

VULCAN™

Vulcan™ high-speed internal hard disks for the IIgs, IIe, II+ and II, combine a wide range of upgradeable sizes with the speed and power lacking in other systems. The result? A quantum leap forward into the Apple II future. Finally, a reliable and affordable way to store massive files while speeding up booting time and saving wear on disk drives.

Easy to use.

Our built-in firmware automatically installs itself as a Desk Accessory for write protection and partitioning. The flexible partitioning software can be easily adjusted for any of the operating systems. You don't have to create partitions for systems you're not using. The software we provide lets you easily back up and reformat. Vulcan easily installs under your computer's hood,

*Live long
and prosper with
the ultimate
Apple II hard disk.*



Vulcan

Without question, the fastest.

Bar none, Vulcan is the fastest hard drive on the Apple II market. With system 5.0 you can load AppleWorks GS in less than 14 seconds. Boot GS/OS into the finder in 18 seconds. Verify disks at the astounding rate of more than 180 blocks per second.

replacing the Apple power supply with 70 full watts of power.

Upgradeable flexibility.

Choose a Vulcan from 20, 40, 100 — all the way up to a staggering 200 MEGs. Vulcan is upgradeable, so it can grow as your needs grow. Use virtually any operating system: GS/OS, ProDOS 8, DOS 3.3, CPM or Pascal 1.3. Vulcan supports them all with sixteen partitions (up to four can be accessed simultaneously). Partitioning and backup utilities are included. Choose slot 1, 2, 4, 5, 6 or 7. Even pseudo-slot to slot 7 from elsewhere. Vulcan works on 110/220 VAC, even European 115/230 VAC at 50-60 Hz. And a new caching card option is currently under development.

70 Watts of power.

Vulcan's power supply was custom-designed by Applied Engineering to provide the power lacking in other systems. It checks in at 70 watts, nearly twice the capacity of competing systems...enough punch to safely handle a motherboard full of expansion cards. Power components are heat-sunked to the aluminum case. To harness all that power, Vulcan contains an ultra-quiet cooling fan.

The only 16 bit hard disk.

For speed, Vulcan incorporates an ultra-fast 16-bit data bus controller, not an 8-bit like others. And we're not talking about rigging the controller card to run 16. Our Vulcan drive is based on a 16 bit AT integrated controller.

Vulcan gives your Apple II an upgradeable combination of useable speed, safe power (it's FCC certified) and practically unlimited size. It's a quantum advance that'll keep you Apple IIing for years to come.

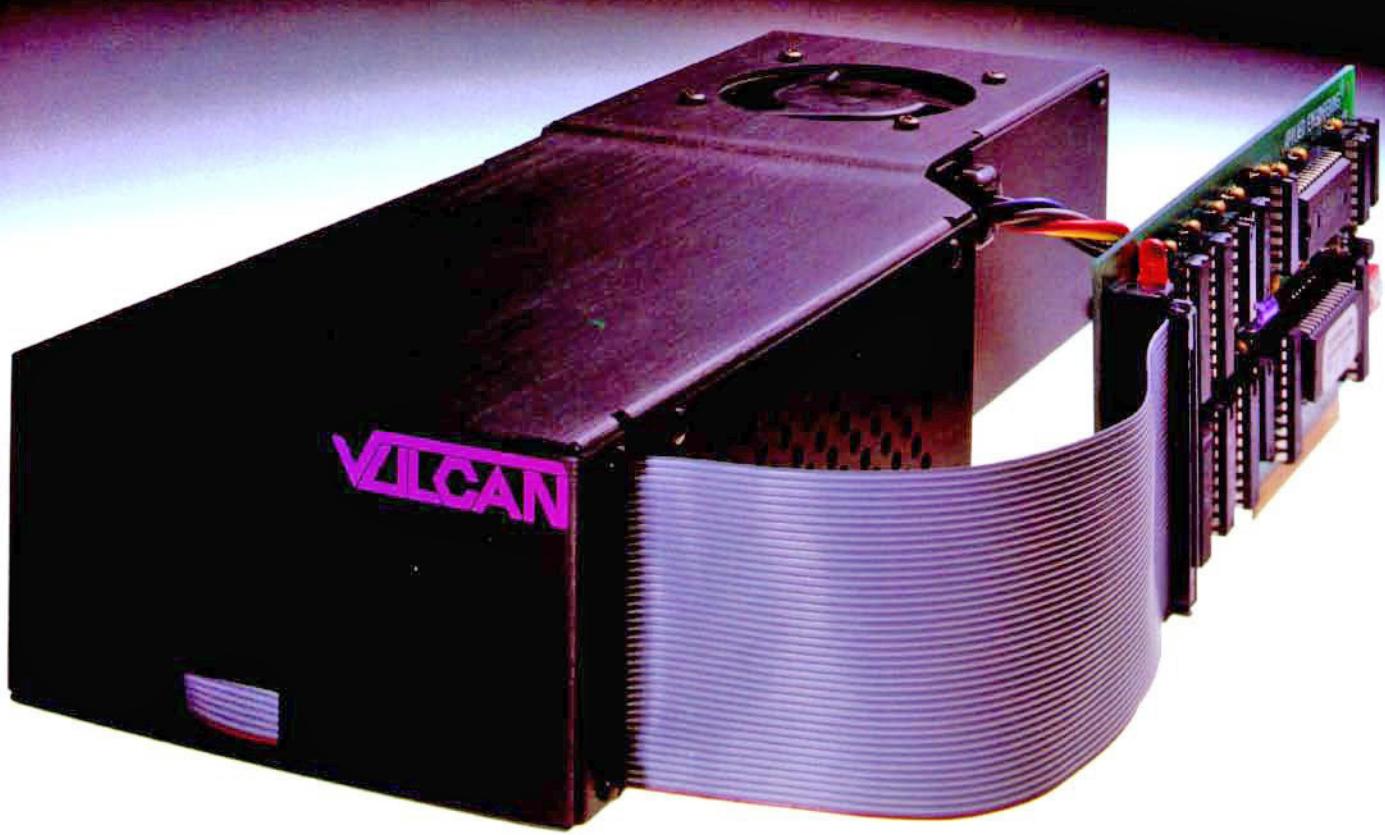
Features:

- AT integrated controller with Ultra fast 16 bit data transfer
- Supports GS/OS, ProDOS 8, DOS 3.3, CPM, and Pascal 1.3
- Sixteen partitions with any four accessible simultaneously
- FCC certified heavy-duty power supply
- 70 full watts w/o fan
- Power components heatsunked to aluminum case
- Externally accessible fuse with spare
- 110/220 VAC, 115/230 VAC, 50/60 Hz
- Integrated fan to extend power supply life
- Cool running - 40 degrees C w/fan, 60 degrees C w/o fan under full load
- Adjustable 5 volts DC

II+

IIe

IIgs



The Power and the Glory

Vulcan internal hard drives are not only the fastest hard drives on the market, they're the most powerful. By a long shot. Vulcan's built-in power supply was custom-designed by Applied Engineering to provide the power other systems (and your unenhanced Apple II) lack.

Sheer, raw power

A typically enhanced Apple II system (with 3 or 4 expansion cards) needs a heavy duty power supply. Vulcan's power supply is rated at more than 70 watts. *Double* the capacity of other hard drives and double the native capacity of your Apple. The power supply components are heatsinked to the aluminum case, and to harness all that power, Vulcan incorporates an ultra-quiet, flush mounted cooling fan.

Unmatched speed

For speed, Vulcan incorporates an ultra-fast 16-bit data bus controller, not the less expensive 8-bit others use. The result? You'll load AppleWorks GS in less than 14 seconds. Boot GS/OS into the finder in 18 seconds. Verify disks at the astounding rate of more than 180 blocks per second. Vulcan wins any speed test.

Upgradeable Flexibility

Choose a Vulcan from 20, 40, 100 — all the way to a staggering 200 MEGs. Vulcan is upgradeable, so it grows as your needs grow. And we don't mean by daisy-chaining additional hard drives. When you upgrade Vulcan, you pop one out and *replace* it with another.

Use virtually any operating system: GS/OS (v5.0 is included), ProDOS 8, DOS 3.3, CP/AM or Pascal 1.3. Vulcan supports them all with sixteen partitions (access four simultaneously). Choose slot 1, 2, 4, 5, 6 or 7. Even pseudo-slot to slot 7 from elsewhere. Vulcan works on 110/220 VAC, even European 115/230 VAC at 50-60 Hz.

Easy to use

Vulcan simply pops in; replacing the Apple power supply under your computer's hood. Our built-in firmware automatically installs itself as a Desk Accessory for write protection and partitioning. The software we provide lets you easily park heads, back up and reformat.

Vulcan gives your Apple IIgs, IIe, II+ or II an upgradeable combination of useable speed, safe

power (it's FCC certified) and practically unlimited size. It's a powerful and glorious advance into the Apple II future.

Order today!

To order or for more information, see your local dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering, MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.

Vulcan 20 MEG	\$699
Vulcan 40 MEG	\$899
Vulcan 100 MEG	\$1795
Vulcan 120-200 MEG	CALL

AE **APPLIED ENGINEERING®**

The Apple enhancement experts.

A Division of AE Research Corporation.

(214) 241-6060

P.O. Box 5100, Carrollton, TX 75011

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Live Long and Prosper

Permit us a logical prediction. With Vulcan,™ the Apple II series will continue to live long and prosper. Applied Engineering's latest triumph, Vulcan, lives!

Vulcan high-speed internal hard disks for the Apple II GS, IIe and II+, combine high speed flexibility and ease-of-use with sheer, raw power. The result? A quantum leap forward into the Apple II future.

Stop that infernal disk swapping and file splitting and store your massive new mega-programs on Vulcan. Speed up booting and access time while you save wear and tear on your disk drives.

Flexibility.

Choose a Vulcan from 20, 40, 100—all the way to a staggering 200 MEGs. Your Vulcan can grow as your needs grow. Start with a Vulcan sized for your current needs and upgrade to a bigger size later. Use virtually any operating system: GS/OS, ProDOS 8, DOS 3.3, CPM or Pascal 1.3. Vulcan supports them all. Choose your own partitioning scheme. Sixteen partitions with

four accessible simultaneously. And partitioning and backup utilities are included. Choose an available slot. 1, 2, 4, 5, 6 or 7. Even pseudo-slot to slot 7 from another slot. Vulcan understands.

Sheer, raw power.

Vulcan's built-in power supply checks in at 70 watts. That's nearly twice the capacity of competing systems. A truly heavy-duty power supply with enough punch to safely handle a motherboard full of expansion cards. To harness all that power, Vulcan contains an ultra-quiet cooling fan. For speed, Vulcan incorporates a 16-bit data bus controller, not an 8-bit like others.

Ease of use.

Vulcan lives in the space the stock, Apple power supply formerly occupied under your Apple's hood. Just pop out the old one, slip Vulcan into its place, plug in the expansion card and connect one cable.

Your Apple II is finally ready to go up against the big boys.

Order today!

To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.

Vulcan 20 MEG	\$649
Vulcan 40 MEG	\$849
Vulcan 60-200 MEG	CALL

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"Elegant, innovative, flexible and in all aspects the leader of the field." — Incider Magazine

Accolades continue to pour in. Vulcan hard drives were recently awarded FIVE stars by Incider Magazine, a rating reserved for products judged "excellent and remarkable". Incider went on to say, "The Vulcan sets a new performance standard for hard drives... Applied Engineering has done it again."

Hard drives tremendously boost your productivity. The Apple II's operating system, hardware and memory-gobbling software take on a new agility and finesse with the addition of a hard drive.

Speed? The IIGS Buyer's Guide put it this way, "Everything this drive does is fast. TimeOut modules, installed in AppleWorks and configured as disk-based, came up as fast as if they were memory-based. Graphics load almost immediately. Even that damnable lie, 'One Moment Please' suddenly delivers its promise. We recommend the Vulcan wholeheartedly."

And Incider said, "The Vulcan walks all over the competition. Twelve seconds to the GS Finder; 10 seconds to AppleWorks GS. Sounds good doesn't it? It is. That sizzling speed is achieved thanks to a high-quality internal tracking unit." Vulcan incorporates an ultra-fast 16-bit data bus controller, not the less expensive 8-bit others use.

Features? As Nibble Magazine said, "AE drives support more operating systems and have more features in the supporting software." And Incider added, "Applied Engineering has put together the most complete set of utilities to date for an internal hard drive that leads the market." And since Vulcan's made by Applied Engineering, you're assured of full compatibility with current and future AE products.

Power? Vulcan's high-efficiency power supply is rated in excess of 70 watts, *nearly double* the capacity of other hard drives. The power supply components are heatsinked to the aluminum case for cool operation and long life. To harness all that power, Vulcan incorporates an ultra-quiet, flush mounted cooling fan, keeping the temperature inside the Vulcan, and inside your Apple lower than before.

Flexibility? Choose a Vulcan from 20, 40, 100 — all the way to 200 MEGs. Upgradeable Vulcan grows as your needs grow. And we don't mean by daisy-chaining additional hard drives. When you upgrade Vulcan, you pop one out and replace it with another.

Only Vulcan lets you use virtually any operating system: GS/OS (v5.0 is included), ProDOS 8, DOS 3.3, CP/AM or Pascal 1.3. Vulcan supports them all with sixteen partitions

(access four simultaneously). Choose slot 1, 2, 4, 5, 6 or 7. Even pseudo-slot to slot 7 from elsewhere. Vulcan works on 110/220 VAC, even European 115/230 VAC at 50-60 Hz.

Ease of Use? Incider says, "The true test of a hard drive lies in its ease of use and maintenance. In that respect, the Vulcan brings together a more complete package than any of its current competitors." Vulcan simply pops in; replacing the Apple power supply under your computer's hood. Our built-in firmware automatically installs itself as a Desk Accessory for write protection and partitioning. The software we provide lets you easily park heads, back up and reformat.

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A new kind of hard disk from Applied Engineering.

And it will be like no other hard disk you've seen before. For more than two years, our sales department has been asking our R & D department to design a hard disk, but management was concerned about the less-than-perfect reliability record associated with hard disks. So, frankly, research in this area received a lower priority.

Working primarily in their spare time, a few of our best hardware and software engineers have made some exciting breakthroughs. Management had no choice but to support their work.

This new line of internal and external hard disks from Applied Engineering will achieve new reliability, performance, ease-of-use and low price standards. Our engineers say we'll be ready to ship in one or two months. No, we're not taking orders yet (we hate vaporware as much as you do). But we *will* take your name and mail more information as soon as it's available. You see, the final design isn't complete yet. An exact shipping date isn't known. And we're still expanding the specifications. But we *are* being up front and honest about this new product breakthrough. We *can* tell you two things about our new Apple compatible hard disks. They will be the best and they will be called—Vulcan.

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