

**FOR RELEASE NO SOONER THAN 3/14/2019**

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## **HAPPY PI DAY! COMPOSER RELEASES A ONE MILLION HOUR LONG SONG BASED ON PI**

**In honor of "Pi day" (3/14) electronic music composer Canton Becker has released one of the longest songs ever written\*, clocking in at around 114 years of runtime.**

Becker's song, "Shepard's Pi" was composed to celebrate and combine his two favorite infinite abstractions:

The first is the "[Shepard's Tone](#)", a sonic illusion in which a tone is heard to infinitely ascend or descend in pitch. The second is Pi, the irrational number whose digits never repeat, and which is used as the driving force behind Becker's algorithm.

### **HOW TO LISTEN**

As it is not currently possible to distribute a 1 million hour MP3 file, you must use the virtual tape deck linked on this web page in order to listen to the song:

<https://pisongs.com>      *Important: please do not publicize this URL until the official release date of the song, March 14, 2019.*

### **HOW IT WORKS**

Of course, a computer was employed to create the hundreds of thousands of hours of music.

Becker programmed — or composed — an algorithm to generate music using the first one billion digits of pi ( $\pi$ ). These digits supply the "turn signals" used to determine every musical expression in the song. Each digit (3.1415...) is responsible for orchestrating approximately four seconds of music. The electronic instruments and sound samples were prepared by Becker in advance.

Because the numbers in pi never repeat, each one of the million hours in "Shepard's Pi" is in fact unique. Listeners who fast forward to some distant moment in the song are virtually guaranteed to find themselves listening to something that nobody else – including the composer himself – has ever heard before.

### **QUOTE**

Becker says, "I love how computers can surprise us. Yes, they can only do what they're programmed to do, but when given the right instructions, computers can help to create art that can astonish even their programmers."

### **CANTON BECKER**

Canton Becker, a native of Santa Fe New Mexico, is an electronic music composer and programmer who has been using computers to make music since 1983 when, at age 10, he was the first kid on the block to get a home computer.

At Northwestern University, he studied artificial intelligence and music cognition, and co-authored a paper on using computers and online communities to automatically generate techno music. In 1995, he co-founded Rocket Network, the world's first software to facilitate real-time music collaboration over the Internet.

In the early 2000's, Becker expanded his musical horizons by collaborating and going on tour with grammy-nominated nouveau flamenco guitarist Ottmar Liebert. Becker's original albums of music (those less than 1 million hours in length anyway) can be found on Spotify, Apple, and Google Music.

## PHOTO ATTACHMENTS

- 1) Screenshot of the virtual tape deck that allows you to listen to all one million hours of "Shepard's Pi"
- 2) Album art for "Shepard's Pi"

\* **Music nerd footnote:** The official world record for the longest composition may belong to John Cage's "[As Slow as Possible](#)" as it can be performed — in theory — to fit any imaginable length. Presently, a performance of the piece on organ in Halberstadt, Germany is expected to take 639 years. However, it is very difficult to experience this performance as only one note is played on the organ every few years, and the performance itself is not being recorded.

