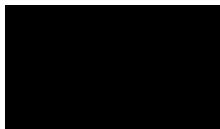




# PET ROCK

*Eurorack Friend*

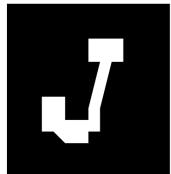


***FIELD MANUAL V1.0***

*By Jonah Senzel*

**pet  
rock**

2023





M T W Th f Sa Su

M T W Th J Sa Su

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See [www.petrock.site](http://www.petrock.site) for clock setter, updates, and full open source schematics and code. When you first get Pet Rock, you may need to sync the clock to be in the correct time zone

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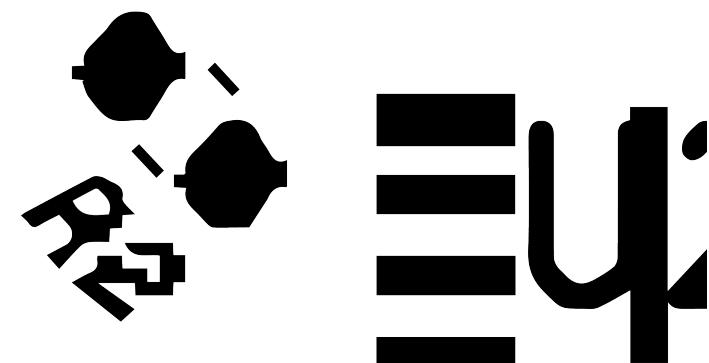
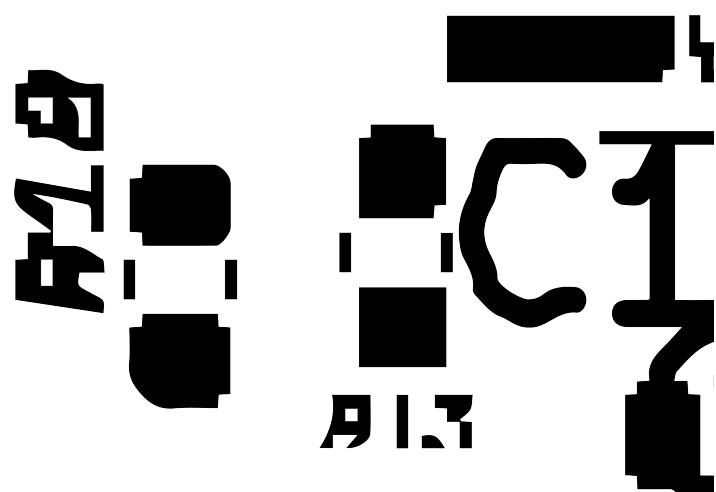
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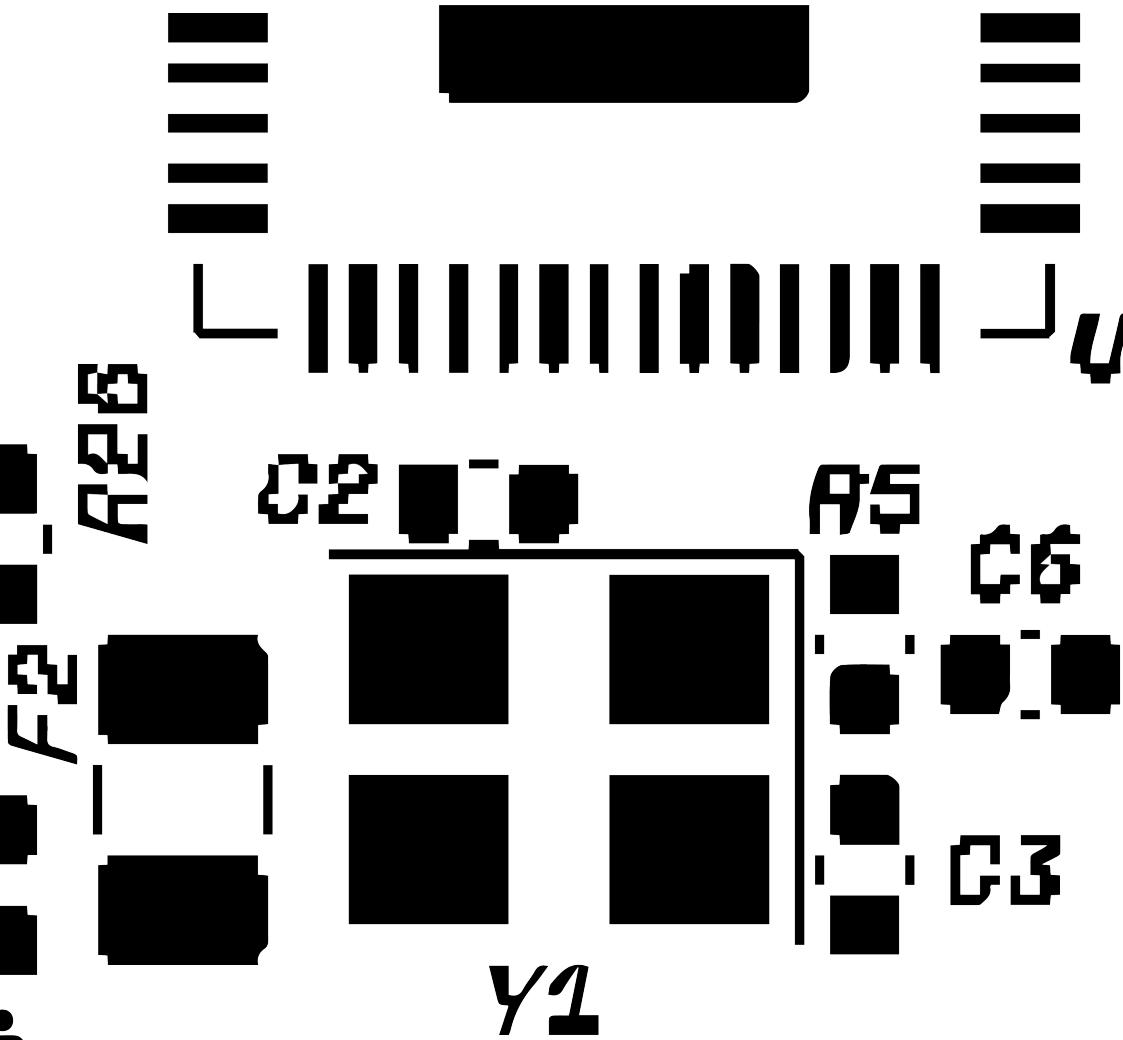
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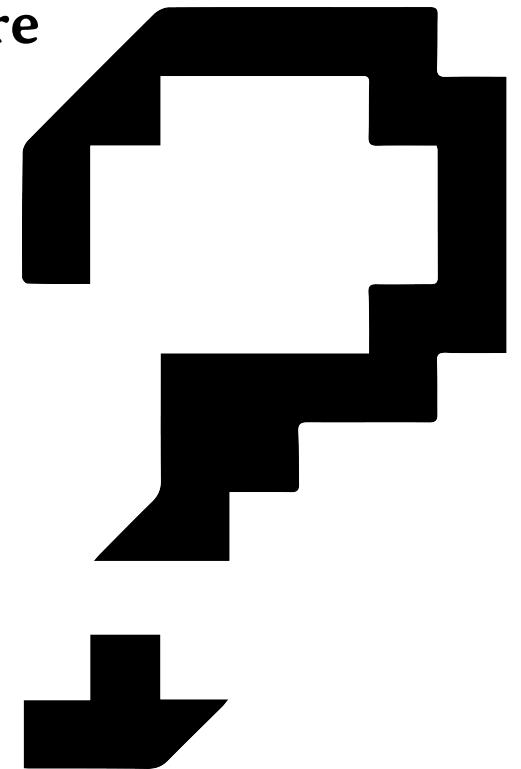
## *This module works differently than other modules.*

**M**ost modules work like tools; you understand how they function, turn knobs, and patch until things are how you like. This module is not like that. You can think of it almost like a collaborator, making a suggestion. The module isn't very 'controllable' - instead, it offers something up to you: one unique rhythmic pattern every day. You only get one pattern per day, regardless of how you like or dislike it. The module keeps track of time always, even when shut off (but it isn't able to connect to the internet). Every Pet Rock in existence will generate the exact same pattern as the others. Additionally the way this module generates rhythms - its overarching stylistic choices - changes over longer periods of time, from weeks to months (More on that later)

## How does it work?

As modules go, the controls are very simple. Each day's rhythm is split up into an 'A' rhythm, and a 'B' rhythm. The only patch points are a clock IN, and trigger OUT for each rhythm. Patch a clock source into the top left jack ('A' clock input) and rhythm A will play out of the top right jack ('A' trigger output). The controls for 'B' are identical, but with the bottom 2 jacks (left is clock in, right is rhythm out). You cannot do anything to directly change the rhythms.

Note that the LEDs next to each OUT reflect exactly when the output is turned on - A blue flash of the LED indicates the point at which the sequence re-starts/repeats (this may be on a rest)



## *Reading The Panel*

The panel provides information on the internal status and ‘mood’ of Pet Rock. The two rows in the middle indicate the current day of the week, and the current phase of the moon. These are real life values, and should be correct - if they’re not your module needs to be re-synced (see clock setting in ‘Keeping Track of Time’) The circular section at the top is called the ‘mood window’ and will be lit up in a color corresponding to the current mood (more on this in a bit).

## *Day of the Week*

(left hand column)

This value is mostly for you, to keep track of when a new day has cycled, and as an outward display of Pet Rock's constant memory

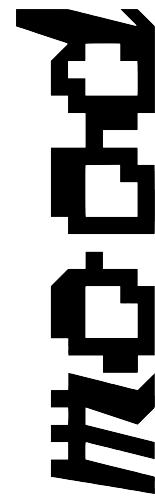
M  
T  
W  
Th  
F  
Sa  
Su

## *Moon Phase*

(right hand column)

This displays the real life current phase of the moon today. The Moon Phase affects Pet Rock's internal rhythm generation decisions. As the moon comes in and out of phase in real life, it changes the way Pet Rock generates rhythms.



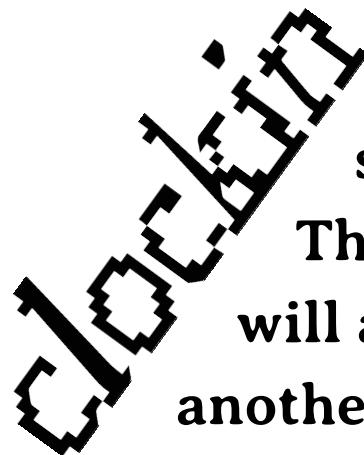


Pet Rock has several different ‘moods’ indicated by different colors in the mood window at the top of the module (ie, red mood, green mood, etc.) - While the parameters of rhythms within a given moon cycle are changed by the current moon phase - each *mood* is a wholly different *style* of rhythm generation. Each mood lasts exactly one full moon cycle - changing on the ‘new moon’ phase of a new cycle (the top symbol on the phases section). Different moods will be useful for different styles of music, or demand different experimentation. Keep in mind this module is less about some sort of literal ‘translation’ between the phase of the moon and a generated rhythm, and more about anchoring part of your creation process to a very slowly changing physical phenomenon, exploring a very direct continuity with something completely outside of the technology itself. The switching of the mood is the most readable expression of this ultra slow modulation.

A close friend of mine, AC Gaudette, makes video games. We were living together in Mexico for a little while, and decided to each make a game in a month, and we talked a lot about this. He said that he wanted his games to be a window into a world. That the world should always be there, always have its own internal continuity, and exist on its own time, even when the player isn't playing or watching. I started thinking about a synthesizer module that lives in its own world. I became obsessed with the idea of some type of LFO that lasts many months, that you can relate to on a pace that seemed completely unexplored in music technology. Moving at the speed of the moon, the seasons, a growing habit, a routine that you fall in to and then changes, something you miss and return to, something that passes very slowly but is over before you want it to be, something that you forget about, but comes back again.



## *Notes for Use (Technical)*



- The clock input is a little different than most. it's not simply a 'bpm' input - it can accept any series of pulses. This means any swing, beat skipping, etc. in the clock source will affect the output. You can even clock a rhythm by using another rhythm as a clock source. (The clock input is actually a 'gate skipper' meaning it simply hears a gate, and then decides whether or not it's supposed to output a gate ). Sometimes you may have to clock a rhythm very fast to get what you want - try different clock multiplications.

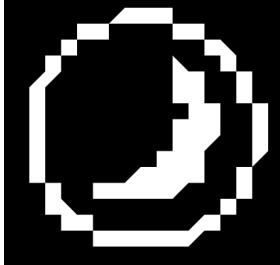
- I say 'trigger out' but actually you can send gates in and Pet Rock will send gates out of corresponding length - it's just easier to conceptualize the whole thing as running on triggers because most of the time that's what it will be used for. Note that the outputs are fixed to 8V

A and B together make the “composite” rhythm of the day, but using both is definitely not defaultly necessary or recommended. Often using just one at a time is more fun (You can think of it as choosing between 2 options) If using both I usually like Sending A and B to different destinations, but you can also sum them as one rhythm.

You won’t like every rhythm. You probably won’t like every mood. Sometimes this is a good thing. Try clocking slower, faster, using it as a slow structural element, using it as a once in a while element, using it to automate a parameter, trigger an envelope, mute a channel. Swing it, clock it x3, or x5, if it’s a kick make it a hat or vise-versa. put it against some different metronomes. Feeling ‘stuck’ isn’t to be avoided - each day’s rhythm should feel like a puzzle that needs care in solving.



## *What's the moon phase actually changing?*



*Each day's rhythm has some elements that get randomized for the day, and some things that are effected by the moon phase. While developing pet rock I found that across many different types of rhythm generation, one of the biggest recognizable 'shapes' of a rhythm is simply its length. The main modulation taking place over the moon cycle is the length relationship between 'A' and 'B' - starting from disparate, syncing in the center, and then returning to disparate . This journey between the length relationship of the 2 rhythms mirrors the cycling effect between sun and moon as they come in and out of phase over time.*

○— New moon: *A is emerging, B is obscured*

○— Waxing crescent: *A and B are out of phase*

○— First quarter: *A and B are in half phase*

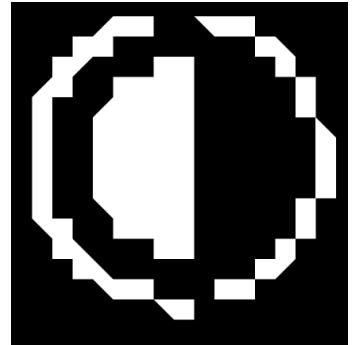
○— Waxing gibbous: *A and B are in phase*

○— Full Moon: *A and B are in perfect phase*

○— Waning gibbous: *A and B are in phase*

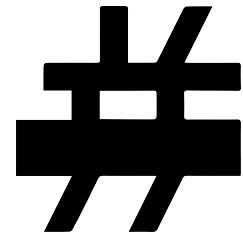
○— Last quarter: *A and B are in half phase*

○— Waning crescent: *A and B are out of phase*



## On Choice

Why did I design the module to limit choice? When choice is endless and vast, oddly enough we start to make the same choices over and over again (part of ‘blank canvas syndrome’) A system with lots of choices needs something to work against; a problem. A problem puts us on our toes, forces us to experiment and



squeeze through tight spots. In the exponentially configurable and open world of modular synthesis, this module seeks to provide a problem - a fun problem, which asks to be dealt with - molded and kneaded

*where has the ritual gone  
the fleeting and discarded patience*

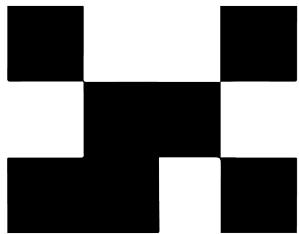
*I want to be made to play  
with sticks again,  
to wonder*

*to be forced to sit and stare  
at something placed before me*

*and prod at it once more, examine its limits  
and stretch to them*

# *This module is sold at cost of production, Why??*

I make enough money from being a composer to be self sufficient. I'm not in need of a side hustle (I'm sure many reading this have jobs from which they are self sufficient as well). When I had the idea to make a module it was for many reasons, none of them was to make money. I find it odd that this is considered odd. If I had instead started a flower garden, which, like creating a Eurorack module takes an immense amount of labor, time, and knowledge, no one would be asking me "you're just going to do all of that for free?" For some reason we think of Eurorack as a thing people make money from by default, and flower gardens as not. In the coming years I hope to be joined by others who too want to change this. Who want to change Eurorack into something cheaper, collectivist-er, punk-er, open-er, accesible-er. Eurorack Among Eurorack friends, less companies, more company



# Eurorack: What does it cost? A New Eurorack Manifesto

*Eurorack is a luxury brand*

***My friends can't afford it, I can't suggest they try it***

*designing a module means doing business, It doesn't have to be that way*

***Eurorack for Eurorack's sake***

*Non Profit, In the same way having a garden is non profit*

***Outsider design is better Outsider ideas are better***

*Open source, Open trade secrets.*

***Cannibal Design, Frankenstein Design.***

**The Bill** Estimated at 50 units

**labor** would be \$5 for 10 minute assembly at \$30/hr

(For batch 1, I'm assembling for free)

(As modules go, its a very easy assembly)

**main circuit board:** . . . . . \$0.25

**circuit board components:** . . . . . \$6

(incl. chips, electronics, component sourcing,  
robotic assembly In china, from JLCPCB)

**Faceplate and light guide:** . . \$1.50

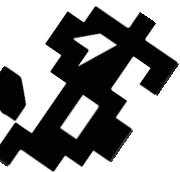
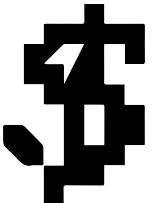
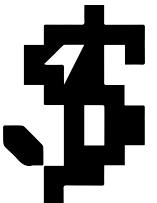
(also made by JLCPCB)

**Additional parts: . . . . . \$3.20**

*Incl: mono jacks x4: \$1.20*

*battery:      \$1*

*ribbon cable: \$1*



**Manual: . . . . . \$3**

**Packaging: . . . . . \$1**

**Boards Shipping: . . . . . \$1**

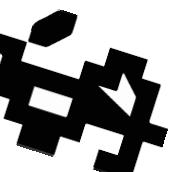
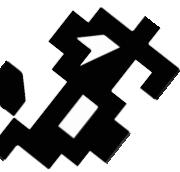
**Recouping Prototyping: . . . . . \$2**

*(prototyping fees ~\$500 charge \$2 per module until maybe recouped)*

**Price (my cost is your cost ): \$17.95**

*(before distributor fees) - note! This will change over time!*

*I'll Keep a detailed up to date log on costs at [www.petrock.site](http://www.petrock.site)*



## *Exercise 1: Beat Sleuth*

**Using a Very Very slow clock input, or manually triggering single gates, transcribe today's A or B rhythm using a dash - for a rest, and an X for a hit (when output triggers). Write here in pencil:**

*Date:*      *Rhythm:*

*Date:*      *Rhythm:*

*Date:*      *Rhythm:*

*Date:*      *Rhythm:*

*Date:*      *Rhythm:*

## *Exercise 2: Fleeting Phases*

*You may notice that the different moon cycle phases do not, by any means, last for the same amount of time. In the ‘official’ phases, 4 of them last for only 1 day each - New Moon, First Quarter, Full Moon, and Last Quarter. look up some dates of these 1 day cycles and record them so you can catch them as they go by (you can source from [moongiant.com/calendar/](http://moongiant.com/calendar/))*

**New Moon**

**First Quarter**

**Full Moon**

**Last Quarter**

**New Moon**

**First Quarter**

**Full Moon**

**Last Quarter**

**New Moon**

**First Quarter**

**Full Moon**

**Last Quarter**

**19**

## *Mood Journal*



*Record here some thoughts on the different moods as you use them,  
come back later and compare notes with your old self*

***Red:***

***Blue:***

***Yellow:***

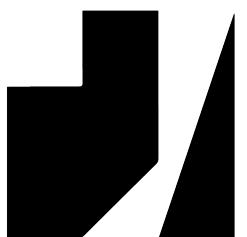
***Green:***

# *HighLowLights*

**20**

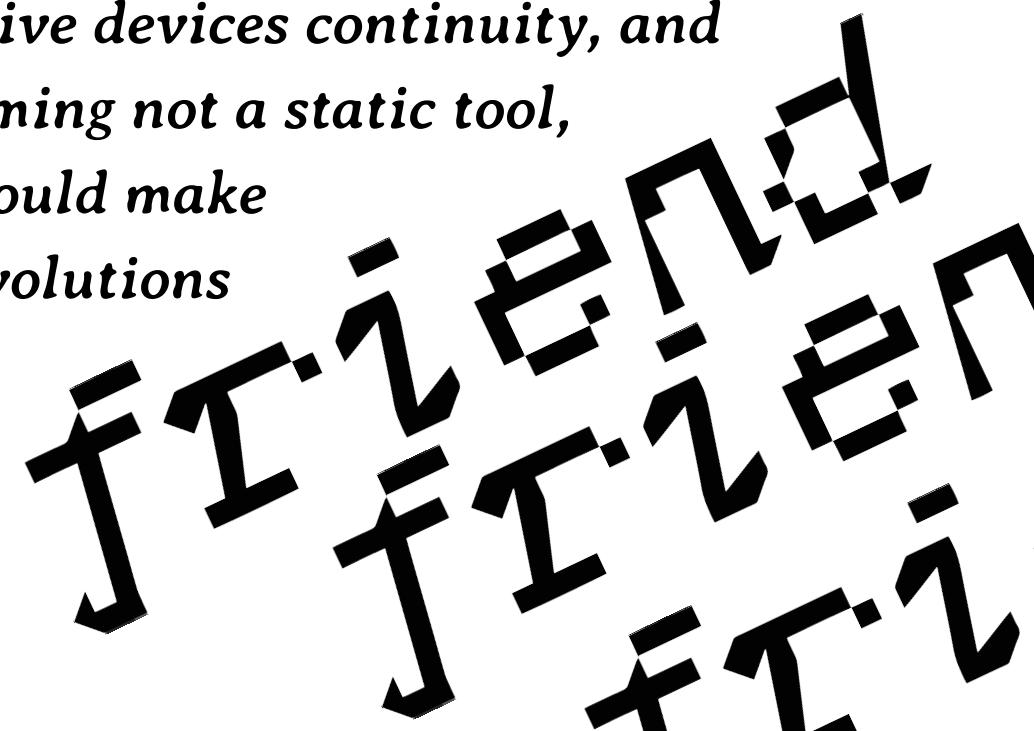
*When you have a particularly nice, or particularly shit rhythm day,  
Write about it here, noting the phase, mood, and why it was how it was*

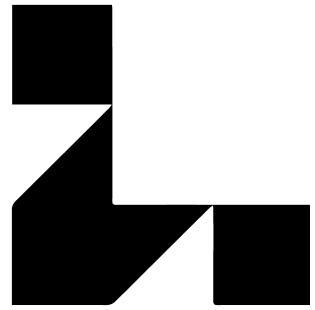
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## *The “Supra” Time Scale*

*Pet Rock is, as far as I can tell, the first piece of music technology to focus on changes at the ‘Supra’ time scale. In the book "Microsound" Curtis Roads identifies 9 timescales of music from shortest to longest, ‘Supra’ being the second longest and defined as “A time scale beyond that of an individual composition and extending into months, years, decades, and centuries”. So a ‘Supra-Scale-Change’ happens in a time span that is longer than a single composition or performance. The exploration of this time scale has the incredible potential to give devices continuity, and allow them to live on their own time, becoming not a static tool, but an ever changing organism. Nothing would make me happier than to see clones, riffs, and evolutions of Pet Rock, and generally more people exploring musical supra-time*

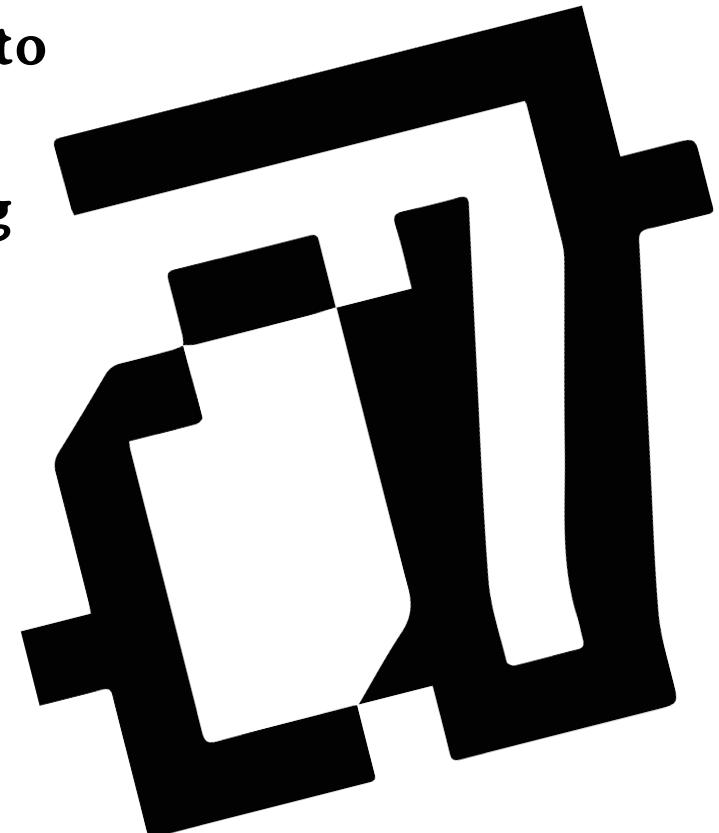




*It frustrates me that devices turn off. It spoils the illusion that they're real. There's a forest behind my parent's house and a thicket of thorns. When I leave it and return things change, things have grown, and died. When I turn on my synthesizer it performs exactly as it did when I last used it, frozen perfectly in time, switched off. I want the synthesizer to show that it still lives when out of my line of sight I want it to have object permanence. That way it will be real. Then I can come to it, and wake it up, instead of turning it on, and ask it what it has to give me. It will serve me what it wants. It will act differently than it did before. The living device allows me to see past the turning of knobs, the idea that I have ultimate control. It speaks and I listen, and it has moods, and phases. Devices need not be static, they can have lives of their own, changing with the passage of time, sitting in a drawer and thinking, acting differently when taken out.*

## *Keeping Track of Time*

Pet Rock does all time keeping on the hardware itself, with a small clock that runs constantly off a cell battery which should last several years. Replacement batteries are **cr1220**, and can be easily found online or in some electronics shops. The old battery can be taken out of the battery clip by pushing the back of it with a small paperclip, and the new battery placed in the slot. The clock should stay accurate to the day for the life of a battery, but if you need to sync the clock, it can be easily done from any computer (you'll need to re sync when replacing the battery). When you update firmware it also syncs the clock, and vis-versa. For detailed instructions on this visit [www.petrock.site](http://www.petrock.site)



## Acknowledgments

Big big Thanks to David Karp (CuteLab, The King of Gear) who has been my personal teacher for schematic and circuit board design - truly could not have come close to publicly releasing anything without him

Thanks to those who tested, especially Galen Drew who gave so much valuable time and feedback

Thanks to AC Gaudette, who is a constant inspiration, and who helped me form the first concepts of Pet Rock while we were living together in Mexico City

Thanks to Joe O' Conner for filming - and to Phil Wright (Philip Joa) who designed T-Shirts, edited demo videos, and gave me overall advice and support

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