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## Where does the waveform 'start'?

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### Where does the waveform 'start'? (#p3571)

by **Zandercircuitry** » Mon Aug 19, 2019 4:52 am

Wasn't sure where to post this, and I think really only 1 person is going to be able to answer this.

Basically I'm developing a multi modulation pedal, with all the patches created in SpinCAD.

We're trying to hook up an external tap tempo switch and LED via a microcontroller but we're struggling to figure out how to implement this and have it be accurate.

One thing that would help is knowing when a patch is 'activated' (ie if someone changes patches), where does the waveform start? At the top? At the bottom? Somewhere in-between? Is it the same starting place for the chorus, phaser and LFO blocks?

We tried to figure this out just by listening but couldn't find anything conclusive.

The issue is that if we don't get it bang on, the LED will drift over time and be completely out of sync with what's been tapped. I assume if we were writing this from scratch in ASM we could actually determine that exactly, but alas.

Hopefully this makes sense, any help would be appreciated.

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### Re: Where does the waveform 'start'? (#p3574)

by **Digital Larry** » Mon Aug 19, 2019 4:59 am

This question is better asked over at the Spin forum. I don't do anything special when setting up LFOs in blocks. The RAMP LFO apparently has a "JAM" instruction which AFAIK I have never incorporated into anything, but if you are using RAMP then that might help.

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### **Re: Where does the waveform 'start'? (#p3575)**

by **Zandercircuitry** » Mon Aug 19, 2019 5:02 am

*Digital Larry wrote:*

This question is better asked over at the Spin forum. I don't do anything special when setting up LFOs in blocks. The RAMP LFO apparently has a "JAM" instruction which AFAIK I have never incorporated into anything, but if you are using RAMP then that might help.

Ok awesome I'll try there, we're just using the Sin/cos block for pretty much everything so it's really just that one I need to clarify

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### **Re: Where does the waveform 'start'? (#p3576)**

by **Digital Larry** » Mon Aug 19, 2019 5:17 am

Part of the issue that I see anyway is that you have to measure an interval then convert it into a voltage which is then read by the FV-1 and hopefully interpreted to the exact same frequency you wanted. Be nicer if there was some sort of direct conversion. There's a way to take a count value on the FV-1 (e.g. increment every sample) and then using LOG to do a 1/X function which will convert time delays to a matching frequency value. This is not incorporated into a SpinCAD block though. As I remember the tap-tempo block in SpinCAD was designed to connect to a 1-second delay block so that the t/t block output always represents a fraction of a second.

Just to let you know, there's nothing conceptually wrong with using SpinCAD to create a basic patch structure and then ASM to fill in the rest if not supplied by SpinCAD. Yes this does require you to learn Spin ASM, I am sorry. 🙄

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