

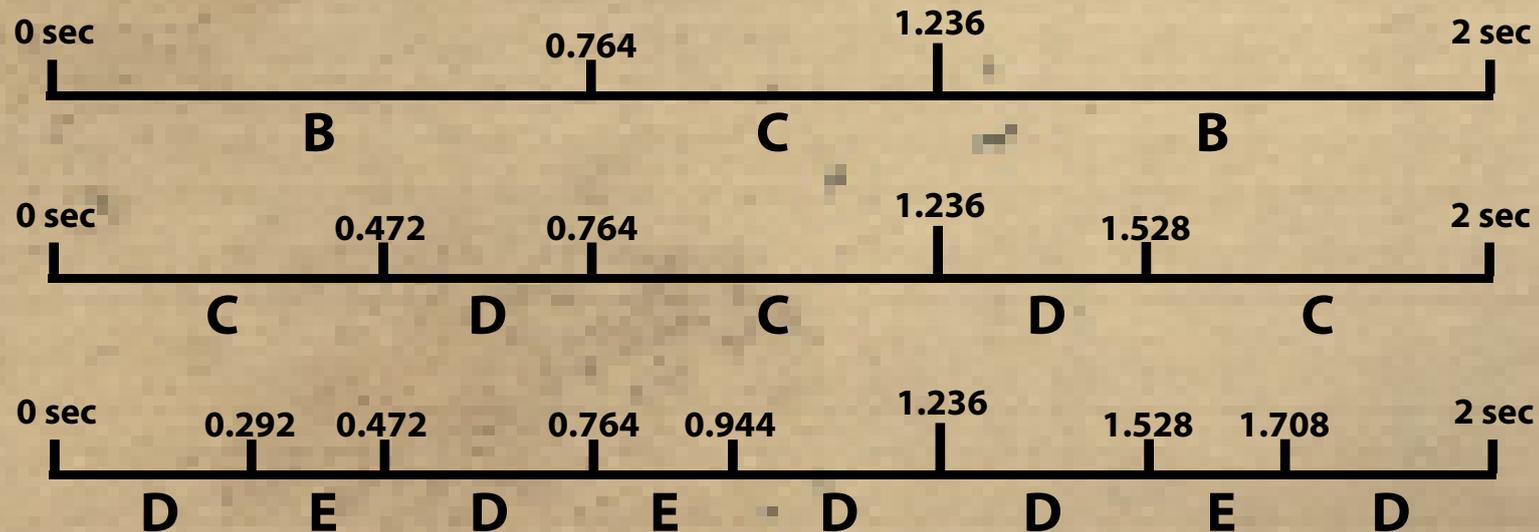
## RISE [RHYTHM FIGURE]

I've pretty much settled into a Golden Section rhythm template that I've used in a few earlier Kaleidoscope tracks. Essentially, I set out to create a musical beat using Phi (the Golden Ratio of 1.618). I started with a discreet length of time, in this case a 2 second snippet. My goal was to create Golden Section 'hit points' within that 2 second bar. The first step was to find the Golden Section of the entire length:



1.236 marks the Golden Section (or I like to call "Phi point") of the 2 second span. Since this is pretty important, I use the beat at 0sec and the beat at 1.236 as the main accents for the piece of music. This is the basic Golden Section beat. You can only get so complex with only two beats though. What does this mean? We need to make more Golden Sections.

Next, I took the 0 to 1.236 span and found the Golden Section of that. Then I continued the process twice more. Each letter section divided by the successive letter results in the Golden Section.  $A/B = 1.618$ ,  $B/C = 1.618$ ,  $C/D = 1.618$ ,  $D/E = 1.618$ . Now we have 8 different beats to use for our music. In Rise, these beats are played on bongos.



## RISE [TONAL SYSTEM]

In previous Kaleidoscope music, I've used a scale based on the simple Golden Section of the 1200 cent octave, with the main 'Golden Division' at 742 cents, as  $1200 / 1.618$  (the Golden Ratio) = 742. In my research I've found quite a bit of material that suggests (and I now agree) that a better way to find the Golden Section of an octave is to use this formula:  $1200 * \log_2(1.618)$  which yields a Golden Section of 833.09 cents.

Also, if we were to take the interval sounded by 1kHz and 1.618kHz, the cent equivalent would be just that: 833.09 cents. So I went ahead and created a set of notes based on a new range of 0 cents to 833.09 cents. I took that range and divided it successively into three more sections, so I ended up with this scale:

0 cents  
196.66 cents  
318.21 cents  
514.87 cents  
833.09 cents

I had only 5 notes to work with, and it first it all sounded like crap because I simply wasn't used to hearing these new notes, let alone the relationships between them. It took me a few hours of playing with them to coax out a melody and arrangement that did this ratio justice. Each note in the scale is a Golden Section of another Golden Section. I think you'll find upon repeated listening that there is an exotic beauty to these tonal relationships. And again, in my mind, perfect for a wake up alarm.

