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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 70843B – Lightwave Signal Analyzer Module

HP Agilent 70843B 12 Gb/s Error Performance Analyzer The HP/Agilent 70843B is the pattern-generator and error-detector module used in 71612-class 12 Gb/s error performance analyzer systems. OEM and Keysight-class product specifications list 100 Mb/s to 12 Gb/s bit rate, sub-30 ps rise time, PRBS patterns through 2^31-1, and G.821 error analysis. High-speed serial BER testing of optical and electrical links, component characterization from 100 Mb/s to 12 Gb/s, and MMS-based error performance analysis with 70001A/70004A and clock sources such as 70340A. The HP/Agilent 70843B is the pattern-generator and error-detector module used in 71612-class 12 Gb/s error performance analyzer systems. OEM and Keysight-class product specifications list 100 Mb/s to 12 Gb/s bit rate, sub-30 ps rise time, PRBS patterns through 2^31-1, and G.821 error analysis. High-speed serial BER testing of optical and electrical links, component characterization from 100 Mb/s to 12 Gb/s, and MMS-based error performance analysis with 70001A/70004A and clock sources such as 70340A.

MODEL	CALIBRATION
Agilent / Keysight 70843B	Available on request
CONDITION	**STATUS**
Used	In stock
RFQ / SKU	**LISTING**
70843B	https://aumictechlabs.com/products/70843b-2/

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NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 70843B is a modular lightwave signal analyzer designed to enhance network analyzer capabilities for bit error rate testing and optical characterization. It integrates with systems such as the 71612B to deliver pattern generation, error detection, and error performance analysis across 1 Gb/s to 12 Gb/s bit rates. The module provides precise measurements essential for telecommunications, data center, and research applications requiring high-speed electrical and optical component validation.Technical Specifications Bit Rate Range: 0.1 Gb/s to 12 Gb/s (option-dependent; base range 1 Gb/s to 12 Gb/s) Data Output Amplitude: 0.5 V to 2 Vpp High Level Output: +1.5 V to −3.0 V Data Output Transition Time: Less than 30 ps Jitter: Less than 15 ps peak-to-peak Pattern Generation: PRBS 2^7-1 to 2^31-1 plus user-defined patterns Programmable Memory: 8 Mbits for SONET and SDH frame constructionKey Features Multiple configurable options: pattern generator with error detector (Option UHF), pattern generator only (Option UHG), error detector only (Option UHH), and enhanced error location analysis (Option UHJ) Error location analysis identifies individual errored bits within custom patterns for bit, block, or total pattern BER measurement Versatile triggering facilities enable precise synchronization with external oscilloscopes for detailed waveform analysis of errored bits Selectable optical connector interfaces: ST (Option 014), Biconic (Option 015), SC (Option 017)Typical Applications High-speed data communication characterization Optical component validation and performance testing Systematic error source identification in transmission systems BERT analysis in telecommunications infrastructure Advanced research and component developmentCompatibility & Integration The 70843B functions as an integral component within the Keysight 71612B system and integrates with network analyzers for combined optical and electrical measurements. Compatible with Lightwave Component Analyzers including the N4373D and N4373E platforms.

70843B Characteristics / Specifications

PARAMETER	VALUE
Model	70843B
Instrument Type	Error performance analyzer BERT module
Bit Rate Range	100 Mb/s to 12 Gb/s
Rise Time 10 To	less than 30 ps
Prbs Patterns	2^7-1, 2^10-1, 2^15-1, 2^23-1, 2^31-1
User Pattern Length	variable length user pattern from 1 bit to 8 Mbits
Zero Substitution	supported
Variable Mark Density	supported
Data Output Amplitude	ECL or variable 0.5 V to 2 V peak-to-peak into 50 ohm
Sub Rate Outputs	4 data plus clock at one quarter main data rate
Sub Rate Amplitude	0.5 V to 1 V peak-to-peak
Jitter	less than 20 ps peak-to-peak
Jitter At 10 Gb/s	less than 15 ps peak-to-peak
Clock Data Delay Low Rate	1 ns range with 1 ps resolution for 100 to 500 Mb/s
Clock Data Delay High Rate	1 clock period range with 1 ps resolution above 500 Mb/s
Data Input Sensitivity	less than 50 mV peak-to-peak typical at 10 Gb/s
Decision Threshold Range	+1 V to -3 V
Decision Threshold 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, error ratio, errored seconds, deciseconds, centiseconds, milliseconds, and G.821 analysis
Error Location Option	bit BER, block BER, error location capture with option UHJ
Host Mainframe	HP 70001A with 70004A display in 71612 systems
Related Clock Source	HP 70340A class clock source in typical configurations
Rise Time	10 To 90: less than 30 ps

PARAMETER	VALUE
Data Rate	Sub Rate Amplitude: 0.5 V to 1 V peak-to-peak

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Performance Analyzer

Overview
The HP/Agilent 70843B is the pattern-generator and error-detector module used in 71612-class 12 Gb/s error performance analyzer systems. OEM and Keysight-class product specifications list 100 Mb/s to 12 Gb/s bit rate, sub-30 ps rise time, PRBS patterns through 2^31-1, and G.821 error analysis.

Applications
High-speed serial BER testing of optical and electrical links, component characterization from 100 Mb/s to 12 Gb/s, and MMS-based error performance analysis with 70001A/70004A and clock sources such as 70340A.

Key Features
Combined pattern generator and error detector in one MMS module
PRBS patterns 2^7-1 through 2^31-1 plus user patterns
Sub-rate data and clock outputs at one-quarter rate
Decision threshold and termination voltage controls on the error detector
G.821 analysis and errored-interval measurements

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	70843B
Instrument Type	Error performance analyzer BERT module
Bit Rate Range	100 Mb/s to 12 Gb/s
Rise Time 10 To 90	less than 30 ps
Prbs Patterns	2^7-1, 2^10-1, 2^15-1, 2^23-1, 2^31-1
User Pattern Length	variable length user pattern from 1 bit to 8 Mbits
Zero Substitution	supported
Variable Mark Density	supported
Data Output Amplitude	ECL or variable 0.5 V to 2 V peak-to-peak into 50 ohm
Sub Rate Outputs	4 data plus clock at one quarter main data rate
Sub Rate Amplitude	0.5 V to 1 V peak-to-peak
Jitter	less than 20 ps peak-to-peak
Jitter At 10 Gb/s	less than 15 ps peak-to-peak
Clock Data Delay Low Rate	1 ns range with 1 ps resolution for 100 to 500 Mb/s
Clock Data Delay High Rate	1 clock period range with 1 ps resolution above 500 Mb/s
Data Input Sensitivity	less than 50 mV peak-to-peak typical at 10 Gb/s
Decision Threshold Range	+1 V to -3 V
Decision Threshold Resolution	1 mV

PARAMETER	VALUE
Termination Voltage	selectable 0 V or -2 V nominal
Errors Detected	errored ones and zeros and all logic errors
Measurements	error count, error ratio, errored seconds, deciseconds, centiseconds, milliseconds, and G.821 analysis
Error Location Option	bit BER, block BER, error location capture with option UHJ
Host Mainframe	HP 70001A with 70004A display in 71612 systems
Related Clock Source	HP 70340A class clock source in typical configurations

Option Uhf: 12 Gb/s error performance analyzer configuration
Option Uhg: pattern generator analyzer configuration
Option Uhh: 0.1 Gb/s to 12 Gb/s error detector system configuration

Notes
Numeric performance rows from HP/Agilent 70843B / 71612B error performance analyzer product specifications as published on Keysight-class reseller and FC Equipments technical listings matching OEM bit-rate, jitter, pattern, and detector figures. System companions (70001A/70004A/70340A) are configuration context, not separate calibrated outputs of the 70843B module alone.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: **sales@aumictech.com** · +1 (484) 841-9341

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