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## How Much Is That PC in the Attic?

## Old Computer Equipment Is Becoming a Hot Collectible. Well, Some of It, Anyway.

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Erik Klein's computer collection includes punched paper tape containing software code, a Kenbak-1 sold in 1971 and the MITS Altair 8800 Jamie Tanaka for The Wall Street Journal
You know that old computer that's been sitting in your basement for years? The one you've been meaning to throw away? Well, maybe your laziness will pay off.

Old computers, it seems, are becoming hot collectibles. And so are many of the items associated with them.

Consider the case of Steve Emery. Fifteen years ago, he was browsing the stalls at a "hamfest" convention of amateur-radio enthusiasts in Orlando, Fla. He spent $\$ 15$ on a small paperweight, just 2 inches by 3 inches.

That paperweight's value today? About $\$ 4,000$.

What makes it so valuable is that it was produced in the early 1960s by Fairchild Semiconductor International Inc., FCS $+1.23 \%$ a Silicon Valley pioneer, and contains examples of the type of early computer chips used in the guidance computer for the Apollo moon missions. At the time, it was a cheap promotional item to draw attention to a nascent technology. Today, it's a valuable relic of an earlier age.
In fact, there's a vibrant market now for anything from full computer systems to vintage console games and even magazines, and prices are rising by the year. At the top end of the market, valuations approach those of fine art. An original 1976 Apple I computer sold at auction in May of last year in Cologne, Germany, for a record $\$ 671,400-$ more than double the price of similar auctions just three years ago. The computer's original sale price was \$666.66.

Still, before you start confusing laziness with investment foresight, understand that not every old computer is valuable. Collecting vintage computer equipment is a complex business, and the value of an item can depend on anything from its contribution to computer history to its position in the production run.

Here's some advice from the experts on what's worth collecting and how to go about collecting it-or selling it.

## Rarity and More

The most important determinant of value is rarity, says Mr. Emery, a collector of computer chips from Winter Park, Fla., who has amassed 45,000 items with an estimated total value of between $\$ 250,000$ and $\$ 500,000$. The early machines, from the 1970 s and 1980 s, were made in small numbers and so are likely to have higher value. "If you have a more recent system that was mass produced," he says, "it's likely that you don't have a collectible; you have a recycling problem."


Atari 400 vintage-computer.com
Serious collectors also pay attention to something the rest of us may overlook: the serial number. "The earlier in the production run a system is, the more value it has," says Bill Loguidice, a collector in Burlington, N.J. He gives the example of the Apple II, which can be worth tens of thousands of dollars with an early serial number, but only a few hundred dollars if it's a model from later in the production run.

Mr. Loguidice adds that condition makes a big difference to the value of an item. Early computer games and other software from the late 1970s and early 1980s can sell for more than $\$ 1,000$, he says, when in the original packaging with an unbroken seal. But the software itself, without the packaging and manual, has almost no value.

A top-tier computer collectible also needs something you can't see with the naked eye: a compelling story. Erik Klein in San Jose, Calif., owns a Kenbak-1, one of the earliest personal computers. Only 40 of the machines were built, in 1971, making them older and rarer than the Apple I. Yet Mr. Klein estimates his Kenbak-1 is worth only about $\$ 20,000$. Why is the Apple I worth so much more?
"It's all about the cachet of it being the first device to come out of this company that now is a world beater," Mr. Klein says. "A lot of the older, rarer machines, because they were more just blips in the history book, don't command the same kind of money."

So what should you do with that old computer gathering dust in your basement?

An easy way to get a general idea of the value is to check the prices paid at recent auctions on eBay, EBAY $+0.34 \%$ but that only tells part of the story. Two superficially similar items can vary widely in price depending on things like their condition and the exact vers


A Commodore PET 2001 introduced in 1977 vintage-computer.com
ion or serial number. And the rarest items often don't sell on eBay but rather in private transactions.

So it's important to do broader research and find out exactly what you have. Mr. Loguidice recommends visiting forums like Vintage-Computer.com, run by Mr. Klein, and asking the collectors and enthusiasts for advice. Or contact dealers directly for an appraisal, comparing several different opinions to be sure you're getting the best valuation. If you're looking to buy, the same auction websites and forums are good places to start. But it's also worth digging around at garage sales and visiting hamfests, where there is usually plenty of old computer equipment on sale. As awareness of the value of vintage computers grows, bargains are harder to find, but they're still out there.

## Passion Pays

And what about today's technology? Is it worth holding on to that tablet, laptop or smartphone, in case it becomes the hot collectible of 2033?

In most cases no, the experts say, simply because today's devices are manufactured in such huge numbers. But there are a few possible exceptions.
"If you can get the first version of a popular product, and you still have all the packaging and materials, the chances are good that it will have value in the future," says Mr. Loguidice. The key is for the item to be rare, by having a low serial number or by being part of a limited edition that differs in some way from the mass-produced version. And keeping it sealed in the original box will boost its long-term value.

A final piece of collecting advice comes from Dag Spicer, senior curator at the Computer History Museum in Mountain View, Calif. "Make sure you're passionate about it," he says. "If you don't have a passion for technology, you won't bother acquiring the knowledge you need to make intelligent buying choices." You need to understand exactly what you have, including all the chips and circuit boards inside the box, and to know what will add to or detract from its value.
"Don't collect just for the money," Mr. Spicer says, "because you probably won't be very good at it."

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