What Is a RAMdisk?

A conventional (mechanical) floppy drive or hard drive is a peripheral mass storage device capable of storing information on a recording medium, usually a magnetic disk. A RAMdisk uses Random Access Memory to emulate such a peripheral device. The conventional disk drive uses many moving mechanical parts to store and retrieve its recorded information. Because the RAMdisk has no moving parts, it can read and write files up to 20 times faster than a floppy drive or hard drive. Some larger disk-intensive programs, such as AppleWorks, when loaded into and executed from a RAMdisk, run appreciably faster.

About This Manual...

This manual is included with the Applied Engineering RamFactor peripheral accessory card. It explains what RamFactor is, how it can enhance the performance of your software and computer system, and how to install and use it.

How you intend to use RamFactor will determine which chapters you need to read. Use the chapter summary, below, to decide which chapters are applicable to your needs.

Intro.: *Getting Started* provides an overview of RamFactor, RAMdisks, and the manual.

Chapter 1: *Installing RamFactor* is a step-by-step guide to inserting the RamFactor card into your computer.

Chapter 2: *Putting RamFactor to Work* explains how to use RamFactor as a RAMdisk, a solid - state disk drive.

Chapter 3: *RamFactor Partition Manager* tells you how to divide RamFactor's memory into separate work areas, or partitions for different operating systems including ProDOS, DOS 3.3, and Pascal.

App. A: *Adding Memory to the RamFactor* tells you how to install additional memory chips on your RamFactor card

App. B: *Testing the RamFactor* contains information about using the RamFactor diagnostic programs included in the firmware and on the AW 2 Expander™ disk to check the basic operation and hardware reliability of your RamFactor card..

Apple warns programmers NOT to use any page zero locations when calling the Protocol Converter firmware, saying that some page zero locations are used by that firmware. They do not say which locations they use, but investigations show that they use bytes in the range from $40 to $4F. What they do with those is push them on the stack, put their own data in them, and at the end restore the original contents from the stack. They use a substantial amount of stack, as many as 35 bytes. (The RamFactor firmware uses no more than 17 bytes of stack for Protocol Converter calls, including the two used by your JSR.) It is recommended that you can copy the PCADDR bytes up into your own program. You could even plug them in to every JSR to the Protocol Converter. For example:

```
        jsr    find.pc
        bcs    ...              ...no pc found
        lda    pcaddr
        sta    callp+1
        lda    pcaddr+1
        sta    callpc+2
        ...
        jsr    callpc
        .da    #cmd,parameters
        ...
callpc  jmp  *    address filled in
```

Description of Protocol Converter Commands

Apple defines ten commands for the Protocol Converter firmware. These are not necessarily identical in function for all devices which use the Protocol Converter. In fact, Apple's memory card and Apple's UniDisk 3.5 use two of the commands differently. The Protocol Converter firmware in the RamFactor functions exactly the same way as that in the Apple Memory Expansion Card.

The following chart summarizes the ten commands as implemented in the RamFactor firmware.