



Deep Memory: UltraVision Zoom and Pan with the DS2, DS4, and DS6000 Scopes

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Solution: The deep memory on the Rigol DS2000, DS4000, and DS6000 scopes can be extremely helpful when debugging. You can capture a large amount of data with a single trigger event, then use the pan/zoom feature to gain greater insight and even perform measurements on the captured data.

In this example, we are going to use an arbitrary waveform generator to output two unsynchronized waveforms. Channel 1 will be a 10-10,000Hz linear square wave sweep over 1s. Channel 2 will be identical, but not in phase. The amplitudes were manually adjusted to provide some amplitude variation.

- Set the scope to trigger on an event. This could be a glitch, rising edge, or an error signal.
- The trigger settings are located in the Trigger area and can be accessed by pressing the Trigger Menu key.
- *Option:* Move the horizontal trigger offset to the far left of the display if you would like to have the display show post trigger data only.



- *Option:* Set the scope for a single trigger to prevent overwriting the real waveforms you want to capture
- Set scope to acquire the deepest memory possible. This is located in the Acquisition menu of the scope, and can be accessed by pressing the Acquire button.

NOTE: Many scopes have a memory depth upgrade available.

- Set the timescale to an appropriate length using the Horizontal Scale knob. For this example, we are going to use the 2s/div which gives us a full 28s of data on the display.
- You can use the Zoom feature to get a closer look at the waveforms. Press the Horizontal Scale Knob and then rotate to adjust the scale.



NOTE: Measurements and Cursors are active on the zoom window

- You can use the outer navigation knob to jump between times on the recorded waveforms. You can use the inner navigation knob to step between times.



- After the waveforms have been captured, you can store them to an external USB memory stick. Insert the memory stick into the front panel USB port and press the Print Icon.



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