Another Solution From ALTOS

REVIEW

A Computer Powered for the Future
The Altos 586-10
by Tom Fox

In many ways, those just beginning to learn how to live closely with microcomputers have a much harder time of it than the lucky ones who started when micros were young. The reason is simple: today's computers are far more complicated than their ancestors of seven or eight years ago.

This new complication is a direct, inevitable result of the evolution of power that has always dominated the microcomputer industry. The movement is accelerating; today's machines contain new highs of capability in ever-smaller packages. The Altos (San Jose, CA) 586-10 is an excellent example of the new generation of tiny, quick, multi-user computer systems. It is also a machine that requires the patience and dedication of a devoted college student to learn its intricacies.

A well-planned system

There is simply no way to make a complicated computer system simple to understand and use, but Altos is meeting the problem head-on with well-planned help from the computer itself.

To begin with, the manufacturer has researched the available flood of applications software programs, and has taken the responsibility of integrating a selection of them into its computer. This eliminates the need for the user to mate software and hardware unaided, perhaps creating an experimental combination that has never been tried before.

On another level, the voluminous documentation supplied with the 586 is tutorial in nature and is intended to be read like textbooks. In the case of the accounting software packages, the computer owner is presented with an extensive, well-planned set of tutorial programs—complete with workbooks. This is "computer-aided learning,"

It may not be too easy to learn, but the Altos 586-10 is a powerful 16-bit, six-user system that runs under a Unix-type operating system.

applied in this case to a specific chore: bringing the user up to speed on the seven modules of the Altos Accountant software package.

If the last bit of utility is to be wrung out of the Altos 586, the user must become comfortable in its Xenix operating system (OS). Xenix is Microsoft's (Bellingham, WA) microcomputer implementation of Unix from Bell Laboratories (Murray Hill, NJ), an extremely capable but very complex piece of software. Those familiar with the more primitive Apple, IBM, and Radio Shack operating systems are guaranteed to be confused when first confronted with Unix. The power of this OS rests in its elegant design and do-anything ability; but are the features that make Unix more difficult to fathom than the fundamentally pragmatic CP/M operating system.

Again, the 586 goes a long way in making life with Unix livable by providing a series of menus that allow the user to access many of the computer's features, without resorting to unfamiliar Unix command sequences. These menus form a "shell" around the OS, insulating the purchaser from the realities of living with a complex computer. Many users will never have occasion to penetrate the shell, and will remain content with the choices offered by the menus.

Solution software

The Altos business Solutions 586 (to state its full name) is delivered with an impressive array of software. Seventeen diskettes are provided, filled with programs of three types: systems, applications, and tutorials. There are diskettes for Xenix and its utilities; the SMC Business Basic language (from SMC Proprietary Systems; Bridgewater, NJ); Horizon word processing program; Bridge CP/M emulator; Microsoft's Multiplan spreadsheet analyzer (which runs under Bridge); and the massive Altos Accountant assemblage: Accounts Payable, General Ledger, Inventory, Payroll, Accounts Receivable, a separate Sales Order/ Accounts Receivable, and Job Cost. The Altos Accountant packages are tied together with a flip-chart style Job Aid booklet to assist in the entry procedures for the various business software packages.

In many ways, the 586 would make a good second computer for a small business. There now exist hundreds of thousands of limited, single-user computers performing yeoman duty in business settings around the world. Some of these machines have reached the end of their depreciation cycle; many were simply not designed to handle the demands of a growing business. The field

is ripe for advanced-capability computers like the Altos 586.

The first major expansion in the life of a computer is usually in its disk storage capacity; the second is in the number of terminals connected to it. The majority of mirocomputers have no way at all to handle the second demand. They are—and forever will remain—single-terminal

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The Operator's Guide contains a comprehensive glossary of terms, but no index for easy reference.

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systems. The 586, on the other hand, will serve up to six separate users (terminals plus printers) before the purchaser must look around for a replacement computer.

Contemporary design

Once ranked as the boxiest of microcomputers, Altos has taken on a radically new styling with its newest offerings. The 586 is one of several members of the Altos family fitted within a new, distinctive, flattened pedestal-like enclosure. Sculptured of low-density plastic, the new look of Altos is hard to miss in a crowd. One small problem: microcomputers with widely varying capabilities share the same packaging—you have to look at the nameplate to determine if you're dealing with a simple single-user 8-bit machine or a six-user 16-bit powerhouse like the 586.

The enigmatic front panel of the 586 reveals little. A single 5-1/4" opening for a floppy disk and its accompanying activity lamp give minimal clues to the high level of activity inside. The rear panel, by contrast, is crowded with 10 multi-pin connectors—and room for three more. In addition to AC power, there are jacks to connect six terminals and/or printers. Also included are connectors for hard disk expansion and a tape backup unit.

An interface to Altosnet can be found on the rear panel, along with the promise of an Ethernet connection in the future. Altosnet and Xerox-designed Ethernet (Rochester, NY) are two separate methods for interconnecting the 586 with other computer systems via the emerging technology of a high-speed local area network.

Measuring only 17" wide-by-18" deep-by-6-1/2" high, the 586 packs in a remarkable amount of functionality within its irregular, sculptured exterior. This computer weighs in at 33 lbs. net. The system's backbone is a solid horizontal steel plate supporting two disk drives and a power supply.

Internal components

The bottom of the computer swings away to expose a maze of electronic technology plastered over two minicomputer-sized circuit boards. The largest of these measures 15"-by-16" and contains more than 200 integrated circuit packages. The main 8086 processor is here, along with a full 1/2 MB of memory and a host of support circuitry. The second board is nearly as large, containing more than 140 complex electronic devices.

Incredibly, there appears to be space for yet another circuit card, the addition of which would meld the 586 into a nearly solid block of silicon circuitry. Also, one tiny space is left over along one side for the insertion of the soon-to-be-available Ethernet card. The packaging incorporates a carefully-designed cooling system that depends upon a muffin-style fan to extract the air heated by all of these components.

The main storage is a 10-MB Winchester-technology hard disk drive. There are larger disks and less expensive ones, but 10 MB appears to be a size that provides the best value for the dollar. It's a good starting place for a multi-user computer. If more disk storage is needed, Altos provides a clear path to double the available space to 20 MB (via an external enclosure). The all-important data backup chores are handled by the single 5-1/4" floppy disk drive, which utilizes the super-dense 96 tpi (tracks-per-inch) density. One MB of data can be stored onto a single diskette; 10 diskettes are required to secure a full 10 MB of hard disk data.

Documentation

The user manuals provided with the 586 are impressive by their bulkiness. The main entry is the *Operator's Guide*, a looseleaf-bound book that is not intended as a reference volume, although it provides a good introduction to the 586 for the novice user. This book contains a comprehensive glossary of terms, but no index for easy reference. Oddly, all chapter headings have been left out, presenting the reader with an interesting guessing game.

The manuals for the diagnostic programs and all-important *Introduction to Xenix* are similar: They are intended for

The Altos 586 microcomputer is a multi-user 16-bit system with local networking capability, communications features, high processing capacity, and wide software compatibility.

first-time, once-through reading, rather than serious reference. The SMC Basic manual is provided by that manufacturer.

In addition, each language, utility, and application program is provided with a thick manual (including *Lesson Manuals* in many cases). These manuals coordinate with an extensive set of software tutorials to guide the first-time user through the complexities of running a business on a computer system. It's clear that Altos wants to keep the customers out of their dealer's hair by providing a lot of reading material to keep us occupied.

The base price of the Altos 586-10 is $7,990. This includes a 10-MB Winchester-technology disk, as well as a single 1-MB floppy drive. It also includes 512 KB of memory, which can be doubled in size for $1,990. A 10-MB disk add-on costs $3,990.

A 17-MB cartridge-type magnetic tape subsystem can be purchased for $2,995. This would make the daily backup chores much simpler than with the floppy disk subsystem. Other necessary hardware (e.g., terminals and printers) can be added by your computer dealer at extra cost.

All software for the 586 is priced separately. The Xenix operating system costs $1,995 (or $995 if you only want to run pre-written programs and have no need for the programmer utilities). SMC Business Basic III is $495. This version of Basic is compatible with several applications programs that have been developed over the years for Basic Four (Tustin, CA) computers. It is the same language selected for the Fortune 32:16 (San Carlos, CA) computer system.

The Horizon word processor costs $295. Horizon is one of the few word processors that currently operates under Unix. It is undergoing a period of rapid evolution to add features that make it competitive with the best products available on other computer systems.

The multi-talented Altos Accountant package costs $2,995.

Altos Accountant includes all seven business applications programs listed above. The program to activate the Altosnet local area network hardware costs $295.

Other programs are available for the 586, but perhaps the best deal is the Altos Business System package. It includes all of the software mentioned above, plus the Multiplan spreadsheet analyzer and a CP/M emulator program required to operate it. The combined price for all of this is $3,990. □

Technical Editor Tom Fox has authored more than 50 articles and editorials for IA since May 1979. He has spent his entire 21-year career in the field of electronics, with the last 14 years devoted to computer systems and their application to business and industry. He is President of FoxWare Systems Corp. (Irvine, CA), a firm specializing in the integration of microcomputers and applications for small business users.