

DECADEBRIDGE

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Layout.



CADENCE is a 4 oscillator drone synth/utility that is capable of performing a number of tasks. It features 4 square wave generators that are fed through individual binary counters before the signals are grouped and cascaded through 3 logic gates.

Each oscillator can be removed from the signal path individually, or in groups to several different outputs, bypassing Cadence's onboard filter. This, alongside the **COUNT (/)** setting allows the user to use oscillators as gates, triggers or clocks independent from the rest of the synth. Each oscillator can also be replaced using an external signal.

Cadence runs off a 9 volt battery. A battery clip is included. We do not supply wall adapters with our products to keep the cost as low as possible. If you would like to run Cadence off of a wall adaptor please ensure it is a 9V DC centre positive adaptor.

DO NOT USE A CENTER NEGATIVE ADAPTOR AS THIS WILL DAMAGE THE SYNTH. IF YOU DO RUN INTO PROBLEMS PLEASE GET IN TOUCH AS IT IS POSSIBLE THE SYNTH COULD BE FIXED OR REPLACEMENT PARTS SENT TO YOU TO EASILY FIX IT YOURSELF.

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Oscillators.



Cadence's 4 square wave generators are identical with the exception of SYNC.

Each oscillator has a few simple controls to create the foundation of your sounds.

The 4 knobs along the bottom of the oscillator section set the **PITCH** for oscillators **A** - **D**. Each oscillators range is different with **A** having the lowest pitch and **D** having the highest. The pitch of each square wave generator can then be divided using the relative **COUNT** (/) rotary switch.

Each oscillator also has an LDR (light dependant resistor) that, when switched on, affects the pitch depending on the amount of light that falls onto it.

3 switches to the right of Cadence's filter allow you to cascade **SYNC** the oscillators. The oscillator to the left acts as the master and the oscillator immediately to it's right acts as the slave.

When the master oscillator's square wave goes high the slaved oscillator resets. At slower speeds this can introduce interesting rhythms and sequences to your sound whilst also providing gates at the different outputs (Page 7) to trigger and control external gear.



Filter.

Cadence has a simple 2 pole low pass filter.



Cadence's filter features three controls. **CUTOFF** sets the frequency point of the low pass filter. **PEAK** increases the volume of a narrow band at the **CUTOFF** frequency.

AMOUNT sets the strength of the control voltage sent to the filter's **CUTOFF**.

The control voltage signal can be switched on and off using the switch, **FILTER CV IN**, in the **EXTERNAL INPUT** section (Page 6).

External Inputs.

The signals from all of Cadence's oscillators can be replaced with external sources. These are connected via the **INPUTS** section.



Cadence has 5 **INPUTS** that allow you to connect external signals. The first 4 inputs are to replace oscillators **A** - **D**. The 5th input is where you connect a control voltage for the filter's **CUTOFF**, labelled "**FILTER CV IN**". This signal is attenuated using the **AMOUNT** knob in the filter section (Page 5).

With the switch in the down position Cadence uses it's onboard oscillators.

With any of the first four switches in the up position the signal at the input is sent to **COUNT (/) A** - **D**. The destination of the input signal is indicated by the dash in the circle to the left of the switch that mirrors the graphics at **COUNT (/)**. The input signal then replaces the relevant oscillator, is sent through **COUNT (/)** before being sent through the filter or directly to the output section, depending on the settings at output (Page 7).

The input signal can then be used to sync Cadence's onboard oscillators.

Try different signals for inputs. Gates and triggers are good for resetting and syncing the oscillators to create interesting rhythms whilst using **COUNT (/)** to change the timing and 'cadence' of the audio/signal.

External oscillators can also be used here to create interesting effects. The point is to experiment with different types of signals to get different results.

Outputs.



Cadence's output section features several different ways to route signals out of the synth.

The **PRE-FILTER OUTPUTS** allow you to route different signals and combinations of signals, unattenuated, to the seven pre-filter output jacks. The circle and letter or number to the left of the switch indicates the source signal available at this output. The number or text below the switch indicates where the signal is sent if the switch is down.

With all switches in the down position Cadence outputs all signals to the **MAIN OUT** through the low pass filter (Page 5) and master volume.

EXAMPLE:-

The switch and output jack immediately to the right of the main output is for Oscillator **A**. If the switch is in the up position the signal from oscillator **A** is sent, unattenuated, to the output jack above the switch.

If the switch is in the down position, oscillator **A**'s signal is sent to **1**.

If you look along the **PRE-FILTER OUTPUT** jacks you will find the switch with the **1** in a circle next to it. Oscillator **A**'s signal is now here. With **1**'s switch in the down position the signal is then sent to **2** (next along). With **2** in the down position the signal is sent to **3** which in turn is sent to the filter then **MAIN OUT**.

	Switch in down position	Switch in up position
Α	Routed to 1	OUT ABOVE SWITCH
В	Routed to 1	OUT ABOVE SWITCH
С	Routed to 2	OUT ABOVE SWITCH
D	Routed to 3	OUT ABOVE SWITCH
1	Routed to 2	OUT ABOVE SWITCH
2	Routed to 3	OUT ABOVE SWITCH
3	MAIN OUT	OUT ABOVE SWITCH

Using the outputs in different ways allows you to process individual oscillators. This also allows you to send the oscillators out separately as gates whilst also syncing oscillators to each other. The key here is to experiment with different settings.

CADENCE

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CADENCE