

## KEYSIGHT TECHNOLOGIES (AGILENT HP)

# 3764A

The Keysight (formerly HP) 3764A is a high-performance digital transmission analyzer designed for comprehensive error performance testing of telecom and digital transmission systems. It operates primarily at 140 Mb/s with features including pattern generation and error detection at both coded and binary interfaces. Equipped with an HP-IB interface as standard, the analyzer is available with options for multiple CEPT bit-rates (Option 001) and jitter generation/ measurement (Option 002), making it highly versatile for field installation, maintenance, development, and manufacturing applications.

## SPECIFICATIONS

### General

|                     |                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------|
| Interfaces          | HP-IB (GPIB)                                                                                             |
| Display             | Dual red LED numeric displays (5-digit for Results, 4-digit for Time) and discrete LED status indicators |
| Measurement Presets | One-key measurement setup using presets                                                                  |
| Form Factor         | Portable single-unit construction                                                                        |
| Data Logging        | Supported                                                                                                |

### Physical

|                       |                             |
|-----------------------|-----------------------------|
| Operating Temperature | 0 to +55 °C °C              |
| Dimensions (W×H×D)    | 425 mm × 177 mm × 498 mm mm |
| Weight                | 19 kg                       |

### Transmitter (Generator)

|                            |                                                                                 |
|----------------------------|---------------------------------------------------------------------------------|
| Internal Clock Frequency   | 139.264 MHz                                                                     |
| Offset Clocks              | ±15 ppm                                                                         |
| External Clock Input Range | 139.264 MHz (and 2.048, 8.448, 34.368 MHz with Option 001)                      |
| Coded Data Output          | CMI format at 139.264 Mb/s                                                      |
| Binary Data Outputs        | 139.264 Mb/s (and 2.048, 8.448, 34.368 Mb/s with Option 001)                    |
| Output Signal Levels       | ECL levels                                                                      |
| Output Impedance           | 75 ohms unbalanced                                                              |
| Test Patterns (PRBS)       | 2 <sup>23</sup> - 1                                                             |
| Programmable Word Length   | 1 to 16-bit fully programmable                                                  |
| Alternate Word Capability  | Two 1 to 8-bit programmable words, crossover rate controlled by external signal |
| AIS Pattern Generation     | All ones pattern                                                                |

Receiver

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| Binary Clock Input Range | 139.264 MHz (and 2.048, 8.448, 34.368 MHz with Option 001) |
| Input Impedance          | 75 ohms                                                    |
| Input Coupling Modes     | Terminated mode, Monitor mode                              |
| Binary Input Formats     | RZ, NRZ                                                    |
| Input Signal Levels      | ECL levels                                                 |
| External Error Input     | ECL levels                                                 |

Measurement & Analysis

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Error Performance Parameters | % Availability, % ER ≤ N, % EFS                             |
| Error Types Measured         | Error Ratio, Error Count, Error Seconds, Error Free Seconds |

Options & Configurations

|                                  |                                                             |
|----------------------------------|-------------------------------------------------------------|
| Option 001 - CEPT Rates          | 2, 8, 34, and 140 Mb/s measurements                         |
| Option 002 - Jitter Measurements | Jitter generation and timing jitter measurement at 140 Mb/s |

Environmental

|                     |               |
|---------------------|---------------|
| Storage Temperature | -40 to +75 °C |
|---------------------|---------------|

Power Requirements

|                   |                |
|-------------------|----------------|
| Power Consumption | 180 VA maximum |
|-------------------|----------------|

System & Control

|                           |                  |
|---------------------------|------------------|
| Standard Remote Interface | HP-IB (IEEE-488) |
|---------------------------|------------------|

Transmitter Clock

|                         |         |
|-------------------------|---------|
| Internal Clock Accuracy | ±10 ppm |
|-------------------------|---------|

Receiver / Measurement

|                                 |                                                                                                            |
|---------------------------------|------------------------------------------------------------------------------------------------------------|
| CCITT G.821 Analysis Parameters | Errored Seconds (ES), Severely Errored Seconds (SES), Degraded Minutes (DM), and Unavailable Seconds (UAS) |
|---------------------------------|------------------------------------------------------------------------------------------------------------|

TECHNOLOGY

PDH (Plesiochronous Digital Hierarchy)

APPLICATIONS

Telecom network commissioning, maintenance, design, and manufacturing 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.