# **Specifications**

## Weight (including interface pod and cables)

Net Wt: 7.0 kg. (15.4 lbs.) Shipping: 12.5 kg. (27.6 lbs.)

#### Size

Height: 16.0 cm, width 27.9 cm, depth 34.3 cm. (6.3 x 11.0 x 13.5 in.)

## **Temperature**

Operating:  $0 \, {}^{\circ}\text{C}$  to +40  ${}^{\circ}\text{C}$  (+32  ${}^{\circ}\text{F}$  to +104  ${}^{\circ}\text{F}$ ) \*\*

Storage: -40  ${}^{\circ}\text{C}$  to +75  ${}^{\circ}\text{C}$  (-40  ${}^{\circ}\text{F}$  to +167  ${}^{\circ}\text{F}$ )

\*\* The disc drive and optional extended memory should only be operated at temperatures of +5  $^{\circ}$ C to +40  $^{\circ}$ C (+41  $^{\circ}$ F to +104  $^{\circ}$ F) and stored at +4  $^{\circ}$ C to +53  $^{\circ}$ C (+39  $^{\circ}$ F to +127  $^{\circ}$ F).

#### **Power Requirements**

100 to 240 Vac, +-10%: 48 to 66 Hz single phase. Typical less than 20 VA, maximum less than 35 VA.

# **Electromagnetic Capability**

Compiles with VDE 0871/6.78 Limit B, and is licensed per FTZ 1046/84.

# **Operating Characteristics**

Operating characteristics are features and capabilities that the protocol analyzer exhibits. They are not specifications.

#### **Protocols**

X.25, SNA (opt.), SDLC, BSC, HDLC, IPARS, X.21 (opt), DDCMP and most character asynchronous or synchronous protocols.

#### **Data Transmission Modes**

Synchronous, asynchronous, NRZI, and externally clocked NRZI.

#### **Data Transfer Rates (bps)**

50, 75, 110, 134.5, 150, 200, 300, 600, 1200, 1800, 2000, 2400, 3200, 3600, 4800, 7200, 9600, 12000, 14400, 16000, 19200, 38400, 48000, 56000, 64000 and EXTER-NAL for synchronous data lines.

COPs will have different maximum transfer rates depending on the protocol.

Not Supported:

Asynchronous (bps): 12000, 16000, > 19000 NRZI (bps): 50, 12000, 16000 Async BERT (bps): 12000, 16000, teletext 1200/75

# **Data Codes**

ASCII, EBCDIC, Baudot, Six Bit Transcode, IPARS, EBCD, and Hex. Also JIS-7, JIS-8, and EBCDIK (with Katakana option).

#### **Capture Memory**

32 Kbytes of nonvolatile RAM and optional extended memory. For storing data characters, timing and lead status.

#### Mass Storage

Microfloppy disc stores 613 Kbytes of data, timing information, setups, and programs.

#### **Lead Status**

The status of five control leads are stored for each interface. They are RTS, CTS, DTR, DSR, and CD for RS-232C/V.24 and V.35 interfaces; CS, RS, RR, TR, and DM for RS-449 interface; T, R, I, and C for X.21 interface.

# **Highlights**

Most recent 63 trigger events.

## **Character Framing**

5, 6, 7, or 8 information bits, plus parity. For asynchronous systems select 1, 1.5, or 2 stop bits per character.

# **Error Checking**

CRC-CCITT, CRC-CCITT preset 0, CRC-16, CRC-12, CRC-6, LRC, and parity.

## **Triggers**

63 triggers for characters, errors, interface lead transitions and softkeys.

## **Timers**

Five, each with a maximum count of 65535 msec. Resolution 1 msec.

#### **Counters**

Five, maximum count 65535.

# Keyboard

Full ASCII keyboard with six softkeys and cursor control.

#### **Parity**

Odd, even, none, ignore.

# Display

High resolution 13 cm (5 in) diagonal with 16 lines and 32 characters per line.

## **Display Formats**

DTE data over DCE data, Data and Lead Status, DTE data only, DCE data only, Frame and Packet decode, Packet only decode, and X.21 data and state.

## **Send Strings**

255 characters per string maximum, 1750 characters total.

#### **Remote Capability**

Complete unattended remote control. Can be controlled by another HP protocol analyzer or computer to transfer data, setups, and test programs.

#### Bit Error Rate Testing

Simultaneously measures bit errors, block errors, errored seconds, and percent error free seconds for synchronous, asynchronous or isochronous data links.

Block Size: 511, 1000, 2047.

Patterns: 63, 511, 2047 or 4095 pseudo random sequence.

Character Framing: Select 5, 6, 7, or 8 bits per character and parity.

Inject Errors Function: Single errors or bursts of errors.

#### **Clock Speed Accuracy**

For BERT operation, clocks provided on the physical interface are accurate to

For other operations, the following clock speeds provided on the physical interface are accurate to 0.01%: 75, 110, 134.5, 150, 200, 300, 600, 1200, 1800, 2400, 3200, 3600, 4800, 7200, 9600, 14400, 19200, 38400, 48000, 56000, and 64000.

For your convenience, the following additional clock speeds have been provided, however the clock accuracy is not specified: 50, 2000, 12000, and 16000.

# Accessories

# **Accessories Supplied**

Power Cord,	See Appendix D
Pod-Instrument Cable (for all pods)	HP 04951-61618
Operating Manual	HP 04952-90010
Getting Started Manual	HP 04952-90016
Transportation Disc	HP 5060-7177
Extra Fuse	HP 2110-0758

# **Problem Solving Accessories:**

HP 18260A:	X.21 and RS-232C/V.24 Interface Kit.
Includes interface pod and utility disc.	

HP 18261A: SNA Analysis software

HP 18263A: 3270 Installation and Maintenance Software HP 18264A: X.25 and SNA Level Link Level Statistics

HP 18265A: DDCMP Analysis

HP 18266A: Enhanced X.25 Analysis

HP 18348A: HP 4952A Customer Training Course

This is a highly interactive, hands-on one day course designed to provide an in-depth knowledge of the full feature set of the HP 4952A. Ask your local sales representative for information about location and availability.

HP 18174A: RS-449/422A/423A Interface Pod

HP 18177A: V.35 Interface Pod.

HP 18179A: RS-232C/V.24 Interface Pod with complete breakout box.

HP 18180A: Combination RS-232C/V.24 and RS-449/422A/423A Interface Pod.

HP 18190A: Soft vinyl carrying case.

04952-69501: Extended Memory plus Retrofit Kit

HP 92192A: Box of 10 double-sided discs.

HP 2225D: RS-232C/V.24 Think jet Printer

HP 9211-1290: Hard transit case

One of the cables listed below is included in the appropriate interface pod.

RS-232C/V.24 Y-ribbon cable	HP 18173-61602
RS-449 Y-ribbon cable	HP 18174-61601
V.35 Y-ribbon cable	HP 18177-61601

# **Options**

Option 002	Extended Memory Plus
	3/4 Mbyte extended capture buffer
	128 Kbyte non-volatile program RAM
Option 003	Katakana (JIS 7, JIS 8, EBCDIK) data codes
Option 101	Adds accessory 18174A (RS-449/422A/423A)
Option 102	Adds accessory 18180A (Combination RS-232C/V.24 and RS-449/422A/423A).
Option 103	Adds accessory 18179A (RS232C/V.24 with complete breakout box)
Option 104	Adds HP 18260A (Combination X.21 and RS-232C/V.24).
Option 105	Adds HP 18177A (V.35).
Option 500	Japanese Manual
Option 501	French Manual
Option 502	German Manual
Option 916	Extra operating manual
Option <b>W30</b>	3 year extended hardware support. Provides 2 additional years of return-to-HP hardware support (for 2nd and 3rd years).
Option +N00	Software Notification Service for all HP Protocol Analyzers.

# **Interface Accessories**

HP 18174A (RS-449/422A/423A):

Balanced RS-422A drivers. Interface activity indicators: DS, RD, ST, RT, RS, CS, TR, DM, and RR.

HP 18177A (V.35):

Interface activity indicators: DTE, DCE. SCE, SCT, SCR, RS, DTR, CS, DSR, and CD.

HP 18179A (RS-232C/V.24):

Full breakout box with 25 switches. Interface Activity Indicators: DTE, DCE, TC, RC, RTS, CTS, DTR, DSR, CD, ETC.

HP 18180A (RS-232/V.24 and RS-449/422A/423A):

Activity indicators are the same leads as HP 18179A and HP 18174A.

HP 18260A (RS-232/V.24 and X.21):

Interface activity indicators: DTE, DCE, TC, RC, RTS, CTS, DTR, DSR, CD for the RS-232 portion, and R, T, C and I for the X.21 portion.