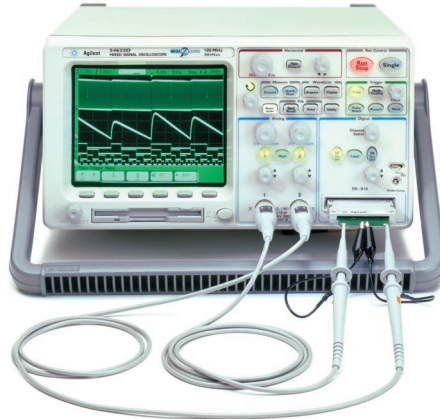


Know Your Oscilloscope

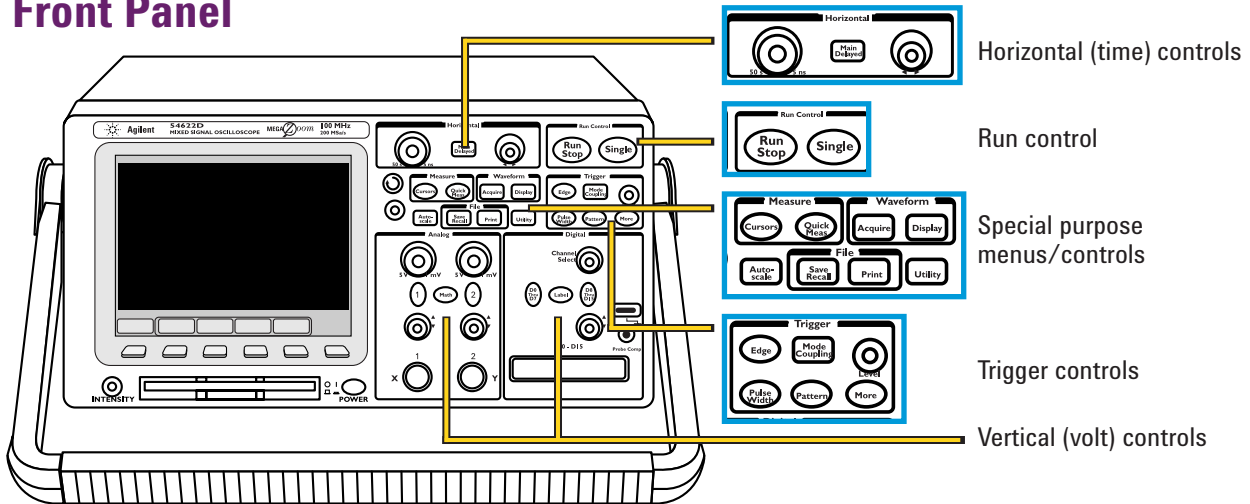


Sharing Agilent's Resources with Engineering Educators

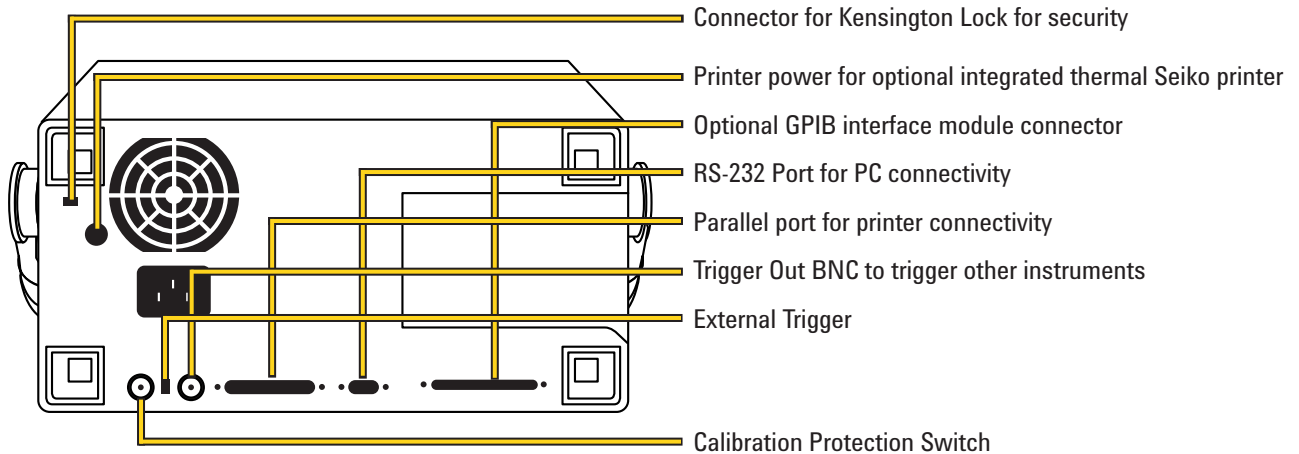
www.EducatorsCorner.com

Overview

Front Panel



Rear Panel



Agilent Technologies

Hints

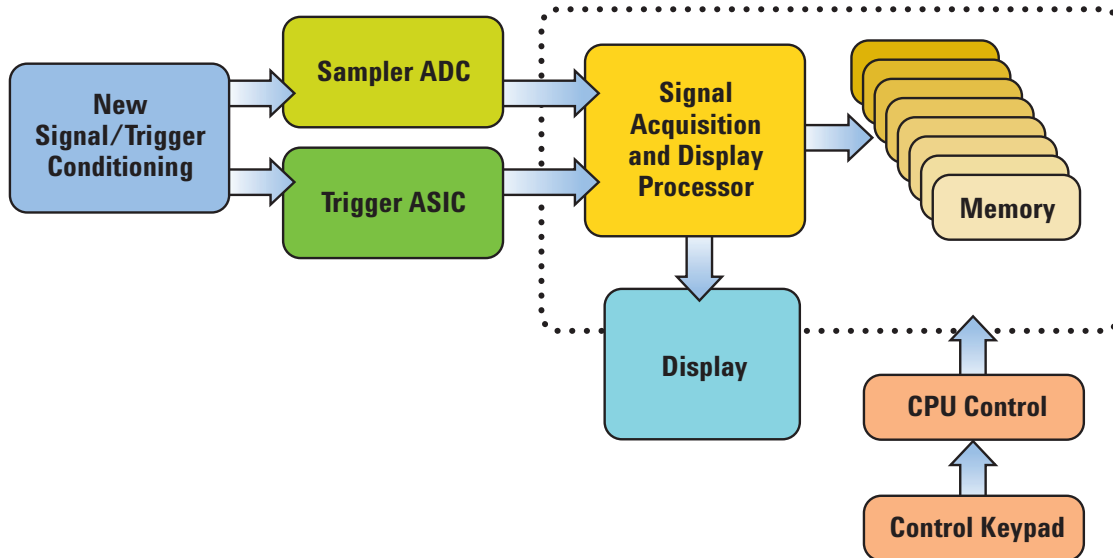
The Digitizing Oscilloscope

- 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

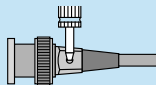
Turn power on.

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.

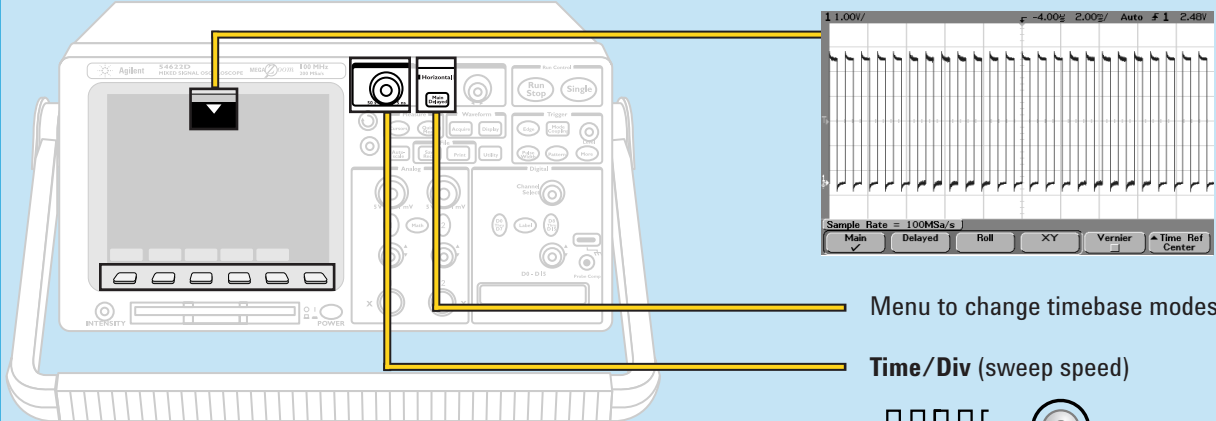
Press and hold any key to view built-in quick help in choice of 11 languages.

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

(continued)

Controls

Horizontal - Time Controls



Menu to change timebase modes

Time/Div (sweep speed)



What the display says:

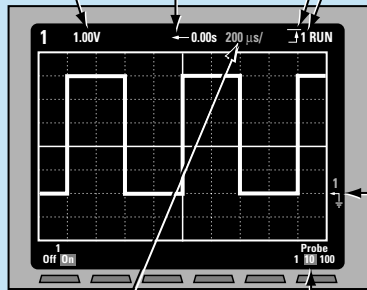
Vertical sensitivity of CH1 is 1 Volt per major division

Trigger slope is positive (rising edge)

Delay = 0 seconds
t < 0 t > 0

Blinks if no trigger

Trigger source is Channel 1

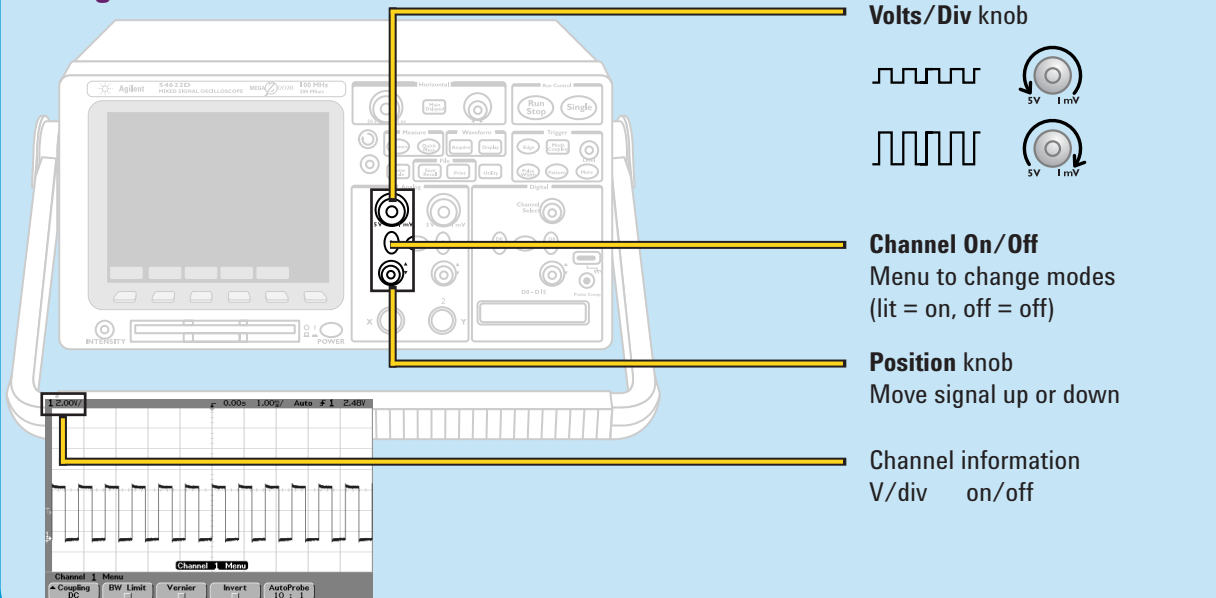


Ground (V = 0)
[If dc part of CH1 signal is too big, ground arrow points off-screen. If this happens, adjust vertical sensitivity and position]

Horizontal sweep speed is 200 sec per major division

Probe Attenuation

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

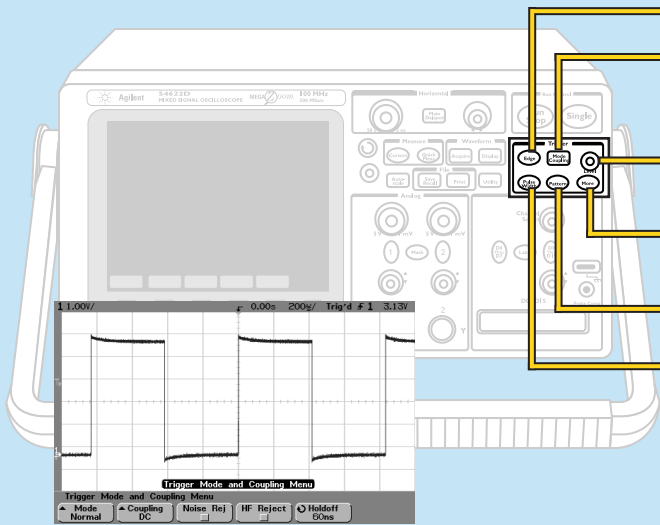


Diagram of the Agilent 54622D oscilloscope showing trigger controls. A yellow box highlights the trigger section of the front panel, with lines pointing to specific controls. The oscilloscope screen displays a square wave signal.

- 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

MegaZoom - the deep memory advantage

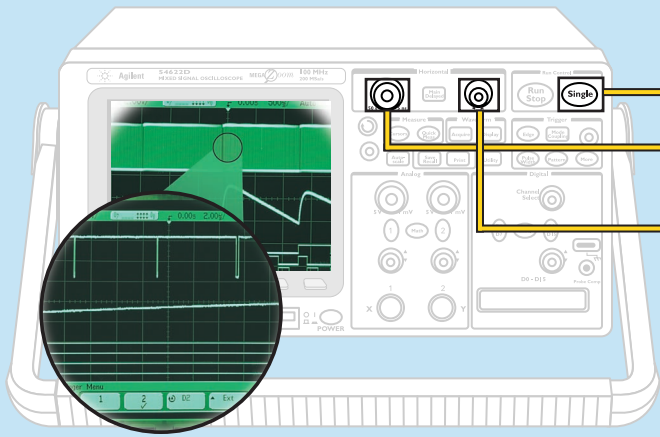


Diagram of the Agilent 54622D oscilloscope showing the MegaZoom feature. A yellow box highlights the Time/Div knob and the Single button. A circular inset shows a zoomed-in view of the captured signal.

- Press **Single** to capture the big picture
- Turn **Time/Div** knob clockwise to zoom in on details of captured signal
- Move left or right

MEGAZoom

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

High-Definition Display

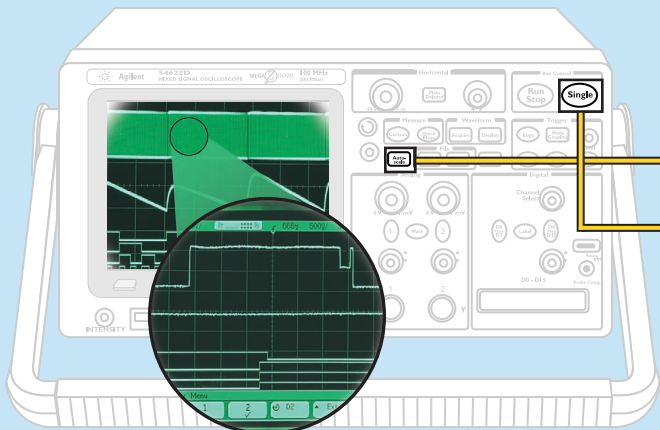
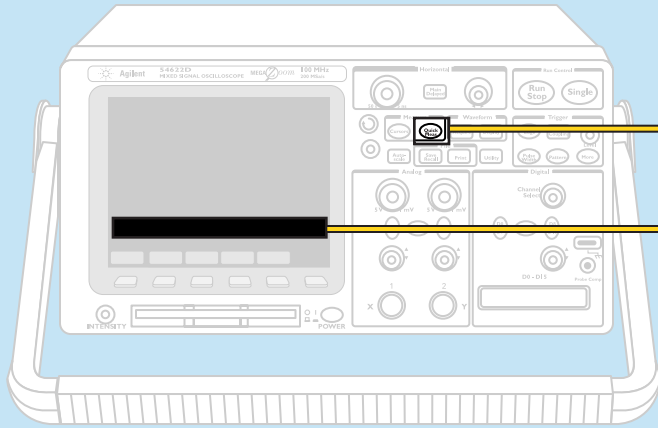


Diagram of the Agilent 54622D oscilloscope showing the High-Definition Display feature. A yellow box highlights the Autoscale and Single buttons. A circular inset shows a zoomed-in view of the captured signal.

- 2 MB deep memory mapped to 32 levels of intensity to show subtle details
- Press **Autoscale**
- Then press **Single**

Other Functions

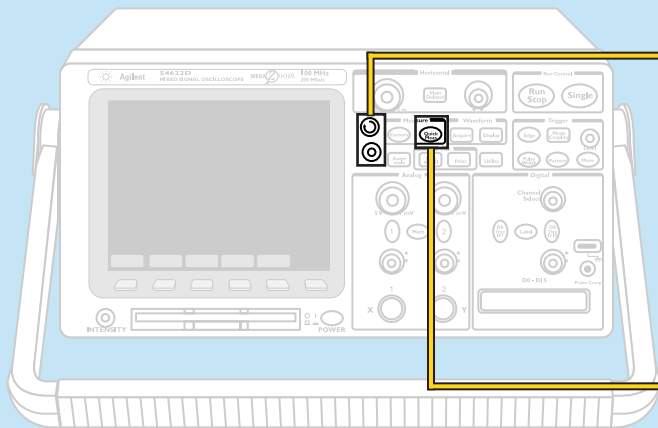
Making Automatic Measurements (Vpp, frequency, etc.)



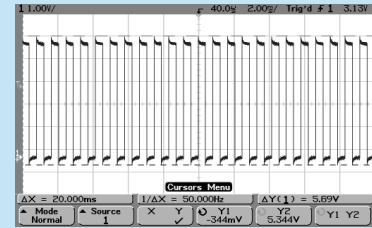
Quick Measure:
Turn measurements On (lighted)/Off
Turn on **Menu**



Manual Marker Control

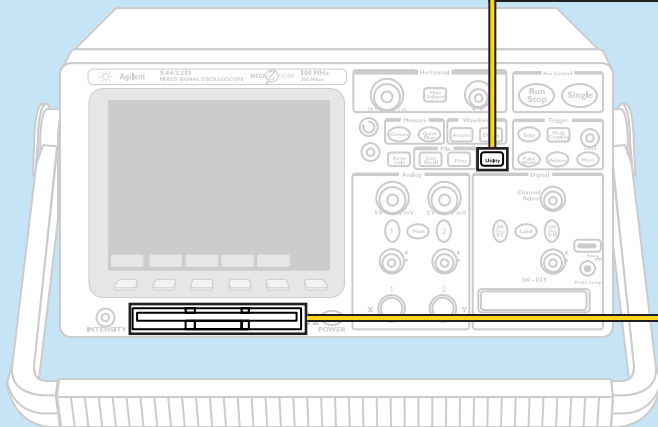


Markers:
Turn markers On (lighted)/Off
Turn on **Menu**

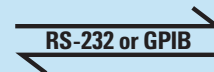


...or do it the easy way
(Press **Quick Measure**)

Saving Information



Print to printer or disk



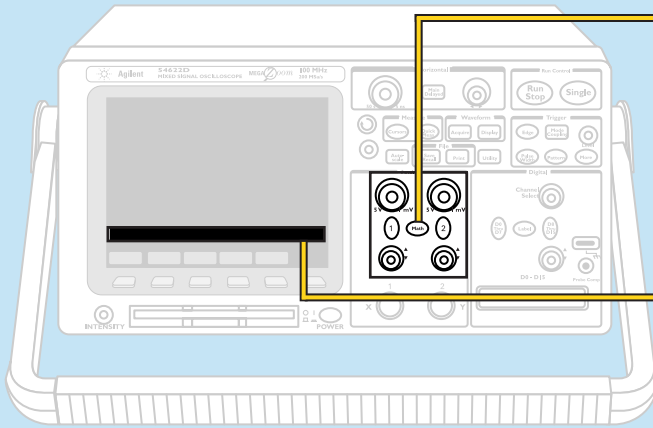
Transfer data to PC with IntuiLink
(free software application) via
Excel or Word.
(www.agilent.com/find/intuilink)

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

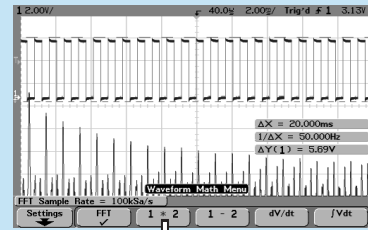
(continued)

Other Functions *(continued)*

Math Functions (*, -, FFT, etc.)

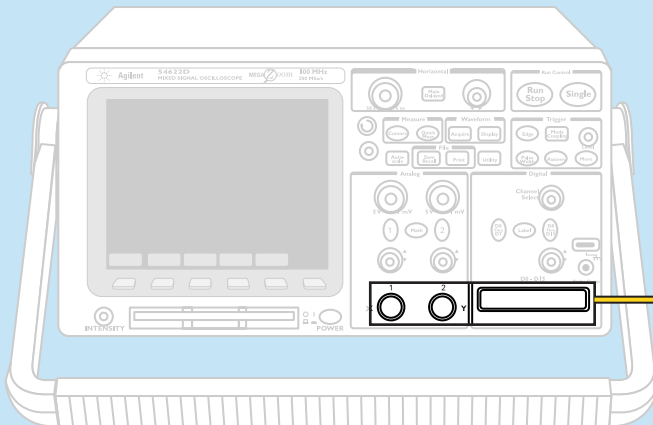


Turn **Math** on (Lighted = on)



Menu Setup

Channel Configurations

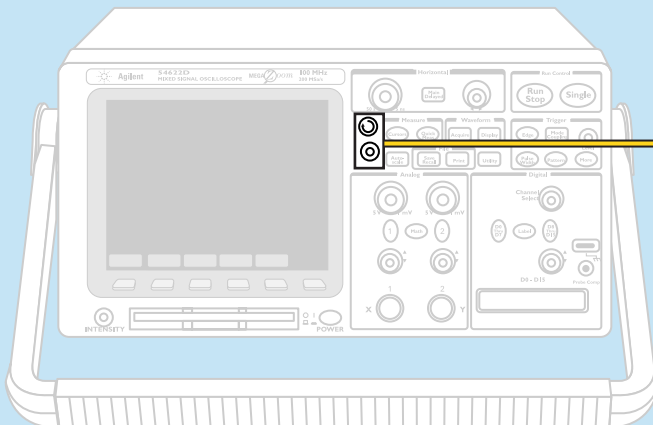


2 Analog channels (54621A or 54622A)

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

Persistence, clear display, vectors on/off

Sharing Agilent's Resources with Engineering Educators

www.EducatorsCorner.com



Agilent Technologies