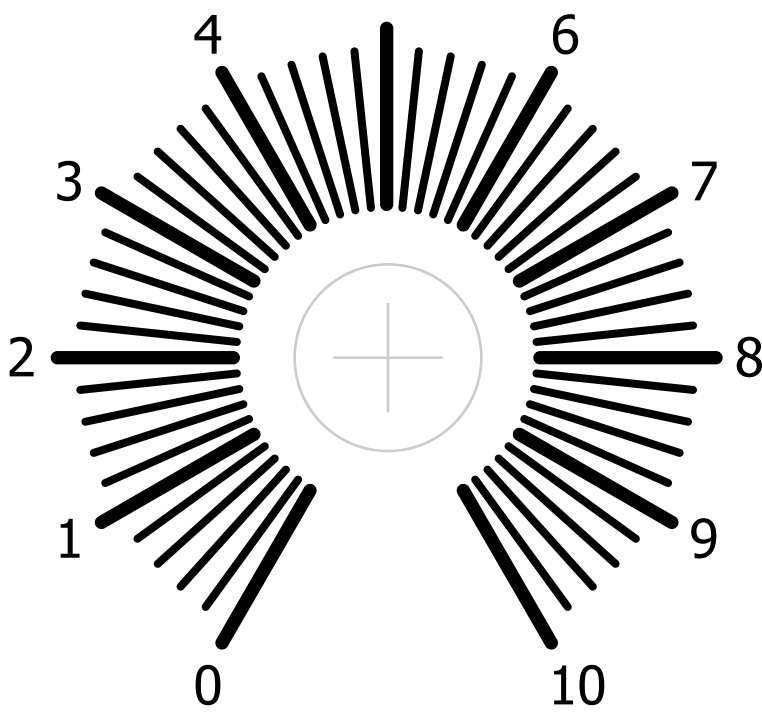




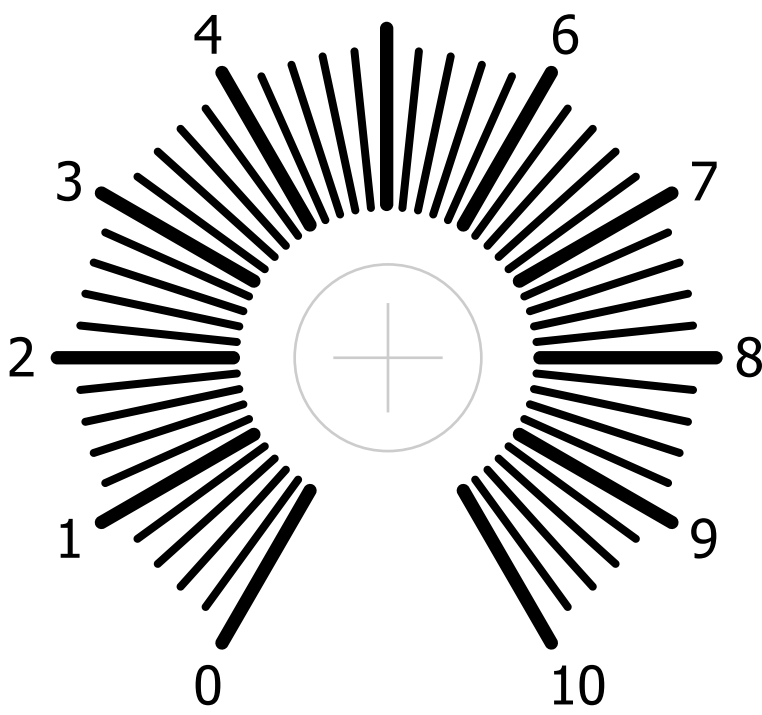
# VCA



## VCA 1 Gain



## VCA 2 Gain



## VCA 1

## VCA 2



### Response

### Response

Log

Log

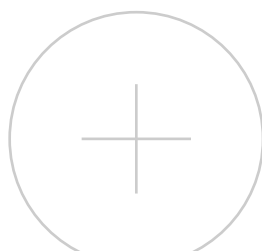
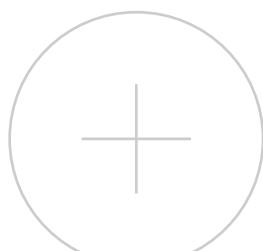


Linear

Linear

Input

Input



Gain CV In

Gain CV In



Gain CV In

Gain CV In



Out

Out



# MFOS

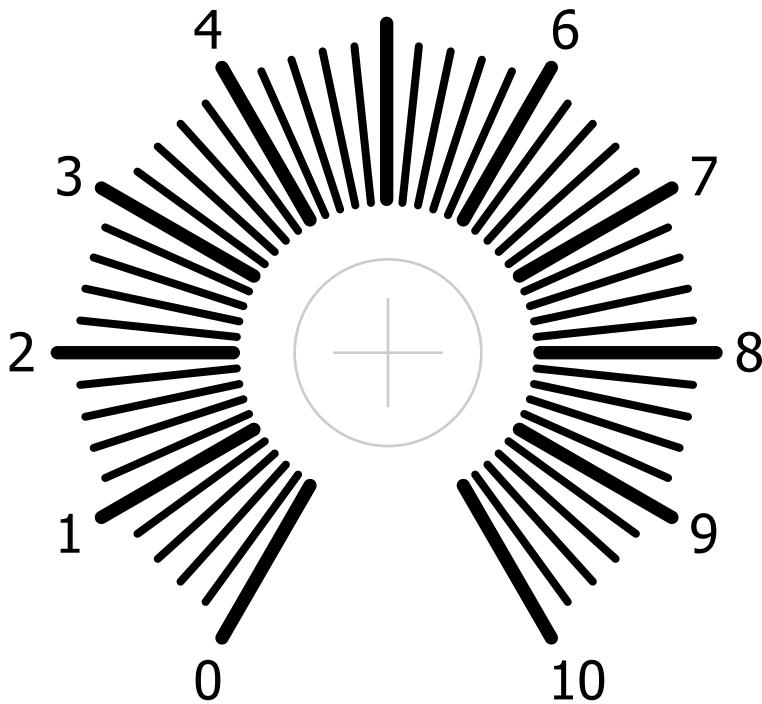




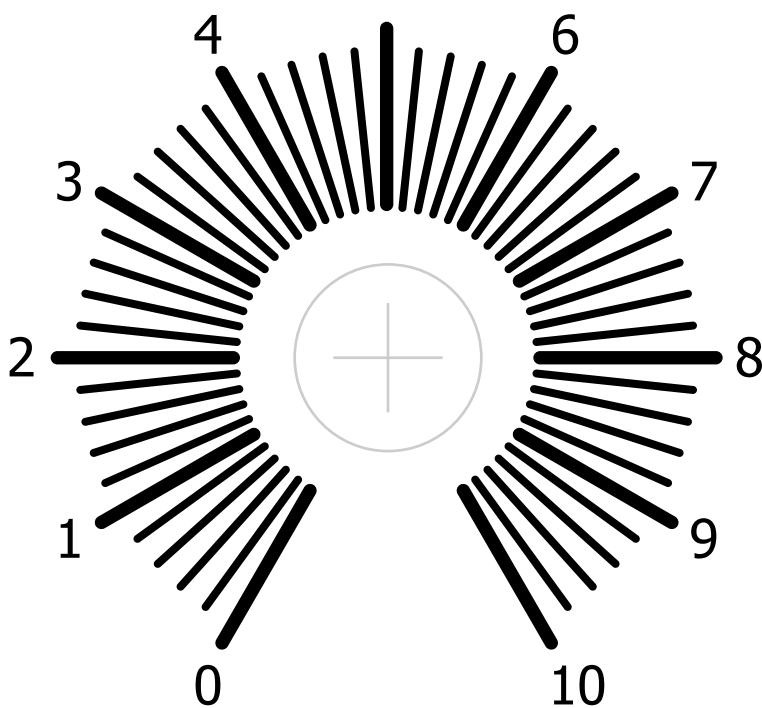
# LFO



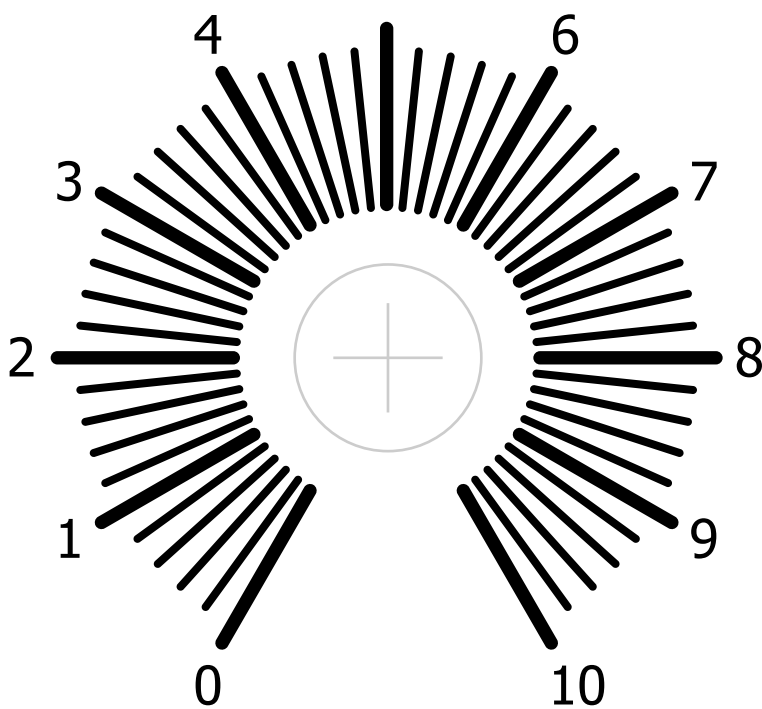
## Coarse



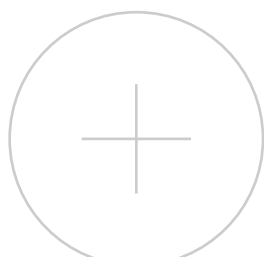
## Fine



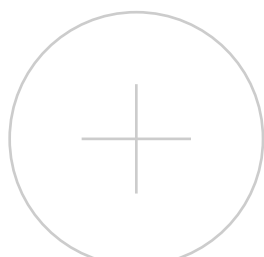
## PWM Width %



## Square Out



## Sine Out



## PWM CV In



## Triangle Out



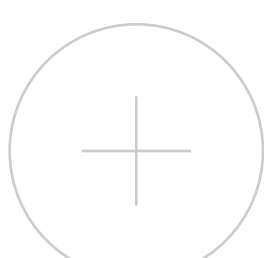
## Freq CV In



## Saw Out



## Freq CV In



## Ramp Out



# MFOS





# MULTI



**Link 1/2**

**Link 3/4**

**Off**

**Off**



**On**

**On**



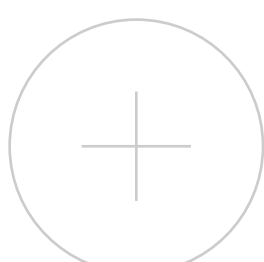
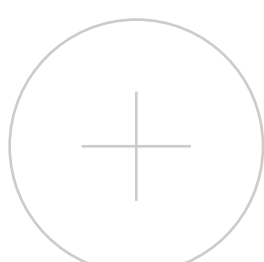
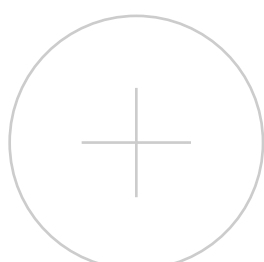
**Bank 1**



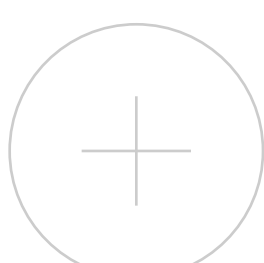
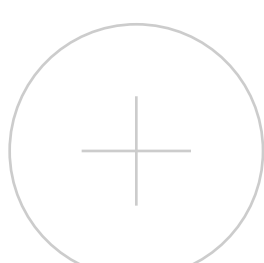
**Bank 2**



**Bank 3**



**Bank 4**

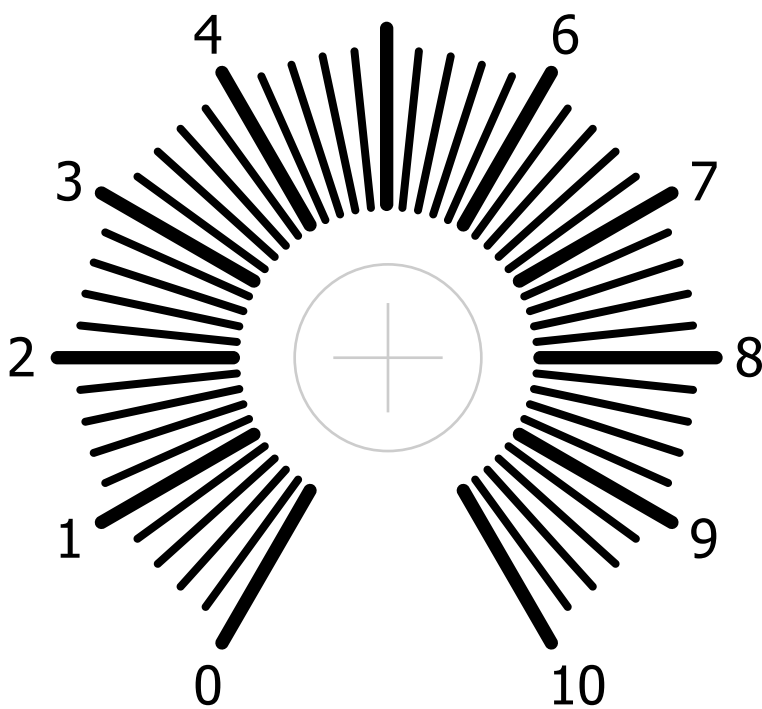




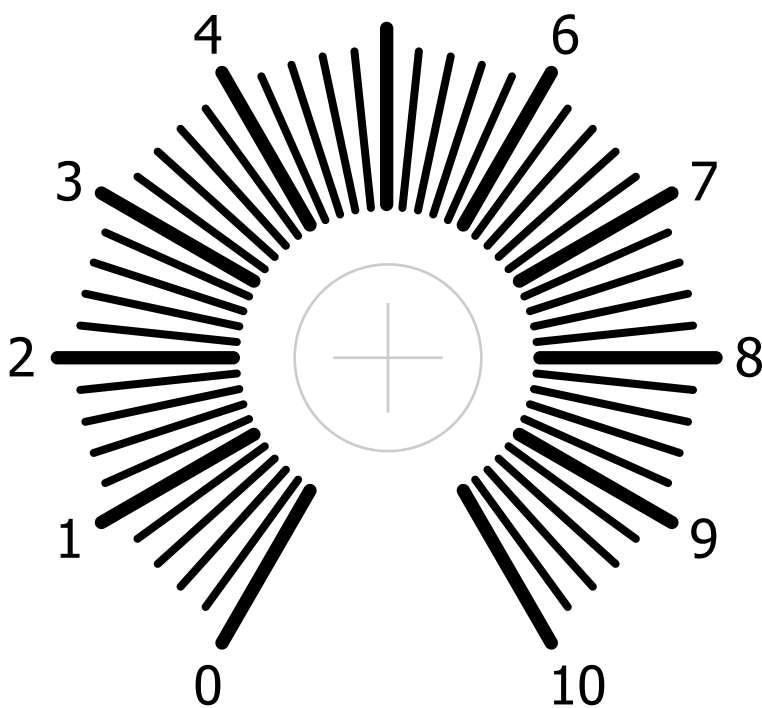
# LEVEL



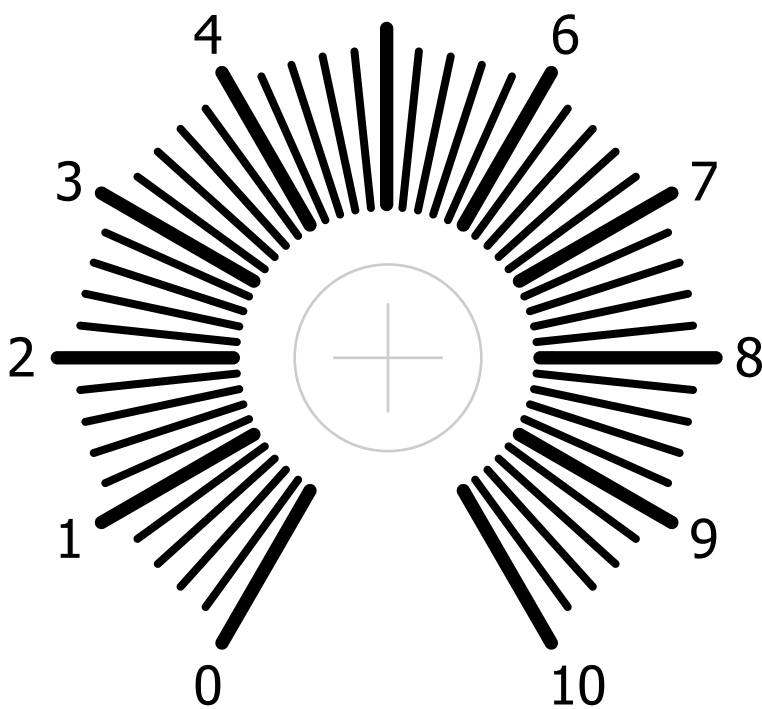
## Level 1



## Level 2

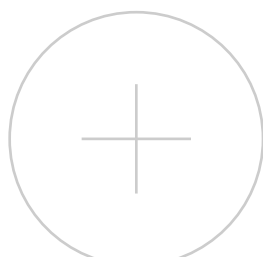


## Level 3



**1 In**

**1 Out**



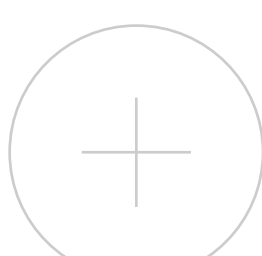
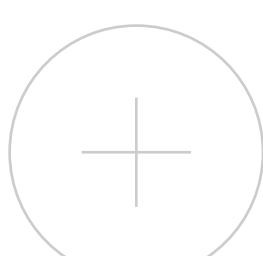
**2 In**

**2 Out**



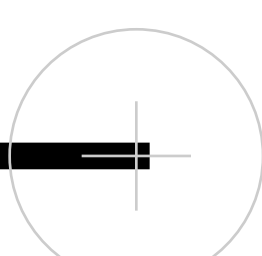
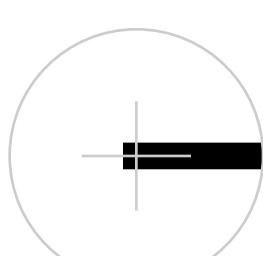
**3 In**

**3 Out**



**4 In**

**4 Out**

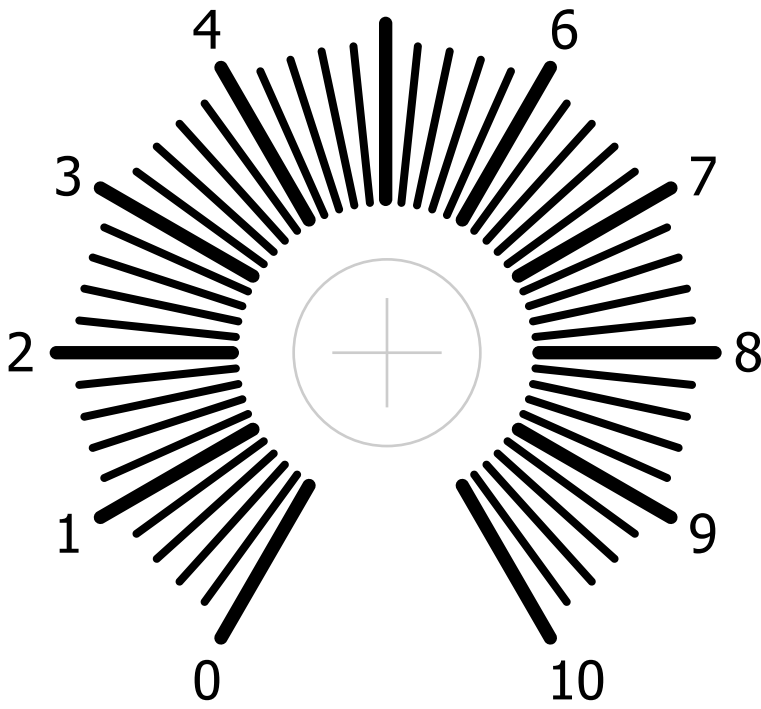




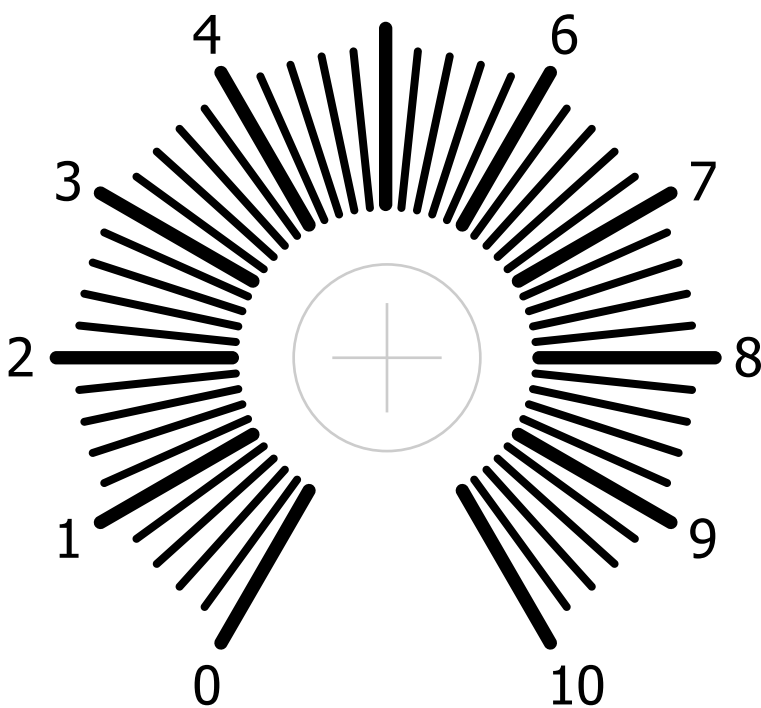
# DMOD



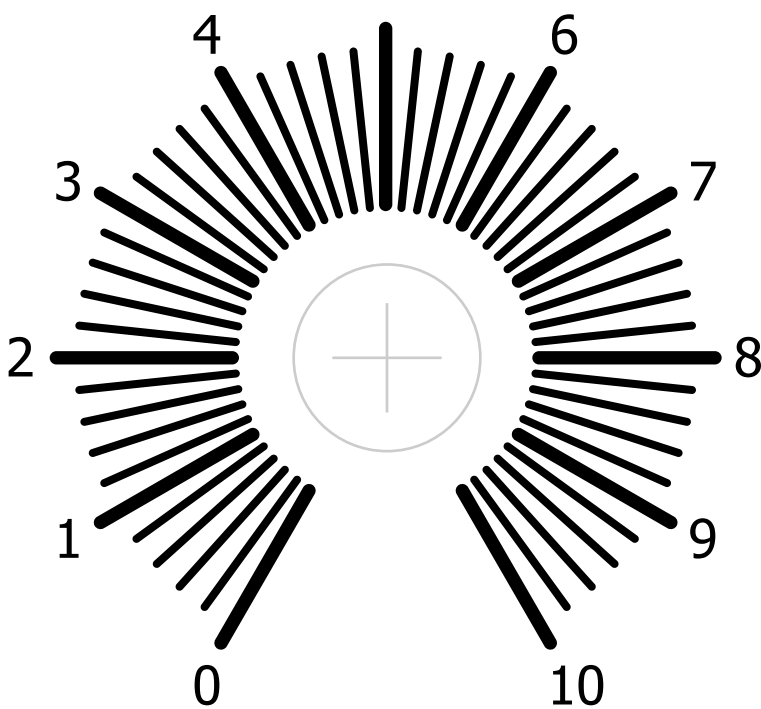
## Attack



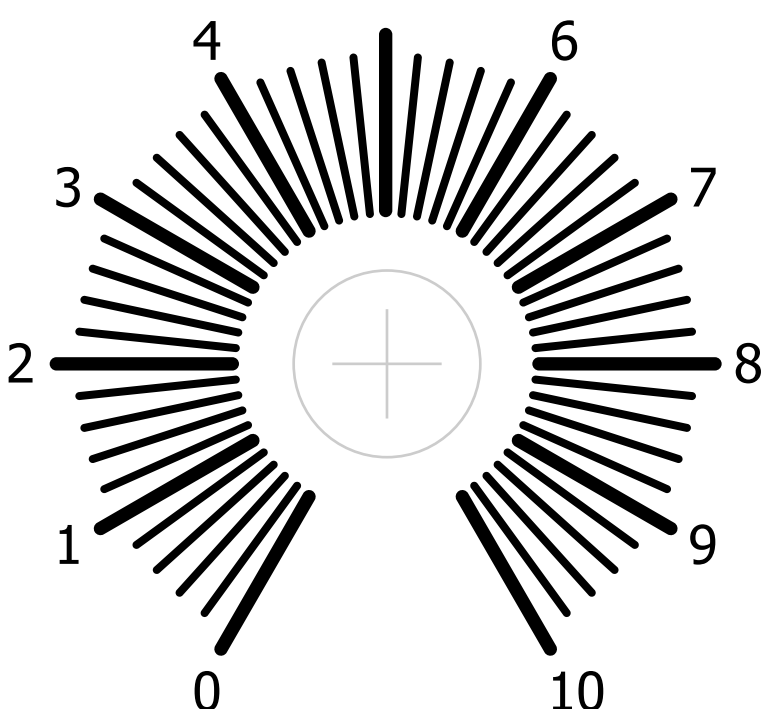
## Release



## LFO Frequency



## Modulation



## LFO

Square

Active



Sine

Input

Mod Level

Gate

Low



Trigger

High

Trigger In

Out



# MFOS



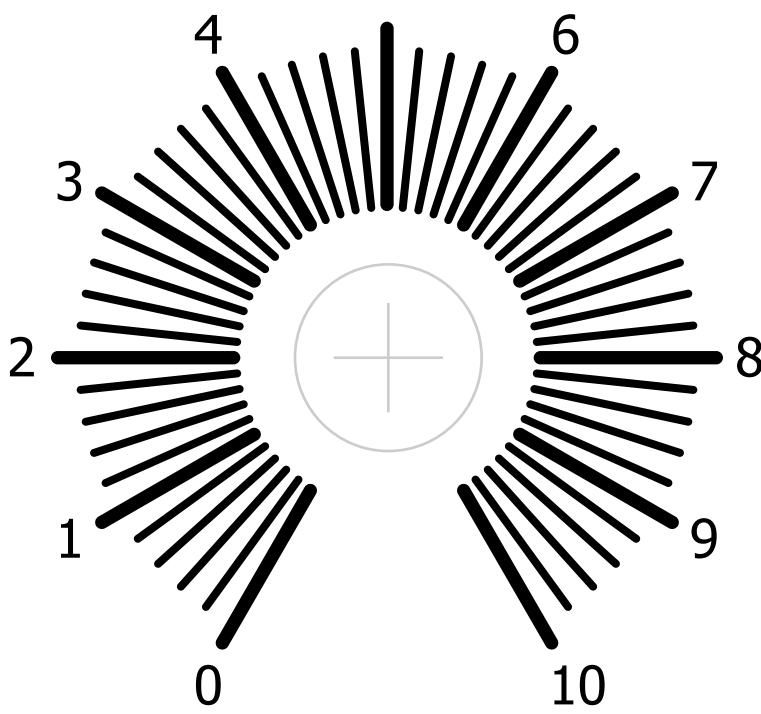




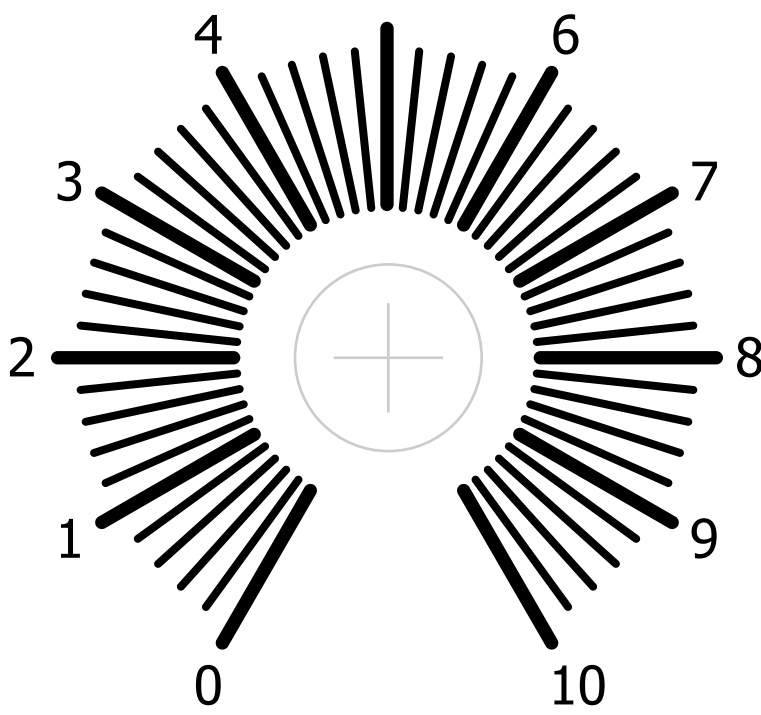
# S&H



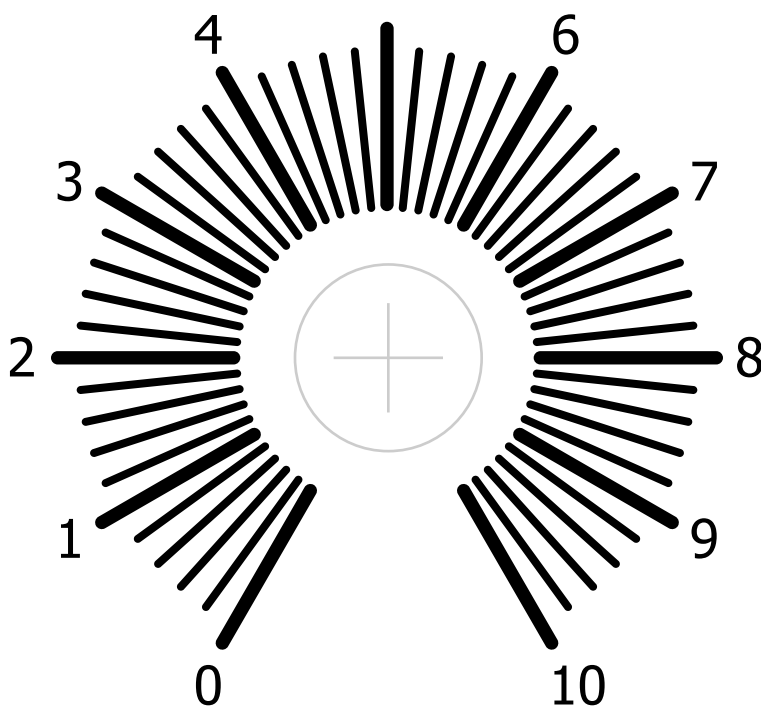
## Input Level



## Sample Rate



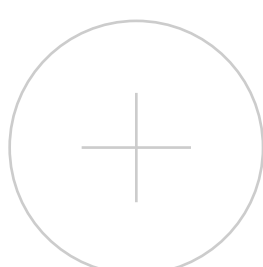
## Glide



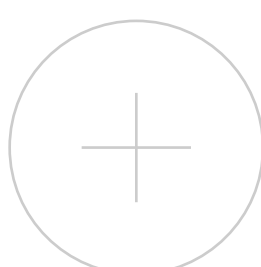
## Active



## Signal In



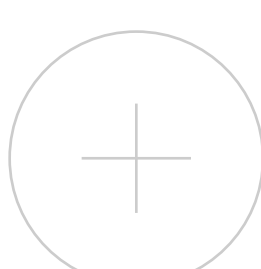
## Out



## Rate CV In



## Glide Out



## Sync In



## Trigger Out



# MFOS

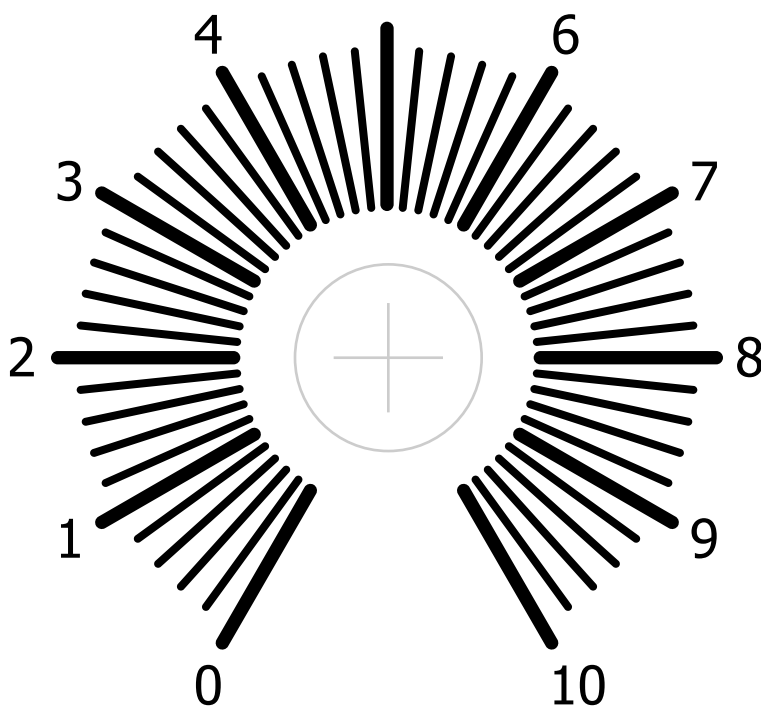




# PAN



## Input Level



## Leslie Simulation

Off



On

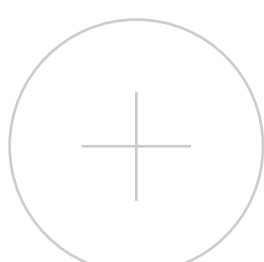
## Rate Toggle



Active



## Signal In



Left Out

Right Out



# MFOS

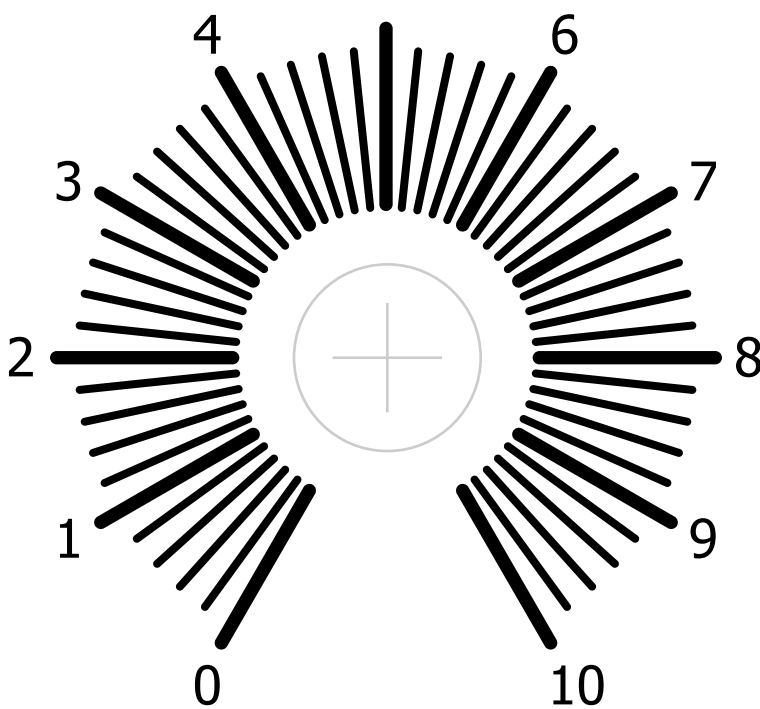




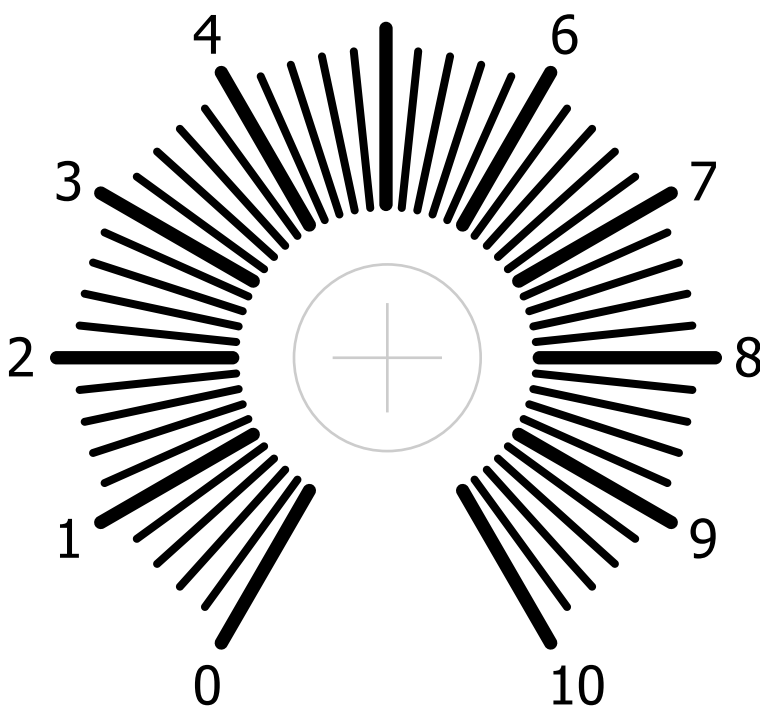
# NOISE



## Graininess



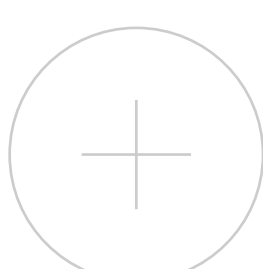
## Gate Frequency



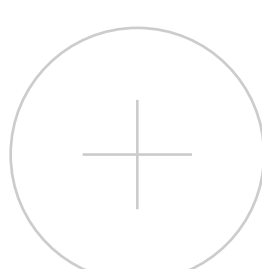
## Gate Active



## Noise



## Random



## Low-Pass



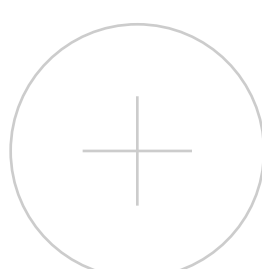
## Grain



## High-Pass



## High-Pass



# MFOS

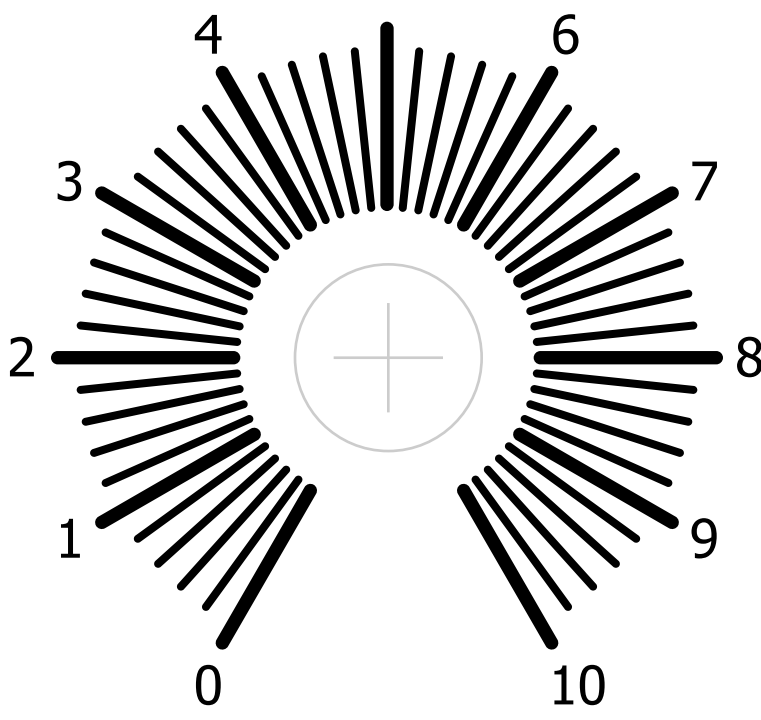




# QUANT



## Input Bias



## Steps

Whole



Half

In



In



## Steps

Fourths

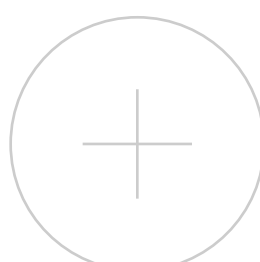


Out

Out



Out



# MFOS

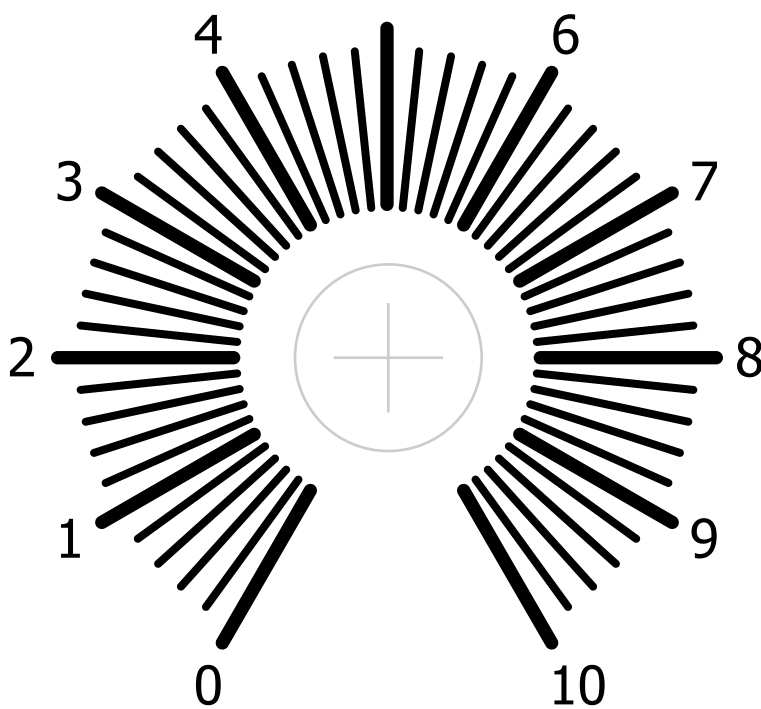




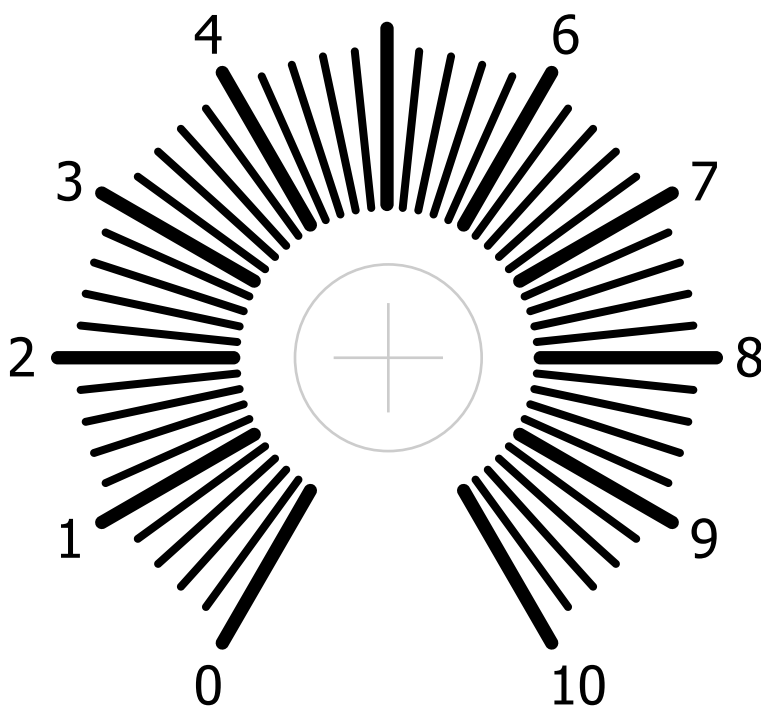
# REVERB



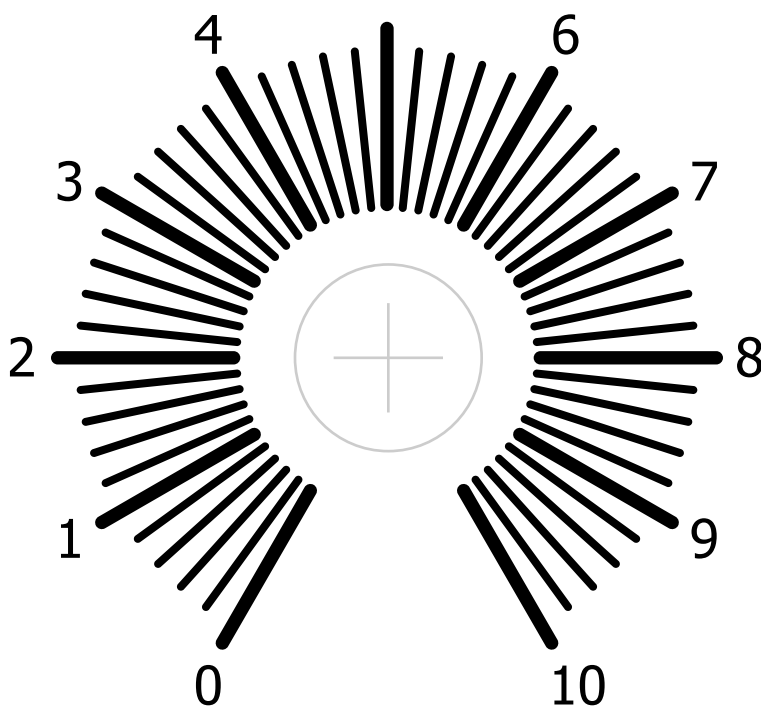
## Input Trim



## Original Level



## Reverb Level

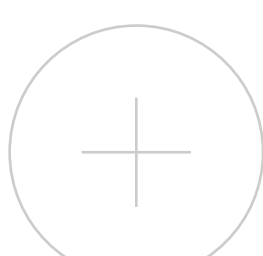


## Overload



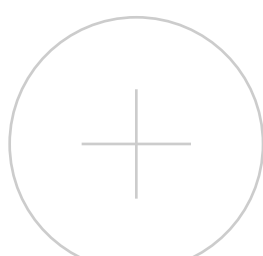
**In**

**Out**



**Original CV**

**Reverb CV**



# MFOS

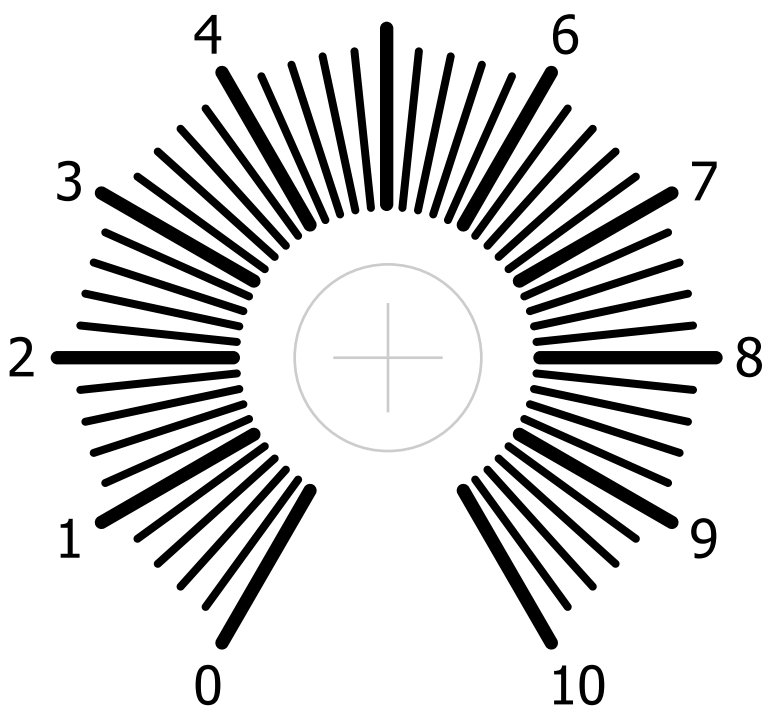




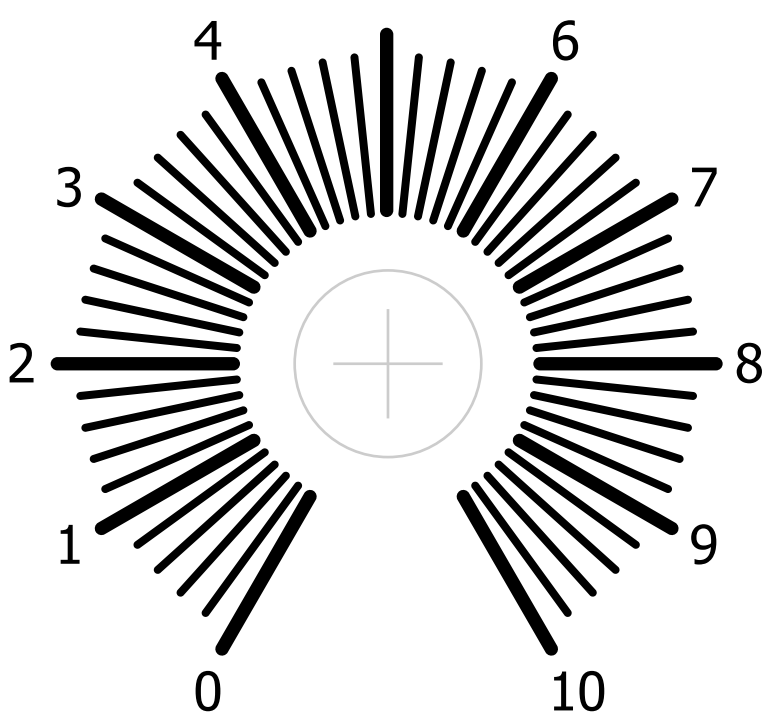
# PHASE



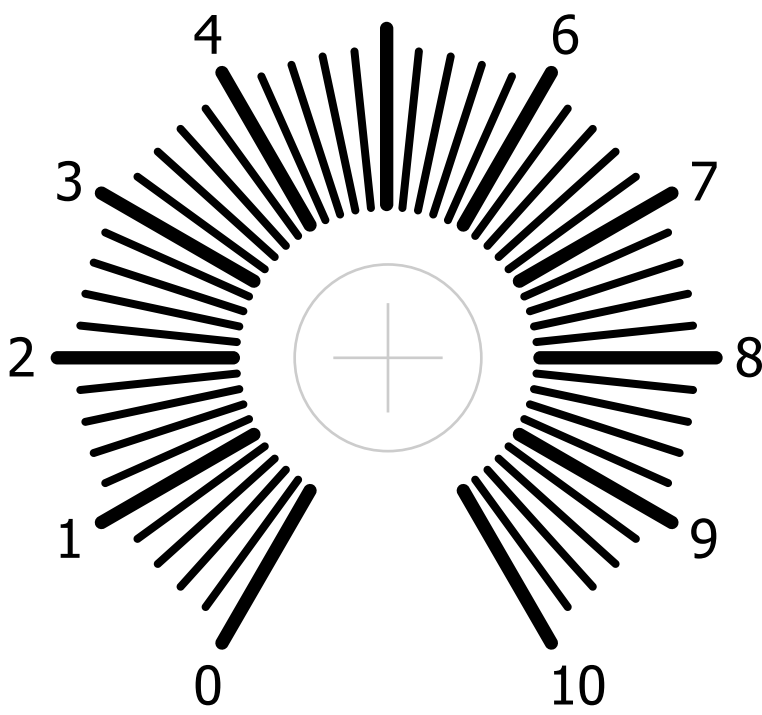
## Input Level



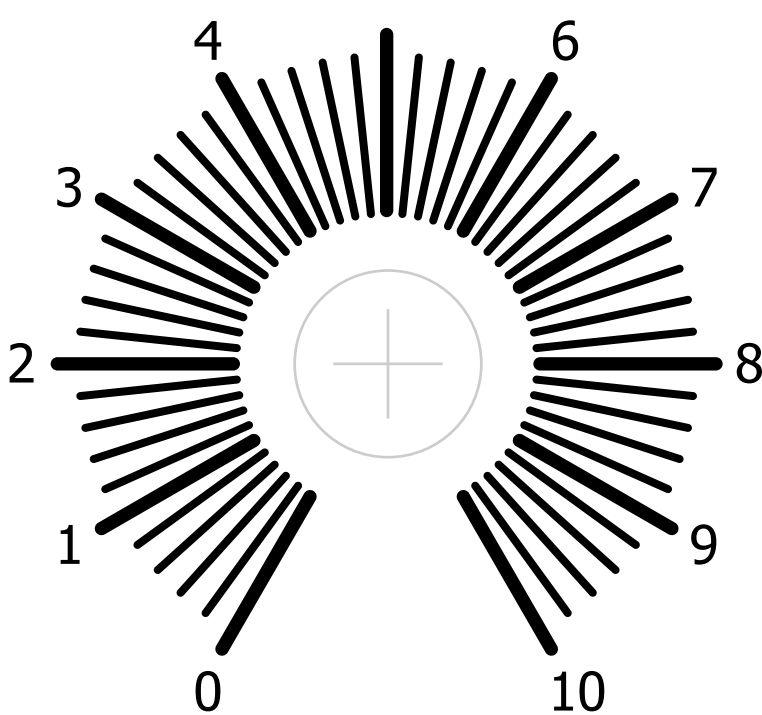
## Rate



## Depth



## Feedback



## Modulation

Triangle



Ramp

Signal In



CV In



## Stages

Four

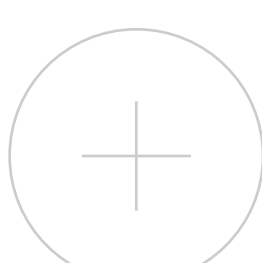


Eight

Out



Out



# MFOS

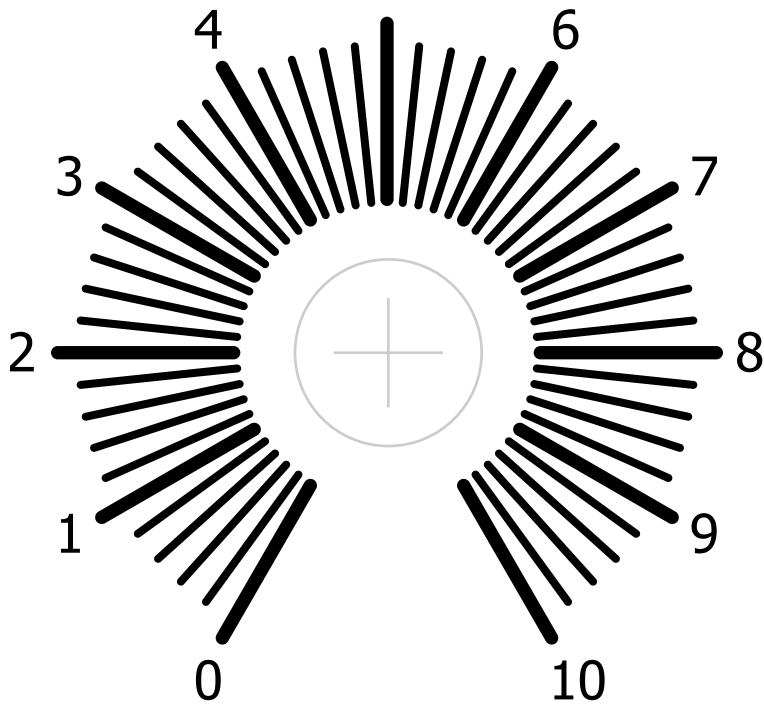




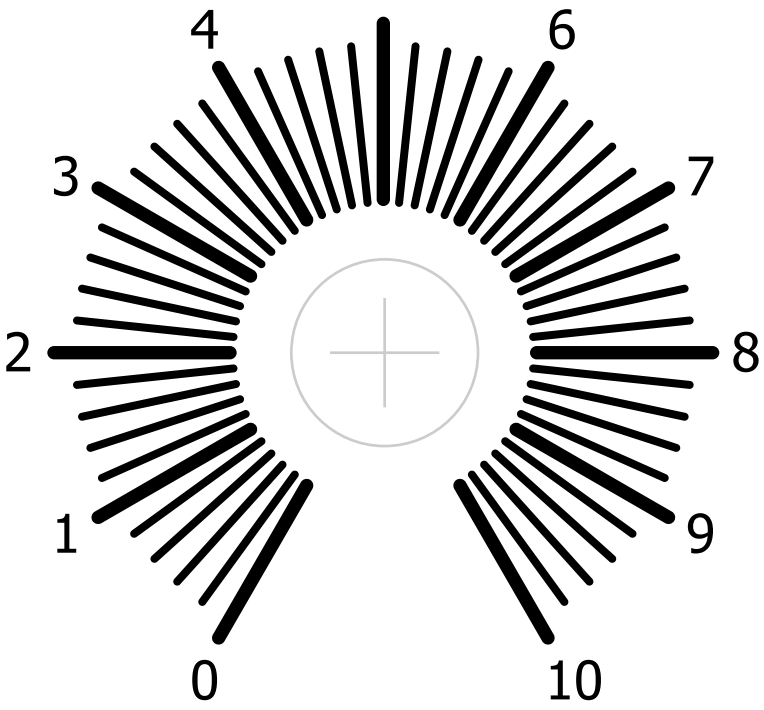
# VCO



Coarse



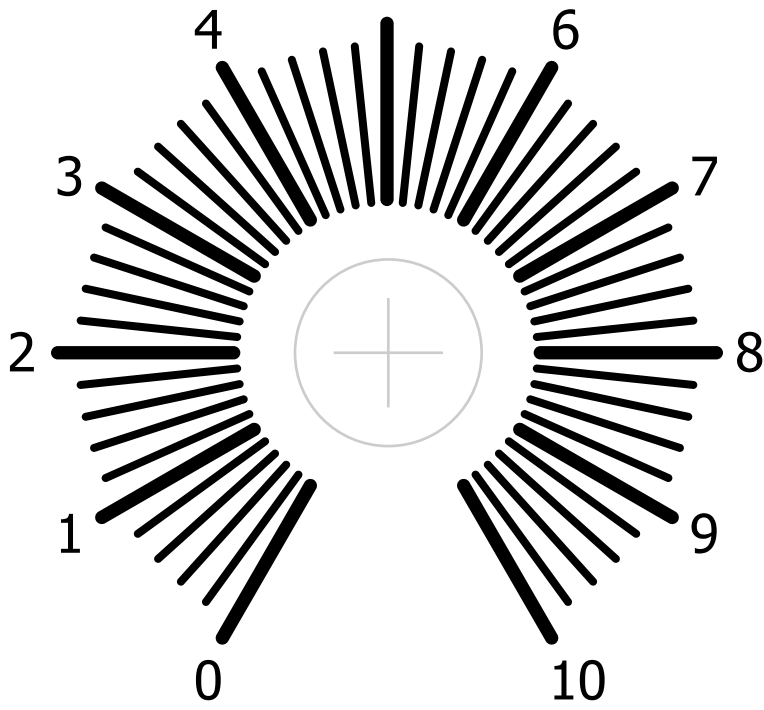
Fine



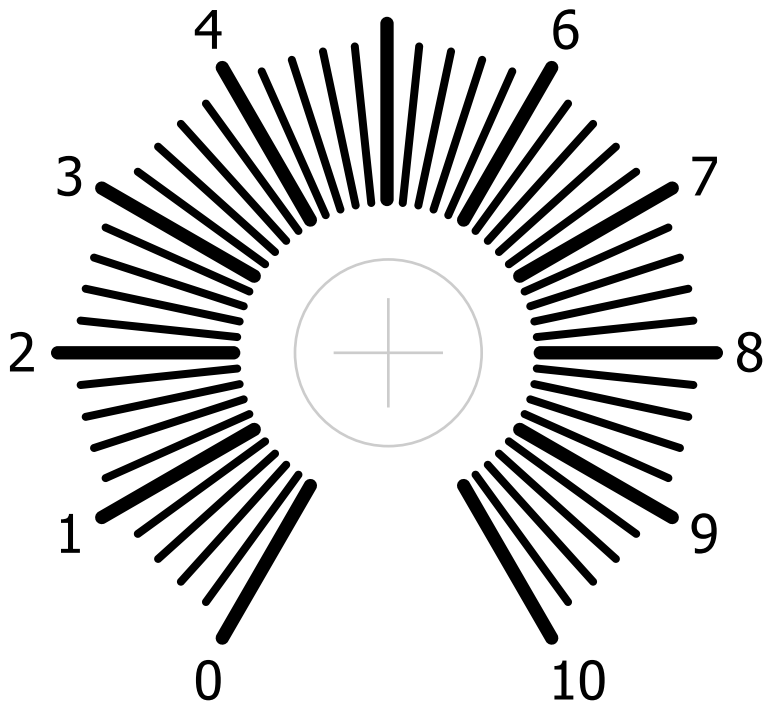
Frequency  
Adjust



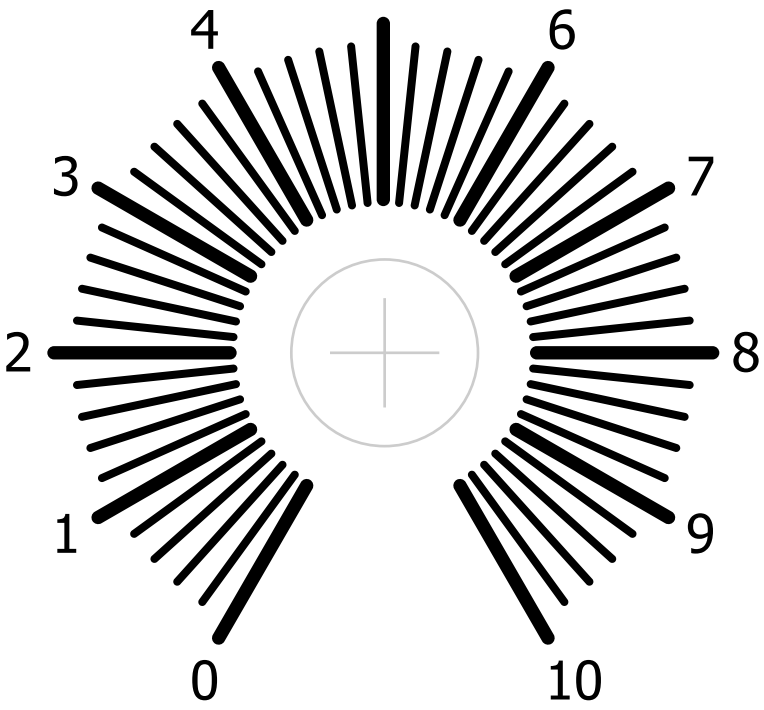
Freq Mod 1 Depth



Freq Mod 2 Depth



PWM Width %



Freq Mod 1 In



PWM CV In



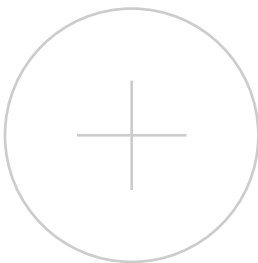
Freq Mod 1 In



Sync In



CV In



Sine Out



Triangle Out



CV Linear In



Ramp Out

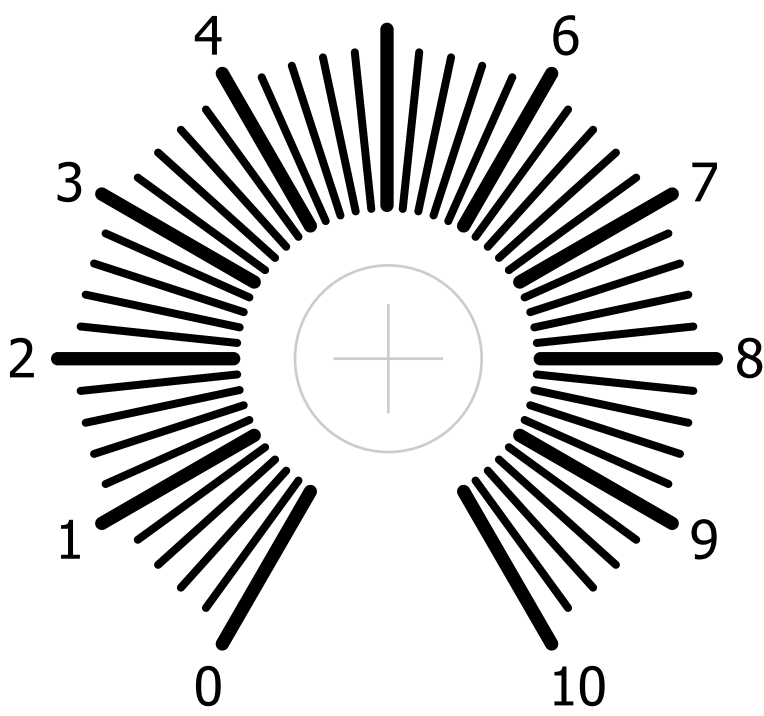


Square Out

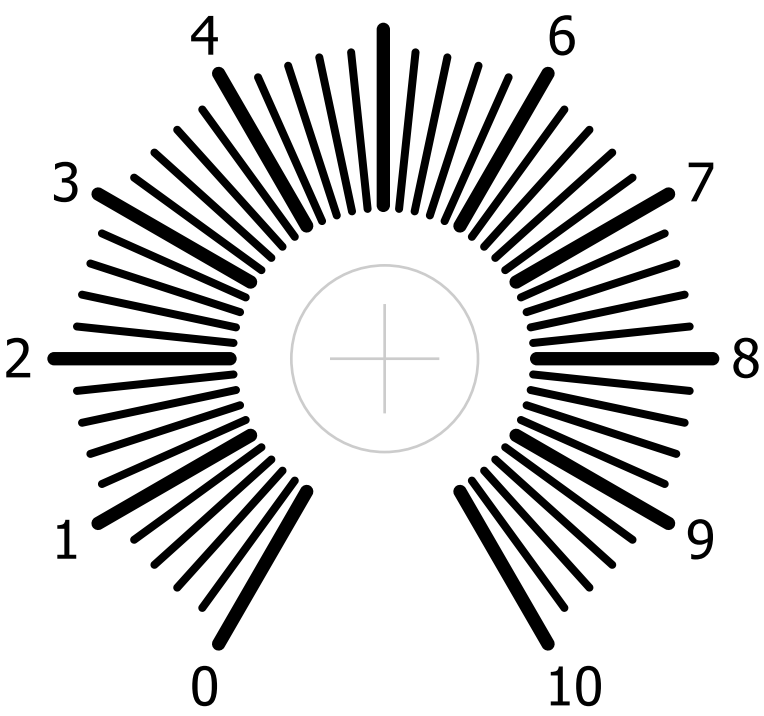


# VCF 12

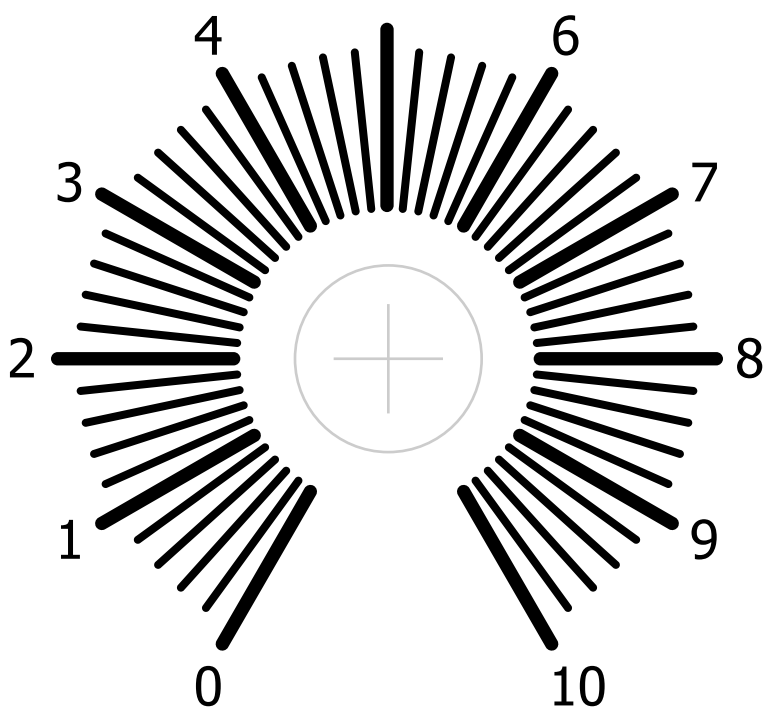
Signal 1



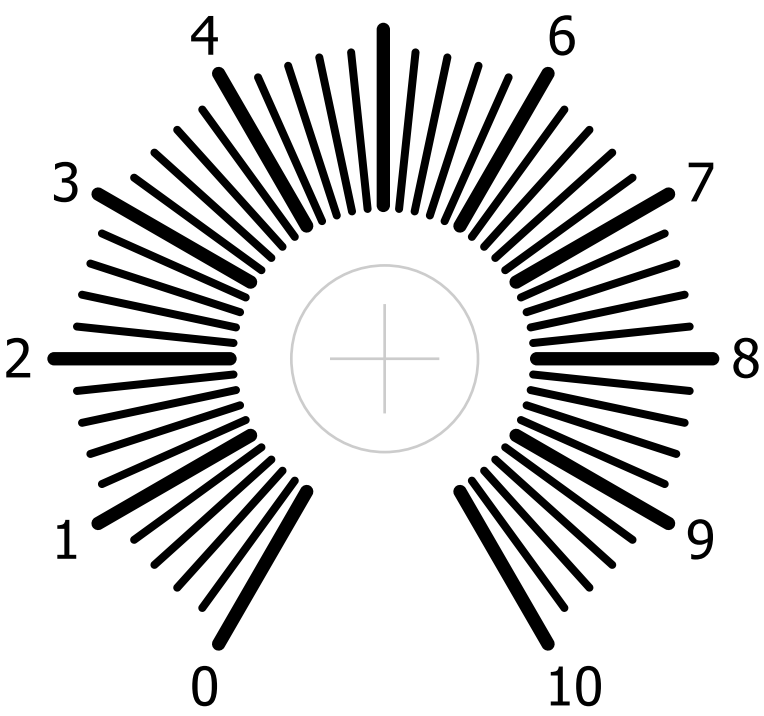
Resonance



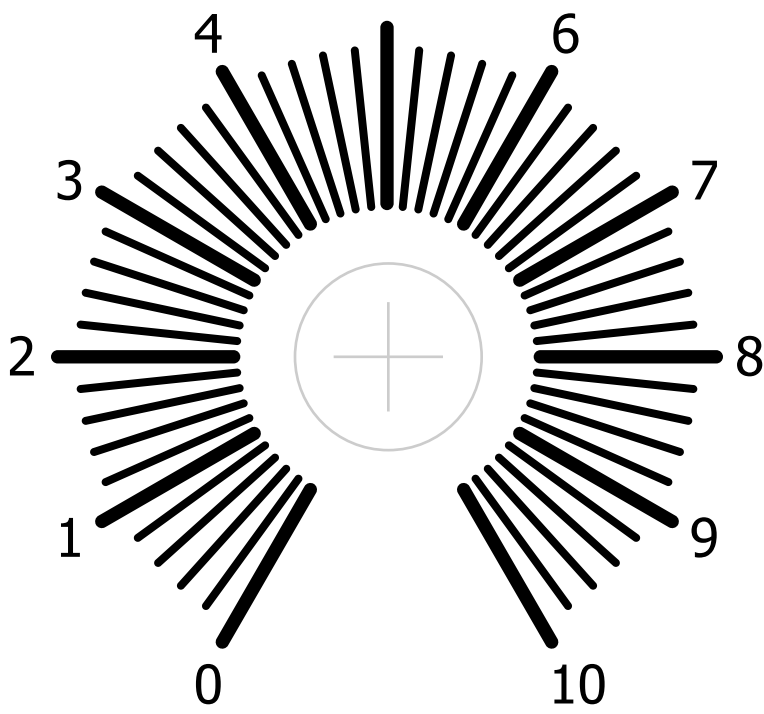
Signal 2



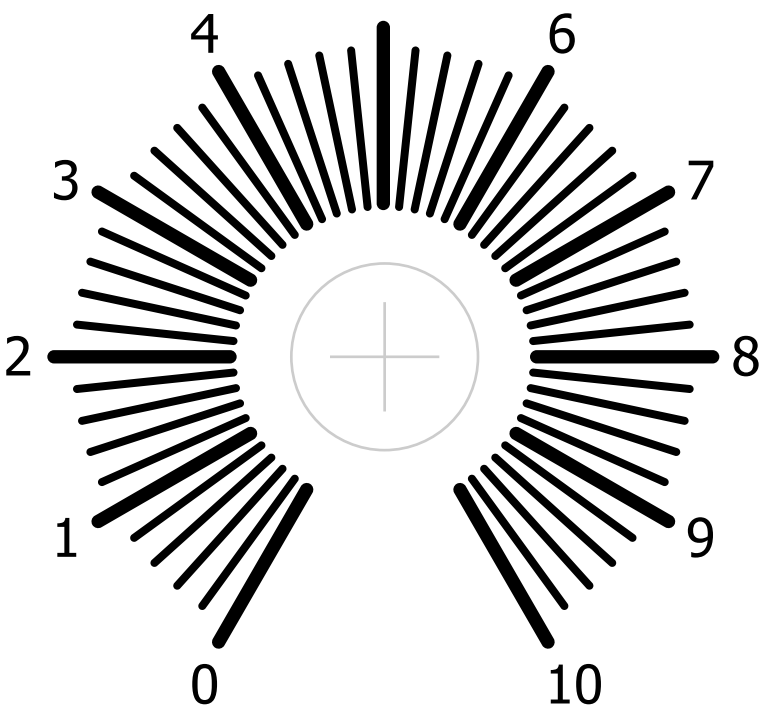
Cut-Off Frequency



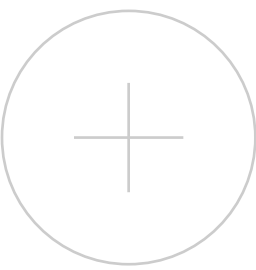
Signal 3



Freq Mod Depth



Signal 1 In



Cut-Off CV In



High-Pass Out



Signal 2 In



Freq Mod In



Band-Pass Out



Signal 3 In



Resonance CV In



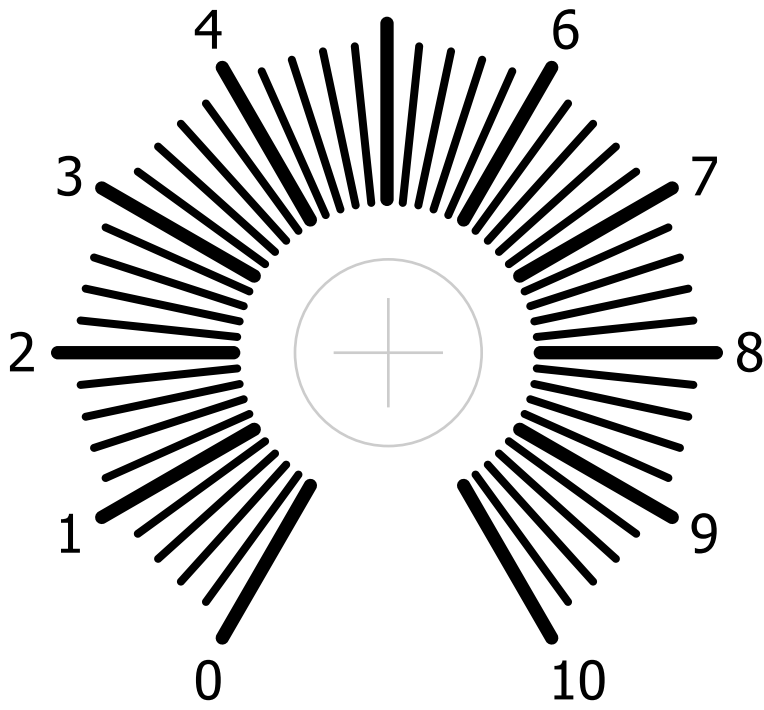
Low-Pass Out



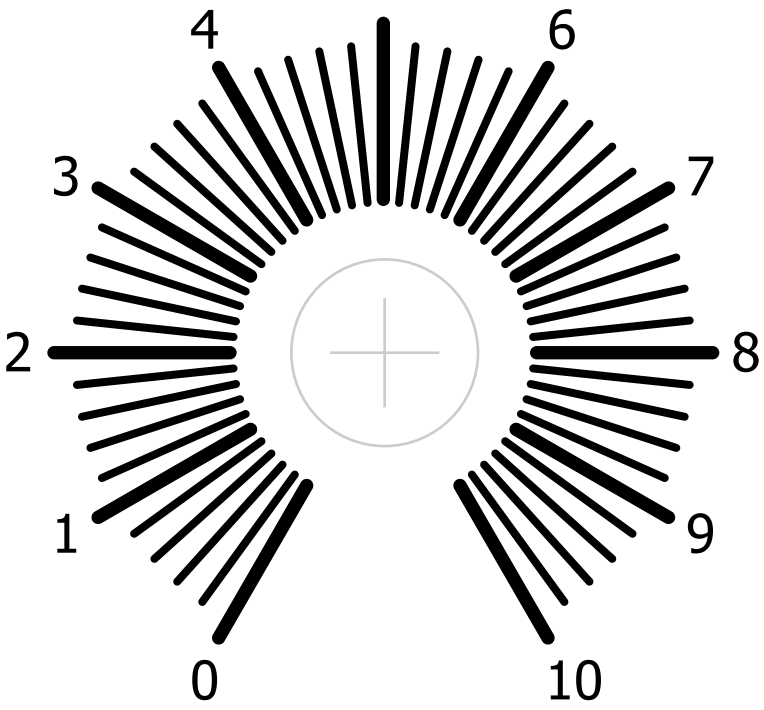


# VCF 24

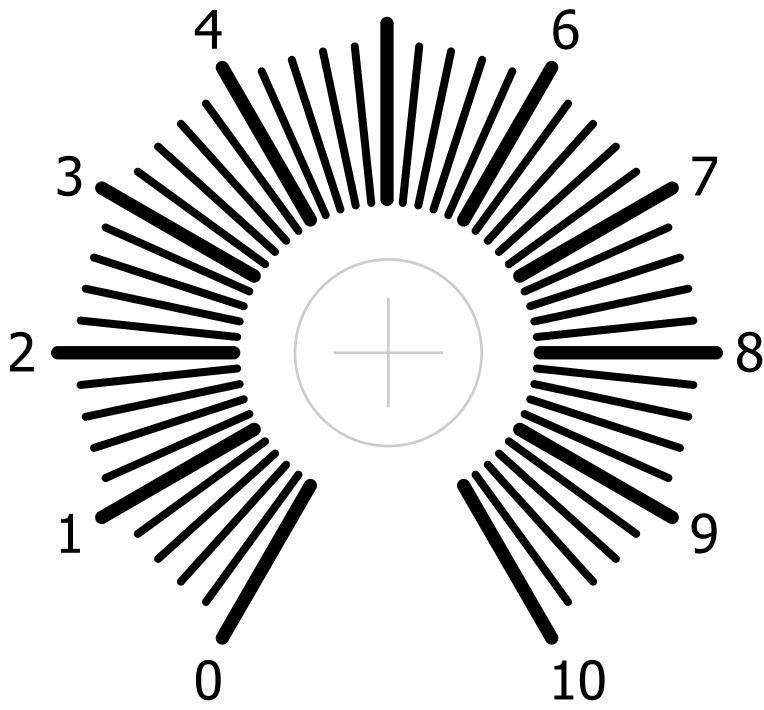
Signal 1



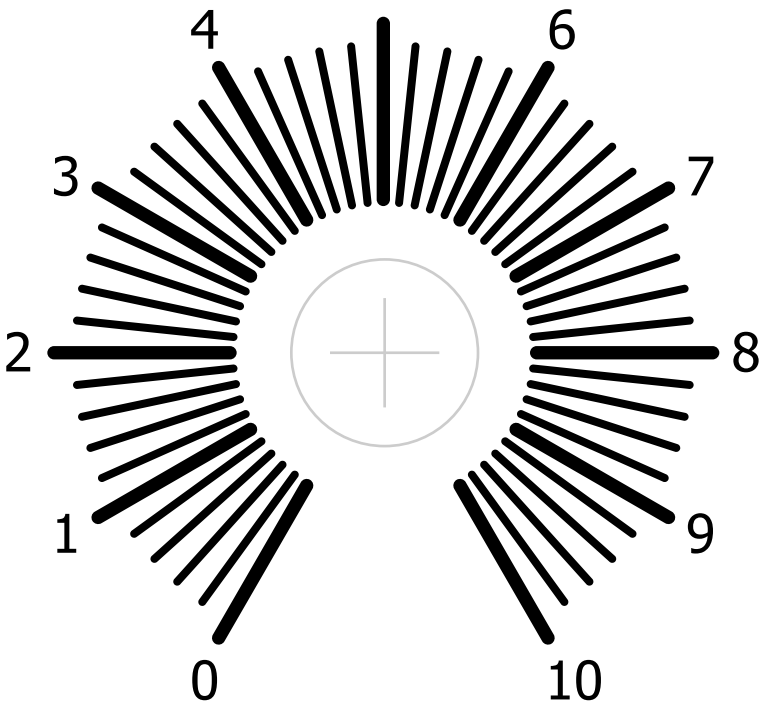
Resonance



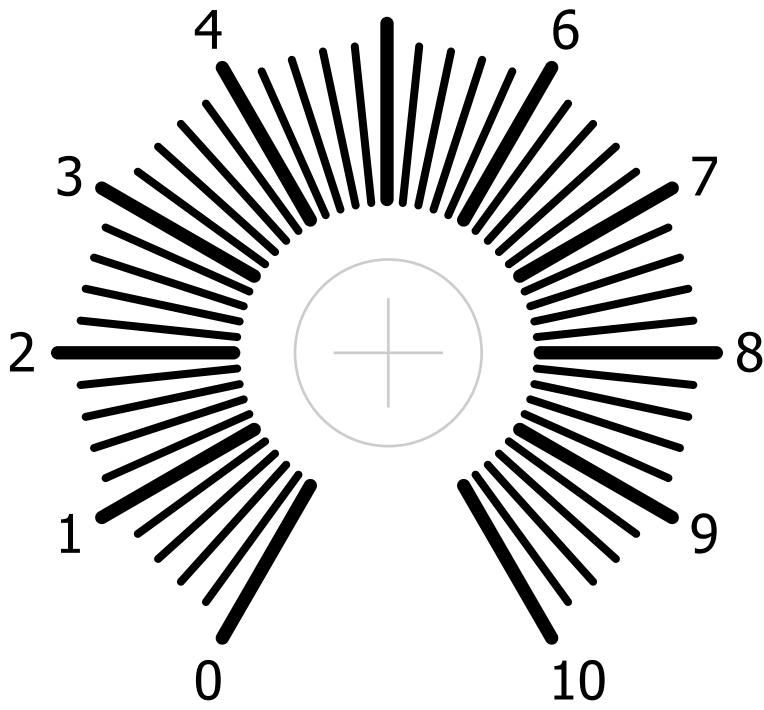
Signal 2



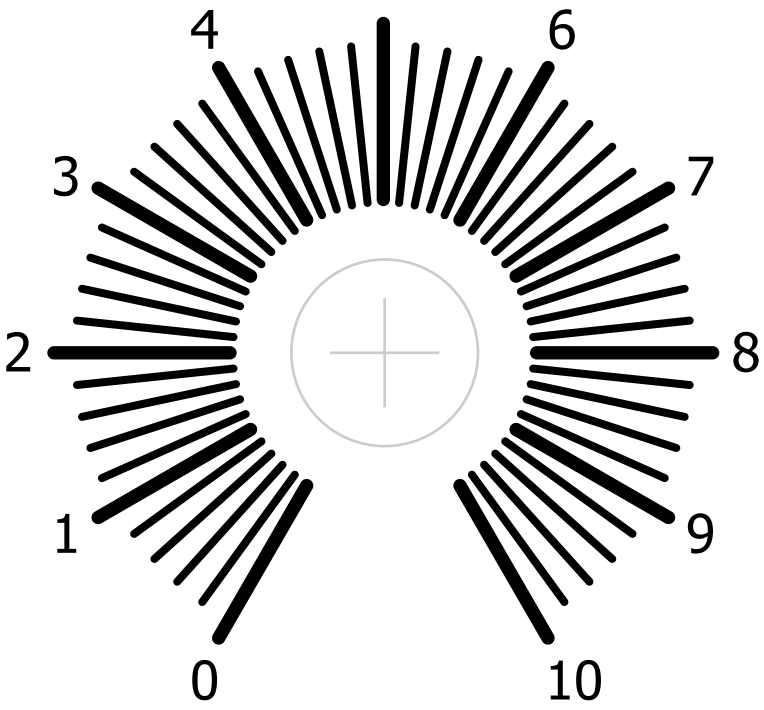
Cut-Off Frequency



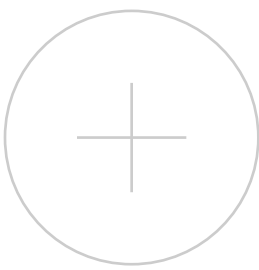
Signal 3



Freq Mod Depth



Signal 1 In



Cut-Off CV In



Cut-Off CV In



Signal 2 In



Freq Mod In



Signal 3 In



Resonance CV In



Low-Pass Out

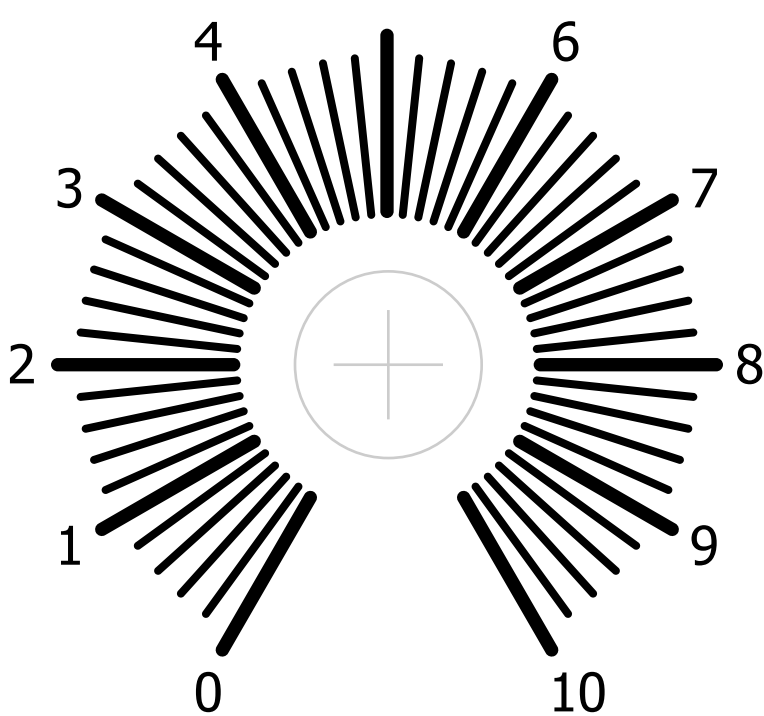




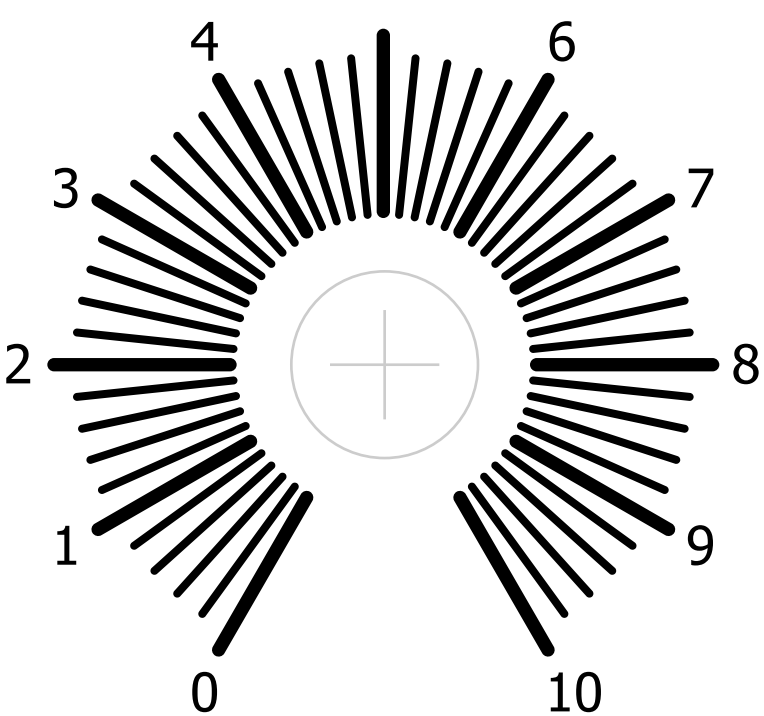
# CV / GATE



## CV 2 Portamento



## Gate Delay



**CV 1 In**



**CV 2 In**



**CV 1/2 Link**

Off

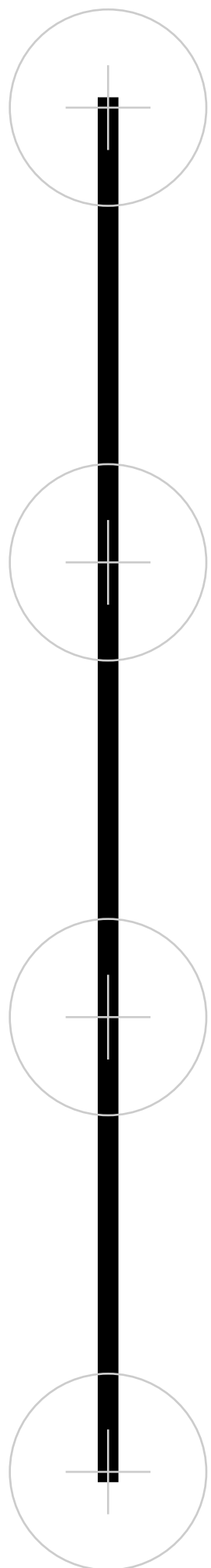


On

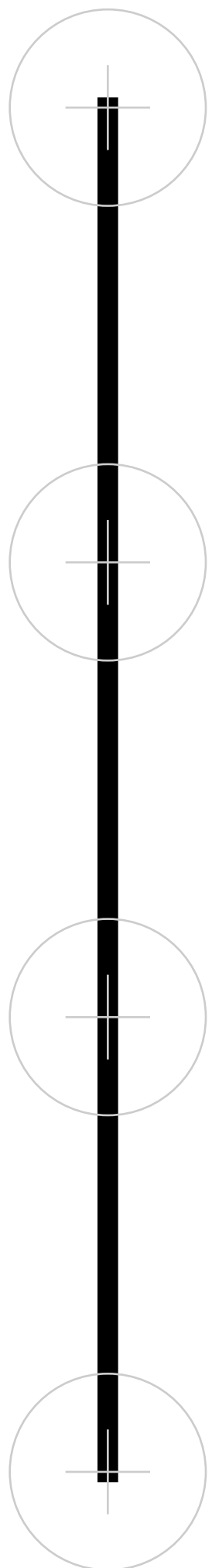
**Gate In**



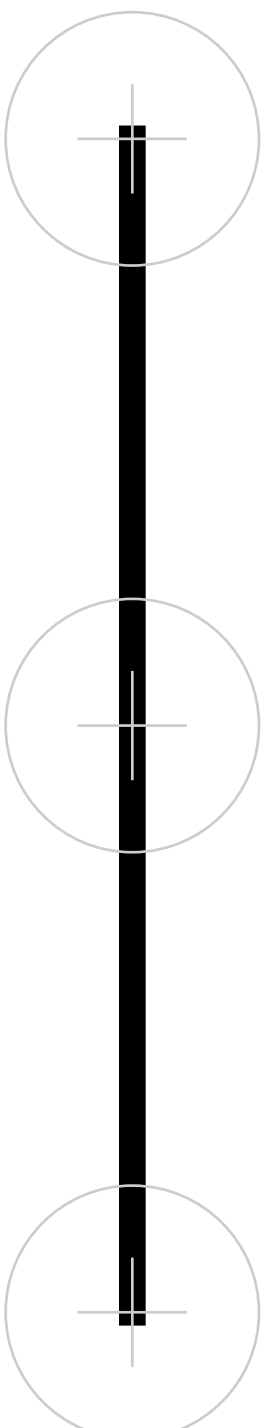
**CV 1 Out**



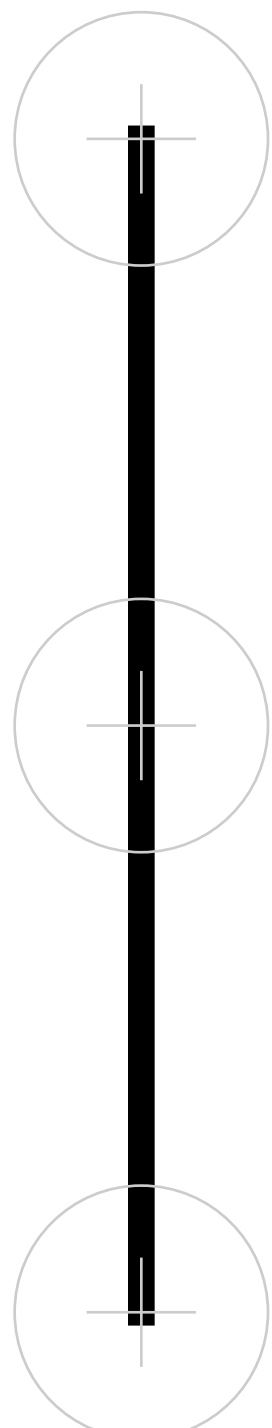
**CV 2 Out**



**Delay Out**



**Gate Out**



**Delay Active**



**Gate Active**

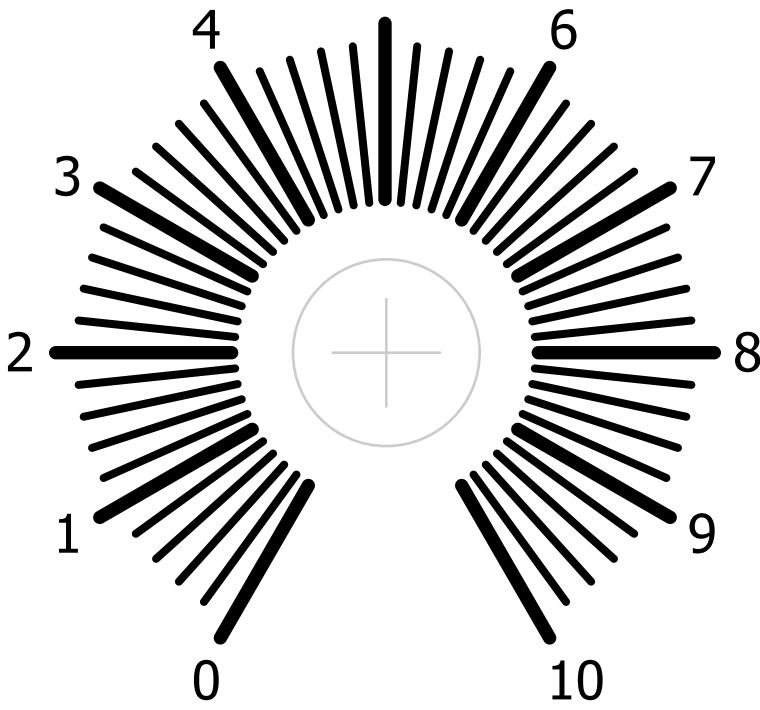




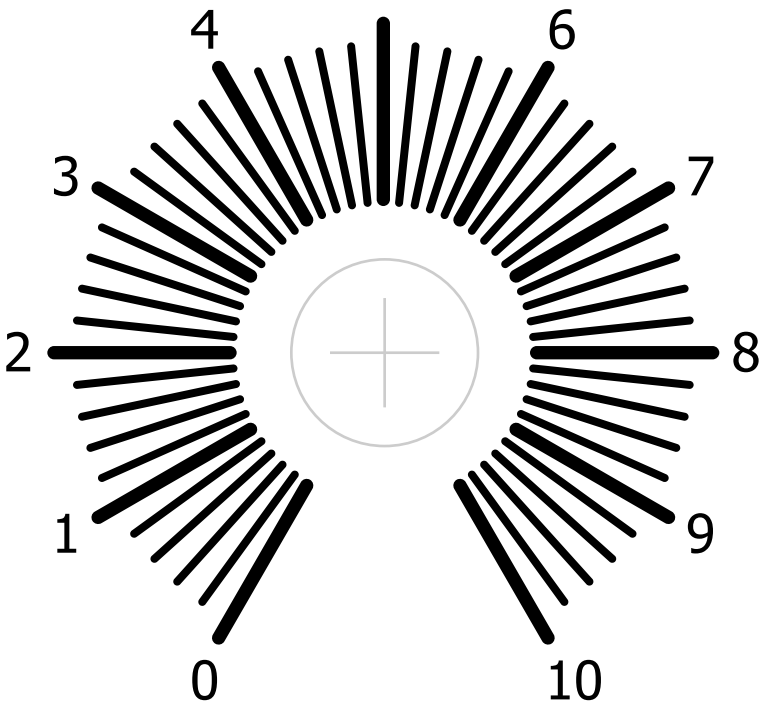
# WAVE FREAKER



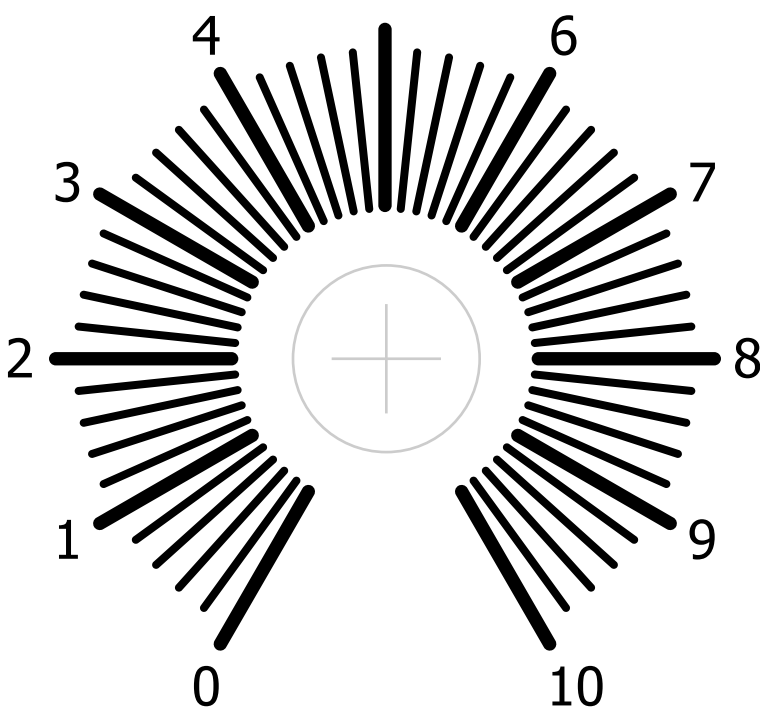
Input Level



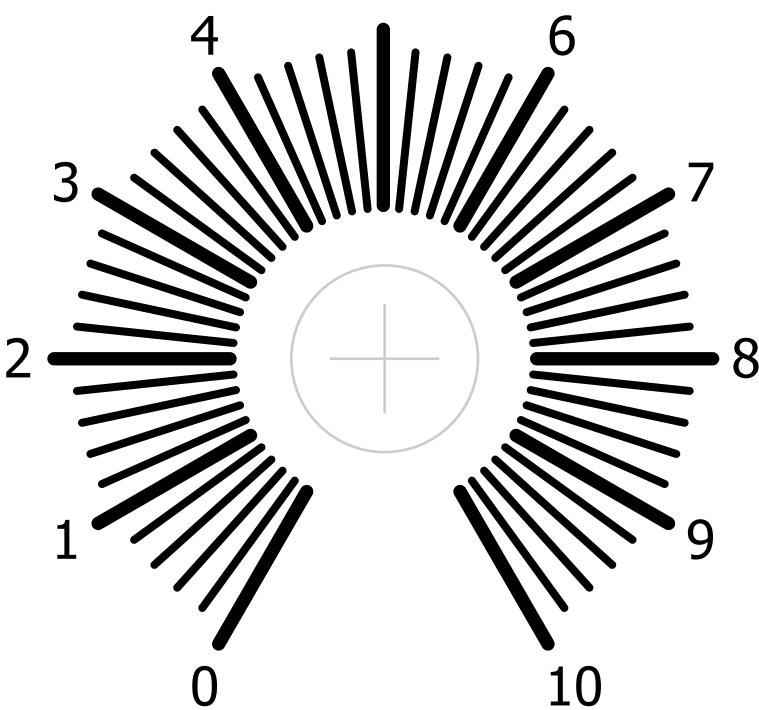
Wave Shape



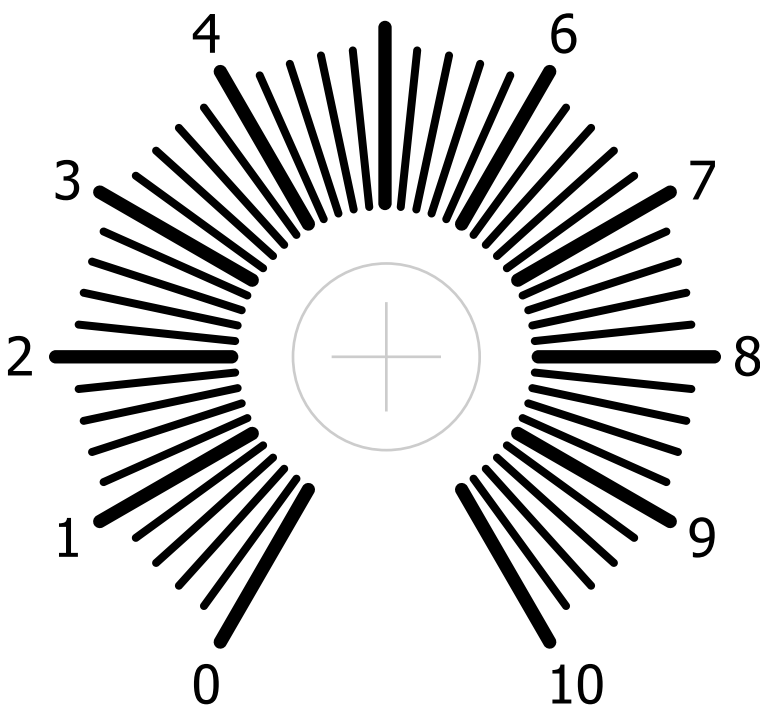
Pulse Level



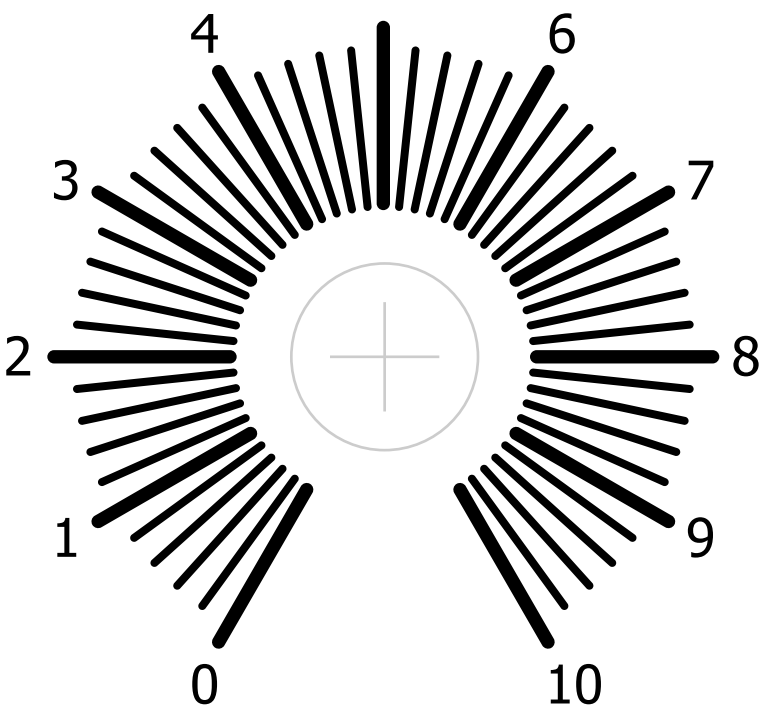
Wave Level



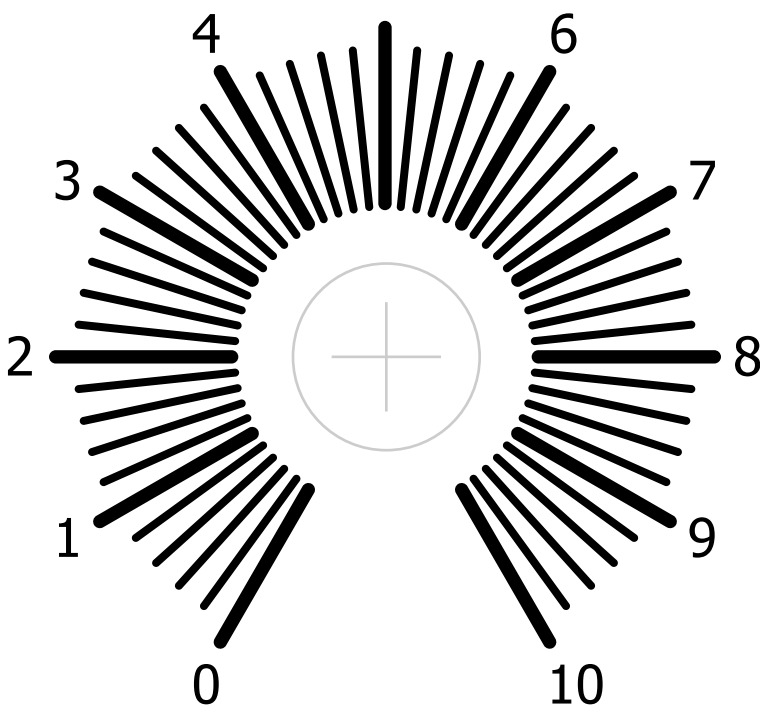
Sub-Oct Level



Step Wave Level



Sub-Sub-Oct Level



Shaper Mode

Active



Up



Down

Input



Wave Shape CV 1



Step Wave CV 1



Output



Wave Shape CV 2

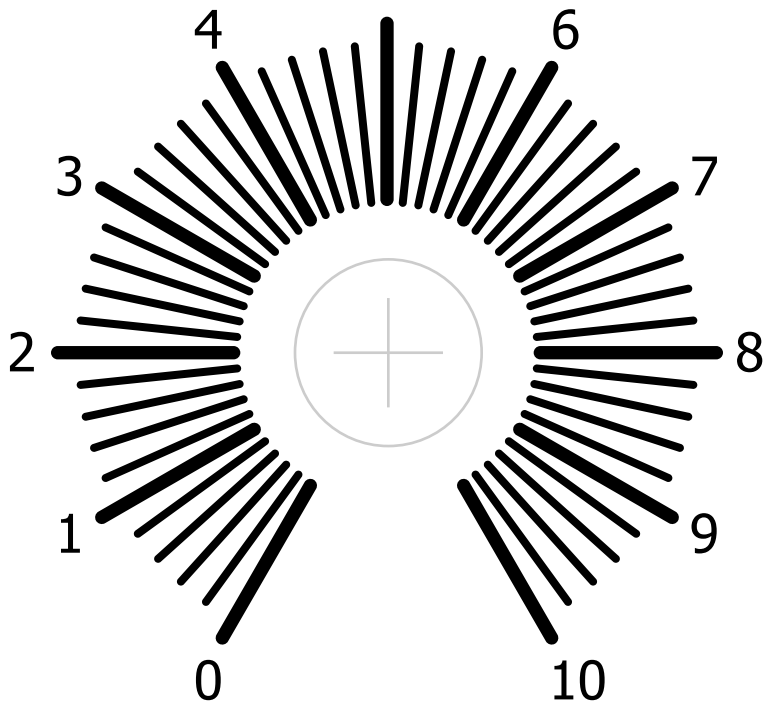


Step Wave CV 2

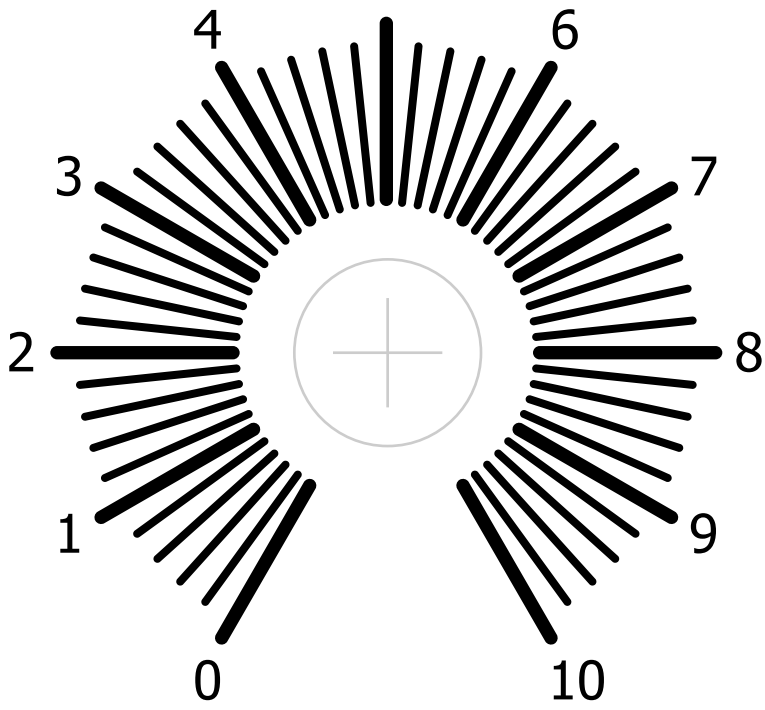


# ECHO

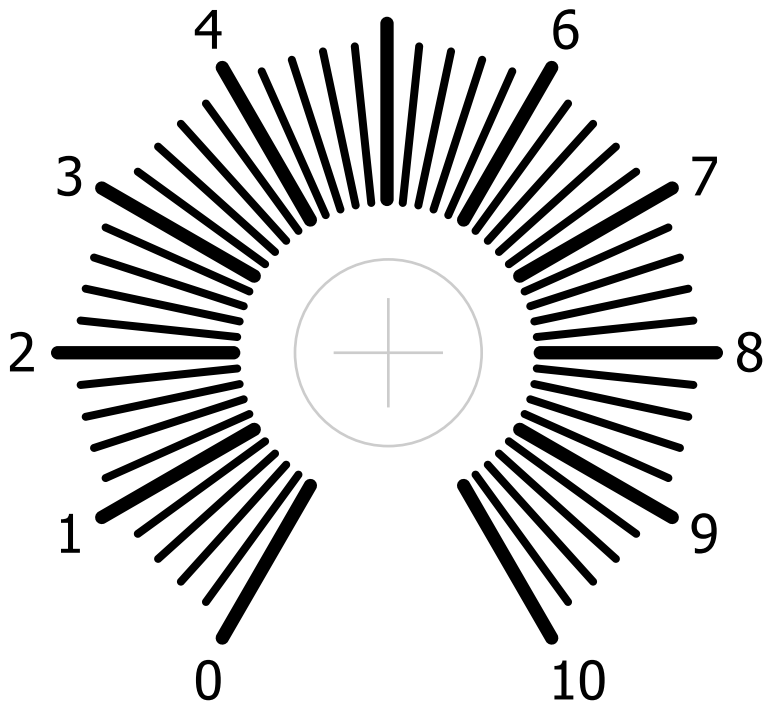
Input Level



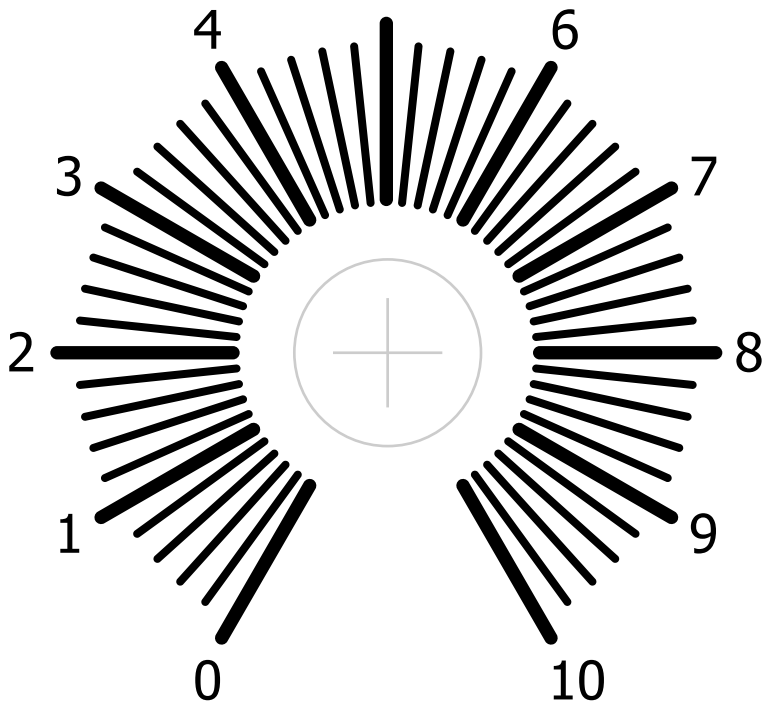
Echo Level



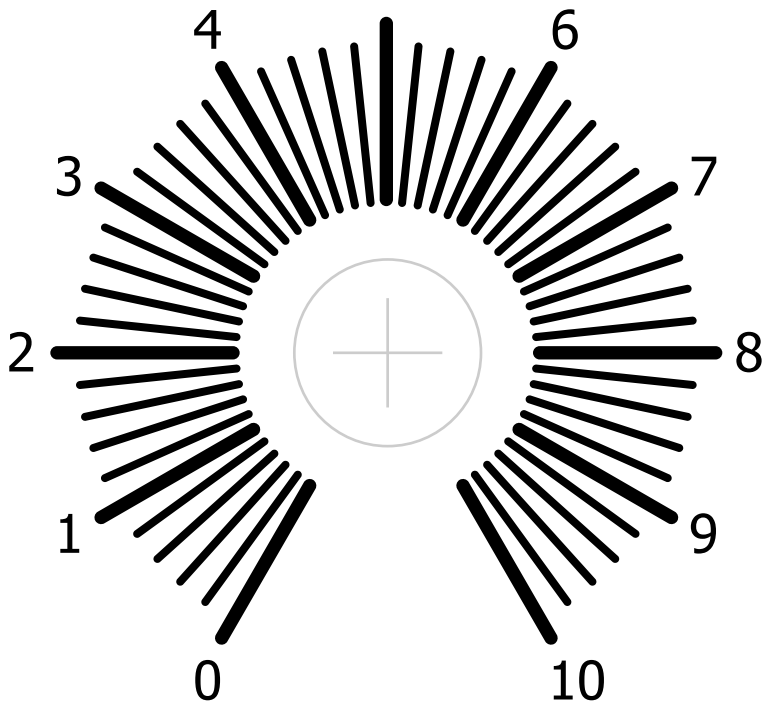
Original Level



Echo Repeat



Delay



Input Type

Line

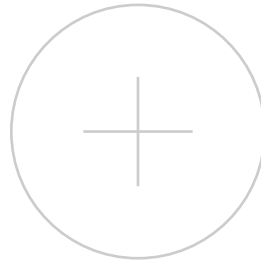


Mic

Echo Level CV



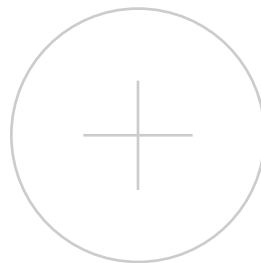
Mic Buffer Out



Echo Repeat CV



Output



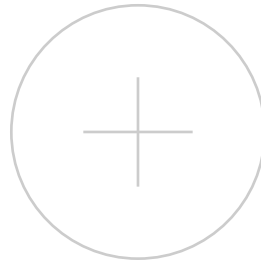
Input



Delay CV



Output

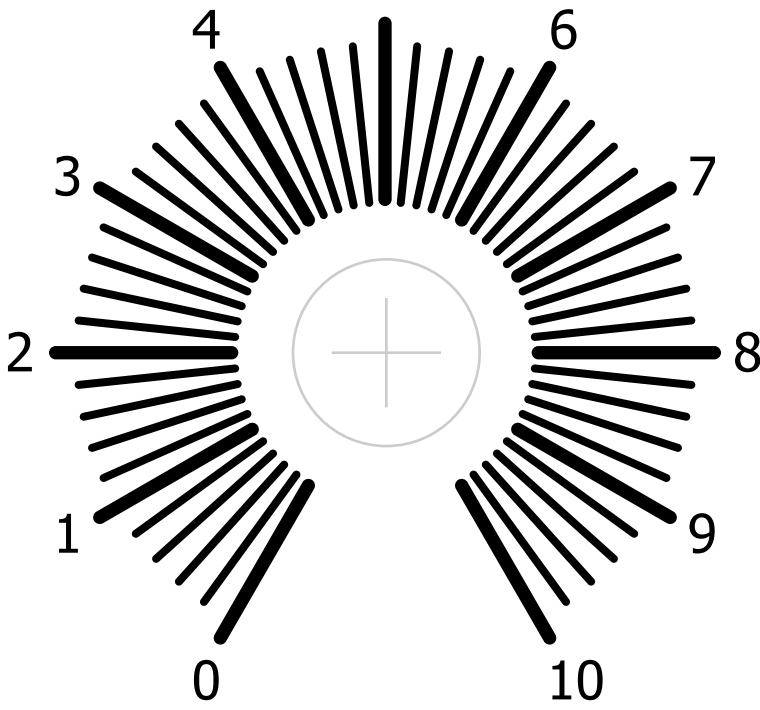




# RING MODULATOR

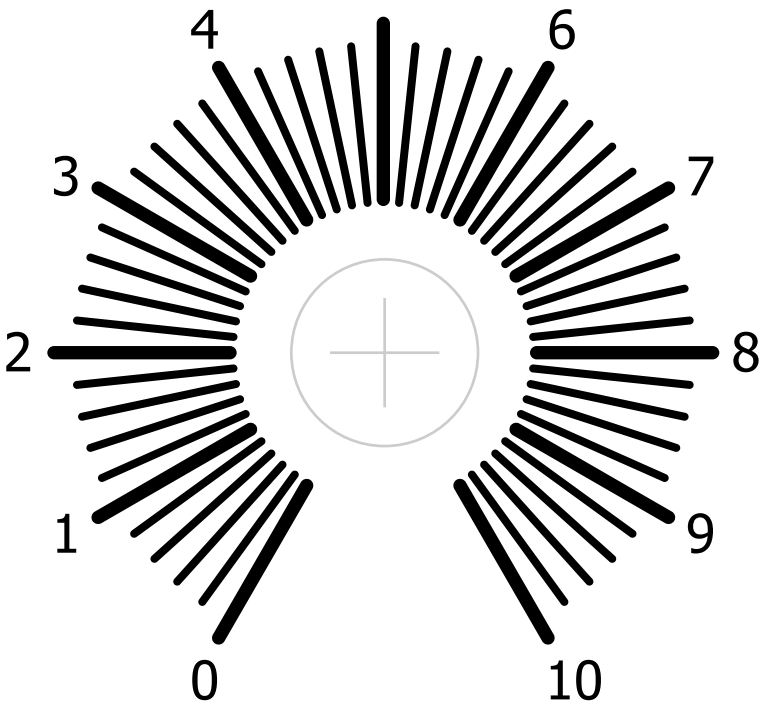


Coarse

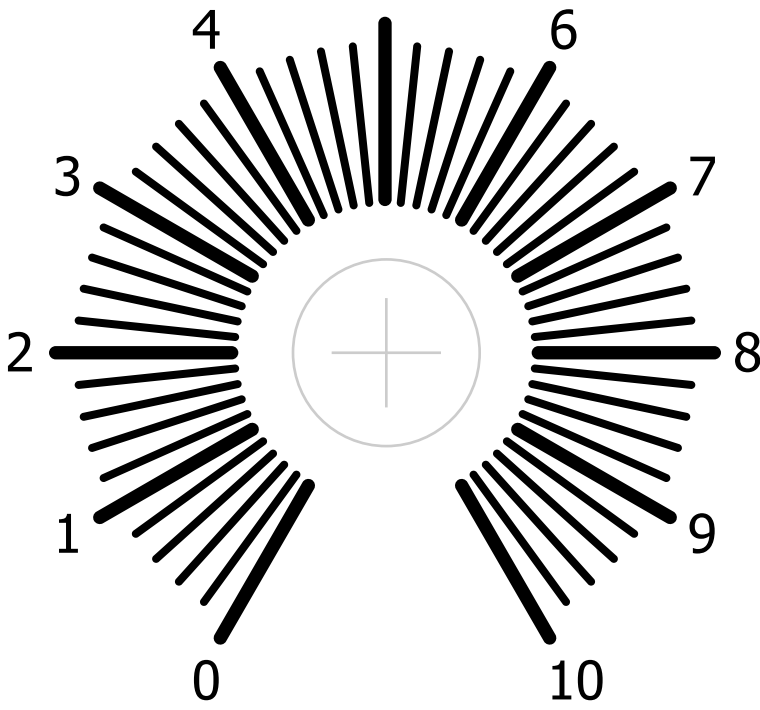


Oscillator Frequency

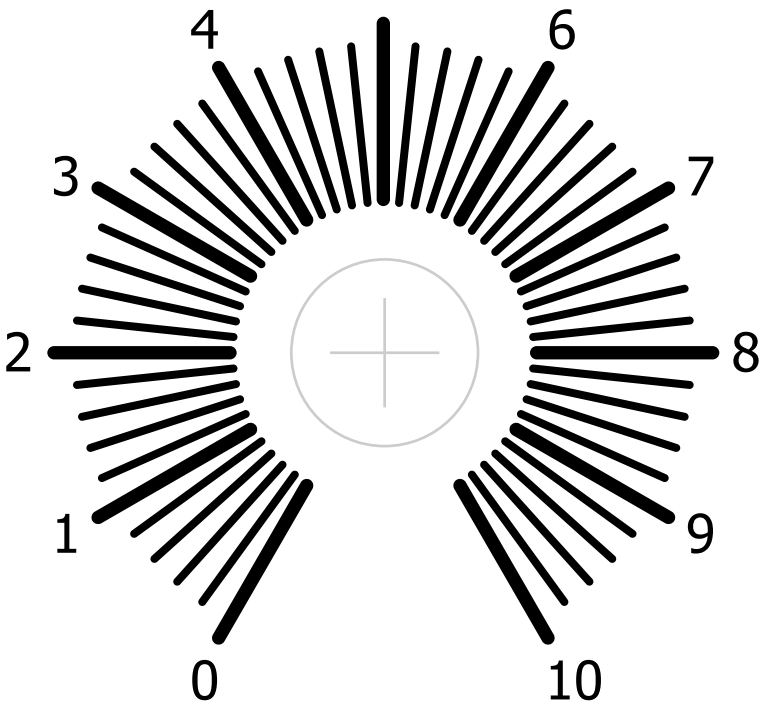
Fine



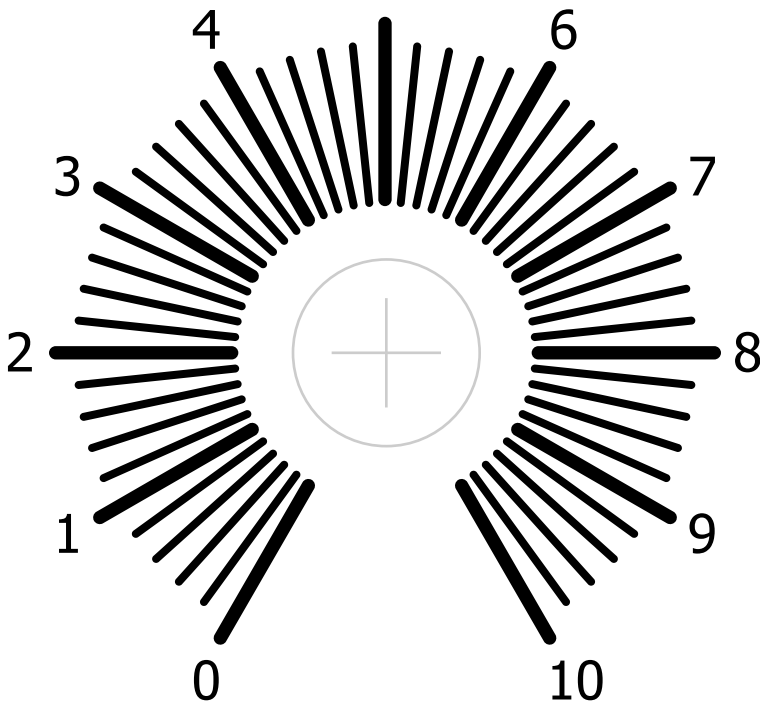
Input Level 1



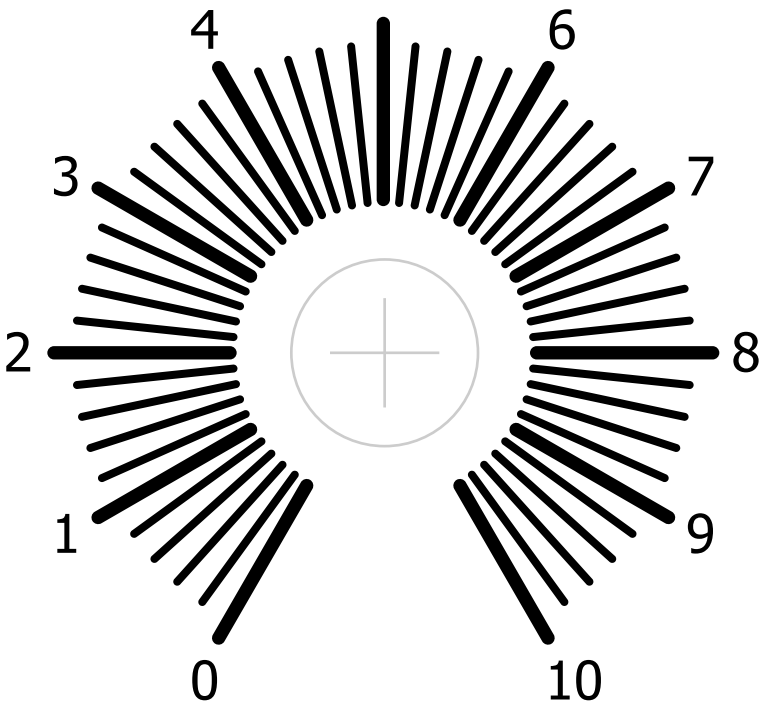
Gain Level 1



Input Level 2



Gain Level 2



Source Select

Input 2 \* Sine



Input Type

Independent



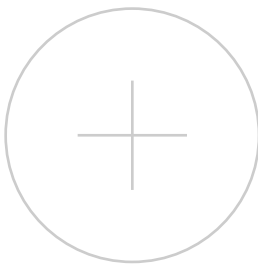
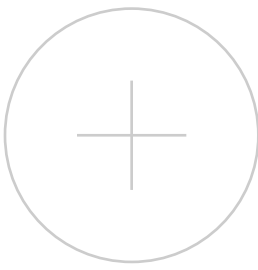
Input 2 \* Input 1

Combined

Signal 1 In

Oscillator CV 1 In

Sine Output



Signal 2 In

Oscillator CV 2 In

Output





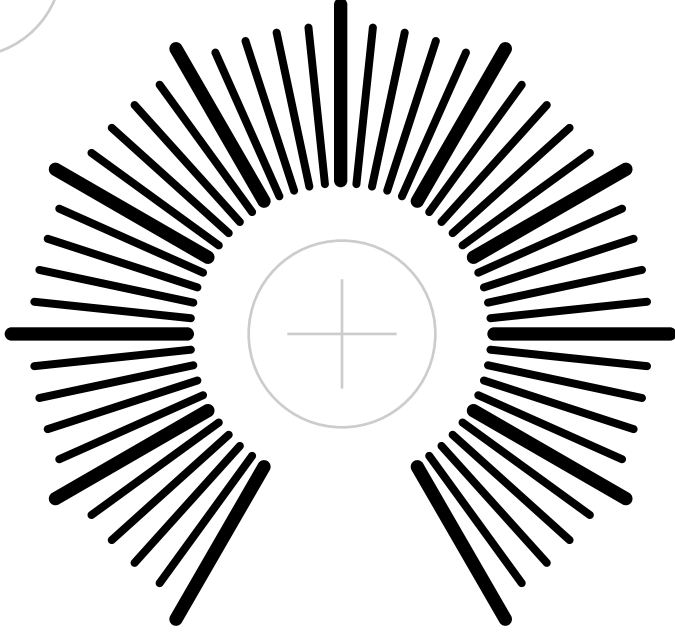
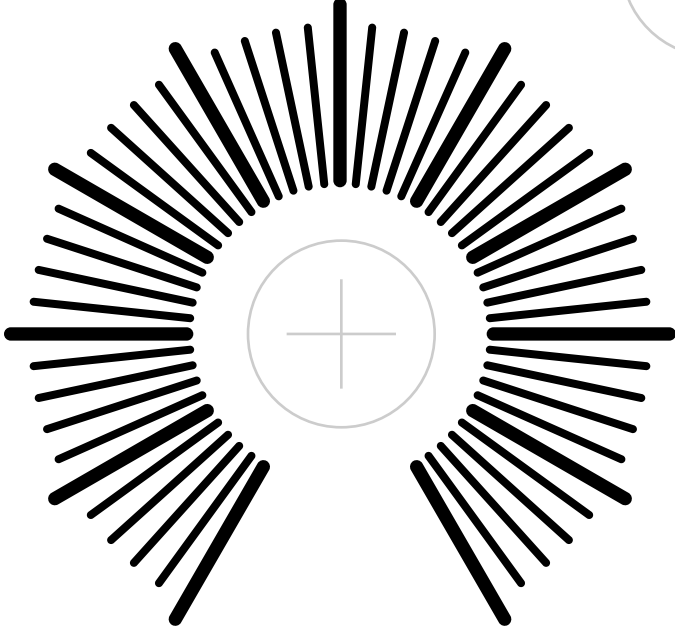
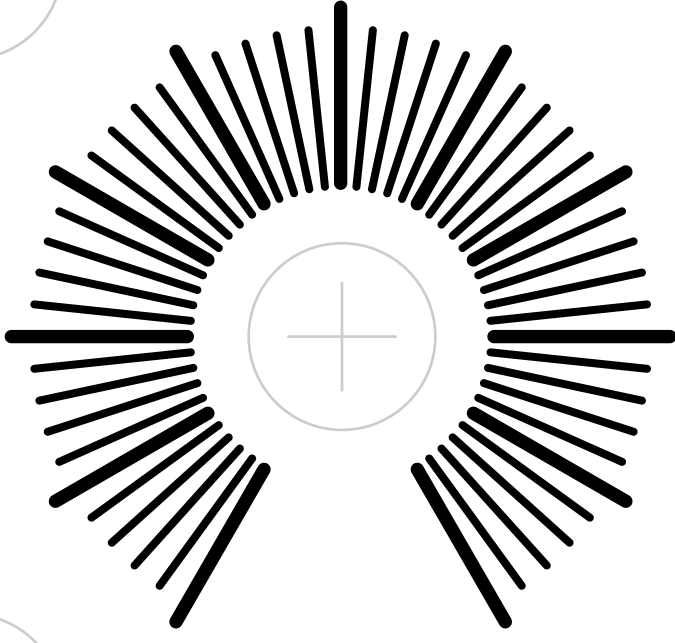
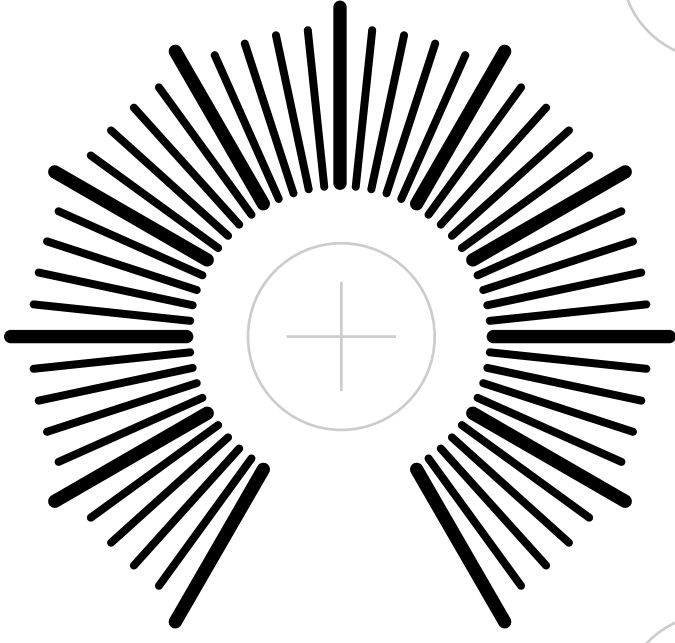
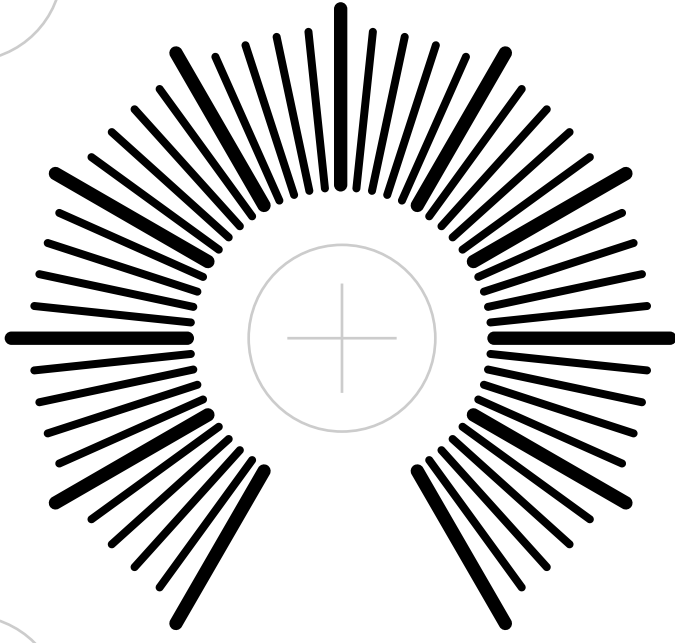
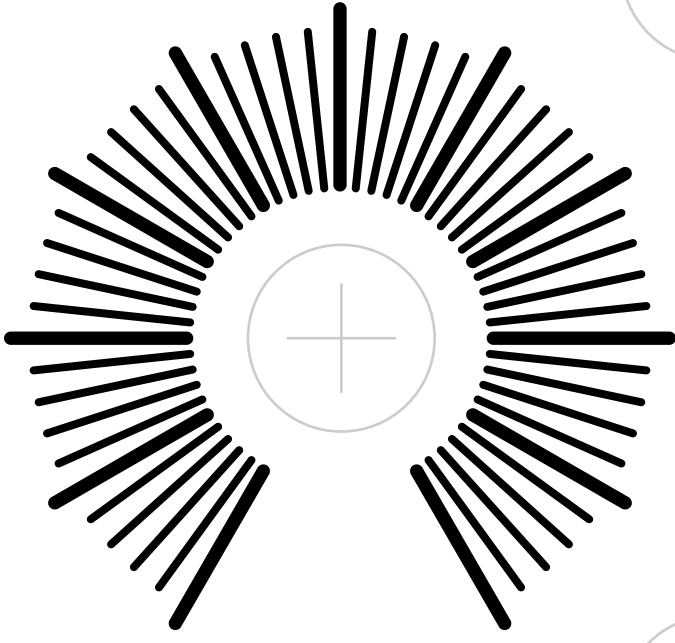
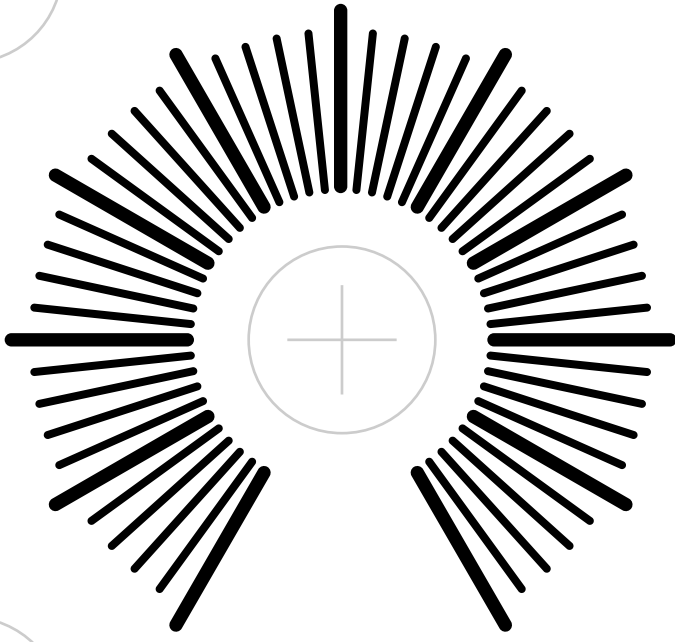
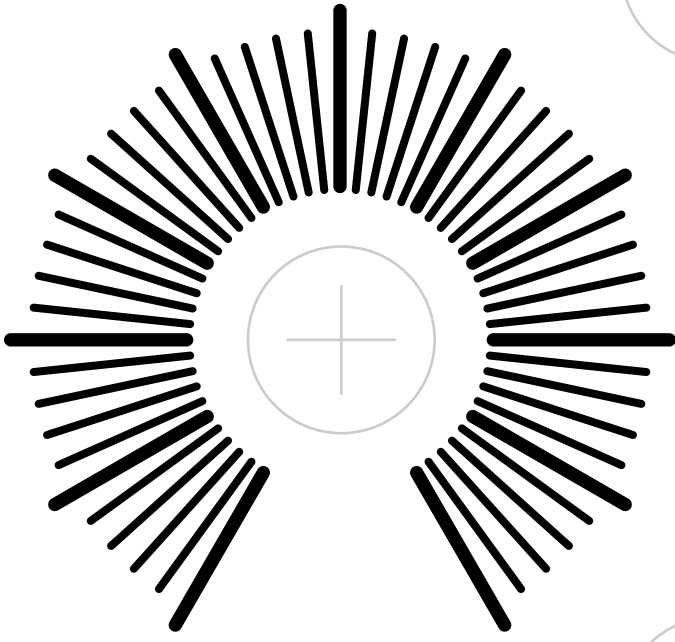
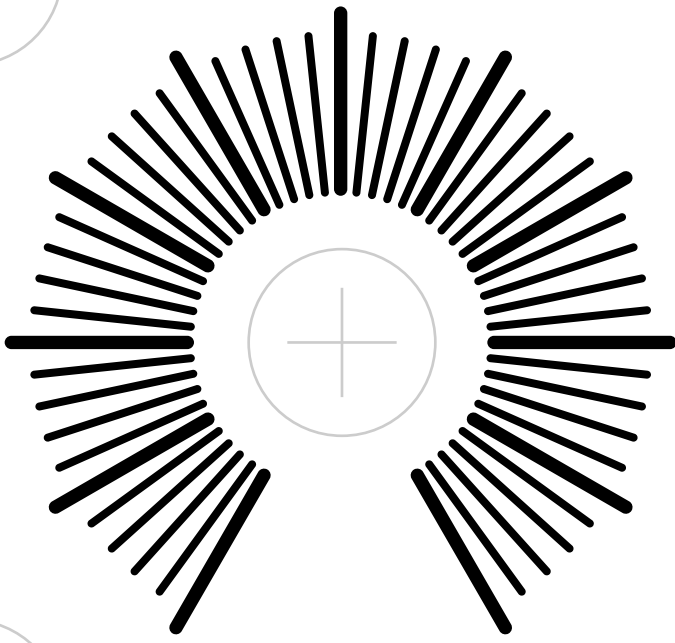
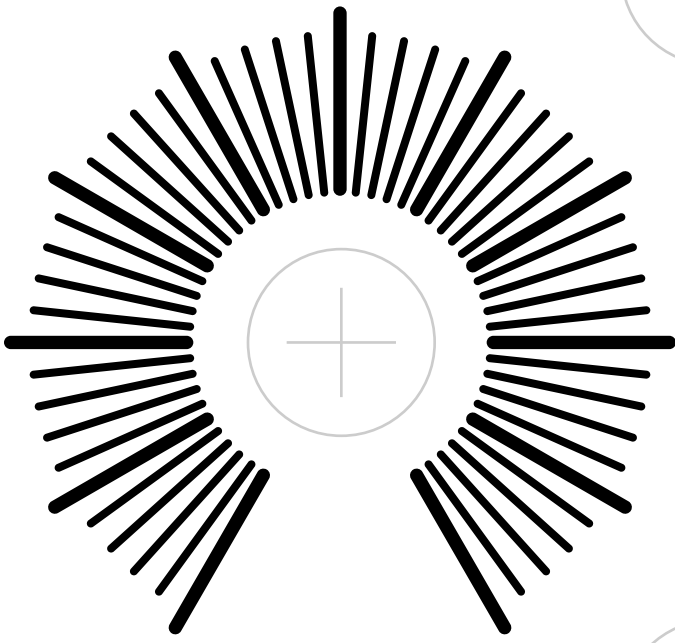
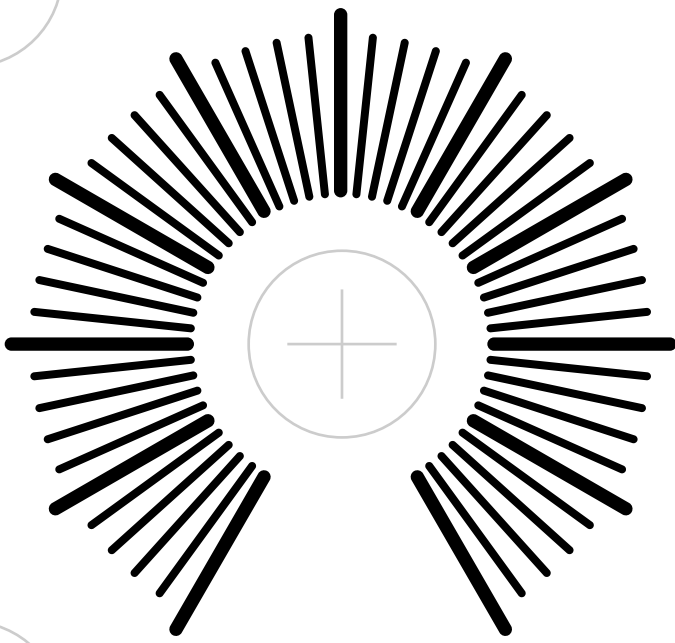
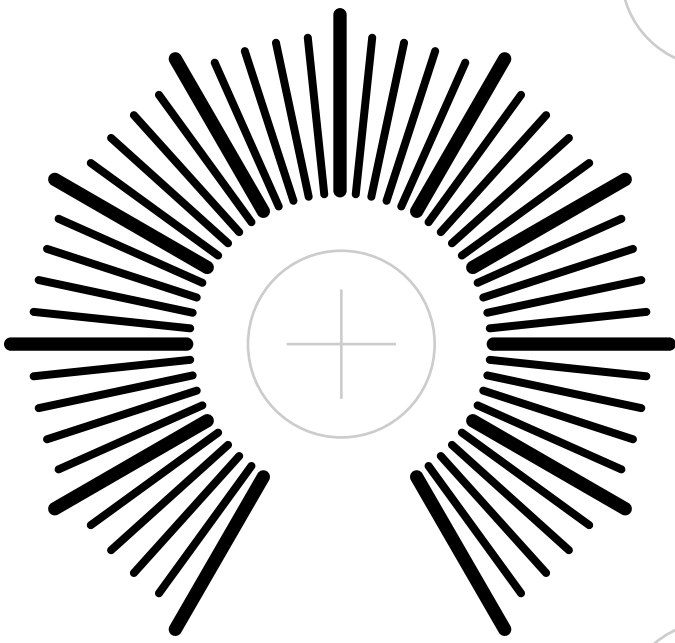
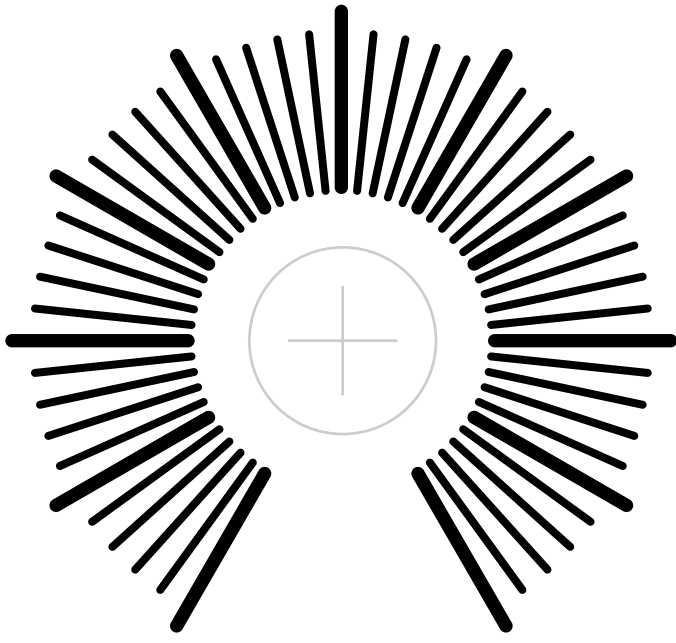
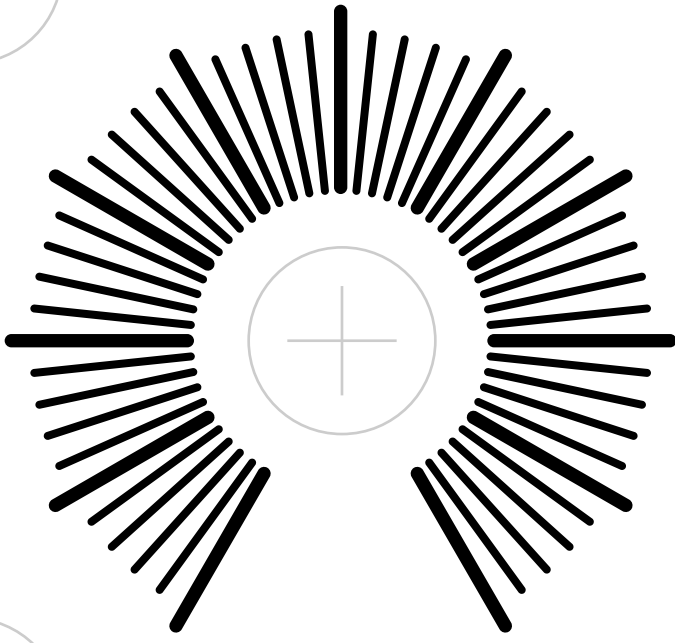
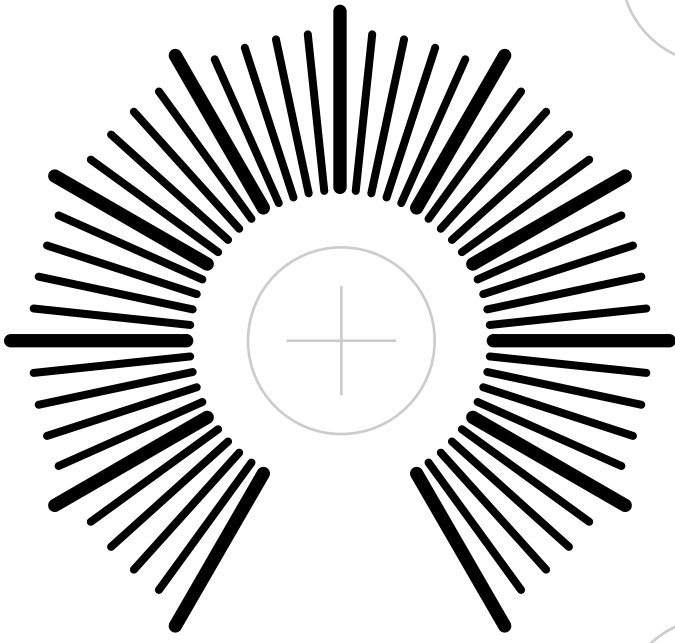
# 7 SEG ENVELOPE



Slope

Threshold

Level



Sustain



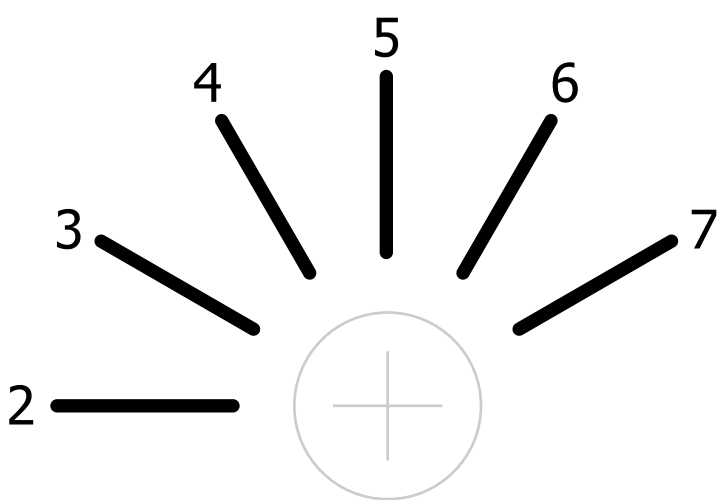
Ready



Slope Runaway

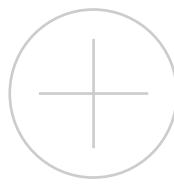


Segments



Repeat

On



Off

Gate

Mode 1



Mode 2

Manual



Gate Input



Envelope Out



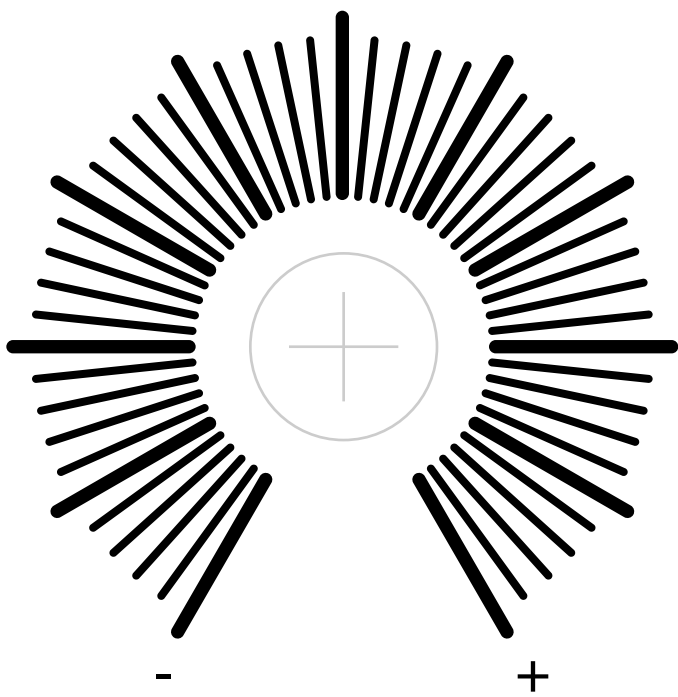
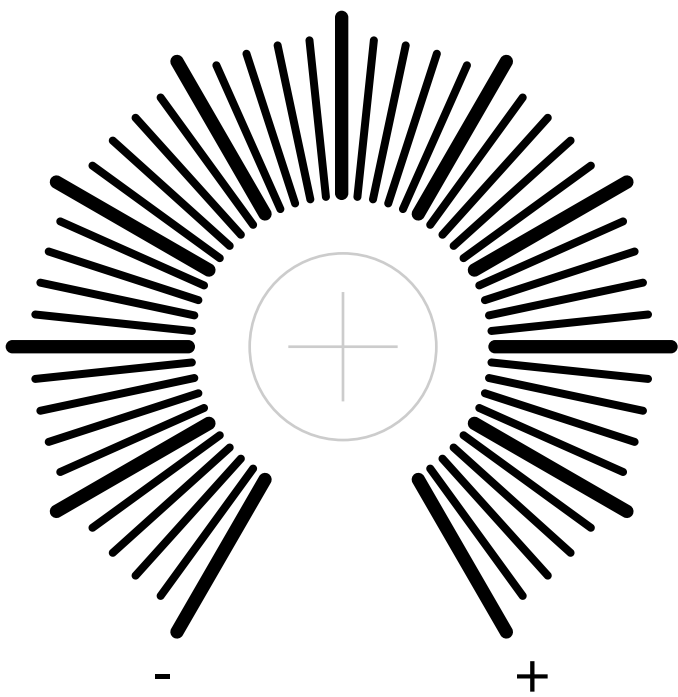
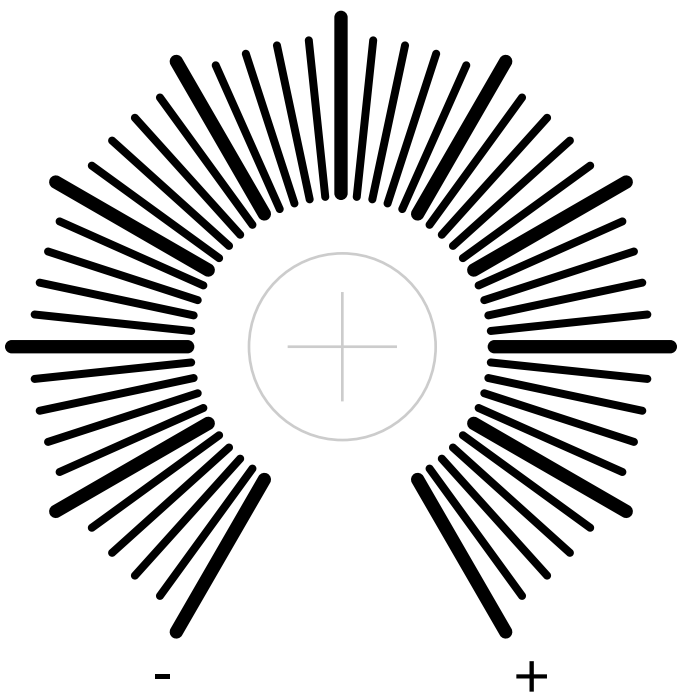
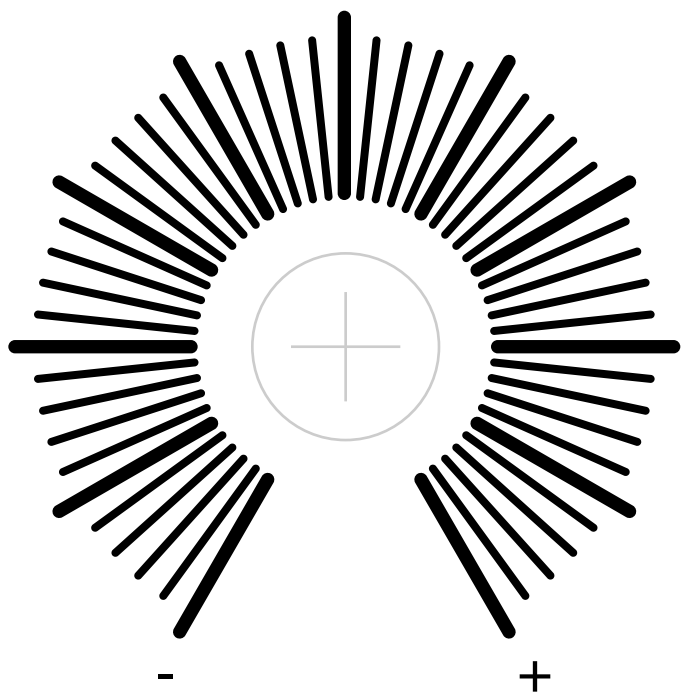
# 4+2 MIXER

Effect 1

Effect 1

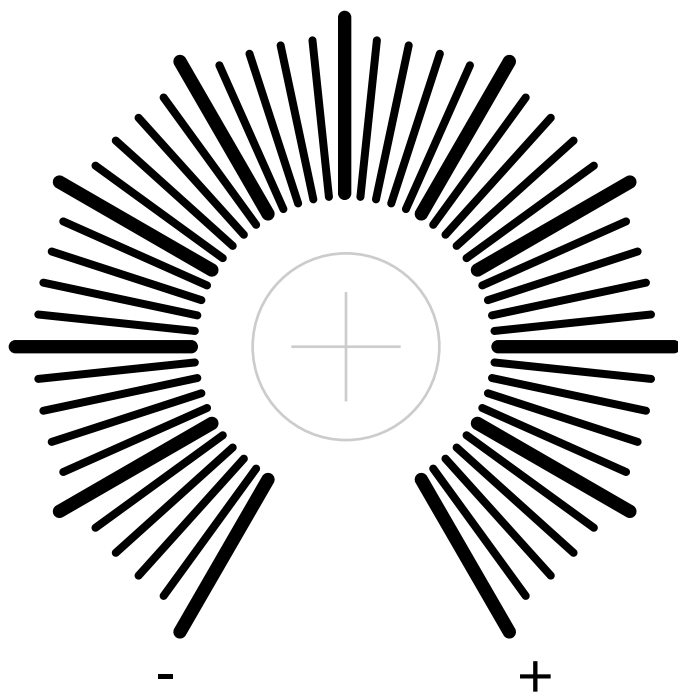
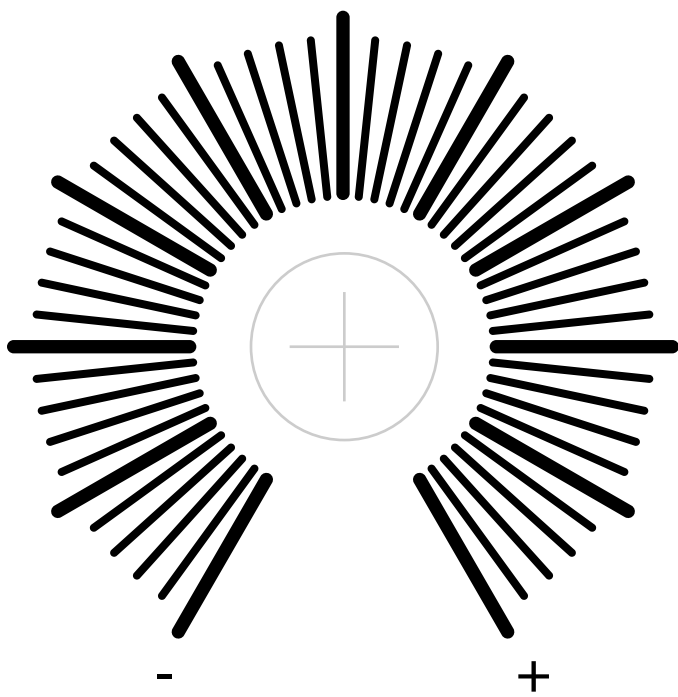
Effect 1

Effect 1



Effect 1 Level

Effect 2 Level

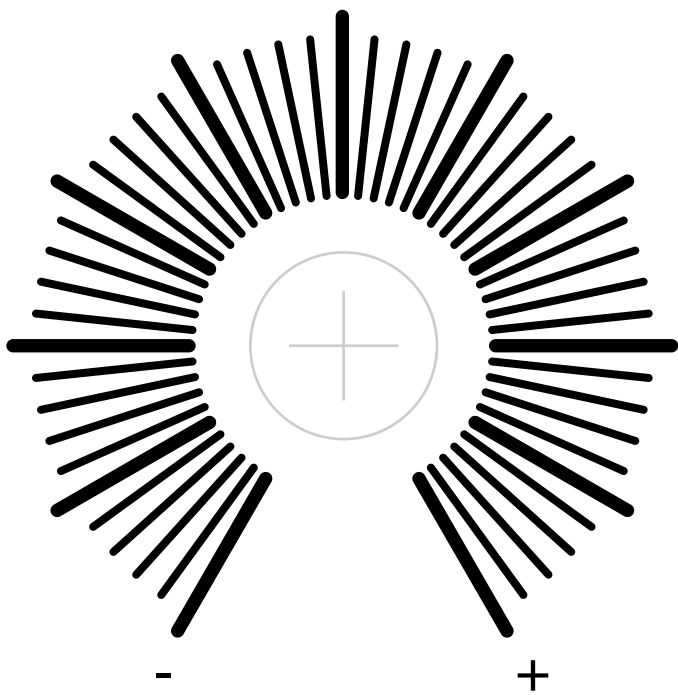
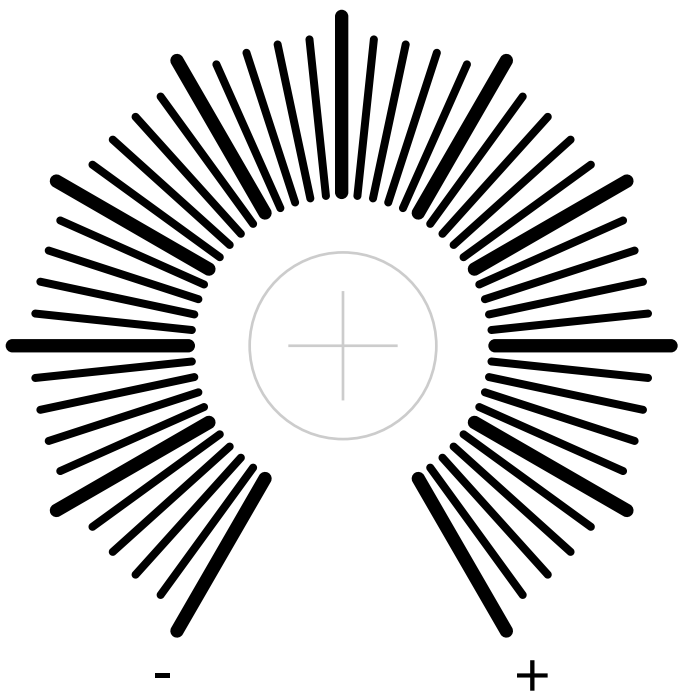
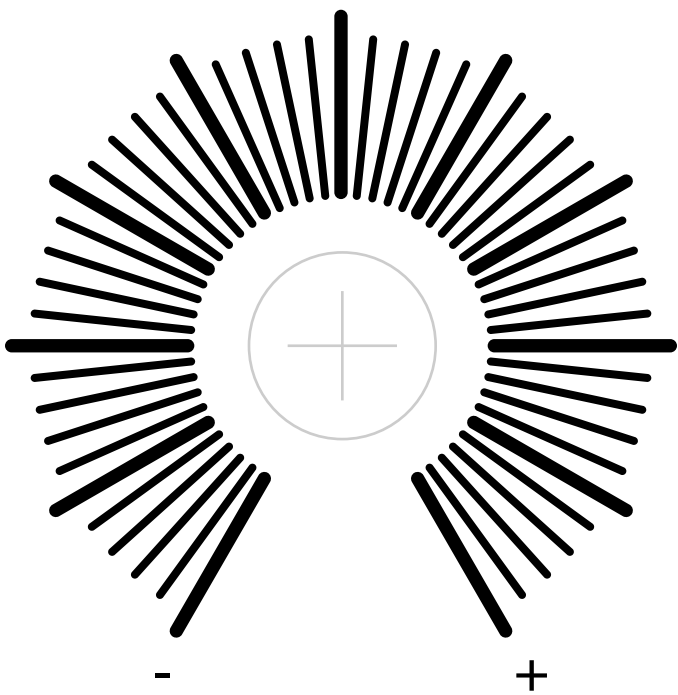
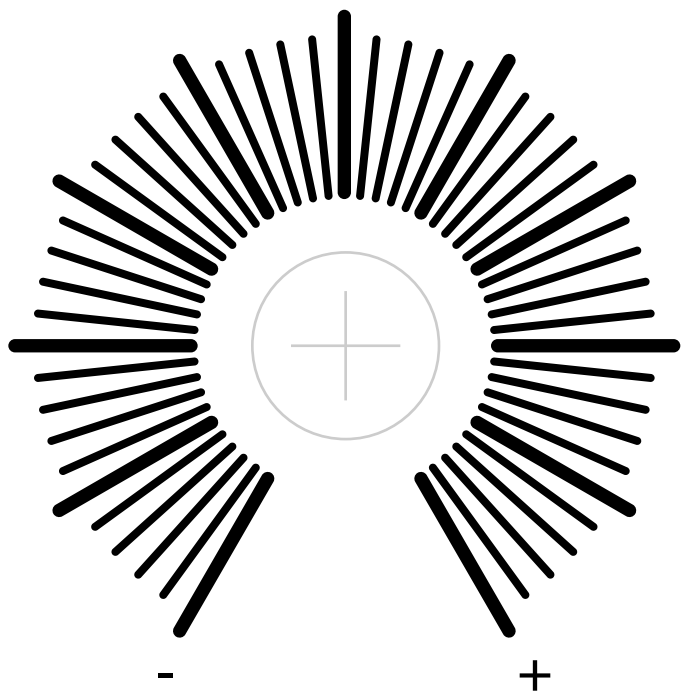


Effect 2

Effect 2

Effect 2

Effect 2



Left Send

Left Send



Right Send

Right Send



Left Return

Left Return



Right Return

Right Return

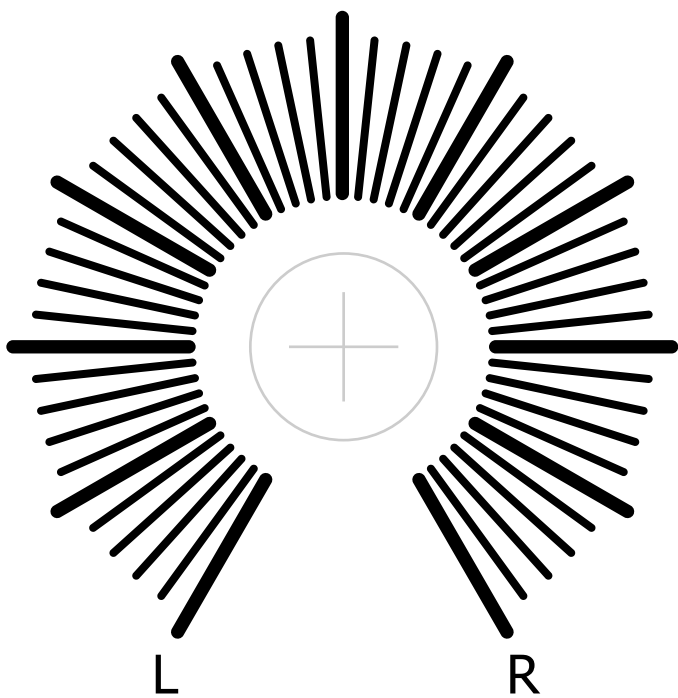
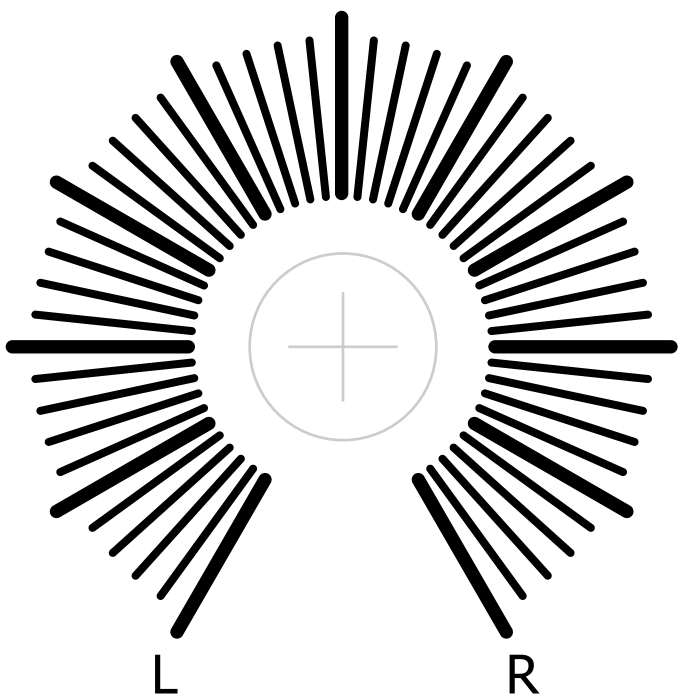
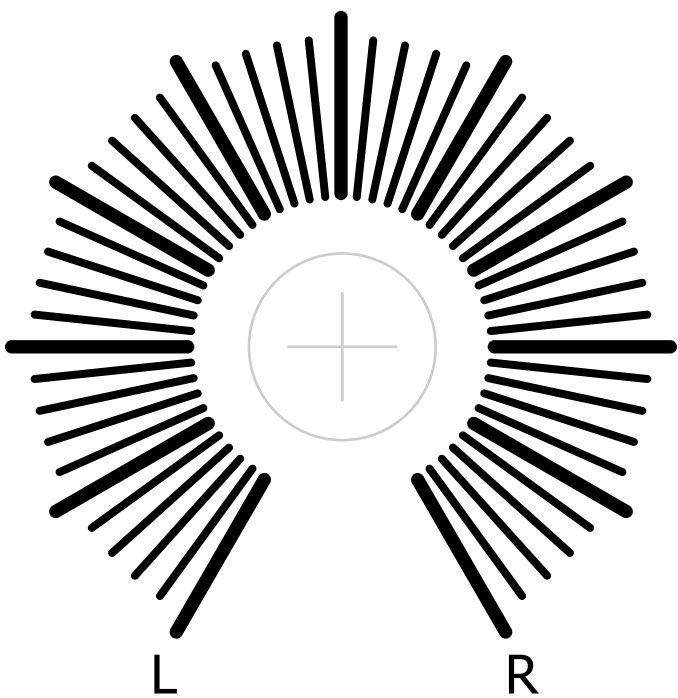
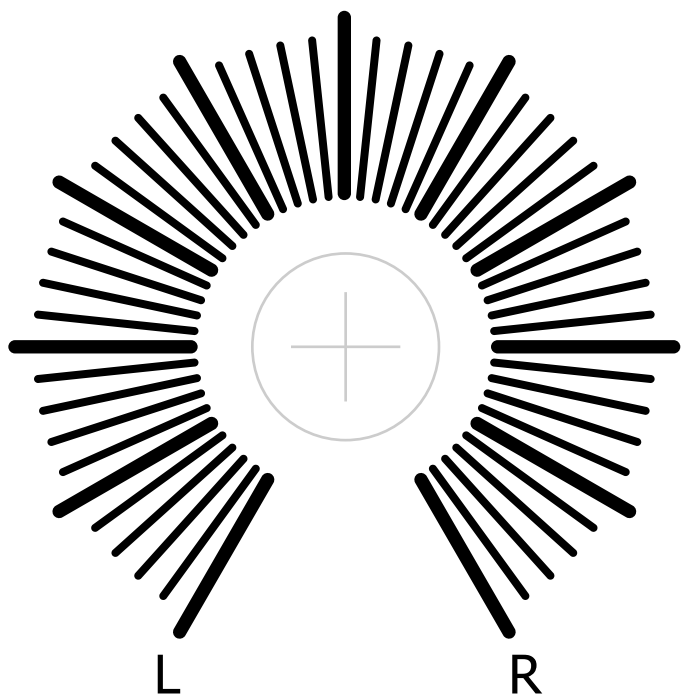


Pan

Pan

Pan

Pan

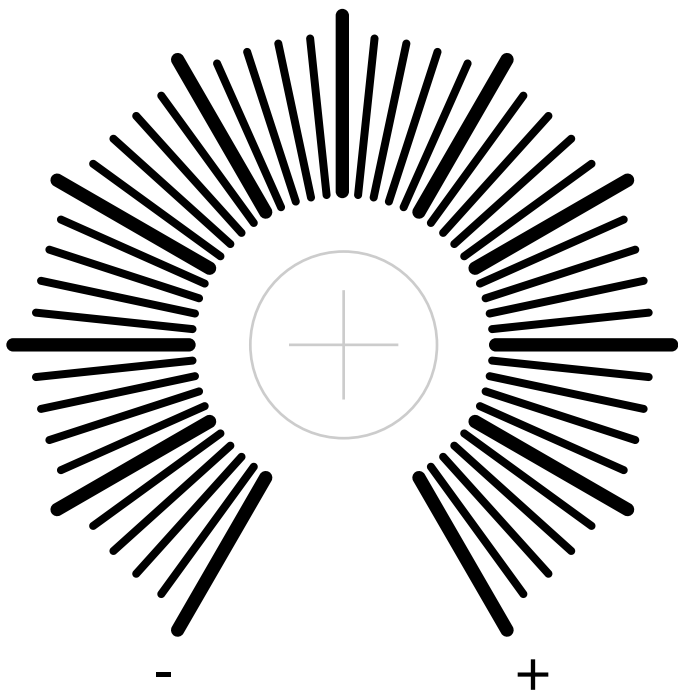
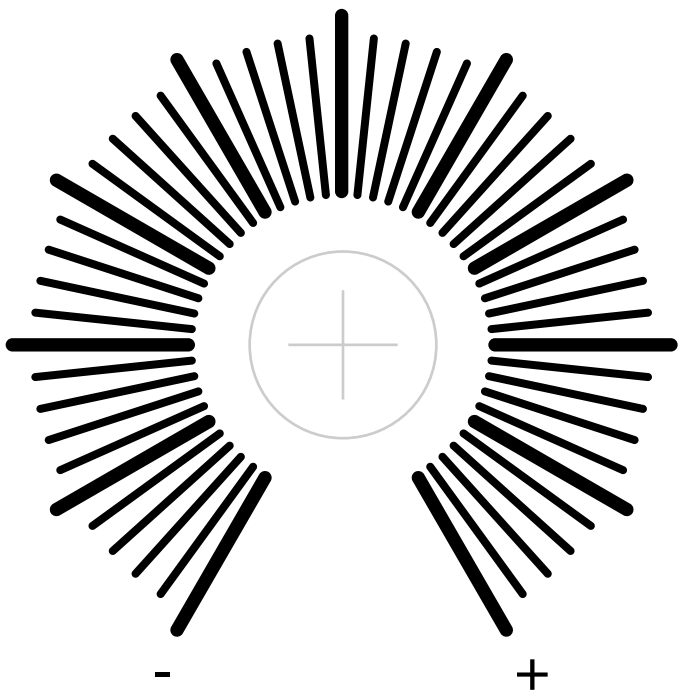
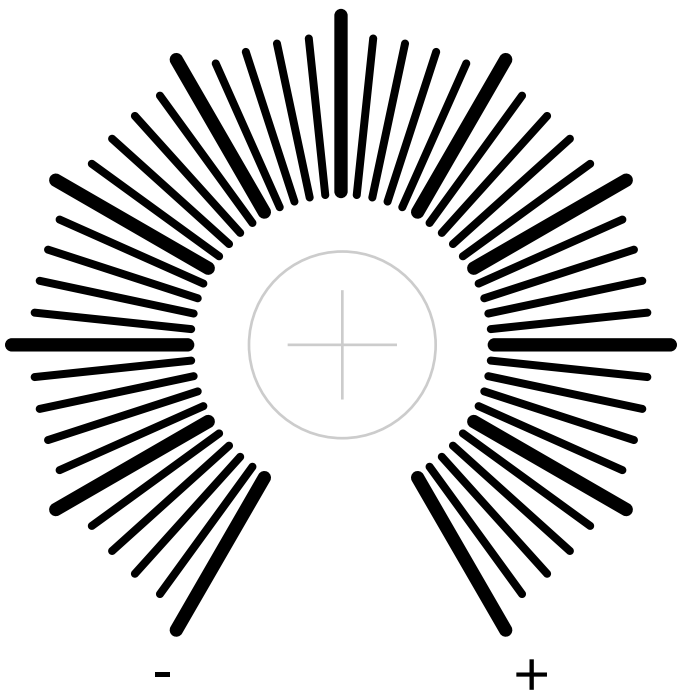
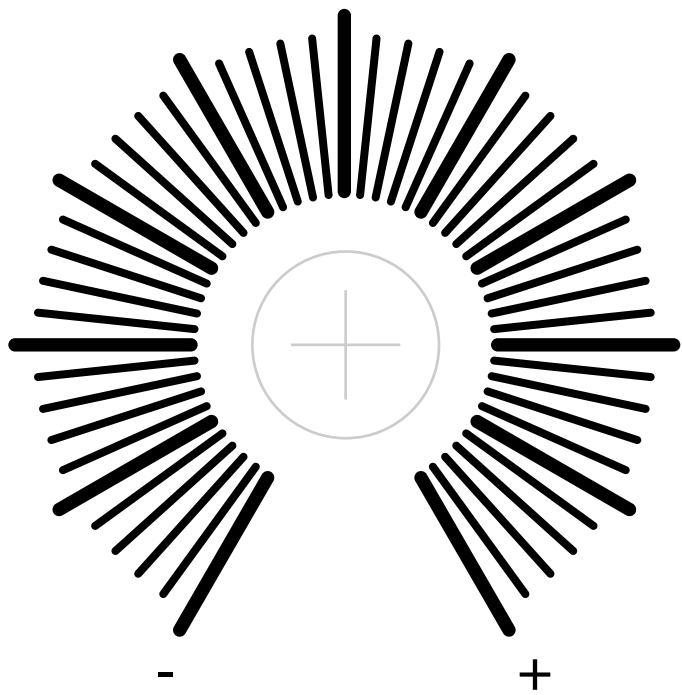


Level

Level

Level

Level



Chan 1 In

Chan 2 In

Chan 3 In

Chan 4 In



Chan 5 In

Chan 7 In

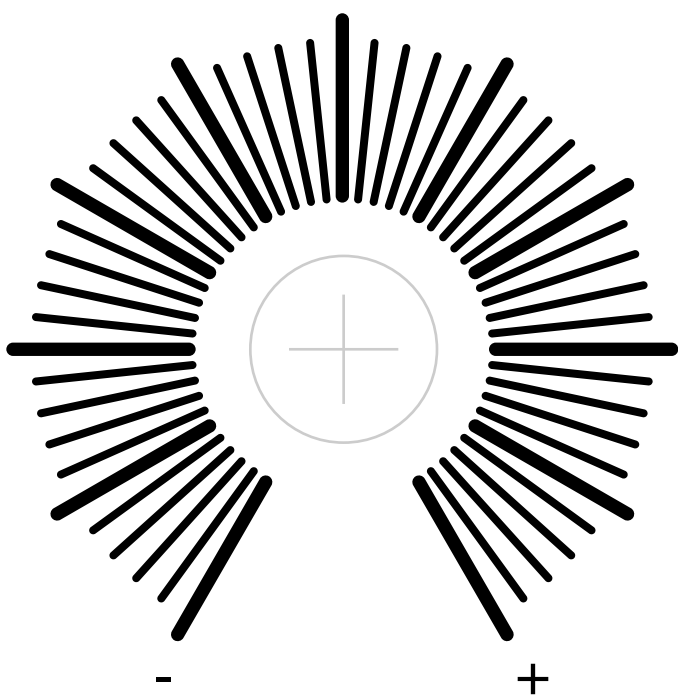
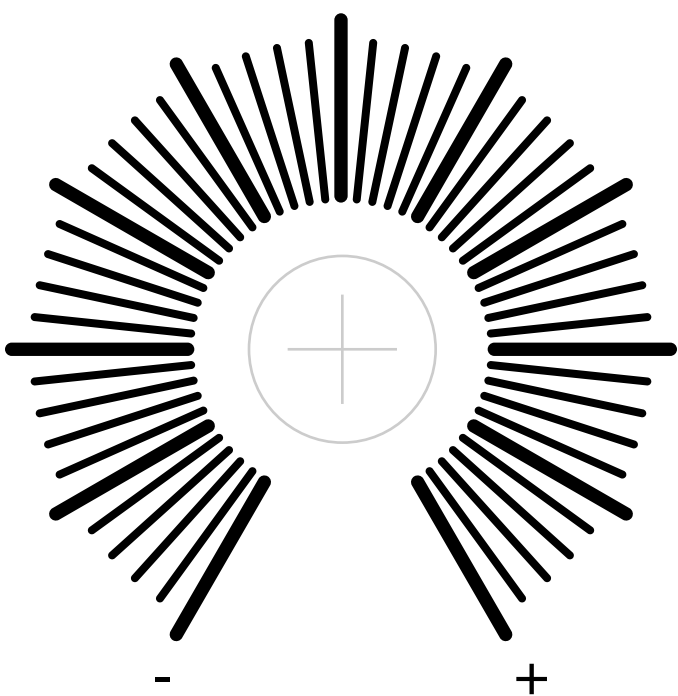


Level

Level

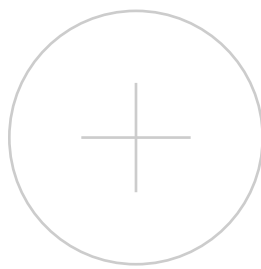
Chan 6 In

Chan 8 In



Left Out

Right Out

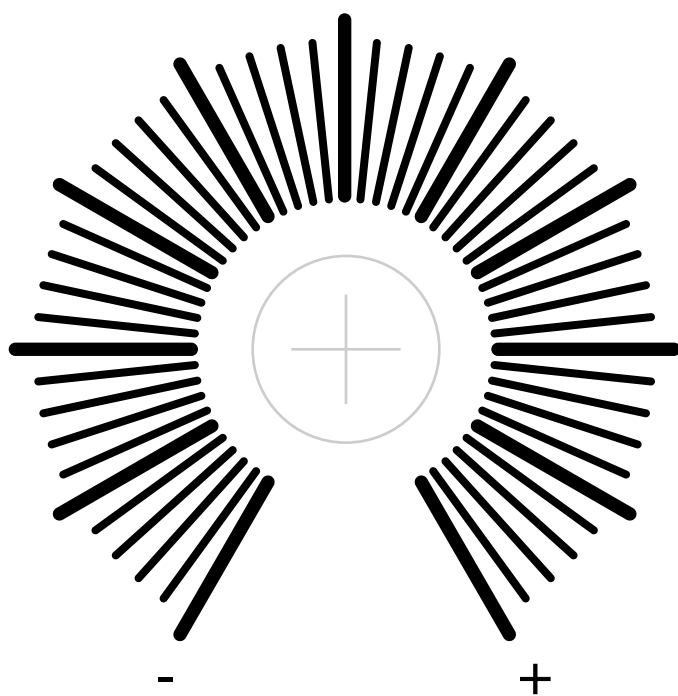


Headphones

Level



Headphones





**16 STEP QUANTIZED SEQUENCER**

**Step 1 to 16:** Each step contains three rotary controls: **Coarse**, **Fine**, and **Duration**. Above each step are two toggle switches labeled **Off** and **On**.

**Manual Control:** Includes a **Run / Stop** button, a **Reset** button, and **Forward** and **Reverse** buttons.

**Output Section:** Features **Trigger Out**, **Gate Out**, and **CV Out** for each of the 16 steps. It also includes a **Gate Mode** selector (Multi/Normal) and a **Trigger Out** button.

**Portamento Section:** Includes a **Glide CV Out** button and a **Glide** rate control.

**Mode Section:** Includes an **Action at Step** selector (None, Stop, Reset, Reverse) and a **Mode** selector (Action, Random).

**Step Duration:** A section with four buttons labeled 8, 4, 2, and 1.

**Clock Section:** Includes a **Rate** control and a **Type** selector (Normal, Quantized, Master).

**Source Section:** Includes a **Source** selector (Internal, External, Quantized) and an **Input** selector (External Start, Output).

**MUSIC FROM OUTER SPACE**

1

+

Off

+

On

Coarse 1

Fine 1

Duration 1

2

+

Off

+

On

Coarse 2

Fine 2

Duration 2

3

+

Off

+

On

Coarse 3

Fine 3

Duration 3

4

+

Off

+

On

Coarse 4

Fine 4

Duration 4

5

+

Off

+

On

Coarse 5

Fine 5

Duration 5

6

+

Off

+

On

Coarse 6

Fine 6

Duration 6

7

+

Off

+

On

Coarse 7

Fine 7

Duration 7

8

+

Off

+

On

Coarse 8

Fine 8

Duration 8

9

+

Off

+

On

Coarse 9

Fine 9

Duration 9

10

+

Off

+

On

Coarse 10

Fine 10

Duration 10

11

+

Off

+

On

Coarse 11

Fine 11

Duration 11

12

+

Off

+

On

Coarse 12

Fine 12

Duration 12

13

+

Off

+

On

Coarse 13

Fine 13

Duration 13

14

+

Off

+

On

Coarse 14

Fine 14

Duration 14

15

+

Off

+

On

Coarse 15

Fine 15

Duration 15

16

+

Off

+

On

Coarse 16

Fine 16

Duration 16

8

+

4

+

2

+

1

+

Step Duration

Rate

Type

Normal

+

Quantized

+

Master

+

Source

Internal

+

External

+

Quantized

+

Input

+

External Start

+

Output

+

Output

+

Clock

Action at Step

None

Stop

Reset

Reverse

+

Mode

Action

+

Random

+

Action Step

Mode

Run / Stop

+

Reset

+

Forward

+

Reverse

+

Manual

Gate Mode

Multi

+

Normal

+

Trigger Out

+

Trigger Out

+

Gate Out

+

Gate Out

+

CV Out

+

CV Out

+

Output

Glide CV Out

+

Glide CV Out

+

Glide

Portamento

MUSIC FROM OUTER SPACE