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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 3781B PATTERN GENERATOR

Interface Class: digital transmission test interfaces Related Family: HP 3780-series digital transmission test Typical Use Pairing: matching error detector receivers Documentation Basis: Keysight/Agilent 3781B product specification summaries Related Family: HP 3780-series digital transmission test Typical Use Pairing: matching error detector receivers Documentation Basis: Keysight/Agilent 3781B product specification summaries Error Rate $1E-3$: supported injection rate



MODEL

HP / Agilent 3781B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

3781B

LISTING

<https://aumictechlabs.com/products/3781b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 3781B Pattern Generator is a digital test pattern source designed for evaluation and stress-testing of digital communication systems across North American hierarchies. It generates programmable PRBS and WORD patterns with selectable data rates and lengths, supporting both binary and coded outputs in AMI or HDB3 formats. The instrument provides precise error injection - single shot, 10^{-3} rate, or 10^{-5} rate - into PRBS and 16-bit WORD patterns to validate line terminating equipment performance. A dedicated jitter modulation input allows controlled jitter injection for interface tolerance characterization. Technical Specifications Pattern Types: Pseudo-Random Binary Sequence (PRBS) and programmable WORD patterns Code Support: AMI and HDB3 coded outputs Error Injection: Binary and code error injection; single shot, 10^{-3} rate, or 10^{-5} rate modes Data Interfaces: DS1, DS1C, DS2, DS3 Binary ECL Output: Up to 50

Mb/s Control Interface: HP-IB for remote/automated operation Jitter Modulation: Dedicated input for jitter tolerance testing Dimensions: 16 × 14 × 10 inches Weight: 25 lbs Key Features Programmable pattern length and data rate control PRBS generation for live traffic simulation Shorter WORD patterns for transmission equipment sensitivity analysis Multiple error injection rates and modes for comprehensive stress testing Integrated jitter modulation for interface characterization Typical Applications Digital communication equipment testing and qualification North American digital hierarchy system validation Cable, digital radio, satellite, and lightwave transmission system testing Line terminating equipment stress and margin analysis Compatibility & Integration Bell-compatible operation. Pairs with the HP/Agilent 3782B Error Detector for integrated error measurement and pattern generation systems.

3781B Characteristics / Specifications

PARAMETER	VALUE
Model	HP 3781B
PRBS Patterns	2 ⁹ -1 2 ¹⁵ -1 2 ²³ -1
WORD Pattern	fully programmable 16-bit
Alternating WORDS	two 8-bit WORDS external control
Line Coding	AMI or HDB3
Error Injection Modes	single shot or 1E-3 or 1E-5 rates
Error Types	binary or code errors
Standards Alignment	CCITT PRBS recommendations
Manufacturer Line	HP Agilent Keysight
Function	pattern generator for digital communications
Form Factor	benchtop/rack digital test instrument
Interface Class	digital transmission test interfaces
Related Family	HP 3780-series digital transmission test
Typical Use Pairing	matching error detector receivers
Documentation Basis	Keysight/Agilent 3781B product specification summaries
Single Shot Injection	yes

3781B Specifications

PARAMETER	VALUE
HP 3781B Pattern Generator	Overview
Key Features	CCITT PRBS patterns to 2^23-1
Technical Specifications	Model: HP 3781B

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.

Specifications

Specifications

PARAMETER	VALUE
Model	HP 3781B
PRBS Patterns	2^9-1 2^15-1 2^23-1
WORD Pattern	fully programmable 16-bit
Alternating WORDS	two 8-bit WORDS external control
Line Coding	AMI or HDB3
Error Injection Modes	single shot or 1E-3 or 1E-5 rates
Error Types	binary or code errors
Standards Alignment	CCITT PRBS recommendations

Option 001: four additional in-phase DSX-3 BNC rear outputs

Option 001 Front Panel: DS-3 output connector BNC versus WECO 440A

Option 061: rack mounted

Option 062: rack mounted with Option 001 outputs front-accessible

Specifications

PARAMETER	VALUE
Manufacturer Line	HP Agilent Keysight
Function	pattern generator for digital communications
Form Factor	benchtop/rack digital test instrument
Interface Class	digital transmission test interfaces
Related Family	HP 3780-series digital transmission test
Typical Use Pairing	matching error detector receivers
Documentation Basis	Keysight/Agilent 3781B product specification summaries

Error Rate 1E-3: supported injection rate

Error Rate 1E-5: supported injection rate

Single Shot Injection: yes

Notes

From Keysight/Agilent 3781B Pattern Generator product specification summaries. Confirm Option 001/061/062 and installed interface connectors on the unit.

Ordering Information

OPTION	DESCRIPTION
Option 001	Front Panel: DS-3 output connector BNC versus WECO 440A

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

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.