

Upgrade your Hewlett-Packard HP-71 hand held com-puter instantly! Hand Held Products has responded to the clamor of all HP-71 users who need more memory. The HP-71 is a strong tool for a host of ap-

plications but is limited to only 17.5K of Random Access Memo-ry (RAM). With increased mem-ory, the HP-71 is transformed into a powerhouse whose poten-Into a powernouse whose poten-tial is finally realized! In response to the user demand, Hand Held Products is pleased to announce not only one, but five ways to dramatically increase the memory of your HP-71. All Memory Modules are enclosed within the card reader space of the HP-71, are entirely self-contained, and can be

literally installed in seconds. The 64K RAM and 32K RAM modules have enclosed battery back-up and can be removed from the HP-71 without fear of memory loss. Hand Held Products also provides other products to support the HP-71

HHP-71 M/M 96K	RAM	- \$995.00
HHP-71 M/M 64K	RAM	— \$695.00
HHP-71 M/M 32K	RAM	- \$395.00
HHP-71 M/M 32K	RAM	- \$495.00
THIN TT WITH SER	EPROM CARRIER	ψ+00.00
HHP-71 M/M 32K	EPROM CARRIER	- \$ 99.00

and 71 Memory Modules. A cross assembler which allows you to download assembly language programs into your HP-71 is available as well as ROM development software to enable you to burn your own EPROMS. Hand Held Products

is very proud to add the 71 Memory Modules and support products to its rapidly growing family of state-of-the-art, cus-tom, portable electronics.

Available Now! For complete information:

HAND HELD PRODUCTS, INC.

P.O. Box 2388, Charlotte, North Carolina 28211

Telephone (704) 541-1380 **Volume Discounts Available** 

TWX 810-621-0380 PROTECH VISA and MasterCard Accepted Hand Held Products' 71 Memory Modules (M/M's) are a very powerful enhancement for the Hewlett-Packard HP-71 computer. The 71 M/M's are available in the following configurations:

- Random Access Memory (RAM) expansion. Hand Held Products provides your choice of 32K, 64K, or 96 Kbyte RAM expansion.
- Erasable Programmable Read-Only Memory (EPROM) expansion. The EPROM carrier versions of the 71 M/M's allow you to address up to 32 Kbytes of software in EPROM.
- RAM/EPROM expansion. The 32K RAM/ 32K EPROM version of the M/M's provides 32K of RAM as well as up to 32K of EPROM.

As you can see, the addition of Hand Held Products' 71 Memory Modules dramatically increases the memory of your HP-71 computer. Installation of any of the 71 M/M's transform the HP-71 into a powerhouse and can open up a new world of opportunity for HP-71 users.



Display shows available RAM after installing 96K Memory Module.

#### Installing the Memory Module

The 71 M/M's are enclosed in the cardreader port of the HP-71. The installation is very simple. No tools are necesary:

- 1) Turn off the HP-71.
- 2) Turn the HP-71 over and remove the cover to the card reader port.
- 3) Remove the plastic insert.
- 4) Install the 71 M/M by aligning the gold pins in the HP-71 with the sockets in the 71 M/M. Press on the back of the 71 M/M until it fits snugly in place.
- 5) Turn the HP-71 right-side-up and make certain the nameplate of the M/M is flush with the front of the HP-71.
- 6) Replace the cover to the card-reader port.

#### Using the 71 M/M—RAM

Hand Held Products' 71 Memory Modules offer you the flexibility of using your extended memory in two ways:

Main Memory

When a 71 RAM M/M is installed, you have instantly added 32K, 64K, or 96 Kbytes of RAM to your HP-71. This additional memory becomes a part of Main RAM in your HP-71.

• Independent Memory

Your increased memory can also be partitioned or placed in independent RAM. The additional memory resides in port 5 of the HP71. The 32K RAM, 64K RAM, and 96K RAM M/M's can be partitioned in 32K increments and are addressed in the following locations.

32K . . . . port 5.0 64K . . . . ports 5.0 and 5.01

96K . . . . ports 5.0, 5.01, and 5.02

#### Note:

Other independent memory configurations in increments of 32K are available. Consult Hand Held Products for further information.

#### 71 M/M's. . . Battery Back-Up

The 32K RAM and 64K RAM M/M's have a self-contained lithium battery. This will allow the 71 M/M to be removed from the HP-71 and still retain its memory when used as freeported RAM.

The 71 M/M's battery is in operation only when the module is removed from the HP-71 i.e., there is no drain on the M/M's battery while installed in the HP-71. When installed in the HP-71, all 71 M/M's are powered by the HP-71's power source. The snap-on cover which is provided with your 71 M/M is extremely important with regard to the battery life of your 32K RAM and 64K RAM Memory Module. The cover should be placed on the M/M immediately upon the removal of the module from the HP-71 and must remain on the module at all times when not installed in the HP-71.

Battery Life

Your battery backed-up memory module will retain its memory for up to five (5) years under normal use. Normal usage is considered as leaving the M/M inside the HP-71 approximately 80% of the time.

It is a simple task to replace the battery in your M/M. The only material necessary is a 71 M/M Battery Replacement Assembly which comes complete with everything you need and can be installed in minutes.



Installing the Hand Held Products Memory Module.

## 71 M/M's... EPROM Carrier Versions

The 71 M/M's offer two options for adding EPROM to the HP-71: the EPROM carrier by itself or the EPROM carrier with 32K of RAM. The EPROM functions the same in both versions.

You may install up to 32K of EPROM in your 71 M/M EPROM Carrier. The following EPROMs may be used: Intel<sup>™</sup> compatible, NMOS or CMOS, 27256, 27128, 2764, 200 nanosecond or faster.

 Addressing the Memory In the EPROM Carrier version of the 71 M/M, the EPROM is addressed in port 5.0. In the 32K RAM/32K EPROM M/M the EPROM is addressed in port 5.0 and the RAM is in port 5.01.



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INTRODUCES More Memory For the HP-71