

KEYSIGHT TECHNOLOGIES (AGILENT HP)

37732A

The HP 37732A is a legacy field-portable telecom and datacom analyzer composed of the HP 37722A telecom analyzer and the HP 15901A Option 001 datacom module. Designed for in-service and out-of-service testing, it provides comprehensive bit error rate (BER) measurements and signal analysis on CEPT digital circuits at rates up to 2 Mb/s, alongside versatile support for V.24, V.35, and V.11/X.21 datacom interfaces.

SPECIFICATIONS

General

Interfaces	V.24 (RS-232), V.35, V.11/X.21-leased, BNC, 3-pin Siemens, HP-IB (GPIB), RS-232-C remote control port
Display	Backlit monochrome graphics LCD screen

Physical

Power Supply	90 to 260 V AC, 47 to 63 Hz
Operating Temperature	0 to 50 °C °C
Dimensions (W×H×D)	340 mm × 190 mm × 462 mm mm
Weight	12 kg kg

System Configuration

Hardware Composition	HP 37722A analyzer and HP 15901A Option 001 datacom module
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Telecom Transmitter Specifications

Supported Telecom Standards	CEPT, ITU-T
Transmitter Line Coding Formats	HDB3, AMI
Transmitter Bit Rates	2.048 Mb/s, 64 kb/s
Transmitter Clock Sources	Internal synthesizer, recovered (loopback), external
Transmitter Internal Clock Frequencies	2.048 MHz, 64 kHz
Transmitter Clock Accuracy	±10 ppm
Transmitter Output Impedance	75 ohm (unbalanced), 120 ohm (balanced)
Operating Modes	Transmit, receive, through mode
Framing Formats	Framed (PCM30, PCM30CRC, PCM31, PCM31CRC compliant with ITU-T G.704) or unframed

Telecom Receiver Specifications

Receiver Input Bit Rates	2.048 Mb/s, 64 kb/s
Receiver Line Coding Formats	HDB3, AMI (for 2 Mb/s), Codirectional (for 64 kb/s)
Receiver Input Impedance	75 ohm (unbalanced), 120 ohm (balanced)
Auto Setup Parameters	Bit rate, line code, framing, pattern

Datacom Interfaces and Testing

Supported Datacom Interfaces	V.24, V.11/X.21-leased, V.35
Datacom Operating Modes	DTE and DCE emulation
Synchronous Mode Rates	1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 48, 56, 64, 256, 384, 512 kb/s, 1.024 Mb/s, 1.984 Mb/s, variable
Asynchronous Mode Rates	50, 75, 110, 134.5, 150, 200, 300, 600 b/s; 1.2, 1.8, 2.4, 4.8, 7.2, 9.6, 19.2 kb/s
Timeslot Access and Monitoring	$n \times 64$ kb/s testing, timeslot monitor with signaling bits display, timeslot access
Control-Circuit Timing Analysis	Transitions diagrams displayed on screen

Pattern Generation and Error Insertion

Telecom PRBS Test Patterns	$2^{11} - 1$ (ITU-T O.153), $2^{15} - 1$, $2^{23} - 1$ (ITU-T O.151)
Telecom PRBS Formats	Inverted, non-inverted
Datacom PRBS Test Patterns	63, 511, 2047, $2^{15} - 1$, $2^{20} - 1$
Datacom Fixed Test Patterns	Permanent mark, alternating mark/space inversion, FOX message (asynchronous mode only)
2 Mb/s Transmitter Error Insertion	Bit error, code error
64 kb/s Transmitter Error Insertion	Bit error

Measurements and Analysis

Measurements Offered	Full range of Bit Error Rate (BER) measurements
Alarms Monitored	AIS (Alarm Indication Signal), Loss of Signal (LOS), Frame Alignment Loss, Pattern Loss, Error, Power
Storage Method	Event-based storage in text and graphic form

Physical Interface Connectors

Unbalanced Connector Type	BNC (75 ohm)
Balanced Connector Type	3-pin Siemens (120 ohm)

System Control and Storage

Remote Control Software	HP E4540A distributed network analyzer (DNA) software (PC/laptop under Windows)
Remote Control Capabilities	Remote control over modem links
Printer Interface	RS-232-C serial port
Front Panel Indicators	LED indicators for alarms and system status

Power Requirements

AC Input Voltage	90 to 260 V AC
AC Line Frequency	47 to 66 Hz
Maximum Power Consumption	85 VA

Environmental

Storage Temperature Range	-40 to +75 °C
Operating Humidity	Up to 95% RH at 40 °C

Datacom Interfaces

V.24/RS-232 Interface Connector	25-pin D-sub (female)
V.35 Interface Connector	34-pin Winchester M34 (female)
V.36/RS-449 Interface Connector	37-pin D-sub (female)
X.21 Interface Connector	15-pin D-sub (female)

Telecom Transmitter

Transmitter Clock Offset Range	±100 ppm
Transmitter Clock Offset Resolution	1 ppm
External Reference Clock Input	2.048 MHz / 2.048 Mb/s
External Reference Clock Connector	75 Ω BNC (unbalanced)

Power

Optional DC Power Input	36 V to 76 V DC (with Option 001)
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Performance

Error Analysis Standards Compliance	ITU-T G.821, G.826, M.2100
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TECHNOLOGY

Bit Error Rate Testing (BERT) & Telecom/Datacom Analysis

APPLICATIONS

CEPT 2 Mb/s and sub-rate telecom and datacom circuit verification, testing, and troubleshooting

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