FREQUENCY CENTRAL

LITTLE MELODY
USER MANUAL

Little Melody is a generative sequencer based around a clock divider and a chromatic quantiser, used to create in-the-moment licks and riffs.

Getting Started

Little Melody can be used to great effect without understanding the intricacies of its operation.

Once connected to a clock source and a synth voice, we like to start by picking a few pleasant notes with the value selection sliders. You can isolate individual slider's note by setting that slider's division selector to the fully anti-clockwise position, and all other sliders to the fully clockwise position, then pressing the clock button.

After your notes are selected, have fun picking a preset and a mode and enjoying how the notes that you selected combine, tweaking individual division selectors and note values as you go.

Functionality Explanation

Little Melody can be understood by considering 4 clock dividers wired directly to a CV mixer through attenuators. The attenuators are set to different notes, and the clock dividers determine whether those notes should be added to the mix or not. In more human terms, the mixer will produce higher notes as more clock dividers turn on.
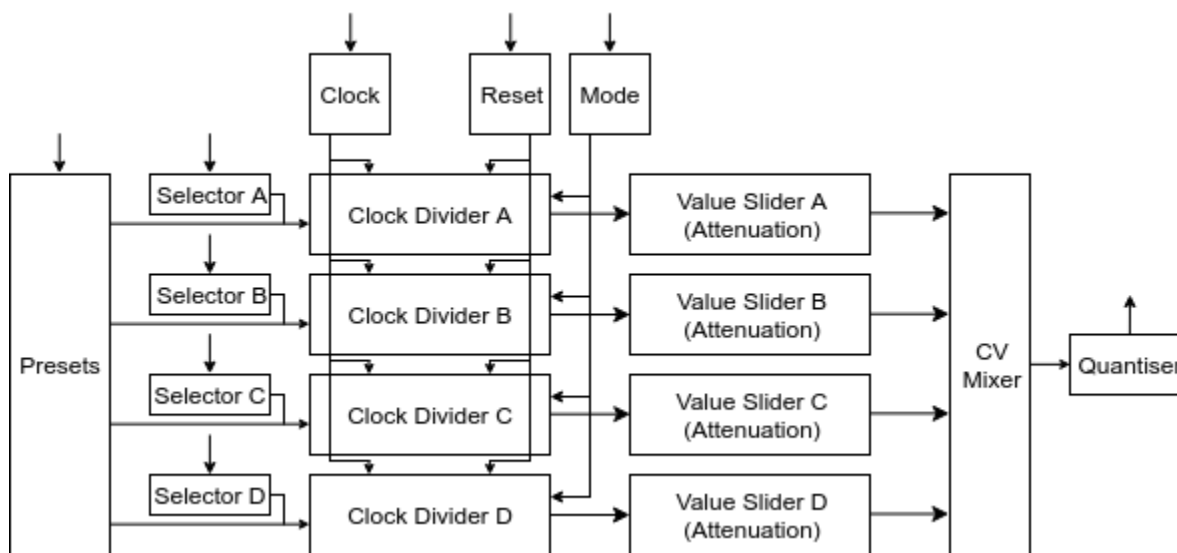
Little Melody Block Diagram

Little Melody has 4 clock dividers – labelled **A**, **B**, **C**, and **D**. They all receive clocks from the same source, but are not set to specific clock divisions. Instead, the divisions are selected using the division selectors and the presets – see the **Dividers & Presets** section. The clock dividers can be set to count up, down, or to one of a variety of modes that oscillate between counting up and down – see the **Counting Modes** section.

Little Melody's note attenuators are the four sliders on the module. Each is associated with it's own clock divider. They have a full 5 octave range. The final output of Little Melody is quantized, meaning that care does not have to be taken when dialing in specific notes.

Dividers & Presets

The divisions of the clock dividers are denoted **/1**, **/2**, **/4**, **/8**, **/16**, **/32**, **/64**, and **/128**, where /1 changes every state every clock pulse, and /128 takes 128 clock pulses to change state.

Changing divisions on the fly is one of key features of little Melody. They can be set either individually with the 'Division Selection' knobs, or all at once with the 'Preset' knob or CV (see the table below for the list of presets).

An individual division can still be changed with it's division selectors without chaning the rest of the preset. For example, if the first preset (**A** /1, **B** /2, **C** /4, **D** /8) is used, we can still turn **A**'s division selector knob. This will change only **A**'s division; divisions for **B**, **C**, and **D** will remain at /2, /4, and /8, respectively.
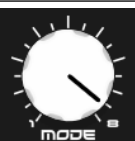
Preset Knob Position	A	B	C	D	Preset Knob Position	A	B	C	D
	/1	/2	/4	/8		/128	/8	/32	/2
	/16	/32	/64	/128		/64	/4	/16	/1
	/1	/16	/4	/64		/128	/64	/32	/16
	/2	/32	/8	/128		/8	/4	/2	/1

Division Presets

Counting Modes

Little Melody has four counting modes, which change how the clock dividers operate.

Mode Knob Position	Function
"Count Up"	Counts up linearly, resetting after 256 clock pulses. (ie: Starts with all divisions low, resets on the clock pulse after all divisions go high) This has an effect that feels very 'Ramp-like', where the pitch tends to rise across the length of the pattern before resetting.
"Count Down"	Counts down linearly, resetting after 256 clock pulse. (ie: Starts with all divisions high, resets on the clock pulse after all divisions go low) This has an effect that feels very 'Saw-like', where the pitch drops across the length of the pattern.
"Up / Down 4"	The same as Count Up, but every 4 clock pulses, any dividers with /1 or /2 are inverted (effectively counting down again for four pulses). This has an effect that makes the melody feel 'Triangular' when both /1 or /2 are used as dividers.
"Up / Down 8"	The same as Up / Down 4, but every 8 clock pulses, /1, /2, and /4 are inverted.
"Up / Down 16"	The same as Up / Down 4, but every 16 clock pulses, /1, /2, /4, and /8 are inverted.
"Up / Down 32"	The same as Up / Down 4, but every 32 clock pulses, /1, /2, /4, /8, and /16 are inverted.
"Up / Down 64"	The same as Up / Down 4, but every 64 clock pulses, /1, /2, /4, /8, /16, and /32 are inverted.
"Up / Down 128"	The same as Up / Down 4, but every 128 clock pulses, /1, /2, /4, /8, /16, /32 and /64 are inverted.

Up / Down 4 Mode Example

This table shows states of the clock dividers whilst in Up / Down 4 mode to illustrate the counting inversion. States where /1 and /2 have been inverted have been highlighted in grey.

Clock	/1	/2	/4	/8	/16	/32	/64	/128
0	Low	Low	Low	Low	Low	Low	Low	Low
1	High	Low	Low	Low	Low	Low	Low	Low
2	Low	High	Low	Low	Low	Low	Low	Low
3	High	High	Low	Low	Low	Low	Low	Low
4	High	High	High	Low	Low	Low	Low	Low
5	Low	High	High	Low	Low	Low	Low	Low
6	High	Low	High	Low	Low	Low	Low	Low
7	Low	Low	High	Low	Low	Low	Low	Low
8	Low	Low	Low	High	Low	Low	Low	Low
9	High	Low	Low	High	Low	Low	Low	Low
10	Low	High	Low	High	Low	Low	Low	Low
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251	High	High	Low	High	High	High	High	High
252	High	High	High	High	High	High	High	High
253	Low	High	High	High	High	High	High	High
254	High	Low	High	High	High	High	High	High
255	Low	Low	High	High	High	High	High	High
256*	Low	Low	Low	Low	Low	Low	Low	Low

*Clock 256 is equivalent to Clock 0.

Sequence Length

The length of your sequence is detemined by the counting modes and highest division that you are using.

In 'Count Up' and 'Count Down' counting modes, the sequence length is twice the value of the highest division that you are using. For example, with /1, /2, /4, /8, the highest division is /**8**, so the length of the sequence is **16**. This means that your sequence repeats every 16 clocks.

When using an Up / Down counting mode, the sequence length is either twice the value of the highest division, or twice the value of the 'inversion point' of the Up / Down mode, whichever is higher.

For example, if you are using Up / Down 32 with divisions /1, /2, /4, /8, then the inversion point of **32** is higher than the highest division, so the sequence length is **64 clocks.**
If using Up / Down 32 with divisions /1, /2, /4, /128, then the **128** division is higher than the inversion point, and the sequence length is **256 clocks**.

Representative Diagrams

In these diagrams, notes have been set to the value of the divisor for sets /1, /2, /4, /8 and /1, /2, /4, /16. They represent how the pitch of the sequence will tend to change in different counting modes.

Up, with /1 /2 /4 /8

Up, with /1 /2 /4 /16

Down, with /1 /2 /4 /8

Down, with /1 /2 /4 /16

Up / Down 4, with /1 /2 /4 /8

Up / Down 4, with /1 /2 /4 /16

Up / Down 8, with /1 /2 /4 /8

Up / Down 8, with /1 /2 /4 /16

Up / Down 16, with /1 /2 /4 /8

Up / Down 16, with /1 /2 /4 /16