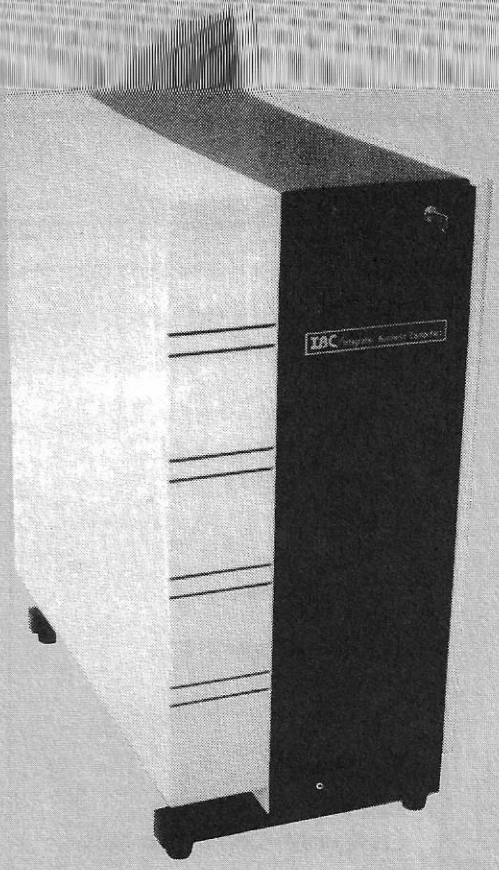
THE ALL NEW ENSIGN II

For demanding Unix business environments, at PC prices, IBC introduces the new ENSIGN II.

Designed to support heavy multiuser, multitasking applications, the ENSIGN II delivers the same high performance as its predecessor the original ENSIGN (remember the system that took the Plexus challenge and won hands down?). Yet the ENSIGN II costs far less than lower performance systems from the competition.



THE ENSIGN S-6810

Starting at a price unmatched by other Unix systems, the S-6810 is an ideal first Unix system.

The S-6810 supports up to eight users, one megabyte of memory, three ST506 or SCSI hard disk drives and, for truly high speed number crunching, an optional floating point processor.

And, when you need extra peformance, the S-6810 can be easily upgraded to a D-6810.

THE ENSIGN D-6810

With the addition of a second card, the ENSIGN II becomes the sixteen user dual-processor D-6810, delivering unparalleled Unix performance.

With dual Motorola 68010 processors, three megabytes of memory, and a one megabyte disk buffer, the D-6810 easily outperforms systems costing more than twice as much.

The D-6810 is also able to grow with your needs, and can be upgraded to support 32 users.

THE ENSIGN T-6820

In the third quarter of 1986, IBC will introduce a T-6820 upgrade for the S-6810. The T-6820 upgrade will feature a true 32-bit 68020 CPU together with 8 megabytes of memory and forty-eight serial ports.

IBC INTEGRATED

SPECIFICATIONS

	S-6810	D-6810
Main Processor (CPU)	68010	68010
Clock Frequency	10MHz	10MHz
Bus Size	16-bit	16-bit
Data Size	32-bit	32-bit
Address Size	24-bit	24-bit
Slave Processor	—	68010
Floating Processor (Optional)	MC68881	MC68881
Main Memory	1 Mbyte	3 Mbytes
Disk Buffer Memory	DMA Direct to Main Memory	1 Mbyte
Memory Management	Demand Page Virtual Memory 4K Pages 16 Partitions	Demand Page Virtual Memory 4K Pages 64 Partitions
Serial Ports	8	16 or 32
Parallel (Centronics) Ports	1	1 or 2
Configurable Synchronous Ports	2	2
Hard Disk Drives	Up to 3	Up to 3
Drive Capacities	27, 50, 55, 86 Mytes	27, 50, 55, 86 Mbytes
Floppy Disk Drive	5.25" 1.0/1.6 Mbyte	5.25" 1.0/1.6 Mbyte
Tape Drive	60 Mbyte Streaming	60 Mbyte Streaming
VME Bus Interface	Optional	Optional
Operating System	UniSoft's 68000 Implementation of AT&T's System V Unix	UniSoft's 68000 Implementation of AT&T's system V Unix
Physical Dimensions	22" (55.88 cm)	22" (55.88 cm)
Height	10.5" (20.67 cm)	10.5" (20.67 cm)
Width	20" (50.80 cm)	20" (50.80 cm)
Depth	180 Days	180 Days
Warranty	Third Party Through REI/Inforex	Third Party Through REI/Inforex
Maintenance		

IBC INTEGRATED BUSINESS COMPUTERS

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COMPARE AT&T®, ALTOS®, and NCR®

NOW COMPARE WITH IBC

IBC . . . We're not the new kid on the block. In fact, we're the old kid on the block. IBC has been shipping multi-user micros since 1979 —longer than anybody else. And we've been profitable all seven years —even 1985 — the nightmare for other micro manufacturers.

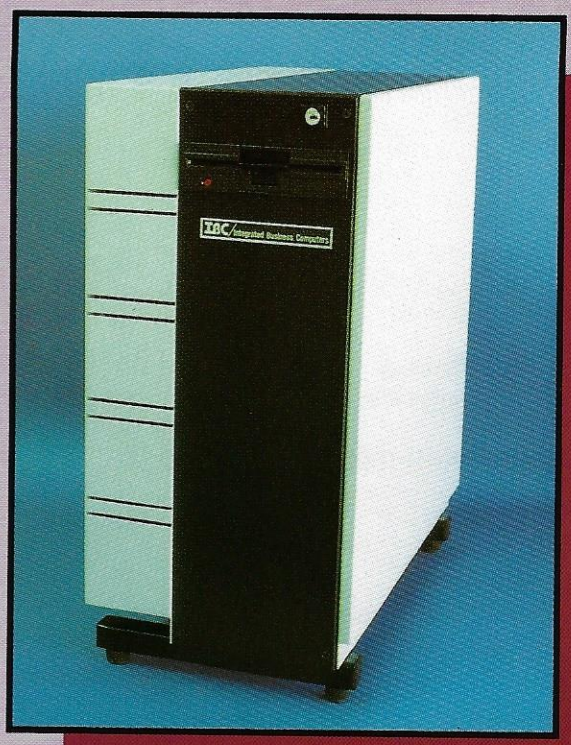
So what is IBC, the old kid on the block, up to now? The same old story. More performance at a lower price. No price wars here. It's just that IBC is very good at designing low-cost systems, and maximizing their performance — beyond the competition at least.

Not only are IBC's prices lower, but IBC gives much healthier discounts to its dealers. Kind of makes you wish you were an IBC dealer, doesn't it?

Now IBC isn't trying to buy its way into the market. These prices and discounts are IBC's everyday prices and discounts. And there's still a healthy profit for IBC. That's why we're going to be around another seven years. And then some.

Need software? IBC can run what the other guys run —*UNIX System V. But they can't run everything we can run. We also support THEOS 68K (OASIS), a user-friendly business-oriented operating system. It's been around longer than IBC, and has a lot of applications ready to go. In case you're interested, it's a lot faster than UNIX, too.

Now, to the comparisons. IBC's low-end S-6810 and mid-sized D—6810 against the best from the biggest:



PRODUCT COMPARISON CHART

IBC S-6810	AT&T 3B2-300	ALTOS 886	NCR MINI-TOWER
MC 68010 CPU	WE 32000 CPU	80286 CPU	MC68010 CPU
1 Mbyte memory	1 Mbyte memory	1 Mbyte memory	1 Mbyte memory
25 Mbyte hard disk	33 Mbyte hard disk	25 Mbyte hard disk	25 Mbyte hard disk
1.6 Mbyte floppy disk	1.0 Mbyte floppy disk	1.6 Mbyte floppy disk	1.0 Mbyte floppy disk
60 Mbyte tape drive	No tape drive	60 Mbyte tape drive	45 Mbyte tape drive
8 serial I/O ports	6 serial I/O ports	9 serial I/O ports	8 serial I/O ports
$7,495	**$11,950**	**$9,490**	**$12,020**
Can be upgraded to D-6810	Cannot be upgraded to 3B2-400	Cannot be upgraded to 1086	Cannot be upgraded to Tower XP
IBC D-6810	**AT&T 3B2-400**	**ALTOS 1086**	**NCR TOWER XP**
Dual MC 68010 CPUs	WE 32000 CPU	80286 CPU	MC 68010 CPU
3 Mbyte memory	2 Mbyte memory	3 Mbyte memory	3 Mbyte memory
1 Mbyte disk buffer	85 Mbyte hard disk	80 Mbyte hard disk	46 Mbyte hard disk
86 Mbyte hard disk	1.0 Mbyte floppy disk	1.6 Mbyte floppy disk	1.0 Mbyte floppy disk
1.6 Mbyte floppy disk	23 Mbyte tape drive	60 Mbyte tape drive	45 Mbyte tape drive
60 Mbyte tape drive	10 serial I/O ports	10 serial I/O ports	16 serial I/O ports
16 serial I/O ports			
$15,295	**$26,500**	**$20,480**	**$23,145**

It wasn't even close was it? And, as they say, "You ain't seen nuthin' yet!" Soon, IBC will introduce the 32-bit 68020-based Ensign II, and it will be that same old story — again!

One thing IBC never did learn from the competition was how to make older models obsolete. So we've made sure that the S-6810 and D-6810 can easily be upgraded to the new 68020 model.

If you would like to know more about IBC computers or IBC the company, give us a call.

*All prices U.S. list as of 3/86. Competitive prices based on available information. THEOS is a trademark of THEOS Software Corporation. UNIX is a registered trademark of Bell Laboratories, Inc.; AT&T is a registered trademark of AT&T Information Systems: ALTOS is a registered trademark of ALTOS COMPUTER SYSTEMS: NCR is a registered trademark of NCR CORPORATION.

IBC INTEGRATED BUSINESS COMPUTERS

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(818) 882-9007 Telex: 215349

Nationwide on-site service available from REI/Recognition Equipment, Inc.

SPECIFICATIONS

	S-6810	D-6810
Main Processor (CPU)	68010	68010
Clock Frequency	10MHz	10MHz
Internal Data Size	32-bit	32-bit
External Data Size	16-bit	16-bit
Address Size	24-bit	24-bit
Slave Processor	n/a	68010
Floating Processor (Optional)	MC68881	MC68881
Main Memory	1 Mbyte	3 Mbytes
Disk Buffer Memory	DMA Direct to Main Memory	1 Mbyte
Memory Management	Demand Page Virtual Memory 4K Pages 16 Partitions	Demand Page Virtual Memory 4K Pages 64 Partitions
Serial Ports	8	16 or 32
Parallel (Centronics) Ports	1	1 or 2
Configurable Synchronous Ports	2	2
Hard Disk Drives	Up to 3	Up to 3
Drive Capacities	27, 50, 55, 86 Mytes	27, 50, 55, 86 Mbytes
Floppy Disk Drive	5.25" 1.0/1.6 Mbyte	5.25" 1.0/1.6 Mbyte
Tape Drive	60 Mbyte Streaming	60 Mbyte Streaming
VME Bus Interface	n/a	Optional
Operating System	UniSoft's 68000 Implementation of AT&T's System V Unix THEOS 68K	UniSoft's 68000 Implementation of AT&T's system V Unix THEOS 68K
Physical Dimensions	22" (55.88 cm)	22" (55.88 cm)
Height	10.5" (20.67 cm)	10.5" (20.67 cm)
Width	18" (50.80 cm)	18" (50.80 cm)
Depth	180 Days	180 Days
Warranty	Third Party Through REI/Recognition Equipment, Inc.	Third Party Through REI/Recognition Equipment, Inc.
Maintenance		

IBC INTEGRATED BUSINESS COMPUTERS

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Chatsworth, CA 91311
(818) 882-9007 Telex: 215349

A 100 USER 14 MIPS BUSINESS COMPUTER FOR UNDER $6,000?

Amazing? Not really when you consider who manufactures this system: IBC. We have been building multi-user super-micros for the past seven years, and we are good at delivering the most bang for the buck!

? ? ? Under $6,000.00 ? ? ?

Now for the disclaimer: For under $6,000 you get the IBC Ensign S-6810, and by adding three serial expansion boards, and two dual 68020 CPU boards, the Ensign II really will support 100 users. Its four 20MHz 68020's running in parallel will perform at 14 MIPS. Without going into a lot of detail on MIPS just remember a half million dollar Digital VAX*8650 performs at a maximum of 6 MIPS. Also the $6,000 Ensign S-6810 comes with a 25MB hard disk. With 100 users you may wish to add a few of our 280MB hard disks.

A Fifth the Price of a Competitive System

To be honest, a 100 user Ensign with four 20MHz 68020 CPU's, four 10 MHz 68010 CPU's, 2MB high speed static memory, 16MB dynamic memory, over 1MB of disk and serial I/O buffers, with a 280MB hard disk, and 60MB tape drive will cost about $75,000 plus the cost of your 100 terminals, and printers. But even at $75K it is a steal when you consider it is about a fifth of the price of a competitive system.

Now after all is said and done, what IBC can deliver is the only low cost multi-user super-micro that can easily expand to compete against computers costing five times as much.

Look at these specifications and let us make a believer out of you.

LOW END	HIGH END
10MHz 68010 CPU	*Four 20MHz 68020 CPU's**
1MB memory	*2MB high speed static memory*
25Mbyte hard disk	*16MB dynamic memory*
8 serial I/O ports	*280MB hard disks (up to three)*
	100 serial I/O ports

*Disk I/O and serial I/O are controlled by four 10MHz 68010 CPU's with over 1MB I/O buffer

And remember that low end system for under $6,000 can easily expand to the high end system—or anywhere in between.

If you use UNIX*systems, and need low prices, and high performance then give us a call. We are the only company that can sell you a low cost computer that will **last you for life.**

The IBC Ensign II...The computer you won't outgrow.

VARS, call IBC now to find the best dealer discounts in the industry. Remember, if you don't, your competition will.

IBC INTEGRATED BUSINESS COMPUTERS

21621 NORDHOFF STREET, CHATSWORTH, CA 91311
TELEX: 215349 TELEPHONE: **(818) 882-9007**

Nationwide on-site service available from
REI/Recognition Equipment, Inc.
(800) 225-8515

*VAX is a trademark of Digital Equipment Corporation.
*UNIX is a trademark of AT&T Bell Laboratories.

SPECIFICATIONS

	S-6810	D-6810	T-6820
Main Processor (CPU)	68010	68010	68020 (up to 4)
Clock Frequency	10MHz	10MHz	20MHz
Internal Data Size	32-bit	32-bit	32-bit
External Data	16-bit	16-bit	32-bit
Address Size	24-bit	24-bit	32-bit
Slave Processor	n/a	68010	68010
Floating Point Processor (Optional)	—	—	MC68881 (up to 4)
Main Memory	1MB	3MB	4, 8, or 16MB and 512K, 1024K, or 2048K high speed static
Disk Buffer Memory	DMA Direct to Main Memory	1MB	1MB
Memory Management	Demand Paged Virtual Memory 4KB Pages 16 Partitions	Demand Paged Virtual Memory 4KB Pages 64 Partitions	Demand Paged Virtual Memory 4KB Pages 64 Partitions/Processor
Serial Ports	8	16, 32, or 44	16, 32, 44, 72, or 100
Parallel (Centronics) Ports	1	1 or 2	1, 2, 3, or 4
Configurable Synchronous Ports	2	2	2
Hard Disk Drives	Up to 3	Up to 3	Up to 3
Drive Types	ST506 and SCSI	ST506 and SCSI	ST506 and SCSI
Floppy Disk Drive	5.25" 1.0/1.6MB	5.25" 1.0/1.6MB	5.25" 1.0/1.6MB
Tape Drive (Optional)	60MB Streaming	60MB Streaming	60MB Streaming
VME Bus Interface	n/a	Optional	Optional
Operating Systems	Unisoft's Implementation of AT&T's System V Unix	Unisoft's Implementation of AT&T's System V Unix	Unisoft's Implementation of AT&T's System V Unix
Physical Dimensions			
Height	22" (55.88 cm)	22" (55.88 cm)	22" (55.88 cm)
Width	10.5" (20.67 cm)	10.5" (20.67 cm)	10.5" (20.67 cm)
Depth	18" (50.80 cm)	18" (50.80 cm)	18" (50.80 cm)
Warranty	180 Days	180 Days	180 Days
On-Site Maintenance	Recognition Equipment Inc.	Recognition Equipment Inc.	Recognition Equipment Inc.

IBC INTEGRATED BUSINESS COMPUTERS

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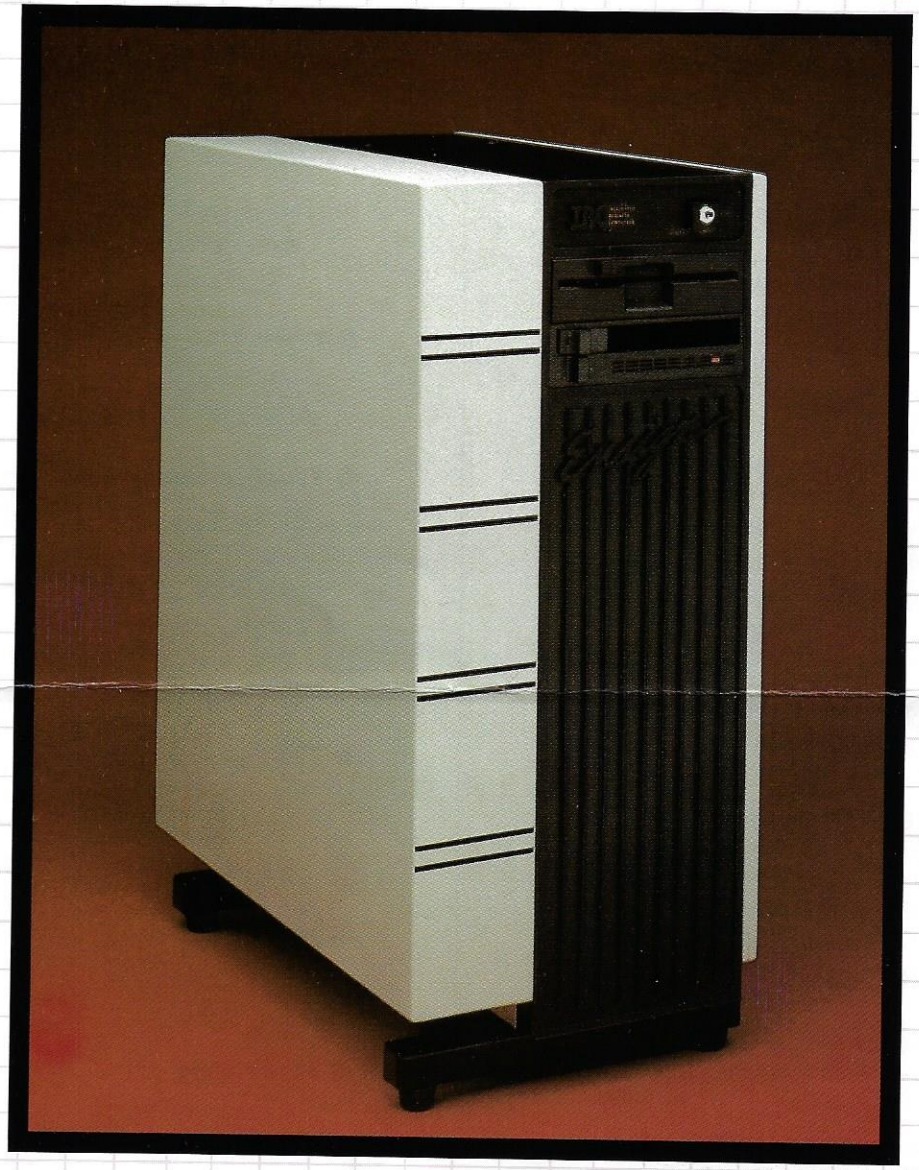
THE ENSIGN 682:100

THE 100 USER 32-BIT 68020 BASED COMPUTER



32-BIT MOTOROLA 68020 PROCESSOR

- 16-100 serial I/O ports
- 1-24MB memory
- 60MB streamer tape
- 25-840MB disk storage
- 1MB disk/serial I/O buffer memory
- 1 - 4 slave 68010 processors

IBC introduces a 100 user 32-bit system at a base price competitive with limited 16-bit systems. At the high end the Ensign 682:100 competes favorably against systems costing twice as much.

The super micro that you will not outgrow!

IBC INTEGRATED BUSINESS COMPUTERS

21621 Nordhoff Street, Chatsworth, California 91311
Phone: (818) 882-9007 Telex: 215349

No other system can perform like the Ensign 682:100 because no other system was designed like the Ensign 682:100

It takes more than a lot of serial ports and memory to get a system to support 100 users. Only the Ensign makes intelligent use of multiple slave processors and buffered memory as well as a very high speed 32-bit 68020 processor to support up to 100 users. Yet the cost effective design of the Ensign provides high performance at prices our competitors cannot match. Based on the architecture of IBC's successful 386:100, the Ensign 682:100 offers high performance 32-bit UNIX* at the 16-bit price range.

The architecture of the Ensign 682:100 is based upon only three boards.

68020 CPU BOARD: The CPU board has a 32-bit 16MHz 68020 Motorola processor, and an optional 68881 floating point processor.

The CPU board will accommodate up to six IBC memory modules. These memory modules come in 1 Mbyte and 4 Mbyte versions which allows the Ensign 682:100 to expand to up to 24 Mbyte of memory.

PERIPHERAL BOARD: The peripheral board has a slave 68010 processor that controls I/O for 16 serial ports, a centronics port, a floppy disk controller, a ST506 hard disk controller, and a SCSI hard disk and tape controller. To optimize disk I/O the peripheral board also has 1 Mbyte of disk I/O buffer memory. Two of the serial I/O ports can be reconfigured to run as bisynch I/O ports.

SERIAL EXPANSION BOARD: The serial expansion board has 28 serial I/O ports and one centronics port. Each serial expansion board has a 68010 slave processor to offload serial I/O overhead from the main 68020 processor. The Ensign 682:100 can accommodate up to three serial expansion boards for a total of 100 serial I/O ports.

CABINET: The Ensign 682:100 comes in a "tower" type cabinet that will accommodate a streamer tape drive, a 5¼" floppy disk and up to three 5¼" hard disk drives.

UNIX SYSTEM V from UNISOFT: UniPlus+ uses the standard UNIX kernal (compatible with AT&T's standard System V kernal) and incorporates the Berkeley enhancements.

Available software includes:

ASM-68	RM/COBOL
SVS BASIC-Plus	Quadraton
"C"	ADA
Unify/Accell	Philon COBOL
R Word	Philon BASIC
SVS Pascal	C-ISAM
SVS FORTRAN-77	Informix

In addition to this software, a variety of applications software, development tools and utilities have been tailord to UniPlus+ and are available through UniSoft and other software vendors.

Specifications

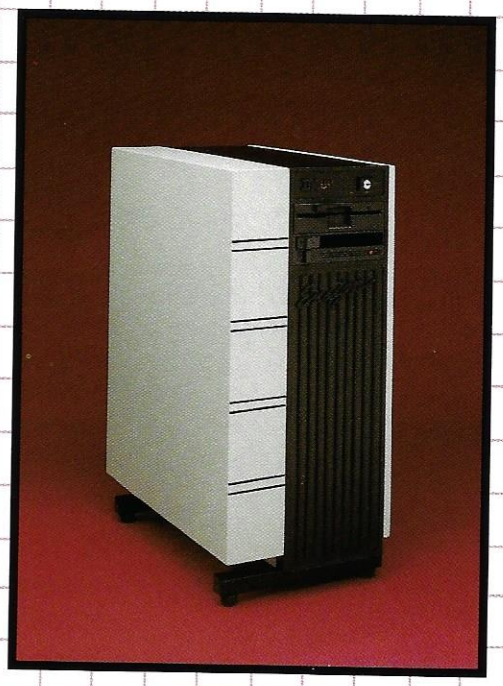
	IBC Ensign 682:100
■ CPU Board	
Main Processor	68020
Clock Frequency	16 MHz
External Data Size	32 bit
Internal Data Size	32 bit
Cache Size	Not required since all memory runs at full speed
Floating Point Processor (Optional)	68881
■ Memory Configuration	
Minimum	1 MB
Maximum	24 MB
■ Serial Communications Subsystems	
Processors	68010
Clock Frequency	10 MHz
Total Ports	16, 44, 72 or 100
Configurable Synchoronous Ports	2
Parallel Printer Port	1, 2, 3 or 4
■ File Processor Subsystem	
Processor	68010
Clock Frequency	10 MHz
Disk I/O Buffer	1 MB
■ Hard Disk	
Number of Drives	Up to 3
Physical Size	5¼ inch
■ Floppy Disk	
Number of Drives	1
Physical Size	5¼ inch
■ Tape Drive	
Number of Tracks	9
Back-up Time (60 MB Tape)	20 minutes
Tape Speed	90 inches/second
■ Warranty	This IBC product carries a 180-day limited warranty.

IBC INTEGRATED BUSINESS COMPUTERS

* UNIX is a trademark of Bell Laboratories

THE 100 USER 32-BIT 80386 BASED COMPUTER

THE ENSIGN 386:100



The Computer You Will Not Outgrow!

This is the ultimate 80386 based multi-user computer you have been waiting for. At a base price not much higher than 386 PC type machines, the Ensign 386:100 can expand to be a computer that you will not outgrow.

The key to the Ensign's multi-user performance is its intelligent serial and disk controllers. Using up to four 68010 CPU's and over 1MB of buffer memory to handle serial and disk overhead, the 80386 is free to provide its full performance to as many as 100 users.

32-Bit Intel 80386 Processor

- **16-100 serial I/O ports**
- **1-24MB memory**
- **60MB streamer tape**
- **25-840MB disk storage**
- **1MB disk/serial I/O buffer memory**
- **1-4 slave 68010 processors**

Need Software? The Ensign 386:100 can run it all.

XENIX 386

The most popular commercial version of UNIX . AT&T System V compatible.

THEOS 386

The latest version of THEOS (OASIS) for the 80386.

UNIX V/386

Microports version of UNIX V.3 for the 80386.

If you use multi-user systems and need low prices and high performance then give us a call. IBC is the only company that can sell you a low cost 80386 computer that will last you for life.

VARS, call IBC now to find the best dealer discounts in the industry. If you don't, your competition will.

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Nationwide on-site service available from
REI/Recognition Equipment, Inc.
(800) 527-6196

Now! Motorola 68020 Version for UNIX and PICK

GSA #GSOOK87AGS6078

Specifications

	IBC Ensign 386:100
■ CPU Board	
Main Processor	80386
Clock Frequency	16 MHz
External Data Size	32 bit
Internal Data Size	32 bit
Cache Size	Not required since all memory runs at full speed
Floating Point Processor (Optional)	80387
■ Memory Configuration	
Minimum	1 MB
Maximum	24 MB
■ Serial Communications Subsystems	
Processors	68010
Clock Frequency	10 MHz
Total Ports	16, 44, 72 or 100
Configurable Synchoronous Ports	2
Parallel Printer Port	1, 2, 3 or 4
■ File Processor Subsystem	
Processor	68010
Clock Frequency	10 MHz
Disk I/O Buffer	1 MB
■ Hard Disk	
Number of Drives	Up to 3
Physical Size	5¼ inch
■ Floppy Disk	
Number of Drives	1
Physical Size	5¼ inch
■ Tape Drive	
Number of Tracks	9
Back-up Time (60 MB Tape)	20 minutes
Tape Speed	90 inches/second
■ Warranty	This IBC product carries a 180-day limited warranty.

No other system can perform like the Ensign 386:100 because no other system was designed like the Ensign 386:100

It takes more than a lot of serial ports and memory to get a system to support 100 users. Only the Ensign makes intelligent use of multiple slave processors and buffered memory as well as a very high speed 32-bit 80386 processor to support up to 100 users. Yet the cost effective design of the Ensign provides high performance at prices our competitors cannot match. A low end Ensign 386:100 is priced only slightly higher than PC-AT type machines. It is definitely worth the extra cost for a system you will never outgrow.

The architecture of the Ensign 386:100 is based upon only three boards.

80386 CPU BOARD: The CPU board has a true 32-bit 16MHz Intel 80386 processor. The 80386 is the latest and most powerful processor from Intel. It is significantly more powerful than the 80286 processor. It is a 32-bit processor rather than 16-bit, it does not have the 64KB segmentation limitation of the 80286 and it runs at twice the clock rate of the fastest 80286. Further, the 80386 has a more sophisticated instruction set allowing it to perform operations far faster and more efficiently than the 80286.

The CPU board will accommodate up to six IBC memory modules. These memory modules come in 1 Mbyte and 4 Mbyte versions which allows the Ensign 386:100 to expand to up to 24 Mbyte of memory.

PERIPHERAL BOARD: The peripheral board has a slave 68010 processor that controls I/O for 16 serial ports, a centronics port, a floppy disk controller, a ST506 hard disk controller, and a SCSI hard disk and tape controller. To optimize disk I/O the peripheral board also has 1 Mbyte of disk I/O buffer memory. Two of the serial I/O ports can be reconfigured to run as bisynch I/O ports.

SERIAL EXPANSION BOARD: The serial expansion board has 28 serial I/O ports and one centronics port. Each serial expansion board has a 68010 slave processor offload serial I/O overhead from the main 80386 processor. The Ensign 386:100 can accommodate up to three serial expansion boards for a total of 100 serial I/O ports.

CABINET: The Ensign 386:100 comes in a "tower" type cabinet that will accommodate a streamer tape drive, a 5¼" floppy disk and up to three 5¼" hard disk drives.