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HP 37718A
HP 37719A
Quick Start
Guide

HP OmniBER 718/719

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HP Part No.
37718-90058

First edition, 12/98

Printed in U.K.

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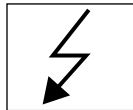
WARNING

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

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

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).

TRANSMITTER OUTPUT				RECEIVER INPUT			
SDH				SDH			
MAIN STRUCT'D JITTER TEST OVERHEAD SETTINGS PAYLOAD FUNCTION SETUP				MAIN STRUCT'D TEST OVERHEAD SETTINGS PAYLOAD FUNCTION MONITOR			
SIGNAL STM-1 INTERNAL CLOCK INTERNAL FREQUENCY OFFSET OFF				SIGNAL STM-1 TERMINATE LEVEL			
MAPPING <input type="checkbox"/> AU-4 FOREGROUND TU-3 34 Mo/s 0 ppm				MAPPING <input type="checkbox"/> AU-4 TU-3 34 Mo/s			
34M OFFSET CHANNEL TUG3 1				CHANNEL TUG3 1			
TU PAYLOAD UNFRAMED UNSTRUCTURED PATTERN 2^23-1 PRBS INVERT ITU				TU PAYLOAD UNFRAMED UNSTRUCTURED PATTERN 2^23-1 PRBS INVERT ITU			

RESULTS		SDH		ERROR SUMMARY	
RESULT TYPE		COUNTS			
FRAME	....			
B1 BIP	....	MS-REI	....	
B2 BIP	....	HP-REI	....	
B3 BIP	....	LP-REI	....	
HP-IEC	....			
TU BIP	....			
B1T	....			
AU POINTER	0	TU POINTER	0		
ELAPSED TIME		..d ..h ..m ..s			

FUNCTION		STORED SETTINGS	
STORED SETTING NUMBER		0	
SETTING		ACTION OFF	
0	FACTORY DEFAULT SETTINGS		
1	.....	
2	.....	
3	.....	
4	.....	

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.

TRANSMITTER OUTPUT				SDH			
MAIN	STRUCT'D	JITTER	TEST	OVERHEAD	FUNCTION	SETUP	
SIGNAL	STM-1			INTERNAL			
CLOCK	INTERNAL						
FREQUENCY OFFSET	OFF						
MAPPING	□	AU-4		FOREGROUND			
				TU-3			
34M OFFSET				34 Mb/s			
CHANNEL				0 ppm			
TU PAYLOAD				TUG3			
PATTERN	UNFRAMED	1		UNSTRUCTURED			
	2^23-1 PRBS			INVERT	ITU		

RECEIVER INPUT				SDH			
MAIN	STRUCT'D	TEST	OVERHEAD	FUNCTION	SETUP	MONITOR	
SIGNAL	STM-1						
LEVEL				TERMINATE			
MAPPING	□	AU-4		TU-3			
				34 Mb/s			
CHANNEL				TUG3			
TU PAYLOAD				UNFRAMED			
PATTERN	2^23-1 PRBS			INVERT	ITU		

RESULTS				SDH				ERROR SUMMARY			
RESULT TYPE								COUNTS			
FRAME			....							
B1 BIP			....							
B2 BIP			....	MS-REI			....			
B3 BIP			....	HP-REI			....			
HP-IEC			....							
TU BIP			....	LP-REI			....			
BIT			....							
AU POINTER			0	TU POINTER			0				
ELAPSED TIME			..d ..h ..m ..s								

FUNCTION				STORED SETTINGS			
STORED SETTING NUMBER				0			
ACTION				OFF			
SETTING	0	FACTORY DEFAULT SETTINGS					
	1	.....				
	2	.....				
	3	.....				
	4	.....				

STATUS:
PDH/DSn SDH SONET

SINGLE WINDOW

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.

TRANSMITTER OUTPUT				SDH			
MAIN	STRUCT'D	JITTER	TEST	OVERHEAD	FUNCTION	SETUP	
SIGNAL	STM-1			INTERNAL			
CLOCK	INTERNAL						
FREQUENCY OFFSET	OFF						
MAPPING	□	AU-4		FOREGROUND			
				TU-3			
34M OFFSET				34 Mb/s			
CHANNEL				0 ppm			
TU PAYLOAD				TUG3			
PATTERN	FRAMED	1		UNSTRUCTURED			
	2^23-1 PRBS			INVERT	ITU		

STATUS:
PDH/DSn SDH SONET

MULTIPLE WINDOW

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.

TRANSMITTER OUTPUT		RECEIVER INPUT	
SDH		SDH	
[DATA] [STRUCT] [TITTER] [TEST] [OVERHEAD]		[DATA] [STRUCT] [TEST] [OVERHEAD]	
SETTINGS [PRV] [LOC] [FUNCTION] [SETUP]		SETTINGS [PRV] [LOC] [FUNCTION] [MONITOR]	
SIGNAL: STM-1		SIGNAL: STM-1	
CLOCK: INTERNAL		CLOCK: INTERNAL	
FREQUENCY OFFSET: OFF		FREQUENCY OFFSET: OFF	
MAPPING: [] AU-4		MAPPING: [] AU-4	
TU-3		TU-3	
34 Mb/s		34 Mb/s	
SAR OFFSET: CHANNEL		SAR OFFSET: CHANNEL	
TU-3		TU-3	
0 pps		0 pps	
TU PAYLOAD: UNFRAMED		TU PAYLOAD: UNFRAMED	
PATTERN: 2-23-1 PDS		PATTERN: 2-23-1 PDS	
INVERT: []		INVERT: []	
ITU		ITU	
RESULTS: SDH		FUNCTION: STORED SETTINGS	
RESULT TYPE: COUNTS		STORED SETTING NUMBER: 0	
FRAME: []		SETTING: ACTION: OFF	
BI-BIP: []		0: FACTORY DEFAULT SETTINGS	
BS-BIP: []		1: []	
RS-BIP: []		2: []	
LP-RET: []		3: []	
LP-RET: []		4: []	
AU POINTER: 0		TU POINTER: 0	
ELAPSED TIME: ..:0 ..:h ..:m ..:s			
STATUS: PDH/DSn		SDH SONET	
		SINGLE WINDOW	

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

TRANSMITTER OUTPUT		RECEIVER INPUT	
SDH		SDH	
[DATA] [STRUCT] [TITTER] [TEST] [OVERHEAD]		[DATA] [STRUCT] [TEST] [OVERHEAD]	
SETTINGS [PRV] [LOC] [FUNCTION] [SETUP]		SETTINGS [PRV] [LOC] [FUNCTION] [MONITOR]	
SIGNAL: STM-1		SIGNAL: STM-1	
CLOCK: INTERNAL		CLOCK: INTERNAL	
FREQUENCY OFFSET: OFF		FREQUENCY OFFSET: OFF	
MAPPING: [] AU-4		MAPPING: [] AU-4	
TU-3		TU-3	
34 Mb/s		34 Mb/s	
SAR OFFSET: CHANNEL		SAR OFFSET: CHANNEL	
TU-3		TU-3	
0 pps		0 pps	
TU PAYLOAD: UNFRAMED		TU PAYLOAD: UNFRAMED	
PATTERN: 2-23-1 PDS		PATTERN: 2-23-1 PDS	
INVERT: []		INVERT: []	
ITU		ITU	
RESULTS: SDH		FUNCTION: STORED SETTINGS	
RESULT TYPE: COUNTS		STORED SETTING NUMBER: 0	
FRAME: []		SETTING: ACTION: OFF	
BI-BIP: []		0: FACTORY DEFAULT SETTINGS	
BS-BIP: []		1: []	
RS-BIP: []		2: []	
LP-RET: []		3: []	
LP-RET: []		4: []	
AU POINTER: 0		TU POINTER: 0	
ELAPSED TIME: ..:0 ..:h ..:m ..:s			
STATUS: PDH/DSn		SDH SONET	
		SONET/SDH J1T	
		SINGLE WINDOW	

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.

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**. 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.

FUNCTION	LOGGING
LOGGING SETUP	DEVICE
LOGGING PORT	RS232
REMOTE CONTROL PORT	LAN
PRINTER TYPE	HP PRINTER
SPEED	9600 BAUD
PROTOCOL	NON/NOFF

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

FUNCTION	LOGGING
LOGGING SETUP	DEVICE
LOGGING PORT	RS232
REMOTE CONTROL PORT	LAN
PRINTER TYPE	HP PRINTER
SPEED	9600 BAUD
PROTOCOL	NON/NOFF

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

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

FUNCTION	LOGGING
LOGGING SETUP	DEVICE
LOGGING PORT	RS232
REMOTE CONTROL PORT	LAN
PRINTER TYPE	HP PRINTER
SPEED	9600 BAUD
PROTOCOL	NON/NOFF

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

Getting Started

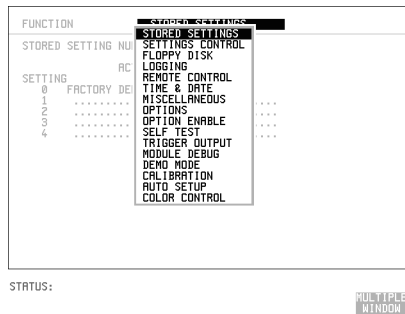
Changing the Instrument Settings

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

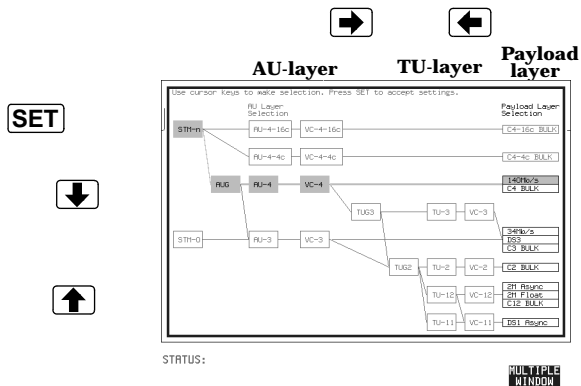
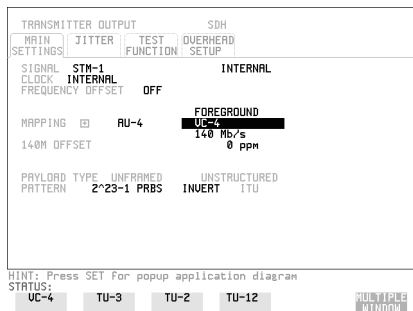
With the cursor in the MAPPING field, press **SET** to display the payload map.

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:



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.

Getting Started

Using the Other Front Panel Keys

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.

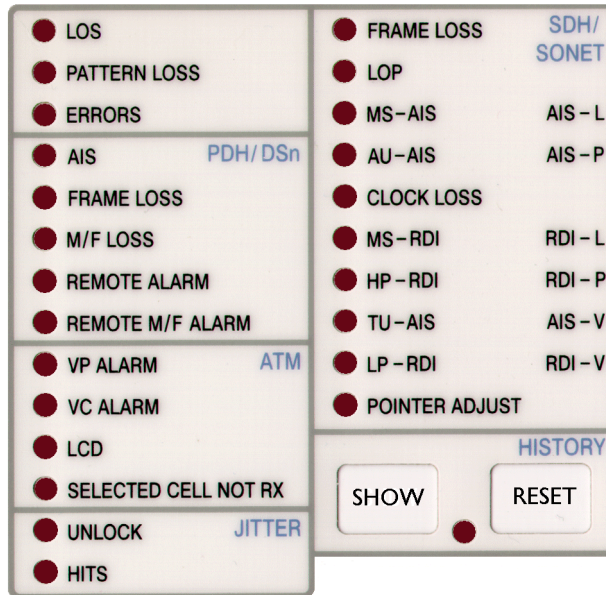
PAPER FEED

The paper in the internal printer is advanced.

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

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

PDH / DSn Alarm Indicators

These are active when a PDH / DSn signal is received

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

SDH Alarm Indicators

These are active when an SDH signal is received.

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

SONET Alarm Indicators

These are active when an SONET signal is received.

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

1st Edition, Dec. 1998

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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.

