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# HP 37717C communications performance analyzer

## Configuration guide

Effective from February 1998

**New dual  
SONET/SDH  
and DS1/DS3  
capability**

**3-year  
warranty as  
standard**



### **New capability**

- ▶ Dual standard SONET/SDH
- ▶ DS1, DS3 interfaces
- ▶ STS-1, STS-3 electrical
- ▶ OC-1, OC-3, OC-12 optical
- ▶ OC-12c and STM-4c
- ▶ STM-0, STM-1, STM-4 optical
- ▶ Protection switch times

## Small Siemens cross-reference

All options listed in the following pages are BNC. If you need small Siemens connectors, use the table below to select equivalent Siemens option.

BNC	Small Siemens
UKK	→ USB
UKJ	→ USA
110	not applicable
UKN	→ USE
UKZ	not applicable
120	not applicable
A3R	→ A3S
A1T	→ A1U
140	→ 141
A3K	→ A3Q
UHN	→ US9
A3L	→ A3M
A3V	→ A3W
A3N	→ A3P
0YK	not applicable
USL	not applicable
UH3	→ US7
200	not applicable
UH1	not applicable
USN	not applicable
UKT	not applicable
130	not applicable
131	not applicable
0YH	not applicable
UHC	→ US6
A3D	not applicable
A3B	not applicable
UKX	not applicable
UH4	not applicable
UH5	not applicable
UH6	not applicable
UH7	not applicable
UH8	not applicable
UKP	not applicable
UKQ	not applicable

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## Introduction

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### Your choice of test capability

The HP 37717C communications performance analyzer supports comprehensive functional test and jitter capability to help you test your PDH/DSn, SONET/SDH and ATM networks or network equipment. The analyzer comprises a mainframe with large color display and integral floppy disk drive, optional 80-column graphics printer, and includes power cord and operating manuals. You add the test capability you require by selecting from the optional test modules.

To meet your specific test needs, just order the capability you require. Simply order the HP 37717C analyzer and choose the application orientated options you require, from the tables in the pages that follow. Remember, you can configure your analyzer to simultaneously include PDH/DSn, SONET/SDH, ATM and jitter, or you can configure it to contain PDH/DSn only, SDH only, SONET/SDH only, ATM only or almost any combination.



**HP 37717C communications performance analyzer** with color display, floppy disk drive as standard and optional integrated printer.

All the power you need for comprehensive performance testing.

Select optional PDH/DSn, SONET/SDH, ATM cell layer, ATM services and jitter modules from an expanding range of options:

- ATM services layer testing with/without native LAN connectivity
- ATM cell layer generation and measurement
- SONET/SDH electrical interfaces
- SONET/SDH optical interfaces (1310 and 1550 nm)
- SONET/SDH binary interfaces
- PDH and SDH jitter/wander Tx and Rx
- DSn testing (DS1, DS3, E1, E3 structured)
- Multiple PDH outputs
- PDH testing (704 kb/s to 140 Mb/s)
- PDH binary interfaces with external clock input
- Printer/remote interfaces
- Graphics printer.

## Example configurations

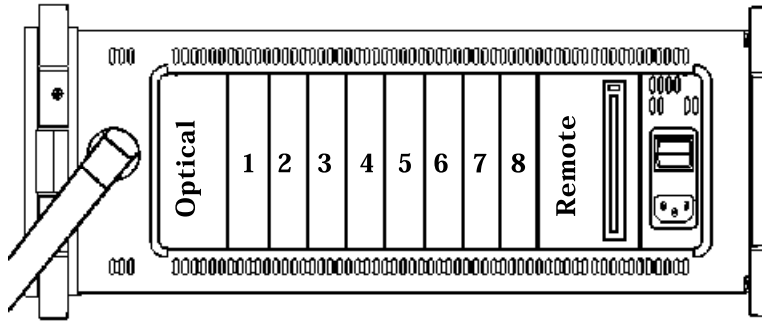
<b>1. STM-4o/STM-1o plus jitter</b>		<b>Option code</b>	<b>Slots used</b>
<b>Example user requirements</b> <ul style="list-style-type: none"> <li>● PDH (2, 8, 34, 140 Mb/s) – mux/demux capability</li> <li>● STM-1e (155 Mb/s) electrical interfaces</li> <li>● STM-4o/STM-1o (1310 nm) optical interfaces</li> <li>● Optical power measurement</li> <li>● Jitter and wander generation</li> <li>● Jitter measurement (at all above interface rates)</li> <li>● Graphics printer</li> <li>● FC/PC optical adapters.</li> </ul>	1. PDH/DSn and ATM test and interfaces option	<b>UKJ</b>	2
	2. SONET/SDH test and interfaces option	<b>A3R</b>	2
	3. Wander and jitter generation option	<b>A3K</b>	1
	4. Wander and jitter measurement option	<b>A3N</b>	2
	5. ATM services layer test option		
	6. PDH binary interfaces option		
	7. Optical interfaces option	<b>131</b>	Reserved
	8. SONET/SDH binary interfaces option		
	9. Multiple PDH interfaces option		
	10. Remote-control/external-printer interfaces option		Reserved
	11. Printer option	<b>UKX</b>	—
	12. Optical adaptor option	<b>UH4</b>	—

<b>2. ATM services and jitter</b>		<b>Option code</b>	<b>Slots used</b>
<b>Example user requirements</b> <ul style="list-style-type: none"> <li>● STM-1/OC-3c optical interfaces (1310 nm)</li> <li>● DS1, DS3, E1, E3, STM-1e electrical interfaces</li> <li>● ATM cell layer testing</li> <li>● ATM Channel View, rate history, graphical CDV</li> <li>● Jitter and wander generation (E1, E3, STM-1)</li> <li>● Jitter measurement (E1, E3, STM-1)</li> <li>● Screen dumps to printer</li> <li>● LAN remote control</li> <li>● FC/PC optical adapters.</li> </ul>	1. PDH/DSn and ATM test and interfaces option	<b>UKZ</b>	2
	2. SONET/SDH test and interfaces option	<b>A1T</b>	2
	3. Wander and jitter generation option	<b>A3K</b>	1
	4. Wander and jitter measurement option	<b>A3V</b>	2
	5. ATM services layer test option	<b>0YK</b>	1
	6. PDH binary interfaces option		
	7. Optical interfaces option	<b>UH1</b>	Reserved
	8. SONET/SDH binary interfaces option		
	9. Multiple PDH interfaces option		
	10. Remote-control/external-printer interfaces option	<b>A3B</b>	Reserved
	11. Printer option	<b>UKX</b>	—
	12. Optical adaptor option	<b>UH4</b>	—

<b>3. OC-12c, DS3 structured, HP-IB</b>		<b>Option code</b>	<b>Slots used</b>
<b>Example user requirements</b> <ul style="list-style-type: none"> <li>● PDH (DS1, DS3, E1, E3) – mux/demux capability</li> <li>● STS-1/STS-3 (52/155 Mb/s) electrical interfaces</li> <li>● OC-12c (for clear channel testing)</li> <li>● OC-12c/OC-3/OC-1 (1310 nm) optical interfaces</li> <li>● Optical power measurement.</li> <li>● RS-232-C/HP-IB remote control</li> <li>● Remote PC operation (needs HP E4540A distributed network analyzer software).</li> <li>● FC/PC optical adapters.</li> </ul>	1. PDH/DSn and ATM test and interfaces option	<b>110</b>	2
	2. SONET/SDH test and interfaces option	<b>120</b>	2
	3. Wander and jitter generation option		
	4. Wander and jitter measurement option		
	5. ATM services layer test option		
	6. PDH binary interfaces option		
	7. Optical interfaces option	<b>131</b>	Reserved
	8. SDH binary interfaces option		
	9. Multiple PDH interfaces option		
	10. Remote-control/external-printer interfaces option	<b>A3D</b>	Reserved
	11. Printer option		—
	12. Optical adaptor option	<b>UH4</b>	—
Distributed network analyzer firmware	<b>USS</b>	—	

## Configuring the HP 37717C communications performance analyzer

There are reserved slots for optical interfacing and remote-control modules. In addition, you have a maximum of **eight** user-configurable slots to add PDH/DSn, SONET/SDH, ATM and jitter capability. Ensure that the number of slots used does not exceed **eight**.



**Step 1** Review sections 1 to 12 in the following pages to determine the capability you require. In each section, select one option as required and tick the option box.

**Step 2** Enter the option code and slots used in the table below. Confirm slots used does not exceed eight slots.

	Option code	No. of slots	Slots used
1. PDH/DSn and ATM test and interfaces option		2	
2. SONET/SDH test and interfaces option		2	
3. Wander and jitter generation option		1	
4. Wander and jitter measurement option		1 or 2	
5. ATM services layer test option		1 or 2	
6. PDH binary interfaces option		1	
7. Optical interfaces option		—	Reserved
8. SONET/SDH binary interfaces option		1	
9. Multiple PDH interfaces option		1	
10. Remote-control/external-printer interfaces option		—	Reserved
11. Printer option		—	—
12. Optical adaptor options		—	—
<b>Total number of slots used</b>			

**Step 3** Check that you have specified both test and interfacing for all required capabilities.

*Your local HP sales representative will be happy to help you configure the HP 37717C analyzer to match your specific needs.*

## Module interworking section

The following three tables indicate which modules are capable of networking with each other. Choose one from each category (if required)†

### PDH/SDH and ATM cell layer supported configurations

PDH/ATM cell test and PDH interfaces	STM-0e/STM-1e test and interfaces	Optical interfaces	Jitter, wander and slips testing – generation
<p><b>Option UKK</b> <i>Page 8</i> Unstructured PDH: 0.7, 2, 8, 34 and 140 Mb/s.</p> <p><b>Option UKJ</b> <i>Page 8</i> Structured PDH: 2, 8, 34 and 140 Mb/s.</p> <p><b>Option UKN</b> <i>Page 8</i> ATM cell: 2, 34 and 140 Mb/s (includes all capability of option UKJ).</p> <p><b>Option UH3†</b> <i>Page 9</i> Binary (NRZ) clock and data plus external clock input. Must also order option UKK, UKJ or UKN.</p> <p><b>Option UHC†</b> <i>Page 11</i> Three additional 2, 8, 34 and 140 Mb/s outputs. Must also order option UKK, UKJ or UKN.</p>	<p><b>Option A3R</b> <i>Page 8</i> STM-0e (52 Mb/s) and STM-1e (155 Mb/s) electrical interface: STM-0/STM-1 overhead access, thru mode and pointer sequences, TU-12, TU-2, VC-3 and VC-4 mappings.</p>	<p><b>Option UH1</b> <i>Page 10</i> 155 Mb/s (1310 nm).</p> <p><b>Option 130</b> <i>Page 10</i> 622/155/52 Mb/s (1310 and 1550 nm), optical power measurement.</p> <p><b>Option 131</b> <i>Page 10</i> 622/155/52 Mb/s (1310 nm), optical power measurement.</p> <p><b>Option 0YH†</b> <i>Page 10</i> 622/155/52 Mb/s binary (NRZ) interfaces. Must also order option 130 or 131.</p>	<p><b>Option A3K</b> <i>Page 9</i> PDH and SDH jitter and wander generation.</p> <p><b>Option 140</b> <i>Page 9</i> PDH and SDH jitter generation.</p> <p><b>Jitter, wander and slips testing – measurement</b></p> <p><b>Option UHN</b> <i>Page 9</i> PDH jitter measurement: 2, 8, 34 and 140 Mb/s.</p> <p><b>Option A3L</b> <i>Page 9</i> STM-1e line and PDH jitter measurement: 2, 8, 34, 140 and 155 Mb/s.</p> <p><b>Option A3V</b> <i>Page 9</i> STM-1e, STM-1e line and PDH jitter measurement: 2, 8, 34, 140 Mb/s and 155 Mb/s.</p> <p><b>Option A3N</b> <i>Page 9</i> STM-4e, STM-1e, STM-1e line and PDH jitter measurement: 2, 8, 34, 140 Mb/s, 155 Mb/s and 622 Mb/s.</p>

### Dual standard SONET/SDH and DSn/PDH supported configurations

PDH/DSn interfaces	SONET/SDH test and interfaces	Optical interfaces	Jitter, wander and slips testing – generation*
<p><b>Option 110</b> <i>Page 8</i> Structured PDH: DS1, DS3, E1, E3.</p> <p><b>Option UKK</b> <i>Page 8</i> Unstructured PDH: 0.7, 2, 8, 34 and 140 Mb/s.</p> <p><b>Option UKJ</b> <i>Page 8</i> Structured PDH: 2, 8, 34 and 140 Mb/s.</p> <p><b>Option UKN</b> <i>Page 8</i> ATM cell: 2, 34 and 140 Mb/s (includes all capability of option UKJ).</p> <p><b>Option UH3†</b> <i>Page 9</i> Binary (NRZ) clock and data plus external clock input. Must also order option UKK, UKJ, UKN or 110.</p>	<p><b>Option 120</b> <i>Page 8</i> STS-1/STM-0e (52 Mb/s) and STS-3/STM-1e (155 Mb/s) electrical interface: Overhead access, thru mode and pointer sequences. VT1.5/TU-11, VT2/TU-12, VT6/TU-2, VC-3/STS-1 SPE and VC-4/STS-3c SPE mappings.</p>	<p><b>Option UH1</b> <i>Page 10</i> 155 Mb/s (1310 nm).</p> <p><b>Option 130</b> <i>Page 10</i> 622/155/52 Mb/s optical interface (1310 and 1550 nm), optical power measurement.</p> <p><b>Option 131</b> <i>Page 10</i> 622/155/52 Mb/s optical interface (1310 nm), optical power measurement.</p> <p><b>Option 0YH†</b> <i>Page 10</i> 622/155/52 Mb/s binary (NRZ) interfaces. Must also order option 130 or 131.</p>	<p><b>Option A3K</b> <i>Page 9</i> PDH, 155 Mb/s, 622 Mb/s jitter and wander generation.</p> <p><b>Option 140</b> <i>Page 9</i> As option A3K, but without wander generation.</p> <p><b>Jitter, wander and slips testing – measurement*</b></p> <p><b>Option UHN</b> <i>Page 9</i> PDH jitter measurement.</p> <p><b>Option A3L</b> <i>Page 9</i> 155 Mb/s electrical and PDH jitter measurement.</p> <p><b>Option A3V</b> <i>Page 9</i> 155 Mb/s optical, electrical and PDH jitter measurement.</p> <p><b>Option A3N</b> <i>Page 9</i> 622 Mb/s and 155 Mb/s optical, electrical and PDH jitter measurement.</p>

## Broadband ATM services supported configurations

ATM cell test interfaces	STM-1e test and interfaces	Optical interfaces	Jitter, wander and slips testing – generation*
<p><b>Option UKN<sup>1</sup></b> <i>Page 8</i> ATM cell generation and analysis: 2, 34 and 140 Mb/s (includes all capability of option UKJ structured PDH).</p> <p><b>Option UKZ<sup>2</sup></b> <i>Page 8</i> Generation and measurement of ATM payloads: 1.544 (DS1), 44.736 (DS3), 2.048 (E1) and 34.368 (E3) Mb/s.</p> <p><sup>1</sup>ITU-T <sup>2</sup>ANSI/ITU-T</p>	<p><b>Option A1T</b> <i>Page 8</i> STM-1e (155 Mb/s) electrical interface. Overhead access, thru mode and pointer sequences. TU-12, TU-2, VC-3 and VC-4 mappings. (Provides STM-1o output when option UKN and optical interface option are selected. STM-1o and OC-3c are provided when option UKZ and an optical interface option are selected).</p>	<p><b>Option UH1</b> <i>Page 10</i> 155 Mb/s (1310 nm).</p> <p><b>Option USN</b> <i>Page 10</i> 622/155 Mb/s (1310 and 1550 nm), optical power measurement.</p> <p><b>Option UKT</b> <i>Page 10</i> 622/155 Mb/s (1310 nm), optical power measurement.</p>	<p><b>Option A3K</b> <i>Page 9</i> PDH, 155 Mb/s, 622 Mb/s jitter and wander generation.</p> <p><b>Option 140</b> <i>Page 9</i> As option A3K but without wander generation.</p>
<p><b>ATM services layer test</b></p>			<p><b>Jitter, wander and slips testing – measurement*</b></p> <p><b>Option UHN</b> <i>Page 9</i> PDH jitter measurement.</p> <p><b>Option A3L</b> <i>Page 9</i> 155 Mb/s electrical and PDH jitter measurement.</p> <p><b>Option A3V</b> <i>Page 9</i> 155 Mb/s optical, electrical and PDH jitter measurement.</p> <p><b>Option A3N</b> <i>Page 9</i> 622 Mb/s, 155 Mb/s optical, electrical and PDH jitter.</p>

† Where specified two modules may be ordered from certain categories (ie. UH3, UHC, 0YH).

\* **NB** Jitter generation and measurement does not include DS1, DS3 and 52 Mb/s. PDH jitter depends on options fitted. If option UKK/UKJ/UKN fitted then PDH jitter generation and measurement is provided at E1/E2/E3/E4. If option 110 fitted then PDH jitter generation and measurement capability is provided at E1 and E3. 622 Mb/s and 155 Mb/s jitter presented in ITU-T terminology as is specified in the HP 37717B/C communications performance analyzer technical specifications (publication number 5966-0892E). For compliance to Bellcore standards, please contact your local Hewlett-Packard representative for details.

**Please contact your local sales office if you require module interworking capability not specified here.**

**All modules work with UKX (printer), A3B/A3D (remote control) and USS (distributed network analyzer software).**

Option code	No of slots	Tick one
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### 1. PDH/DSn and ATM test and interfaces options

**Choose one option (if required). All options provide PDH interfaces and PDH test capability.**

- Unstructured PDH testing: 0.7, 2, 8, 34 and 140 Mb/s interfaces plus an error output. .... **UKK** 2
- Structured PDH testing: 2, 8, 34 and 140 Mb/s interfaces (64 kb/s and n x 64 kb/s testing). .... **UKJ** 2
- ATM cell generation and analysis: 2, 34 and 140 Mb/s interfaces† ..... **UKN** 2   
– includes all capability of option UKJ (structured PDH testing).
- Structured DSn/PDH testing: DS1, DS3, E1 and E3 interfaces ..... **110** 2   
(64 kb/s, 56 kb/s, n x 64 kb/s and n x 56 kb/s testing)
- ATM cell generation and analysis: DS1, DS3, E1 and E3 interfaces ..... **UKZ\*** 2   
(equivalent to 1.5 Mb/s, 45 Mb/s, 2 Mb/s, 34 Mb/s)‡.

† If you need ATM cell generation and analysis at STM-1, then also order STM-0e/STM-1e option A3R (section 2).

‡ If you need OC-3c, then also order STM-1e option A1T (section 2) and appropriate optical interfaces and adaptor options (sections 7 and 12).

\* Option UKZ does not support option A3R or 120 at present.  
Please refer to module interworking section (pages 6 and 7).

Option code	No of slots	Tick one
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### 2. SONET/SDH test and interfaces options

**Choose one option (if required). These options provide SDH electrical interfacing and SDH test capability.**

- SDH test module: STM-0e (52 Mb/s) and STM-1e (155 Mb/s) electrical interfaces, ..... **A3R\*** 2   
STM-0/STM-1 overhead access, thru mode and pointer sequence generation, TU-12, TU-2, VC-3 and VC-4 mappings plus frequency offset generation, alarm and error generation/detection plus an error output, SDH alarm and BIP scan, tributary scan and protection switch times.
- SONET/SDH test module: STS-1/STM-0e (52 Mb/s) and STS-3/STM-1e (155 Mb/s) ..... **120†** 2   
electrical interfaces, overhead access, thru mode and pointer sequence generation, VT1.5/TU-11, VT2/TU-12, VT6/TU-2, STS-1/VC-3 SPE and STS-3c/VC-4 SPE mappings plus frequency offset generation, alarm and error generation/detection plus an error output, offset generation and BIP scan, tributary scan and protection switch times plus frequency and BIP scan.

\* Option A3R does not support option UKZ at present.  
Please refer to module interworking section (pages 6 and 7).

† Option 120 does not support option UKZ and UHC at present.  
Please refer to module interworking section (pages 6 and 7).

STM-1e (155 Mb/s) electrical interface: As per option A3R but without ..... **A1T** 2   
STM-0e (52 Mb/s) capability, and without an error output.

Option code	No of slots	Tick one
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### 3. Wander and jitter generation options

**Choose on option (if required). For PDH jitter generation, also order PDH/DSn option (section 1). For SDH jitter generation, also order SONET/SDH option (section 2) plus appropriate optical interfaces and adaptor options (sections 7 and 12).**

- PDH jitter generation: 2, 8, 34 and 140 Mb/s up to 80 UI (2 Mb/s) ..... **140†** 1   
SDH jitter generation: STM-1 (155 Mb/s) and STM-4 (622 Mb/s) up to 200 UI (STM-4).
- All the capability of option 140 plus wander generation: 2 Mb/s, STM-1 (155 Mb/s) ..... **A3K** 1   
and STM-4 (622 Mb/s) up to 14400 UI (STM-4).

† 8 and 140 Mb/s jitter generation requires a PDH option with 8 and 140 Mb/s interface to be fitted



Option code	No of slots	Tick one
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#### 4. Wander and jitter measurement options

Choose one option (if required). If you need PDH jitter measurement then also order PDH/DSn interface option (section 1).

● PDH (tributary) jitter and wander measurement: 2, 8, 34, 140 Mb/s, with HP1, HP2 and ..... UHN LP filters to ITU-T O.171 plus 2 Mb/s wander and estimated frame slip measurement.	1	<input type="checkbox"/>
● STM-1e line jitter and PDH (tributary) jitter; rms, peak-to-peak, auto jitter transfer ..... A3L and wander measurement: 155 Mb/s electrical interface with HP1, HP2, LP and 12 kHz HP filters to ITU-T O.171/G.825.	2	<input type="checkbox"/>
● STM-1o/STM-1e, plus all the capability of option A3L. .... A3V	2	<input type="checkbox"/>
● STM-4o/STM-1o/STM-1e, plus all the capability of option A3L. .... A3N	2	<input type="checkbox"/>

† 8 and 140 Mb/s jitter measurement requires a PDH option with 8 and 140 Mb/s interface to be fitted

Option code	No of slots	Tick one
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#### 5. ATM services layer test options

Choose one option (if required). As these modules use the interfacing provided by a PDH/DSn and ATM test option, must also order ATM option UKN or UKZ (section 1).

● Provides ATM and AAL capabilities including Channel View, rate history, ..... 0YK† graphical CDV, benchmark traffic.	1	<input type="checkbox"/>
● As per option 0YK (but occupying two slots) plus native Ethernet LAN ..... USL† connectivity tests.	2	<input type="checkbox"/>

† Option 0YK and USL do not support options A3R and 120 at present.  
Please refer to module interworking section (pages 6 and 7).

Option code	No of slots	Tick one
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#### 6. PDH binary interfaces options

Choose one option (if required). Must also order a PDH and ATM test option (section 1). (Option UH3 does not support options UKZ, 0YK or USL at present.)

● PDH NRZ interfaces: Adds binary Tx clock and data, binary Rx clock and data, ..... UH3† plus external clock input.	1	<input type="checkbox"/>
● PDH synthesized BER testing bundle : Includes UH3 (binary clock and data), ..... 200 UKK (unstructured BER module) and HP 8647A synthesizer.	3	<input type="checkbox"/>

† Option UH3 does not support options UKZ, 0YK and USL at present.  
Please refer to module interworking section (pages 6 and 7).

Option code		Tick one
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## 7. Optical interfaces options

**Choose one option (if required). All optical interfaces receive at 1310 and 1550 nm.**

Provides optical interfaces. Must also order STM-0e/STM-1e option A3R (section 2), and appropriate optical adaptor options (section 12).

### STM-1 optical interfaces only (for testing STM-1 only)\*

- 155 Mb/s optical interface: 1310 nm, -9 dBm output ..... UH1 reserved optical slot

### STM-4/OC-12c test and optical interfaces

Provides optical interfaces, plus optical power measurement and STM-4 test functionality, ie, for STM-4 overhead access. Must also order 52/155 Mb/s option A3R or 120 (section 2), and appropriate optical adaptor options (section 12).

- 622/155/52 Mb/s optical interfaces: Dual wavelength at 1310 nm, -10 dBm ..... 130†
- output plus 1550 nm, -1 dBm output; includes STM-4/OC-12c, overhead access, thru mode and optical power measurement.
- 622/155/52 Mb/s optical interfaces: 1310 nm, -10 dBm output; includes ..... 131†
- STM-4c/OC-12c, overhead access, thru mode and optical power measurement.

† Option 130/131 does not support option UKZ at present. Please refer to module interworking section (pages 6 and 7).

### STM-4 test and optical interfaces

Provides optical interfaces. Must also order STM-1e option A1T (section 2), and appropriate optical adaptor options (section 12).

- 622/155 Mb/s optical interfaces: Dual wavelength at 1310 nm, 1550 nm ..... USN\*

-10 dBm output plus 1550 nm, -1 dBm output; includes overhead access, thru mode and optical power measurement.

- 622/155 Mb/s optical interfaces: 1310 nm, -10 dBm output; ..... UKT\*

includes overhead access, thru mode and optical power measurement (easily upgradeable to dual wavelength).

\* Available with ATM options OYK, USL, UKZ only. When option UKZ (and A1T) are present, these interfaces also provide OC-3c capability.

Option code	No of slots	Tick if required
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## 8. SONET/SDH binary interfaces option

**Choose if required. Must also order STM-4 test and optical interfaces option 130 or 131 (section 7).**

- 622/155 Mb/s NRZ interfaces. 50 ohm ECL Tx data and Tx clock outputs, plus ..... OYH 1
- Rx data and Rx clock inputs.

Option code	No of slots	Tick if required
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### 9. Multiple PDH interfaces option

Choose if required. Must also order a PDH and ATM test and interface option UKK, UKJ or UKN (section 1).

- Three additional 2, 8, 34 and 140 Mb/s outputs. .... UHC 1

Option code		Tick one
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### 10. Remote-control/external-printer interfaces options

Choose one option (if required).

- RS-232-C and HP-IB remote-control/external-printer interfaces. .... A3D reserved remote slot
- LAN remote control, RS-232-C and HP-IB remote-control/external-printer interfaces. .... A3B slot

Option code		Tick if required
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### 11. Printer option

Choose if required.

- Integrated, full-width, 80-column graphics printer (for printing of graphics, results and screen dumps). .... UKX Uses lid

Option code		Tick as required
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### 12. Optical adaptor options

If specifying an SDH optical interface and/or wander and jitter measurements, choose the connector adaptor type(s) to suit your particular requirements:

- FC/PC ..... UH4
  - DIN47526 ..... UH5
  - ST ..... UH6
  - Biconic ..... UH7
  - NEC D4 ..... UH8
  - SC ..... UKP
  - HMS-10/HP ..... UKQ
- Not applicable  
↓

Option code		Tick if required
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### 13. DNA

Choose if required. Must also order a remote-control/external printer interface (see section 10).

- Allows the instrument to be used with HP E4540A distributed network analyzer software\* for Windows®. Software allows remote, interactive control for centralized testing. .... USS Not applicable

\* For full details of centralized testing using the HP 37717C analyzer and other telecom testers from HP, please ask your local HP representative for brochure 5964-2240E (distributed network analyzer software).

## Other options and accessories

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### Optical coupler

**HP15744A:** Optical coupler.\*

*\*Order the appropriate option. For full details of the HP 15744A optical coupler, please ask your local HP representative for a brochure. The optical coupler and graphics printer (option UKX) cannot both be fitted at the same time.*

**HP 15722A:** Telephone handset for options UKJ or UKN.

### Fiber optic cable

**HP E4545A:** 3 m fiber optic cable (FC/PC connectors).

### Carrying cases and rack mount kit

**HP 15910B:** Soft, vinyl carrying case.  
**HP 15772B:** Hard, robust transit case.  
**HP 15770A:** Rack mount kit.

### HP 15777C upgrade kit

Enhance the capabilities of the HP 37717C analyzer at a later date. To order HP 15777C upgrade kit options, contact your local HP sales representative.

### Graphics printer paper

**Printer paper:** Part number 9270-1360.

### Warranty

3-year warranty as standard.

### Manuals and calibration certificate

**Option AVA:** Calibration manual.  
**Option OB2:** One additional operating manual.  
**Option OBF:** One additional remote operation manual.  
**Option UK6:** Calibration certificate.

### Standards conformance

**CE mark:**\* The HP 37717C communications performance analyzer has full CE mark compliance and meets the following standards:

- ESD/mains fast transients/radiated susceptibility: meets EN50082-1 (1991).
- Radiation emissions/conducted emissions: meets EN55011 (1991).

**Product safety:** The HP 37717C communications performance analyzer meets the following safety standards:

- IEC 348/EN61010.

*\* All products sold in EC and ETSI countries must have the CE mark.*

For more information about Hewlett-Packard test & measurement products, applications, services, and for a current sales office listing, visit our web site, <http://www.hp.com/go/tmdir>. You can also contact one of the following centers and ask for a test and measurement sales representative.

#### United States:

Hewlett-Packard Company  
Test and Measurement Call Center  
P.O. Box 4026  
Englewood, CO 80155-4026  
1 800 452 4844

#### Canada:

Hewlett-Packard Canada Ltd.  
5150 Spectrum Way  
Mississauga, Ontario  
L4W 5G1  
(905) 206 4725

#### Europe:

Hewlett-Packard  
European Marketing Centre  
P. O. Box 999  
1180 AZ Amstelveen  
The Netherlands  
(31 20) 547 9900

#### Japan:

Hewlett-Packard Japan Ltd.  
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Latin American Region Headquarters  
5200 Blue Lagoon Drive  
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Miami, Florida 33126  
USA  
(305) 267 4245/4220  
Fax: (305) 267-4288

#### Australia/New Zealand:

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Australia  
Tel: 1 800 629 485 (Australia)  
Tel: (0800) 738 378 (New Zealand)  
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17-21/F Shell Tower, Times Square  
1 Matheson Street, Causeway Bay  
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Tel: (852) 2599 7777  
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*HP manufactures the HP 37717C communications performance analyzer under a quality system approved to the international standard ISO 9001 plus TickIT (BSI Registration Certificate No FM 10987).*



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