Know Your Oscilloscope

Sharing Agilent's Resources with Engineering Educators

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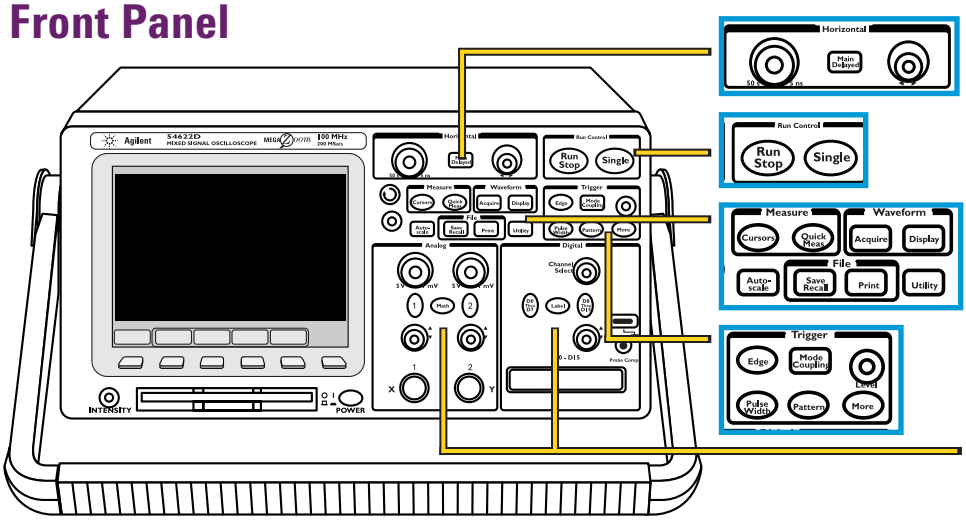
Overview

Front Panel



Horizontal (time) controls

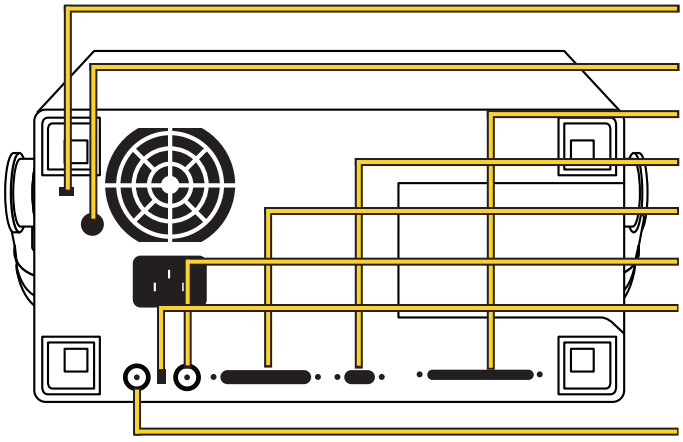
Run control

Special purpose menus/controls

Trigger controls

Vertical (volt) controls

Rear Panel



Connector for Kensington Lock for security

Printer power for optional integrated thermal Seiko printer

Optional GPIB interface module connector

RS-232 Port for PC connectivity

Parallel port for printer connectivity

Trigger Out BNC to trigger other instruments

External Trigger

Calibration Protection Switch

Agilent Technologies

Hints

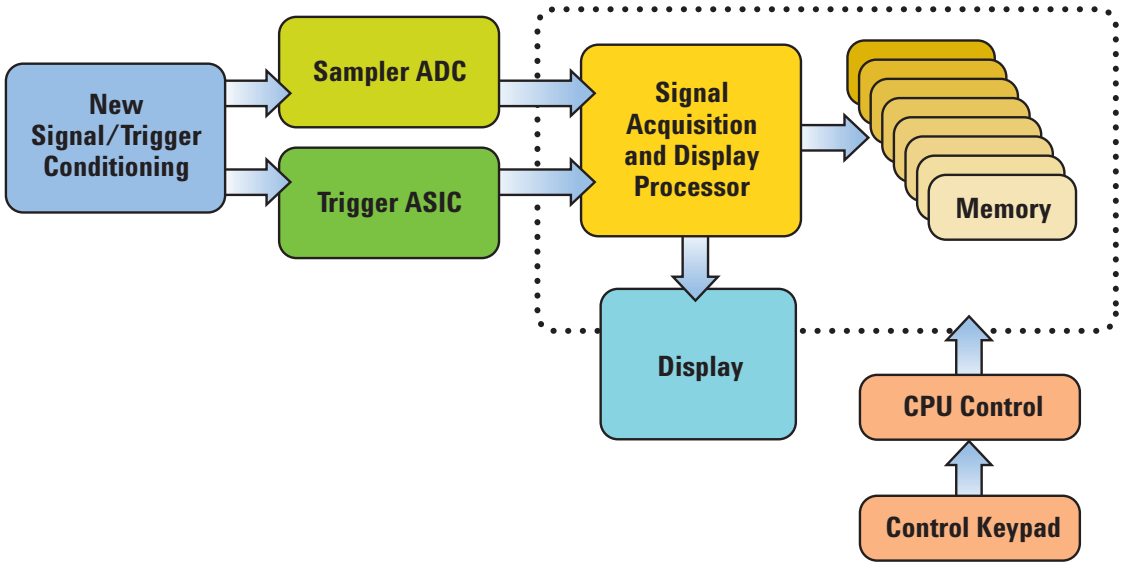
The Digitizing Oscilloscope

- The BNC shield is at earth ground. Use only the probe TIP for measuring high voltages. "Floating" the BNC shield or connecting it to a high voltage could cause a safety hazard.

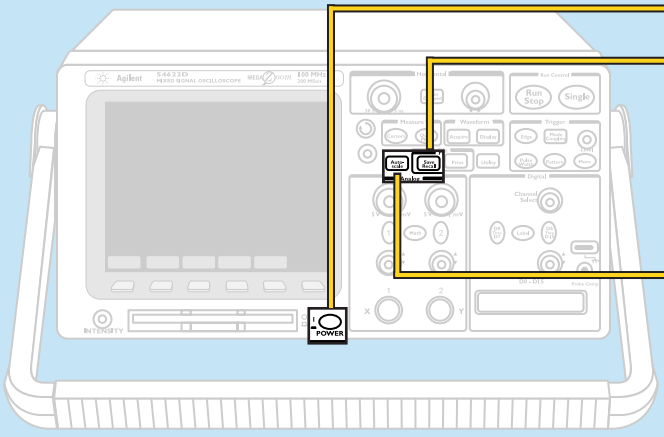
- Make sure probes are compensated.

- If you can't get the signal on screen:
  - Check probe connection
  - Touch: **SETUP**, Default Setup
  - Touch: **AUTOSCALE**
  - Check for offset (ground symbol). If offscale, adjust vertical sensitivity and position
  - Turn up signal brightness with intensity control

Digital Oscilloscope Block Diagram



Getting Started



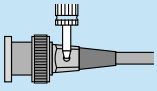
Turn power on.

To restore default settings, press **Save/Recall** on front panel and **Default Setup** in the menu under the display.

Connect probe to calibrator and ground.

Press **Autoscale**.

Compensate probes. Adjust screw to eliminate overshoot or undershoot.



Built-in Help

Read the Help display when you turn the scope on for helpful hints.

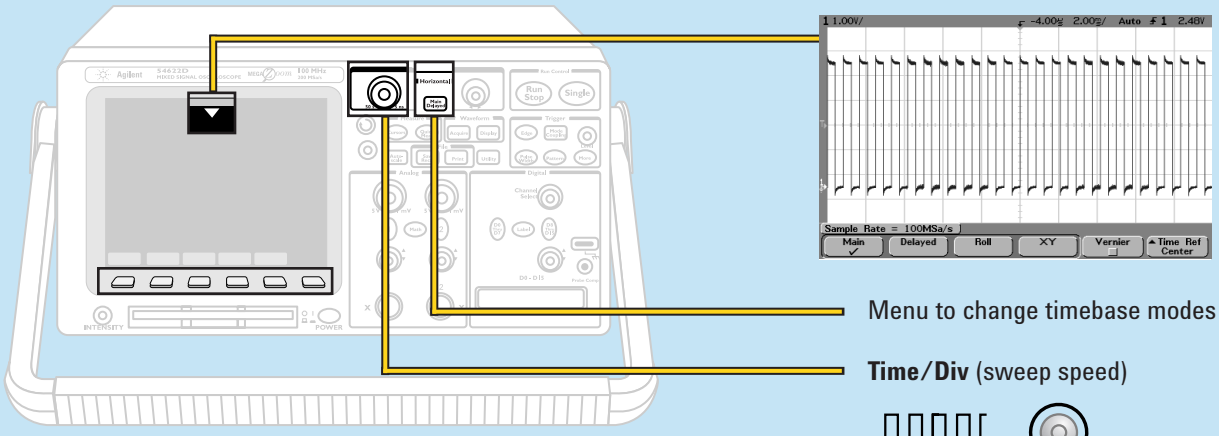
Press and hold any key to view built-in quick help in choice of 11 languages.

For example, press and hold **Pattern** key to view explanation of pattern trigger mode.

(continued)

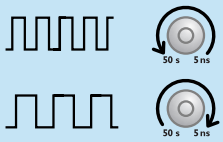
Controls

Horzontal - Time Controls

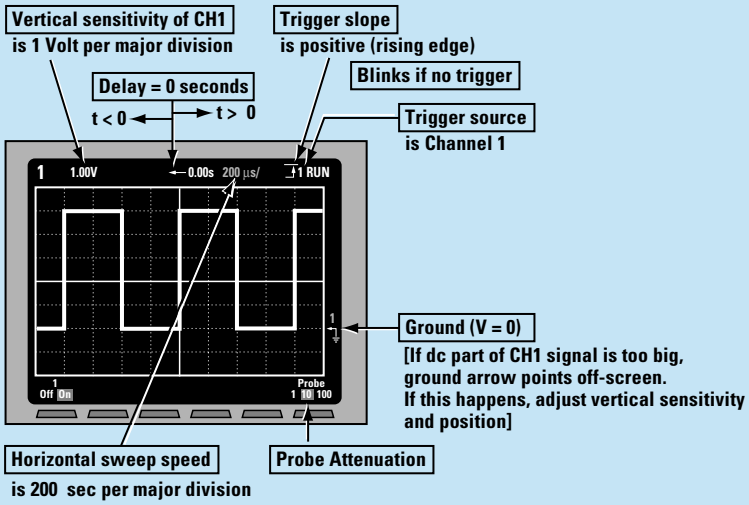


Menu to change timebase modes

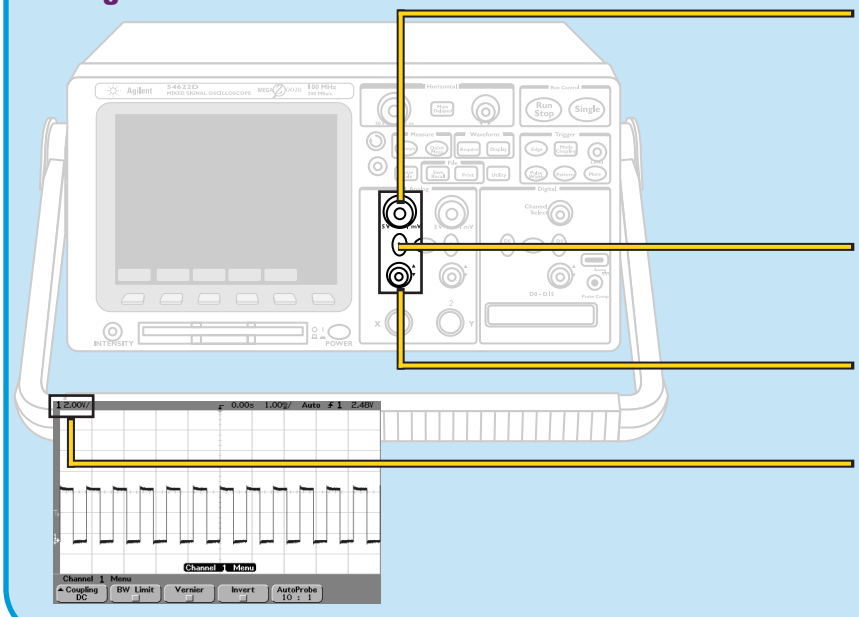
Time/Div (sweep speed)



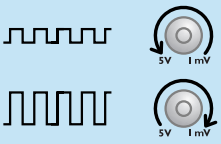
What the display says:



Voltage Controls



Volts/Div knob



Channel On/Off
Menu to change modes
(lit = on, off = off)

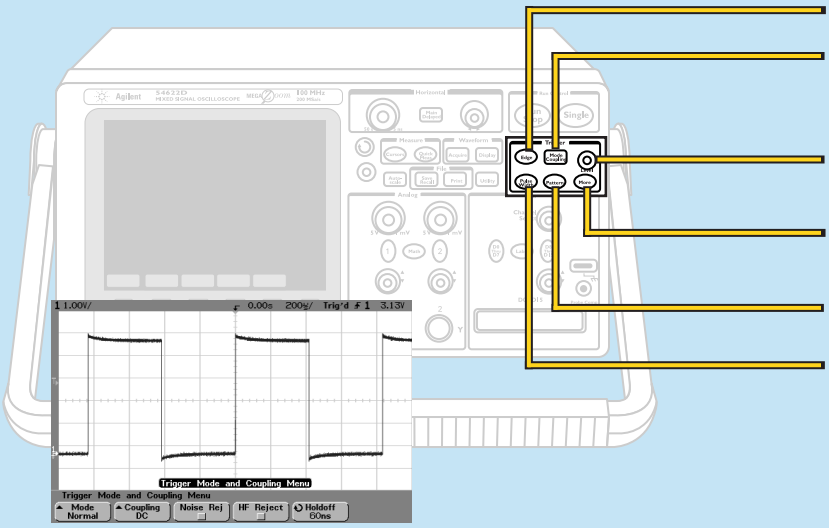
Position knob
Move signal up or down

Channel information
V/div on/off

(continued)

Controls *(continued)*

Trigger Controls



Set edge source and slope

Signal conditioning: mode, coupling, conditioning, hold off

Trigger level knob
Move level up or down

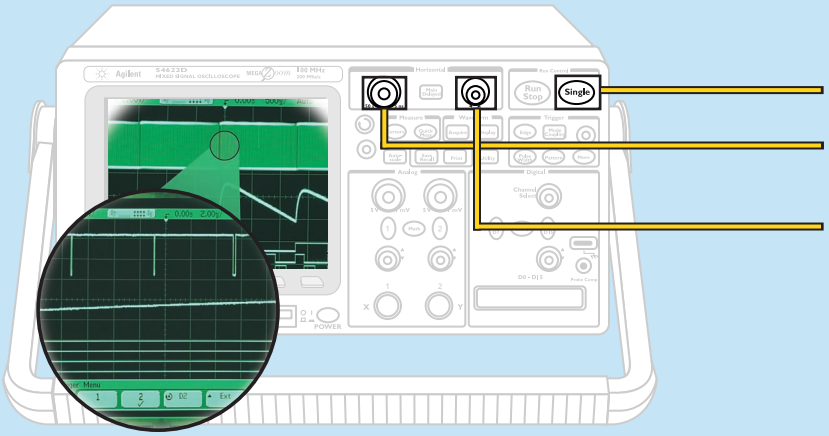
Set to, I²C, sequence, duration and TV trigger

Set pattern trigger

Set pulse width trigger

Display

MegaZoon - the deep memory advantage



Press **Single** to capture the big picture

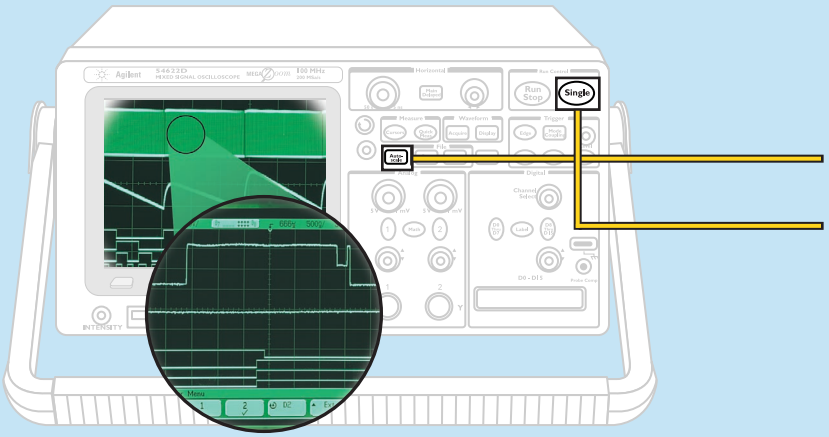
Turn **Time/Div** knob clockwise to zoom in on details of captured signal

Move left or right

MEGA Zoom

2 MB deep memory behind every channel with quick and easy zoom in to view details.

High-Definition Display



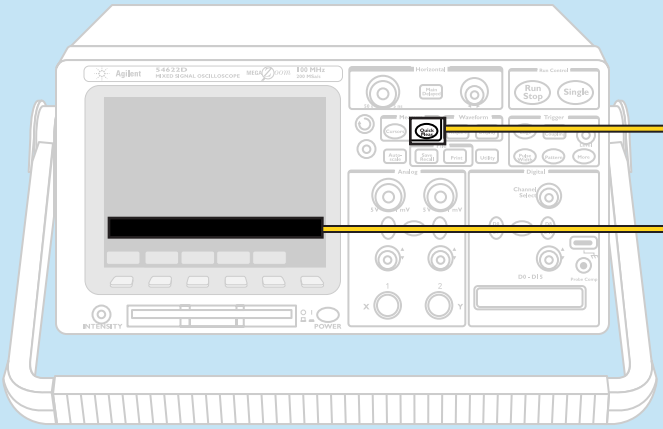
2 MB deep memory mapped to 32 levels of intensity to show subtle details

Press **Autoscale**

Then press **Single**

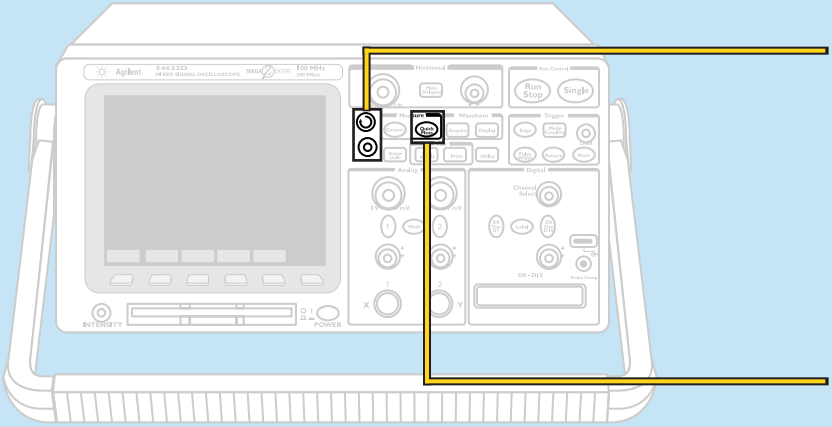
Other Functions

Making Automatic Measurements (Vpp, frequency, etc.)

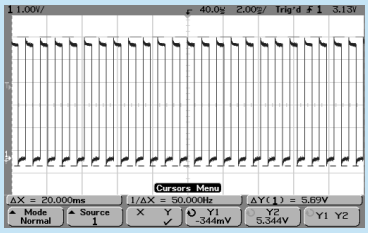


Quick Measure:
Turn measurements On (lighted)/Off
Turn on **Menu**

Manual Marker Control

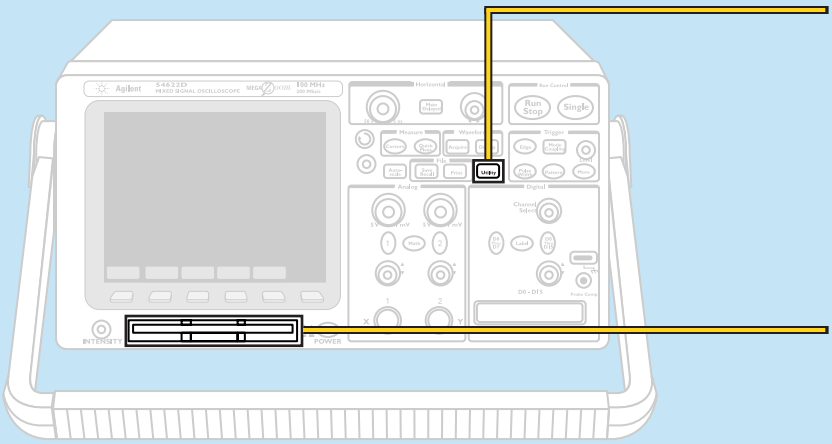


Markers:
Turn markers On (lighted)/Off
Turn on **Menu**



...or do it the easy way
(Press **Quick Measure**)

Saving Information



Print to printer or disk

RS-232 or GPIB

Transfer data to PC with IntuiLink (free software application) via Excel or Word. (www.agilent.com/find/intuilink)

Save images, data, setups to 1.44 MB floppy disk. Use **Save/Recall** menu or configure. **Quick Print** to disk from **Utility** menu.

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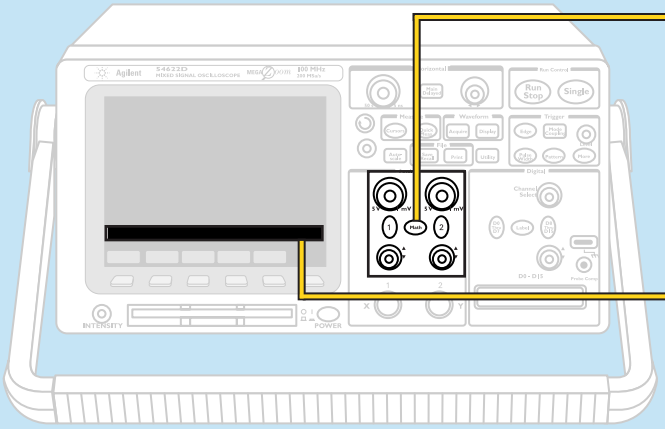
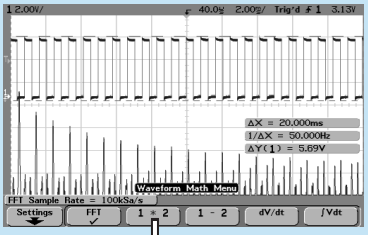
Other Functions *(continued)*

Math Functions (*, –, FFT, etc.)

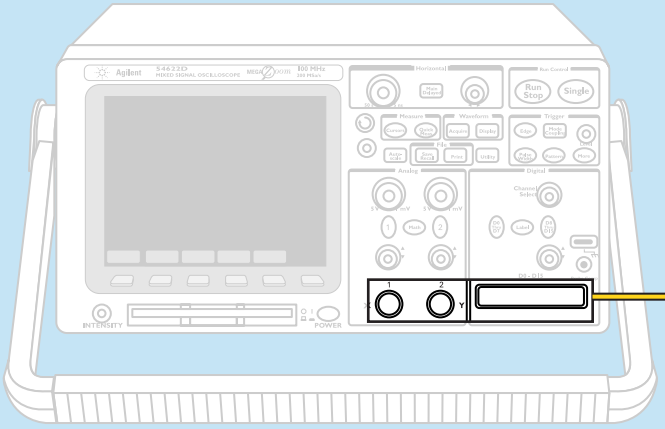


Turn **Math** on (Lighted = on)



Menu Setup

Channel Configurations

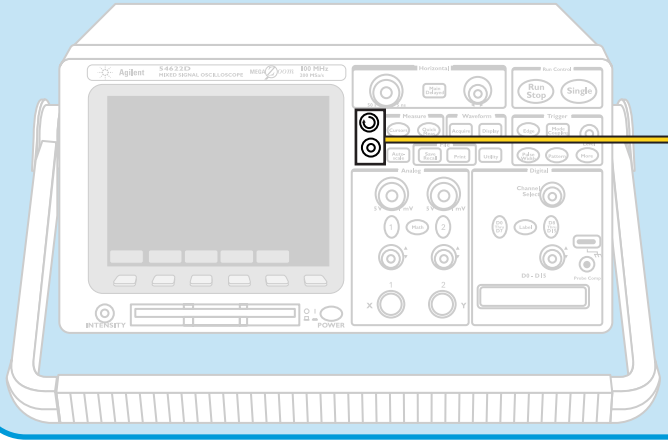


2 Analog channels (54621A or 54622A)

4 Analog channels (54624A)

2 Analog and 16 timing channels (54621D or 54622D)

Menus - Advanced Controls



Entry knob

Utility

Calibrate, self-test, language selection, set up I/O, printer and user option

Display

Persistance, clear display, vectors on/off