

How to activate the SDG sweep marker function

May 31, 2019

The SIGLENT SDG6X series of arbitrary waveform generators feature a frequency marker function that will output a signal when the sweep output passes through a user-defined target frequency.

This can be very helpful when synchronizing measurements with other instrumentation, like oscilloscopes, that have no other way of syncing up with the frequency sweep.

To activate the frequency marker:

- 1. Activate the sweep function by pressing the Sweep button on the SDG6X front panel
- 2. Configure the sweep parameters. Here, we are going to sweep from 500 Hz to 1.5 kHz and the sweep time will be 100 ms (0.1 s).

*CH1:Sine.ON.HiZ Sweep CH2:Sine.OFF.HiZ				
	Frequency Amplitude Offset Phase	1.000 000kHz 4.000 Vpp 0.000 Vdc 0.000 0 °		
Sweep Time <mark>1</mark> .000 000ms				
Start Freq 500.000 000 Hz	Load	HiZ		
Stop Freq 1.500 000kHz	Output	ON 🕒 🔂 🖧		
Sweep TimeStartFreqStopFreqCenterFreqFreqSpan	Source Internal	Trig Out Page Off 1/2 •		

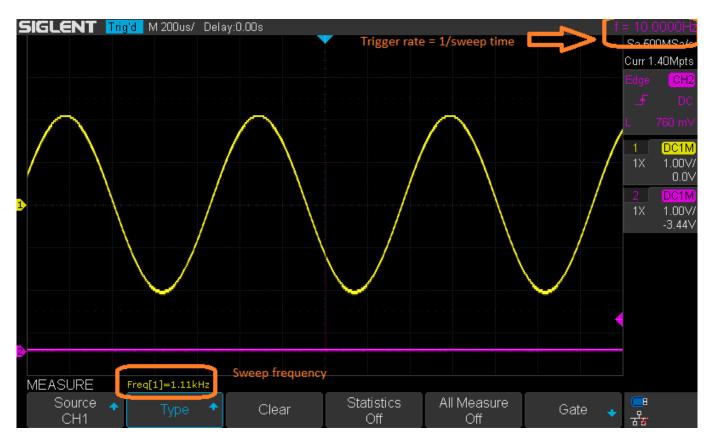
3. Go to page 2/2 and press FreqMarker

*CH1:S	ine.ON.HiZ	Sweep	CH2:Si	ne.OFF.HiZ	
	HAAA	##	Frequency Amplitude Offset Phase	 1.000 00 4.000 Vg 0.000 Vg 0.000 0 	op dc
Start Free		000 Hz	Load	HiZ	
Stop Freq 1.500 000kHz			Output	ON	🔄 🚺 रहे
Type Linear	Direction Up			FreqMarker	Page 2/2 ►

4. Set the marker frequency to 1.11 kHz and set the state to ON

*CH1:Sine.ON.HiZ Swee	CH2:Sine.OFF.HiZ			
	Frequency Amplitude Offset Phase	1.000 00 4.000 V(0.000 V(0.000 0	op dc	
Marker Freq <mark>1.110 000kHz</mark>	Load Output	HiZ ON	📀 🔓 🗄	
State ON Frequency			Return	

Now, we can capture the sweep on a scope, as shown below:



The frequency marker will output a pulse at the same time that the sweep frequency meets the setpoint for marker frequency.

In the first example, the sweep time was set to 100 ms. So, we should see 10 output pulses every second, or a 10 Hz repetition frequency and the output sweep waveform should be at 1.11 kHz, our marker frequency setpoint. Which we can confirm on the scope.

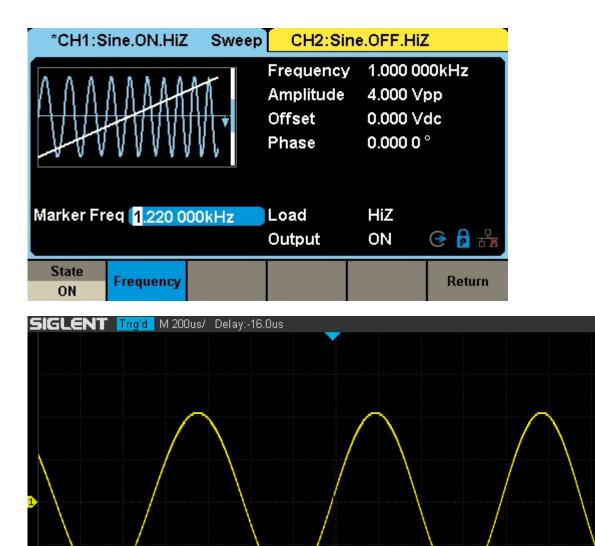
If we change the marker frequency to 1.22 kHz and the sweep time to 10 ms, we should see the marker frequency pulse occur one hundred times a second (100 Hz) and the sweep frequency should be at 1.22 kHz:

MEASURE

Source 🔺

CH1

Freq[1]=1.23kHz



Clear

Statistics

Off

All Measure

Off

Sa 500MSa/s Curr 1.40Mpts

CH2

DC1M 1.00V/

<mark>DC1M</mark> 1.00∀/ -3.44∀

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