

Operation Manual

HP 70004A Display



**HEWLETT
PACKARD**

HP Part No. 70004-90031 Microfiche Part No. 70004-90032
Printed in USA July 1990

Contents

1. Display Overview	
Start Here	1-1
If You Are Familiar with the Display	1-1
If You Are Unfamiliar with the Display	1-1
Programming the Display	1-1
Introduction	1-2
Notation	1-2
Display Screen Description	1-2
Interpreting the Front-Panel HP-MSIB Indicator	1-4
Front-Panel Controls	1-4
Fixed-Label Key Functions	1-6
Key Functions	1-6
Multi-State Functions	1-7
Rear-Panel Features	1-7
Accessing DISPLAY Functions	1-8
 1. Display Overview	
 2. Main Menu	
DISPLAY PRESET	2-2
NEXT INSTR	2-2
REPORT ERRORS	2-5
INTEN ADJUST	2-6
 3. Hard Copy Menu	
printer config	3-2
printer address	3-4
plotter config	3-5
plotter address	3-8
copy options	3-8

4. <u>Mass Storage Menu</u>	
<u>msi</u>	4-2
<u>MEMORY CARD</u>	4-3
Installing the Memory Card	4-3
Changing the Memory Card Battery	4-4
<u>HP-IB disk</u>	4-7
<u>HP-IB ADDRESS</u>	4-7
<u>UNIT NUMBER</u>	4-7
<u>VOLUME NUMBER</u>	4-7
5. <u>Adjust Color Menu</u>	
<u>SAVE COLORS</u>	5-2
<u>RECALL COLORS</u>	5-2
<u>edit colors</u>	5-3
HSL (Hue, Saturation, and Luminosity)	5-3
RGB (Red, Green, Blue)	5-3
<u>DEFAULT COLORS</u>	5-5
<u>MONOCHROME</u>	5-5
<u>special colors</u>	5-6
Information About Color Theory	5-8
The RGB Model (Red, Green, Blue)	5-8
The HSL Model (Hue, Saturation, and Luminosity)	5-8
Seeing Color	5-8
It's All Subjective, Anyway	5-8
Mixing Colors	5-9
Color Gamuts	5-9
Objective Color Use	5-10
Color Blindness	5-10
Viewing Red Lasers	5-10
Color Hard Copy	5-10
Photographing the CRT	5-10
Plotting/Color Printing and the CRT	5-11
Subjective Color Use	5-11
Choosing Colors	5-11
Color References	5-13
6. <u>Config Display Menu</u>	
<u>SHOW CONFIG</u>	6-3
<u>SAVE CONFIG</u> <u>RECALL CONFIG</u>	6-5
<u>build window</u>	6-6
<u>custom windows</u>	6-6
<u>BUILD (#) WINDOW(S)</u> Build 1, 2, or 4 Windows	6-9
<u>STACK (#) WINDOW(S)</u> Stack 2 or 4 Windows	6-9
<u>assign window</u>	6-10
<u>purge window</u>	6-11

7.	<u>Address Map Menu</u>	
	HP-IB, HP-MSIB, and the Address Map	7-3
	<u>ADJUST COLUMN</u> <u>ADJUST ROW</u>	7-4
	<u>HP-IB ADDRSET</u>	7-4
	<u>ASSIGN DISPLAY</u>	7-5
	<u>ASSIGN KEYBD</u>	7-6
	<u>ASSIGN BOTH</u>	7-7
8.	<u>Misc Menu</u>	
	<u>HP LOGO DISPLAY</u>	8-2
	<u>clock</u>	8-2
	<u>CLOCK DISPLAY</u>	8-2
	<u>US/EURO</u>	8-2
	<u>Set Clock</u>	8-3
	<u>DISPLAY ID</u>	8-4
	<u>display tests</u>	8-5
	<u>CONFID TEST</u>	8-5
	<u>KEY TEST</u>	8-6
	<u>KNOB TEST</u>	8-7
	<u>TUMBLE FIGURES</u>	8-7
	<u>test pattern</u>	8-8
	<u>service modes</u>	8-9
	<u>BRIGHT ADJUST</u>	8-9
9.	<u>Front-Panel Fixed-Label Keys</u>	
	<u>LCL</u>	9-2
	<u>INSTR PRESET</u>	9-2
	<u>←</u>	9-2
	<u>HOLD</u>	9-2
	<u>INSTR</u>	9-3
	<u>MENU</u>	9-4
	<u>USER</u>	9-4
	<u>DISPLAY</u>	9-4
	<u>0</u> <u>9</u>	9-4
	<u>↑</u> <u>↓</u>	9-4
	<u>PRINT</u>	9-5
	<u>PLOT</u>	9-5
10.	<u>Hewlett-Packard Human Interface Link</u>	
	The Keyboard Interface	10-1
	Functional Keycodes	10-2
	<u>Index</u>	

Figures

1-1. HP 70004A Display Screen	1-2
1-2. HP 70004A Display Front Panel	1-5
1-3. HP 70004A Display Rear Panel	1-7
1-4. Menu Key Index, Main Keys	1-12
1-5. Menu Key Index, Hard Copy Keys	1-13
1-5. Menu Key Index, Hard Copy Keys (continued)	1-14
1-6. Menu Key Index, Mass Storage Keys	1-15
1-7. Menu Key Index, Adjust Color Keys	1-16
1-8. Menu Key Index, Config Display Keys	1-17
1-9. Menu Key Index, Address Map Keys	1-18
1-10. Menu Key Index, Misc Keys	1-19
1-10. Menu Key Index, Misc Keys (continued)	1-20
1-10. Menu Key Index, Misc Keys (continued)	1-21
2-1. Obtaining Spectrum Analyzer Display and Keyboard Control	2-4
2-2. Instrument Display	2-5
3-1. Plotter Parameters as Set by the Display	3-7
4-1. Example of an HP 70900B Accessing an HP-IB Disk Drive	4-2
4-2. Using HP-MSIB to Connect the Display to a Remote Antenna Site	4-3
4-3. Inserting the Memory Card	4-4
4-4. Memory Card Date Code Location	4-5
4-5. Memory Card Battery Replacement	4-6
6-1. Current Configuration	6-4
6-2. Configuration Register 1	6-4
6-3. Softkeys Available Under <u>custom windows</u>	6-7
6-4. Custom Windows 1 (top) and 2 (bottom)	6-8
8-1. Display ID Screen	8-5
8-2. Key Tests	8-6
8-3. Knob Test	8-7
9-1. The <u>INSTR</u> Key Display Screen	9-3
10-1. Keyboard Connection	10-1

Tables

1-1. System Status Block Letters	1-3
1-2. Softkey Index, Alphabetical Order	1-9
3-1. HP PaintJet Color Map	3-3
3-2. Mapping of Display Pens to Plotter Pens	3-6
3-3. Default Values	3-9
5-1. Default Color Values for the Edit Colors Menu	5-4
5-2. Default Values for the Monochrome Display	5-5
5-3. Red, Green, and Blue Values for Vision Enhnc 1	5-6
5-4. Red, Green, and Blue Values for Vision Enhnc 2	5-7
5-5. Red, Green, and Blue Values for the Optical Filter	5-7
9-1. <u>INSTR</u> Key Window Assignments	9-3