

# The 1000 Series Quick Demo

## Exploring the user interface

### Vertical controls

1. The vertical controls are color-coded to match the waveform. Use the larger knob to set volts/division in 1-2-5 sequence. Press the knob to enter "Verrier" mode. This lets you adjust in increments as small as 0.1 mV.
2. Press [**Channel 1**] to view the vertical menus (press the button next to 1/2 to see all the menu options).
3. Press [**Channel 1**] again to turn the channel off. Press it a third time to restore the channel.

### Horizontal controls

1. In the Horizontal section, turn the large knob to control the time/div setting in a 1-2-5 sequence.
2. Press the large knob to turn on the zoom display mode. This gives you a "forest/trees" view of the signal. The large time/div knob now controls the width of the zoom window. Press the knob again to return to turn off the zoom.
3. Pressing [**Menu/Zoom**] gives you access to other timebase options.
4. The small knob controls the delay from the trigger point. Pressing the knob resets the offset to zero.

### Trigger controls

1. [**Force**] creates a trigger in absence of a qualifying event.
2. Pressing [**Trigger Level**] sets the trigger level to 50% between the peaks of the trigger source.
3. Use Trigger [**Menu**] to select different triggering modes, including **Edge**, **Pulse**, **Video**, **Pattern** and **Alternate Channel**.

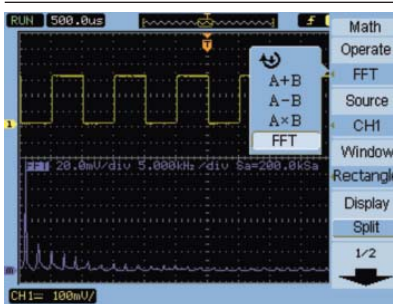
## Initial connection

1. Connect channel 1 to the Probe Comp pin on the front panel of the scope.
2. Press [**Default Setup**] [**AutoScale**] on the front panel.
3. Press [**Menu On/Off**]. This gives you 25% more signal viewing area than scopes with comparably-sized displays.

## Measurements, Math, and Cursors

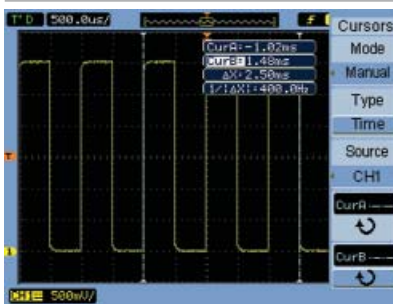
### Math

Press [**Math**] in the Vertical section to select one of the four mathematical operations (including A+B, A-B, A\*B or FFTs). Press [**Math**] again to turn the function off.



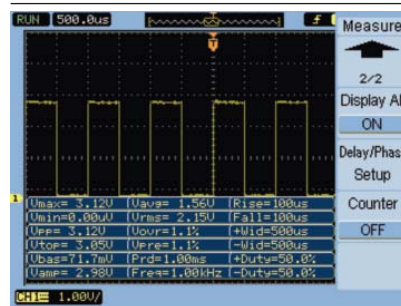
### Cursors

1. Press [**Cursors**] to turn on cursor measurements. Cursors can be set to Manual, Track, Auto or Off.
2. Select **Manual** and then press the 4th softkey **CurA**. Turn the **Selection knob** to position Cursor A on a desired edge, showing time relative to trigger.
3. Press [**Cursors**] again and select the 5th softkey **CurB** and repeat to position Cursor B on another edge.
4. Press [**Cursors**] again to turn off cursors and cursor measurements.



### Automatic measurements

1. Press [**Measure**]. Verify that the source is CH 1. Press **Voltage** and use the **selection knob** (which is now illuminated) to choose any of the voltage measurements. Note that the DS01000A scopes offer an integrated 6-digit hardware frequency counter that can measure from 5 Hz to the bandwidth of the oscilloscope.
2. Press 1/2 to see the second page of the **Measure** menu. Toggle **Display all** to ON. The display now shows 18 of the 22 measurements.
3. Pressing **Display all** again to toggle the measurements off.
4. Press [**Measure**] again to turn off auto measurements.



## Surprisingly powerful features

### Go/no-mask testing

The mask test function monitors waveform changes by comparing the waveform to a predefined mask or "golden" waveform.

1. Under **[Utility] Mask Test** (page 1 of 2) menu, select **Enable Test ON** to enable the mask test.
2. Create a mask by selecting **Mask Setting** (page 2 of 2 under **Mask Test**) and **Create Mask**.
3. Select **Operate** (page 1 of 2) to run or stop the test. Turn on **Msg Display** to monitor how many waveforms are being tested.
4. Wiggle or briefly disconnect the probe connected to Channel 1 to create a failure and stop the mask test.
5. Press **Enable Test** to turn off this feature.



### Software filters

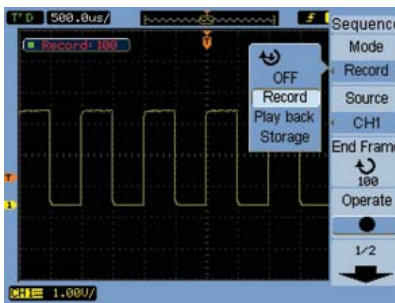
Software filters allow you to isolate signal spectral components. This is a useful tool for isolating ripple currents, modulated signals, or simply for minimizing noise.

1. Press **[Default Setup] [AutoScale]**.
2. Press **Channel 1** to bring up its menu.
3. Select **Digital Filter**.
4. Toggle the filter **On**.
5. Use the **Selection knob** to change the **Upper limit** bandwidth from 49 kHz to the minimum value of 1 kHz. Watch the 1 kHz square wave lose edge definition and begin to change into a sine wave. High-pass, band-pass, and band-reject filters are also available.

### Sequence mode

You can record, play back and store waveforms from any input channel or from the mask test output. The ability to record mask test output is very useful for capturing anomalous waveforms over a long period of time.

1. To record the waveforms, press **[Acquire] Sequence**. Press **[Mode] Record**.
2. Turn the **Selection knob** to increase the number of recorded frames to **100**. You can record up to 1000 frames.
3. Press **Operate** to record waveforms in the scope's memory.
4. Press **[Mode]** to select **Playback** and then **Operate** to show the 100 stored waveforms on the screen.



For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

### Americas

Canada	(877) 894-4414
Latin America	305 269 7500
United States	(800) 829-4444

### Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Thailand	1 800 226 008

### Europe & Middle East

Austria	01 36027 71571
Belgium	32 (0) 2 404 93 40
Denmark	45 70 13 15 15
Finland	358 (0) 10 855 2100
France	0825 010 700
Germany	07031 464 6333
Ireland	1890 924 204
Israel	972-3-9288-504/544
Italy	39 02 92 60 8484
Netherlands	31 (0) 20 547 2111
Spain	34 (91) 631 3300
Sweden	0200-88 22 55
Switzerland	0800 80 53 53
United Kingdom	44 (0) 118 9276201

Other European Countries:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

Revised: October 1, 2008

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2009  
 Printed in USA, April 24, 2009  
 5989-8525EN

