

OSCILLOSCOPES & WAVEFORM ANALYZERS

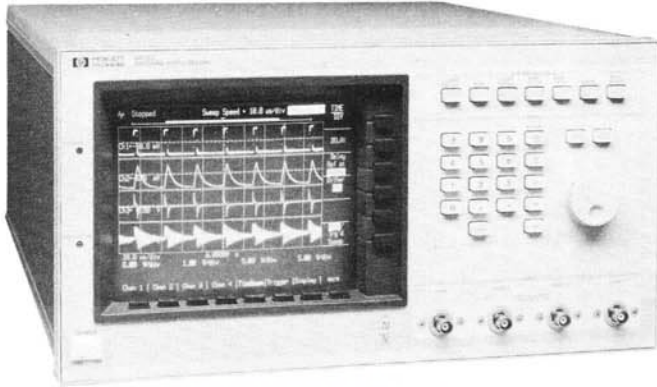
Digitizing Oscilloscopes

HP 54112D

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- 64k memory depth per channel
- Quad 400 megasamples per second digitizers
- Four channels.

- 100 MHz bandwidth (single-shot and repetitive)
- HP PaintJet printer color output



HP 54112D



HP 54112D Digitizing Oscilloscope

Four channels, deep memory

The HP 54112D is a 400 megasample-per-second (MSa/s), four-channel digitizing oscilloscope with 64k samples of memory depth per channel. The HP 54112D retains all the key features and the user friendliness of the HP 54100 series scopes. These features include automatic measurements, autoscaling, cursors, functional color display, scroll, zoom, and memory bar.

Key Contributions

- 400 megasamples per second digitizing rate
- 100 MHz repetitive and single-shot bandwidth
- 64k memory per channel
- Four channels of simultaneous capture at the full digitizing rate
- 160 μ s of pre- or post-trigger information minimum
- Automatic measurements
- Fully programmable
- Advanced logic triggering capabilities
- Instant hardcopy output

Automatic Test Environment

The English-like commands and the logical structure of the HPOL (the Hewlett-Packard Oscilloscope Language) make it easier to program the 54100 series oscilloscopes in computer aided test. The learning curve is greatly reduced.

The four channels, built-in automatic measurements, and very deep memory of the 54112D improve the throughput of ATE systems. Data that used to take many acquisition passes can now be captured in one pass.

General-Purpose Inputs

The fully programmable input impedance and coupling of the four channels allow the user to choose 1 megohm impedance ac or dc coupled or 50 ohm dc-coupled on each channel.

HP 54112D Specifications

Vertical (voltage)	Single-shot	Repetitive
Number of channels	4	4
Bandwidth		
dc-coupled	dc to 100 MHz	dc to 100 MHz
ac-coupled	10 Hz to 100 MHz	10 Hz to 100 MHz
Transition time (10% to 90%)	3.5 ns (nominal)	3.5 ns (nominal)
Deflection factor (full scale=8 div)	5 mV/div to 5 V/div continuous	
Vertical resolution	6 bits	6 bits, 8 bits with averaging
Vertical gain accuracy	$\pm 2\%$ of full-scale ¹	
dc offset accuracy	$\pm 1.5\%$ of setting	
Measurement accuracy		
single data point between data points on same waveform	\pm gain accuracy \pm offset accuracy \pm resolution \pm gain acc $\pm 2 \times$ resolution	
dc offset range	± 1 V (5 mV/div to 49 mV/div) ± 10 V (50 mV/div to 0.49 V/div) ± 40 V (0.5 V/div to 5 V/div)	
Input coupling	ac/dc/dc-50 Ω	
Input impedance	1 M Ω at 6.5 pF or 50 Ω	
Maximum input voltage	1 M Ω : ± 40 V [dc & peak ac] 50 Ω : 5 Vrms	

¹ When calibrated to probe tip using front panel calibration source. Applies to major ranges (5 mV, 10 mV, 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, 1 V and 2 V). All continuous settings between these ranges are $\pm 3\%$ of full scale.

Horizontal (time)

Digitizing rate	400 MSa/s to 50 Sa/s
Memory depth per channel	either 64k or 8k, single-shot only
Delay range (pre-trigger)	-160 μ s at 125 ns/div and less, increasing to -1200 s at 1 s/div
Delay range (post-trigger)	0.16 s at 0.5 μ s/div and less, increasing to 10,000 s at 1 s/div
Time measurement accuracy	
single channel	± 500 ps $\pm 0.002\%$ of reading
dual channel	± 1 ns $\pm 0.002\%$ of reading

Triggering	Internal	External
Sources	channels 1,2,3,4	input rear-panel
Sensitivity	0.1 x full-scale	10 mV (1:1)
Trigger level range	$\pm 3 \times$ full-scale	± 5 V (1:1)
Input resistance	not applicable	200 k Ω
Maximum input voltage	not applicable	± 40 V (dc + peak ac)
Input operating range	not applicable	± 5 V (1:1) [dc + peak ac]

Ordering Information

HP 54112D 4 channel 64k memory/channel digitizing oscilloscope.

Opt W30 Extended repair service. See page 723.

Price

\$22,900

+ \$575