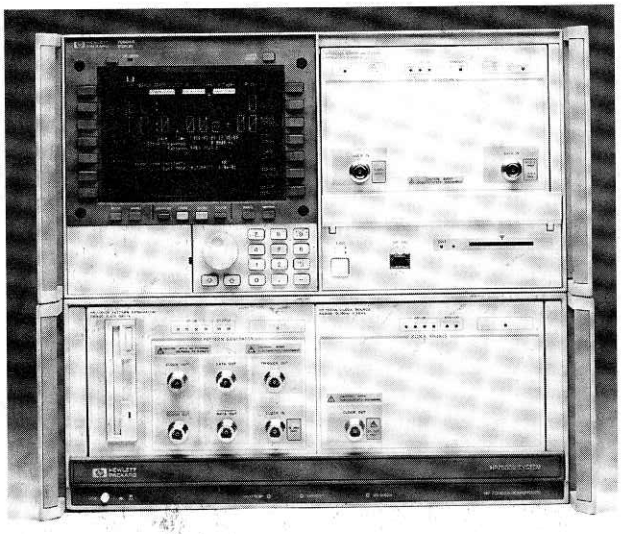
HP 71603B Error Performance Analyzer, HP 71604B Pattern Generator

- High performance 100 Mbit/s to 3 Gbit/s pattern generation and bit error ratio (BER) measurement
- 1 bit to 4 Mbit user programmable test patterns
- Use the HP 71603B with a HP 71501C, or HP 83480A to generate/measure jitter, or to view pulse shapes



The HP 71603B 0.1 Gb/s to 3 Gb/s (1.5 Gbits optional) error performance analyzer consists of synthesized clock source, pattern generator and error detector modules, configured in the HP 70000 modular measurement system (MMS). The powerful features include:

- low-phase-noise clock source
- user-programmable patterns up to 4 Mbits with screen-based editor
- capability to trigger anywhere in the pattern
- variable clock/data delay
- true complementary outputs
- automatic setting of data threshold and decision point

With high-performance 100 Mb/s to 3 Gb/s (1.5 Gbits optional) pattern generation and bit error ratio (BER) measurement, use the HP 71603B to thoroughly verify the performance and quality of high-speed digital components and systems hardware.

When looking at pulse shapes, eye diagrams and waveform distortion, use the HP 71604B pattern generator and an HP 83480A digital communications analyzer. Or for jitter generation and analysis, use it with the HP 71501C jitter analysis system.

The HP 71603B and HP 71604B offer standard PRBS test patterns up to 2^{31}-1 bits. User-programmable patterns are created using the screen-based editor to copy, cut and paste at the touch of a key. Or use an MS-DOS®[1]-compatible personal computer off-line to create, edit and store test patterns. Then simply transfer the patterns to the analyzer using MS-DOS format disks.

Specifications

Specifications describe the instrument's warranted performance. *Supplementary performance characteristics provide information about non-warranted instrument performance in the form of nominal values, and are printed in italic typeface.*

Bit Rate	100 Mb/s to 3 Gb/s (1.5 Gbits optional)
Rise Time (20% to 80%)	less than 90 ps
Patterns	2^7-1, 2^{10}-1, 2^{15}-1, 2^{23}-1, 2^{31}-1; zero substitution; variable mark density; variable length user pattern from 1 bit to 8 Mbits
Data & Data Outputs	ECL or variable 0.25 V to 2 V peak-to-peak amplitude into 50 ohms
Clock/Data Delay	1 ns; resolution 1 ps
Data Input	0.5 V to 1 V peak-to-peak amplitude
Decision Threshold Range	+1 V to –3 V; resolution 1 mV
Termination Voltage	selectable 0 V or –2 V nominal
Errors Detected	errored ones and zeros and all logic errors
Measurements	error count, ratio; errored seconds, deciseconds, centiseconds, milliseconds; and G.821 analysis

Ordering Information

HP 71603B	100 Mb/s to 3 Gb/s Error Performance Analyzer
HP 71604B	100 Mb/s to 3 Gb/s Pattern Generator
Option 807	Provides 100 Mbit/s to 1.5 Gbit/s economy versions
Option H08	Provides a phase modulation input for use with the HP 71501C

Individual modules can be ordered for configuring custom-designed systems:

HP 15680A	RF Accessory Kit
HP 70001A	MMS Mainframe
HP 70004A	MMS Color Display
HP 70311A	3 GHz Signal Generator Module
HP 70841B	100 Mb/s to 3 Gb/s Pattern Generator Module

1. MS-DOS is a U.S. registered trademark of Microsoft Corporation.