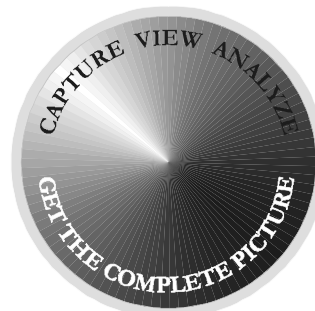




➤ **9370C Series, 9374C Series**

**Signal Capture**



**Acquisition System**

**Bandwidth (- 3 dB):**

- @ 50 Ω: DC to 1 GHz  
10 mV/div and above
- @ 1 MΩ: DC to 500 MHz typical  
at PP005 probe tip
  - 1 GHz FET probe optional

**Number of Channels, Digitizers:**

- **9374C Series:** four
- **9370C Series:** two

**Sensitivity:**

- 50 Ω: 2 mV/div to 1 V/div, fully variable
- 1 MΩ: 2 mV/div to 10 V/div, fully variable

**Scale Factors:** Wide range of probe attenuation factors

9370C/9374C Series						
CHANNELS USED (PEAK DETECT ON/OFF)	MAX SAMPLE RATE	MEMORY PER CHANNEL (POINTS)				ACTIVE CHANNELS
		Model				
		C	CM	CTM	CL	
All (Peak Detect OFF)	500 MS/s	50k	250k	500k	2M	All
All (Peak Detect ON)	100 MS/s data	25k data	100k data	250k data	1M data	All
	400 MS/s peak	25k peak	100k peak	250k peak	1M peak	2.5 ns peak detect
Two Channels Paired (Peak Detect OFF)	1 GS/s	100k	500k	1M	4M	9370C/M/L
						CH 1
FOUR-CHANNEL MODELS ONLY						
Four Channels Combined by PP093 Adapter (Peak Detect OFF)	2 GS/s	250k	1M	2M	8M	One (PP093 input)



**Acquisition Modes**

**Offset Range:**

- 2.00–4.99 mV/div: ±400 mV
- 5–99 mV/div: ±1 V
- 0.1–1 V/div: ±10 V
- 1–10 V/div: ±100 V (1 MΩ Only)

**DC Accuracy:** typically 1%

**Vertical Resolution:** 8 bits

**Bandwidth Limiter:**

- 25 MHz
- 200 MHz

**Input Coupling:** AC, DC, GND

**Input Impedance:** 50 Ω ±1 %, or 1 MΩ//15 pF typical, system capacitance at tip of PP005 probe

**Max. Input:**

- 50 Ω: ±5 V DC (500 mW) or 5 V rms
- 1 MΩ: 400 V max (DC + peak AC ≤10 kHz)

**Random Interleaved Sampling (RIS):** For repetitive signals from 1 ns/div to 5 μs/div

**Single shot:** For transient and repetitive signals from 10 ns/div (all channels active)

**Peak Detect:** Captures and displays 2.5 ns glitches and other high-speed events

**Sequence:** Stores multiple events in segmented acquisition memories

**Deadtime Between Segments:** =80 μs

**Number of Segments Available:**

Model		Segments
9370C	9374C	2–200
9370CM	9374CM	2–500
9370CL	9374CL 9374CTM	2–2000

**Timebase System**

**Timebases:** Main and up to four Zoom Traces

**Time/Div Range:** 1 ns/div to 1000 s/div

**Clock Accuracy:** ≤10 ppm

**Interpolator resolution:** 10 ps



## Triggering System



## SMART Trigger Types

### Roll Mode:

- Ranges 500 ms–1000 s/div
- For >50 000 points: 10–1000 s/div

### External Clock:

- =100 MHz on EXT input with ECL, TTL or zero crossing levels
- Optional 50–500 MHz rear panel fixed frequency clock input

**Modes:** Normal, Auto, Single, and Stop

**Sources:** CH1, CH2 (plus CH3 and CH4 on four-channel models), Line, Ext, Ext/10; Slope, Level and Coupling able to be set independently

**Slope:** Positive, Negative

**Coupling:** AC, DC, HF, LFREJ, HFREJ

**Pre-trigger Recording:** 0–100 % of full scale adjustable in 1 % increments

**Post-trigger Delay:** 0–10 000 divisions adjustable in 0.1 div increments

**Holdoff by Time:** 10 ns–20 s

**Holdoff by Events:** 0–99 999 999 events

**Internal Trigger Range:** ±5 div

**EXT Trigger Max Input:**

- 50 Ω ±1 %: ±5 V DC (500 mW) or 5 V rms
- 1 MΩ/15 pF: 400 V max. (DC + peak AC ≤10 kHz)

**EXT Trigger Range:** ±0.5 V (±5 V with Ext/10)

**Trigger Timing:** Trigger Date and Time listed in “Memory Status” menu

**Signal or Pattern Width:** Triggers on width between two limits of between 2.5 ns and 20 s

**Signal or Pattern Interval:** Triggers on interval between two limits of between 10 ns and 20 s

**Dropout:** Triggers if the input signal drops out for a time-out longer than 25 ns–20 s

**State/Edge Qualified:** Triggers on any source only if a given state or transition – number of events, time interval – on another source

**TV:** Selection of both line (up to 1500) and field number (up to 8) for PAL, SECAM, NTSC or nonstandard video

**Exclusion Trigger:** Triggers only on shorter-than-normal (defined) aberrations

### Pattern:

- **Two-channel models:** Triggers on the logic combination of the three inputs CH 1, CH 2 and EXT Trigger, where each source can be defined as High, Low or Don't Know and the trigger as the pattern's beginning or end
- **Four-channel models:** Triggers on the logic combination of the five inputs CH 1, CH 2, CH 3, CH 4 and EXT Trigger, where each source can be defined as High, Low or Don't Know and the trigger as the pattern's beginning or end

### Autosetup



### Probes

**AUTOSETUP button:** Sets timebase, trigger and sensitivity to display wide range of repetitive signals – amplitude 2 mV–40 V; frequency above 50 Hz; duty cycle greater than 0.1%

**Autosetup Time:** Around two seconds

**Vertical Find:** Automatically sets sensitivity and offset

**Probe Model:** One PP005 probe supplied per channel (10:1, 10 M $\Omega$ //11 pF, 500 V max input); FET probes, purchased separately, fully compatible with entire scope series

**Probe calibration:** Max 1 V into 1 M $\Omega$ , 500 mV into 50  $\Omega$ , frequency and amplitude programmable, pulse or square wave able to be selected, rise and fall time 1 ns typical (calibrator also offers trigger or Pass/Fail output)

## Signal Viewing

### Display

**CRT:** 12.5 x 17.5 cm (9" diagonal)  
raster

**Resolution:** 810 x 696 points

**Grids:** 1, 2, or 4 grids.

**Formats:** YT, XY and both together

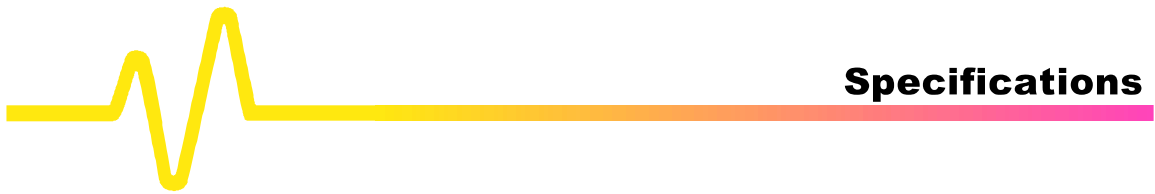
**Graticules:** Internally generated;  
separate intensity control for grids and waveforms

**Waveform Style:** Vectors, which can be switched on and off, connect individual sample points highlighted as dots

**Modes:** Normal, XY, Variable or Infinite Persistence

**Real-time Clock:** Date, hours, minutes, seconds





## Specifications

**Vertical Zoom:** Up to 5x Vertical Expansion (50x with averaging, up to 40  $\mu\text{V}$  sensitivity, with optional WP01 Advanced Waveform Math Package)

**Horizontal Zoom:** Waveforms can be expanded to give 2–2.5 points/div.

Model		Zoom Factor
9370C	9374C	2000x
9370CM	9374CM	10 000x
9374CTM		50 000x
9370CL	9374CL	100 000x

## Signal Analysis

### Waveform Processing

**Processing functions:** Add, Subtract, Multiply, Divide, Negate, Identity, Summation Averaging, and Sine  $x/x$ ; four functions performable at one time

**Average:** Summed averaging of up to 1000 waveforms in the basic instrument; up to  $10^6$  averages possible with optional WP01 Advanced Waveform Math Package

**Extrema:** Roof, Floor or Envelope values of from 1 to  $10^6$  waveforms – with WP01 Option

**ERES:** Low-Pass digital filter provides up to 11 bits vertical resolution; sampled data always available, even when trace turned off; any of above modes usable without destroying data – with WP01 Option

**FFT:** Spectral Analysis with five windowing functions and FFT averaging, with optional WP02 Spectrum Analysis Package

**Histogramming and Trending:** With optional WP03 Parameter Analysis Package, in-depth diagnostics on waveform parameters

**Waveform Memory:** Up to four 16-bit Memories (M1, M2, M3, M4).

**Processing Memory:** Up to four 16-bit Waveform Processing Memories (A, B, C, D).

**Setup Memory:** Four non-volatile memories; optional cards or disks for high-capacity waveform and setup storage



### Internal Memory

### Cursor Measurements

**Relative Time:** Arrow cursors measure time and voltage differences relative to each other

**Relative Voltage:** Horizontal bars measure voltage differences up to  $\pm 0.2\%$  full-scale in single-grid mode

**Absolute Time:** Cross-hair marker measures time relative to trigger and voltage with respect to ground

**Absolute Voltage:** Reference bar measures voltage with respect to ground

### Interfacing

**Remote Control:** By GPIB and RS-232-C for all front-panel controls, internal functions

**RS-232-C Port:** Asynchronous up to 115.2 Kb/s for computer or terminal control, or printer or plotter connection

**GPIB Port:** (IEEE-488.1) Configurable as talker/listener for computer control and fast data transfer; command language compliant with IEEE-488.2

**Centronics Port:** Hardcopy interface

**PC Card (PCMCIA II/III Ports):** Optional for memory cards, flash cards and removable hard disks

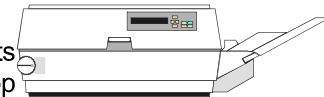
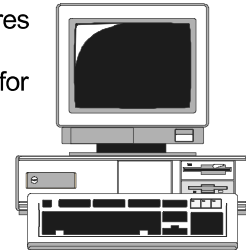
**Floppy Disk:** High density 3.5-inch floppy disk drive (DOS format)

**Hardcopy:** TIFF and BMP formats available for import to Desktop

Publishing programs; printers and plotters: HP DeskJet, HP ThinkJet, QuietJet, LaserJet, PaintJet, and EPSON printers; HP 7400 and 7500 series, or HPGL compatible plotters

➤ Optional internal, high-resolution graphics printer

**Output Formats:** Binary, or ASCII waveform output compatible with spreadsheets, MATLAB, Mathcad



### General

**Auto-calibration:** Ensures specified DC and timing accuracy

**Temperature:** 5 to 40 °C (41 to 104 °F) rated

**Humidity:** 80 % for temperatures up to 31 °C, decreasing linearly to 50 % relative humidity at 40 °C

**Altitude:** Up to 2000 m (6560 ft) operating, 40 °C max

**Power:** 90–250 V AC, 45–66 Hz, 230 W

**Battery Backup:** Front-panel settings maintained for two years

**Dimensions:** (HWD) 8.5 x 14.5 x 16.25 inches / 264 x 397 x 453 mm

**Weight:** 13 kg (28.6 lb.) net, 18.5 kg (40.7 lb.) shipping

**Warranty:** Three years

### Conformity

**EMC:** EN 50082-1 conformity



## Specifications

**Safety:** Designed to comply with EN 61010-1; UL and cUL listed, File E 170588: Protection Category I, Installation (Over-Voltage) Category II, Pollution Degree 2  
*See Declaration of Conformity for further details.*