

Contents

1. Getting Started	
About this Manual	1-1
About the HP 37717A	1-2
Option Summary	1-3
Power Requirements	1-4
Obtaining and Modifying the HP 37717A Displays	1-5
Other Front Panel Keys	1-7
Status Indicators	1-9
Connectors	1-12
Basic Error Measurement Demonstration	1-13
Recall Factory Default Settings	1-13
Bit Error Measurement Setup	1-14
Start the Measurement and Monitor the Results	1-14
2. Making Measurements	
BERT Testing	2-3
End To End Testing	2-3
Introduction	2-3
Default (Known State) Settings	2-4
Test Setup Procedure (End-to-End Test)	2-4
Run the Test (End-to-End Test)	2-7
At the End of the Test (End-to-End Test)	2-8
Loopback Testing	2-9
Introduction	2-9
Default (Known State) Settings	2-9
Test Setup Procedure (Loopback Test)	2-9
Continuity Check	2-11
Start the Test (Loopback Test)	2-11
At the End of the Test (Loopback Test)	2-12
Payload Testing	2-13

Payload Mapping	2-13
Application	2-13
Default (Known State) Settings	2-13
Payload Mapping Test Setup Procedure	2-14
Continuity Check	2-16
Start the Payload Mapping Test	2-16
At the End of the Test (Payload Mapping)	2-17
Payload DeMapping	2-18
Application	2-18
Default (Known State) Settings	2-18
Payload DeMapping Test Setup procedure	2-18
Continuity Check	2-20
Start the Payload DeMapping Test	2-21
PDH Multiplexer Testing	2-23
Default (Known State) Settings	2-23
PDH Multiplexer Test Setup Procedure	2-23
Start the PDH Multiplexer Test	2-25
At the End of the Test (PDH Multiplexer)	2-26
PDH FAS Monitoring	2-27
Application	2-27
Default (Known State) Settings	2-27
Test Setup Procedure (PDH FAS Monitoring)	2-27
Start the Test (PDH FAS Monitoring)	2-29
SDH Monitoring	2-30
Application	2-30
Default (Known State) Settings	2-30
SDH Monitoring Setup Procedure	2-31
Start the SDH Monitoring Test	2-32
Wander and Slips	2-33
Default (Known State) Settings	2-33
Wander and Slips Test Setup Procedure	2-33
Run the Test (Wander and Slips)	2-35
At the End of the Test (Wander and Slips)	2-36
Jitter Testing	2-37
PDH Jitter Transfer	2-37
Default (Known State) Settings	2-38
Test Setup Procedure (Jitter Transfer Test)	2-38
Run the Test (Jitter Transfer)	2-39

PDH Jitter Tolerance	2-40
Default (Known State) Settings	2-40
Test Setup Procedure (Jitter Tolerance Test)	2-40
Run the Test (Jitter Tolerance)	2-41
Signal Tests	2-43
Frequency Offset Tolerance	2-43
Application	2-43
Default (Known State) Settings	2-44
Test Setup Procedure (Frequency Offset Tolerance)	2-44
Continuity Check	2-45
Run the Test (Frequency Offset Tolerance)	2-45
Frequency Measurement	2-47
Application	2-47
Default (Known State) Settings	2-47
Test Setup Procedure (Frequency Measurement)	2-47
Run the Test (Frequency Measurement)	2-48
At the End of the Test (Frequency Measurement)	2-48
Installing Upgrade Modules	2-49
Ordering Upgrade Modules	2-49
Graphics	2-50
Obtaining Graphics Results	2-51
Recalling Previously Stored Results	2-51
Viewing the Bar Graph Display	2-52
Viewing the Error and Alarm Summaries	2-54
Viewing the Stored Results Status	2-55
Demonstration Graphs	2-56
Printing Graphics Displays	2-56
Logging Results	2-58
Test Period Logging	2-58
Error Event Logging	2-59
HP-IB External Printer	2-60
RS-232-C External Printer	2-61
External HP ThinkJet Printer	2-62
Connecting an RS-232-C ThinkJet Printer	2-62
Connecting an HP-IB ThinkJet Printer	2-63
Internal Printer Changing Paper	2-64
Path Trace	2-65
Stored Settings	2-66

Select Settings to be Stored	2-68
Title the Settings	2-69
Save the Settings	2-69
Recall Default Settings	2-70
Recall Previously Stored Settings (Payload Mapping)	2-70
Coupling Transmit and Receive Settings	2-71
Time & Date	2-72
Setting Time and Date	2-72
Keyboard Lock	2-73
Lock/Unlock the Keyboard	2-73
Beep On Error	2-74
Enable/Disable Beep On Error	2-74
Analysis Control	2-75
Self Test	2-76
A. Printer Messages	
Printer Types	A-1
Results Logging	A-1
During the Measurement Period	A-2
At the End of the Measurement Period	A-5
Bar Graph Logging (External Printer Only)	A-5
Graphics Text Results Logging (External Printer Only)	A-7
B. Results Definitions	
Trouble Scan	B-1
Short Term Results	B-2
PDH Out of Service (Standard)	B-2
PDH In-Service (Standard)	B-2
PDH Payload (Options UHA and UH0)	B-3
SDH (Options UHA and UH0)	B-3
Cumulative Results	B-4
PDH Out of Service (Standard)	B-4
PDH In-Service (Standard)	B-4
PDH Payload (Options UHA and UH0)	B-5
SDH (Options UHA and UH0)	B-5
PDH Error Analysis (Standard)	B-6
Bit Errors	B-6
Frame Errors	B-7

CRC Errors	B-8
REBE Errors	B-9
PDH M.2100 Frame Analysis	B-10
SDH Error Analysis (Options UHA and UH0)	B-12
RS B1 BIP Analysis	B-12
MS B2 BIP Analysis	B-13
Path B3 BIP Analysis	B-13
Path FEBE Analysis	B-14
TU Path BIP Analysis - 34 Mb/s Payload	B-14
TU Path BIP Analysis - 2 Mb/s Payload	B-15
TU Path FEBE Analysis - 34 Mb/s Payload	B-15
TU Path FEBE Analysis - 2 Mb/s Payload	B-16
Alarm Seconds	B-17
PDH Alarm Seconds (Standard)	B-17
SDH Alarm Seconds (Options UHA and UH0)	B-17
Frequency Measurement	B-18

Index