

Re: Clock Project

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- *From:* ehsjr <ehsjr@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 08 Mar 2007 04:22:29 GMT
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North Coast Igor wrote:

Right, Ed. Time value is incremented by the escapement period time value. (This is true of every mechanical clock, when you think about it.)

I didn't provide detail on the "escapement mechanism" b/c it's not important regarding the portion I need help with. The Increment will be many seconds and you understood perfectly. The "escapement mechanism" operates over a repeatable-enough period of time and THAT time period will be the "increment".

My own thought since I described the problem is that instead of counters, gates and DIP switches, a small microprocessor chip would be the easy way to program the increment function (especially regarding re-programmability). --probably cheaper, too.

Thanks for responding.

North Coast Igor – Marc

So conceptually:

impulse from escapement-> add N to totalizer
is all we have so far. First, flesh out the
impulse generator: microswitch, opto, what?
Debounce it as needed. You can google "debounce circuit"

Apparently you've already figured out how to come up with N – but why on earth do it that way when you've already decided to use a micro? It can count the time between impulses probably better than you, and with better resolution and no need to gate the value stored in a bunch of dip switches. Just count directly using the micro. That also takes into account any physical aberration in the escapement.

But after impulse from escapement-> add N to totalizer

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what happens next? Does the value in the totalizer cause something to happen? Seems to me it should, and logically it is something like "is value in totalizer $\geq X$ " if yes do something, if no do nothing. Do you want the value to cause the hands to move some particular distance?

You need to do a complete set of specs for what you want to happen. It `_has_` to be more than just adding a number to a total or else there is no purpose to doing the addition. I don't mean this as criticism, but I don't think anyone here wants to drag the specs out of you one at a time. I think that's what I'm doing, and it's not fair of me to waste your time because I just plain don't get it.

Ed

ehsjr wrote:

North Coast Igor wrote:

Thanks for the reply, Anthony.

You understood okay, but I was thinking of a complex escapement mechanism that is amusing (?) to watch and has a period of many seconds. Accuracy is not a goal here; the goal is more: "you can keep time with THAT ?"

The latched increment input into a clock driver is the part for which I'm seeking help.

Thanks again.

Marc

I'm lost on your description, too.
Do you want to `_add_` the incremental value to the previously stored value each interval?

Ed

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Anthony Fremont wrote:

igorshump@xxxxxxxxx wrote:

Would like to build a digital
clock with a long-duration
mechanical
escapement ("artistic" part).

I found Bill Bowen's site

http://ourworld.compuserve.com/homepages/Bill_Bowden/

and could probably decipher
something here, but thought
I'd try for
some advice/ shortcut.

I envision empirically
determining the periodicity
of my "escapement
mechanism" and inputting
that time period into my
clock via dip
switches.

I had to read this a couple of times before I
got it (I think). If I
understand you, you want to use a pendulum
of arbitrary length (and
arbitrary period) and then have this advance
the clock mechanism the correct
amount for each swing. For example, say
you used a 1 meter long pendulum
with a period of 2 seconds. You would want
to advance the the clock 2
seconds each cycle. Correct?

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This number (not much resolution needed due to mechanical vagaries of long-period escapement) would then be latched into the clock electronics to provide the clock increment.

Not sure what you mean here, there is nothing vague about the motion of a pendulum.

One could call this a "variable increment clock", I guess.

Could someone point me to a circuit that comes close to this?

Bryan Mumford has something like this going, but he uses a pendulum to generate the pulses to an electrical drive system for the hands. He keeps the pendulum going with magnetic impulses. The impulses are triggered by the pendulum itself, so that the pendulum is the thing actually keeping time.

<http://www.bmumford.com/clocks/em2/index.html>