

OSCILLOSCOPES

Digitizing Oscilloscopes

Overview

Compare the Features

Whether you need pinpoint vertical resolution or lightning-fast signal capture, Hewlett-Packard's digitizing oscilloscopes provide a powerful set of features and capabilities in an easy-to-use package.

Here's a look at how the various models compare in terms of features, capabilities, and price.

Specifications for the HP Family of Digitizing Oscilloscopes

	HP 54600B HP 54601B HP 54602B HP 54603B	HP 54610B	HP 54501A	HP 54503A	HP 54504A	HP 54520A HP 54540A	HP 54522A HP 54542A
Bandwidth: Repetitive	HP 54603B: 60 MHz HP 54600B/601B: 100 MHz HP 54602B: 150 MHz 2 MHz	500 MHz	100 MHz	500 MHz	400 MHz	500 MHz	500 MHz
Real time		2 MHz	1 MHz	2 MHz	50 MHz	125 MHz/ 125 MHz: 4 ch, 250 MHz: 2 ch	500 MHz
Time interval accuracy: Repetitive		± 100 ps	± 1 ns	± 100 ps	± 250 ps	± 100 ps ± 400 ps: 4 ch	± 100 ps
Real time		N/A	N/A	N/A	± 1 ns	± 200 ps: 2 ch	± 100 ps
Channels	HP 54600B/03B: 2 HP 54601B/02B: 4 (2 + 2)	2	4 (2 + 2)	4 (2 digitizers)	2	2/4	2/4
Digitizing rate		20 MSa/s	10 MSa/s	20 MSa/s	200 MSa/s	500 MSa/s	2 GSa/s
Memory/ channel		4K samples	1K samples	1K samples	2K samples	32K samples	
Vertical resolution		8 bits	8 bits, 10 bits with averaging			8 bits, 10 bits with averaging	
Input voltage ranges (1:1 probe)		2 mV/div to 5 V/div	5 mV/div to 5 V/div	1 mV/div to 5 V/div		1 mV/div to 5 V/div	
Input Z, coupling		1 MΩ, ac, dc, ground HP 54610B adds 50 Ω	1 MΩ, ac, dc	1 MΩ, 50 Ω; ac, dc		1 MΩ, 50 Ω; ac, dc	
Pulse parameter measurements		Yes	Yes			Yes	
Waveform math		1 + 2, 1 - 2, XYZ, invert optional FFT, differentiate, integrate, and multiply	A + B, A - B, A × B, A vs. B, invert, magnify (only)			A + B, A - B, A × B, A vs. B, integrate, differentiate, invert, magnify (only), FFT	
Other analysis functions		Autostore, peak detect, averaging	Variable and infinite persistence, averaging, envelope, connect-the-dots			Peak detect, variable and infinite persistence, averaging, envelope, standard deviation, connect-the-dots	
Waveform storage		2 pixel (additional memories with optional module)	2 pixel, 4 waveform			2 pixel, 4 waveform, 650 multiple, 800,000 bytes segmentable memory for sequential single-shot	
Trigger enhancements		Edge, autolevel, HF/LF reject, noise reject, TV field and line; HP 54610B includes trigger view	Edge, pattern, state, glitch, delay by event or time, time-qualified pattern, TV			Edge, pattern, state, glitch, delay by event or time, time qualified pattern TV (including user definable)	
Instant hard- copy and disk support		HP printers and plotters, Epson-compatible printers, Centronics printers	HP graphics printers	HP graphics printers and plotters		HP graphic printers and plotters	
Other		Fast update rate, delayed sweep, roll mode, HP-IB and RS-232 I/O options, optional test and benchtop automation modules	Measurement statistics and limit test, dual time-base windowing, scroll mode			DOS compatible, 1.44 MB flexible disk drive, measurement statistics, limit test, waveform compare, mask generation, sequential single-shot acquisition with time tag, post acquisition pan and zoom. User control of memory depth and sample rate	
For more information, order publication number		HP 5962-9359EUS and 5952-9838E for specs.	HP 5954- 2679D	HP 5959- 8795D	HP 5091-0353 EUS	HP 5091-6368 EUS HP 5091-6803 E	