TEKTRONIX

HFS9009

The Tektronix HFS9009 is a high-performance modular stimulus system and pulse generator designed for deep sub-nanosecond timing analysis, characterization of high-speed digital systems, and semiconductor testing. Offering up to 36 channels across 10 mainframe slots, 1 ps resolution, and frequencies up to 630 MHz, it provides highly precise timing control.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), RS-232-C
Display	7-inch amber Electroluminescent (EL) display

Physical

Power Supply	90 to 250 VAC, 48 to 63 Hz, 600 W max
Operating Temperature	0 to +50 °C (without floppy drive operation) °C
Dimensions (W×H×D)	426 mm × 222 mm × 580 mm mm
Weight	18.2 kg (excluding card modules) kg

System Architecture

Mainframe Slots	10 slots (1 for System Controller, 9 for instrument modules)
Maximum Number of Channels	Up to 36 channels (using four-channel modules in 9 slots)

Timing and Delay Characteristics

Internal Rate Generator Frequency Range	50 kHz to 630 MHz
Pulse Delay Resolution	1 ps
Pulse Width Resolution	1 ps

Pulse Output Performance (HFS9DG1 / HFS9PD1)

Output Impedance	50 Ω
Maximum Frequency	630 MHz
Maximum Data Rate	630 Mb/s
Number of Channels per Card	4
Output High/Low Window	-2.0 V to +5.5 V
Amplitude Range (into 50 Ω)	100 mV to 5.5 V
Rise/Fall Time (10% to 90%)	< 250 ps
Output Connector Type	SMA
Minimum Pulse Width	800 ps

Pulse Output Performance (HFS9DG2 / HFS9PD2)

Variable Transition Time Range	1 ns to 10 µs

Trigger and Sync Options

Trigger Modes	Internal, External, Single, Gated, Burst
External Trigger Input Impedance	50 Ω
External Trigger Threshold Range	-2.0 V to +5.5 V

External Reference Clock Input / Output

Reference Clock Input Frequency	10 MHz
Reference Clock Output Frequency	10 MHz

Control and Connectivity

Command Support	SCPI compatible
Storage Capacity	Internal 3.5-inch floppy drive (MS-DOS format compatible) and non-volatile RAM

Environmental and Compliance

Cooling Method	Forced-air internal fans

Timebase & Jitter

Deskew Range	±2.0 ns
Deskew Resolution	1 ps
Standard Timebase Accuracy	±100 ppm
High-Stability Timebase Accuracy (Option 1R)	±1 ppm
Random Jitter (Channel-to-Channel)	< 10 ps RMS (typical)

Supported Modules

Compatible Card Modules	HFS9PD1, HFS9PD2, HFS9DG1, HFS9DG2

Environmental

Operating Humidity Range	20% to 80% RH (non-condensing)
Operating Altitude	Up to 4,500 m (15,000 ft)
Storage Altitude	Up to 15,000 m (50,000 ft)
Storage Temperature Range	-40 °C to +71 °C

Internal Rate Generator

Internal Rate Generator Resolution	100 Hz (50 kHz to 9.9999 MHz), 1 kHz (10 MHz to 99.999 MHz), 10 kHz (100 MHz to 630 MHz)

External Clock Input

External Clock Input Frequency Range	10 MHz to 630 MHz
External Clock Input Amplitude	100 mV p-p to 2.0 V p-p (into 50 Ω)
External Clock Input Impedance	50 Ω (AC coupled)

Phase Control

Phase Range	-360° to +360°
Phase Resolution	0.1°

Triggering & Synchronization

Sync Output Level	> 1 V into 50 Ω
Trigger Output Level	> 1 V into 50 Ω
External Trigger to Output Jitter	< 50 ps RMS (typical)

TECHNOLOGY

Modular Pulse and Data Generator

APPLICATIONS

High-speed digital design verification, semiconductor test, and margin testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.