

IBM's 486 Offers Sparkling Performance

The PS/2 Power Platform is basic in design and relatively easy to set up.

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Left behind in the Texas tumbleweed when Compaq Computer Corp. began shipping its first 386 systems, IBM was determined not to be late to market at the next great opportunity. Thus, while other vendors are waiting for enough chips from Intel to make a few sales, IBM claims it is already shipping its 486 system, the Power Platform. The 486 chip is the major part of a small daughterboard that plugs into the 386 CPU socket of the PS/2 Model 70-A21, IBM's 25-MHz MCA machine. (For a review of the 386 version of the IBM Model 70-A21, see Page 107.)

IBM has received one setback in its shipping schedule. Intel's announcement of exotic bugs in the 486 chip has caused IBM to temporarily suspend sales of the Power Platform. We expect this delay to be temporary, and the bugs had no effect on our tests. (For details on the chip problems, see "486 Bugs Derail PC Vendors' Plans," October 30, Page 1.)

Since the IBM 70-A21 serves as the basis for both the 386 and 486 units, we have a unique opportunity to observe the advantages of the 486 CPU. The two machines have identical hard drives and controllers, memory, and other components.

(We have introduced new testing and scoring criteria for desktop computers; for details, see "How We Tested and Scored MCA Computers," Page 116.) In aggregate time for our test suite of memory-intensive applications, Autocad, Lotus 1-2-3, and Word Perfect, IBM's 486 shaved 40 percent off the time required by the 386-25.

We also saw improvement in the disk-intensive aggregate even using the same drive unit. The random-access portion of our Dbase and Paradox tests received a boost from the faster CPU, giving the 486 an 11 percent gain over the 386.

Our Automated Hardware Benchmark confirmed these times. The 486's CPU index is more than twice as fast as the 386 — 6.8 rose to 15.1. The random-access index also gained from 3.4 to 5.0.

In competition with other 486 proto-

types we've benchmarked, the Power Platform was close behind AST's Premium 486 for top honors in its speed for memory-intensive applications. IBM took 14 minutes and nine seconds to AST's 12 minutes and 14 seconds. However, the IBM Power Platform was relatively slower in the disk-intensive portion of our test suite. It took 51 minutes and 42 seconds to complete this section, compared with the 32- to 36-minute times turned in by the AST and ALR machines.

The Power Platform ran well with all but one of our software-compatibility test suite: Crosstalk XVI, Version 3.61; Lotus 1-2-3, Releases 2.2 and 3.0; and Microsoft Word 5.0 under Desqview, Version 2.25 with QEMM, Version 4.23; Lotus 1-2-3, Release 2.2 and Word under Windows/386; Dbase III Plus 1.1 and Dbase IV 1.0; Autocad, Release 10; Word Perfect 5.0; Paradox 386; and Sidekick Plus.

The Power Platform 486 has the same minor incompatibility with Desqview that its 386 version has, in which IBM's

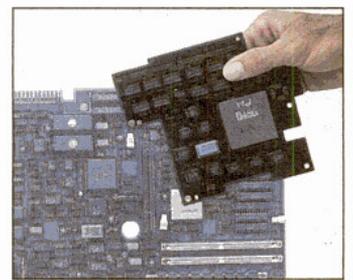
BIOS uses the same addresses as Desqview when running Lotus and Word simultaneously. Quarterdeck said its next release will solve the problem. (For more, see "What We Found," Page 107; and "Notes From the Test Center," Page 121.)

The Power Platform is not as expandable as full-size desktop systems. It has just three slots and one 3½-inch drive bay available, although the hard and floppy disk controllers, video graphics adapter, and serial, parallel, and mouse ports are built-in.

We now score technical support based on a survey of our readers who buy and use desktop computers. They tell us that they are generally pleased with the quality of support that IBM dealers provide.

In other scoring categories the system is typical IBM: basic in design, relatively easy to set up, and high in list price. (Your per-unit price may fall to 30 percent or more off list price depending on the number of systems you buy.) As the first 486 available, we find its sparkling performance vs. the 386s make it a good value. □

REPORT CARD INFO WORLD



486 COMPUTERS

IBM PS/2 Power Platform 486

Criterion	(Weighting)	Score
Performance		
Speed		
Memory-intensive applications	(100)	Very Good Fourth fastest 486.
Disk-intensive applications	(100)	Satisfactory Slowest in its class.
Software compatibility	(150)	Very Good Just one processing speed.
Hardware compatibility	(125)	Excellent
Expandability	(75)	Good Just three free slots, one free drive bay after configuration; lacks large hard drive option.
Documentation	(50)	Satisfactory
Setup	(100)	Good
Serviceability		
System design	(50)	Satisfactory
Support policies	(50)	Poor Dealer-only support.
Technical support	(75)	Good
Value	(125)	Good
Final score		6.5

BENCHMARKS



386/486 Computers

	CPU Speed	Hard Disk Access	
		Sequential	Random
IBM PS/2 Power Platform 486	15.1	2.8	4.7
AMI 486*	16.9	4.3	6.3
Everex Step 486is*	16.9	4.0	5.9
AST Premium 486*	16.8	3.1	6.0
ALR Powerflex 4*	16.4	6.5	7.2
V.I.P.C. 486*	16.8	2.4	10.9
ALR Microflex 7000*	7.0	3.6	3.9
IBM PS/2 Model 70-A21*	6.8	2.6	3.4
Compaq Deskpro 386/20	5.4	4.4	4.7

Products after IBM 486 listed by fastest CPU.
*ALR, AST, AMI, Everex, and V.I.P.C. are 486 prototypes. V.I.P.C. has disk-caching drive controller. AMI provided its 486 motherboard only. ALR Microflex and IBM Model 70-A21 are 25-MHz 386 systems. All figures are indexes relative to the 6-MHz IBM PC AT (Model 099) as 1.00. CPU tests measure main processor performance; hard disk is tested for sequential and random data access. Higher numbers indicate better performance.

APPLICATIONS TESTS



386/486 Computers

(in hours:minutes:seconds)

Vendor	Memory-intensive	Disk-intensive	Autocad Release 10	Dbase III Plus 1.1	Dbase IV 1.0	Lotus 1-2-3 Release 2.2	Lotus 1-2-3 Release 3	Paradox 386	Word Perfect 5.0
IBM PS/2 Power Platform 486	0:14:09	0:51:42	0:02:53	0:26:47	0:10:52	0:04:29	0:05:27	0:14:03	0:01:20
ALR Powercache 4¹	0:19:18	0:36:31	0:03:26	0:18:43	0:09:17	0:06:34	0:07:50	0:08:31	0:01:28
AMI 486 motherboard²	0:19:02	0:32:12	0:04:32	0:15:52	0:07:05	0:03:53	0:09:34	0:09:15	0:01:03
AST Premium 486¹	0:12:14	0:34:47	0:02:28	0:16:54	0:07:40	0:03:57	0:04:46	0:10:13	0:01:03
Everex Step 486is	0:14:06	0:48:45	0:03:18	0:25:58	0:10:57	0:04:26	0:05:18	0:11:50	0:01:04
V.I.P.C. 486	0:12:16	0:25:16	0:02:45	0:12:02	0:07:27	0:04:01	0:04:49	0:05:47	0:00:41
IBM PS/2 Model 70-A21	0:23:45	0:57:39	0:04:07	0:30:33	0:12:38	0:08:00	0:09:54	0:14:28	0:01:44
ALR Microflex 7000	0:23:41	0:48:18	0:04:11	0:25:11	0:10:56	0:07:46	0:10:11	0:12:11	0:01:33
Compaq 386/20	0:29:33	0:44:41	0:05:26	0:20:55	0:11:00	0:09:24	0:12:55	0:12:46	0:01:48

¹ALR, AST, AMI, Everex, and V.I.P.C. are 486 prototypes.
²AMI sent us a 486 motherboard prototype.

PRODUCT SUMMARY

Company: IBM Corp., 1133 Westchester Ave., White Plains, NY 10604; (800) 426-2468.
List Price: \$14,485 as configured.
Features: 25-MHz one-wait-state 80486 CPU, serial, parallel, mouse ports built-in; 132-watt power supply.
Peripherals: Enhanced keyboard; built-in 8-bit VGA board (IBM).
Storage and Memory: 120-megabyte IBM hard disk with ESDI 1:1 controller; 1.4-megabyte 3½-inch floppy drive; 4 megabytes of 80-nanosecond RAM in SIMMs (16 megabytes maximum).
Pros: Small footprint; easy to install new peripherals; built-in I/O, video, disk controllers.
Cons: Dealer-only support.
Summary: The first available 486, though shipments are now on hold while Intel fixes the chip. The Power Platform is a fine performer in our memory-intensive applications. In disk times it still suffers from the relatively slow hard drive.