



Creating a Triangle Modulated Sinewave with UltraStation

Date: 07.06.2015

Solution: UltraStation is a software utility that enables arbitrary waveform creation and editing for the Rigol DG series of arbitrary waveform generators.

Here is a brief introduction into creating a triangle modulated sign wave.

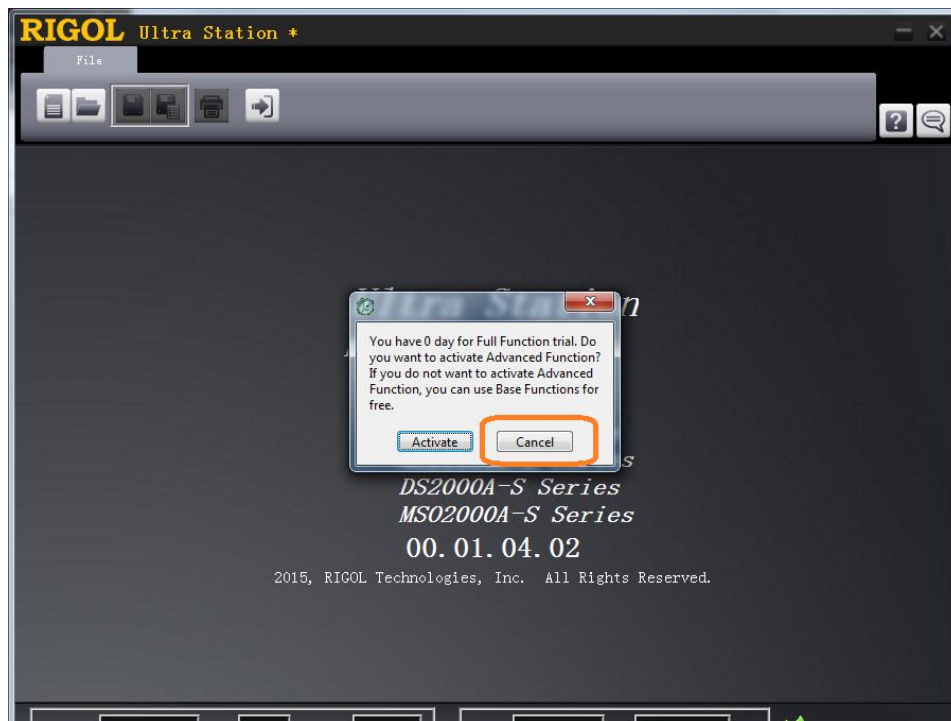
- 1) Download and run UltraSigma.exe
- 2) Close UltraSigma
- 3) Download and run UltraStation.exe
- 4) Connect a compatible Rigol DG series arbitrary waveform generator (USB or LAN)



5) Right-click on the resource identification and select UltraStation (as shown below)



6) Select “cancel” at the activation



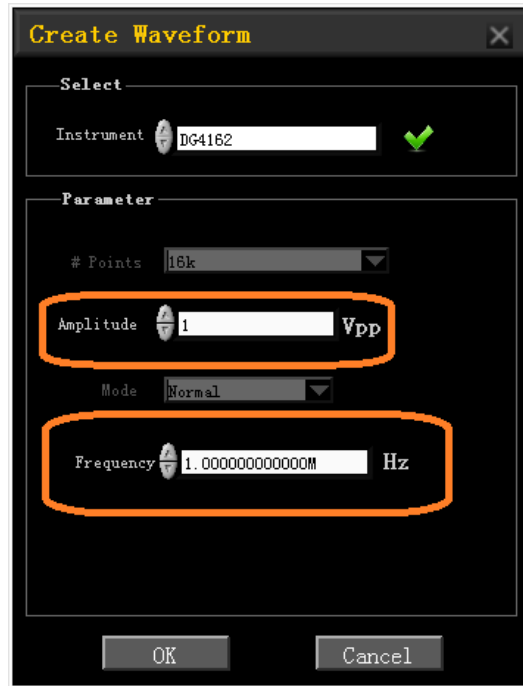


7) Select "New" waveform

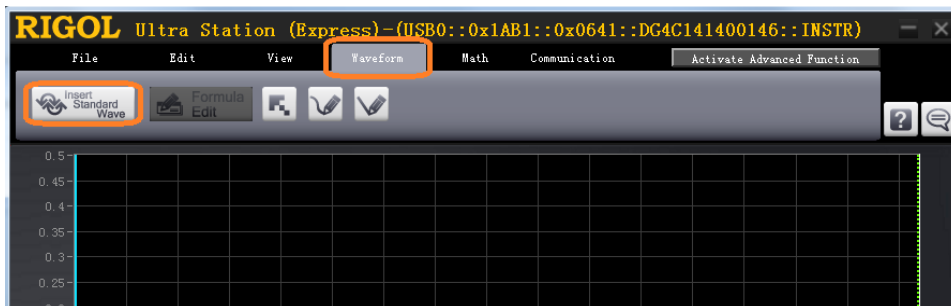




8) Set the total amplitude and frequency for the waveform and select OK

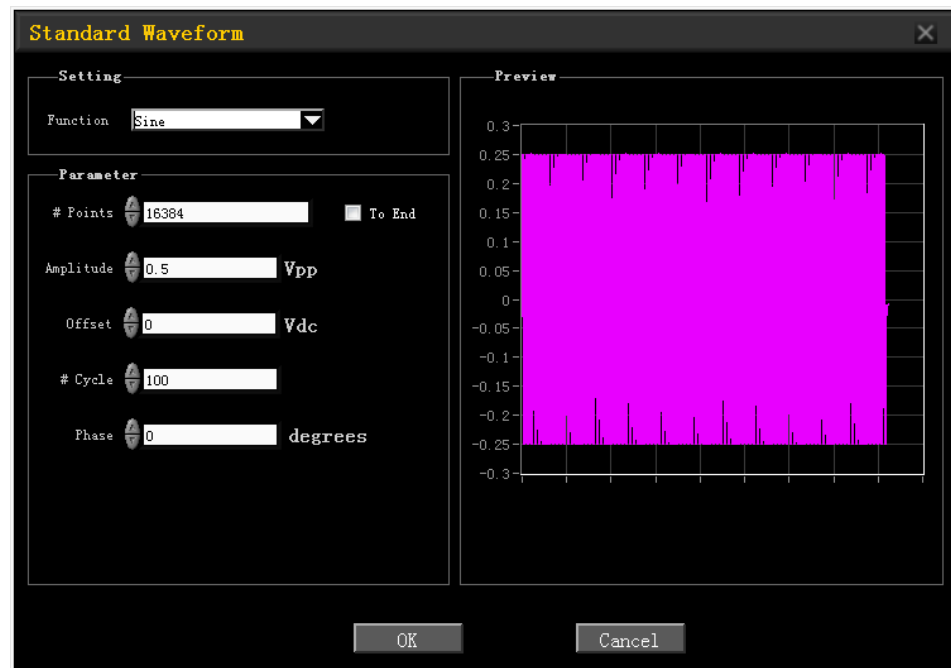
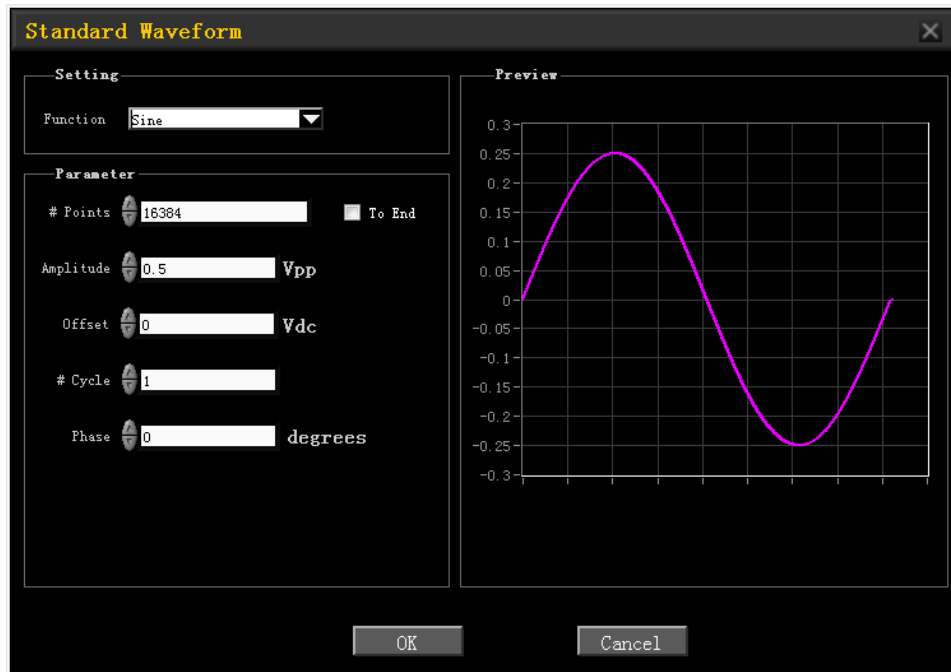


9) Select the Waveform tab and click Insert Standard Wave



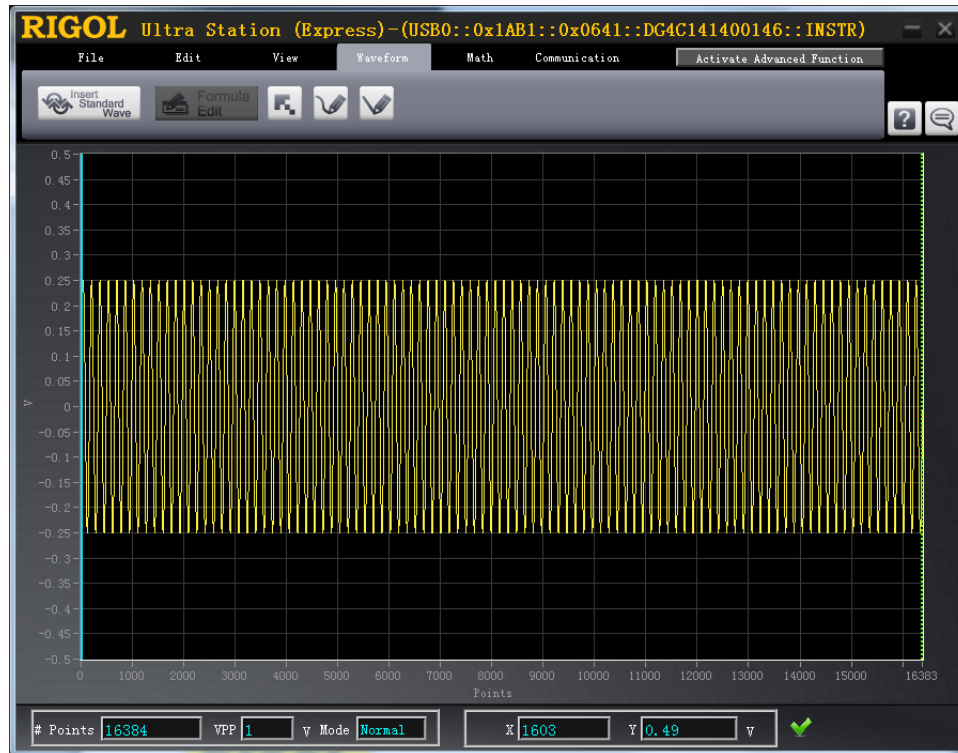


10) Select SINE, set the amplitude and number of cycles you wish to have in a single burst of the waveform and press OK.

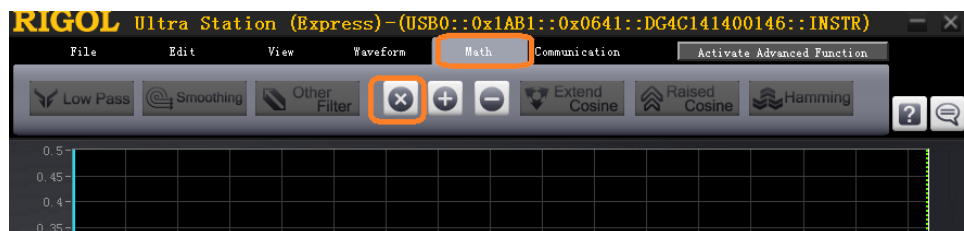




11) Now, you can see that the waveform is 100 periods of a sinewave

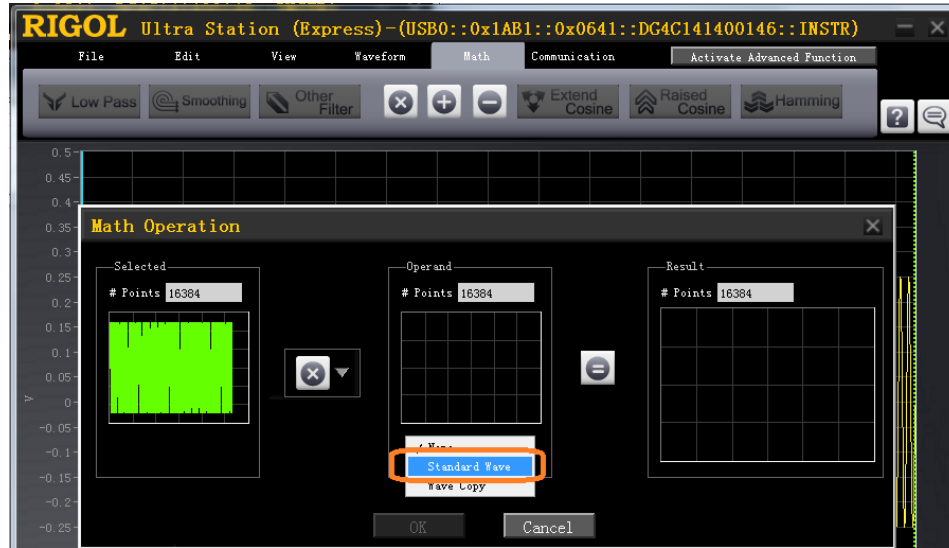


12) Now, let's perform some math on the waveform.. select the math tab and the multiplication (X) function



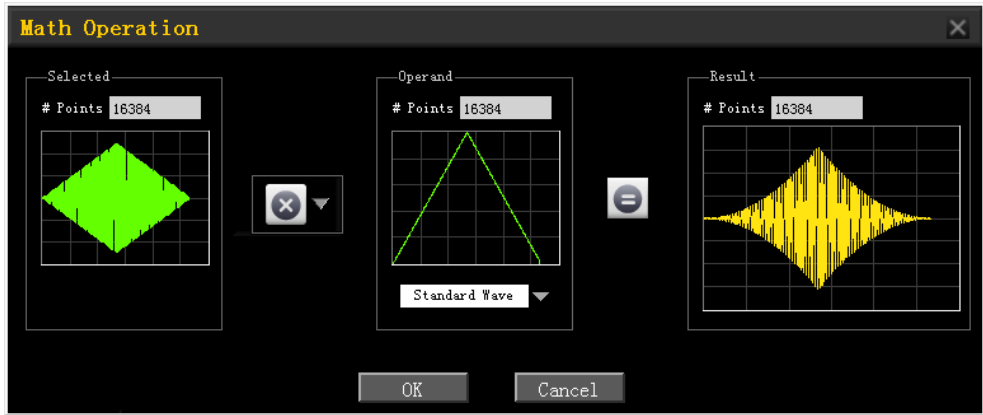


13) Select Standard Wave

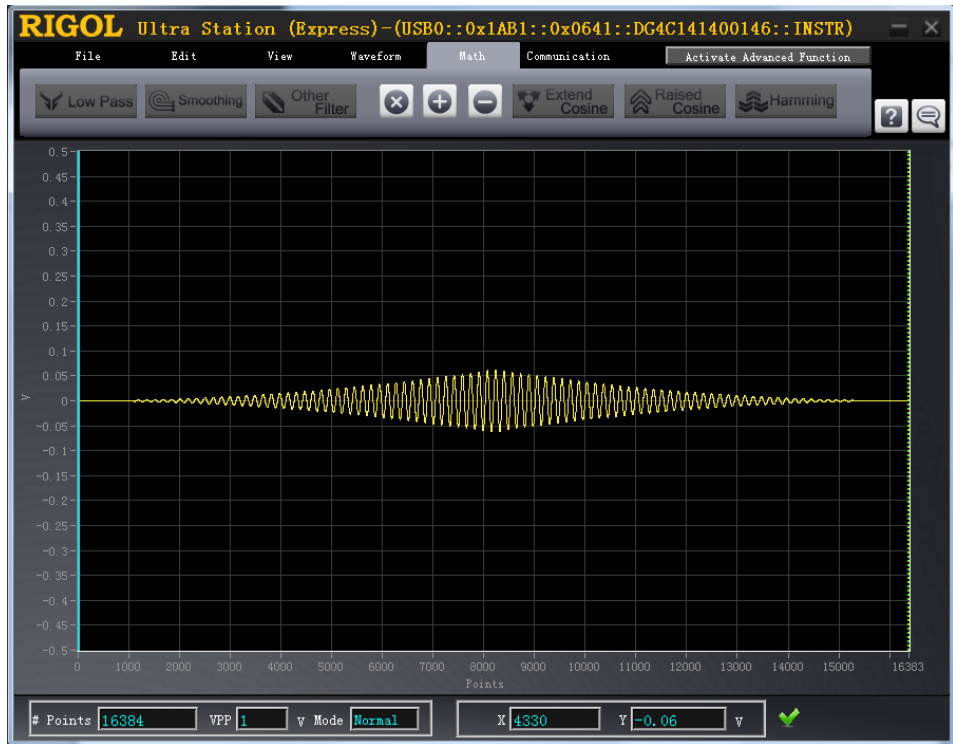


14) Configure the waveform.. here, we are multiplying by one cycle of a ramp waveform with 50% symmetry, 270 degree phase shift, and a DC offset of 0.25V. This will allow us to isolate a signal “burst”



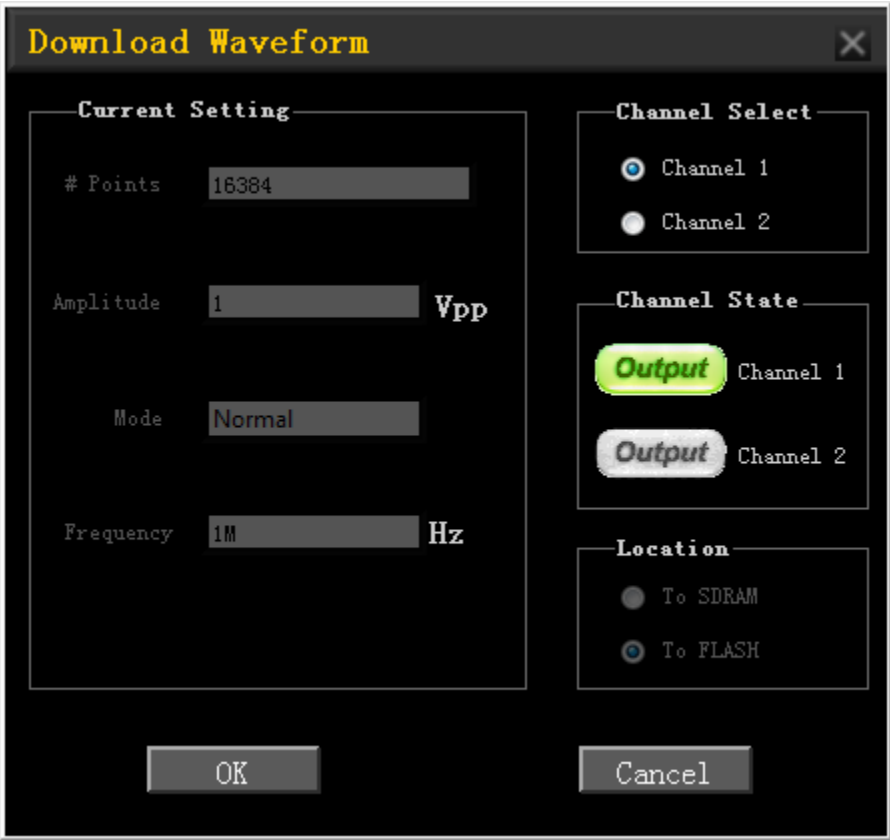
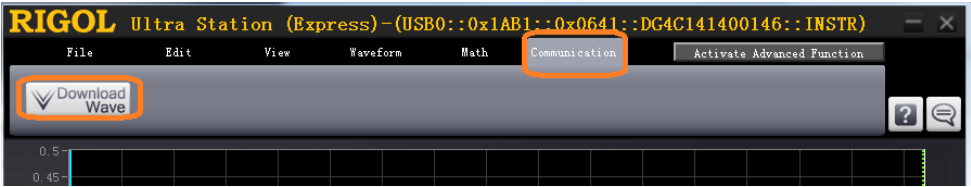


15) Check to be sure the waveform looks like we expect





16) If everything checks out OK, select Communication and Download to send the waveform to the generator



- 17) The waveform has been saved to volatile memory on the DG. You can now connect to an oscilloscope and adjust the amplitude and frequency on the front panel of the DG. The volatile waveform parameters are available under the ARB menu

- 18) To configure a manual burst, press Burst and set Source to manual





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