

# IBM's 386SX releases heat up low-end market

Big Blue ousts the competition by offering upgrade policies for current customers.

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Given the popularity of 386SX desktop computers, it comes as no surprise that most vendors offer more than one model. IBM takes the prize, though, for variety: Big Blue released four 386SX units this summer. Three of the four are based on the PC/AT bus and the remaining one has IBM's own Micro Channel Architecture. By introducing these systems and offering generous upgrade policies, IBM seems to be heating up the competition in the low-end market, which had previously been left to clone manufacturers.

In this review we compare the Model 35SX and the PS/2 Model 40SX, which are variations of the same system. Working with these systems is easy: Once you pop the cover, you find a drive bay "door," which swings out to reveal drives that can be snapped out or installed without tools or worry about wire connections, a neat flip-top stand (on the PS/2 Model 40) to support full-length cards and protect the SIMMs, and a host of other clever gadgets that make the system clean, well-organized, and fun to dismantle.

Both systems are slower than the average 386SX we tested, incompatible with older versions of OS/2, and house the same motherboard (with no option for RAM cache). However, the Model 35SX is housed in a case that is between a small-footprint desktop and a slimline, is configured with a 40-megabyte drive, and has limited expansion capabilities. The PS/2 Model 40 has a small-footprint case, a greater number of expandability options, and can be configured with an 80-megabyte drive. We tested these systems based on criteria from our February 25 product comparison of 386SX/20 machines (page 53).

The PS/2 Model 40 was slightly faster (by 1 percent) than the Model 35SX in CPU speed. They were both more than 20 percent slower than the fastest system in our last product comparison — Northgate Slimline 320SX (which included 64K of RAM cache), but less than 10

percent slower than the average 386SX.

Both systems were configured for our tests with identical 80-megabyte Maxtor ESDI drives and gave predictably identical disk-intensive performance — 12 percent slower than the Northgate and less than 1 percent slower than the average 386SX.

Multitasking performance was similar in both systems; the Model 35SX was slightly faster (by 2 percent) than the PS/2 Model 40. Both were more than 20 percent slower than the Northgate and less than 11 percent slower than the average 386SX.

We found no hardware or software compatibility problems except the incompatibility with older versions of OS/2. (Only Version 1.3.1 works with these machines.)

The PS/2 Model 40 comes out ahead in expandability, with five 16-bit ISA slots and four drive bays available (five slots and two drive bays available after our configuration). The Model 35SX has only three ISA slots and two drive bays (all of the slots and no drive bays are available after configuration). Both systems can accommodate a maximum of 16 megabytes of memory.

The documentation included with each system was well-organized, clear, and precise but not overly detailed and did not include detailed technical specifications.

We have found most of IBM's systems to be designed with great attention to detail and with the needs of the user in mind. You need no tools when opening the case or installing a drive or card. Everything is modular and self-contained.

IBM's support policies are the same for all the systems they sell — mostly serviced by dealers, but there is an answer line where customers can get support. Our technical support score is based on a survey of readers who buy and use IBM personal computers.

Both systems fit the niche for which they were intended. The systems are slightly slower than the average 386SX, offer options that are reasonable for the functionality and are very well-designed. They are perfect for low-end office workstations and potential OS/2 platforms. □

## REPORT CARD INFO WORLD



20-MHz 386SX ISA COMPUTER

### IBM Model 35SX

Criterion	(Weighting)	Score
<b>Performance</b>		
Speed		
CPU-intensive	(150)	Good
Below average speed for class; 8 percent slower than the average 386SX.		
Speed		
disk-intensive	(100)	Good
Less than one percent slower than the average 386SX.		
Speed		
multitasking	(125)	Good
Seven percent slower than the average 386SX.		
Compatibility	(150)	Very Good
Expandability	(75)	Satisfactory
Three 16-bit ISA slots and two drive bays; 16 megabytes maximum RAM.		
Documentation	(50)	Good
Index, table of contents, and troubleshooting guide.		
Setup	(75)	Very Good
<b>Serviceability</b>		
System design	(50)	Very Good
Clean, well-designed system.		
Support policies	(50)	Satisfactory
Technical support	(75)	Good
Score based on reader survey.		
Value	(100)	Good
Final score		<b>5.8</b>

### PRODUCT SUMMARY

**Company:** IBM Corp., 1133 Westchester Ave., White Plains, NY 10604; (800) IBM-9292.

**List Price:** \$3,020 (standard configuration plus an additional 2 megabytes of RAM); sold through dealer channels.

**Features:** 20-MHz zero-wait-state 80386SX CPU; one serial, one parallel, one mouse port; VGA adapter built in; Intel 80387SX or compatible math coprocessor support; 197-watt power supply.

**Peripherals:** Enhanced keyboard; IBM 16-bit VGA built-in.

**Storage and Memory:** 40-megabyte Maxtor hard disk with 1:1 controller (our tests were run with an 80-megabyte drive); 1.44-megabyte 3½-inch floppy drive; 4 megabytes of 80-nanosecond RAM (16 megabytes maximum.)

## REPORT CARD INFO WORLD



20-MHz 386SX ISA COMPUTER

### IBM PS/2 Model 40SX

Criterion	(Weighting)	Score
<b>Performance</b>		
Speed		
CPU-intensive	(150)	Good
Seven percent slower than the average 386SX.		
Speed		
disk-intensive	(100)	Good
Less than one percent slower than the average 386SX.		
Speed		
multitasking	(125)	Good
Eight percent slower than the average 386SX.		
Compatibility	(150)	Very Good
Expandability	(75)	Good
Five 16-bit slots, four drive bays; 16 megabytes maximum RAM.		
Documentation	(50)	Good
Index; table of contents; troubleshooting guide.		
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; some patches on motherboard.		
Support policies	(50)	Satisfactory
Technical support	(75)	Good
Score based on reader survey.		
Value	(100)	Good
Final score		<b>6.1</b>

### PRODUCT SUMMARY

**Company:** IBM Corp., 1133 Westchester Ave., White Plains, NY 10604; (800) IBM-9292.

**List Price:** \$3,690 as configured; sold through dealer channels.

**Features:** 20-MHz zero-wait-state 80386SX CPU; one serial, one parallel, one mouse port; VGA adapter built in; Intel 80387SX or compatible math coprocessor support; 197-watt power supply.

**Peripherals:** Enhanced keyboard; IBM 16-bit VGA built-in.

**Storage and Memory:** 80-megabyte Maxtor hard disk with built-in ESDI 1:1 controller; 1.44-megabyte 3½-inch floppy drive; 4 megabytes of 85-nanosecond RAM (16 megabytes maximum.)

## STAND-ALONE APPLICATIONS TESTS

## INFO WORLD

### 20-MHz 386SX Computers

(Times are in minutes:seconds)

Vendor	Speed score times		
	CPU-intensive	disk-intensive	multitasking
IBM PS/2 Model 40SX	41:29	56:58	4:36
IBM Model 35SX	41:57	56:47	4:31
Northgate SlimLine 320SX*	32:44	49:51	3:32
20-MHz 386SX average*	38:04	56:40	4:09

\*Review of Northgate SlimLine and average times published in product comparison, February 25, page 53.