OPERATING AND SERVICE MANUAL

HP8157A OPTICAL ATTENUATOR

OPTION 001 850nm

OPTION 002 1300nm/1550nm

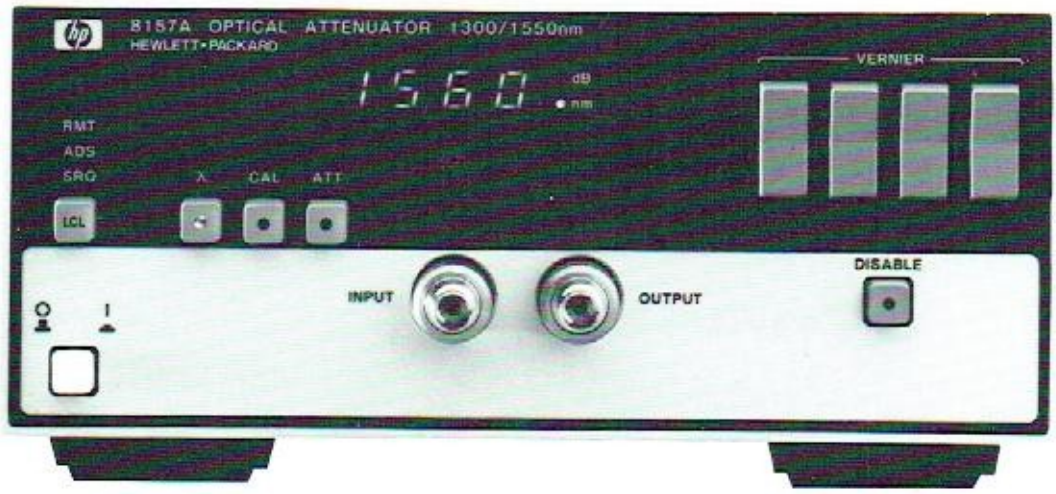

Photo shows option 002.

HEWLETT PACKARD

CONTENTS

SECTION		Page
1	**GENERAL INFORMATION**	
1.1	INTRODUCTION	1-1
1.2	SPECIFICATIONS	1-1
1.3	SAFETY CONSIDERATIONS	1-1
1.4	INSTRUMENTS COVERED BY THIS MANUAL	1-2
1.5	DESCRIPTION	1-2
1.6	ACCESSORIES SUPPLIED	1-2
1.7	ACCESSORIES AVAILABLE	1-2
2	**INSTALLATION**	
2.1	INTRODUCTION	2-1
2.2	INITIAL INSPECTION	2-1
2.3	PREPARATION FOR USE	2-1
2.4	Power Requirements	2-1
2.5	Line Voltage Selection	2-2
2.6	Power Cable	2-3
2.7	HP-IB Connector	2-4
2.8	HP-IB Logic Levels	2-4
2.9	OPERATING ENVIRONMENT	2-4
2.10	CLAIMS AND REPACKAGING	2-4
2.11	STORAGE AND SHIPMENT	2-5
3	**OPERATING AND PROGRAMMING**	
3.1	INTRODUCTION	3-1
3.2	SPECIAL OPERATING CONSIDERATIONS	3-1
3.3	OPERATORS CHECKS	3-1
3.4	GETTING TO KNOW YOUR INSTRUMENT	3-2
3.5	SETTING THE ATTENUATION	3-3
3.6	Basic Considerations	3-3
3.7	Optimize the Display With the CAL Key	3-4
3.8	**PROGRAMMING**	3-5
3.9	WHAT YOU NEED TO KNOW . . .	3-5
3.10	. . . About The HP 8157A's HP-IB Capabilities	3-5
3.11	. . . About Programming Examples in This Section	3-5
3.12	GETTING STARTED	3-6
3.13	Setting The Address	3-6
3.14	Checking Remote Operation	3-6
3.15	SENDING DATA TO THE HP 8157A (LISTENER FUNCTION)	3-7
3.16	RECEIVING DATA FROM THE HP 8157A (TALKER FUNCTION)	3-8
3.17	STATUS/ERROR REPORTING (TALKER FUNCTION)	3-9
3.18	Status Register and Status Byte	3-9
3.19	Setting The SRQ Mask	3-11
3.20	Condition Register	3-11
	COMMAND SUMMARY	3-12

CONTENTS (CONTD)

SECTION		Page
4	**PERFORMANCE TESTS**	
4-1	INTRODUCTION	4-1
4-2	EQUIPMENT REQUIRED	4-1
4-3	TEST RECORD	4-2
4-4	TEST FAILURE	4-2
4-5	INSTRUMENTS SPECIFICATION	4-2
4-6	PERFORMANCE TEST	4-2
4-7	TOTAL INSERTION LOSS TEST	4-3
4-8	ATTENUATION ACCURACY	4-5
4-9	ATTENUATOR REPEATABILITY	4-7
4-10	ATTENUATOR RETURN LOSS	4-8

TABLES

TABLE		Page
1-1	Specifications	1-3
3-1	HP-IB Capabilities	3-5
4-1	Recommended Test Equipment	4-1

FIGURES

FIGURE		Page
2-1	Line Voltage Switch Assembly	2-2
2-2	Power Cables-Plug Identification	2-3
2-3	HP-IB Connector	2-4
3-1	Front and Rear Panels	3-0
3-2	Typical Set-up	3-4
4-1	Reference Measurement Set-up	4-3
4-2	Total Insertion Loss Set-up	4-4
4-3	Attenuation Accuracy Test Set-up	4-5
4-4	Return Loss Set-up	4-8

SCHEMATICS

SCHEMATIC		Page
1	POWER SUPPLY	8-19
2	MOTOR PROCESSOR	8-27
3C	MOTOR CONTROL	8-29
4	HP-IB INTERFACE	8-37
5	MAIN PROCESSOR	8-39
6	KEYBOARD INTERFACE	8-41
7	KEY/DISPLAY BOARD	8-43

COMPONENT LAYOUTS

LAYOUT		Page
08158-66501	KEY BOARD	8-12
08157-66504	MICROPROCESSOR BOARD	8-14
08157-66505	MAIN BOARD	8-16