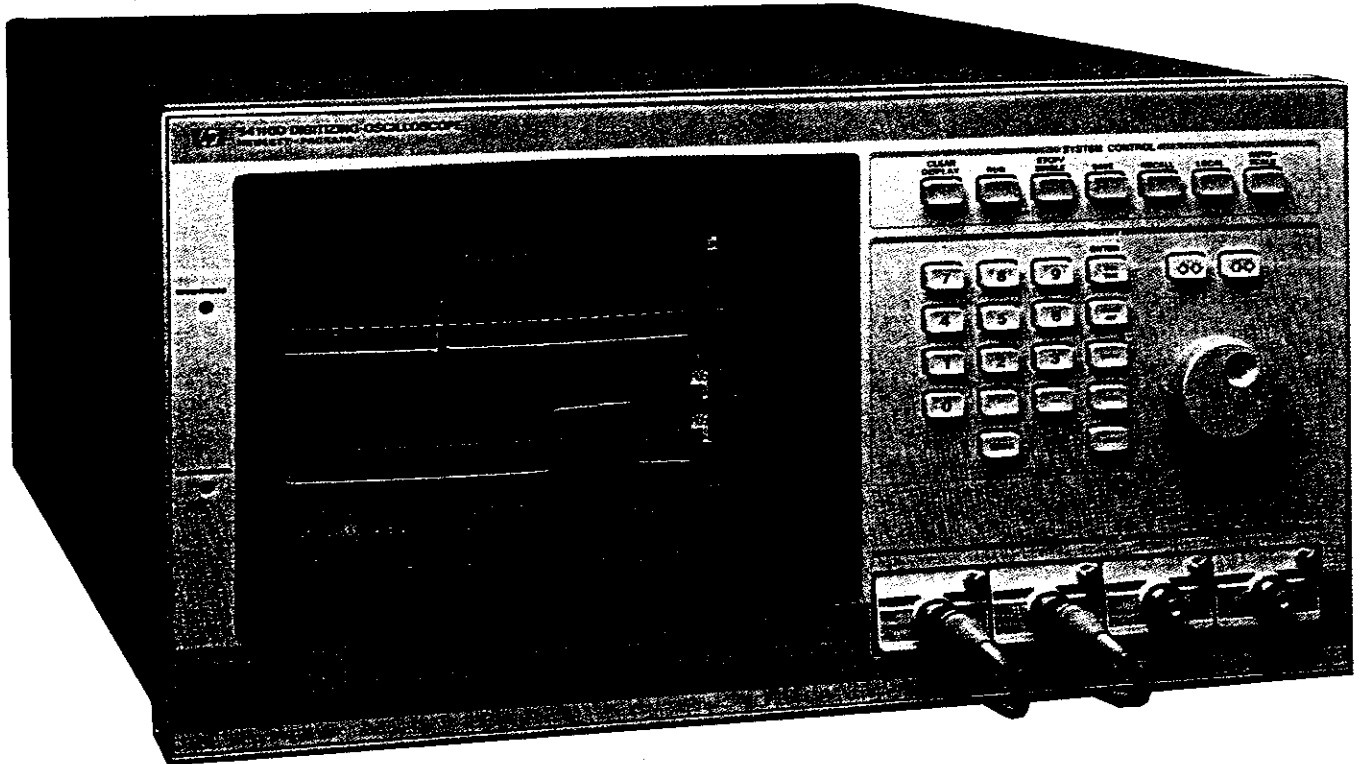


OSCILLOSCOPES

Digitizing Oscilloscopes

HP 54100A/D, 54110D

- 1-GHz bandwidth
- Auto pulse parameter and time interval measurements
- Digital storage
- Available with color or monochrome display
- Pre-trigger viewing
- Logic triggering capability



HP 54110D



HP 54100A/D and HP 54110D Digitizing Oscilloscopes

As the speeds of analog and digital logic continue to increase, board and system designers need to pay even closer attention to high-frequency and transmission-line characteristics of their circuits. Design requirements are rigorous. Subnanosecond technology creates narrow and elusive pulses.

When a monochrome display is preferred, for example in a totally automatic test application, choose the HP 54100A or HP 54100D oscilloscope. These units require less rack height (7 in) than the HP 54110D (8.75 in) and have all of the same measurement features and specifications. The HP 54100A has one external trigger input, while the HP 54100D and HP 54110D have two.

High Bandwidth

The HP 54100 and 54110 unite a powerful 1-GHz bandwidth with a random repetitive sampling technique for viewing rarely occurring narrow waveforms. These oscilloscopes have 0.002 percent time base accuracy and 10 ps resolution for confident measurements of critical timing parameters in high-speed circuitry.

With random repetitive sampling, you can capture waveforms that occur thousands of screen diameters before the trigger event. This gives an effective memory depth of millions of bytes for finding causes of failures that occur long before the trigger.

High Resolution

Analyze perturbations within a waveform with high resolution. With vertical magnification and waveform averaging, small signal details can be viewed and measured with 10 bits of effective resolution.

Flexible Analysis

Only the HP 54100A/D and HP 54110D allow the display of either vertical channel versus the other. The 1-GHz bandwidth makes this feature valuable in measuring high-speed I-V device characteristics and transfer functions high-speed converters.

A Choice of Input Pods and Probes

The HP 54100 and 54110 inputs are configured with removable pods that can be chosen according to the application. Pods can be changed quickly and easily, and they occupy a minimum of storage space.

- 50- Ω inputs and probes for a wide variety of environments, without the expense of amplifier plug-ins.
- 1-GHz miniature active probes for densely packed, high-speed logic circuits.
- 1-M Ω probes for circuits sensitive to resistive loading.
- 50- Ω BNC inputs for measurements where terminated lines are important.
- 100:1 probes for extended dynamic range.

For more information on the HP 54100/110 probing system, please refer to page 164.

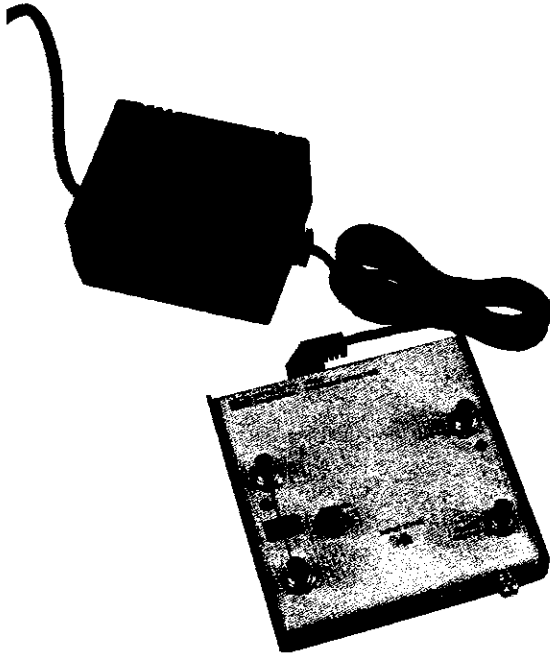
Ordering Information

	Price
HP 54100A 1-GHz Digitizing Oscilloscope.	\$16,900
Opt W30 Extended repair service. See page 671.	+ \$325
HP 54100D 1-GHz Digitizing Oscilloscope.	\$21,900
Opt W30 Extended repair service. See page 671.	+ \$440
HP 54110D 1-GHz Digitizing Oscilloscope	\$23,900
with Color Display	
Opt W30 Extended repair service. See page 671.	+ \$550
Input Pods and Probes	
HP 54001A 1-GHz Miniature Active Probe Pod	\$785
HP 54002A 50- Ω BNC Input Pod	\$140
HP 54003A 1 M Ω 10:1 Probe Pod	\$680

OSCILLOSCOPES

Oscilloscope Probes and Accessories (cont'd)

- Clamped or unclamped video output
- Trigger output for line and frame
- For most standard broadcast composite video systems
- Compatible with most analog and digitizing scopes



HP 1133A TV/Video Sync Pod

The HP 1133A TV/video sync pod is an accessory that provides users with TV sync triggering for most analog or digitizing oscilloscopes. It features clamped or unclamped video outputs that can be viewed on the oscilloscope's vertical channels and trigger outputs that can synchronize the oscilloscope to video frame and individual lines.

The pod itself is packaged in a case approximately 14×14×4.5 cm (5.5×5.5×1.75 in) and is powered by a separate ac power module. The pod features a loop-through input (two-female BNC) that can be driven from a 75 ohm source, or, for probing high impedance circuits, from a 1 to 10 megohm probe. The loop-through feature allows a 75 ohm signal to be looped through the TV/video pod, then connected to a video monitor or other 75 ohm device. Clamped or unclamped video outputs are designed to drive a high impedance probe (1 to 10 MΩ) connected to the oscilloscope input.

The HP 1133A is compatible with broadcast standards M, N, C, B, G, H, I, D, K, KI, and L systems.

Characteristics

Video input: ac coupled with an RC of 1 MΩ shunted by approximately 10 pF.

Bandwidth: Approximately 10 MHz.

Maximum input voltage: 40 V (dc plus peak ac).

Frame output is phase locked to the leading edge of the third field synchronizing pulse on field one, to the leading edge of the second pulse on field two. Frame output goes high on field one, and low on field two.

There is a switch for positive or negative sync pulse polarity.

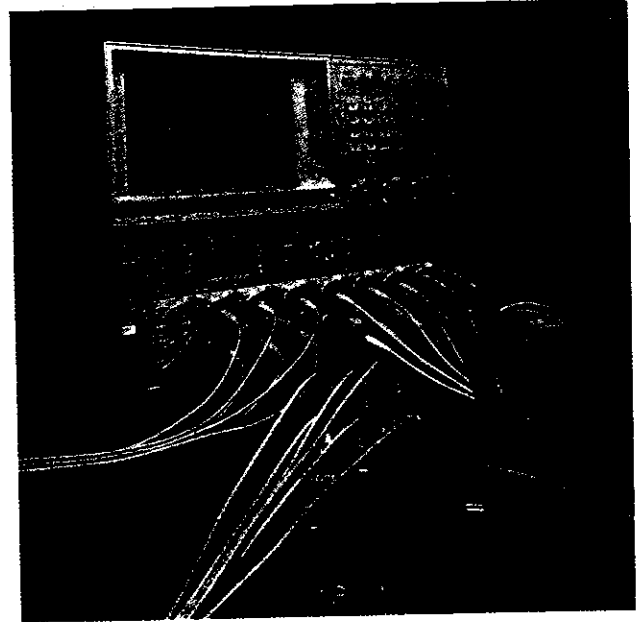
A gain control adjusts for signal amplitude at BNC input.

Gain from input BNC to unclamped output is approximately 2.5 to 50.

Ordering Information

Note: The 1133A must be ordered with a power supply option.

HP 1133A TV/Video Sync Pod	\$285
Opt ABA Power Supply for U.S.A., 120 V, nema 515P plug	\$0
Opt ABB Power Supply for Europe, 220 V CEE7-VII plug	\$0
Opt ABG Power Supply for Australia, China	\$0
Opt ABJ Power Supply for Japan, 100 V nema 515P plug	\$0
Opt ABU Power Supply for United Kingdom, 240 V BS1363 plug	\$0



HP 54300A Probe Multiplexer

Multi-Input Tool for 50 Ω Instrumentation

The HP 54300A is a programmable, dual 8:1 probe multiplexer designed to expand the input capability of instrumentation with 50 Ω inputs. The unique strength of this multiplexer is its configurability. The user may select from three different input pods: two high-frequency, high-impedance probes, or a 50 Ω BNC input for terminated line applications.

The HP 54300A features full HP-IB programmability as well as simple front-panel control. It has internal nonvolatile memory for storing lists of switching steps. Switch lists can be advanced step-by-step from a front-panel button, over the HP-IB (i.e., IEEE-488) or, for data logging applications, through a TTL pulse entered at the rear panel.

HP 54001A 1 GHz Active Mini-Probe Pod

This pod, with its built-in probe, offers 1 GHz bandwidth with 10 kΩ/2 pF input loading. It uses HP's mini-tip probe for easy access in compact circuits, and features both high bandwidth and high impedance at the probe tip.

HP 54002A 50 Ω BNC Pod

This pod should be used with terminated 50 Ω systems. Output from the multiplexer using this pod is <2 dB down at >1 GHz. The 54002A is also useful with divider probes such as the HP 10020A.

HP 54003A 300 MHz 1 MΩ Probe Pod

This pod, with a 10:1 detachable mini-tip probe, has 1 MΩ resistive and 8 pF capacitive loading. It is valuable when resistance is a more significant loading factor than capacitance, such as in operational amplifier measurements. If desired, the probe can be removed from its pod to provide a 1 MΩ approximately 10 pF BNC input.

Ordering Information

HP 54300A Dual 8:1 Probe Multiplexer
Includes one operating and programming manual. Each HP 54300 accepts up to 16 input pods in any combination. Pods must be ordered separately.

Opt 908 Rack Mount Flange Kit	\$0
HP 54001A 1 GHz Miniature Active Probe Pod	\$795
HP 54002A 50 Ω BNC Input Pod	\$145
HP 54003A 1 MΩ 10:1 Probe Pod	\$690

Price
\$8,500

+ \$35
\$795
\$145
\$690