

STAN VEIT'S HISTORY OF THE PERSONAL COMPUTER



**From Altair to IBM,
A History of the PC Revolution**

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Publishers: Ralph Roberts, Jack Nimersheim, Stan Veit

Executive Editor: Kathryn L. Hall

Editor: Melody A. Grandy

Indexing: The Roberts Group, Greensboro NC

Cover Design: WorldComm®

Cover Photo: Courtesy Apple Computer

Interior Design and Electronic Page Assembly: WorldComm®

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Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

LIBRARY EDITION

ISBN 1-56664-030-X

Library of Congress Number: 93-060161

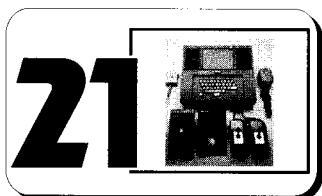
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Some of this material has previously appeared in abbreviated form in *Computer Shopper*.

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WorldComm Press—a Division of Creativity, Inc., 65 Macedonia Road, Alexander, North Carolina 28701, (704) 252-9515—is a full service publisher.



DOGS AND DINOSAURS

Do not get the impression from reading this book that every little company that put out a microcomputer kit or assembled computer was a success. Nothing could be further from the truth. Most of the product introductions were failures, and some were outright swindles. In addition, some of the worst failures came from large corporations who were victims of product blindness.

In the early days, a company called ECD advertised a wonderful computer that could do all kinds of color graphics. Their ad showed a cat and verbal description of the wonder machine. It never showed the computer. I kept calling them to see this computer, and when they were ready to show it to dealers and investors, they came to New York City. I visited them in their suite at the Plaza. There I was shown a box, but it was not working. They explained that the power supply had just burned out, and they were waiting for another one. I never got to see it, and shortly after that ads stopped.

A friend of mine from the computer club was designing a computer for a large electronic adding machine company who sold to most of the chain stores. He invited me to see his efforts. The computer, called "The Pecos" for some obscure reason, had a built-in data cassette and used an obscure language called Joss. I tried to tell them that everyone had sort of settled on BASIC as a language for small computers, and they would not learn Joss unless there was an excellent reason. My friend and his boss would not listen to me. Joss was a better language, and that is what they would use. The

Pecos never even caused a ripple in the market.

One day, a friend told me I would have a visit from a very rich young Chinese-American to tell me about a new computer he was going to market.

The young man told me about this great idea for a machine which was being made for him in Taiwan. It was called the Video Brain, and it was a cross between a video game and a computer. It had a alphanumeric keyboard as well as game paddles, and it connected to a home TV. The owner did not have to know anything about computers to use the Video Brain. There would be cartridges for games as well as business, including one that turned the Video Brain into a terminal for a time sharing network.

The Video Brain would sell in packaged systems from \$300 to \$900. The larger systems would have a cartridge containing a language called APL/S which would allow the user to write his own programs and save them on a cassette. The machine used a Fairchild F-8 8-bit CPU and 1K bytes of RAM and 4K of ROM memory. The working memory was contained in the plug-in cartridges.

After explaining all about the system, the young man asked me what I thought about it. I told him I sort of liked the idea because it was a transition from video games to computers, but I suggested that he use BASIC in place of his own language. I also told him he would have a hard sell because the hobbyists who were our principal customers wanted a computer they could program, and business people would look on it as a toy. As for home video fans, it was somewhat too complex for them. He would have to create his own market. When I asked him what the dealer's discount was going to be, he told me 15% and I laughed at that. He told me this item was for big retailers, not little people like me, and that was enough margin for them. So I wished him luck and he left. The Video Brain never made it, although it was carried in some department stores for a while. There was no service and few cartridges. The young man's father stopped the funds, and the company went out of business.

Strangely enough, this same idea keeps re-appearing in the industry. It was made by another company called Spectravision and by Colleco. It has never succeeded. The



The VideoBrain System.

marriage of video games and computers is not a good marketing idea; they are two separate markets. Although computer fans love games, video fans are not computerists.

The Hewlett Packard company suffered from a very bad case of NIH (Not Invented Here) disease in their first personal computer offerings. The HP-83/85 was a self-contained unit with a built-in printer and tape drive unit. It also had a 5 1/2-

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inch CRT which displayed 16 lines of 32 characters. The computer ran BASIC and used HP's own operating system. There were four slots at the rear for attaching peripherals. Memory was only 16K but was expandable by means of plug-in boards. Selling for \$2,300 to \$3,200, these machines were mainly sold to scientific labs for connection to test equipment via HP's HPIB interface.

The HP 86/87 models used a 12" CRT and full 80-column video. They also eliminated the tape storage and used external floppy disks. The most important change was the inclusion of the CP/M operating system. These computers represented an effort to correct the previous mistakes. From that time on, H.P. only offered well-made computers using the standard MS-DOS operating system.

Even experienced computer peripheral companies failed when they ventured into full machine production. Bruce Seals was a highly successful maker of memory boards for S-100 computers. Then he designed the Seals Pup. The Pup was to be a small footprint computer made very strong for adverse applications. It would have a Z-80 and I/O board, and 64K of static memory. As one of my dealers, Bruce sent me a Pup for evaluation. It was strong all right—you could stand elephants on it—but when I opened it up I found the boards were made by Xitan with Bruce's memory. I sent it back, and I wonder if he ever sold any Pups.

The computer I had the most fun with was the Compucolor. This large screen computer displayed great graphic programs in full color. It was not a color TV as we know it, but a special CRT with three guns in it. To get clear color you had to keep the RGB guns in perfect alignment. This was not too hard using the special alignment program, but the Compucolor had a more serious fault. The designers picked the audio cartridge as a data storage medium rather than the cassette. The Compucolor came with an 8-track audio cartridge player connected to the machine. There was no other storage media available at that time. At first it worked well, but in a short time the tape stretch made the cartridges unusable. Another problem was you could not get service on the machine. It cost a fortune to send the machine back for repair, and they took forever to do the work. Compucolor did come out with a

floppy disk unit, but by then we had color on the Apple II, and it did not cost \$2,500.

The Exidy Sorcerer was a Z-80 computer built into a keyboard case, with a slot for ROM plug-in cartridges. It featured excellent graphics of 512 by 280 pixels, not bad for that time. It had 8K of RAM expandable to 32K and an 4kROM. The plug-in cartridges added extra ROM up to 16K. The cartridges were the same as 8-track cartridges, but inside, instead of tape, there was a ROM board. Cartridges were available for Microsoft BASIC, Assembly Language, Pilot, APL, Fortran, and Cobol. In addition, the Sorcerer could use cassette tapes, and there were many game and business tapes available. The video text was 30 lines of 64 characters. A video monitor was required. The Sorcerer also had a S-100 card edge connector, for connection to an expansion chassis or any single S-100 card by means of a cable. At a price of \$895 (less at street prices) the Sorcerer was not a bad deal, and many were sold until the company withdrew from the market because they had not achieved the success they expected for this machine.

Chuck Peddle, designer of the Commodore PET and the KIM 1, left Commodore and became President of Victor Business Products, a company who had made and sold electric business machines for many years. Peddle was to lead them into the computer age.

The Victor 9000 he designed was a fine machine. It used the 8088 16-bit CPU as did the IBM PC. It also used the same operating system MS-DOS and Microsoft GW BASIC. However, it was not compatible with the IBM PC.

The Victor 9000 came with 128K of RAM, but was capable of expansion to 896K of RAM. The video was a green, anti-glare CRT capable of displaying text or 800 by 400-pixel graphics. Two variable-speed 5 1/4-inch floppy disk were supplied. The Victor 9000 was an excellent machine even at the \$5,000 list price, with features far in advance of the IBM PC.

Other non-compatible 8088 or 8086 PCs running MS-DOS were made by Texas Instruments and Digital Equipment Corporation. Each had its special features designed to outperform the IBM computer. The Texas Instruments Professional

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had the best graphics in any personal computer. The DEC Rainbow featured dual processors designed to run CP/M as well as MS-DOS. Yet both of these machines failed and were withdrawn because they were not IBM-compatible.

Why did the IBM PC/XT with MS-DOS sweep all competition before it? One reason was simply the name IBM. The other reason was advertising, and the fact that these machines were designed for business applications, and businesses were now ready for them. Years ago, Charles Fort said "When its Steamboat Time, someone invents the Steamboat." It was now Personal Computer time. But the non-compatible MS-DOS computers could do everything the IBM machines could do and then some. Why didn't they?

Two things happened; one had to do with software. The programs like Lotus 1,2,3 , dBase III, and WordPerfect or WordStar started with versions for all the MS-DOS machines. However, as they improved their software with new revisions, they found it didn't pay to upgrade the non-compatible versions. There simply were not enough potential sales to pay for the extra work. So in a short time the software on these machines became outdated. No one wants to pay \$5,000 for a computer that only runs old software! Then IBM killed them on price. The IBM list price started at the same level as the non-compatibles (I paid \$4,000 for my first IBM PC with 128K and two floppies.) However, as production increased IBM lowered the price, and then the gray market started, and you could get a PC or XT for as much as 25% discount. It was wipe-out time for the non-compatible MS-DOS machines as well as the 8-bit computers.