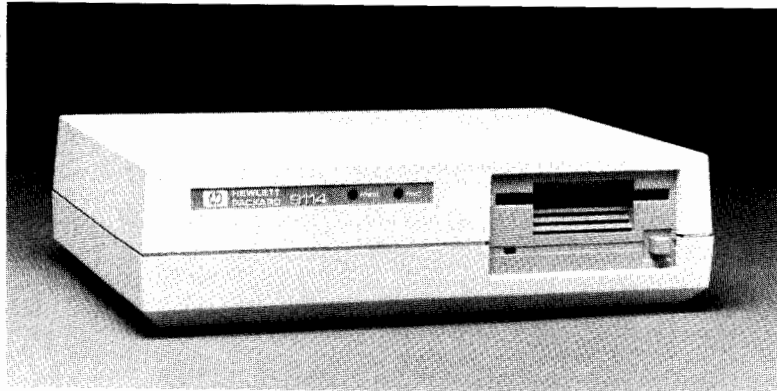


HP 9114A



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NOTICE

This Handbook is intended only for service personnel trained in its use by Hewlett-Packard. It is designed as a quick reference guide to commonly used service information. The information contained here is highly condensed from other manuals and this volume is not intended to be a substitute for, but rather a supplement to those manuals.

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For research and education purposes only.

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The HP 9114A has no switches or jumpers to configure other than for selftest selection (See the Diagnostic section).	
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No additional diagrams are needed for service.

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REFERENCE

For information on the drive mechanism, refer to the tabbed Reference Section of this handbook.

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SECTION I

PRODUCT INFORMATION

[1] INTRODUCTION

The HP 9114A Disc Memory is a battery-powered, random-access data storage device. It contains a single 3 1/2-inch double-sided disc drive providing 710 Kbytes of storage capacity.

The HP 9114A Drive supports both the SUBSET/80 and the FILBERT command set. FILBERT is the command set used by the 82161A Cassette Tape Drive.

[2] TECHNICAL SPECIFICATIONS

POWER REQUIREMENTS

Battery charging time (to 80%) Approx. 5 HRS

DUTY CYCLE	BATTERY LIFE	
	WITHOUT CHARGER	WITH CHARGER
TIME BETWEEN DISC ACCESSES*		
.5 MINUTE	40 MINUTES	**
1 MINUTE	1.8 HOURS	**
2 MINUTES	3.5 HOURS	**
5 MINUTES	6 HOURS	**
8 MINUTES	9 HOURS	CONTINUOUS

*Typical access time (disc access light is on) is 5 seconds.

**The effect of the charger on battery life varies with the duty cycle.

NOTE

If the LOW BATTERY indicator comes on, power the unit off and charge the battery. Plugging in the charger will not allow continued operation with a low battery condition.

[3] ACCESSORIES

DESCRIPTION	PART NUMBER
3 1/2-inch flexible discs (pkg. of 10)	92192A
HP-IL Cable (0.5 metre)	
(1.0 metre)	82167B
(5.0 metre)	82167D
AC Adapter/Recharger	Dependent on location (see Service Manual)

[4] SERVICE KITS

The following list of assemblies and parts is recommended for your Field Service Inventory (FSI)

Internal HP-IL Cable	09114-61611
Sony Drive Cable	09114-61612
Battery Cable	09114-61613
On/Off Cable	09114 61614
Internal drive PWR Cable	09114-61610
Battery Pack	09114-66401
Recharger (115VAC)	82059-60003
Controller	09114-69520
3 1/2-inch Flexible Drive	09114-69511



SECTION II

ENVIRONMENTAL/INSTALLATION/PM

[1] ENVIRONMENTAL CONSIDERATIONS

Operating Limits

Temperature: 10° C to 40° C (50° F to 104° F)
with maximum wet bulb temperature
not to exceed 29° C (85° F)

Altitude: 0 to 4572 m (0 to 15,000 ft)

Non-operating Limits (storage and transit)

Temperature: -40°C to 60°C (-40° to 140° F)

Altitude: -304 to 15240 m (-1000 to 50,000 ft)

[2] INSTALLATION CONSIDERATIONS

Installation is normally a customer responsibility. This unit does not have switches or jumpers to configure.

NOTE

Disc drive performance and reliability are dependent on the type of media used. HP warrants and supports HP media, and HP-approved media only.

[3] PREVENTIVE MAINTENANCE

No preventive maintenance is required.

SECTION III

CONFIGURATION

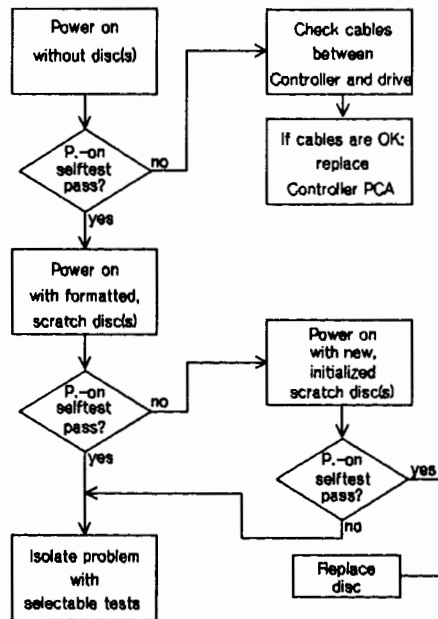
The HP 9114A has no switches or jumpers to configure. Device address assignment is initiated by the host computer and selected by the Drive Control PCA (corresponding to the location of the device in the HP-IL loop).

SECTION IV

TROUBLESHOOTING

[1] TROUBLESHOOTING TREE

The Power-on Selftest can be used to isolate the control PCA or the drive mechanism as follows.



[2] DISC INTERCHANGING

It is possible for a drive to pass all READ/WRITE tests yet fail when reading a disc which has been initialized or written on by another drive. This type of failure can be caused by misalignment of the drive mechanism or of the PLL frequency.

To determine which drive is misaligned, test with a disc that has been initialized and written on a known-good drive.

SECTION V

DIAGNOSTICS



[1] SELFTESTS

Procedure

The selftest diagnostics are selected as follows.

1. Set the test jumpers. See the figure on page 5-2.
2. Install a formatted scratch disc.
3. Power-on the drive
4. Short the START SVC jumper within 5 seconds after power on sequence has finished (30 seconds in units with REV. A ROMS).
5. Reset the jumpers after testing.

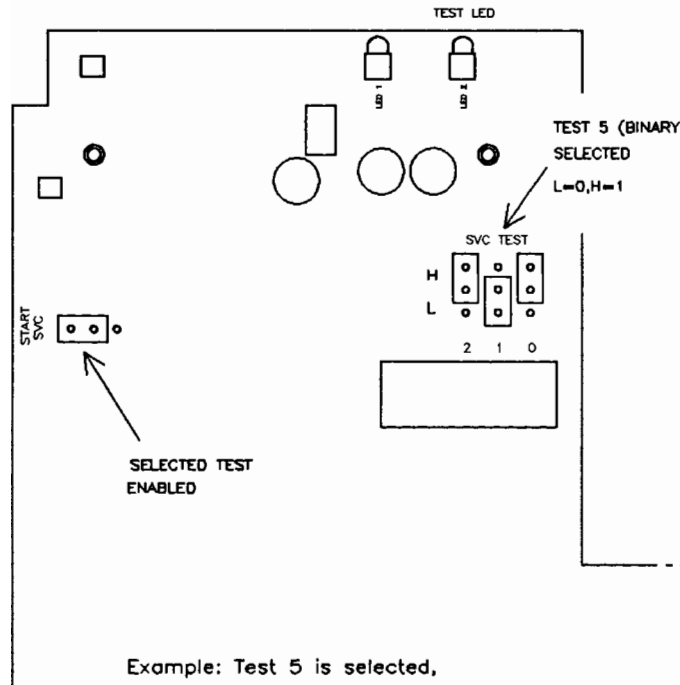
NOTE

There is no way to loop on a test.

Repeat the procedure for each test.

Results

Test pass indication	Fault LED blinks 5 times, followed by a power-on selftest
Test fail indication	Fault LED stays on for 5 seconds, followed by a power-on selftest



Example: Test 5 is selected,
test is enabled.

SVC Test Jumpers

CAUTION

DATA on the disc will be destroyed in test 3. All
DATA and FORMATTING will be destroyed in test 7.

Selectable Selftests

No.	Test Name	Duration	Description
0	NOT USED		
1	RAM/ROM/FDC/ PIA TEST	5s	Tests all of the preceding chips in the order indicated. The RAM is tested, the LED is blinked twice to indicate it passed; the ROM is tested, then the LED is blinked three times to indicate it passed, etc.
2	HP-IL chip	10s	This is an interface loop-back test which tests the ability of the HP-IL chip to send and receive data. The supplied HP-IL cable must be connected between the input and output of the HP-IL port.
3	WRITE/READ	80s	CAUTION: Data on the disc will be destroyed. Use a FORMATTED, SCRATCH DISC. A worst case pattern is written on the disc. The data is then read and compared to the originally written data.
4	VERIFY	50s	All sectors in the data area of the disc are checked for CRC errors.
5	SEEK	10s	The track zero detector is checked while the head is moved on and off of track zero.
6	MOTOR SPEED	10s	The period of the index pulse is measured to check motor speed accuracy.
7	FORMAT	85s	CAUTION: Disc data and format will be destroyed. Use a SCRATCH DISC. The disc is formatted. Data patterns are written and verified.

SECTION VI
ADJUSTMENTS

[1] ELECTRICAL AND MECHANICAL ADJUSTMENT

The electrical and mechanical adjustments for the HP 9114A are not normally performed in the field. Refer to the product's service manual for adjustment information.

SECTION VII
PERIPHERALS

This section has been intentionally left blank.



SECTION VIII**REPLACEABLE PARTS****[1] EXCHANGE ASSEMBLIES**

3 1/2-inch Flexible Disc Drive	09114-69511
Controller	09114-69520

[2] NON-EXCHANGE ASSEMBLIES

Internal HP-IL Cable	09114-61611
Drive Cable, RBN	09114-61612
Battery Cable	09114-61613
On/Off Cable	09114 61614
Internal Sony PWR Cable	09114-61610
Battery Pack	09114-66401
Recharger (115VAC)	82059-60003

[3] TOOLS

Torx Driver	8710-1584
(used for top cover removal)	

SECTION IX

DIAGRAMS

No additional diagrams are needed for service.

SECTION X

REFERENCE

For information on the drive mechanism, refer to the tabbed Reference Section of this handbook.

SECTION XI
SERVICE NOTES/IOSMs

This section of the handbook may be used to file service notes.

