

HP 37718A  
HP 37719A  
Quick Start  
Guide

**HP OmniBER 718/719**

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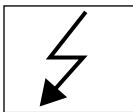
## WARNING

For details of safety, see Safety information at the front of the Calibration manual.

Warning Symbols Used on the Product



The product is marked with this symbol when the user should refer to the instruction manual in order to protect the apparatus against damage.



The product is marked with this symbol to indicate that hazardous voltages are present



EN 60825 1991

The product is marked with this symbol to indicate that a laser is fitted. The user should refer to the laser safety information in the Calibration Manual.

**HP OmniBER 718/719**

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# About This Book

The Quick Start Guide demonstrates the basic operation of the instrument.

This guide tells you how to select the displays that you want and how to use them to modify the instrument functions.

This guide also tells you about the front panel key functions, the indicators and the connectors.

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# **Getting Started**

This chapter shows you how to select and change displays

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# Getting Started

Getting Started shows you how to select displays and use them to change the instrument settings. Getting started includes the following:

- How to select single or multiple windows
- How to obtain the required display using the display select keys, **TRANSMIT** ; **RECEIVE** ; **RESULTS** ; **GRAPH** ; **OTHER**
- How to modify the display information, using    and  and the display softkeys or pop-up menus
- How to use the other front panel keys
- How to interpret the front panel status indicators
- How to connect to external equipment



## Introducing the HP 37718A/19A Front Panel



Front panel keys and a display provide the operator interface to the HP 37718A/19A.

The display has two states, multiple (four), or a single window.

In the multiple window state, the active window is indicated by a different color to the three inactive windows.

## Selecting Displays

The default display is a multiple page window. The displayed pages are: *Transmitter Output*, *Receiver Input*, *Results*, and either *Graph* or *Other* (Function).

<p>TRANSMITTER OUTPUT <span style="float:right">SDH</span></p> <p>MAIN STRUCT'D JITTER TEST OVERHEAD          SETTINGS PAYLOAD FUNCTION SETUP</p> <p>SIGNAL STM-1 INTERNAL          CLOCK INTERNAL          FREQUENCY OFFSET OFF</p> <p>MAPPING <input checked="" type="checkbox"/> AU-4 FOREGROUND          TU-3          34 Mb/s          0 ppm</p> <p>34M OFFSET          CHANNEL TUG3 1</p> <p>TU PAYLOAD UNFRAMED 1 UNSTRUCTURED          PATTERN 2^23-1 PRBS INVERT ITU</p>		<p>RECEIVER INPUT <span style="float:right">SDH</span></p> <p>MAIN STRUCT'D TEST OVERHEAD          SETTINGS PAYLOAD FUNCTION MONITOR</p> <p>SIGNAL STM-1 TERMINATE          LEVEL</p> <p>MAPPING <input checked="" type="checkbox"/> AU-4 TU-3          34 Mb/s</p> <p>CHANNEL TUG3 1</p> <p>TU PAYLOAD UNFRAMED 1 UNSTRUCTURED          PATTERN 2^23-1 PRBS INVERT ITU</p>	
<p>RESULTS <span style="float:right">SDH</span> <span style="float:right">ERROR SUMMARY</span></p> <p>RESULT TYPE COUNTS</p> <p>FRAME ....</p> <p>B1 BIP .... MS-REI ....</p> <p>B2 BIP .... HP-REI ....</p> <p>HP-IEC .... LP-REI ....</p> <p>TU BIP ....</p> <p>B1T ....</p> <p>AU POINTER 0 TU POINTER 0</p> <p>ELAPSED TIME ..d..h..m..s</p>		<p>FUNCTION <span style="float:right">STORED SETTINGS</span></p> <p>STORED SETTING NUMBER 0</p> <p>SETTING ACTION OFF</p> <p>0 FACTORY DEFAULT SETTINGS</p> <p>1 .....</p> <p>2 .....</p> <p>3 .....</p> <p>4 .....</p>	

STATUS:  
PDH/DSn SDH SONET SINGLE WINDOW

**TRANSMIT**

Allows control of the settings associated with the generated signal.

**RECEIVE**

Allows control of the settings associated with the received signal.

**RESULTS**

Allows control of the test timing and graph storage and displays the selected measurement results.

**GRAPH**

Allows management of the stored graphical results.

**OTHER**

Allows control of Stored Settings, Settings Control, Floppy Disk, Logging, Remote Control, Time & Date, Miscellaneous (Keyboard Lock, Beep on Received Error, Suspend Test on Signal Loss, Graph Storage Resolution), Options (a list of Options fitted) and Option Enable, Self Test, Trigger Output, Calibration, and Color Control.

## Getting Started

### Selecting Displays

## Selecting Multiple or Single Windows

To select a single page window, press one of the display keys - **TRANSMIT**, **RECEIVE**, **RESULTS**, **GRAPH** or **OTHER** to make the required page active, then press **SINGLE WINDOW**.

To return to a multiple page window, press **MULTIPLE WINDOW**.

**Example:** To view the transmit page in a single window, press **TRANSMIT** to make the transmit window active.

The screenshot shows the 'TRANSMITTER OUTPUT' page in a single window mode. The page is titled 'TRANSMITTER OUTPUT' and 'SDH'. It contains several sections: 'MAIN SETTINGS' with sub-sections 'STRUCT'D', 'JITTER', 'TEST', and 'OVERHEAD'; 'PAYLOAD' with sub-sections 'FUNCTION' and 'SETUP'; 'SIGNAL' (STM-1), 'CLOCK' (INTERNAL), and 'FREQUENCY OFFSET' (OFF); 'MAPPING' (AU-4) and '34M OFFSET' (0 ppm); 'CHANNEL' (TUG3); and 'TU PAYLOAD' (UNFRAMED) and 'PATTERN' (2^23-1 PRBS). Below this is an 'ERROR SUMMARY' table with columns for 'RESULT TYPE' and 'COUNTS', listing items like B1 BIP, B2 BIP, B3 BIP, HP-IEC, TU BIP, and BIT. At the bottom, it shows 'AU POINTER' and 'TU POINTER' both at 0, and 'ELAPSED TIME' in .d .h .m .s format. The status bar at the bottom shows 'STATUS: PDH/DSn SDH SONET' and a 'SINGLE WINDOW' button.

Use **SINGLE WINDOW** to view the transmit page.

To change the page displayed in the single window, use one of the display keys **RECEIVE**, **RESULTS**, **GRAPH** or **OTHER**.

When you return to a multiple window, the current page will become the active page in the multiple window.

This screenshot is identical to the one above, showing the 'TRANSMITTER OUTPUT' page. However, the status bar at the bottom now shows 'STATUS: PDH/DSn SDH SONET' and a 'MULTIPLE WINDOW' button, indicating that the page is now active in a multiple window view.

## Getting Started

### Selecting Displays

## Moving Around Multiple Windows

To make another of the displayed pages in a multiple window display active, press the display selection key for that page.

**Example:** The *Transmitter Output* page is active.

<b>TRANSMITTER OUTPUT</b> <span style="float:right">SDH</span> (CRN) (SRCT) (D) (T) (T) (T) (TEST) (OVERHEAD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SETTINGS (PRV) (LD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SIGNAL: STM-1 INTERNAL INTERNAL CLOCK: INTERNAL OFF PREQUENCY OFFSET: OFF		<b>RECEIVER INPUT</b> <span style="float:right">SDH</span> (CRN) (SRCT) (D) (T) (T) (T) (TEST) (OVERHEAD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SETTINGS (PRV) (LD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SIGNAL: STM-1 TERMINATE LEVEL:	
MAPPING: <input type="checkbox"/> AU-4 FOREGROUND TU-3 34 Mb/s SUB OFFSET: 0 PPM CHANNEL: TU-3 TU PAYLOAD: UNFRAMED 1 UNSTRUCTURED 1 PATTERNS: 2+23-1 PRBS INVERT ITU		MAPPING: <input type="checkbox"/> AU-4 TU-3 34 Mb/s CHANNEL: TU-3 TU PAYLOAD: UNFRAMED 1 UNSTRUCTURED 1 PATTERNS: 2+23-1 PRBS INVERT ITU	
<b>RESULTS</b> <span style="float:right">SDH</span> <b>ERROR SUMMARY</b> RESULT TYPE COUNTS FRAME: ..... BB BIP: ..... TS-REI: ..... RS BIP: ..... PR-REI: ..... RS SEC: ..... TU BIP: ..... LP-REI: ..... BIT: ..... AU POINTER: 0 TU POINTER: 0 ELAPSED TIME: ..d ..h ..m ..s		<b>FUNCTION</b> <b>STORED SETTINGS</b> STORED SETTING NUMBER 0 SETTING ACTION OFF 0 FACTORY DEFAULT SETTINGS 1 ..... 2 ..... 3 ..... 4 .....	
STATUS: PDH/DSn SDH SONET <span style="float:right">SINGLE WINDOW</span>			

To make the *Receiver Input* page active. Press **RECEIVE**.

<b>TRANSMITTER OUTPUT</b> <span style="float:right">SDH</span> (CRN) (SRCT) (D) (T) (T) (T) (TEST) (OVERHEAD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SETTINGS (PRV) (LD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SIGNAL: STM-1 INTERNAL INTERNAL CLOCK: INTERNAL OFF PREQUENCY OFFSET: OFF		<b>RECEIVER INPUT</b> <span style="float:right">SDH</span> (CRN) (SRCT) (D) (T) (T) (T) (TEST) (OVERHEAD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SETTINGS (PRV) (LD) (FUNCTION) (SELP) (FUNCTION) (SELP) (FUNCTION) (SELP) SIGNAL: STM-1 TERMINATE LEVEL:	
MAPPING: <input type="checkbox"/> AU-4 FOREGROUND TU-3 34 Mb/s SUB OFFSET: 0 PPM CHANNEL: TU-3 TU PAYLOAD: UNFRAMED 1 UNSTRUCTURED 1 PATTERNS: 2+23-1 PRBS INVERT ITU		MAPPING: <input type="checkbox"/> AU-4 TU-3 34 Mb/s CHANNEL: TU-3 TU PAYLOAD: UNFRAMED 1 UNSTRUCTURED 1 PATTERNS: 2+23-1 PRBS INVERT ITU	
<b>RESULTS</b> <span style="float:right">SDH</span> <b>ERROR SUMMARY</b> RESULT TYPE COUNTS FRAME: ..... BB BIP: ..... TS-REI: ..... RS BIP: ..... PR-REI: ..... RS SEC: ..... TU BIP: ..... LP-REI: ..... BIT: ..... AU POINTER: 0 TU POINTER: 0 ELAPSED TIME: ..d ..h ..m ..s		<b>FUNCTION</b> <b>STORED SETTINGS</b> STORED SETTING NUMBER 0 SETTING ACTION OFF 0 FACTORY DEFAULT SETTINGS 1 ..... 2 ..... 3 ..... 4 .....	
STATUS: PDH/DSn SDH SONET <span style="float:right">SINGLE WINDOW</span>			

Similarly, press **RESULTS**, **OTHER** or **GRAPH** to make the page you want active. Note that the *Other* and *Graph* pages use the same (bottom right) window pane.

## Getting Started

### Selecting Displays

## Changing the Displayed Folder

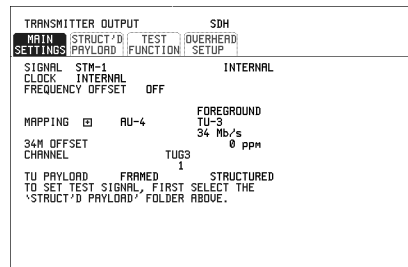
Some windows displayed with the **TRANSMIT** , **RECEIVE** and **RESULTS** keys contain folders. These folders can be selected with the **→** and **←** keys.

For example, the TRANSMITTER OUTPUT display below has three folders, MAIN SETTINGS, STRUCTURED PAYLOAD and TEST FUNCTION. In this example MAIN SETTINGS is selected



### Example:

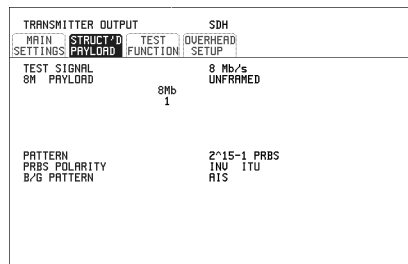
To change the folder from MAIN SETTINGS to STRUCTURED SETTINGS.



STATUS:

MULTIPLE WINDOW

Press **→**



STATUS:

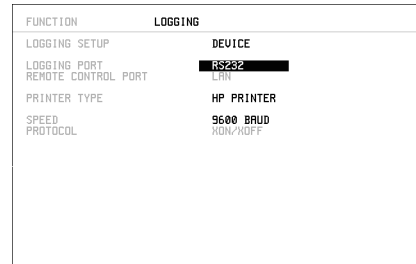
MULTIPLE WINDOW

## Changing the Instrument Settings

Settings that can be changed are displayed in a different color to the settings that are fixed. A highlighted cursor marks the current setting that can be changed.

Move the highlighted cursor about the display with    and .

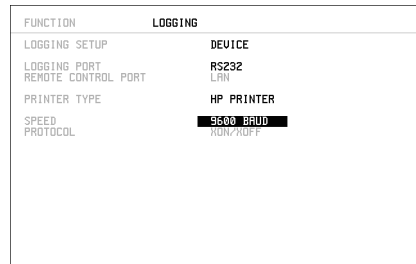
The selections available for the highlighted setting appear in a menu at the bottom of the display, in this case **RS232** **HP IB** **DISK** **PARALLEL**



STATUS: **RS232** **HP IB** **DISK** **PARALLEL** **MULTIPLE WINDOW**

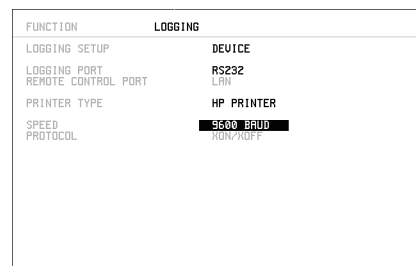
A selection is made with the relevant display key immediately below the menu.

When a field has more than five choices, as in SPEED shown here, a softkey labelled **MORE** is provided.



STATUS: **300 BAUD** **600 BAUD** **1200 BAUD** **1900 BAUD** **MORE** **MULTIPLE WINDOW**

When **MORE** is selected the remainder of the menu is revealed.



STATUS: **2400 BAUD** **4800 BAUD** **9600 BAUD** **MORE** **MULTIPLE WINDOW**

## Getting Started

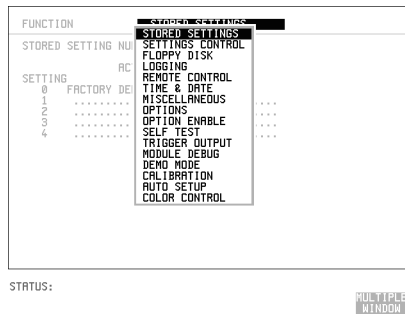
### Changing the Instrument Settings

#### Pop-up Menu Selection

A menu selection is available as an alternative to any group of soft keys. Display the menu with **SET**, and use **↑** and **↓** to make the selection.

To change to the new value, press **SET**. To exit the display without making the change, press **CANCEL**.

#### Example:



#### Pop-Up Keypad


The Pop-Up keypad display can be used to enter alphanumeric file and directory names, File descriptors and Disk labels.

- 1 Press **SET** to obtain the pop-up keypad.
- 2 Use **←** **→** to move across the rows and **↑** **↓** to move up and down the columns.
- 3 Choose the character required and press **SET**. Repeat until the name is entered.
- 4 Choose END and press **SET** to return to the original display.

## Getting Started

### Changing the Instrument Settings

## Making Selections with Pictorial & Graphic Displays

In some cases selection is simplified with a pictorial or graphic "map" display. This facility is available where the display has a  symbol beside the setting. These displays are obtained in the same way as the pop-up menus using the **SET** key. Some of these displays include menus which allow the settings to be changed.



### NOTE

Details of the pictorial display depend on the optional modules fitted to the instrument.

### Transmitter Output SDH Payload Mapping

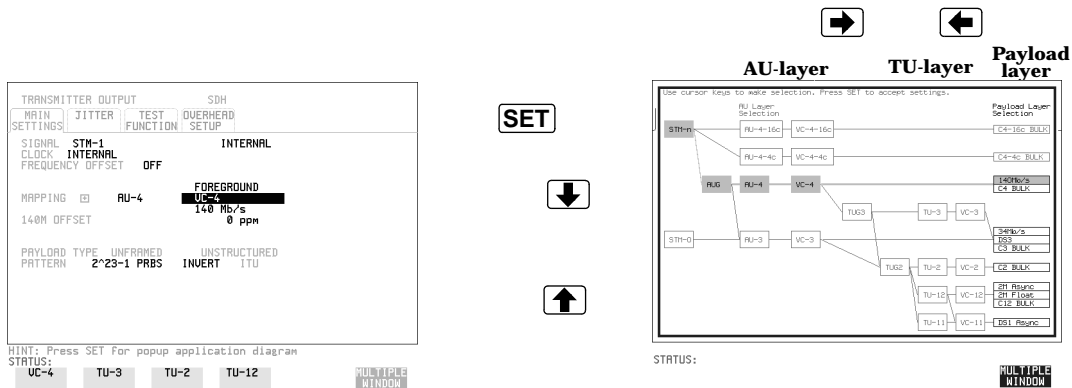
With the cursor in the MAPPING field, press **SET** to display the payload map.

To change between AU-layer, TU-layer and Payload layer selections, use  and .

To select the mapping you want, use  and .

To change to the new value, press **SET**. To exit the map display without making the change, press **CANCEL**.

### Example:





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## **Using with a Monitor**

For ease of viewing at a distance, the instrument display may be presented on a monitor. The monitor should be connected to the HP 37718A/19A front panel VGA connector.

## Using the Other Front Panel Keys



### SMART TEST

Tests and scans payloads, signal structures, alarms and bit errors to attempt to configure the instrument to receive the incoming signal. Allows fast access to commonly used features.

### RUN/STOP

Terminates the current test period or starts a new test period. The indicator above the key is on when a test period is in progress.

### SINGLE

Adds a single bit error to the output data pattern each time the key is pressed.

### LOCAL

Returns the instrument from Remote to Local control. The indicator above the key is on when the instrument is under Remote control.

### PRINT NOW

The selected measurement results are logged, immediately, to the selected printer.

### PAPER FEED

The paper in the internal printer is advanced.

## Getting Started

### Using the Other Front Panel Keys

---

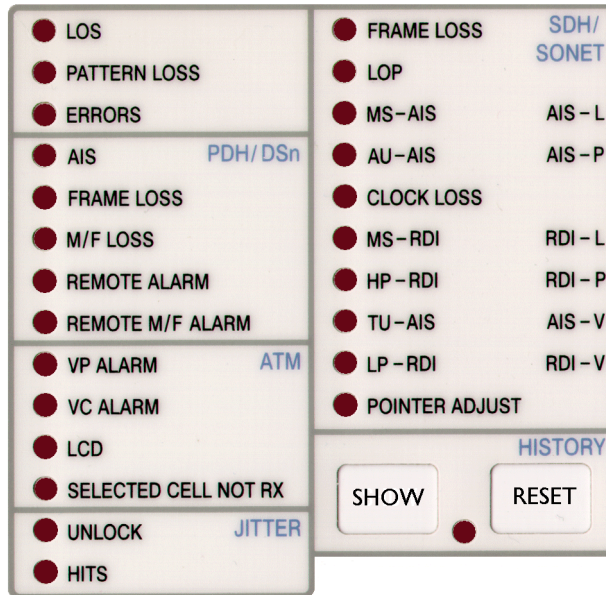
**CAUTION**

---

Do not press **PAPER FEED** while loading a new roll of paper in the printer. A paper jam could result and disable the printer. Wait until the paper is fed through the printer mechanism before pressing **PAPER FEED**.

---

## Monitoring Status



### Displaying Status History (Option 002 shown above)

The Status indicators on the front panel convey information regarding the current status of the instrument. If an alarm has occurred during the current Test Period, the HISTORY indicator is on. To view which alarms have occurred, press and hold **SHOW**. When **SHOW** is released the status indicators return to displaying the current status.

**SHOW**

When pressed and held, the Status indicators display alarms that have been set during the current Test Period. This continues until **SHOW** is released at which time the current status is displayed. The HISTORY indicator is on to signify that an alarm has occurred during the current Test Period.

**RESET**

Resets the history store such that the historical and present status are the same. This can also be achieved by starting a new Test Period.

## General Alarm Indicators

<b>LOS</b>	No data transitions at the input port.
<b>PATTERN LOSS</b>	The received data pattern is not in synchronization with the internally generated reference data.
<b>ERRORS</b>	A measured error has occurred. The indicator will remain lit for 100 ms.

## PDH / DS<sub>n</sub> Alarm Indicators

These are active when a PDH / DS<sub>n</sub> signal is received

<b>AIS</b>	The All Ones AIS signal is detectable in the presence of a 1 in 10 <sup>-3</sup> error rate.
<b>LOS</b>	Frame alignment lost or out of alignment condition.
<b>M/F LOSS</b>	Multiframe alignment lost.
<b>REMOTE ALARM</b>	Remote alarm, x-bit or yellow alarm bit is set.
<b>REMOTE M/F ALARM</b>	Remote Multiframe Alarm bit is set.

## SDH Alarm Indicators

These are active when an SDH signal is received.

<b>FRAME LOSS</b>	Loss Of Frame has been detected.
<b>LOP</b>	Loss of pointer has been detected.
<b>MS-AIS</b>	Multiplexer Section AIS has been detected.
<b>AU-AIS</b>	Path AIS has been detected.
<b>CLOCK LOSS</b>	The transmitter clock is not synchronized to the selected reference.
<b>MS-RDI</b>	Multiplexer Section RDI (FERF) has been detected.
<b>HP-RDI</b>	Path RDI (FERF) has been detected.
<b>TU-AIS</b>	TU Path AIS has been detected.
<b>LP-RDI</b>	TU Path RDI (FERF) has been detected.
<b>POINTER ADJUST</b>	A pointer change in the foreground signal has been detected.

## **SONET Alarm Indicators**

These are active when an SONET signal is received.

<b>FRAME LOSS</b>	Loss Of Frame or Severely Errored Frame has been detected. Status message on bottom of display states which has occurred.
<b>LOP</b>	Loss of Pointer has been detected.
<b>AIS-L</b>	Line AIS has been detected.
<b>AIS-P</b>	STS Path AIS has been detected.
<b>CLOCK LOSS</b>	The transmitter clock is not synchronized to the selected reference.
<b>RDI-L</b>	Line Remote Defect Indication (RDI) has been detected.
<b>RDI-P</b>	STS Path RDI has been detected.
<b>AIS-V</b>	Virtual Tributary path AIS has been detected.
<b>RDI-V</b>	VT path RDI has been detected.
<b>POINTER ADJUST</b>	A pointer change in the foreground has been detected.

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## **About This Edition**

This is the 1st edition of the 37718-90058 manual. It documents the product as of December 1998. Edition dates are as follows:

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## **In This Book**

This book demonstrates the basic operation of the instrument. It tells you how to select the displays that you want and how to use them to modify the instrument functions.

This guide also tells you about the front panel key functions, the indicators and the connectors.

