

# APPENDIX A SPECIFICATIONS

## Operating Characteristics

### Protocols

X.25, HDLC, SDLC (NRZI), BSC, and most character asynchronous or synchronous protocols.

### Data Transfer Rates (bps)

50, 75, 100, 134.5, 150, 200, 300, 600, 1200, 1800, 2000, 2400, 3200, 3600, 4800, 7200, 9600, 12000, 14400, 16000, 19200, teletext 1200/75, and EXTERNAL up to 19200 full duplex for all monitoring, simulation, triggering, and BERT tests.

The HP 4951B can capture a complete buffer full of data at line speeds up to 64 kbps. (Bit oriented protocols only).

**Clock Accuracy:** 0.005%

### Data Codes

ASCII, EBCDIC, Baudot, Six Bit Transcode, IPARS, and EBCD.

### Mass Storage Memory

32 Kbytes of RAM stores data characters, timing, and lead status information.

Optional tape drive: Up to 512 Kbytes for storing data, timing information, menu configurations, and application programs. Write to tape: 9600 bps full duplex, 19200 bps half duplex.

## Specifications

### **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 CS, RS, RR, TR, and DM for RS-449.

### **Highlights**

Highlight the last 63 triggers.

### **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-16, CRC-12, CRC-6, LRC, and parity.

### **Triggers**

63 triggers consisting of characters, errors, interface lead transitions, or timer values. All be simultaneously active up to 19200 bps.

### **Timers**

Five timers, each of which has a maximum count of 65565 msec. Resolution 1 msec.

### **Counters**

Five counters, each of which can be incremented up to 9999.

### **Keyboard**

Full ASCII keyboard with six softkeys and cursor control.

## **Display**

12.7 cm (5 in.) diagonal with 16 lines and 32 characters per line.

## **Display Formats**

Five: DTE only, DCE only, DTE over DCE, Data and State, and Frame and Packet.

## **Send Strings**

255 characters per string maximum, 1750 characters total.

## **Remote Capability**

Over the RS-232C/V.24 link: transfer data, setups, and programs.

## **Self Test**

Extensive self test and verification routines for isolating failures to a functional component group. Built-in signature analysis permits fault isolation to the component level.

## **Bit Error Rate Testing**

Simultaneously measure bit errors, block errors, error seconds, and percent error free seconds.

Block Size: 63, 511, 1000, or 2047 bits.

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

Character Framing: Select 5, 6, 7, 8 bits per character and parity, or none (continuous). Select odd or even parity with character framing, or none with no framing.

Inject Errors: Inject single errors or bursts of errors.

### Additional Characteristics

**Auto-configuration** of all setup parameters.

Battery maintained RAM for all setups, data, and menus.

Select **bit order** as LSB or MSB first and select **bit sense** as inverted or normal.

## Interface Accessories

HP 18173A, HP 18174A, HP 18179A, and HP 18180A. Each interface is supplied with the appropriate 1.5 meter "Y" cable.

### HP 18173A (RS-232C/V.24) Interface

Ten switches for line isolation. 25 test points for monitoring, forcing, or cross-patching. One non-dedicated MARK/SPACE monitor for user patching to any line. Nine hard-wired activity indicators: TD - Transmit Data, RD - Receive Data, TC - Transmit Clock, RC - Receive Clock, DTR - Data Terminal Ready, DSR - Data Set Ready, RTS - Request to Send, CTS - Clear to Send, and CD - Carrier Detect.

**Mark/Space Monitor:** Indicates voltages greater than +3.0 volts, and voltages less than -3.0 volts.

**Interface Activity Indicators:** These turn on at voltages greater than +2.75 volts, and off at voltages less than +0.25 volts.

**Voltage Source:** +/- 12 volts.

**Weight:** 0.6 kg (1.3 lb).

### HP 18174A (RS-449) Interface

Nine dedicated activity indicators: SD - Send Data, RD - Receive Data, ST - Send Timing, RT - Receive Timing, RS - Request to Send, CS - Clear to Send, TR - Terminal Ready, DM - Data Mode, and RR - Receiver Ready.

**Interface Activity Indicators:** These turn on when the differential voltage is greater than 0.2 volts.

**Weight:** 0.6 kg (1.3 lb).

**HP 18180A** (Combination RS-232C/V.24 and RS-449 Interfaces).

**Weight:** 0.7 kg (1.5 lb).

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

**Full Breakout Box** with 25 miniature switches provides access to all 25 conductors.

**MARK/SPACE Monitor** for user patching to any line.

**Ten 3-state LEDs** monitor primary interface signals at the source. DTE - Transmit Data, DCE - Receive Data, TC - Transmit Clock, RC - Receive Clock, DTR - Data Terminal Ready, DSR - Data Set Ready, RTS - Request to Send, CTS - Clear to Send, CD - Carrier Detect, and ETC - External Transmit Clock.

**LED Indicators:** Green -- Space (On). Red -- Mark (Off).

**Input Voltage:** +/- 25V as per EIA RS-232C or CCITT V.24 specifications.

**Weight:** 0.8 kg (1.8 lb).

## Specifications

### Weight

Net: 6.4 kg. (14.2 lbs.)

Shipping: 10.4 kg. (23 lbs.)

### Size

Height: 11.2 cm, width 25.5 cm, depth 28.6 cm. (4.4 x 10.2 x 11.3 in.)

### Temperature

Operating: 0 C to +55 C (+32 F to +131 F) \*\*

Storage: -40 C to +75 C (-40 F to +167 F)

\*\* The tape drive should only be operated from +5 C to +40 C (+41 F to +104 F).

### Altitude

Operating: 4600 m (15000 ft).

Storage: 15300 m (50000 ft).

### Power Requirements

100, 120, 220, 240 Vac, -10% to +10%; 48 to 66 Hz single phase.

Typical less than 15 VA, maximum less than 30 VA.