

## Upgrading Your Floppy Drive: Portable Storage Options

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It's amazing to see the rate at which computer technology has improved. Processors that crawled along at 33 megahertz now race by at 500 megahertz and beyond. Modems have increased their transmission speed from thousands to millions of bits a second. Ergonomic keyboards provide comfort and reduce the incidence of repetitive stress injuries. And monitors display information with astonishing levels of clarity and color.

Surprisingly, one item that hasn't changed in that time is the computer's floppy drive. Sure, 5-1/4" disks have gone the way of the dodo, but the traditional 3-1/2 inch floppy disk that was introduced nearly two decades ago is still going strong.

The main drawback to the traditional 3-1/2 inch drive is its inability to store large files. The standard 3-1/2 inch floppy disk can only store 1.44 megabytes of information -- barely enough to contain a small collection of word processing documents, let alone a PhotoShop file or multimedia presentation. In addition, the standard floppy drive spins at a much slower rate than CD-ROM drives or hard disks, resulting in a much slower transfer of information.

In response to that situation, several companies have created products to provide a solution and make it easier to store large files on disk. The most popular currently in use are the Iomega Zip drive and the LS-120 SuperDisk (which is manufactured by a number of companies). Recently, a pair of newcomers from Sony and Caleb Technology have arrived on the scene, doubling the number of those companies competing for a slice of the portable storage pie.

Listed below are four of the more popular portable storage drives currently on the market. Each drive has its own set of strengths and weaknesses, so before buying one, make sure to read up on each drive and see which one best suits your needs. It's also a good idea to visit each manufacturer's website for more detailed information, as well as any news on possible software/hardware conflicts or upgrades to the drives in question.

### Portable Storage Drives at a Glance

#### LS-120

Manufacturer: Hi-Val ([www.hival.com](http://www.hival.com)), Imation ([www.superdisk.com](http://www.superdisk.com)), others Average price: \$99-\$139 Average price per disk: \$10-\$12 (sold in packs of three or ten) Storage capacity: 120 megabytes

The LS-120 is currently ranked second in terms of popularity, with a base of more than 2 million current users. Most of those are installed in notebook computers from high-end vendors like Compaq and Gateway, who offer the option of a pre-installed SuperDisk in place of a traditional floppy disk.

Like most drives mentioned in this article, the SuperDisk has the ability to read 3-1/2 inch floppies as well as its own disk format. It also has a small storage advantage over Zip disks, with the ability

to hold 120 megabytes of information per disk (versus 100 MB for Zip disks).

And the internal version of the LS-120 can replace a floppy drive, giving users both floppy and high-capacity storage capability with just one drive.

The main drawback to the SuperDisk is its slow drive speed. Of the four drives reviewed in this article, the SuperDisk's spin rate is the slowest at 720 revolutions per minute (RPM). The slower the RPM, the less information that can be transferred per second. In comparison, the Sony HiFD, the fastest drive reviewed here, spins at 3,600 rpm.

There is also a reported format error regarding some LS-120 floppy disks. Traditional floppy drives may not be able to read a SuperDisk formatted on a parallel port LS-120 drive.

However, Imation and Hi-Val, the two largest makers of LS-120 drives, are in the process of correcting the parallel port issue. They also plan to introduce later this year a new version of the SuperDisk that offers twice the performance of the current product.

### Iomega Zip

Manufacturer: Iomega ([www.iomega.com](http://www.iomega.com)) Average price: \$99 (100 megabyte) -- \$199 (250 megabyte) Average price per disk: \$10-\$12 (sold in packs of three, five or ten) Storage capacity: 100-250 megabytes

Iomega pioneered the portable storage category when the Zip drive was introduced in March of 1995. Since that time, the company has become the leader in the portable storage business, with more than 20 million Zip drives in use worldwide. Zip drives are so popular, in fact, that they are becoming a standard item already included with many PCs being built today.

Zip drives come in all shapes and sizes. There are internal models that can get installed in an empty drive bay, as well as Zip drives that connect to your PCs parallel, SCSI and USB ports. Most Zip drives are quite easy to set up. External parallel port models, for instance, can be installed and in operation in as little as 10 minutes. And because Zip drives are in such widespread use, it's usually easy to share data and transfer large files to other users.

Until a few months ago, the biggest downside to Zip disks was their low storage capacity (100 megabytes per disk). But that changed earlier this year, when Iomega released a new, 250 megabyte version of its Zip drive that would be fully compatible with existing Zip drives and disks. The new drive retails for approximately \$199 -- about the same price as the Sony HiFD -- with the 250 megabyte Zip disks selling for as little as \$12.25 apiece (when sold in packs of eight).

The only other snag with Zip disks is that they are incompatible with the other drives mentioned in this article. Zip drives are slightly larger and wider than traditional floppy drives, making it impossible to write to (or read from) a floppy disk. Because Zip drives are truly portable, however, and because Zip disks are so rampant throughout the PC marketplace, the incompatibility with traditional floppy drives is but a minor inconvenience that shouldn't hamper your purchasing decision.

### Caleb UHD-144

Manufacturer: Caleb Technology ([www.caleb@bldr.com](mailto:www.caleb@bldr.com)) Average price per drive: \$79-\$99 Average price per disk: \$5-\$9 (sold in packs of three) Storage capacity: 144 megabytes

Caleb is one of the newer entries to the portable storage arena, with both internal and external versions of the UHD-144 drive hitting the market last December. The company also has plans to release a version that connects to a PC's universal serial bus (USB) in the third quarter of 1999,

which will make connections between a drive and computer a piece of cake.

Caleb's biggest perk is its low price. With a list price of \$79, it's easily \$20 cheaper than its nearest competitor. Like most of the other drives mentioned here, the UHD-144 plays 3-1/2 inch floppies as well as its own disks. UHD-144 disks are the least expensive of those available, with an average of \$5 per disk (versus \$10 to \$12 for other brands), and the disks hold 144 megabytes each, second to Sony's HiFD floppies (which hold 200 megabytes apiece).

The main knock on Caleb's drive is that it's a newcomer to the portable storage market. Because it is so new, and because Iomega and the LS-120 already have a good foothold in this area, some PC makers may be reluctant to offer computers that rely on a new storage format. Such reluctance could provide a big stumbling block to Caleb's growth in the near future. And with fewer UHD-144 drives on the market, users may not have the freedom to share data as easily as they could with a Zip drive or SuperDisk. Still, if price is the overriding factor, and if you're willing to take the chance on a product that may not be around for long, the UHD-144 might be worth investigating.

Sony

Manufacturer: Sony, Inc. ([www.sony.com](http://www.sony.com)) Average price per drive: \$189-\$219 Average price per disk: \$5-\$15 (sold separately or in packs of two or five) Storage capacity: 200 megabytes

Sony's entrance into the storage arena, the HiFD, appears to hold the most promise of those currently available. Like the other drives mentioned here, the HiFD is available in both internal and external models, with options for USB ports and notebook computers arriving soon. The drive also has the ability to read 3-1/2 inch floppies as well as its own HiFD format.

Speed and size are the HiFD's main selling points. The HiFD spins its disks at 3600 rpm, significantly more than any of the other drives listed here. That speed allows users to read information from -- and write information to -- disks much faster than they would using a SuperDisk or one of Caleb's drives. HiFD disks also hold 200 megabytes of information each, twice as much as a normal Zip disk. Sony also has plans to increase its disk capacity to 400 megabytes by the end of 1999.

Of course, there's a price to pay for all that speed and storage capacity. Currently, the HiFD sells for between \$200 and \$229 dollars, at least 70 dollars more than the competition. And like Caleb Technologies, Sony's HiFD format suffers because it is not widely used. However, because of its reputation for high-quality products, and because Sony now has its own line of personal computers to offer (and thus, a built-in customer base), the HiFD stands a good chance of making a dent in the floppy drive arena.

Final Comments

Can four mutually incompatible drive formats survive in today's Darwin-like, survival of the fittest atmosphere? The quick answer is no. For convenience sake, the easiest thing to do would be to go with a product with a proven track record, such as the Zip or SuperDisk. Both products are popular, have reliable companies backing them, and appear to have a lot of staying power in the computer field.

If you are still undecided, you should then consider buying the same type of drive that your suppliers or supporting companies use. For instance, if your billing company uses Zip drives to store and protect files, you might want to buy a Zip drive as well. If your attorney and accountant store important files on a SuperDisk, on the other hand, then maybe an LS-120 drive is in order.

Whether you buy one of the established products currently on the market, or whether you'd like to try something different and opt for a drive from one of the new kids on the block, having a portable storage drive like the ones reviewed above makes a lot of sense. They're inexpensive, they're extremely popular, and they can help you organize large files and other important information without taking up valuable space on your computer's hard drive.

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