

HEWLETT  PACKARD

INSTALLATION MANUAL

12901A

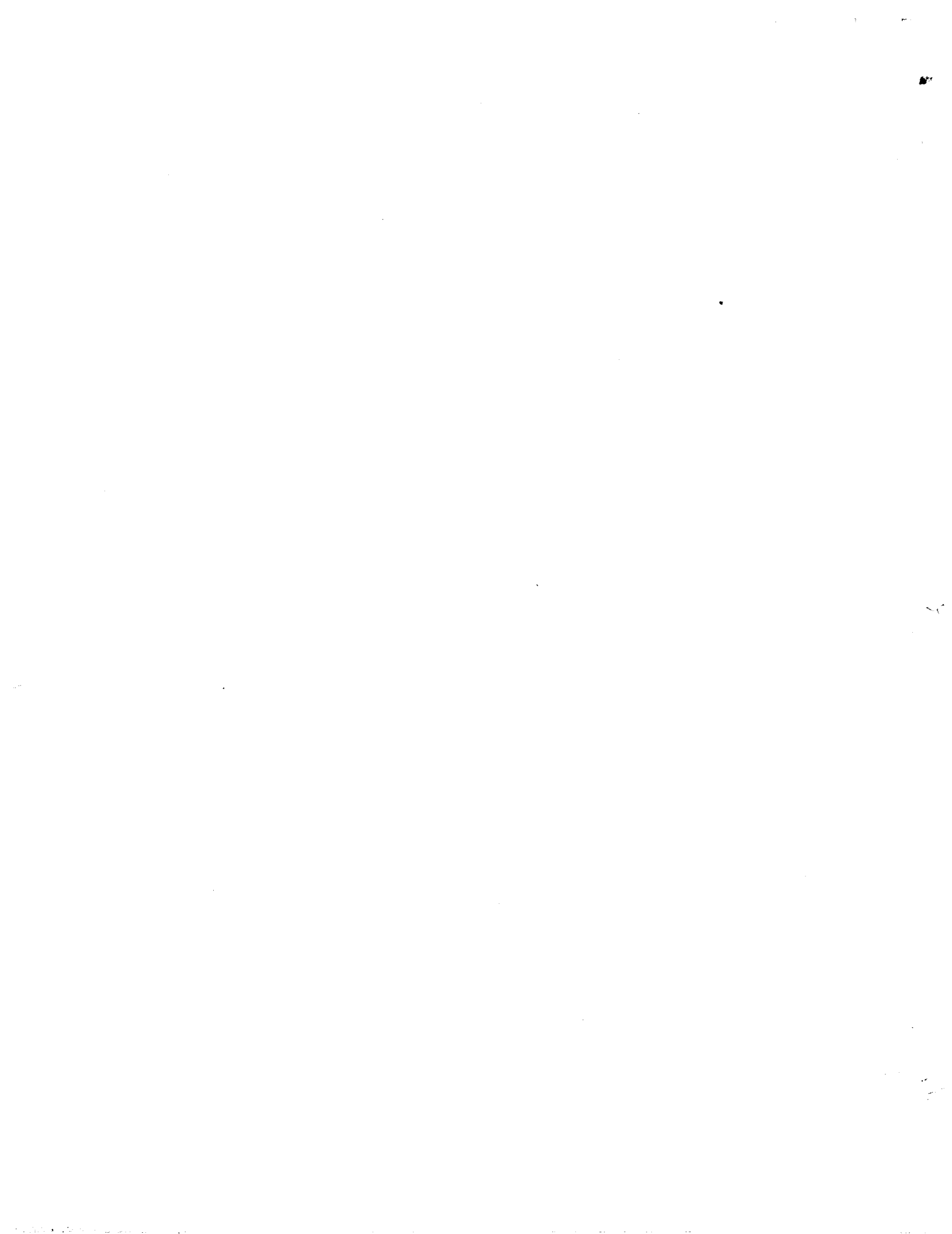
FLOATING-POINT HARDWARE ACCESSORY KIT

(FOR 2100 COMPUTER)



Note

This manual should be retained with the applicable computer system documentation.



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1. INTRODUCTION.

2. This manual provides field installation instructions for the HP 12901A Floating-Point Hardware Accessory Kit, an accessory for the Hewlett-Packard 2100 Computer. Further information about the accessory is provided as follows: For theory of operation and maintenance information, refer to the *Installation and Maintenance Manual* for the computer; for schematic and component location diagrams, refer to the *Diagrams Manual*; for replacement parts information, refer to the computer *Illustrated Parts Breakdown Manual*; for a description of programming requirements and a sample assembly language program, refer to the computer *Reference Manual*.

3. DESCRIPTION.

4. The HP 12901A Floating Point Hardware Accessory Kit provides the computer with the necessary logic to perform floating-point mathematical operations. The floating-point microprogram is contained in six ROM packs installed in the module 1 position (U25, U26, U27, U35, U37, and U65) on ROM Control Card A2. Mapping to the correct ROM starting address for execution of the floating-point user instructions is accomplished by the proper configuration of jumpers W4 and W5 in the ROM mapper circuits. The configuration of jumpers W1, W2, W3, and W6 in the Non-Existent ROM (NER) FF circuits are also changed to include ROM module 1.

5. The HP 12901A Kit consists of the following:

- a. Six ROM integrated circuit packages, part numbers 1816-0054 through 1816-0059.
- b. Six integrated circuit sockets, part number 1200-0767.
- c. Six socket insulators, part number 0340-0788.
- d. One product identifier, part number 12901-80001.
- e. Installation Manual, part number 12901-90001.

6. UNPACKING AND INSPECTION.

7. If the shipping carton is damaged upon receipt, request that the carrier's agent be present when the parts are unpacked. Inspect the parts for damage (cracked, broken, etc.). If the parts are damaged and fail to meet specifications, notify the carrier and the nearest HP Sales and Service Office immediately (Sales and Service Offices are listed at the back of this manual.) Retain the shipping container and the packing material for the carrier's inspection. The HP Sales and Service Office will arrange for the repair or replacement of the damaged parts without waiting for any claims against the carrier to be settled.

8. IDENTIFICATION.

9. Hewlett-Packard uses five digits and a letter (00000A) for standard kit designations. If the designation of your kit does not agree with that on the title page of this manual, there are differences between your kit and the kit described in this manual. These differences are described in change sheets and manual supplements available at the nearest HP Sales and Service Office. These offices are listed at the back of this manual.

10. Printed-circuit card revisions are identified by a letter, a date code, and a division code stamped on the card (e.g., A-1103-22). The letter code identifies the version of the etched trace pattern on the unloaded card. The date code (four middle digits) refers to the electrical characteristics of the loaded card. The division code (last two digits) identifies the Hewlett-Packard division that manufactured the card. If the date code stamped on the printed-circuit card does not agree with the date code shown on the appropriate schematic diagram in the computer *Diagrams Manual*, there are differences between your card and the card described in the *Diagrams Manual*. These differences are described in manual supplements available at the nearest HP Sales and Service Office.

11. INSTALLATION.

12. Install the floating-point hardware accessory as follows:

- a. Turn off power at the computer.
- b. Remove the top access cover from the computer.
- c. Remove all cable connectors (if any) attached to the top of the ROM control card (part no. 02100-60002) in slot 2 of the computer.
- d. Remove the ROM control card from slot 2, and check that the proper jumpers are installed on the card. (Refer to table 1. Floating-point is installed as module one.)

Table 1. ROM Control Card A2 Jumper Connections for Various Module Configurations

MODULES	JUMPERS TO BE INSTALLED					
	W1	W2	W3	W4	W5	W6
0	A to B	D to K	E to F	in	none	H to L
0,1 (floating point)	A to B	none	none	in	none	H to L

- e. Install the six integrated circuit sockets and insulators in the positions allotted to U25, U26, U27, U35, U37, and U65 and plug in the six ROM integrated circuits as follows (see *Diagrams Manual*):

- (1) Part no. 1816-0054 into XU37
- (2) Part no. 1816-0055 into XU35
- (3) Part no. 1816-0056 into XU25
- (4) Part no. 1816-0057 into XU65
- (5) Part no. 1816-0058 into XU27
- (6) Part no. 1816-0059 into XU26

- f. Replace the ROM control card (with floating-point ROM's installed) in slot 2 of the computer and install the product identifier (part no. 12901-80001) over connector J2 of the card. (Connector J2 is the connector closest to the back of the computer.)

- g. Replace all cable connectors removed in step c above.

- h. Replace the top access cover of the computer.

13. INSTALLATION CHECKOUT.

14. Turn on power at the computer and perform the diagnostic test as outlined in the Floating Point Instructions Diagnostic Reference Manual, part no. 02100-90215. If the diagnostic program is completed without error, the card is installed and operating properly, and is ready for normal program operation. If the diagnostic program indicates errors, halt the computer, turn off power and remove the floating-point hardware card. Recheck all installation steps and repeat the diagnostic test.

15. MAINTENANCE.

16. If the results of the diagnostic test indicate that the floating-point hardware accessory does not operate properly, refer to the computer *Installation and Maintenance Manual* for maintenance information pertaining to the floating-point feature.

17. SHIPPING AND STORAGE.

18. If an item from the kit is to be shipped to Hewlett-Packard for service or repair, attach a tag to the item identifying the owner and indicating the service or repair to be accomplished. Include the number of the kit.

19. Package the item in the original factory packaging material, if available. If the original material is not available, standard factory packaging material can be obtained from a local Hewlett-Packard Sales and Service Office.

20. If standard factory packaging material is not used, wrap the item in Air Cap TH-240 cushioning (or equivalent) manufactured by Sealed Air Corp., Hawthorne, N.J., and place in a corrugated carton (200 pound test material). Seal the shipping carton securely and mark it "FRAGILE" to assure careful handling.

Note: In any correspondence, identify the kit by number. Refer any questions to the nearest Hewlett-Packard Sales and Service Office.

21. If the kit is to be stored before use, package it as described above to prevent accidental damage.

CERTIFICATION

The Hewlett-Packard Company certifies that this instrument was thoroughly tested and inspected and found to meet its published specifications when it was shipped from the factory. The Hewlett-Packard Company further certifies that its calibration measurements are traceable to the U.S. National Bureau of Standards to the extent allowed by the Bureau's calibration facility.



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