

often well-reasoned, occasionally frivolous claims of competing benchmark groups.

When the members of BAPCo endorse a benchmark, some of the heaviest hitting competitors will have already accepted the reasonableness of the test suite.

*More perspective:* A disadvantage to one-company benchmark development is the myopia of too few opinions. *InfoWorld* has many notions of what is essential to a good benchmark, and we regularly survey our readers to learn their concerns. Our competitors have others. Microsoft may look at benchmarking solutions very differently than Intel or IBM. The broader the base of BAPCo participants, the greater the number of perspectives that will play a role in the design decisions.

*Deeper pockets:* Although it is seldom acknowledged, benchmarks are invariably constrained to some degree by the resources available in their development. It is not surprising that some companies already have internal development or quality-assurance tools that solve many of these problems. BAPCo is committed to a development effort much longer than most publishing houses — or computer vendors — could otherwise afford.

The cornerstone of BAPCo's efforts to define the "real" in benchmarking is the end-user survey it has just completed. BAPCo commissioned a survey firm to identify 1,200 PC users and query them on how they use applications. Other participants, including *InfoWorld*, have produced a variety of research into computer use, from quantifying "dead" time on networks to what sorts of databases people use.

*Shunning brute force:* Rather than "defining" a new standard and enforcing it by sheer muscle or persistence, BAPCo expects this benchmark to produce real, and perhaps dramatic, improvements in technical merit as well as the broad acceptance that simply isn't possible without this sort of organization.

**THE BAPCO BENCHMARKS.** Initially, BAPCo plans to release three separate benchmarks for PCs: in stand-alone, multitasking, and networking configurations. The stand-alone benchmark, which will be the first delivered, comprises several popular application categories: word processing, spreadsheets, databases, and others. Within each category, the test suite designers have scripted typical user activity for one or more popular applications. Each category will generate a performance score; all of the categories are then combined for an overall performance score. We hope to use the BAPCo benchmark, in addition to further *InfoWorld*-exclusive tests, in one of the first product comparisons of 1992.

The multitasking benchmark, whose development is just getting under way, will develop work loads for both Windows and OS/2. As with the stand-alone effort, typical user activity will be scripted in a variety of applications for these environments.

Likewise, the networking committee is defining a work load that can be used to simulate typical network use running from as few as 10 to 100 or more workstations. All of the benchmarks will be available for general distribution at a nominal fee. □

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# IBM Model 57SX's chip set gives it 486SX performance

## IBM-designed daughterboard includes cache memory, floating-point capability.

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**W**hen IBM announced its PS/2 Model 57SX, it seemed like a standard 386SX Micro Channel system with typical IBM performance and reasonable expandability options. The basic unit is even slower in CPU and disk performance than its siblings: PS/2 Models 40SX and 35SX (reviewed October 7, page 72). But IBM has apparently found a way to boost this "ugly duckling" to swan status: It has developed, in cooperation with Intel and Burlington, a 386 SLC chip (still in beta) that incorporates 8K of integrated cache, an optimized instruction set, and a socket for a floating-point coprocessor — all on a small daughterboard that plugs into the standard 387SX socket.

Not only did IBM break recent tradition and develop a chip, it developed a caching processor that takes the speed of this 386SX up to that of a very fast 486SX in CPU speed. In our tests with the beta 386 SLC, the Model 57SX's performance was 95 percent faster than its former time and was less than 1 percent behind the 486SX/20 leader, ALR's Business VEISA. (See product comparison, page 67.) The upgrade chip is scheduled to begin shipping in December.

Installation was simple, thanks to IBM's new policy that enables a disk to upgrade the POST and BIOS ROM to take advantage of the cache.

In CPU speed, we found this machine to be 4 percent slower than the PS/2 Model 40SX and 12 percent slower than the average 386SX/20. (See product comparison, February 25, page 53.)

The PS/2 Model 57SX trailed the Model 35SX and the 386SX/20 average by 9 percent in disk-intensive speed tests. The 386 SLC chip again provided a considerable improvement: the Model 57SX led the 386SX/20 average by 20 percent and the Model 35SX by 21 percent. In multitasking tests, the Model 57SX did much better, even without the caching chip. It was just 2 percent behind

the average time, and 7 and 9 percent faster than the Models 35SX and 40SX, respectively. With the caching module, the Model 57SX beat the average by 51 percent, and was 64 and 67 percent faster than Models 35SX and 40SX, respectively.

We experienced no compatibility problems with the PS/2 Model 57SX. However, this system has only one processing speed.

The PS/2 Model 57SX offers the same fine expandability options as the PS/2 Model 40SX. The PS/2 Model 57SX has five expansion slots — all 16-bit MCA. The motherboard comes with 4 megabytes of memory standard, supporting 16 megabytes of 70-nanosecond RAM maximum. The machine also includes one 3½-inch and three 5¼-inch drive bays. The largest drive available is 400 megabytes. After configuration, all five slots and two 5¼-inch drive bays remained open.

Typical of IBM machines, setup was a breeze. As with the Model 35SX and PS/2 Model 40SX, the hard and floppy drives slide into the drive bays, requiring no screws or tools to install; they lock into place. Memory, which consists of SIMM modules, is easy to install, as is the coprocessor. The expansion card slots are on a separate 32-bit proprietary card. The PS/2 Model 57SX has both ROM- and disk-based setup; however, the system cannot directly access ROM-based setup unless you have made a change to the system (i.e., added memory).

The Model 57SX is another well-designed IBM machine. The power switch is recessed and located on the front of the case. There is no reset switch. The motherboard was clean, without trace wire patches.

We scored IBM's technical support based on a reader survey.

The PS/2 Model 57SX is a typical IBM machine — well made but high in cost. The release of the 386 SLC chip, however, should elevate the Model 57SX to a new position — the fastest by far in its class. If you're looking for a fast machine, but you don't want to pay the price of a 486 system, this unit might just fit the bill. □

REPORT CARD **INFO**  
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20-MHz 386SX MCA COMPUTER

### IBM PS/2 Model 57SX

Criterion	(Weighting)	Score
<b>Performance</b>		
Speed		
CPU-intensive	(150)	Satisfactory
Twelve percent slower than average 386SX/20.		
Speed		
disk-intensive	(100)	Satisfactory
Nine percent slower than average.		
Speed		
multitasking	(125)	Good
Just 2 percent slower than average.		
Compatibility	(150)	Very Good
Not backward compatible with older versions of OS/2; one processing speed.		
Expandability	(75)	Very Good
Five 32-bit MCA slots, four drive bays; up to 16 megabytes of RAM.		
Documentation	(50)	Satisfactory
Index; table of contents; no glossary.		
Setup	(75)	Very Good
Easy access to memory modules, coprocessor socket.		
<b>Serviceability</b>		
System design	(50)	Very Good
Clean, well-designed system; recessed power switch; no patches on motherboard.		
Support policies	(50)	Satisfactory
Technical support	(75)	Good
Score based on reader survey.		
Value	(100)	Good
Final score		<b>6.2</b>

**PRODUCT SUMMARY**

**Company:** IBM Corp., 1133 Westchester Ave., White Plains, NY 10604; (800) IBM-9292.  
**List price:** \$4,195 as configured; sold through dealer channels.  
**Features:** 20-MHz zero-wait-state 80386SX CPU; one each serial, parallel, mouse, SCSI ports; VGA adapter built in; Intel 80387SX math coprocessor support; 197-watt power supply.  
**Peripherals:** Enhanced keyboard.  
**Storage and memory:** 160-megabyte hard disk with SCSI 1:1 controller; 1.44-megabyte 3½-inch floppy drive; 4 megabytes of 70-nanosecond RAM (16 megabytes maximum).

**STAND-ALONE APPLICATIONS TESTS**

**INFO**  
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### 20-MHz 386SX Computers

(Times are in minutes:seconds)

Vendor	Speed score times		
	CPU-intensive	disk-intensive	multitasking
IBM PS/2 Model 57SX <sup>1</sup>	43:12	1:02:17	4:13
IBM PS/2 Model 57SX <sup>2</sup>	24:10	47:04	2:45
IBM PS/2 Model 40SX <sup>3</sup>	41:29	56:58	4:36
IBM Model 35SX <sup>3</sup>	41:57	56:47	4:31
20-MHz 386SX average <sup>4</sup>	38:04	56:40	4:09

<sup>1</sup> Tested in current configuration.  
<sup>2</sup> Tested with beta-test 386 SLC chip.  
<sup>3</sup> IBM PS/2 Model 40SX and IBM Model 35SX reviewed October 7, page 72.  
<sup>4</sup> Average of February 25 product comparison, page 53.