The Upgrade Manual for Older Computers

Expansion Products that give new Life to Older Computers!

"PC Enterprises Upgrade Manual for Older Computers includes more expert advise and hard to find products than any other manual I have ever seen. Consider it a must-have if you own an older computer!"

If you own an *older* computer you'll find this manual crammed full of information and upgrade products you can't find anywhere else.

You'll certainly want to keep this manual as long as you own your computer. It includes everything needed to make older computers useful!

Where to Find it Inside

- **Software Bargain Center ..... pages 10-15**
- **IBM PCjr Expansion Products ..... pages 17-30**
- **Tandy EX & HX Expansion Products ..... pages 31-40**
- **IBM PC-XT and AT Class Expansion Products ..... pages 41-62**
- **Systems, Monitors, & Printers ..... pages 63-72**

PC ENTERPRISES

" Computer Upgrade Specialists Since 1984"

PC Enterprises 2400 Belmar Blvd Bldg B-16 Belmar, NJ 07719
(800) 922-7257 (908) 280-0025

81504
Catalog Code

PC Enterprises
2400 Belmar Blvd #B16
PO Box 292
Belmar, New Jersey
07719

Order Desk
(800) 922-7257 8AM to 6:00PM EST

Customer Service
(908) 280-0025 9AM to 4:30PM EST

PC Enterprises started manufacturing computer products in 1984. This year we've lowered many prices and ask for your help so we can lower prices even more! Please complete the section below. Thank You.

How did you first find out about PCE?

Magazine
- ☐ Computer Shopper
- ☐ Compute!
- ☐ PC Computing
- ☐ PC Magazine
- ☐ PC World
- ☐ PCM

Other
- ☐ Word of Mouth
- ☐ Racore
- ☐ jrNewsletter
- ☐ IBM
- ☐ Local Computer Store
- ☐ Don't Remember

How to Place an Order
Please review the page titled, "Terms and Conditions of Sale" and select the type of shipping and handling service you prefer. Next, complete this order form and mail it to PC Enterprises or call our toll free order line and place your order by phone. Our order desk is open Monday through Friday and occasionally on Saturdays.

Home Address of the Person Placing the Order

Customer Number _____
(the six or seven digit number above your name on your mailing label)

Name _____

Address _____

City _____ State _____ Zip _____

Day Phone (include area code) ( ) _____

Night Phone (include area code) ( ) _____

Shipping Address (if different from above)

Name _____

Address _____

City _____ State _____ Zip _____

☐ Check Enclosed # _____ ☐ Money Order Enclosed

Credit Card Customers ☐ Visa ☐ MasterCard

Name as printed on card _____

Credit Card # _____ _____ _____ _____

Expiration Date _____ Signature _____

Catalog Number	Quantity	Item Description	Price Each		Total Price	

Do you know someone else who owns a PCjr, Tandy, PC-XT or other older computer? If so, we'd like to send them a free catalog. And if they're not already on our mailing list we might just send you a discount coupon for future orders! All information is kept confidential.

Name _____

Address _____

City _____ State _____ Zip _____

Computer Owned _____
(must be filled in)

Shipping and Handling
Please Check One:
- ☐ Regular Service
- ☐ Special Service Priority ($7.50)
- ☐ Special Service Top Priority ($22.50)

Amount of Order		
Other Credits		
Subtotal		
NJ Residents 6% Tax		
Shipping & Handling	5	00
Additional S&H		
Total Enclosed		

#80312-2

Terms and Conditions of Sale

ORDERING INFORMATION

How to Place an Order
If you have a Visa or MasterCard call either out toll free order line (800) 922-7257 or our main number (908) 280-0025 and place your order by phone. You can also mail or fax us an order if you include a credit card number, check or money order. There is a $25 charge for any check returned by the bank. Purchase Orders to qualified institutions are accepted. Sorry, no COD's.

How Long Should it Take?
Orders paid for with Visa, MasterCard, certified check or a money order drawn on a US bank are normally processed immediately. Personal and business checks are held for 14 days. When your order is processed it is sent to our shipping department. Everything ordered that is in stock is normally shipped within 48 hours. If one or more items ordered are temporarily out of stock, the back ordered items ship separately without additional shipping charges.

Checking on an Order
If an order you place is overdue and you would like to check the status of the order, feel free to call our toll free order line to ask whether the item you're waiting for is on back order. While the Order Entry Department can never look-up your specific order, they can tell you whether an item you're waiting for is on back order. If you prefer to talk to someone who can check on your specific order, to change an order, or to cancel an order, you'll need to call our Customer Service Department (908) 280-0025. Customer Service is absolutely the only department that has access to this information.

Having a Problem?
If you need help installing or using one of our products, or you have any other problem and need to speak to anyone other than an Order Entry person, you will need to call our Customer Service Department (908) 280-0025. Our Customer Service representatives can get you an answer to your question or arrange for the return of an item. Please do not call on our order line if you have a problem. The people who answer these lines are order takers only, and therefore are not trained in the use of our products, and do not know how to check up on orders.

SHIPPING and HANDLING

Regular Service – $5.00
Regular Service is still only $5 per order regardless of how many different items you order with the exception of monitors, systems, and printers (additional charges are noted on the appropriate pages). This charge includes the cost of labor, the shipping carton, packaging materials, insurance, and the actual shipping cost via UPS Ground Service. (UPS Ground Service can take up to ten days). Regular Service is not available to Alaska, Hawaii, Canada, Puerto Rico, Post Office boxes, APO, FPO, or any other location which UPS does not offer ground service. If you want us to ship to any of these locations you must pay for one of the special services listed in this section.

Special Service – Priority
If you want us to give your order special attention you can pay a $7.50 premium and select Priority Service. When you select Priority Service we'll put a rush on your order and if any item you order is not in stock we'll add your name to the top of the waiting list. Everything that is in stock ships immediately. Orders received after 3:00PM EST may not ship the same day.

While we can't make any promises, in most cases you'll receive your package within three business days because your order will ship UPS Blue Label (second day service). If UPS does not offer second day service to your address, or if you did not give us a street address, your order will be shipped via First Class Priority Mail. To select "Special Service – Priority" check the appropriate box and enter $7.50 in the Additional S&H section of our order form. (Total S&H charge: $12.50).

Special Service – Top Priority
If you want us to "drop everything and process your order" you may select Top Priority Service. In this case we'll do our best to get your order to you the next business day (UPS "Red Label" or equivalent), provided everything is in stock. To select "Special Service- Top Priority" check the appropriate box and enter $22.50 in the Additional S&H section of our order form. (Total S&H charge: $27.50)

Note: Prices for Priority Services do not apply to monitors, complete systems, or printers, unless UPS Ground Service is not available in your area. In this case, contact our Customer Service Department to determine actual shipping charges.

Shipping Services and Other Locations
We will ship to other locations or use any other shipping method that you request if you pay the actual shipping cost plus a $10 service fee. In this case, pay by credit card and tell us how you want your order shipped. We will add the appropriate charges to your bill. The $10 service fee is applied to cover the cost of shipping materials and labor.

POLICIES

All Sales Final After 30 Days. Prices Subject to Change without Notice. No Refunds on Reconditioned Items. Not Responsible for Typographical Errors. Not Responsible for Shortages after Seven Days.

Hardware Policy
All hardware sold by PC Enterprises is brand new unless otherwise stated and guaranteed to work correctly. If you receive a product which does not work correctly we will repair or replace the product or refund your money.

Software Policy
All software in our catalog is believed to fully PCjr compatible (certain items are modified for PCjr compatibility). If software you purchase is defective or accidentally damaged we'll replace it- otherwise software can NOT be returned once opened. The only exception is when we goofed and the program does not run correctly on a PCjr. If this happens, we'll either fix the problem or refund your money.

Returns Policy
If you need to return an item for repair or refund call our Customer Service Department (908) 280-0025 to obtain a Return Authorization (RA) number. Write this number on the outside of the package. You pay shipping charges to us and we pay the shipping back to you. Items returned without a valid RA number will be refused. If you paid by credit card and request a refund we will credit your account. If you paid by check and request a refund we will send you a check payable in US dollars. Requests for refund must be accompanied by proof of purchase and be in accordance with one of the policies listed in this section. Sorry, shipping and handling charges are not refundable.

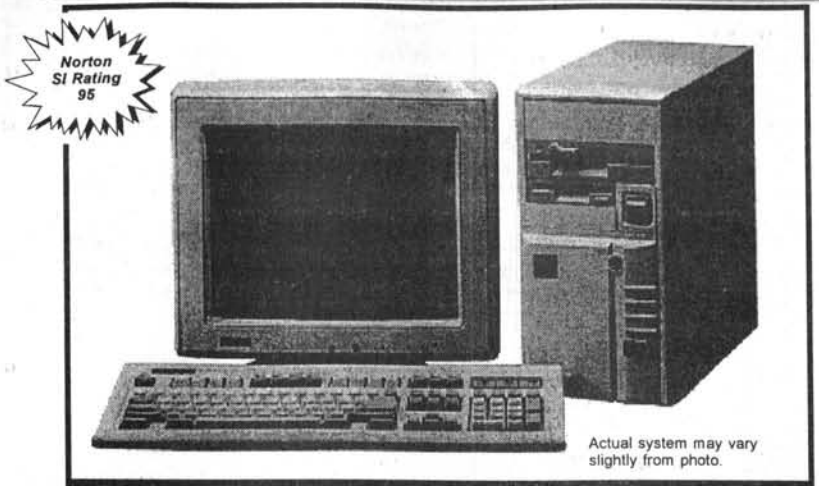
Our Compatibility Guarantee
There's never a restocking charge if you purchase a product that you are unable to use due to compatibility. We'll do our best to solve compatibility problems for you. All you need to do is describe the problem with adequate detail for our staff to reproduce the problem in our laboratory. If we can't solve the problem in a reasonable time, you'll be permitted to return the product in accordance with our Satisfaction Guarantee, and, of course we'll waive all usual restocking charges.

30-Day Satisfaction Guarantee
All hardware is sold with our 30-Day Satisfaction Guarantee. Try it. If for any reason you are not completely satisfied, we'll take it back. Items manufactured by other companies must be returned in like-new condition with all original packaging and documentation. (Do not write on documents or boxes). We will refund the purchase price of the item(s) less a 15% restocking charge if in our opinion the item must be retested before it can be resold. Shipping and handling charges are not refundable.

Our Full Year Warranty
All services performed and products manufactured with the PC Enterprises label are warranted for one full year (90 days for reconditioned products). Details available upon request. Items manufactured by IBM which were sold by PC Enterprises are also covered by our same full year warranty, as are items manufactured by other companies which are modified for PCjr compatibility by PCE (these items will be clearly indicated in our catalog and on their packaging). Items manufactured by other companies (except those modified by PCE) can only be returned to PC Enterprises for service or replacement during the first two weeks. After two weeks the manufacturer's warranty is in effect.

Sale Prices
We regret that we can not refund the difference to customers who may have previously paid a higher price.

66MHz 486 Local Bus Systems for only $1389



Actual system may vary slightly from photo.

***PC Enterprises Computer Systems** are designed for those who want to run today's software. These systems come preloaded with DOS 6 and are ideal for running both Windows and DOS-based software.*

Want to buy a 66MHz computer for a competitive price ***without*** sacrificing performance, quality and expandability? This system uses a genuine IBM microprocessor and a system board manufactured and tested by IBM. Who else would you trust not to cut corners?

When speed is more important than price the PCE Local Bus computer system is the best value for your money. The system has a 32-bit VESA local bus and uses extremely fast local bus video and hard drive controllers.

Local bus controllers are eight times faster than ISA controllers. The reason is that local bus controllers process 32-bits of information each clock cycle. ISA controllers are slower for two reasons. First, they only process 16-bits of information at one time, and second they always operate at 8MHz regardless of the clock speed of your computer.

Don't be fooled by inferior systems that do not use VESA local bus video AND hard drive controllers. You'll never see the local bus advantage unless local bus controllers are used!

Features:

- 14" SVGA .39 monitor (1024 x 768)
- System board manufactured by IBM
- 66MHz 486 SLC2 microprocessor
- 16KB internal cache
- 128KB external cache (expandable to 128KB)
- 2MB RAM (expandable to 16MB)
- 1.44MB 3.5" floppy drive
- 1.2MB 5.25" floppy drive
- 120MB hard drive (32-bit VESA local bus hard drive controller)
- 1MB SVGA (32-bit VESA local bus video controller)
- One parallel, two serial, and one game port
- Microsoft Compatible Mouse
- 101-key enhanced keyboard
- Eight expansion slots (five 16-bit ISA, one 8-bit available for future expansion)
- Mini-tower case with one available 5.25" and one 3.5" drive bay
- 200 Watt power supply
- Pentium upgradable
- Windows v3.1
- IBM PC-DOS v6.1
- One year warranty

Trade-in Credit

Trade-in your existing IBM PC, PCjr or compatible computer and deduct $130 from the price*

Network your PC and PCjr Computers

Allows you to network your new 486 computer to all your PC and PCjr computers. This kit includes the IBM PC Cluster Attachment Card, Netware Lite software, and all the cluster drivers that you'll need. Purchase from one to 24 additional kits to network other computers. The only other thing you'll need is the proper cabling with BNC connectors to interconnect the computers.
#10049 $300

PCjr Cluster Kit

Purchase one kit for each PCjr that you would like to network. Each kit includes a PCjr Cluster Attachment, Netware Lite software, and cluster drivers.
#10048 $129

Memory Expansion Options

This system comes with 2MB of RAM and can easily be expanded to include up to 16MB. Purchase the 2MB kit below to obtain 4MB of RAM or the 8MB kit to expand to 10MB. To expand to 16MB purchase two 8MB kits.

2MB Expansion Kit	#10118	$99.90
8MB Expansion Kit	#10126	$319.80

128KB Cache Expansion Kit
#11214 $39

Math Coprocessor
#59143-2 $89

Modems and Fax Cards
2400 Baud #75523 $29
9600/4800/2400 Baud Fax-Modem #75524 $39
14.4K Baud Fax-Modem #75529 $99

Tape Drive
#12593 $169

Multimedia Kit $276
CD-ROM drive, sound card, external speakers, and six CD-ROM titles. Multimedia Encyclopedia, US & World Atlas, Mavis Beacon Teaches Typing, Chessmaster 3000, San Diego Zoo Animals and Access PhotoCD software. #10119

Ordering Information

System with 130MB Hard Drive	#12614-1	$1389
System with 170MB Hard Drive	#12614-2	$1399
System with 260MB Hard Drive	#12614-3	$1429
System with 340MB Hard Drive	#12614-4	$1479
System with 452MB Hard Drive	#12614-5	$1529

To order this system with a .28NI monitor, substitute 12615 as the base part number and add $40 to the price. Larger capacity hard drives also available. Shipping only $35 per system to anywhere in the US (except AK & HI).

*Call to determine whether your system qualifies. Expanded systems that include DOS and manuals may qualify for PCE to pay shipping charges.

33MHz 486 Systems for only $1129

Searching for a computer that doesn't cost a lot of money? This system is ideal because it runs virtually all of today's software, while saving you money because it only comes with features you really need. Best of all, the system can be easily expanded to meet the needs of tomorrow!

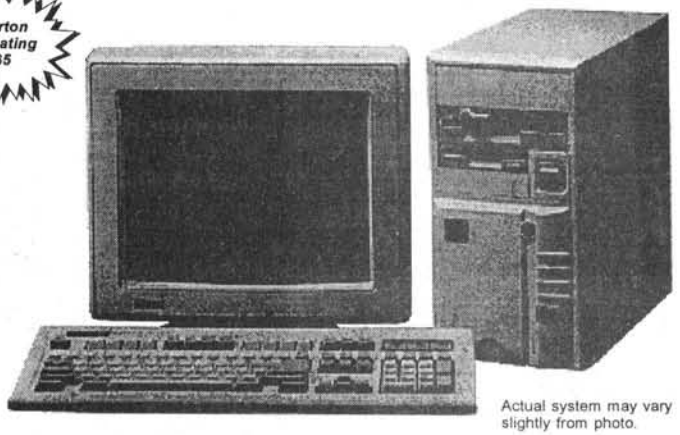
When price is more important than speed the PCE 486SLC-33MHz computer system is the only system to consider. The system has a 16-bit ISA expansion slot with four slots free for future expansion.

You'll have no trouble running today's software because everything normally needed is included. It's many featuares include a 1024x768 super VGA monitor, both types of floppy disk drives, and your choice of hard drives up to 452MB!

The 486SLC microprocessor also offers future expansion options not possible on many other systems. Like the ability to add a math coprocessor simply by plugging a chip into a socket and the ability to add more memory by installing only two SIMM modules at a time!

When expandability and price are both important, no other system can compare!

Norton SI Rating 65



Actual system may vary slightly from photo.

***PC Enterprises Computer Systems** are designed for those who want to run today's software. These systems come preloaded with DOS 6 and are ideal for running both Windows and DOS-based software.*

Memory Expansion Options

This system comes with 2MB of RAM and can easily be expanded to include up to 16MB. Purchase the 2MB kit below to obtain 4MB of RAM or the 8MB kit to expand to 10MB. To expand to 16MB purchase two 8MB kits.

2MB Expansion Kit	#10118	$99.90
8MB Expansion Kit	#10126	$319.80

Math Coprocessor

#59143-2 $89

Modems and Fax Cards

2400 Baud #75523 $29
9600/4800/2400 Baud Fax-Modem #75524 $39
14.4K Baud Fax-Modem #75529 $99

Tape Drive

#12593 $169

Multimedia Kit $276

CD-ROM drive, sound card, external speakers, and six CD-ROM titles. Multimedia Encyclopedia, US & World Atlas, Mavis Beacon Teaches Typing, Chessmaster 3000, San Diego Zoo Animals and Access PhotoCD software. #10119

Ordering Information

System with 130MB Hard Drive	#12610-1	$1129
System with 170MB Hard Drive	#12610-2	$1139
System with 240MB Hard Drive	#12610-3	$1169
System with 340MB Hard Drive	#12610-4	$1219
System with 452MB Hard Drive	#12610-5	$1269

To order this system with a .28NI monitor, substitute 12616 as the base part number and add $40 to the price. Larger capacity hard drives also available. Shipping only $35 per system to anywhere in the US (except AK & HI).

*Call to determine whether your system qualifies. Expanded systems that include DOS and manuals may qualify for PCE to pay shipping charges.

Features:

- 14" SVGA .39 monitor (1024 x 768)
- 33MHz 486 SLC microprocessor
- 1KB internal cache
- 2MB RAM (expandable to 16MB)
- 1.44MB 3.5" floppy drive
- 1.2MB 5.25" floppy drive
- 120MB hard drive
- 512KB SVGA
- One parallel, two serial, and one game port
- Microsoft compatible mouse
- 101-key enhanced keyboard
- Six expansion slots (four 16-bit ISA available for future expansion)
- Mini-tower case with one available 5.25" and one 3.5" drive bay
- 200 Watt power supply
- Pentium upgradable
- Windows v3.1
- IBM PC-DOS v6.1
- One year warranty

Trade-in Credit

Trade-in your existing IBM PC, PCjr or compatible computer and deduct $130 from the price*

Never Buy a Computer for Price Alone!!!

Computers sold by PCE are always priced competitively because we know price is important. But we also know that expandability and service are even more important than price.

At PC Enterprises we speak to hundreds of people every week who are disappointed to learn that their computer is extremely expensive to repair or upgrade. These problems exist because competitors (including IBM, BSR, Compac, Packard Bell, Magnavox, Leading Edge, Emerson and others) often use proprietary (non-standard) parts that allow them to offer the lowest possible price. As a result, these computers are very expensive or even impossible to expand or repair. All PCE brand 486 computers use industry standard parts and are therefore very easy and inexpensive to upgrade and repair.

The PCE Upgrade System allows you to Upgrade to a 33MHz 486 for Only $599!*

If you thought you *had* to buy another monitor when you purchased a new computer, think again! PC Enterprises' line of Computers allow you to run today's software using the monitor you already own!

Computers manufactured by PC Enterprises are unique because they come with *two* types of monitor connectors. A 9-pin connector for those who already own a CGA, EGA, or monochrome monitor, and a 15-pin connector that lets you attach an SVGA monitor any time in the future.

You'll be able to run your favorite software in 16-color EGA modes, using your existing CGA, EGA, or monochrome monitor. And you will be delighted to know that if you ever decide you need SVGA graphics all you'll need to do is plug in an SVGA monitor and your system will reconfigure itself automatically!

These systems are not available in your local store. They are manufactured by PCE and can only be purchased directly from PC Enterprises.

Who else would build a system that allows you to save so much? Only the Computer Upgrade Specialists, PC Enterprises!

The following monitors will display 16-color 640x350 and 640x200 EGA graphics! when used with this system*

IBM 5153 Color Display (CGA)
IBM 4863 PCjr Color Display (see note below)
IBM 5154 Enhanced Color Display (EGA)
Tandy CM-5
Tandy CM-11
Or any other Industry standard TTL monochrome or RGB monitor that has a 9-pin D-type connectors.

* Virtually all programs that run in EGA use 320x200 or 640x200 modes. You will be very pleased with the way these programs look on your monitor. An interlaced technique is used to display 350 line modes. This technique causes flickering with certain monitors (Windows v3.1 is the only widely used program we know of that uses this mode). Monochrome monitors display shades instead of colors.

Note: PCjr Monitor Adapter included upon request.

System shown with optional second floppy disk drive installed.

PC Enterprises' Computer Systems save you money because they allow you to upgrade to a 486 computer without purchasing a new monitor!

Works with your existing CGA, EGA, VGA, SVGA, or Monochrome Monitor

Standard Features

- 486SLC Microprocessor running at 33MHz with 2MB RAM (expandable to 16MB)
- ATI Wonder XL video card with two types of monitor connectors. A 9-pin connector for CGA, EGA, and monochrome monitors, and a 15-pin 512KB SVGA connector for VGA and SVGA monitors
- 16-color 640x350 EGA resolution when used with CGA, EGA, or monochrome monitors
- 256-color 800x600 and 640x480 SVGA (SVGA monitor required)
- 16-color 1024x768 SVGA (SVGA monitor required)
- 1.2MB 5.25" floppy drive
- 120, 170, 240, 340 or 452MB hard drive
- One parallel, two serial, and one game port
- Mouse with dedicated mouse port (doesn't use a serial port)
- 101-key enhanced keyboard
- Mini-tower case with two available 5.25 inch and two 3.5 inch drive bays
- 200 Watt power supply
- IBM PC-DOS 6.1
- One year PCE warranty
- PCjr Monitor Adapter (upon request)

Options

Memory Expansion Options
This system comes with 2MB of RAM and can easily be expanded to include up to 16MB. Purchase the 2MB kit below to obtain 4MB of RAM or the 8MB kit to expand to 10MB. To expand to 16MB purchase two 8MB kits.

2MB Memory Expansion Kit	#10118	$99.90
8MB Memory Expansion Kit	#10126	$319.80

Additional Drives

3.5" 1.44MB Drive	#44018	$45
5.25" 1.2MB Drive	#44017	$49
Tape Backup Drive	#12593	$169
Tape Cartridge	#55018	$24.95

Modems and Fax Modems

2400 Baud	#75523	$29
9600/4800/2400 FAX-Modem	#75524	$39
14.4K Baud FAX-Modem	#75529	$99

Microsoft Windows v3.1 Software
Microsoft Windows v3.1 requires 1MB of RAM, although at least 4MB is recommended to make your system run faster. The memory expansion kits (above) allow you to increase memory now or later. Only sold with systems.
#86039 $59

Math CoProcessor #59143-2 $89

Multimedia Kit
CD-ROM drive, sound card, external speakers, and six CD-ROM titles. Multimedia Encyclopedia, US & World Atlas, Mavis Beacon Teaches Typing, Chessmaster 3000, San Diego Zoo Animals and Access PhotoCD software. Requires Windows and VGA or SVGA monitor. #10119 $276

Monitors

14" VGA Monochrome	#78816	$139
14" SVGA Color 1024x768 .39	#78814	$239
14" SVGA Color 1024x768 .28 NI	#78813	$279
15" SVGA Color 1280x1024 .28 NI	#78815	$429

Ordering Information

System with 120MB Hard Drive	#12619-1	$599
System with 170MB Hard Drive	#12619-2	$609
System with 240MB Hard Drive	#12619-3	$639
System with 340MB Hard Drive	#12619-4	$689
System with 452MB Hard Drive	#12619-5	$739

Hard drives subject to availability. Call before ordering. Shipping only $35 per system to anywhere in the US (except AK & HI).

*Price includes $130 trade-in credit for your existing computer system. Qualified systems only. Call for details.

Easy-to-Use Word Processing Systems

$399

Complete Word Processing System less Printer

- Genuine IBM Enhanced Model PCjr computer
- PCjr Color Display
- Keyboard
- Word Processing Software
- IBM PC-DOS with Manual

#11208

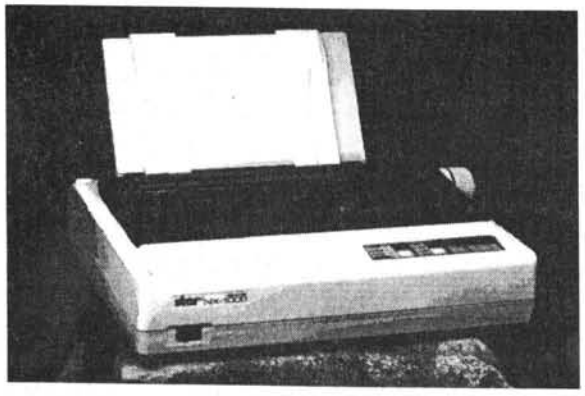
This system comes complete with everything you need for word processing. While the IBM PCjr computer is not as fast as today's newest computers, it's 8088 microprocessor and 128KB of RAM is all that you need to write letters and reports up to 21 pages long!

The easy-to-use word processor software included allows you to use advanced features such as cut, paste, copy, adjustable margins & tabs, overstrike or insert mode, spell checker, and search and replace.

Even if you have never before used a computer as a word processor, this system will make writing easier, editing less time consuming, and rewriting fun.

The computer includes an 8088 microprocessor, 128KB of RAM, Enhanced CGA graphics, color monitor, cordless keyboard, and a 5.25" 360KB floppy disk drive. Documents that you create can be saved on the 5.25" disk drive and used by any other IBM compatible computer that has a 5.25" drive.

All systems are genuine IBM (no off-shore substitutes) and are reconditioned by PCE. Full year PCE warranty. Add $10 for S&H.



$668

Complete System including Printer

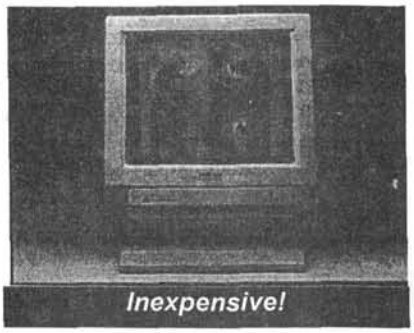
This system includes absolutely everything you will need to perform word processing on your PCjr computer including the printer. System includes the Star NX1001NL printer, PCjr parallel printer attachment, 6 foot printer cable, two ribbons, and over 100 sheets on continuous form tractor feed paper. Add $15 for S&H.

#11218

System also available with any of the printers shown on the opposite page. To order a comlete system with a different printer package, order system #11218 along with printer package 10072, 10073, or 10074.

Monitors

14" Monochrome VGA



Monochrome monitors can produce vivid and exciting images. This monitor, with analog input and high horizontal scanning frequency, gives you unlimited gray shades and undetectable scanning lines. Check out this monitor and believe what you see!

#78816 $139

- 14" flat screen VGA display
- Maximum resolution: 640 x 480
- Horizontal frequency: 31.48KHz
- Vertical frequency: 60 - 70Hz
- Up-front user controls
- Tilt/swivel base
- 15-pin connector
- Two year manufacturer's warranty

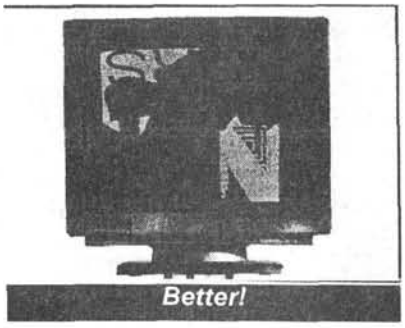
14" .39mm SVGA

Here's what you get when you combine quality, convenience and a great price! This .39mm SVGA monitor offers high, 1024 x 768 resolution and .39mm dot pitch for outstanding colors and graphics. Add to that a sturdy tilt/swivel base, a tinted, non-glare screen for increased convenience and a one year warranty and you've found the perfect monitor for your computing needs!

#78814 $239

- 14" SVGA display
- .39mm dot pitch
- Maximum resolution: 1024 x 768
- Horizontal frequency: 30 - 38KHz
- Vertical frequency: 50 - 90Hz
- Unlimited colors
- Tilt/swivel base
- 15-pin connector
- One year manufacturer's warranty

14" .28mm SVGA



Make a splash with this .28mm SVGA unlimited color display monitor. If the screen's 1024 x 768 resolution doesn't brighten your day, its .28mm dot pitch will. The .28mm dot pitch refers to how close a triangle of colors is represented on the screen. At .28mm, the monitor displays detailed graphics sure to suit even the most finicky palette. Non-interlaced.

#78819 $279

- 14" SVGA display
- .28mm dot pitch
- Maximum resolution: 1024 x 768
- Horizontal frequency: 31.5 - 38KHz
- Vertical frequency: 50 - 90Hz
- Up-front user controls
- Unlimited colors
- Tilt/swivel base
- 15-pin connector
- One year manufacturer's warranty

15" .28mm SVGA

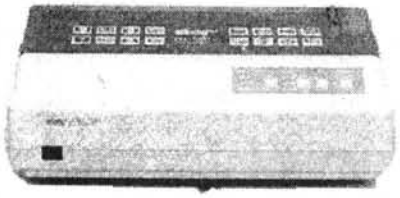
This 15 inch monitor not only provides more viewing area, it features unlimited colors, a .28mm dot pitch and auto-scanning capabilities. This large non-interlaced monitor also makes for more comfortable viewing because it's flicker free. Stop trying to fit your big ideas on a small screen!

#78815 $429

Shipping: Total shipping only $15 per monitor anywhere in the US (except AK & HI).

- 15" flat screen SVGA display
- .28mm dot pitch
- Maximum resolution: 1024 x 768
- Horizontal frequency: 30 - 60KHz
- Vertical frequency: 50 - 90Hz
- Auto-scanning capabilities
- Unlimited colors
- Tilt/swivel base
- 15-pin connector
- Two year manufacturer's warranty

Dot Matix Printers



9-pin Printer

No matter what your print job, Star's 9-pin NX-1001 is the most economical printer you can buy!

Features:

- 9-pin NLQ printing
- 1-color printing
- 150 cps draft/38 cps NLQ
- Epson LX-810 and IBM Proprinter II emulations
- Built-in push tractor
- Five resident fonts
- 4K print buffer
- Original + 2 copy capacity
- Paper parking
- Two year manufacturer's warranty

The Star NX-1001 delivers outstanding performance at a price most 9-pin printers can't match. No more waiting for long documents–it prints at a fast 150 cps in draft mode and paper parking makes printing a breeze. You can "park" continuous forms and print single sheets without having to unload forms. Since the NX-1001 emulates both IBM Proprinter II and Epson LX-810 standards, it can be used with any software. Five resident fonts offer versatility and the front control panel eliminates DIP switches so feature selection is easy.

#78610 $169

Parallel printer cable (6 foot)
Fits all printers on this page.
#22510-1 $14.95

9-pin Color Printer

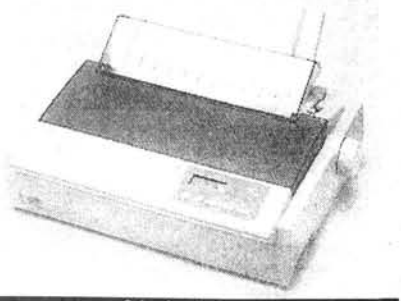
Star's 9-pin NX-1040 Rainbow is the least expensive color printer you can buy!

Features:

- 9-pin NLQ printing
- 7-color printing
- 200 cps draft/38 cps NLQ
- Epson EX-800/FX-850 and IBM Proprinter III emulations
- Built-in push/pull tractor
- Six resident fonts
- 16K print buffer
- Original + 3 copy capacity
- Rear, bottom and top paper paths
- Two year manufacturer's warranty

Other printers in its class can't match the NX-1040 when it comes to features and performance. The NX-1040 allows you to be creative and add color to documents. Choose red, blue, green, violet, yellow, orange or black to brighten any letter or report. In addition to being colorful, the NX-1040 is also versatile. The switchable push/pull tractor feeds paper through the bottom, rear and top, handling continuous paper, labels and multi-part forms. The front control panel simplifies feature selection. With the press of a button, you can select fonts, pitch, paper parking and more. The NX-1040 also offers high-speed printing–draft documents print out at a fast 200 cps.

#78622 $199



24-pin Printer

Star's 24-pin NX-2430, proves that laser-like printing does not have to come at a high price!

Features:

- 24-pin LQ printing
- 1-color printing
- 240 cps draft/53 cps LQ
- IBM Proprinter X24e, Epson LQ-850 and NEC graphics emulations
- Built-in push tractor
- 11 resident fonts
- 16K print buffer
- Original + 3 copy capacity
- Paper parking
- 13 scalable fonts via Windows software utility
- Automatic Emulation Change plus front panel controls with LCD
- Two year manufacturer's warranty

Star gives you the ability to create breathtaking documents with the NX-2430. Not only does it come with 11 resident fonts, the NX-2430's Windows utility software allows it to produce 13 scalable fonts. The built-in push tractor handles multi-part forms and can be "parked" to print single sheets.

#78617 $239

Also available but not shown in photo:

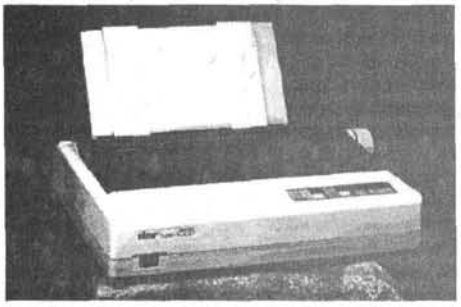
Star NX-2480 Rainbow

Select this printer if your want the finest dot matrix printer you can buy, and you also want to print in color. This is the color printer version of the NX-2430 (above)

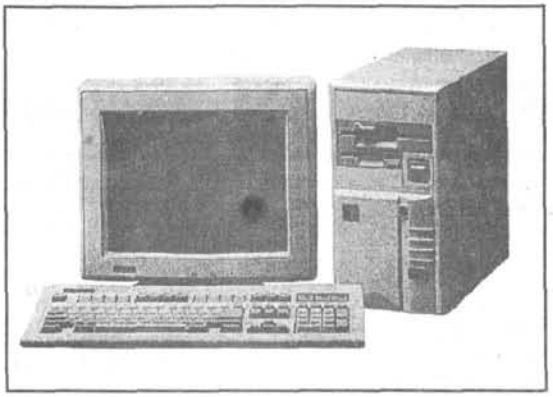
#78624 $309

Monitors, Printers, & Complete Systems

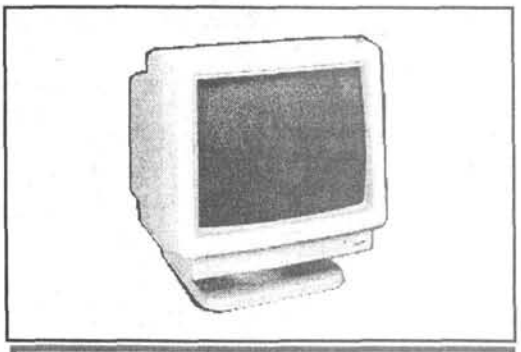
While you can upgrade most older computers to run the latest software, there are times that you may prefer to trade-in your computer. In these cases you can save over $200 by keeping your existing monitor.



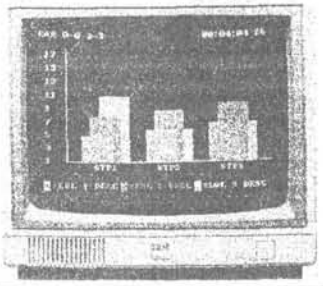
- **Standard & Color Printers as low as $169**



- **486 Systems that work with your Existing Monitor as low as $599**
- **Used 8088, 286, and 386 Computers from $199, $299, and $399 Call!**



- **Monochrome VGA Monitors $139**
- **Color SVGA Monitors (1024 x 768) as low as $239**



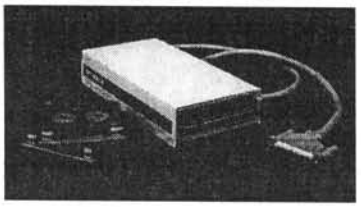
FREE Adapter upon Request!

- **IBM PCjr Color Display $199**

The PCjr Color Display is the CGA monitor usually sold with the PCjr. This is a digital monitor capable of displaying sharp text in 80 column modes and vivid 16-color graphics with 640 x 200 lines of resolution. Screen size 13.25 inches. Can also be used to display 200 line EGA modes when used with the optional Display-Master VGA Sidecar. Also works with IBM PC, XT & compatibles using a CGA display adapter. Built-in amplifier and speaker. Reconditioned. Limited supplies.

#78705

Miscellaneous Options



External Tape Drive

Backing up your hard drive has never been this easy! These external tape drives plug into your computer's parallel port. You don't even need to remove your computer's cover. Backup to 240MB on a single DC2120 Mini Data cartridge (#55018).

- External installation-no drive bays required
- No expansion slots required
- Works with any standard laptop or desktop computer that has a standard parallel printer port
- Provides a new connector for your printer allowing printer operation in the usual manner
- Works in IBM PCjr computers
- Works in IBM PC, XT & compatibles
- Works in IBM PS/2 computers
- Works in IBM AT, 286, 386, & 486

External Tape Drive (250MB)
#12541 $349

Paradise EGA Card

This display adapter card will allow you to connect an industry standard CGA or EGA monitor to an IBM or compatible PC, XT, 286, 386, or 486 computer. It is unique because it makes it possible for CGA monitors to display 200 line EGA graphics! Works iwth any monitor that has an industry standard 9-pin D-type connector, or with the PCjr Color Display when uses with the PCjr Monitor Adapter below.
#79062 $49.95 Reg. $129.95

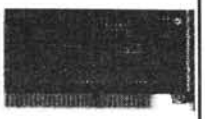
PCjr Monitor Adapter

Here's all you need to connect the PCjr Color Display to your existing CGA card! Converts the existing 18-position PCjr connector to an industry standard 9-pin D-type connector. Note that CGA cards are restricted to displaying 4-color CGA graphics. To display 16-color EGA graphics with the PCjr monitor you must also purchase the Paradise EGA card (above).
#22526 $49.95

PCjr Monitor Adapter Kit

Includes a PCjr Monitor Adapter and the Paradise EGA Display Adapter Card. Allows the PCjr Color Display to display 200 line 16-color EGA software on any industry standard 8 or 16 bit computer.
#10087 Save $10 Only $89.95

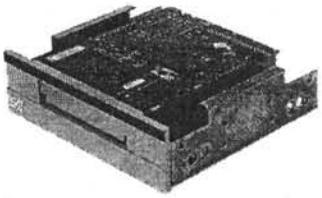
Security Card



Protect your computer from unauthorized access. The Security Card prevents boot-up unless a valid password is entered. Easily plugs into any 8-bit slot. Fifteen passwords, 14 characters max per password.

#79068 $49.95

250MB Tape Backup



Here's the quick, convenient, low-cost way to back up all your important data! With this tape drive you can store up to 250MB on a single DC2120 mini-cartridge tape!

- Internal installation-one 3.5" or one 5.25" drive bay required
- No expansion slots required
- Works in Tandy 1000 computers
- Works in IBM PC, XT & compatibles
- Works in IBM AT, 286, 386, & 486.

#12593 $169

Tape Cartridges

DC2000 Mini Data Cartridge (205 ft.)
#55017 $19.95

DC2120 Mini Data Cartridge (307.5 ft.)
#55018 $24.95

Switch Boxes

Attach more than one device to the same port on your computer! Select an AB box if you want to switch between two devices and the ABCD box to switch between four devices. Cables not included.

9-Pos AB Box	#75512	$19.95
25-Pos AB Box	#75501	$19.95
25-Pos ABCD Box	#75515	$29.95

Computer Cables

25-Pos Female-Male	#22513-1	$14.95
25-Pos Male-Male	#22506-1	$14.95
9-Pos Female-Male	#22517	$9.95
9-Pos Male-Male	#22516-1	$9.95

Low-Cost Surge Protector

A low-cost alternative to the Isobar surge protector above. Provides the convenience of six outlets and a single master switch along with modest surge protection. Does not offer the lifetime damaged equipment warranty.

#79001 $6.95

Command Console

The CCI-6 Plus gives you the most advanced surge and spike protection. Fits under your monitor and protects up to four peripherals. Also protects fax and modem equipment against surges in phone lines.

- Protects your computer and all peripherals from surges including direct lightening strikes
- Provides individual ON/OFF controls for all peripherals
- Metal housing supports even the heaviest monitors

#79084 $89

Low-Cost Command Console

A low-cost alternative to the command console above. Provides modest surge protection and comes in a sturdy plastic case. Also provides individual ON/OFF controls.

#79113 $29

Scanners for PCjr and Laptop Computers

The LPT Scan adapter is a product that lets you connect a scanner to your computer even though your computer may not have an avaialble 8-bit ISA slot.

Simply plug your scanner into the LPT Scan Adapter then plug the scan adapter into your computer. Works with many, but not all, DOS based scanners.. Call for compatibility list.

LPT Scan Adapter
#79036 $149

LPT Scan Adapter Compatible Scanner
#79037 $219

Products for IBM PC, XT, AT, PS/2 & Tandy

Hard Drive Controller Cards

MFM Controller Card for PC, XT & Compatibles

8-Bit ISA

Controls up to two MFM hard drives.

- Allows you to install one or two MFM hard drives
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles

#79053 $59.95

SCSI Host Adapter for PC, XT, 286, 386, 486 & Compatibles

8-Bit ISA

- Allows you to add up to seven SCSI devices
- Supports SCSI hard drives, CD-ROM drives, tape drives and floptical drives
- Includes ASPI compliant device driver
- On board BIOS provides automatic hard drive configuration
- Corel SCSI or equivalent device driver software not required for fixed disk hard drives
- Requires one 8-bit ISA slot
- Does not require removing or disabling existing hard drives
- Works in IBM PS/2 Model 30 & 30/286
- Works in IBM PC, XT & compatibles
- Works in 286, 386 & 486 systems

#79041 $69.95

IDE Hard Drive Cable

Allows you to attach up to two IDE devices to an IDE controller card. 40 conductors.
#22534 $9.95

Power Cable

Allows you to power an IDE hard drive from the IDE controller card's power connector.
#91814 $4.95

SCSI Hard Drive Cable

Allows you to connect one or two SCSI devices to an SCSI controller card.
#91854 $9.95

IDE Controller for PC, XT & Compatibles

8-Bit ISA

Allows you to attach one or two IDE hard drives to your computer. Requires that you remove or disable all existing IDE and MFM hard drives

- Allows you to install one or two IDE hard drives
- On board BIOS provides automatic drive configuration
- On board power connector
- Supports DOS, OS/2, Windows, Novell
- Requires one 8-bit ISA slot
- Requires disabling existing IDE and MFM hard drives
- Works in IBM PS/2 Model 30
- Works in IBM PC, XT & compatibles

#79056 $39.95

IDE Controller for PC, XT & Compatibles

8-Bit ISA

Same as above except does not require that you remove or disable existing hard drives.

- Requires one 8-bit ISA slot
- Does NOT require disabling existing IDE and MFM hard drives
- Selectable DMA and IRQ settings
- Works in IBM PS/2 Model 30
- Works in IBM PC, XT & compatibles
- Works in Tandy 1000 computers

#79103 $59.95

IDE Controller for 286 Computers

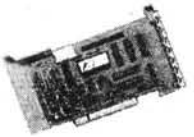
16-Bit ISA

Allows you to attach one or two IDE hard drives to your computer even when your computer's CMOS does not list the drive you would like to install.

- Supports two IDE hard drives and two floppy drives
- Works with the computer's CMOS setup as drive type 1, 47, or "not installed"
- Turbo 16-bit transfer doubles the data throughput
- On board BIOS provides automatic drive configuration
- On board power connector
- Requires one 16-bit ISA slot
- Works without removing or disabling existing hard drives
- Supports DOS, Windows, and Novell
- Works in IBM AT, 286 & compatibles
- Works in IBM PS/2 Model 30/286

#79104 $69.95

IDE Controller for PS/2 Computers


16-Bit Micro Channel

Allows you to attach one or two IDE hard drives to micro channel computers.

- Allows you to install one or two IDE hard drives
- Supports hard drives up to 1GB
- On board BIOS provides automatic drive configuration
- On board power connector
- Supports DOS, OS/2, Windows, Novell
- Requires one micro channel slot
- Works without removing or disabling existing hard drives
- Works in IBM PS/2 Models 50, 60, 70, 80 & 90

#79105 $195

Adding an IDE Hard Drive is Easy!

These IDE controllers make adding almost any industry standard IDE hard drive to your IBM PC, XT, AT, or compatible computer a quick and easy process.

The controller cards on this page are all unique because they include on-board BIOS devices that automatically recognize and configure IDE hard drives. This BIOS device allows the controller to be used with computers that do not have CMOS support for the IDE hard drive that you add.

Installation is simple. Plug the controller into any unused expansion slot and connect it to your hard drive with a 40-conductor IDE hard drive signal cable. Next, connect your hard drive to the computer's power supply using any available power connector, or use the on-board power connector along with the optional disk drive power cable shown on this page if your computer does not have available power connectors. Many IBM PS/2 and Tandy computers require this cable. Note that some controller cards do not include cables, so check the specifications carefully, or purchase a complete kit described on another [age of this catalog.

Serial Port Card

Adds a serial port.
Allows you to connect any serial mouse or external modem featured in this catalog.

- RS232C compatible
- 25-pin male D-type connector
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- Works in 286, 386 & 486 systems

#79046 $24.95

Dual Serial Port Card

Same as above, except populated to add two serial ports.

#79089 $45.95

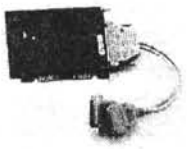
Printer Port Card

Adds a parallel printer port. Allows you to connect any of the parallel printers featured in this catalog.

- Centronics compatible
- 25-pin female D-type connector
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- Works in 286, 386 & 486 systems

#79047 $19.95

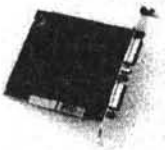
Dual High Speed Serial Port Card



- High Speed – INS16550 compatible
  RS232C compatible
- Two 25-pin male D-type connectors
- 9-pin D-type adapter
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- Works in 286, 386, & 486 systems

#79107 $89

Game Port Card

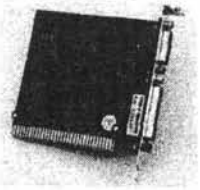


Allows you to connect one or two joysticks.

- 15-pin female D-type connector
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- Works in 286, 386 & 486 systems

#79087 $29.95

Multi I/O Card for PC, XT, Tandy, and Compatibles



- Adds two serial and one parallel port
- RS232C compatible
- 9-pin male D-type connector for first serial port
- 15-pin female D-type connector for game port
- 25-pin male D-type connector for second serial port
- 25-pin female D-type connector for printer port
- Requires one 8-bit ISA slot
- Connector for second serial port provided on additional bracket

- Works in IBM PC, XT & compatibles
- Works in 286, 386 & 486 systems

#79050-1 $39.95

Multi I/O Card for AT Computers

All of the features descibed above PLUS a Floppy and IDE Hard Drive Controller. To use this card your computer must have BIOS support for floppy and IDE hard drives. This means your computer's CMOS must support the type of drive you want to install.

- Requires one 16-bit ISA slot
- Works in IBM AT & compatibles
- Works in 286, 386 & 486 systems

#79060 $29.95

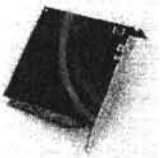
Floppy Drive Controller Card

Controls two floppy disk drives. Drives may be 360KB, 720KB, 1.2MB or 1.44MB. Requires that your existing floppy disk drive controller card be removed or disabled. Cable included. DOS 3.3 or later required for 1.44MB drives. DOS 3.0 or later required for 1.2MB drives.

- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles

Floppy Drive Controller (controls 2 drives)
#79054 $54.95
Floppy Drive Controller (controls 4 drives)
#79091 $59.95

Secondary Floppy Drive Controller Card



Controls four floppy disk drives. Drives may be 360KB, 720KB, 1.44MB or 1.2MB (dual speed). Allows you to add additional drives without removing your existing floppy disk drive and controller. Cable not included.

- Allows computers that have a built-in low density controller to use high density drives
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- Works in Tandy 1000 computers

#79048 $74.95

Bootable Secondary Floppy Drive Controller Card

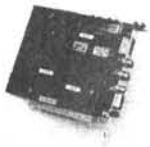
Controls four floppy disk drives. Drives may be 360KB, 720KB, 1.2MB or 1.44MB. Allows you to add additional drives without removing your existing floppy disk drive and controller. Also allows you to boot from the drive that you add.

- Allows computers that have a built-in low density controller to use high density drives
- Requires one 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- Works in Tandy 1000 computers

#79093 $99.95

Video Products

Upgrade to EGA without buying a New Monitor!



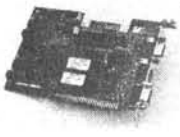
Resolution:
320 x 200 in 16 colors
640 x 200 in 16 colors

Low-cost EGA upgrade! Simply replace your existing CGA or monochrome display adapter card with the Paradise EGA Card and your computer will display EGA software in 16-color EGA modes using your existing CGA, EGA, or monochrome RGB monitor!

- 9-pin D-type connector works with your CGA, EGA, or monochrome monitor
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79062 $49.95

EGA/SVGA Wonder Card



Resolution (9-pin connector)
320 x 200 in 16 colors
640 x 200 in 16 colors
640 x 350 in 16 colors
Resolution (15-pin connector)
640 x 480 in 256 colors
800 x 600 in 256 colors
1024 x 768 in 16 colors

Upgrades your computer from CGA or monochrome to EGA without buying a new monitor. Also provides a 1024 SVGA connector so you can add a 15-pin monitor at a later date. Made by ATI.

- 9-pin and 15-pin D-type connectors work with your CGA, EGA, VGA, SVGA, or monochrome monitors
- VESA SVGA & 1024 SVGA compatible
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79082 $109.95

Optional Bus-Mouse Kit
#95014 $10

MGA/CGA Card with Printer Port

Resolution:
320 x 200 in four colors
640 x 200 in two colors

An excellent upgrade for anyone who now uses the IBM Monochrome Display Adapter (MDA) because this product allows you to display graphics. Also includes a printer port.

- 9-pin D-type connector works with your CGA, EGA or monochrome monitors
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79051 $39.95

256KB VGA Card

Resolution:
640 x 480 in 16 colors
800 x 600 in 16 colors

- 15-pin D-type connector
- VESA SVGA compatible
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79042-0 $39

512KB VGA Card

Resolution:
640 x 480 in 256 colors
800 x 600 in 256 colors
1024 x 768 in 16 colors

- 15-pin D-type connector
- VESA SVGA & 1024 SVGA compatible
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79042-1 $49

1MB VGA Card

Resolution:
640 x 480 in 16.7 million colors
800 x 600 in 65,000 colors
1024 x 768 in 256 colors

- 15-pin D-type connector
- VESA SVGA & 1024 SVGA compatible
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79042-2 $69

Complete Kits let you upgrade to VGA for the lowest price!

Lowest Cost!
VGA Monochrome Monitor and 256K VGA Card #10114 $188.95

Best Value!
1024 x 768 .39 SVGA Color Monitor with 256K SVGA Card #10067 $288.95

Best Performance!
1024 x 768 .28 NI SVGA Color Monitor with 512K SVGA #10068 $348.95

CGA Card with Composite Connector

Resolution:
320 x 200 in four colors
640 x 200 in two colors

The genuine IBM color graphics adapter.

- 9-pin D-type connector works with your CGA or EGA monitor
- RCA jack for composite monitors
- Works in PC, XT, and compatibles
- Works in 286, 386 and 486 systems

#79075 $39.95

Upgrading your Computer's Video is Simple and Inexpensive

Its simple and inexpensive to upgrade the video capabilities of most computers. Simply unplug the computer's existing video card and replace it with a new improved video card. The best video card for you to purchase depends upon whether you intend to also purchase a new monitor. If you will be purchasing a new monitor, we recommend a VGA monitor and 512KB VGA card.

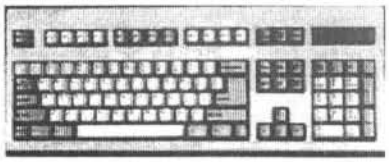
Monochrome Monitors
If you have a "true blue" IBM monochrome display you will find that your computer currently can not display graphics. You'll also find its printer port is on the video card. Purcahse the VGA/CGA card (#79051) for an inexpensive upgrade that will allow your computer to display graphics, or purchase the Paradise (#79062) or ATI (#79082) card to display many advanced modes including some EGA and VGA.

CGA or EGA Monitors
If you intend to continue using your CGA or EGA monitor the Paradise EGA card (#79062) is an excellent choice. This card allows you to run software in EGA modes (16-color) instead of four color CGA modes. The drawback is that this card will not allow you to run software that uses 350 line EGA modes on your CGA monitor. If you want to be able to run all EGA software you'll need an ATI Wonder card (#79082) which also has a connector for a super VGA monitor making future upgrade simple.

MCGA or VGA Monitors
If you have an MCGA or VGA monitor all you need to purchase is an SVGA card that has at least 512KB of memory to display 256-color SVGA modes (640x480). This is an excellent upgrade ifyou have one of these monitors because this mode has become quite popular.

Input Devices

XT and AT Keyboards



Low-Cost XT Keyboard

Use with any IBM PC, XT or compatible. Also works in 286, 386 and 486 computers because it is XT/AT switchable.
#71526 $49

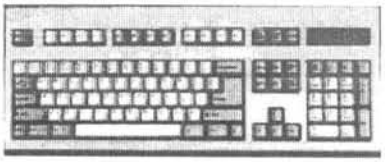
Low-Cost AT Keyboard

An ideal replacement keyboard for your AT computer where cost is the major concern. Membrane switches provide reliable performance.
#71529 $19

Enhanced AT Keyboard

An ideal replacement keyboard for your AT computer where quality and keyboard feel is more important than price. Mechanical switches provide tactile feel.
#71531 $39

116-Key Programmable Keyboard for AT Computers



Allows you to program macros in your keyboard to perform the repetitious steps in your applications. From then on, one simple keystroke can execute hundreds of keystrokes for you—saving time and effort!
#71528 $99.95

101-Key Keyboards for Tandy 1000 Computers

Tandy 1000SL, TL, SL/2, TL/2, TL/3, RL, RLX

#71524 $59

Tandy 1000, 1000A, SX, TX

#71525 Reg $99 Sale $79

Serial Mouse

This outstanding pointing device is suitable for all mouse driven applications, and will help you get your work done faster and more efficiently. Plugs directly into any available serial port.

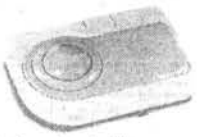
#75525 $14.95

PS/2 Mouse

Works with computers that use a round 6-pin PS/2 mouse connector.

#75530 $19.95

Serial Trackball



This compact right hand design uses less space than a mouse, and since the ball never touches your desk, you don't have to worry about desktop dirt causing erratic movement.

- Works with any RS232C Serial Port
- 9-pin connector
- Works in IBM PC, XT, and compatibles
- Works in 286, 386, and 486 systems

#75526 $29.95

Scanners

Genius Hand-Held Scanner with OCR

With this scanner you get more than just an affordable input device, you get a complete package of tools for desktop publishing. Three popular software packages let you eliminate typing repetition, merge larger size images and scan directly for multi-functional color graphic editing. It doesn't take a "Genius" to figure out this is a great deal!

- 100-400 switch selectable dpi
- 3 x 32 gray scales
- Multi-scan width up to 300mm
- Two DMA channels and four user-selectable address modes
- *FREE* OCR, ScanEdit II and Dr. Genius software
- One year manufacturer's warranty

#79088-0 $119

Genius Hand-Held Scanner for Windows

Use this scanner to add images to your presentations, newsletters and desktop publishing. It's easy to use and comes with powerful Windows-based iPhoto Delux image-processing software. Intelligently designed, the GS-4500A is easy to use. Make it your choice for importing graphics and drawings to text documents.

- 100-400 switch selectable dpi
- Optical character recognition
- Side-mounted buttons and rear wheels
- Interface card
- *FREE* iPhoto Deluxe and GO-CR OCR software
- One year manufacturer's warranty

#79088-1 $119

Genuine IBM Brand Joysticks

Works with IBM PC, XT, 286, 386, and 486 computers.
#74501 $14.95

Understanding Pointing Devices

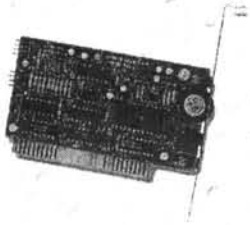
A mouse is a pointing device that you move along the surface of your desk. The computer correlates this movement to the display by moving a mouse pointer that you see on the screen. The mouse is shaped to fit comfortably under your hand, and has two or three buttons that rest beneath your fingers.

Mouse products are extremely popular because they are fun to use and they make software easier to run. Instead of typing commands with your keyboard you'll point at menu selections then click a button on the mouse.

A tracker ball is essentially an upside-down mouse and can be used with any program that works with a mouse. Most people prefer a tracker ball when they have limited desk space.

To connect either a serial mouse or a serial trackball to your computer all you need is one unused serial port. If you are not sure whether your computer has an unused serial port check the back of the computer and examine the connectors. If you find an unused 25-pin or 9-pin D-type connector (with pins, not holes) you probably have the connector that you need. D-type connectors are easy to identify because they are shaped like the letter D. If your computer does not have an unused serial port connector, purchase and install a serial port I/O card. Serial port I/O cards can be found in the I/O card section of this catalog.

Some computers use a 6-position round connector to attach a mouse. This is known as a PS/2 type connector and requires a PS/2 type mouse.



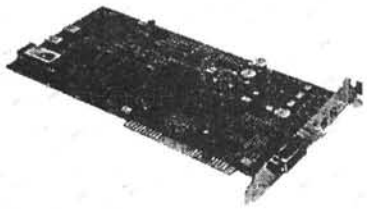
AdLib-Compatible Sound Card

Upgrade to the exciting world of multimedia! Make the most of your applications by giving your computer system the means to produce the best sound! This economically priced sound card is fully AdLib-compatible, making it ideal for games! Simply connect it to your internal or external speakers, amplifier or headphones.

- 11-voice FM sound
- 4-watt amplifier
- Externally accessible volume control
- 3.5mm stereo output jack
- Includes cable to connect to your internal speaker
- Works in Tandy 1000 computers
- Works in PC, XT and compatibles
- Works in 286, 386, and 486 systems
- One year manufacturer's warranty

#79067 $59

ATI Stereo F/X Sound Card

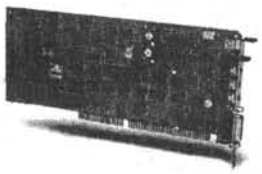


Add excitement to your computer with an ATI Stereo F/X Sound Card. It lets you create multimedia presentations, develop training programs that combine voice instructions with graphics and add stereo sound to your favorite games. MPC, SoundBlaster 2.0 and Adlib compatible.

- 11-voice FM sound
- 8-watt amplifier
- Externally accessible volume control
- 3.5mm stereo output jack
- Digital audio and Microphone input
- Built-in MIDI interface
- Works in Tandy 1000 computers
- Works in PC, XT and compatibles
- Works in 286, 386, and 486 systems
- Two year manufacturer's warranty

#79076-0 $99

#80368-2

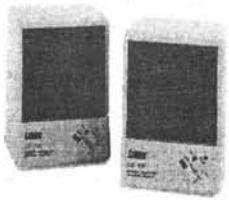


Stereo Sound Card with CD-ROM Interface

Give your computer a whole new dimension—sound. This 20-voice 16-bit FM systhesizer gives you features other sound cards don't, including a CD-ROM interface, a compatible joystick port and Midi port, and a built-in power amplifier. MPC, SoundBlaster 2.0, and Adlib compatible Sound Plus

- 20-voice stereo FM sound (44KHz stereo and mono playback)
- Mitsumi, Sony & Panasonic CD-ROM interface.
- Externally accessible volume control
- 3.5mm stereo output jack
- Digital audio and Microphone input
- Built-in MIDI interface
- Works in 286, 386, and 486 systems
- Two year manufacturer's warranty.

#79076-1 $99



Low-Cost Labtec Shielded Speakers

For multimedia like you've never heard it before! These speakers have a built-in power booster and bass and treble boost switches to make the most of your sound cards and CDs.

- Shielded magnets for safe use with computers
- Built-in 3.6 Watt power booster
- Individual volume controls
- Base and treble controls
- 3.5mm plug
- Works with all major sound cards!

#79081 $19

Sale! CD-ROM for Only $99

CD-ROM Drives

Mitsumi's transfer rates and access times are just two great features but it's price is the best! Everything needed is included.

- MPC compatible
- 32K buffer; 1.6MB/s burst mode
- 350ms access time, 150KB/s transfer
- Photo CD capability
- Multi-Session compatible
- Includes 16 bit ISA interface card
- Works in PC-AT and compatibles
- Works in 286, 386, and 486 systems
- One year manufacturer's warranty

#44045

Double Speed Drive
As above, except 250ms, 300KB/s.
#44047 $139

Can also be used with XT class computers when the ATI Stereo F/X-CD Sound Card is also installed. The ATI sound card is an 8-bit ISA card with a Mitsumi CD-ROM interface..

Installs without Removing your Computer's Cover!

- Easiest CD-ROM to install
- Plugs into the computers printer port
- No expansion slots required
- No drive bays required
- Works in PCjr computers
- Works in PC, XT and Compatibles
- Works in all PS/2 computers
- Works in 286, 386, and 486 systems
- One year manufacturer's warranty

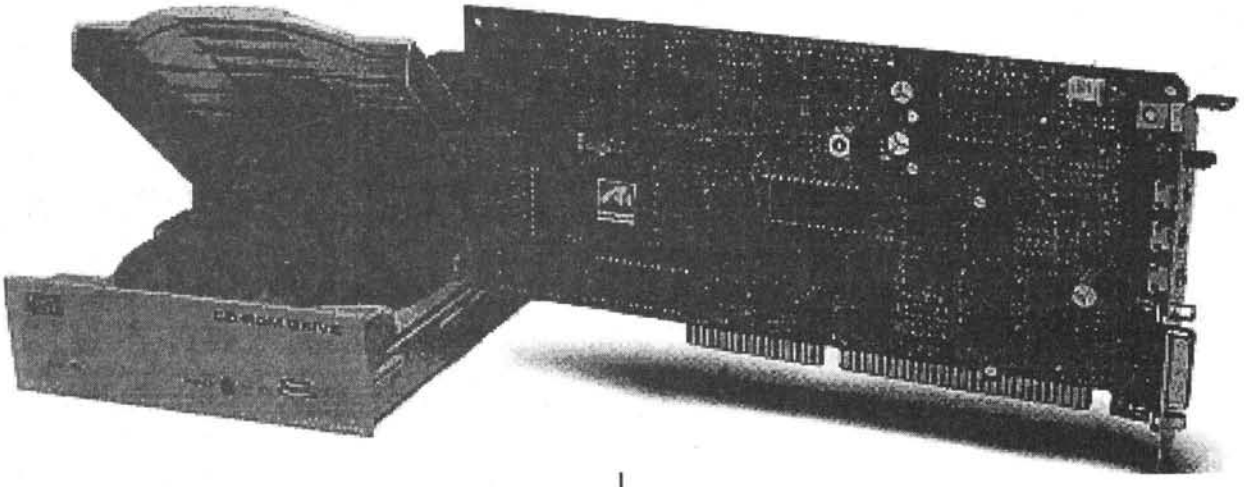
#12575 $395

Do I Need a Single or Double Speed CD-ROM Drive?

Single speed CD-ROM drives transfer 150 kilobytes of information per second from the CD-ROM to the computer. This is fine for most DOS-based software that you can expect to run on your 8088, 8086, or 80286 computer.

Double speed drives spin twice as fast and therefore transfer information twice as fast (350kb/s). If you intend to run Windows or multimedia software purchase a double speed CD-ROM drive.

Multimedia Kits from $188



Multimedia Kit

$188 #10117 single speed **$238** #10129 double speed

CD-ROM Drive and Sound Card

This kit includes everything you need to run CD-ROM software and hear MPC, SoundBlaster 2.0 and Adlib compatible sound. Includes the Sound Plus 16 bit sound card (#79076-1) and the Mitsumi single speed (#44045) or double speed (44047) CD-ROM drive. Purchase with the speakers shown on the opposite page or use with speakers you already own.

- Requires Windows 3.1
- Works in IBM AT, 286, 386 and 486 systems

Multimedia Kit for PS/2 Microchannel Computers

$495

Includes double speed, 240ms SCSI CD-ROM drive with microchannel SCSI controller card. Requires one microchannel expansion slot and one internal 5 1/4 inch drive bay.

#12617

5.25" Mounting Kit for PS/2 Models 35, 56, 57 & 76

#96031 $29

Complete CD-ROM Software Bundle

$69.95

CD-ROM Software Bundle

This amazing CD-ROM bundle includes six popular CD-ROM titles in addition to the Tempra Photo CD software. Photo CD software allows you to view photographs stored on Photo CDs. To have your photographs put on a Photo CD simply bring or send your next roll of film to Kodak or any authorized Kodak outlet. Requires DOS 3.3 and Windows 3.1

- Encyclopedia
- US Atlas
- World Atlas
- Mavis Beacon Teaches Typing
- Chessmaster 3000
- San Diego Zoo/Animals
- Tempra Photo CD software

#88502

Sound Card for Microchannel & Laptop Computers

$179

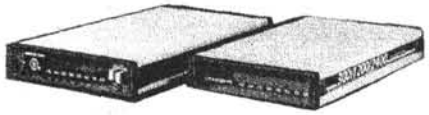
- Plugs into the computer's printer port
- Works in all PS/2 Microchannel computers
- Works in Laptop computers
- Requires Windows 3.1 or later

Porta-Sound Plus

#79118

External Modems and Fax Modems

1200 and 2400 bps Modems



The 1200 bps modem features 1200/300/100 bps selection and our 2400 bps modem features these speeds as well as 2400 bps. Both have auto dial, auto answer and auto speed detect capabilities. Both have eight front panel lights, and an external power supply. The 1200 bps modem also has two push buttons for manual control of bps rate and the voice/data feature. Each modem includes AC adapter, phone cord, and user supported telecommunications software. Hayes compatible.

1200 bps #75507 $49
2400 bps #75516 $59
2400 bps w/MNP5 Error Correction
#75521 $129

28.8K bps External Modem

The fastest modem your money can buy!

#75541 $199

Do I Need an External or Internal Modem?

There are a few things you should consider before making your modem purchase. Does your system have an available 8 or 16-bit ISA expansion slot? If so, consider an internal modem. Internal modems are less expensive and save desktop space.

External modems are easier to install because they plug into the computer's serial port. Select an external modem if your computer does not have an available ISA slot or if you do not want to remove your computer's cover.

All modems shown on this page include telecommunication software, serial cable (external modems only), Prodigy Startup Kit, and $15 CompuServe usage credit.

9600/2400 bps Fax Modem

- 2400 bps data capabilities
- 9600 bps fax/send/receive V.17, V.29, V27ter capabilities
- CCITT V.22bis/V.22/V.21 compatibility
- Bell 212A/103 compatible
- Hayes compatible
- Ten year manufacturer's warranty
- Works in any computer that has an industry standard serial port including IBM PCjr computers

#75539 $89

14.4K bps Fax Modem

This full-featured fax modem does more than send and receive information at 14,400 bps. It sends information at up to 57,600 bps with V.42 data compression. Plus, features like asynchronous and synchronous operation let you communicate with mainframes and PCs. Includes AC adapter, phone cord, Bitcom and BitFax software. Plugs into the computer's serial port.

- 14,400 bps data capabilities
- 14,400 bps fax send/receive capabilities
- CCITT V.32bis/V.22/V.17/V.29/V.27ter compatibility
- Bell 212A/103 compatible
- V.42bis and MNP level 5 data compression
- V.42 and MNP level 2-4 error correction
- Ten Year manufacturer's warranty
- Works in any computer that has an industry standard serial port

#75531 $139

14.4K bps Voice/Data/Fax Modem

Its voice feature allows it to share a single line with your telephone, directing fax and voice signals to the appropriate device. This eliminates the need for a ring detector, as well as an extra jack. And with V.32bis and data compression you can transfer at speeds up to 57,000 bps.

- 14,400 bps data capabilities
- 14,400 bps fax send/receive capabilities
- V.42bis and MNP level 5 data compression
- V.42 and MNP level 2-4 error correction
- Voice detection
- Hayes compatible
- Seven year manufacturer's warranty

#75537 $205

Pocket 14.4K bps Data/Fax Modem

Because business communications don't end when you leave the office, a pocket modem will make your life easier. This powerful device is small enough to fit inside a pocket or briefcase, making it an ideal choice when portability is desired.

Besides fast transmission speeds, it also features data compression, error correction, and power saving circuitry.

- 14,400 bps data capabilities
- 14,400 bps fax send/receive capabilities
- CCITT V.32/V.22bis/V.22/V.21 compatibility
- Bell 212A/103 compatible
- V.42bis and MNP level 5 data compression
- V.42 and MNP level 2-4 error correction
- Hayes compatible
- Ten Year manufacturer's warranty
- Works in any computer that has an industry standard serial port

#75538 $169

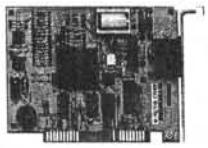
Cables for External Modems

These cables can be used to connect external modems or any devices which use 25 position D-type connectors.

Female-Male #22513-1 $14.95

Internal Modems and Fax Modems

2400 bps Modem



Purchase this quality-built internal modems and save yourself time and money! This modem will quickly pay for itself with reduced phone charges.

- 2400 bps data capabilities
- 9600 bps fax send capabilities
- Only requires one 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT & Compatibles
- Works in 286, 386, and 486 systems

#75523 $29

Understanding Modems

A modem is an add-on product that allows your computer to exchange information over telephone lines.

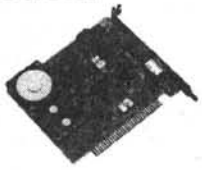
All modems have data capabilities. Data capabilities allow your computer to exchange information with other computers allowing you to access information services such as Prodigy, CompuServe, Delphi, America On-line, and others.

A Fax Modem also allows your computer to send faxes to any fax machine or computer that has a fax card installed. Most fax modems also permit you to receive faxes and print them using your printer.

Modems with voice capabilities allow your computer to also send and receive voice messages. Occasionally you may receive phone calls from computers using voice modems.

One of the most important things to consider when purchasing a modem is speed. A 2400 bps data modem takes 25 minutes to receive a 360KB diskette full of information. A 28,800 bps modem receives the same information 12 times faster, taking only slightly more than two minutes! If you use your computer to make long distance telephone calls a faster modem saves money as well as time.

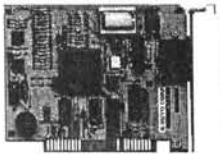
9600/4800/2400 bps Fax Modem



- 2400 bps data capabilities
- 9600 bps fax send capabilities
- 4800 bps fax receive
- Only requires one 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT & compatibles
- Works in 286, 386, and 486 systems

#75524 $39

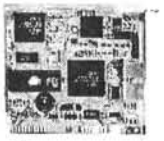
14,400 bps Fax Modem



- Includes FREE QuickLink II and WinFax software
- Hard drive required
- 14,400 bps data and fax capabilities
- Only requires one 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT & compatibles
- Works in 286, 386, & 486 systems

#75529 $99

28,800 bps Modem



The highest speed modem available for transmission of data over the switch telephone network.

- Only requires one 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT & compatibles
- Works in 286, 386, & 486 systems

Modem Features

- V.Fast Class (24000/21600/19200/16800/14400bps)
- V.32bis/V.22bis/V.22 compatibility
- Bell 212A/103 compatible

#75540 $199

Voice/Data/Fax Modem

It takes messages. It pages. It faxes, and it has 1000 mailboxes. Turn your PC into a total communications center.

- Only requires one 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT & compatibles
- Works in 286, 386, & 486 systems

Voice Features

- Allows you to leave a voice message
- Leave a voice message along with a fax
- Retrieve faxes or voice messages remotely
- Logs voice messages and faxes
- Security protection

Modem Features

- V.22bis/V.22/V.21 compatibility
- Bell 212A/103 compatible
- Line speed 2400/1200/300

Fax Features

- CCITT G3 compatible
- 9600bps send/receive
- V.29/V.27ter/V.21
- Class 1 fax command set

#75532 $59

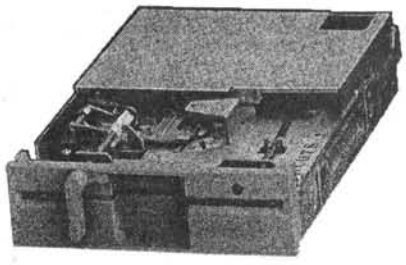
14,400 bps Voice/Data/Fax Modem

Its voice feature allows it to share a single line with your telephone, directing fax and voice signals to the appropriate device. This eliminates the need for a ring detector, as well as an extra jack. And with V.32bis and data compression you can transfer at speeds up to 57,000 bps.

- 14,400 bps data capabilities
- 14,400 bps fax send/receive capabilities
- V.42bis and MNP level 5 data compression
- V.42 and MNP level 2-4 error correction
- Voice detection
- Hayes compatible
- Seven year manufacturer's warranty
- Only requires one 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT & compatibles
- Works in 286, 386, & 486 systems

#75535 $179

Floppy Disk Drives



High Density 5.25 inch Drives

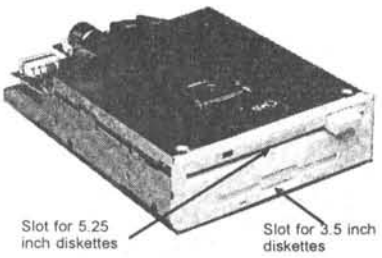
Use 360KB and 1.2MB floppy diskettes. These diskettes measure 5.25 inches square. DOS 3.0 or later, and one 5.25 inch drive bay is required.

5.25 inch diskette

High Density 3.5 inch Drives

Allow you to use 720KB and 1.44MB hard-jacket floppy diskettes. These "shirt pocket size" diskettes measure only 3.5 inches square. DOS 3.3 or later, and one 3.5 inch or 5.25 inch drive bay is required. 5.25 inch mounting frame included.

3.5 inch diskette



Combo Drives

Use all four popular diskette types! Once installed you can use 360KB, 720KB, 1.2MB, and 1.44MB diskettes! DOS 3.3 or later, and one 5.25 inch drive bay is required.

	Drive Only	Primary Controller Kit	Secondary Controller Kit
5.25 inch Drive	#44017 $49	#12569 $99	#12564 $119
3.5 inch Drive*	#44018 $49	#12568 $99	#12563 $119
Combo Drive	#44020 $119	#12570 $169	#12565 $189

* Includes 5.25 mounting frame that allows mounting this drive in an IBM PC, XT, or AT 5.25" half-height drive bay. Order 44018-1 if bracket is not required ($45).

High density drives are very desirable because they provide much greater diskette storage than the double density drives provided with all PC, PC-XT and compatible computers. In addition, high density drives allow you to run software that comes on "high density diskettes" — without buying a new computer!

Secondary Controllers allow High Density Drives to be used in Tandy 1000 Computers!

Drive Only

Includes the bare drive and 5.25" mounting kit (when necessary). Purchase this product if you already have a high density controller card and would like to add another drive using your existing controller. Also used to replace a drive that has started causing disk drive error messages. Works with PC, XT, 286, 386, 486, and compatibles.

Kits with Primary Controllers for PC, XT, and Compatibles

Primary controllers offer the most economical way to add a high density drive to your computer, however these kits always require that you remove or disable any other floppy drive controllers in your system. The controller provided with this kit operates one or two floppy drives. Requires one 8-bit ISA expansion slot for the controller card and one 5.25" drive bay.

Kits with Secondary Controllers for PC, XT, and Compatibles

If your computer's existing floppy drive controller can not be removed or disabled, you need a kit that uses a secondary controller. Secondary controllers allow drives to be added without interfering with drives already installed. The controller provided with this kit can be setup as a primary or a secondary controller and will operate up to four floppy drives. Ideal for use with Tandy 1000 computers. Requires one 8-bit ISA expansion slot for the controller card and one 5.25" drive bay.

Full-Height Mounting Kit

All drives shown on this page can be mounted in any available 5.25 drive bay. The drives are known as half-height drives and measure approximately 1 1/16 inches high. Half-height drives can also be mounted in full height (3 5/16 inches high) drive bays using this mounting kit. Kit includes mounting frame, hardware and bezel. Works with all half-height floppy and hard disk drives.

#96027 $9.95

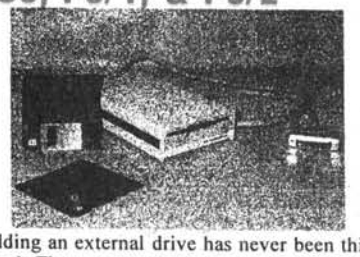
DOS Requirements

In order to use high density drives your computer may need a later version of DOS.

1.2MB Drives	DOS 3.0 or later
1.44MB Drives	DOS 3.3 or later

Floppy Disk Drives

External Floppy Drives for IBM PC, PCjr, XT, 286, 386, 486, PS/1, & PS/2



Adding an external drive has never been this easy! These external drives are no-slot drives that attach to your parallel printer port. Now you can add drives even if you don't have expansion slots. And if you do have slots available, you can use them for other devices. The floppy drives come in a compact and attractive enclosure, and include everything you need for easy installation.

To connect, simply plug into your parallel printer port. There are no interface cards to install, so you don't have to open the cabinet of your computer. Your printer can then be attached to the 25-pin D-type connector located on the back of the external drive.

These drives work with any computer that has an IBM compatible parallel port that uses a 25-pin D-type connector.

The 3.5 inch 1.44MB model can use both 720KB and 1.44MB disks. The 2.88MB model uses 720KB, 1.44MB, and 2.88MB disks. Both models automatically determine which type of disk is being used. The 1.2MB model accepts both 360KB and 1.2MB disks.

3.5 inch 1.44MB	#12557	$199
3.5 inch 2.88MB	#12558	$249
5.25 inch 1.2MB	#12559	$199

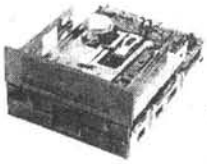
Floppy Drives for IBM PS/2 Computers (reconditioned)

Models 25 & 30		
720KB Drive	#78500	$99
Model 30/286		
720KB Drive	#78501	$99
Models 30/286 & 55		
1.44MB Drive	#78502	$99
Models 50, 60 & 80		
1.44MB Drive	#78503	$99
Models 35, 40, 56 & 57		
1.44MB Drive	#78504	$99
Models 50Z & 70		
1.44MB Drive	#78505	$99
Models 60 & 80		
1.2MB Drive	#78506	$99
Model 73		
1.44MB Drive	#78507	$99
Model 90		
1.2MB Drive	#78508	$99
Models 90 & 95		
1.44MB Drive	#78509	$99

360KB 5.25 inch Floppy Disk Drives for IBM PC, XT & Compatibles

Replaces your original 360KB drive. These double sided drives are specifically selected to work and fit correctly in your computer.

Two heads and 40 cylinders provide 360K of formatted storage. 6ms track to track access time provides fast transfer of data. Low power dissipation. Full one year warranty.



360KB Drive with Full Height Bezel
#44002-2 $69.95

360KB Drive with Half Height Bezel
#44002-3 $59.95

720KB 3.5 inch Floppy Disk Drives for IBM PC, XT & Compatibles

This 3.5 inch drive can be installed inside your computer as a replacement to your existing 360KB drive.

Includes software that allows operation with DOS 2.1 or later, however DOS 3.2 or later will be required to boot from this drive.

720KB Drive with Full Height Bezel
#44003-2 $69.95

720KB Drive with Half Height Bezel
#44003-3 $59.95

Understanding Floppy Disk Drives

Have you ever received an error message while trying to use a floppy diskette that would not work with your computer? If your computer uses 360KB or 720KB diskettes the chances of this happening are quite good.

Most older computers use 5.25 or 3.5 inch diskettes that hold 360KB or 720KB of information. These diskettes are known as double sided, double density (DSDD), or simply low density diskettes. Newer computers use diskettes that look nearly identical, however they are capable of storing two to four times more information. These diskettes are know as high density diskettes.

If your computer uses low density diskette drives, you can replace one or both of your drives with high density drives. To do this, you must install a high density diskette drive and a high density controller card. Purchase a complete kit as described on the adjacent page.

Many people want to add high density drives, however they don't want to bother opening their computer to remove the old drives and controllers. These people should purchase the external floppy diskette drives featured on this page.

If you replace all of your low density 360KB floppy drives with high density drives you'll be able to use both 360KB and 1.2MB diskettes without any difficulty. DOS 3.1 or later is also required (except with the external systems on this page).

However, if you are thinking about adding a high density drive to your computer you should also consider adding a 3.5 inch high density drive. These drives can use 720KB and 1.44MB diskettes.

Our recommendation is to set up your computer with one 5.25 inch and one 3.5 inch drive. The 3.5 inch drive should be a high density drive and can be your first or second drive. Although a high density 5.25 inch drive is nice to have, as long as you have one 3.5 inch high density drive you will have little trouble finding software on diskettes that works with your computer.

External Hard Drive Kits

SCSI Hard Drive Kits

Includes SCSI controller, SCSI hard drive and connector for SCSI CD-ROM drive.

42MB	#12801-2	$245
52MB	#12801-3	$269
170MB	#12801-4	$299

Understanding Hard Drive Storage

Whether you're stocking up on groceries or going away on vacation, everyone has benefited from that added storage space the trunk of a car provides. You can install an information storage "trunk" in your computer too, by installing a hard drive. A hard drive stores much more information than a diskette, and it operates much faster.

The size of a hard drive is measured in megabytes, and is abbreviated MB. Each one MB of storage is enough space to store slightly less than three 360KB diskettes. Many people approximate how much space they need by counting the number of diskettes that they currently use, then dividing by three. Double or triple the number to allow plenty of future storage space, and allow at least 8MB to install the latest DOS.

Hard Drives for IBM PS/2

Recertified hard drives are available for all PS/1 and PS/2 computers. Call for current price.

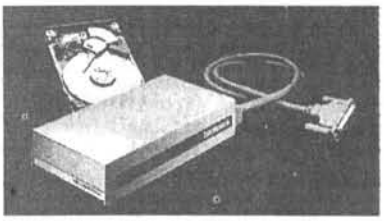
SCSI CD-ROM Drive

Works with the SCSI controller above.

Single, Double, and Triple speed drives available.

#44016 $CALL

External Hard Drives for IBM PC, PCjr, XT, 286, 386, 486, PS/1, PS/2 & Compatibles



Installs without Removing the Computers Lid!

These systems plug into the computer's 25-pin printer port connector! Your printer then plugs into a connector provided on the rear of the drive enclosure, so there's never any inconvienence at all!

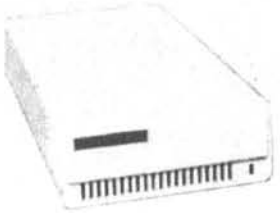
- External Installation-no drive bays required
- Easiest to install-installs without removing the computers lid
- Plugs into any available parallel port
- Works without removing or disabling existing hard drives
- No expansion slots required
- Requires DOS 3.0 or later
- Works with PC, XT, and compatibles
- Works with 286, 386, & 486 systems

40MB System	#12567-1	$329
210MB System	#12567-7	$425
340MB System	#12567-6	$499

Hard Drives that Plug into Printer Ports are Ideal for Notebook, Laptop and other Computers that do not have Space for Internal Hard Drive Systems

If you own a computer that does not have a drive bay and at least one ISA expansion slot available, purchase a hard drive that plugs into the computers printer port. These drives are simple to install and can also be moved from one computer to another in minutes. Best of all, they work with all IBM compatible computers!

Lowest Cost Hard Drives for IBM PC, XT & Compatibles



External hard drives come in their own case and include their own power supply. The lowest possible cost is obtained by using recertified hard disk drives.

To install an external hard drive in your computer, simply plug the controller into any unused slot. The external drive sits alongside your computer in its own case, and attaches to the controller card with a cable. This product is ideal for use in Tandy 1000 and other computers that do not have any full-length (12 inch) expansion slots or a 5.25 inch drive bay available.

- External installation-no drive bays required
- Easy installation
- Works without removing or disabling existing hard drives
- Requires one half-length ISA slot
- Requires DOS 3.3 or later or Disk Manager Software
- Works with PC, XT, & compatibles

40MB	#78747	$169
80MB	#78748	$199

Adapter for Tandy 1000 Computers

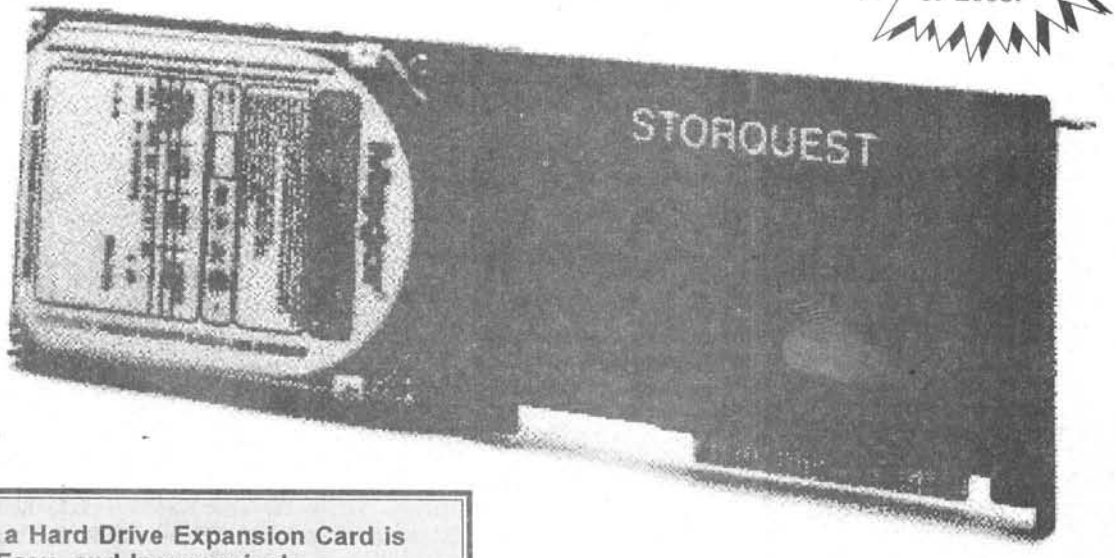
This adapter plugs into the edge card printer connector provided on many Tandy 1000 Computers and provides an industry standard parallel printer port connector. Works with the drives above.

- Changes the Tandy's unique edge card printer port connector to a standard male DB-25 connector
- Works with most Tandy 1000, 1000A, EX, HX and TX computers

#22533 $19.95

Hard Drive Expansion Cards

Installs in Five Minutes or Less!



Adding a Hard Drive Expansion Card is Quick, Easy, and Inexpensive!

The easiest way to install a hard drive inside your computer is to purchase a hard drive expansion card.

A Hard Drive Expansion Card is a hard drive that comes attached to a special bracket that also holds the drive controller card.

Simply plug the Hard Drive Expansion Card into any full length slot and you are finished! Purchase with DOS already installed and chances are good that you'll be using your new hard drive within five minutes!

Hard Drive Expansion Cards for IBM PC, XT, AT, PS/2 Models 25 & 30 & Compatibles

This product can be used if your computer did not come with a hard drive, or if you will be replacing the hard drive that did come with your computer.

All you need to use this hard drive is a single full length 8-bit or 16-bit expansion slot.

- Installs internally without using a drive bay
- Simple plug-in installation
- Requires DOS 3.3 or later or Disk Manager Software
- Requires one full-length ISA slot
- Works in PC, XT, AT, & Compatibles
- Works in PS/2 Models 25 & 30

130MB	#12566-1	$255
170MB	#12566-2	$265
210MB	#12566-3	$275
260MB	#12566-4	$295
340MB	#12566-5	$345
452MB	#12566-6	$395

Available Soon!!

Hard Drive Expansion Cards that Allow you to Continue using your Existing Hard Drive*

These Hard Drive Expansion Cards are similar to the cards described on the adjacent side of this page except they can be used as the only hard drive in the system or as a second hard drive. These hard drives are also the only expansion cards available that fit in Tandy 1000 computers because they only require a 10 inch slot.

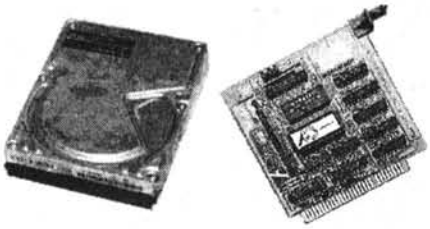
- Works without removing or disabling existing hard drives
- Installs internally without using a drive bay
- Simple plug-in installation
- Requires DOS 3.3 or later or Disk Manager Software
- Requires one 10 inch ISA slot
- Works in PC, XT, AT, & Compatibles
- Works in PS/2 Models 25 & 30
- Works in Tandy 1000 computers (except EX/HX)

130MB	#12608-1	$275
170MB	#12608-2	$285
210MB	#12608-3	$295
260MB	#12608-4	$315
340MB	#12608-5	$365
452MB	#12608-6	$415

*At the time this catalog went to press we were maintaining a waiting list for this product. Please call to determine availability.

Internal Hard Drive Kits

Hard Drive Kits for IBM PC, XT, Tandy & Compatibles



8-bit ISA Controller

Also includes 5.25 mounting frame (not shown)

Internal hard drive kits come with the hard drive, 5.25 inch mounting frame, controller card and cables that you need. Simply install the drive in any half height 5.25 inch drive bay, and plug the controller card into any unused expansion slot. An included power cable, and power connector directly on the controller card even allows this kit to work in computers that do not have an available power connector.

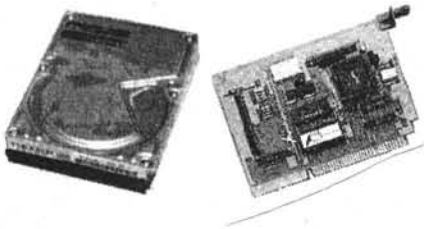
- Simple installation
- Only requires one drive bay
- Includes hard drive, controller, brackets, and all cables you need
- Works without removing or disabling existing hard drives
- Requires DOS 3.3 or later or Disk Manager Software
- Requires one half-length ISA slot
- Works in Tandy 1000 computers
- Works with PC, XT, & compatibles

Ordering Information

The hard drive kits listed below require that you remove or disable any existing hard drive controllers currently installed on your system. To purchase a hard drive kit that works without interfering with existing hard drives order 12607-X and add $20 to the price.

130MB	#12606-1	$239
170MB	#12606-2	$249
210MB	#12606-3	$259
240MB	#12606-4	$279
340MB	#12606-5	$329
452MB	#12606-6	$379

Hard Drive Kits for IBM AT and other 286 Computers



16-bit ISA Controller

Also includes 5.25 mounting frame (not shown)

If you have a 286 computer, your computer's CMOS may not support drive type 47. Drive type 47 is the drive type used to support most of today's hard drives.

This kit includes a hard drive and a special controller card that allows you to add hard drives even when your computer does not support drive type 47. The system can coexist with any hard drives already installed and therefore is simple to install.

- Simple installation
- Only requires one drive bay
- Includes hard drive, controller, brackets, and all cables you need
- Works without removing or disabling existing hard drives
- Drive type 47 support not required
- Also provides support for two floppy drives
- Requires DOS 3.3 or later or Disk Manager software
- Requires one 16-bit ISA slot
- Works in PS/2 Model 30/286
- Works in 286, 386 & 486 systems

130MB	#12603-1	$269
170MB	#12603-2	$279
210MB	#12603-3	$289
240MB	#12603-4	$309
340MB	#12603-5	$359
452MB	#12603-6	$379

Hard Drive Kits for IBM PS/2 Models 25 & 30

This kit allows you to replace the hard drive that came with your computer. Kit includes the hard drive, controller card, cables and PS/2 mounting bracket.

- Simple installation
- Only requires one drive bay
- Includes hard drive, controller, brackets, and all cables you need
- Works without removing or disabling existing hard drives
- Requires DOS 3.3 or later or Disk Manager software
- Requires one 8-bit ISA slot
- Works in PS/2 Model 25 & 30 systems

130MB	#12601-1	$249
170MB	#12601-2	$259
210MB	#12601-3	$269
240MB	#12601-4	$289
340MB	#12601-5	$339
452MB	#12601-6	$389

Hard Drive Kits for IBM PS/2 Models 30/286

This kit allows you to replace the hard drive that came with your computer. Kit includes hard drive, controller card, cables and PS/2 mounting bracket.

- Simple installation
- Only requires one drive bay
- Includes hard drive, controller, brackets, and all cables you need
- Works without removing or disabling existing hard drives
- Requires DOS 3.3 or later or Disk Manager software
- Requires one 16-bit ISA slot

130MB	#12602-1	$279
170MB	#12602-2	$289
210MB	#12602-3	$299
240MB	#12602-4	$319
340MB	#12602-5	$369
452MB	#12602-6	$419

Hard Drive Kits for IBM PS/2 Models 50, 50SX, 60, 70 & 80

	Model 60 & 80	Model 50, 50SX & 70	
130MB	#12605-1	#12609-1	$405
170MB	#12605-2	#12609-2	$415
210MB	#12605-3	#12609-3	$425
240MB	#12605-4	#12609-4	$445
340MB	#12605-5	#12609-5	$495
452MB	#12605-6	#12609-6	$545

Internal Hard Drive Kits Only take about 15 Minutes to Install

All you need to install an internal hard drive kit in your computer is a drive mounting bay and a single 8 or 16-bit expansion slot. Purchase your hard drive with DOS already installed and you are virtually sure to have a hassle-free 15-minute installation.

The controller card provided with the kits on this page plug into any unused expansion slot. The drive mounts in your computer's drive bay and attaches to the controller with two cables. All mounting brackets, cables, and other hardware is included.

We always recommend using the latest version of DOS because it greatly simplifies installation. You obtain the newest DOS utilities as well as the ability to access the entire hard drive as one letter. DOS versions prior to 4.0 can be used, although a 32MB partition limitation exists. Purchase DOS at the same time and we install it free!

Hard Drives

3.5 inch IDE Hard Drive Shown

Bare Drives

All drives described in this section are 3.5" form factor (unless otherwise noted) and include an internal cache. Refer to the tables for typical access time specifications. Bare drives are often purchased to replace a drive you already own, or to add an additional drive using your existing controller. A 3.5" mounting kit (#96018) is required to mount these drives in a 5.25" drive bay.

Lowest Hard Drive Prices Anywhere!

IDE Drives

IDE drives are the most popular drives that we sell. They are designed for general purpose computing applications. Use with any of the IDE hard drive controller cards shown on the Hard Drive Controller Card page of this catalog.

Adding a Second IDE Hard Drive to your Computer

If your computer's hard drive is connected to the controller card with a 40-conductor signal cable you have an IDE hard drive.

If you have one IDE hard drive installed, you can install a second IDE hard drive very easily. First, examine the inside of your computer to determine whether you have space to install a second 3.5" drive. Also verify that your computer has an unused 4-position power and 40-position signal cable.

If your computer does not have an available 3.5" drive bay you can install the drive in a 5.25" bay if you purchase the mounting kit for 3.5" drives described on this page.

When two IDE hard drives are installed in the same computer the first drive must be jumpered to act as the master and the second drive as the slave.

#44033	130MB	15ms	$189
#44034	170MB	16ms	$199
#44048	210MB	16ms	$209
#44035	240MB	12ms	$229
#44036	340MB	12ms	$279
#44049	452MB	12ms	$329

Important: Hard drive prices are subject to availability. Please call to verify pricing before ordering. Specifications listed are typical.

SCSI Drives

SCSI Drives are high performance drives normally selected when performance is more important than price. Use with your existing SCSI hard drive controller card or purchase any SCSI controller described on the Hard Drive Controller Card page of this catalog.

#44009	42MB	21ms	$149
#44012	52MB	17ms	$159
#44023	170MB	16ms	$189
#44053	290MB	14ms	$359
#44025	340MB	14ms	$479
#44051	456MB	12ms	$799
#44050	1GB	10ms	$1089

Adding a Second SCSI Drive to your Computer

If your computer's hard drive is connected to the controller card with a 50-conductor cable you have a SCSI drive.

If you have one SCSI hard drive installed you can install additional hard drives or other SCSI devices (such as CD-ROM drives) simply by connecting the additional devices to the same cable and setting the SCSI jumper of each drive to a unique address.

Mounting Kit for 3.5" Hard Drives

Allows 3.5" drives to be mounted in a 5.25" drive bay.

#96018 $9.95

Power Y Adapter

Allows two devices to use the same 4-position power cable.

#91820 $4.95

IDE Hard Drive Cable for two Drives

40-pin connectors.

#22534 $9.95

252MB Hard Drive for Laptop and Notebook Computers

If your laptop or notebook computer has a built-in 2.5 inch IDE hard drive you can replace your existing hard drive with this higher capacity hard drive very easily. 2.5 inch. 12ms. Drive type 47 support required.

#44054 $329

MFM Drives

MFM Hard Drives are frequently purchased to replace an MFM hard drive that has gone bad. Also frequently used as a second hard drive in IBM PC-XT or compatible that already uses an MFM controller card that has the ability to control two drives. 5.25". Seagate ST225. 20MB. 65ms.

#44006 $199

Adding a Second MFM Drive to your Computer

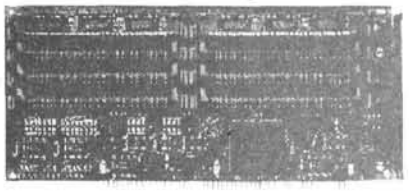
If your computer's hard drive is connected to the controller card with two cables (34 and 20 conductor) you have an MFM hard drive.

Most MFM controller cards allow you to add two hard drives. Determine whether your existing controller has an unused 20-position connector.

When two drives are connected the 34-conductor cable connects to both drives and a unique 20-conductor cable attaches to each drive.

Sale $99

Memory Expansion for 286, 386 & 486 Systems



16-Bit ISA

- Add up to 8MB of 4.0 LIM 4.0 EMS or extended memory
- Eight sockets
- Add memory in 2MB increments
- Backfills conventional memory from 512KB to 640KB if needed
- DOS, Windows, UNIX, XENIX, NOVELL certified
- Switchless auto install software
- Requires one 16-bit ISA slot
- Works in 286, 386 & 486 systems
- Five year manufacturers warranty

#79083 Reg. $119

$109.90

2MB Expansion Kits

Works with the above memory board. Kits consist of two 1MB modules and therefore add 2MB of memory and use two sockets. Add one, two, three or four kits.
#10118

Sale $179

Memory Expansion for PS/2 Models 50 and 60

16-Bit Micro Channel

- Allows you to add up to 32MB of LIM 4.0 EMS or extended memory
- Four sockets
- Allows you to add memory in 2MB, 4MB, or 16MB increments
- DOS, Windows, UNIX, XENIX, NOVELL certified
- Works in IBM PS/2 Models 50 and 60
- Requires one 16-bit micro channel slot
- Two year manufacturer's warranty

#79097 Reg. $199

Sale $179

Memory Expansion for PS/2 Models 70, 80, and 90

32-Bit Micro Channel

- Allows you to add up to 64MB of LIM 4.0 EMS or extended memory
- Four sockets
- Allows you to add memory in 2MB, 4MB, or 16MB increments
- DOS, Windows, UNIX, XENIX, NOVELL certified
- Works in IBM PS/2 Models 70, 80, 90
- Requires one 32-bit micro channel slot
- Two year manufacturer's warranty

#79098 Reg. $199

Purchase with memory expansion kits available below.

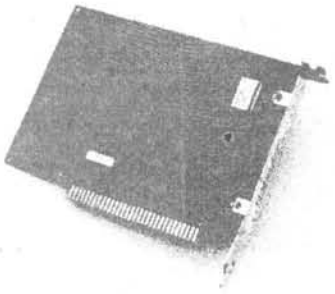
Memory Expansion Kits for PS/2 Memory Boards

Works with the PS/2 memory boards described on this page. Each kit uses one socket.

1MB Kit	#59136-1 $49	2MB Kit	#59137-1
4MB Kit	#59120-1 $199	8MB Kit	#59138-1

$99

UMB Memory Board



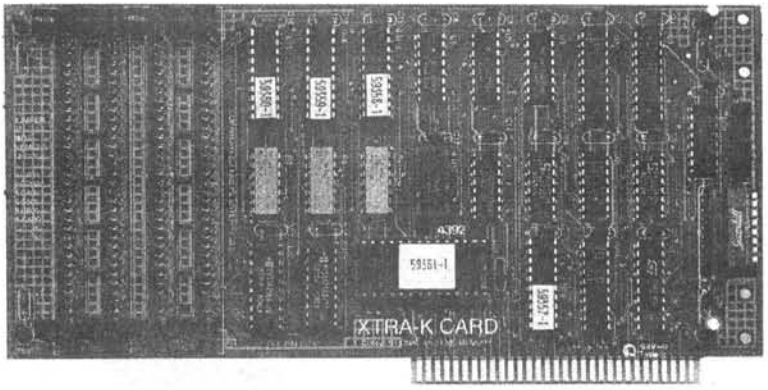
MegaMizer is a plug-in memory expansion product that allows older computers to use the Upper Memory Area. Once installed your 8088, 8086, or 80286 computer can load CD-ROM, network, mouse, and other device drivers, in addition to TSR programs, without reducing conventional memory!

The upper memory area is the 384KB area above conventional memory. This area is normally reserved for adapter ROMs and BIOS, however a good portion of this address space is normally wasted. MegaMizer maps memory into these "holes" and allows DOS 5.0 and later to use it.
#79120

Additional Memory Makes Your Computer Faster!!!

One of the easiest ways to improve the performance of your computer is to install extended or expanded memory. When additional memory is installed your computer can run much faster. In general, the more memory you add, the faster your computer can run. This is especially true if you are running Microsoft Windows and Windows-based application software.

In addition to Microsoft Windows, many other programs including DOS 5.0 and later, can take advantage of additional memory. Utility software packages, such as PC-Kwik and PC-Power Pack are worth mentioning. These packages include disk caching programs that speed up your disk drives, print spooler that allow you to use your computer while its printing, and a Ramdisk program that provides dramatic performance improvements.



8-Bit ISA

Add Conventional, Expanded, and UMB memory to your 8088, 8086, or 80286 computer! An ideal solution for computers that suffer from Ram-Cram!

PC Enterprises ISAcards are plug-in expansion boards designed to work with IBM and Tandy compatible computers. To use our ISAcard the computer only needs one available 8 bit ISA expansion slot. Once installed, your computer can have additional conventional memory, UMB memory, and LIM EMS 4.0 expanded memory

Sale $99

Xtra-K EMS ISAcard

Allows you to add from 1 to 64 Megabytes of LIM EMS 4.0 Expanded Memory. Four sockets accept any combination of 1, 4, and 16MB memory modules.

- Allows you to add from 1 to 64MB of LIM EMS 4.0 Expanded Memory
- Four sockets provided for memory expansion
- Allows you to add expanded memory in 1MB, 4MB, or 16MB increments
- Does not use I/O space. This means greater compatibility and performance (the computer never slows down to access memory)
- Requires one half-length 8-bit ISA slot
- Works in Tandy 1000 computers
- Works in IBM PC, XT, & compatibles
- Works in PS/2 Models 25 & 30
- Works in 286, 386, and 486 systems
- One year PCE warranty

Memory Expansion Kits for Xtra-K Cards

PC Enterprises Xtra-K ISAcards are easy to expand because they provide four memory module sockets and because they only require installing one module at a time! To increase memory at an time, simply slide any module (below) into any socket!

#59110	1MB SIMM	$49
#59111	4MB SIMM	$179
#59116	16MB SIMM	$CALL

Sale $129

Xtra-K EMS-Plus ISAcard

Provides all the features of our Xtra-K EMS ISAcard PLUS the ability to increase conventional memory and add UMB memory.

All IBM PC, XT, 286, and compatibles, including Tandy 1000 computers, *using CGA, TGA or monochrome graphics* adapters can increase conventional memory up to 736KB.

Computers that use EGA or VGA graphics adapters, can not increase conventional memory beyond 640KB, however, these computers obtain a 64K UMB a long as the computer has the E000h upper memory block available.

UMB memory can be used with DOS 5.0 and later to load device drivers and run TSR programs, making more conventional memory available for DOS.

Tandy SL, SL/2, TL, TL/2, TL/3, RL, and RLX do not have the E000h upper memory block available because they have ROM-based DOS. Consequently, these computers can have expanded memory or UMB memory, but not both.

- Provides all features of our Xtra-K EMS ISAcard
- Provides 256KB of memory to be used as additional DOS and UMB memory
- Backfills conventional memory from 512KB to 736KB if needed
- Allows computers that have at least 512KB and a CGA or TGA graphics adapter to expand to 736K
- Allows computers that have at least 512KB and a monochrome graphics adapter to expand to 704KB
- One year PCE warranty

#14301 Reg. $149

Products that add Upper Memory Blocks give you more Conventional Memory

Conventional memory is absolutely the most important type of memory your computer can have. All programs use conventional memory, and when your computer doesn't have enough conventional memory the program will not run.

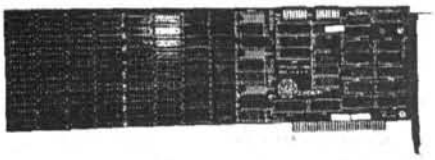
Its important to understand that the amount of memory installed on your computer is not all available to run programs. DOS uses up some of your conventional memory, as does Network, mouse, Fax, and other device drivers and TSR programs in your CONFIG.SYS or AUTOEXEC.BAT files. Use the CHKDSK command to determine how much memory your computer actually has available to run software.

UMB Memory is memory that appears in unused "holes" found in the upper 384KB of a computer's 1MB address space. This address space was originally reserved for video adapters, ROM BIOS, and other special types of hardware.

When your computer runs DOS 5.0 or later it has the ability to utilize the UMB area to load and run software. As a result, computers that use UMB memory have much more conventional memory available to run software.

All IBM compatible computers can have UMB memory, although computers that have 8088, 8086, or 80286 microprocessors must first install a plug-in board. The Xtra-K EMS-Plus ISAcard and the Megamizer UMB Memory Board are the only two products we know of that give you this capability.

Memory Products



Quadram Liberty-PC Memory Expansion for IBM PC, XT, & Compatibles

The Quadram Liberty-PC Board allows your IBM PC, XT or compatible computer to have 640KB of memory. Each Liberty-PC board that you install adds up to two megabytes of memory. Simply remove the computer's cover and plug the Liberty-PC Board into any unused expansion slot.

- Increases conventional memory to 640KB and adds EMS memory
- Available with 512KB or 768KB installed (expandable to 2MB)
- RAMDISK, print spooler, and hard drive cache software included
- Only requires 64KB of pre-existing memory
- Requires one full-length 8-bit ISA slot
- Works with IBM PC, XT & compatibles
- One year PCE warranty

$119

Quadram Liberty-PC with 768KB installed.

When used with computers that only have 64KB of memory this model increases conventional memory to 640KB and provides 192KB of EMS (Expanded) memory. Can also be used with computers that have more than 64KB. When used on computers that have 256KB of pre-existing memory, 640KB of conventional and 384KB of EMS is provided.

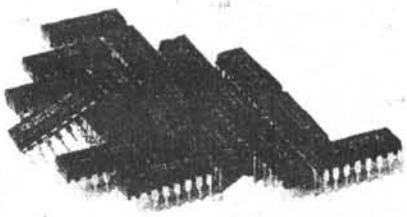
#79061-2

$99

Quadram Liberty-PC with 512KB installed.

Use with computers that have 256KB of pre-existing memory to increase conventional memory to 640KB and provide 128KB of EMS memory.

#79061-1



$14.95

Memory Chip Sets

Ideal for expanding IBM PC, XT, and compatibles. Can be installed in memory sockets located on main system boards and plug-in expansion boards. 16-pin 150ns or better.

Set of Nine 64KB x 1 #11211
Set of Nine 256KB x 1 #11210

$29.95

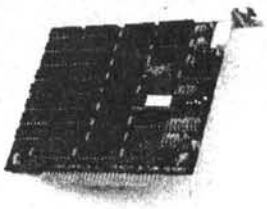
256KB Liberty-PC Memory Expansion Kit

Memory expansion kits allow you to install up to 2MB of memory in any Liberty-PC Board. Each kit adds 256KB of memory. Purchase up to five kits to fully populate the 79061-2 Liberty-PC Board, or six kits to fully populate the 79061-1 board.

#11210

$79

Bronson Memory Expansion for IBM PC, XT, & Compatibles



This low-cost memory expansion board plugs into any IBM PC, XT or compatible computer and increases memory to 640KB.

- Lowest cost memory upgrade
- Increases conventional memory to 640KB
- Only requires 64KB of pre-existing memory
- Requires one half-length 8-bit ISA slot
- Works in IBM PC, XT & compatibles
- One year PCE warranty

#79096

Understanding Conventional Memory

All DOS programs use conventional memory. Some programs also use extended or expanded memory, if your computer has this type of memory available. Before purchasing a memory product for your computer be sure to determine the type of memory your programs need.

Conventional Memory is the most important type of memory your computer can have. Always increase conventional memory at least to 640KB. While many computers are limited by a 640KB boundary, there is a unique add-on product that allows older computers to have up to 736KB of conventional memory. Install a PC Enterprises Xtra-K EMS-Plus ISAcard that adds conventional and UMB memory, or a product that adds only UMB memory to your computer. Computers that have 80286 microprocessors and extended memory have one more option. These computers can load DOS in the High Memory Area (HMA) making more conventional memory available. Unfortunately, computers that have 8088 and 8086 microprocessors do not have this option and no add-on products exist to provide this feature.

To add conventional memory to your computer first fill any empty memory chip sockets with the proper memory chip sets or modules. Once your main system board is fully populated you can install plug-in cards to increase memory. To add UMB memory you must install a plug-in card and use DOS 5.0 or later.

Most "true blue" IBM PC and XT computers allow you to install 256KB on the main system board using 64KB chip sets. A plug-in card such as the Liberty-PC or Bronson memory expansion card is then used to increase memory to 640KB. Clones often allow all 640KB to be installed in sockets on the main system board using 256KB chip sets. IBM AT computers allow 512KB to be installed on the main system board using 256KB chip sets, then require a plug in card (such as the Xtra-K EMS-Plus ISAcard) to "backfill" to 640KB. IBM PS/2 models 25 and 30 use proprietary modules also available from PCE to increase conventional memory. Likewise, several Tandy 1000 computers use non-standard chip sets.

Memory Products

The Easy Way to Add Memory to Your Computer

Chances are excellent that your computer's memory can be increased by installing SIMM or SIP modules. These memory modules can be installed in sockets provided on the computer's main system board or in a plug-in memory expansion board that you purchase.

Do I Need SIMM or SIP Modules?

SIMMs are "Standard Inline Memory Modules" that come on a small, easy to install, printed circuit board. The SIMM plugs directly into sockets located on the computer's main system board or a plug-in memory board. SIPs are similar to SIMMs, however SIPs are "Single Inline Packages" that have round pins attached to the printed circuit board. When you install a SIP, the round pins plug into the SIP socket.

How Many Do I Need to Install at a Time?

If your computer uses 30-pin modules and a 386SX or 486SLC microprocessor you must always install at least two modules at a time. 386DX, 486SX, 486DX and 486DLC microprocessors require that you install modules at least four at a time. Computers that use 72-pin SIMMs only require one module to be installed at a time. Memory expansion boards allow you to install one or two modules at a time, depending on the board. Older computers may require installation of eight modules at a time, so check your manual.

What Speed Do I Need?

Most computers work fine with 80ns modules, however some require faster parts (a 70ns part is faster than 80ns). Be sure to purchase modules that are fast enough for your computer to avoid intermittent memory errors. If you have any doubt as to what you need, purchase the fastest part available.

How Many Chips Do I Need?

Nine-chip modules, although slightly more expensive then three chip modules, are very popular because they work in all computers that use SIMMs or SIPs (including Tandy). Three-chip modules offer lower cost, however may not work in your computer. If you are not sure which module you need, purchase nine-chip modules. If your computer already has three-chip modules installed, purchase three-chip modules.

Math Coprocessors

No matter which PC you use, we have the right math coprocessor for your system. Math coprocessors install in seconds by plugging into a socket on your main system board.

Generic number	Works with	Max Speed	Catalog number	Price
8087-3	8088	5MHz	59141-3	$ 39
8087-2	8088	8MHz	59141-2	$ 89
8087-1	8088	10MHz	59141-1	$119
287XL	80286	20MHz	59142-0	$ 59
387SX	80386SX	20MHz	59143-1	$ 65
387SX	80386SX or 80486SLC	40MHz	59143-2	$ 89
387DX	80386DX	25MHz	59144-1	$ 59
387DX	80386DX or 80486DLC	40MHz	59144-2	$ 89
487SX	80487SX	25MHz	59146-0	$359

Understanding Math Coprocessors

"Do I need a math coprocessor?" and "Will a math coprocessor speed up my computer?" are two questions asked quite frequently. These are expensive options and you need to know exactly how you can benefit by adding them to your computer.

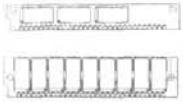
If you are running programs that specifically state that a math coprocessor is required or recommended, you will notice a worth while improvement if you add a math coprocessor to your computer. However, if the program does not support a math coprocessor, adding one to your computer will not give you any benefit at all.

Some programs will benefit more than others depending upon how heavily they use numeric calculations, however a three to twenty times speed improvement is often obtained. Check your software manuals, especially manuals for software that you would like to speed up, to determine whether they take advantage of this option.

If your computer uses an 80286 or earlier microprocessor, the math coprocessor will come in a 40-pin rectangular shaped package. Computers that use 80386 microprocessors use coprocessors that come in a square, PLCC package.

Installation of either type of math coprocessor is simple. You align the math coprocessor with the socket on your computer's main system board, then push the math coprocessor in place.

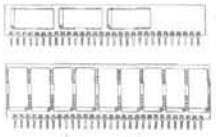
30-Pin SIMMs



Total Memory	Chips	60ns	70ns	80ns	100ns
256KB	3	59124-3 $16.95	59124-2 $$15.95	59124-1 $14.95	59124-0 $13.95
256KB	9	59135-3 $18.95	59135-2 $17.95	59135-1 $16.95	59135-0 $15.95
1MB	3	59121-3 $59.95	59121-2 $54.95	59121-1 $49.95	59121-0 $44.95
1MB	9	59134-3 $64.95	59134-2 $59.95	59134-1 $54.95	59134-0 $49.95
4MB	9	59122-3 $179.95	59122-2 $169.95	59122-1 $159.95	N/A
16MB	9	CALL	CALL	CALL	CALL

Shaded modules work in most computers and memory boards.

30-Pin SIPs



Total Memory	Number of chips	80ns	100ns
256KB	3	59139-1 $18.95	59139-0 $16.95
1MB	9	59140-1 $55.95	59140-0 $50.95

72-Pin SIMMs

(Wide Body SIMMs)

Total memory	Organization	70ns	80ns
1MB	256KB x 36	59136-2 $59.00	59136-1 $49.00
2MB	512KB x 36	59137-2 $99.00	59137-1 $89.00
4MB	1MB x 36	59120-2 $209.00	59120-1 $199.00
8MB	2MB x 36	59138-2 $369.00	59138-1 $359.00

Important Note: PCE reserves the right to ship faster parts than those ordered when price and availability permit. Prices are subject to change due to market conditions. To avoid disappointment, please call our toll free order number to confirm pricing and availability before ordering.

Microprocessor Upgrades

486 System Board Upgrades for IBM PC, PC-XT, and PC-AT computers

The best way to get more speed and power from your computer is to replace the computer's main system board. Once installed in your computer you will all of the speed and features of a 486 computer without compromise.

The System Boards listed below are ideal for use in IBM PC, PC-XT, and PC-AT computers because they use low power 486 microprocessors originally developed for laptop computers. This is why you can upgrade to a 486 without replacing your computer's power supply and without requiring additional cooling fans to insure reliability.

These system boards also work with most clones and compatibles as long as the keyboard connector is in the rear of the computer and as long as the computer uses plug-in boards that install vertically.

The system board does not include video circuitry. This means you will need to use the video card from your existing computer. Verify that your monitor plugs into a vertically mounted computer board that can be unplugged from your existing system.

33MHz 486 System Boards

- 33MHz 486SLC microprocessor
- 1KB internal cache
- Five 16-bit ISA expansion slots
- Math co-processor socket
- Accepts 1 to 16MB of SIMM memory (Four sockets for 80ns 30-pin SIMMs)

#79106 #99

66MHz 486 System Boards

- 66MHz 486SLC2 microprocessor
- 16KB internal cache
- Five 16-bit ISA expansion slots
- Math co-processor socket
- Accepts 1 to 16MB of SIMM memory (Eight sockets for 80ns 30-pin SIMMs)

79116 $249

75MHz 486 System Boards

- 75 MHz IBM Blue Lightning microprocessor
- 16KB internal cache
- Five 16-bit expansion slots
- Math coprocessor installed
- **Accepts 72-pin SIMMs**

Call for Price and Availability

Available Soon.
Dealer and Distributors Wanted!

486 System Boards for IBM PS/2 Models 25 & 30

$295

Change your PS/2 model 25 and 30 computers into blazing fast 33 or 66MHz 486 systems! Simply remove the computers existing 8086 or 80286 system board and install our replacement system board in its place!

Volume discounts available to schools and dealers. Minimum orders may apply. Call for additional information.

- Works with existing floppy and hard disk drives
- Provides three 16-bit ISA slots for future expansion*
- Upgrades your display to 640 x 480 256-color/shade SVGA
- Accepts 30-pin 80ns SIMM memory
- Expandable to 16MB

#79121

PC Enterprises can also manufacture 486 replacement system boards for virtually any Tandy and other non-standard computers. 50 to 100 piece minimums typically apply. Call!

OverDrive Processors

For 486 IBM PS/1, Tandy Sensation and other computers that have an Intel compatible OverDrive Processor socket

486SX-16	#79109-1	$289.95
486SX-20	#79109-1	$289.95
486SX-25	#79109-2	$349.95
486SX-33	#79109-3	$519.95

Understanding OverDrive Processors

Intel's OverDrive Processors are powerful 486 performance boosters designed for simple yet dramatic upgrade of 486 computers.

OverDrive Processors allow your system to utilize 486 speed doubling technology! Speed doubling technology allows 25MHz systems to execute most instructions at 50MHz and 33MHz systems to run at 66MHz.

Two types of OverDrive Processors are available. The first type plugs into an Intel 486 OverDrive compatible socket on your computer's main system board. The second type is for computers that do not have an OverDrive socket. This type requires that you remove your computer's existing microprocessor and replace it with the OverDrive Processor.

Memory Products

Memory Expansion Board for Tandy 1000 Computers

If your Tandy 1000 computer currently has 384KB of memory purchase this product to increase the memory to 640KB and add two RS232 compatible serial ports. This board is often purchased for use in Tandy 1000, 1000A, 1000SX and 1000SL computers.
#79112 $79

Memory Expansion Kits for Tandy

These memory chip sets plug into sockets on your Tandy 1000 main system board allowing you to increase your Tandy's memory and run more software.

Model 1000SX

256KB Memory Expansion Kit
Increases memory from 384KB to 640KB
#10056 $39.95

Model 1000TX

128KB Memory Expansion Kit
Increases memory from 640KB to 768KB
#10057 $19.95

Model 1000SL

256KB Memory Expansion Kit
Increases memory from 384KB to 640KB
#10058 $39.95

Model 1000TL

128KB Memory Expansion Kit
Increases memory from 640KB to 768KB
#10059 $19.95

Model 1000SL/2

256KB Memory Expansion Kit
Increases memory from 384KB to 640KB
#10060 $39.95

Model 1000 TL/2

128KB Memory Expansion Kit
Increases memory from 640KB to 768KB
#10061 $19.95

Model 1000 RL

256KB Memory Expansion Kit
Increases memory from 512KB to 768KB
#10062 $39.95

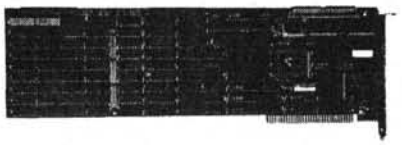
Model 1000TL/3

128KB Memory Expansion Kit
Increases memory from 640KB to 768KB
#10063 $19 95

Model 1000RLX

512KB Memory Expansion Kit
Increases memory from 512KB to 1024KB. This upgrade is extremely important if you have an RLX computer because it allows the computer to load DOS high and have extended memory.
#11209 $39.95

Sale Price
$199



386DX Upgrade for 8088 Systems

The Intel Inboard 386/PC will dramatically increase the performance **and** capabilities of almost any 8088-based computer. If programs have become too demanding for your 8088 computer, this product is exactly what you need. Once installed, you will have the awesome power of a true 32-bit Intel 80386DX microprocessor!

The INTEL Inboard 386/PC is an 8-bit ISA card that plugs into one of the computer's expansion slots. A cable then connects the Inboard 386/PC to the socket used for your existing microprocessor.

The Intel Inboard 386/PC gives your computer the power and capabilities of a 386 computer because it actually replaces your 8088 microprocessor with a 80386DX microprocessor! In addition, it replaces slow 8-bit conventional memory and ROM with fast 32-bit memory and shadow RAM. The Inboard 386/ PC also provides sockets to accept up to four megabytes of additional memory and an 80387DX math coprocessor.

- Execute programs up to 100% faster
- Genuine 32-bit, 16MHz Intel 80386DX processor
- Able to run 386-based multi-tasking software such as Windows/386 and DESQview386
- Includes 1MB of memory that replaces your slow 8-bit system board memory with fast 32-bit memory
- Additional memory can be used as extended or LIM EMS 4.0 expanded memory
- ROM shadowing for fastest execution of system board and video BIOS
- Does not require changing your keyboard, video adapter, or disk drives
- Socket for 80387DX math coprocessor
- Allows you to add an additional 4MB of XMS memory
- Utility software included provides up to four times faster hard disk and screen performance
- Software assisted installation
- Requires one full length 8-bit ISA slot
- Five year manufacturer warranty

Limited Supplies — Reg. Price $499
#79063

$14.95

8088 Upgrade

Here's a quick, easy, and inexpensive way to improve the performance of your computer. Simply replace your 8088 microprocessor with a V20 microprocessor!

The V20 primarily speeds up number crunching and provides improvements in execution speed up to 40%.

- Easy to install—just unplug your 8088 and plug the V20 into the 8088 socket
- Works in IBM PC, XT & compatibles
- One year PCE warranty

#19001-2

$24.95

8086 Upgrade

The V30 microprocessor is similar to the V20 microprocessor described on this page, except it is a replacement for 8086 microprocessors. 40 pin DIP package. 8MHz

- Works in IBM PS/2 Models 25 and 30
- Works in AT&T 6300

#19013-1

From
$249

486 Upgrades for 286 Systems

This product replaces the 80286 processor chip in your IBM AT, PS/2, or other IBM compatible 286 computer. Just pull out the old 80286 chip from its PLCC socket with the chip puller provided, and plug in this 80486SLC module. That's it. Upgrade complete!

This not only the fastest and easiest way to upgrade, it is also the safest and least expensive. You don't have to add or change anything else. Your new system is instantly recognized as a 486 by all the latest software you've been wanting to run and you'll see up to 400% increases in speed.

486 Microprocessor upgrade module w/o math coprocessor #79102-1 $249

486 Microprocessor upgrade module with math coprocessor #79102-2 $279
Note: To use this product your computer's microprocessor must be in socket. Call for information.

From
$269

486 Upgrades for 386DX Systems

486 class performance in 386DX-16, 20 and 25MHz systems can be achieved by replacing your existing microprocessor with this 486 upgrade microprocessor!

Simply remove your computer's 386DX microprocessor with the microprocessor removal tool included, and install the upgrade microprocessor. Typical installation takes 15 minutes.

This product has been tested with numerous computers including IBM, Compaq, AST, Everex, Dell, Toshiba, and many more. IBM PS/2 Model 70/16MHz systems require that 85ns memory chips are used (some systems use 100ns). Does not work with Sun i386 and Memorex 386 systems.

- 80386DX pin compatible
- Clock doubling technology provides a 2x internal speed improvement
- On-chip 1KB cache reduces wait sates between fetch operations
- Fast I/O circutry enhances video and disk performance
- Single cycle execution of all instructions
- Landmark improvement of 375% on a 20MHz PS/2 Model 70

386DX-16 Upgrade #79101-1 $269
386DX-20 Upgrade #79101-2 $319
386DX-25 Upgrade #79101-3 $369

From
$239

486 Upgrades for 386SX Systems

As above, except for 386SX-16, 20, and 25MHz systems. To install this product your system must have a surface mounted microprocessor, and at least one inch of space above the computer's main system board. The upgrade microprocessor snaps on top of your existing 386SX microprocessor.

All 386SX-20 and 25MHz desktop systems should be fully compatible, however 16MHz systems manufactured before 1991 many not be able to use this product. If you have a 16MHz 386SX system, contact PCE before ordering, and we will send you a test diskette that allows you to determine compatibilitiy with your system.

386SX-16 & 20 Upgrade #79099-1 $239
386SX-25 Upgrade #79099-2 $269

Upgrade Products for IBM PC, XT, AT, PS/2 & Tandy Computers

If you own a Tandy or IBM PC, XT, AT, or a PS/2 Model 25 or 30 you will have no trouble upgrading your computer to run WordPerfect, dBase, Lotus 1-2-3, Quicken and thousands of other powerful software products. Best of all, these computers use industry standard 8 and 16-bit ISA expansion cards that are inexpensive and readily available.

Whether you are better off to upgrade your existing computer or to purchase a new computer comes down to budget, and whether you need to run multimedia and other Windows-based software.

Your PC can be expanded to run most DOS-based software including WordPerfect 5.1, Lotus 1-2-3, and dBase. You can use the computer as a word processor or to balance your checkbook and manage your personal finances. However, if you need to run the latest and greatest Windows-based software, trading your PC for a fast 486 computer makes the most sense. To run Windows-based software well purchase a 66MHz computer with a 80486 microprocessor, at least 4MB of RAM (8MB recommended) and the biggest hard drive you can afford (340MB or larger).

IBM PC and PC-XT

Microprocessor: 8088
Conventional Memory: 64KB or 256KB (expandable to 736KB)
Extended Memory: Not available
Expanded Memory: Expandable to 64MB (EMS board required)
Floppy Drive: 360KB DSDD (low density)
Hard Drive: 10 or 20MB (XT only)
Display: CGA or MDA (monochrome)
Expansion slots: 8-bit ISA (XT class)

Do I own an XT or AT Class Computer?

XT class computers have 8 bit ISA expansion slots. These slots can be identified because they use a slotted connector that has two rows of contacts (62 contacts total).

AT class computers have 16-bit ISA expansion slots. These slots are two separate connectors that are adjacent to each other The first connector has 62 contacts and the second has 36 contacts. AT class computers can also use XT expansion cards.

Tandy 1000, SX, SL, RL

Microprocessor: 8086/8088
Conventional Memory: 128KB, 384KB, or 640KB (expandable to 640KB)
Extended Memory: Not available
Expanded Memory: Expandable to 64MB (EMS board required)
Floppy Drive: 360KB DSDD (low density) except RL
720KB DSDD (low density) RL only
Hard Drive: Optional
Display: CGA and TGA
Expansion Bus: 8-bit ISA (XT class)

IBM PS/2 Model 25 and 30

Microprocessor: 8086
Conventional Memory: 512KB (expandable to 640KB)
Extended Memory: Not available
Expanded Memory: Expandable to 64MB (EMS board required)
Floppy Drives: 720KB DSDD
Hard Drive: Optional
Display: MCGA or VGA
Expansion Slots: 8-bit ISA (XT class)

Tandy TX, TL, RLX

Microprocessor: 80286
Conventional Memory: 512KB or 640KB expandable to 640KB
Extended memory: 384KB RLX only (512KB upgrade required)
Expanded Memory: Expandable to 64MB (EMS board required)
Floppy Drive: 720KB DSDD (low density) except RLX
1.44MB (high density) RLX only
Hard Drive: Optional
Display: CGA and TGA (except RLX)
VGA (RLX only)
Expansion Bus: 8-bit ISA (XT class)

IBM PC-AT

Microprocessor: 80286
Conventional Memory: 512KB (expandable to 640KB)
Extended Memory: Expandable to 16MB (board required)
Expanded Memory: Expandable to 64MB (EMS board required)
Floppy Drives: 1.2MB high density 5 1/4
Hard Drive: 20 or 30 MB
Display: CGA or EGA
Expansion slots: 16-bit ISA (AT class)

Special $14.95

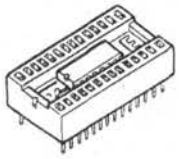
V-20 Microprocessor

Low Cost Speed Improvement

If you want to speed up your computer replace your Tandy 1000 EX's 8088 microprocessor with a V20 microprocessor! The V20 primarily speeds up number crunching and provides improvements in execution speed up to 40%. For Tandy 1000, 1000A, EX, HX, SX.

#19001-2 Reg. Catalog Price $16.95

Automatically Enters the Date and Time **$39**



jrROM-Clock

An easy-to-install module that enters the correct date and time automatically each time your computer is started. Simply unplug your computer's 28-pin ROM BIOS, and install the jrROM-Clock in its place. Your existing ROM BIOS device then plugs into the top of the jrROM-Clock. Ten year manufacturer guarantee. For Tandy 1000, 1000A, EX, HX, TX, SL, SL/2.

#14801

Complete Printer Packages Offer Additional Savings!!!

Complete printer packages offer hassle-free installation because they include everything you need to start using your printer the day it arrives! Packages include the printer of your choice, Tandy 1000 EX/HX printer cable, two printer ribbons, and over 100 sheets of continuous form tractor feed computer paper!

Printer Ribbons

#78606	Star NX-1001NL Ribbon	$ 5.95
#78623	Star NX-1040 Rainbow	$19.95
#78613	Star NX-2420 Ribbon	$ 5.95
#78625	Star NX-2480 Rainbow	$19.95

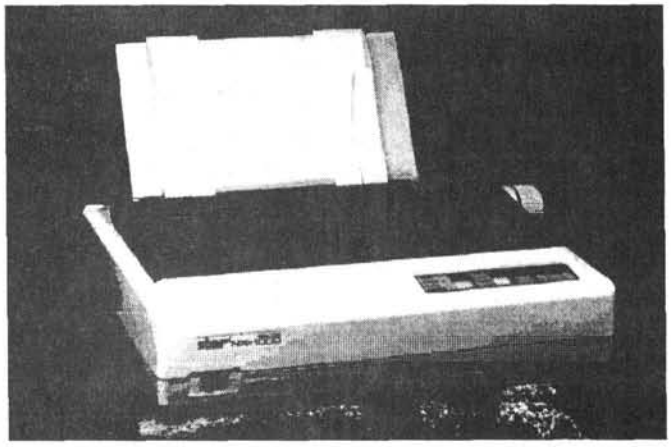
Tandy Printer Cables

This is the edge card style printer cable needed to connect a printer to most Tandy computers. For Tandy 1000, 1000A, EX, HX, SX, TX, TL, SL/2, TL/2.

#22529 $12.95

Parallel Interface Printers*

These dot-matrix printers are the most popular printers that we sell. Select a printer that only prints in one color for greatest economy, or purchase a color printer to print in 7 beautiful colors. All use replaceable ribbons permitting you to print on regular paper and a tractor feed mechanism that allows you to use continuous form computer paper. Select any of these impact dot-matrix printers for good speed and Near-Letter-Quality printing. Impact dot-matrix printers print text as well as graphics. Both 9 and 24-pin print head printers are offered. For Tandy 1000, 1000A, EX, HX, SX, TX, TL, SL, SL/2, TL/2.



*9-pin STAR printer shown in photo. Other Star printers (below) look similar. Choose any of four basic styles. Additional shipping $5.

9-Pin Dot-Matrix Printers

9-Pin print heads offer standard dot-matrix print quality and speed.

$169

Star NX1001NL Printer

Prints 150 cps in draft mode, and 38 cps in near-letter-quality mode. Push button control panel, tractor-feed, Epson and IBM compatible. Parallel interface.

#78610

Special $195

Complete NX1001NL Package

#10069 Reg. Catalog Price $233.85

24-Pin Dot-Matrix Printers

24-Pin print heads offer superior print quality and speed.

$239

Star NX2430 Printer

Prints 222 cps in draft mode and 67 cps in near-letter quality modes. Push button control panel, tractor-feed, Epson and IBM compatible. Parallel interface.

#78617

Special $245

Complete NX2430 Package

#10091 Reg. Catalog Price $363.85

$199

Star NX1040 Rainbow Color Printer

Similar to the NX1001NL (above) except prints in color!

#78622

Special $215

Complete NX1040 Rainbow Color Package

#10079 Reg. Catalog Price $297.85

$309

Star NX2480 Rainbow Color Printer

Similar to the NX2430 (above) except prints in color!

#78624

Special $325

Complete NX2480 Rainbow Color Package

#10092 Reg. Catalog Price $477.85

Penthouse High Density Expansion Systems let you Add a 1.44MB Drive to your Tandy EX or HX Computer!!!

More and more of today's software manufacturers have started to package their software with high density 3 ½ inch floppy diskettes. This is a problem if you own a computer that does not have a high density 3 ½ inch drive. While the Tandy EX and HX are powerful IBM compatible computers, you can't run software if the diskettes you buy do not work in your machine!

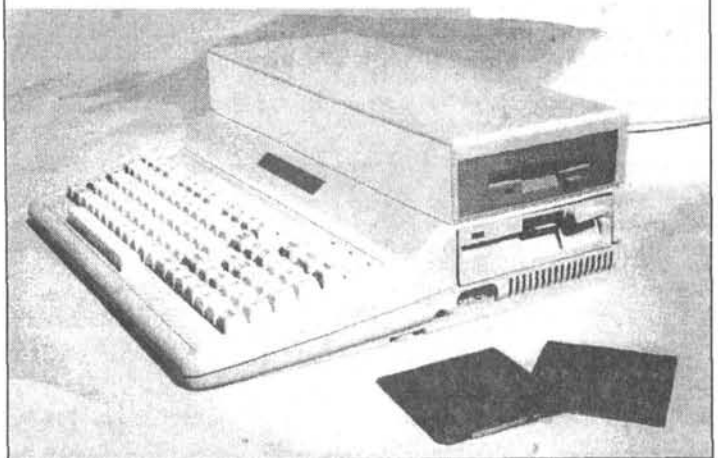
Some manufacturers include mail-in coupons to obtain other types of diskettes, however to take advantage of this offer you must wait weeks, sometimes months, for the diskettes to arrive and often pay a fee.

The easiest way to solve this problem is to install a 3 ½ inch 1.44MB diskette drive in your Tandy. While Tandy never marketed a high density 3 ½ inch drive expansion system for EX and HX computers, the PC Enterprises' Penthouse Expansion System allows you to use 3 ½ inch high density diskettes as easily as the diskettes you currently use!

The Penthouse 1.44MB Expansion System includes everything you need to connect a 3 ½ inch 1.44MB floppy disk drive to your Tandy 1000 EX or HX computer. Each system installs in minutes without any special tools or skills and includes the Penthouse Expansion Chassis, 1.44MB floppy disk drive, high density floppy drive controller, cables, and instructions.

Order #13215 Price: $239

All you need to run software that comes on 3 ½ inch diskettes is an add-on system that attaches to the top of your Tandy. The Penthouse 1.44MB Expansion system lets you use the same floppy diskettes as today's newest computers!



Penthouse 1.44MB Systems install on EX and HX computers.

Tandy 1000 EX and HX computers are powerful IBM compatible computers that can be expanded to run most of today's software.

High density drives can be added to these computers, however to do so you also need an enclosure and a special controller that does not interfere with the controller that is built-into the computer.

Features

- Allows you to use 3 ½ inch 720KB and 1.44MB diskettes
- Uses a High Density Disk Drive Controller specifically designed to co-exist with the Tandy's built-in floppy controller and therefore does not interfere with floppy or hard drives already installed
- Does not use any desk space. The Penthouse securely attaches on top of your Tandy EX or HX computer, and looks look like it came from the factory as one piece
- Provides space for 2 additional PLUS-style cards
- " High-Rise" booster blocks allow you to continue using your existing Tandy monitor stand
- Our Compatibility Guarantee
- Our Satisfaction Guarantee
- Full Year Warranty with PC Enterprises
- PC Enterprises Quality, Service, Compatibility, and Commitment to continue supporting Tandy computers

The Penthouse Expansion System lets you use 720KB and 1.44MB 3½ inch Floppy Diskettes

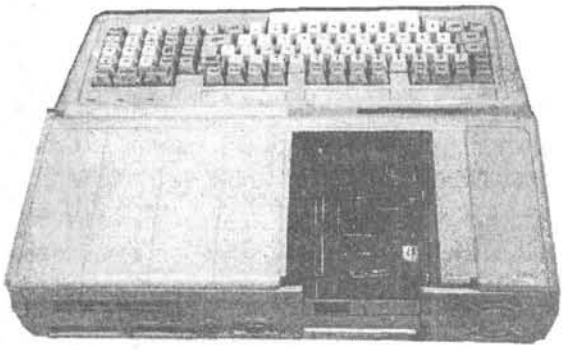
The PC Enterprises 1.44MB Penthouse Expansion System attaches to the top of your Tandy EX or HX computer and allows you to read and write 720KB and 1.44MB diskettes. You will be able to load IBM software that comes on 3½ inch diskettes without aggravating setbacks caused by the disk not fitting inside your computer. The Penthouse Expansion System also provides additional height for two more PLUS-style expansion cards such as the PC Enterprises Modem-Master and VideoPro 1000 PlusCards!

2400 Baud Internal Modem for your Tandy EX or HX Computer!!!

The PC Enterprises Modem-Master 1000 PlusCard is a 2400 baud internal modem designed specifically to work with Tandy EX and HX computers. It is fully compatible with Hayes, CCITT, and Bell standards.

The Modem-Master 1000 PlusCard includes numerous features often found only on modems costing more than twice the price. Features such as MNP 2 through 5 data compression that effectively doubles transmission speed and automatic error correction to insure your data is accurately received.

The Modem-Master 1000 PlusCard has an internal speaker, two RJ11 jacks so you can connect the modem to the telephone line and to your telephone, and non-volatile memory that allows you to change operating characteristics of the modem without taking apart the computer to change switch settings.



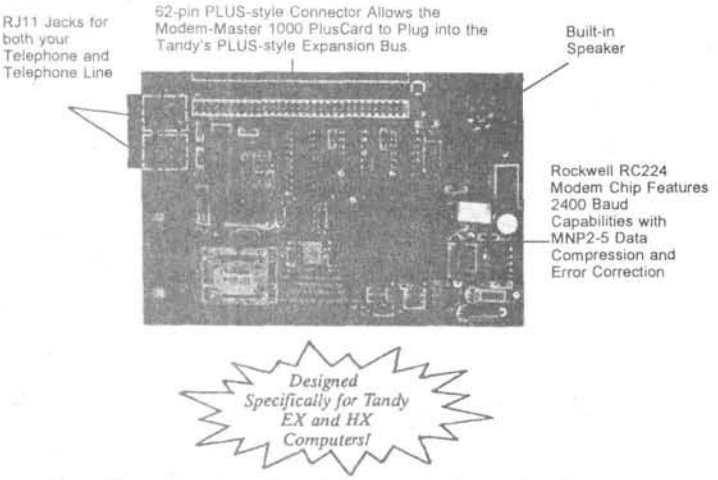
Tandy 1000 EX and HX computers are powerful IBM compatible computers that can be expanded to run most of today's software. Expanding these computers is a simple and inexpensive process, however, EX and HX computers use a non-standard PLUS-style expansion bus and therefore require PLUS-style expansion products.

PC Enterprises PlusCards™ are PLUS-style expansion products designed specifically for Tandy 1000 EX and HX computers. PLUS-style expansion products plug into existing EX or HX PLUS-style connectors and are the only expansion products you can add without limiting future expansion.

The Modem-Master 1000 PlusCard plugs into any existing Tandy 1000 EX or HX's PLUS-style expansion connector without any adapters and without limiting future expansion options. Once installed your Tandy will have industry compatible 2400 baud communication capabilities. You will be able to access CompuServe, Prodigy, Delphi, and the world-wide network of computer information services using your own telephone line and without ever leaving your own home.

Special Offer! For a limited time the Modem-Master 1000 PlusCard will come packaged with a no-risk, 30-day trial membership with the PRODIGY Information Service, an introductory membership to CompuServe that includes a $15 usage credit, and PC-TALK III communication software!

Modem-Master 1000 PlusCard ™



Consider price. Consider features. And consider the advantage of adding a 2400 baud modem that fits inside your computer. When it comes to selecting a modem for your Tandy computer, the Modem-Master 1000 PlusCard is the undisputed best choice! Order a Modem-Master 1000 PlusCard today!

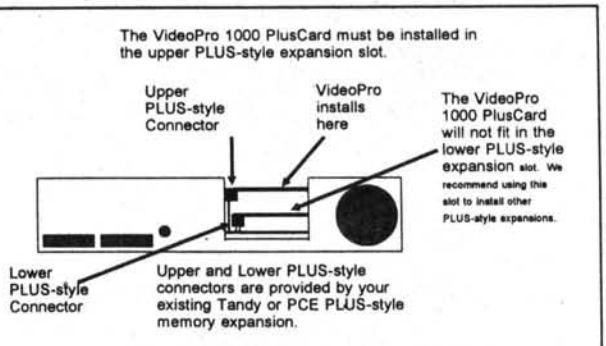
Order #15201 Price: $89

Features

- Designed specifically for Tandy EX and HX computers
- Installs in minutes without any special tools
- Plugs into the computer's PLUS-style expansion slot
- Provides a new PLUS-style connector for any external hard drive or other add-on system you already own
- 2400, 1200, and 300 bps modem capabilities
- Two RJ11 jacks (line and telephone)
- Built-in speaker
- Supports the Enhanced Hayes AT command set
- CCITT V.22 bis (2400 bps) and V.22 (1200 bps)
- Bell 212A (1200 bps) and 103 (300 bps)
- V.42/MNP2-4 and V.42 bis/MNP 5 support without additional hardware
- NV RAM interface allows storage of two user configurations and four 36-digit dial strings
- Our Compatibility Guarantee
- Our Satisfaction Guarantee
- Full Year Warranty with PC Enterprises
- PC Enterprises Quality, Service, Compatibility and Commitment to Continue Supporting Tandy computers

VideoPro 1000 PlusCard INSTALLATION

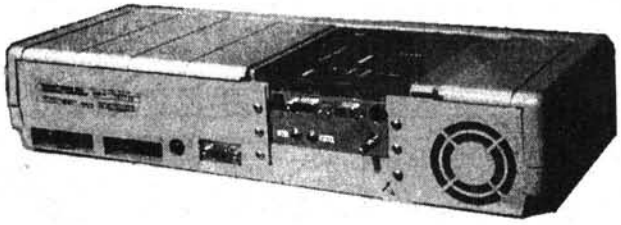
The VideoPro 1000 PlusCard can easily be installed in your own home, without special tools or skills. Simply plug the VideoPro 1000 PlusCard into the *upper* PLUS-style connector.



View from Rear of Tandy EX or HX

VideoPro 1000 PlusCard CONTROL PANELS

The VideoPro 1000 PlusCard uses two control panels that can be accessed without disassembling the computer.

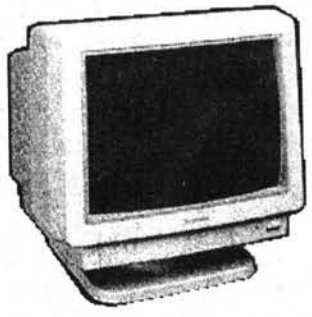


The primary control panel is mounted directly to the VideoPro 1000 PlusCard and contains a 9-pin connector that allows you to use your Tandy CM-5, CM-11, or any other digital monitor, a 15-pin connector so you can connect a VGA monitor, a VideoPro mouse connector, and a connector that allows you to continue displaying Tandy graphics.

The second control panel is provided with the VideoPro sound kit. This panel includes the volume control, speaker and headphone jack, and CD-ROM input jack. The VideoPro sound panel can be mounted in any unused PLUS-card expansion slot, or in the same slot as your existing memory expansion board.

Complete Super VGA Package*
Includes the VideoPro 1000 PlusCard and a 1024 x 768 .39 VGA monitor.

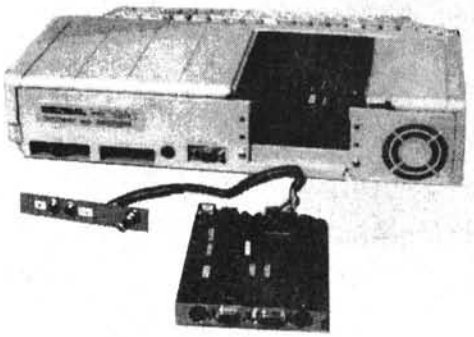
Order #10090
Price: $388
*Additional shipping $5



VideoPro Sound and Mouse kits available separately.

Improve the Way Software Looks and Sounds when run on Tandy EX and HX computers!

Tandy 1000 EX and HX computers are powerful IBM compatible computers that can be expanded to run most of today's software. Expanding these computers is a simple and inexpensive process, however EX and HX computers use a non-standard PLUS-style expansion bus and therefore require PLUS-style expansion products.



PC Enterprises PlusCards™ are PLUS-style expansion products designed specifically for Tandy 1000 EX and HX computers. PLUS-style expansion products plug into existing EX or HX PLUS-style connectors and are the only expansion products you can add without limiting future expansion.

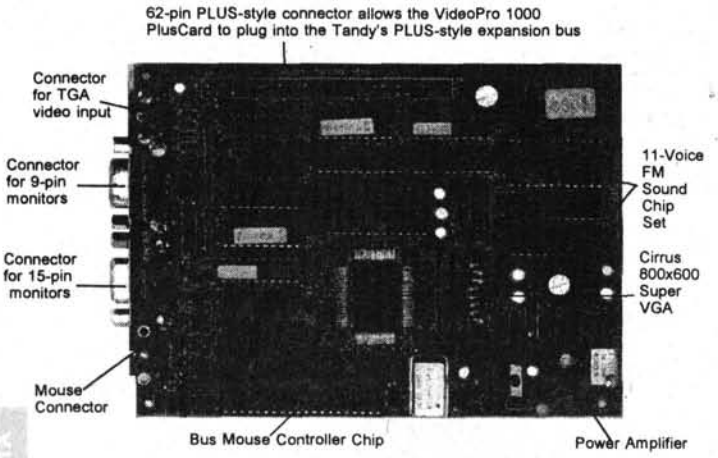
The VideoPro 1000 PlusCard allows your Tandy to display software in CGA and TGA modes, as well as EGA, VGA and Super VGA. Once installed, software will automatically run in the best mode your monitor can display. If you use a Tandy CM-5, CM-11, or any other RGB monitor, your Tandy will display most of the software that you run in EGA mode! VGA and Super VGA capabilities are also provided, however to use these modes you must purchase a VGA compatible monitor.

The VideoPro Sound Kit includes the Yamaha FM Sound chip set, and the VideoPro sound control panel. The sound control panel can be mounted in any unused PLUS-style card expansion position, or in the same slot as your existing memory expansion board. The panel contains the volume control, speaker/headphone jack, and CD-ROM audio input jack.

The VideoPro Mouse Kit includes a two button Microsoft compatible mouse that plugs into a special connector found on all VideoPro 1000 PlusCards. The mouse provides 360 DPI hardware resolution, 1440 DPI software resolution, and tracking speed of 500mm per second for precise sensitivity. The kit also includes a proprietary bus mouse controller chip that plugs into an empty socket found on all VideoPro 1000 PlusCards.

EGA and VGA Graphics, SoundBlaster Sound, and a Mouse for your Tandy EX or HX !!!

VideoPro 1000 PlusCard ™



Designed Specifically for Tandy EX and HX Computers!

"It's no exaggeration to say we sat in awe watching 256-color demos and listening to FM-synthesized sound effects—coming from a Tandy 1000EX. We also felt a little jealous. I, for one, covet such an all-in one gamer's dream board for my 386SX at home."

...PCM Magazine (August 1992)

Features

- **Designed specifically for Tandy EX and HX computers**
- **Installs in minutes without any special tools**
- **Plugs into the computer's PLUS-style expansion connector**
- **Provides a new PLUS-style connector for any external hard drive or other add-on system you already own**
- **Provides EGA, VGA, and 800 x 600 VESA Super VGA compatibility**
- **Built-in amplifier eliminates the need for amplified speakers to hear Adlib & SoundBlaster FM sound**
- **Optional Sound Kit is Adlib & SoundBlaster compatible**
- **Optional Mouse Kit is Microsoft Bus Mouse compatible**
- **Our Compatibility Guarantee**
- **Our Satisfaction Guarantee**
- **Full Year Warranty**
- **PC Enterprises Quality, Service, Compatibility, and Commitment to Continue Supporting Tandy Computers**

EGA graphics without buying a new monitor, Super VGA if you do!

Tandy 1000 EX and HX computers come standard with the ability to display software in both IBM CGA and Tandy TGA modes. You can tell when software is running in CGA mode because CGA never displays more than 4-color graphics. Programs that support TGA produce significantly better graphics because TGA allows 16 colors to be simultaneously displayed, without compromising resolution.

If all software supported TGA you would never need to upgrade your computer's graphics, however most IBM software does not support TGA. As a result, many programs that you run on your Tandy only run in CGA mode. Even though your computer and monitor are both capable of displaying much better graphics, IBM programs can not take advantage of the Tandy's graphics adapter.

The solution is to install a VideoPro 1000 PlusCard. Once installed your Tandy will be able to display software designed to run in IBM's Enhanced Graphics mode (EGA). IBM's EGA mode offers even better graphics than Tandy's TGA mode and is supported by virtually all IBM software. Best of all, the VideoPro 1000 lets your computer display all 200-line EGA software using your existing monitor!

Order #15207-2 Price: $149

The VideoPro Sound Kit adds Adlib & SoundBlaster capabilities!

Tandy 1000 computers are capable of producing 3-voice music and real-life sound effects, however your software must support the Tandy 3-voice sound chip if you are to hear this sound. Unfortunately, as with the Tandy graphics adapter, most IBM support does not support Tandy sound.

IBM game software almost always supports Adlib or SoundBlaster FM synthesized sound. When you install the sound option of the VideoPro 1000 PlusCard your Tandy will produce high fidelity 11-Voice FM sound each time you run Adlib or SoundBlaster compatible software. You'll hear the sounds of clarinets, trombones, trumpets, bass drums, and much more, all coming from your Tandy computer!

Order #11213 Price: $25

The VideoPro Mouse Kit adds a mouse that doesn't use a serial port!

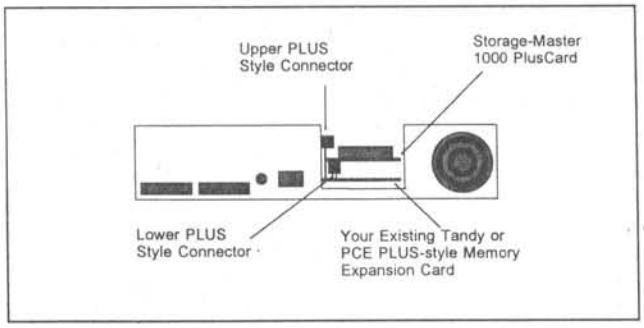
A Mouse is a hand held pointing device that makes software easier to run. You can install the VideoPro Mouse Kit at the time you purchase your VideoPro, or at a future date. Once installed, you'll have a Microsoft compatible bus mouse that does not interfere with serial ports or other options you have installed.

Order #10071 Price: $39

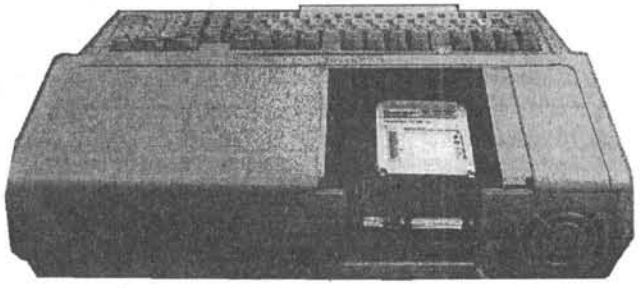
Storage-Master 1000 PlusCard™

The Storage-Master 1000 PlusCard is a Future Domain TMC850 compatible SCSI host adapter with three types of SCSI connectors—plus an RS232 serial port.

The SCSI host adapter can be used to connect hard drives and other SCSI devices such as CD-ROM, floptical, tape, and optical drives. The RS232 serial port has a 9 pin connector and can be used to connect an external modem, mouse, tracker ball, or a serial printer.



The Storage-Master 1000 PlusCard can be installed inside your Tandy 1000 EX or HX computer without any special tools or skills. Simply slide back the computer's removable lid to expose the expansion compartment, then plug the Storage-Master 1000 PlusCard into the *lower* PLUS style connector.



The lower PLUS-style connector is provided when you install any Tandy, PCE, or fully compatible memory expansion PLUS card. If your existing memory expansion product is not the genuine Tandy or PCE brand product, be sure to contact PCE for compatibility information before ordering.

Catalog #15208 Price: $145

Save on Complete Packages!

Storage-Master 1000 PlusCard and Quantum 40MB Hard Drive
Catalog #15205 Regular Price: $425 ***Sale Price: $325***

Storage-Master 1000 PlusCard and Quantum 60MB Hard Drive
Catalog #15211 Regular Price: $450 ***Sale Price: $350***

Quantum 2½ inch SCSI Hard Drives

These 17ms hard drives measure only 2½ inches wide and therefore are small enough to fit inside Tandy EX and HX computers. They are extremely fast, have an internal 8K read/write cache, auto parking heads, 1:1 interleave, hardware defect/error management, and low power consumption. Plugs into any 2mm SCSI connector, such as the connector provided with the Storage-Master 1000 PlusCard. Includes Ontrack's Disk Manager software that allows operation without upgrading your DOS.

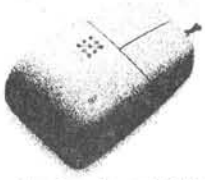
40MB SCSI Hard Drive Catalog #44026 Price: $295
60MB SCSI Hard Drive Catalog #44046 Price: $320

A SCSI hard drive does more to make your Tandy EX or HX faster and easier to use than any other product you can buy.

Tandy 1000 EX and HX computers are powerful IBM compatible computers that can be expanded to run most of today's software. Expanding these computers is a simple and inexpensive process, however EX and HX computers use a non-standard PLUS-style expansion bus and therefore require PLUS-style expansion products.

PC Enterprises PlusCards™ are PLUS-style expansion products designed specifically for Tandy 1000 EX and HX computers. PLUS-style expansion products plug into existing EX or HX PLUS-style connectors and are the only expansion products you can add without limiting future expansion.

If you own a Tandy EX or HX computer and would like to add a hard drive that installs inside the computer, the complete package that offers the Storage-Master 1000 PlusCard and Quantum SCSI hard drives together will suit your needs. Once installed, your Tandy will have adequate internal storage for hundreds of your favorite programs. In addition, the Storage-Master's built-in RS232 port allows you to connect a mouse, tracker ball, modem, or any other serial device.



Low-Cost Serial Mouse

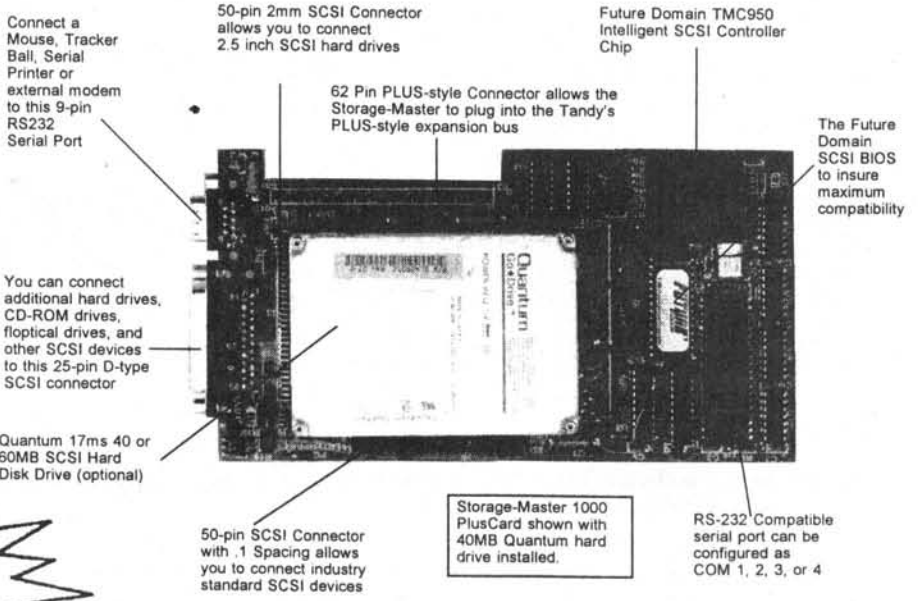
If you install a Storage-Master 1000 PlusCard in your Tandy, you can also use this low-cost serial mouse. The mouse plugs into the Storage-Master's RS232 port and is Microsoft compatible. This outstanding pointing device, is suitable for all mouse driven applications, and will help you get your work done faster and more efficiently.

#75525 Price: $14.95

Special Offer -- Save $100.00* when you buy a Storage-Master and 40 or 60MB Hard Drive for your Tandy EX/HX

Storage-Master 1000 PlusCard ™

The Storage-Master gives you the convenience of an internal hard drive with state-of-the-art performance, an RS232 connector for a serial mouse or modem, and a SCSI connector for a CD-ROM drive or other SCSI device. No other system can compare! Upgrade your Tandy with a Storage-Master today!



Designed Specifically for Tandy EX and HX Computers!

Product Highlights

Future Domain SCSI BIOS and SCSI Controller Chip

Future Domain is a leading manufacturer of SCSI host adapters. To insure maximum performance and compatibility, the Storage-Master 1000 PlusCard uses the Future Domain SCSI BIOS and TMC950 intelligent controller chip.

External SCSI Connector

Attach SCSI devices that use a 25 position female D-type connector. The SCSI devices you attach can be installed in the PC Enterprises Snap-on-Top SCSI Expansion System.

Internal SCSI Connector

Attach SCSI devices that use a 50 position (2x25) header-type connector that has .1 centers. This connector is used by virtually all 5¼ inch and 3½ inch internal SCSI devices.

Internal SCSI Connector with 2mm spacing

Attach SCSI devices that use a 50 position (2x25) connector that has 2mm spacing. This connector is commonly used by 2½ inch SCSI hard drives.

RS232 Serial Port

Allows you to connect any device with an RS232 interface. Connect a mouse, modem, printer, or other serial device that uses a 9-pin connector. Can be set up as COM1, COM2, COM3, or COM4.

Tandy users shopping for a hard drive often overlook systems that use the Small Computer System Interface (SCSI). They think they can't afford a SCSI system and settle for systems that use MFM, RLL, or IDE controllers. Bad decision!

SCSI hard drive prices have dropped to competitive levels, and the PC Enterprises Storage-Master 1000 PlusCard now makes it possible to use SCSI devices with a Tandy 1000 EX or HX for the first time. There is no longer a need to settle for a system that is second best.

The Storage-Master 1000 PlusCard allows you to add hard drives with state of the art performance, speed, and reliability—easily and inexpensively. Each time you turn your computer on you'll experience the SCSI advantage! Your software will load and execute so quickly you'll find it hard to believe you're using the same computer!

Best of all, the Storage-Master 1000 PlusCard keeps the door open for future expansion. As your needs change so can your computer. You'll be able to quickly and easily install up to seven SCSI devices—without using additional slots, and without requiring additional controller cards.

Consider the SCSI advantage. A fast hard drive improves the performance of your computer more than any other expansion. Isn't time too precious to make any other decision? Treat yourself to the best and your satisfaction is guaranteed!

*An extremely small number of hard drives are available. Sale ends when supplies are exhausted. Call first to determine availability.

Our Xtra-K 1000 PlusCard Provides more Memory than Competitive Products

IBM computers and all 100% compatibles normally have 640KB of memory (655,360 bytes) available to run software. Tandy 1000 EX and HX computers only come with 256KB of memory, although memory expansion products have been available from Tandy and other suppliers for a long time. While existing memory expansion products all increase system memory to 640KB, none provide more than 624KB of usable memory! The Xtra-K 1000 PlusCard is different. It is the only memory expansion product you can buy that will allow your Tandy to have as much memory as an IBM computer. This section explains how.

All Tandy 1000 EX and HX computers come standard with the Tandy Graphics Adapter. This adapter allows the computer to display software in IBM CGA modes, as well as Tandy TGA modes. Unlike IBM graphics adapters that never reduce the amount of memory available to run software, the Tandy adapter uses conventional memory for video purposes!

The Tandy Graphics Adapter always uses at least 16KB of the memory normally available to run programs. In fact, when you run TGA software on your Tandy, the graphics adapter can take up to 256KB of memory away from the memory available to run software.

Tandy EX and HX computers with 256KB of system memory only have 240KB available to load DOS and run software. Likewise, competitive products that increase system memory to 640KB provide only 624KB of usable program memory—falling 16KB short of giving the EX and HX as much memory as IBM computers!

Overcoming the 640KB Limitation of DOS

640KB has been considered the maximum amount of conventional memory a computer can have since the introduction of the IBM Personal Computer in the early 1980s. The technology to expand conventional memory to 736KB is not new, although it is new to Tandy users. The first memory expansion product that overcame the 640KB limitation was first developed by PC Enterprises for the IBM PCjr computer in 1987. The Xtra-K 1000 PlusCard is a new PC Enterprises product that allows Tandy users to take advantage of this proven technology!

When memory is increased to 736KB you can run larger DOS applications (especially useful when using Windows®, Wordperfect™ and applications that allow you to shell to DOS), additional device drivers, and more terminate and stay resident (TSR) programs.

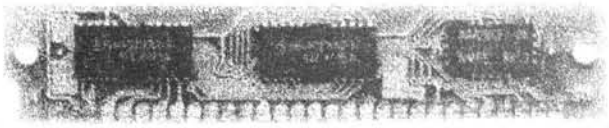
Expansion to 736KB utilizes address space reserved for VGA and Monochrome graphic adapters. This means Tandy users that upgrade to VGA can not increase conventional memory beyond 640KB, although VGA users do obtain a full 640KB of usable program memory and additional Ramdisk memory with our Xtra-K 1000 PlusCard installed.

Add up to 8 Megabytes of Expanded Memory

The Xtra-K 1000 PlusCard can accept up to 8 Megabytes of LIM EMS 4.0 expanded memory. To add expanded memory, use the Standard In-line Memory Modules (SIMMs) shown below. These modules snap into sockets on the Xtra-K 1000 PlusCard. Install one or two SIMMs. Each SIMM provides 1 or 4 Megabytes of expanded memory.

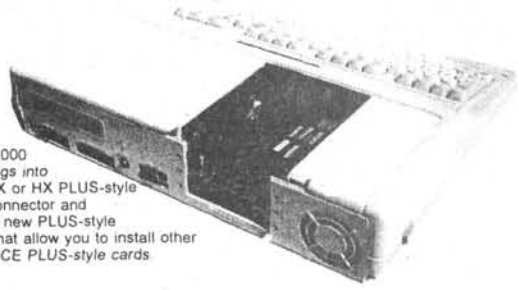
1MB SIMM
Order #59110 Price: $49

4MB SIMM
Order #59111 Price: $179



Prices are subject to change due to market conditions. Please call before ordering for current pricing.

Tandy 1000 EX and HX computers are powerful IBM compatible computers that can be expanded to run most of today's software. Expanding these computers is a simple and inexpensive process, however EX and HX computers use a non-standard PLUS-style expansion bus and therefore require PLUS-style expansion products.



The Xtra-K 1000 PlusCard plugs into the Tandy EX or HX PLUS-style expansion connector and provides two new PLUS-style connectors that allow you to install other Tandy and PCE PLUS-style cards

PC Enterprises PlusCards™ are PLUS-style expansion products designed specifically for Tandy 1000 EX and HX computers. PLUS-style expansion products plug into existing EX or HX PLUS-style connectors and are the only expansion products you can add without limiting future expansion. The Xtra-K 1000 PlusCard also provides two PLUS-style expansion connectors allowing you to install two more PLUS-style cards.

If you own a Tandy EX or HX computer and would like to run more IBM software, the Xtra-K 1000 PlusCard may be the only add-on product you'll ever need to purchase. Once installed, your Tandy will have enough conventional memory to run all IBM compatible software. In addition, you'll have 96KB more memory for programs than typical IBM and Tandy computers, 256KB of video memory, ramdisk memory, and the ability to add up to 8 megabytes of LIM EMS 4.0 expanded memory.

Run Software that Requires 640KB on your Tandy EX or HX Computer!!!

Most IBM compatible computers have 640KB of memory installed. Tandy 1000EX and HX computers only come with 256KB. While EX and HX computers can run virtually all DOS based IBM software, to do so you must first increase the computer's memory.

Additional memory is the only thing Tandy 1000 EX and HX computers need to run most IBM software.

The PC Enterprises Xtra-K 1000 PlusCard is the first memory expansion product ever offered that allows Tandy 1000EX and HX computers to have as much memory as IBM computers—in fact, even more! Until now, it was not possible for Tandy 1000EX and HX computers to have 640KB of memory available to run software. Add-on products sold by Tandy and other suppliers did expand system memory to 640KB, however all fell 16KB short of providing as much memory as IBM computers. Application software that required a full 640KB of memory would not run.

Increases Conventional Memory to 736KB!

Once installed, the Xtra-K 1000 PlusCard increases usable DOS memory up to 736KB. The DOS CHKDSK command reports 753,664 bytes of total memory—114,688 bytes (112KB) more memory than competitive memory expansion products!

Allocates 256KB of Video Memory!

The Xtra-K 1000 PlusCard allocates 256KB of memory for the Tandy Graphics Adapter. The Tandy's video system therefore has all the memory it needs, and never takes any memory away from the memory available to run software (see the reverse side of this sheet for details).

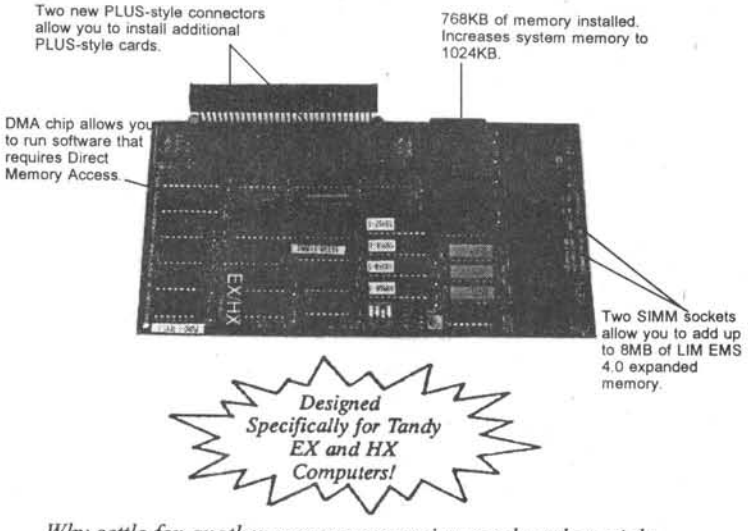
Provides up to 64KB of RAMDISK!

All Xtra-K 1000 PlusCards come with 768KB of memory installed. This memory adds to the 256KB already inside your computer and provides a total of 1024KB. All memory, up to 64KB, not used for conventional or video memory can be used as a ramdisk (a simulated additional disk drive).

Sockets for 8 Megabytes of Expanded Memory!

The Xtra-K 1000 PlusCard comes with two SIMM sockets that allow you to add up to 8MB of LIM EMS 4.0 expanded memory. Simply purchase and install Standard In-line Memory Modules (see reverse side).

Xtra-K 1000 PlusCard ™



Designed Specifically for Tandy EX and HX Computers!

Why settle for another memory expansion product that might fall short of providing enough memory to run an important application? When it comes to selecting a product that allows your Tandy to run more IBM software, the Xtra-K 1000 PlusCard is the undisputed best choice! Order an Xtra-K 1000 PlusCard today!

Order #15203-1 Price: $149

Features

- **Designed specifically for Tandy EX and HX computers**
- **Installs in minutes without any tools**
- **Plugs into the computer's PLUS-style expansion slot**
- **Provides 768KB of Zero Wait State Dynamic RAM increasing system memory to 1024KB (one megabyte)**
- **Provides two new PLUS-style connectors for future use**
- **Increases conventional memory from 256KB to either 640KB or 736KB**
- **Allocates 256KB as video memory which prevents the Tandy Graphics Adapter from using conventional memory**
- **Allows you to use all left over memory as a *ramdisk***
- **Provides two SIMM sockets which allow adding up to 8 Megabytes of LIM EMS 4.0 expanded memory**
- **Adds Direct Memory Access (DMA)**
- **Our Compatibility Guarantee**
- **Our Satisfaction Guarantee**
- **Full Year Warranty with PC Enterprises**
- **PC Enterprises Quality, Service, Compatibility and Commitment to continue supporting Tandy computers**

Upgrade Products for Tandy 1000 EX & HX Computers

Tandy 1000 EX Computer

Tandy 1000 HX Computer

Tandy 1000 EX Standard Features

Microprocessor: 8088
Conventional Memory: 256KB
Expanded Memory: Expandable to 8MB (EMS board required)
Extended Memory: Not available
Floppy Drive: One 360KB DSDD (low density)
Hard Drive: Optional
Display: CGA and TGA graphics
Expansion Bus: PLUS Style cards are required

Tandy 1000 HX Standard Features

Microprocessor: 8088
Conventional Memory: 256KB
Expanded Memory: Expandable to 8MB (EMS board required)
Extended Memory: Not available
Floppy Drive: One 720KB DSDD (low density)
Hard Drive: Optional
Display: CGA and TGA graphics
Expansion Bus: PLUS Style cards are required

Popular Options

Conventional Memory Expansions (up to 736KB)
Expanded Memory (up to 8MB)
Hard Disk Drives
EGA and SVGA Video Cards with Sound & Bus-Mouse Kits

The Tandy 1000 EX and HX are excellent computers to upgrade if you want to run DOS-based software. The computer's major weakness are (1) the 8088 microprocessor is not as fast as those offered with newer computers, (2) the computer only came with 256KB of conventional memory (RAM), and (3) the computer did not come with a hard drive. In most cases the only thing you need to do to run DOS-based software is expand the computer's memory to 640KB.

Whether you are better off to upgrade your Tandy 1000 EX or HX or to purchase a new computer comes down to your budget, and whether you need to run Multimedia or other Windows-based software.

Once expanded, the Tandy 1000 EX and HX can run most DOS-based software including Quicken v7.0, WordPerfect 5.1+, Lotus 1-2-3, and dBase. You can use your Tandy 1000 EX or HX as a word processor or to balance your checkbook and manage your personal finances. However, if you need to run the latest Windows-based software, trading your Tandy 1000 EX or HX for a fast 486 computer makes the most sense. To run Windows and Multimedia software we recommend a 66MHz computer with a 80486 microprocessor, at least 4MB of RAM (8MB recommended) and the biggest hard drive you can afford (340MB or larger).

- **Memory Expansions $149**
- **SCSI Hard Drive Systems from $325**
- **EGA and SVGA Video Cards with SoundBlaster FM Sound & Bus-Mouse**
- **Internal Modems from $89**

Flat Rate PCjr Repair as low as $99 Includes Parts and Labor!!!

That's right, for just $99 we'll fix everything that's wrong with almost any PCjr computer! Flat Rate Repair Service includes:

- Extensive Diagnostic Testing (EDT) for PCjr systems to determine exactly what your PCjr needs
- Repair or replacement of all original equipment IBM or PCE parts that fail EDT
- Repair or replacement of most third party PCjr add-on products*
- Clean your PCjr
- Overnight burn-in (if necessary)
- 90-Day warranty

We will repair your PCjr regardless of which add-on products you have installed. A partial list of third party add-on products that we routinely test and repair as part of the PCjr Flat Rate Repair Service appears in the Supported Add-on Products section below.

In rare cases we may be unable to repair your PCjr. If this happens we'll contact you to discuss alternatives, and you are only responsible for round trip shipping to our facility. Also, the Flat Rate PCjr Repair charge does not include servicing monitors or hard drives. If one of these products requires service, the cost is quoted separately. All parts replaced become the property of PCE and replacement parts used may be new or reconditioned.

Supported Add-on Products
We always test, and almost always repair, all PCjr add-on products made by AST, IBM, Impulse, Micro Products, Microsoft, Quadram, Rapport, Racore, and Tecmar. Products manufactured by other companies are supported on a case by case basis. Plug-in power transformers must be included with Tecmar jrCaptain products.

Attention School Systems!

PC Enterprises now offers the special pricing and next day service contracts for IBM PCjr computers and all PCjr add-on hardware. Loaner systems available. Similar plans offered for IBM PC, XT, AT, and PS/2 computers. Call for details.

Shipping your Computer to PCE is Safe, Easy, and Inexpensive!

Computers are shipped by United Parcel Service (UPS) and other carriers every day. While all carriers offer inexpensive insurance (typically about $3) to protect against loss or damage as long as the computer is properly packed, reports of loss or damage are extremely rare. The easiest way to ship your computer to PCE is to bring it to a company that provides a shipping/packaging service in your home town. Companies such as Mail Boxes Etc., Pac Mail, and others will properly package your computer using their packaging material for a modest fee.

Before disassembling your computer, it is a good idea to backup any important files on the hard drive and if you have an older computer to park your hard drive heads. Most hard drives have self-parking heads so this may only be necessary if you have a very old computer. Refer to your user's manual. Disconnect all power cords from the computer and send only the main CPU unit when requiring service. Include all manuals and diskettes provided with the computer, and any other options you have added.

$99

Basic Flat Rate Repair for PCjr Systems with one Floppy Diskette Drive

Includes the Enhanced Model PCjr system unit and most PCjr add-on products. Add $15 for return shipping.
#98529

$129

Basic Flat Rate Repair for PCjr Systems with two Drives

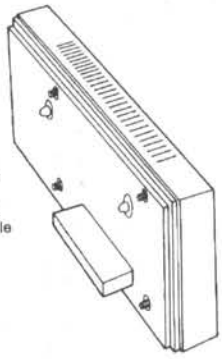
Includes PCjrs with two floppy disk drives or one floppy drive and one hard drive. Add $20 for return shipping.
#98530

To Qualify for Flat Rate Repair

- You must include a note describing the problem with adequate detail for us to reproduce the problem in our facility.
- The problem must be reasonably easy to reproduce. In situations where a problem is intermittent we will use a "best guess" method to fix the problem.
- The computer must be received completely assembled and in proper condition to demonstrate the problem.
- The computer must not have any "home" modifications made to the cabinet, system board, disk drive controller or other option that would restrict our ability to perform repairs.
- PCE reserves the right to withdraw the Flat Rate Repair offer in situations where multiple problems exist or where the problem can not be duplicated in our facility.
- The customer agrees to pay shipping charges to and from PCE. In warranty situations round trip shipping charges remain the customers responsibility.
- If for any reason there is a balance due PCE for a repair or return shipping, payment must be made within 60 days. After 60 days the system becomes the property of PCE.
- The customer must Include any diskettes necessary for us to demonstrate the problem.
- Flat Rate Repairs also offered for PC, XT, AT, 286, 386 & 486 Computers

PC Enterprises can repair and upgrade almost any IBM compatible computer. The Flat Rate Labor charge is $50 plus the price of any parts that you need. Customer supplied parts will also be installed as requested. The labor charge for installing customer provided parts is $50 per hour and proper documentation for the parts must be included!

PCjr Printer Attachments Only $89.95

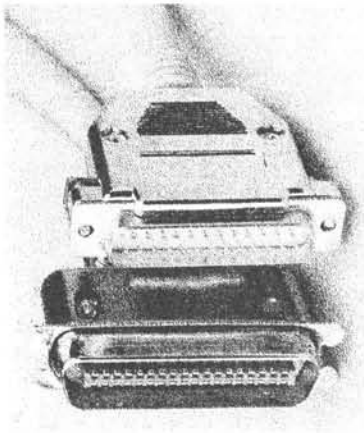


25-position D-type connector (not visible from this view) connects to the PCjr printer cable shown below.

Allows you to connect most printers that have an industry standard parallel interface to the PCjr. Installs on the side of the PCjr without special tools or skills.

Note: *The PCjr does not work correctly with certain Tandy and other printers that have a non-standard parallel interface. To be certain of compatibility, purchase one of the STAR printers featured on the opposite page of this catalog.*

#79006



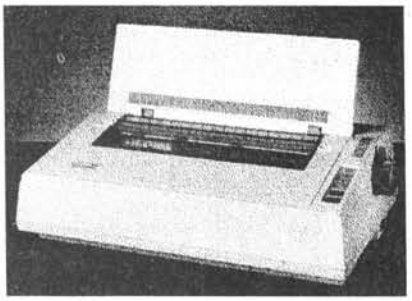
As Low As
$14.95

PCjr Parallel Printer Cables

These printer cables include all conductors necessary to connect a parallel printer to a PCjr Parallel Printer Attachment.

#22510-1 6 Foot Parallel Printer Cable $14.95
#22510-3 10 Foot Parallel Printer Cable $19.95

Serial Daisy Wheel Printer*



Clearance $195

Plugs into the PCjr's "S" Connector without Purchasing anything else!

NEC ELF 370 Spinwriter*

Daisy wheel printers are used when excellent print quality is desired. These printers strike the paper through a ribbon, similar to the method used by typewriters.

The NEC ELF 370 Spinwriter lets you print letters and other documents that your friends, clients, classmates, and business associates will think were personally typed using a typewriter. If you would like to portray the image that each document you create is given personal attention, this printer will meet your needs. Includes cable to plug into the PCjr's "S" connector. Adapter to work with other computers available separately.

#78601 Original Price $395
*All sales final. Additional Shipping $5

RS232 Adapter

Allows this printer to be used with any computer that has a D-type 25-pin serial port.
#15504 $19.95

Joysticks and Light Pens

Sale $14.95

IBM Brand PCjr Joystick

Our lowest cost PCjr joystick. Conventional style, two buttons, spring centering or free motion. Designed for general purpose applications. Full year PCE warranty.
#74506 Reg. Price $29.95

Clearance $29.95

Mach III Joystick

With PCjr Connectors!

Precision movement, superior quality, conventional style, three fire buttons, spring centering or free motion. Designed for general purpose applications. One year PCE warranty. Shown below on left.
#74509 Reg. Price $49.95

Clearance $39.95

CH Products Flightstick

With PCjr Connectors!

Superior operation with flight simulation software. Contour pistol grip looks and feels like a real flight stick. Audio and tactile feedback fire buttons add to reality of flight simulation. Precision movement and superior quality. Full year PCE warranty. Shown above on right.
#74508 Reg. Price $79.95

PCjr Light Pen Sale $119

Use your computer without taking your eyes off the screen! Software is provided that allows you to create graphic presentations, play Solitaire, Reversi, Backgammon, or World and US Geography. Works with programs designed to use a light pen. Plugs into the PCjr's "LP" connector.
#75101

Its easy to connect a Printer to Your PCjr!

Printers that use a "Parallel" interface are recommended for use on PCjr computers because they allow you to add a printer without using the computer's only serial port.

To connect a printer with a parallel interface all you'll need is a PCjr printer attachment and a PCjr parallel printer cable. Complete packages (described below) offer everything that you will need.

Printers that use a "Serial" interface plug into the "S" connector located on the rear of all PCjr systems. Serial printers purchased from PCE come with a PCjr Serial Printer Adapter and all other necessary cables.

Complete Printer Packages Offer Additional Savings!!!

Complete printer packages offer hassle-free installation because they include everything you need to start using your printer the day it arrives! Packages include the printer of your choice, a PCjr Parallel Printer Attachment, 6 foot PCjr printer cable, two printer ribbons, and over 100 sheets of continuous form tractor feed computer paper!

Printer Ribbons

#78607	NEC Elf Ribbon	$ 9.95
#78606	Star NX-1001NL Ribbon	$ 5.95
#78623	Star NX-1040 Rainbow	$19.95
#78613	Star NX-2420 Ribbon	$ 5.95
#78625	Star NX-2480 Rainbow	$19.95

$4.99 Per Roll

Thermal Paper

Works with the IBM Compact Printer. Supplies are limited so hurry. 80 foot roll.

#80030

Parallel Interface Printers*

These dot-matrix printers are the most popular PCjr printers that we sell. Select a printer that only prints in one color for greatest economy, or purchase a color printer to print in 7 beautiful colors. All use replaceable ribbons and permit you to print on regular paper as well as tractor feed computer paper. Select any of these dot-matrix printers for good speed and Near-Letter-Quality printing. Dot-matrix printers print text as well as graphics. Printers with 9 and 24-pin print heads are offered.

*9-pin STAR printer shown in photo. Other Star printers (below) look similar. Choose any of four basic styles. Additional shipping $5.

9-Pin Dot-Matrix Printers

Standard print quality and speed.

Sale $169

Standard 9-Pin Printer

Prints 150 cps in draft mode, and 38 cps in near-letter-quality mode. Push button control panel, tractor-feed, Epson and IBM compatible. Parallel interface. Star NX1001NL.

#78610

Sale $269

Complete NX1001NL Package

#10076

24-Pin Dot-Matrix Printers

Superior print quality and speed.

Sale $239

Superior 24-Pin Printer

Prints 222 cps in draft mode and 67 cps in near-letter quality modes. Push button control panel, tractor-feed, Epson and IBM compatible. Parallel interface. Star NX2430.

#78617

Sale $339

Complete NX2430 Package

#10073

Sale $199

Standard 9-Pin Color Printer

Similar to the NX1001NL (above) except prints in color! Star NX1040 Rainbow.

#78618

Sale $299

Complete NX1040 Rainbow Color Package

#10072

Sale $309

Superior 24-Pin Color Printer

Similar to the NX2430 (above) except prints in color! Star NX2430 Rainbow.

#78624

Sale $409

Complete NX2480 Rainbow Color Package

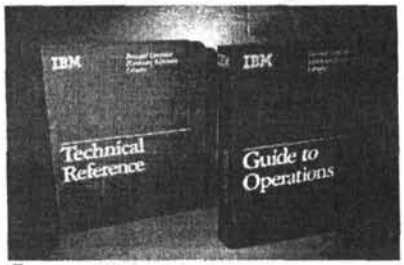
#10074

PCjr Books and Manuals

$49.95

PCjr Technical Reference Manual

Includes a complete description of the PCjr and all IBM brand internal Also includes wiring diagrams, connector pin-outs, specifications, schematics, and BIOS listings. Without a doubt the most important book you can add to your PCjr library! Limited quantities. #79015



$39.95

Guide to Operations Manual

This manual provides step-by-step instructions on how to setup and use the PCjr. Includes an on disk tutorial that provides hands on training. A must for first time PCjr users! #79033

IBM PC-DOS 2.10

This is the disk you need to load DOS and start your PCjr. Includes manual, DOS diskette, Supplemental Programs Diskette, and special PCjr Boot Diskette. Reconditioned. Limited quantities.

#78743 $29.95

IBM PCjr for Students

Designed to help students grades 7 through adult learn to use and program the PCjr. Divided into 26 individual lessons. Examples included.

#85004 $9.95

Compute!s IBM PC and PCjr Games for Kids

Your PCjr can educate and entertain children of all ages, from preschool to high school. Includes 29 games and two utility programs which are ready to be typed in and run. #85033 $9.95

Compute!s Mapping the IBM PC and PCjr

This book clearly shows how a PCjr is the same, and how it is different from the IBM PC. Provides in depth discussions of the keyboard, video, and sound capabilities.

#85035 $9.95

BASIC Exercises for the IBM PCjr

This book uses the learn by doing approach, a truly effective teaching method. It offers a practical and entertaining way to learn BASIC. Includes numerous short type-in programs and subroutines.

#85014 $9.95

Super Saver Package #3

Our two best PCjr books! Includes Mapping the IBM PC and PCjr and our most popular BASIC programming book that we have ever sold, BASIC Exercises for the IBM PCjr.

#10044 $14.95

Compute!s IBM PC & Compatibles BASIC Program Collection

A collection of 25 favorite games, useful applications, educational programs and helpful utilities of PCjr users which have appeared in various issues of Compute! magazine. All programs have been fully tested on a PCjr.

#85034 $9.95

IBM PC and PCjr Computer Workout

You'll have quite a workout solving over 40 crossword puzzles, word searches, mix and match games, and other fun games. Included are programming tips that will help you put your programs into great shape. Have fun while you test your computer's problem solving skills and develop your programming muscles! For ages 7 and up.

#85008 $2.95

PCjr Info-Pack

PCjr Info-Pack is a three disk set consisting of articles and other useful information published in issues of the popular "jrNewsletter" over the last three years.

Each disk contains information on PCjr hardware, software tips, DOS, upgrades, do-it-yourself projects, columns for beginners, plus PCjr questions and answers for all levels of computer users. Also included is a powerful user supported search utility so you can find any subject easily. 128KB required.

#85556 $19.95

User Supported Software

PCE Memory Management Software

When the PCjr is upgraded to include more than 128KB of memory the computer uses Memory Management Software to configure the added memory. JRCONFIG.SYS is the only program that allows your PCjr to recognize its memory without compromising compatibility. Includes printed manual.

#85502 $9.95

PCjr Sampler Diskette

This value-packed diskette allows you to sample the power of your PCjr. Turn your PCjr into a typewriter, create a shopping list, file recipes plus more!

#86021 $14.95

Exploring the IBM PCjr

A must have for new PCjr users! This diskette is *normally provided with the Guide to Operations Manual.* An on-disk tutorial provides hands-on training.

#86034 $14.95

PCjr Utility Disk #1

Includes the latest release of JRCONFIG, the configuration utility every PCjr owner should use. In addition, numerous PCjr application notes, and patches for DOS are included. TSOUND, FIXBEEP, RUNCART, INT0FIX, INT9FIX, INT10FIX, plus more.

#85505 $9.95

Anti-Virus Software

McAffee's famous virus scan software. Detects and removes hundreds of viruses including the "Your PC is Stoned" virus and the "Michelangelo" virus that formats your hard drive on March 23rd.

#85513 $4.95

PC-Write v2.71

PC-Write is a full featured word processing program that includes a spelling checker. Widely considered a competitor to such expensive programs as WordPerfect, Microsoft Word, and Xywrite III. Two disk set. 256KB required.

#87001 $9.95

PC-Write v3.02

Numerous enhancements to earlier versions. Three disk set.

#87002 $14.95

PC-Talk

If you use a modem, PC-Talk is worth purchasing because it works exceptionally well on the PCjr and is very easy to use. Only requires 128KB and a Hayes compatible modem.

#87003 $4.95

PC-Calc

This is a spreadsheet program that we suggest you try. Spreadsheets allow you to organize information in rows and columns, then manipulate the data as you like. Hard drive required. Three disk set.

#87004 $14.95

PCjr Internal Modem Software

A collection of programs that work with IBM's 300 baud internal modem.

#85503 $4.95

File Compression Software

PKZIP, PKUNZIP and more!

#85514 $4.95

PCjr Cartridge Software

$39.95

Compatibility Cartridge

If you have ever become frustrated because you couldn't get a PC compatible program to run on your PCjr this may be the most important PCjr cartridge you can buy. The Compatibility Cartridge corrects every bug that we know of in the PCjr's BIOS. In addition, it corrects bugs in DOS that show up on PCjrs due to hardware differences and even permits many applications that bypass the BIOS and DOS interface to work correctly on the PCjr.

The Compatibility Cartridge works hand in hand with the new JRCONFIG.SYS utility (included) and is simple to install and use. All you need to do is plug the cartridge in and JRCONFIG installs the compatibility routines automatically!

The Compatibility Cartridge is a product of many years of experience debugging programs that did not run on the PCjr. Now the PCjr can be 100% BIOS and DOS compatible with other IBM computers. Run DR DOS 6.0, IBM/MS DOS 5.0 or later, in addition to the unpatched version of every program PCE has ever patched to work correctly on a PCjr. Also corrects problems with hundreds of programs including Windows 3.0, Quicken, WordPerfect, PC Tools, and Prodigy.

#18032

Four BIOS Upgrade Cartridges All-in-One!

Combo Cartridge v3.0

All four BIOS upgrade cartridges (see left side of page) combined! Combo v3.0 provides Compatibility, Keyboard Buffer, jrVideo, and QuickSilver routines in the most useful PCjr cartridge ever sold!
#18034 $89.95

Also Available:

Combo Cartridge v1.0

The Keyboard Buffer and jrVideo Cartridge combined in a single cartridge!
#18012 $39.95

Combo Cartridge v2.0

Combines the three original cartridges: Keyboard Buffer, jrVideo and QuickSilver.
#18028 $49.95

Keyboard Buffer Cartridge

Allows you to use the PCjr keyboard while the diskette drive is operating. Also provides a 47 key press type ahead buffer.
#18001 $29.95

jrVideo Cartridge

Speeds up the PCjr's ability to write information on the screen. The jrVideo Cartridge also lets you run more PC programs because it provides better mode defaults and better register protection.
#18002 $29.95

Quicksilver Cartridge

QuickSilver replaces the PCjr's slow memory test with a test that's so fast you'll hardly notice any delay at all. With QuickSilver installed, your PCjr will power up almost instantly, and the annoying beep that sounds at the conclusion of the usual memory test will be eliminated. Also corrects a bug in the PCjr's INT 9 routine that causes keyboard problems when running certain software.
#18027

$29.95

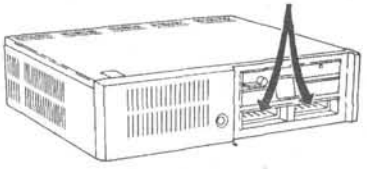
Configuration Plus Cartridge

Prevents programs that check the computer's identification byte from determining that they are running on a PCjr. This feature allows the PCjr to run BASIC without having Cartridge BASIC!

In addition, allows you to start your PCjr in 40 or 80 column mode, and DOS to recognize all your floppy disk drives without using software. PCjr users with two 360KB floppy drives will even be able to test their drives using the PCjr's built-in diagnostics.

Also includes key-lock indicator lights to indicate the status of your Scroll Lock or Insert, Caps Lock, and Num Lock keys.
#18026

Game Cartridges plug into Slots under the PCjr Disk Drive



Run Cartridge Software without Adding DOS, Memory or Anything Else!

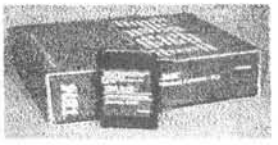
EDUCATIONAL GAMES

#18004	Spinnaker Kindercomp	$9.95
#18005	Spinnaker Fraction Fever	$9.95
#18003	Spinnaker Facemaker	$9.95
#10024	All 3 Spinnaker Cartridges	$19.95

OTHER POPULAR GAME CARTRIDGES

#18020	Scuba Venture	$14.95
#18022	Mine Shaft	$14.95
#18024	Mouser	$14.95
#18023	Crossfire by IBM	$14.95
#18010	Micro Surgeon by IMAGIC	$14.95
#18011	Demon Attack by IMAGIC	$14.95
#18029	IBM PCjr Color Paint	$39.95

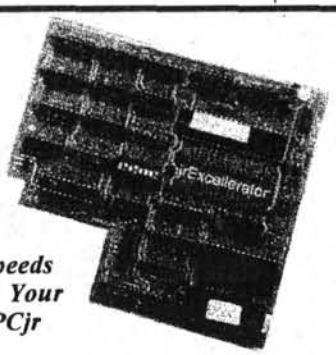
Cartridge BASIC



Designed specifically for the PCjr. Purchase if you want to run BASIC programs or write BASIC programs which utilize the PCjr's enhanced graphics or sound capabilities. Reconditioned. Includes manual.
#78722 $119

Hands on BASIC Manual

A hands on tutorial that teaches you how to use your PCjr to write and run BASIC programs. If you are looking for a way to tap the power of your PCjr, this illustrated and easy to follow book is the place to start! 431 pages. Opened. Requires Cartridge BASIC.
#85031 $19.95



Speeds Up Your PCjr

Sale $99

jrExcellerator Speedup Board

"We think the jrExcellerator is a "must have" for PCjr owners that are looking to keep pace with today's more powerful machines"
....Sierra On-Line

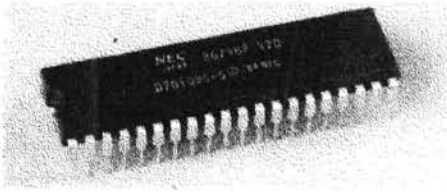
The jrExcellerator increases the PCjr's processing speed from 4.77MHz to 9.54MHz. It can be easily installed on any PCjr that has its microprocessor plugged into a socket. In most cases your software will run twice as fast. V20 microprocessor included. Requires that your existing PCjr microprocessor be installed in a socket. Full year PCE warranty.

#14802 Reg. Price $129

Sale $14.95

V20 Microprocessor

Low Cost Speed Improvement



If you want to speed up your PCjr but your budget doesn't allow you to purchase a jrExcellerator at this time, replace your PCjr's 8088 microprocessor with a V20 microprocessor! The V20 primarily speeds up number crunching and provides improvements in execution speed up to 40%. Requires that your existing microprocessor be installed in a socket.

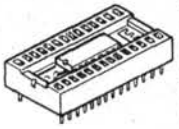
#19001-2 Reg. Price $16.95

Installation Note:
Products on this side of the page require on or more of the chips on your PCjr's system board to be installed in a socket. While virutally all PCjrs have the required chips already in a socket, a few do not. Contact our helpful staff for assistance.

$39

Automatically Enters the Date and Time

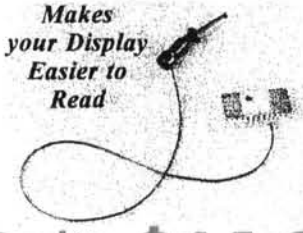
ROM-Clock



An easy-to-install module that enters the correct date and time automatically each time your computer is started. Simply unplug any 28-pin ROM device from your computer, and install the ROM-Clock in its place. The existing ROM device then plugs into the top of the ROM-Clock. Also works in the socket provided on PCE Game-Master sidecars. Ten year manufacturer guarantee.

#14801

Makes your Display Easier to Read



Sale $14.95

Thin-Font Module

PCjr users often complain that the display is difficult to read. Normal characters displayed by the PCjr often "fill-in" or "close-up", making them difficult to read.

The Thin-Font Module is a low-cost easy-to-install product that helps eliminate this problem. It replaces the PCjr's character generator IC with a new module that lets you choose between two different character sets.

Installation can be accomplished in just a few minutes. Simply unplug the existing character generator IC and replace it with the Thin-Font Module. Next, attach an E-Z clop to an easy to reach location.

#18009 Reg. Price $19.95

$7.95

Disk Drive Address Prom

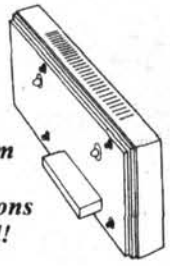
Solves a problem that prevents certain programs from using the PCjr's disk drive correctly. Often effects software with on-disk copy protection. Not compatible with Racore second drive systems that have the DMA option. PCE Five System Board Modifications required.

Solves Disk Drive Compatibility Problems

#59331-1

Sale $99

Game-Master Lite



No System Board Modifications Required!

SoundBlaster Compatible FM Sound and 16-color Tandy Graphics!!!

Game-Master Lite is a single PCjr sidecar that allows your PCjr to produce better sound and graphics. Better sound because you'll here Adlib and SoundBlaster compatible FM sound, and better graphics because 4-color CGA software will now run in 16-color Tandy Modes!

Whether you use Game-Master Lite with the speaker inside your PCjr's monitor, or with optional external speakers, your PCjr will rival arcade games for superior sound quality.

Game-Master Lite lets your PCjr display better graphics because it allows you to run Tandy software without making modifications to your Pcjr system board. You'll prefer running Tandy software because Tandy modes display EGA-like 16-colors. You'll be amazed at the superior quality of your PCjr's graphics.

Game-Master also allows you to add three optional features that include a battery backed up clock calendar, a bus mouse, and the ability to upgrade your PCjr's memory from 512KB or 640KB to 736KB – with ***fast*** sidecar memory.

Installs in minutes without special skills or tools. Full year PCE warranty. Purchase by itself or with any of the optional features listed below.

#14050-1 Reg. Price $139

Memory Upgrade Kits

These kits require that you already have a Game-Master Sidecar.

128KB Kit $49.95 #11205
Expand your 640KB PCjr to 736KB
256KB Kit $69.95 #11206
Expand from 512KB to 736KB

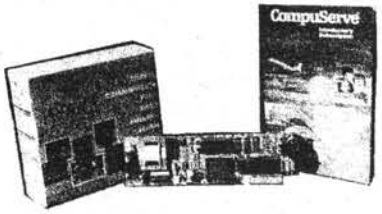
Game-Master Mouse Kit $45

Plugs into a Game-Master connector.

#10071

Note: For greatest compatibility with Tandy software also purchase the PCE Compatibility Cartridge. A special Compatibility Cartridge feature allows you to manually select Tandy video modes providing greater Tandy compatibility than ever before possible!

PCjr Modems



Sale
$99

2400 Baud Internal Modem

Plugs into the PCjr's internal modem slot. Bell 103/212a, CCITT V.21/V.22/ V.22bis, and Hayes command set compatible. Built in speaker, auto-dial and auto-answer capabilities.

Includes user supported communication software, 30-day Trial Membership with Prodigy, and a $15 CompuServe starter kit. 100% compatible with modems for other computers. Full year PCE warranty.

#15508 Reg. Catalog Price $199

$9.95

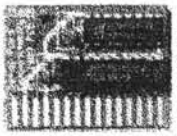
IBM 300 Baud Internal Modem

Plugs into the PCjr's internal modem slot. Bell 103 compatible. Includes user supported communication software and a $15 CompuServe starter kit.

If you have never used a modem but would like to do so, don't let this opportunity pass you by! For less than $10 you can have everything you need to access CompuServe and thousands of other data bases. Supplies are limited!

#79024 Reg. Catalog Price $29.95

Comswap Board



When you use an external modem with the PCjr, your PCjr should have a ComSwap Board installed in its internal modem slot. This insures the modem can be addressed correctly by all PC compatible communication software.

#15506 $9.95

Sale

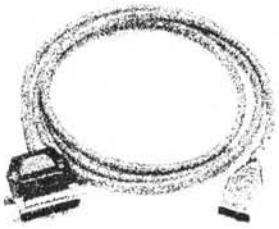
Includes Software, a ComSwap Board, and PCjr Serial Cable

External modems plug into the "S" connector on the rear of the PCjr system unit. Prodigy Starter package, $15 CompuServe usage credit, and user supported telecommunications software also included.

External Modems

#10120	1200 Baud External Modem	$79
#10121	2400 Baud External Modem	$99
#10122	2400 Baud External Modem V.42bis and MNP5 Error Correction	$129

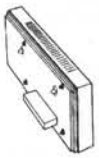
PCjr Serial Cable



This cable makes your PCjr serial port "look" just like the 25-position serial port used by other computers. Six foot length.

#22505-5 $34.95

PCjr Power Supplies

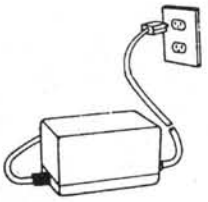


IBM Power Expansion Attachment

Supplies additional power for PCjr sidecars. Once installed, all sidecars plugged to the right side of the Power Expansion Attachment receive power from the Power Expansion. Products plugged to the left continue to receive power from the PCjr's internal power supply. Allows you to add up to ten sidecars.

#79009 $49.95

PCjr Power Transformer



The power transformer resembles a black brick which has a cord attached to both ends. When this goes bad you will not see or hear anything happen when the PCjr is first turned on. You can test the transformer by measuring the output voltage, or by swapping it with a know good transformer such as the transformer included with the IBM Power Expansion Attachment.

#78712 $44

Speech Attachments

PCjr Speech Attachment

This PCjr sidecar attaches in seconds and enables the PCjr to talk, laugh, and even sing. Includes MakeTalk! software.
#79013 $149

Writing to Read

An outstanding software package to use with the PCjr speech attachment. Shows children how to develop their language skills at an early age.
#86210 $199

What PCjr Users Need to Know About Modems

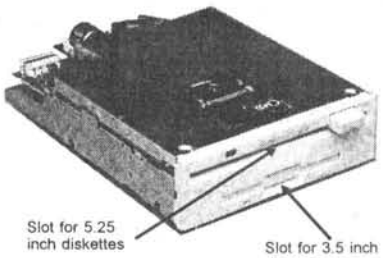
A modem is an add-on product that allows your computer to exchange information over telephone lines with other computers. PCjr users prefer internal modems because the PCjr only has one serial port. When you install an internal modem you can still connect a mouse to the PCjr's serial port. External modems plug into the PCjr's only "S" connector using a PCjr serial cable (above). When you install an external modem you will also need to install a Comswap Board into the PCjr's internal modem slot to maintain 100% IBM compatibility.

A myth is that external modems do not work reliably on the PCjr. The reason for this myth is that most PCjr power supplies only send -6V to the RS-232 connector. All IBM PC, XT, and 100% compatibles send -12V to this connector. The external modems sold by PCE do not need -12V to operate reliably. That's why you will have no trouble using any of the external modems on this page.

PCjr Floppy Disk Drives and Systems

New

Combo-Drives are Two Drives in One!



You can replace your PCjr's built-in floppy disk drive with a single drive unit that lets you use 3.5 inch 720KB diskettes in addition to the 5.25 inch 360KB diskettes you now use. The PCjr Combo-Drive installs in minutes, inside your PCjr without requiring additional power or anything else!

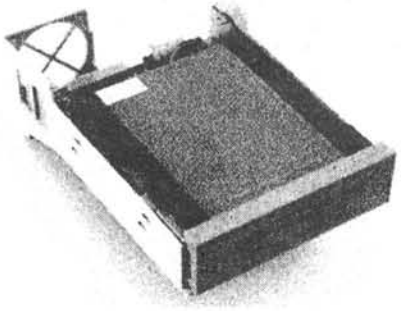
To install, simply replace your existing 360KB disk drive and controller card with the PCjr Combo Drive and Combo Drive controller provided with this kit.

The PCjr-Combo Drive will also allow you to use 1.2MB and 1.44MB (high density) diskettes at a future date. To use high density diskettes all you'll need is our high density diskette drive controller card. This product (currently under development) is expected to sell for $59.95. A coupon for 50% off the regular price of the PCjr High Density controller card is included with all PCjr Combo-Drives. #12806

Reg. $169 Introductory Special $149

The PCjr Combo Drive allows you to use 720KB 3.5 inch diskettes. To determine whether a diskette is 720KB (DSDD) or 1.44MB (High Density) check to see whether the diskette has one or two square holes on top. 720KB diskettes do not have a high density hole on the left side. You will be able to use High Density diskettes (1.44MB) with this system at a future date, however you'll first need to purchase the PCjr High Density controller card (available soon!).

Replace your 5.25 inch Drive With a 3.5 inch drive.



A 3.5 inch 720KB floppy disk drive is one of the most useful replacement products you can buy for your PCjr Computer!!!

This upgrade will allow your PCjr to run software that comes on shirt pocket sized 3.5 inch 720KB diskettes.

These drives are specifically selected to work in PCjr's that use the PCjr's original disk drive controller card. In addition, the drive will work with all other known PCjr controller cards except Racore's DMA controller (Those that use a Racore with DMA require a $25 modification #97513 to use this drive with their computer)

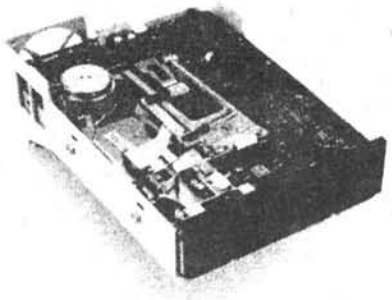
If your PCjr now has two floppy drives this is an excellent upgrade. Replace one of your 5.25 inch drives with a 3.5 inch drive today!.

- Installs in minutes using only a screwdriver
- Mounts inside your PCjr (replaces your existing drive)
- Comes with a PCjr disk drive mounting frame and all hardware needed.
- Works with all PCjr disk drive controllers (RACORE controllers with DMA require modification).
- Includes software that allows the PCjr to utilize 80 track drives

New #44003 $69

PCjr Users that have a Racore Drive II Enhancement system with DMA

To use a 3.5 inch floppy drive on a Racore system that also has DMA you must make a modification to your Racore disk drive controller card. To make this modification yourself, you must know how to solder. Modification instructions (#91508) are available.



360KB Disk Drive

Have you been getting disk drive error messages? Disk drives have moving parts and therefore tend to wear out much faster than other parts of the PCjr. If you have experienced problems reading, writing, or formatting diskettes, your disk drive probably should be replaced.

These replacement drives are selected to meet the PCjr's 6ms seek time specification, and come already set up for operation in the PCjr. Includes a PCjr mounting frame and all other hardware needed. Installs in minutes without special tools or skills. Also works in most PCjr add on drive expansion systems.

New #44002 $129
Reconditioned #78719 $98

Floppy Disks

5.25 inch Diskettes DSDD
Ten diskettes per pack. For all PCjr 5.25 inch 360K drives. Black.
#55004 $4.95

5.25 inch High Density Diskettes
Ten diskettes per pack. For all 5.25 inch 1.2MB drives. White.
#55008 $9.95

3.5 inch Diskettes DSDD
Ten diskettes per pack. For all 3.5 inch 720K drives.
#55009 $6.95

3.5 inch High Density Diskettes
Ten diskettes per pack. For all 3.5 inch 1.44MB drives.
#55025 $9.95

3.5 inch Floppy Diskettes
Perpendicular Recording Media. Double sided/135TPI. For all 3.5 inch 2.88MB drives.
#55020 $7.50 ea.

All-Media Diskette Case

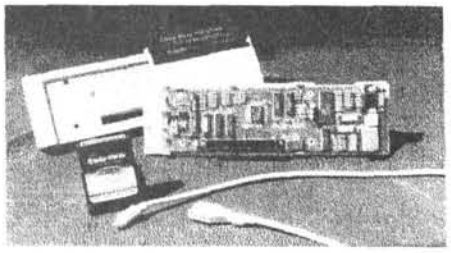
This case is perfect whether you only use one type of media or a mixture. By simply inserting dividers and partitions, you create a personalized media storage center. Reconfigure the case as your needs change. Ideal for 3.5", 5.25" and CD-ROMs.
#55028 $9.95

PCjr Video Options

EGA, VGA, and Super VGA Graphics with your PCjr

The PCjr came standard with a built-in Color Graphics Adapter and therefore runs software in CGA mode. While most software runs fine in CGA, this mode can never display more than 4-color graphics.

The best way to improve your graphics is to install a Display-Master Sidecar. With a Display-Master installed software funs in EGA modes. Graphics become much more exciting and your screen becomes easier to understand, because EGA modes display up to 16-colors simultaneously.



Display-Master also allows your PCjr to run software in VGA and Super VGA modes which offer even better color and detail, however to use these modes you must also purchase a VGA monitor. To display VGA and Super VGA graphics purchase a Display-Master along with a VGA monitor described on this page.

Sale $149

Display-Master VGA Sidecar

Run Software in EGA Mode without Buying a New Monitor!

Allows the PCjr to run software in CGA, EGA, VGA, and Super VGA modes. An exclusive Display-Master feature allows 200 line EGA modes to be displayed on your existing PCjr monitor! This feature allows Display-Master users to upgrade their graphics to EGA immediately, without buying a new monitor. Then, when budget permits, purchase a VGA or Super VGA monitor and upgrade the computer's graphics once again! System Board Modifications required. Call for details. Full year PCE warranty.

#14048 Reg. Price $199

External Amplifier and Speaker

The only sounds you can hear when you use a PCjr that does not have an external amplifier and speaker installed are those produced by the system board beeper. If your PCjr does not use the genuine IBM PCjr Color Display (shich has a built-in amplifier and speaker) this product will turn the annoying beeps you now here into pleasant 3-voice music.

#14804 $29

Sale $349

Display-Master and Super VGA Monitor*

The least expensive package that upgrades the PCjr to Super VGA! Includes our Display-Master VGA Sidecar and a 1024 x 768 VGA monitor. Screen size 14 inches. Dot Pitch .39. System board modifications required.

#10082 Reg. Price $548

*Additional Shipping $5

$29.95

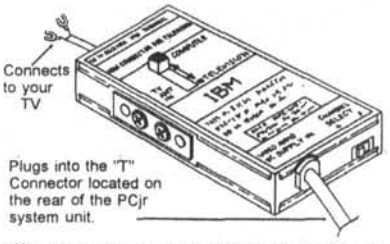
Adapter For Color Displays

Allows you to connect an industry standard digital monitor (9-pin D-type connector) to your PCjr.

#79019

$29.95

Connector For TV



Allows you to use your existing television as your PCjr's monitor.

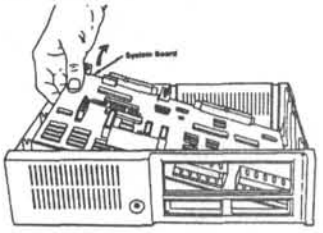
#79003

PCE Five System Board Modifications for Greater Compatibility

$49.95

Looking for an inexpensive way to improve the way your PCjr works? Send us your PCjr system board and ask us to perform the PCE Five System Board Modifications.

These modifications will allow your PCjr to run more software. In addition, they make your PCjr easier and less expensive to expand.



Five System Board Modifications

The (1) Tandy Modification lets you run 16-color Tandy software without buying anything extra, the (2) Tandy Sound Modification lets the PCjr produce 4-voice Tandy sound when Tandy software is run, the (3) PB2 modification corrects a compatibility problem that prevents certain IBM compatible programs from working on the PCjr, the (4) VGA Modification lets you add our Display-Master VGA sidecar now or at a future date, and (5) the Internal Memory Board modification allows you to add our Internal Memory Card so you can easily and inexpensively expand your memory from 640KB to 736KB!

After the modifications have been performed, you will be able to add our jrExcellerator Speed-up Board, jr-ROM Clock, and Thin-Font Module even if your system board currently has all its chips soldered to the board! Call for details.

System Board Upgrade Package

While your system board is here for modification, why not let us professionally install our add-on system board upgrade products that plug into the PCjr system board? When you get your PCjr system board back it will already have all our system board enhancement products installed.

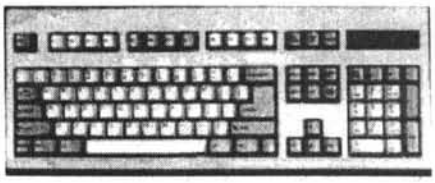
Purchase the System Board Upgrade Package and we'll install a jrExcellerator, Thin-Font Module, and jrROM-Clock without any installation charges. (Be sure to tell us the make of all memory expansions installed on your PCjr, so we can properly set up the jrExcellerator. We must also know if you have a Racore with DMA).

#10043 $157

To Place an Order Call Toll Free 1-800-922-7257

PCjr Input Devices

From $89.95



Deluxe 101-Key Enhanced Keyboard

101 keys including 12 function keys across the top, dedicated numeric keypad with large ENTER key, dedicated cursor movement keys, Num Lock, Caps Lock, and Scroll Lock keys with indicator lights. Keys for Print screen, Pause, Page Up, Page Down, Home, and End. 100% scan code compatibility allows you to run more software. Positive tactile feel, extra large shift and return keys. Full year PCE warranty. Keyboard cable included.

#71518 Reg Price $139.95 Sale $119.95

NEW!

Low-Cost 101-Key Enhanced Keyboard

Same as above except uses less expensive key-switches and more economical housing materials. Offers dependable low-cost operation at a fraction of the cost!

#71532 Reg Price $119.95 Sale $89.95

PCjr Numeric Keypad

Sale $9.95

This keypad connects to your existing PCjr 62-key keyboard with a cable provided. The keypad then connects to your PCjr using your existing keyboard cable. Provides 23-keys including a calculator style numeric keypad, arithmatic operator keys, arrow keys, backspace, Fn, and an ENTER key.
#71511 Reg $29.95

$29.95

Chicklet-Style Keyboard

The original PCjr 62-key wireless keyboard. Also works with IBM and PCE keyboard cables. Key names appear underneath each key, making this keyboard ideal for use with software that uses keyboard overlays. Reconditioned. Shown above (left).
#71507

$49.95

62-Key Sculpted Keyboard

IBM's "replacement" style 62-key PCjr wireless keyboard. Also works with IBM and PCE keyboard cables. Key names appear on keys. Tactile feel. Ideal for use when cordless operation or space savings are desired. Shown above (right). New.
#71508

Keyboard Cables

Permits you to use the PCjr wireless keyboard without batteries and without the keyboard facing the system unit. Six feet long. Full year PCE warranty.

$18.95

STRAIGHT KEYBOARD CABLE
#22502-1

$19.95

COILED KEYBOARD CABLE
#22501-1

PCjr Mouse Options

Serial mice plug into the "S" connector located on the rear of all PCjr computers. Bus mice come with a PCjr sidecar that plugs into the PCjr sidecar expansion bus. Bus mice are often preferred as they leave the PCjr "S" connector available for a modem or other serial device.

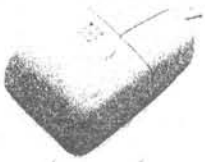
FREE PCE Mouse Pad!

PCjr Bus-Mouse

The lowest cost bus mouse you can buy for the PCjr. Allows you to add a mouse without using the PCjr's "S" connector. Simple PCjr sidecar installation. 360 DPI. Microsoft compatible. Full year PCE warranty.
#14049 $89.95

FREE PCE Mouse Pad!

Low Cost Serial Mouse



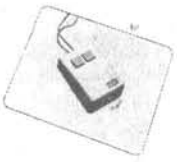
The lowest cost Microsoft compatible PCjr mouse you can find. Plugs directly into the PCjr's "S" connector.
#15509 $39.95

Game-Master Mouse

If you already have a PCE Game-Master sidecar, you can add a Microsoft compatible bus mouse quickly, easily, and inexpensively. This kit includes the PCE Bus Mouse, software, and PCE bus mouse controller chip that plugs into a socket on the Game-Master sidecar.
#10071 $45

No Moving Parts to Wear Out!

Mouse Systems Optical Mouse



Select this mouse if you are not presently using the PCjr's serial port and you want to purchase the Mouse Systems Optical Mouse. Optical mouse pad included.
#75502 $99

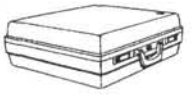
Only $9.95

PCE Mouse Pad

Your mouse will work better and last longer when a mouse pad is used. The PCE Mouse Pad is made from a full color rendering of the IBM PCjr. It will become one of your favorite PCjr accessories!
#15511

PCjr Goodie-Boxes only $59.95!

Here's your chance to purchase a value-packed box full of PCjr Goodies for just a fraction of the regular catalog price. Once our supplies have been exhausted these products will be gone forever! Never before has any PCjr add-on parts supplier offered so much for so little. The two joysticks alone are worth the price! PCjr Goodie-Box #10096-4 includes the following:



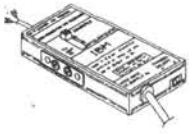
Genuine IBM
PCjr Carrying Case
#79004 Reg. Price $19.95

Keytronic Numeric Keypad
#71511 Reg. Price $29.95

Genuine IBM
300 Baud Internal Modem
#79024 Reg. Price $29.95

Two
Genuine IBM
PCjr Joysticks #74506
Reg. Price $29.95 each
$59.90 value!

IBM Brand
PCjr Keyboard Cable
#78724
Reg. Price $24.95

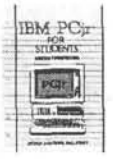


Adapter For Television
#79003 Reg. Price $29.95

Cassette
Recorder Adapter
#79005 Reg. Price $19.95

BASIC
Exercises For The PCjr
#85014 Reg. Price $16.95

Mapping The IBM PCjr
#85035 Reg. Price $18.95



IBM PCjr for Students
#85004 Reg. Price $9.95

PCE Utility Diskette
#85505 Reg. Price $9.95

PC-Write v3.02
Word Processor
#87002 Reg. Price $14.95

PC-Calc+
Spreadsheet Software
#87004 Reg. Price 414.95

Internal Modem Software
& $15 Compuserve Credit
#85503 Reg. Price $4.95

File Compression
Software
#85514 Reg. Price $4.95

This is an inventory clearance sale offered only while our supplies last. All items carry a full year warranty. As we run out of an item it will be eliminated from the Goodie-Box. Call our toll free number to determine whether we have sold out of any of the above Goodie-Box items before ordering. Reg. Price is the last regular price published in a PC Enterprises Add-On Products catalog. Sorry, Priority and Top Priority shipping are not offered for this promotion. All sales final.

Hard Drive and Memory Packages Save $$$!

Purchase a 512KB memory expansion at the same time that you purchase an external SCSI hard drive system and save even more! Receive a 512KB memory expansion #14019 and the PCE SCSI hard drive system of your choice. Sorry, this special package price can be offered only when both items are purchased at the same time (no exceptions)!

42MB Hard Drive w/512KB Memory
#10123 Sale $375
52MB Hard Drive w/512KB Memory
#10124 Sale $399
170MB Hard Drive w/512KB Memory
#10125 Sale $529

$199

PCjr Goodie-Box and 512KB Memory Expansion

Purchase the PCjr Goodie-Box at the same time as an IBM 512KB memory expansion (#14019 $149), and your 128KB PCjr will be expanded to 640KB. You will have enough conventional memory to run all IBM PC compatible software!

#10096-1

After School Special $39.95

Includes our five most popular PCjr game cartridges and two genuine IBM PCjr joysticks. All cartridges not shown in photo.

- IBM Crossfire
- Demon Attack
- Fraction Fever
- Kindercomp
- Facemaker
- Two genuine IBM PCjr joysticks.

#10102

PCjr Storage Systems

External SCSI Hard Drive Systems

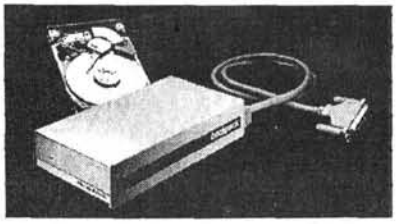
from
$245

These systems come with everything you need to add a hard drive to your PCjr. Each system includes a PC Enterprises TMC850jr SCSI Adapter sidecar with the Future Domain Chip Set installed. The drive is mounted in its own case that sits on top or alongside the PCjr and attaches to the sidecar with a cable. Installs in minutes even if you are a novice user. One year PCE warranty. Drives carry two year (sometines longer) manufacturer's warranty. Limited quantities. New. DOS 3.3 or later, or Disk Manager required.

#12585	42MB PCjr Hard Drive System	$245
#12576	52MB PCjr Hard Drive System	$269
#12618	170MB PCjr Hard Drive System	$345

Hard Drives that Plug into the PCjr's Printer Port

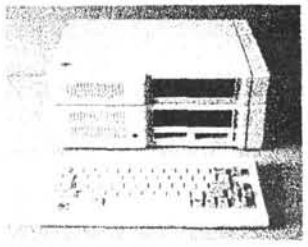
Installs without Removing the Computers Lid!



Adding an external hard drive to the PCjr could not be easier! If you use more than one computer and would like to purchase a hard drive that can be interchanged from one to another without a hassle, this hard drive system is ideal. DOS 3.0 or later required.

210MB System	#12567-7	$425
340MB System	#12567-6	$499

Snap-On-Top PCjr SCSI Hard Drive Systems



These PCjr hard drive systems snap on top of the PCjr system unit. Once installed, your PCjr looks like it came from the factory with the hard drive already installed. Everything needed is included. Memory and other sidecars plug into the right hand side in the usual manner. Limited quantities.

85MB System
#12532 $329

120MB System
#12550 $349

170MB System
#12595 $379

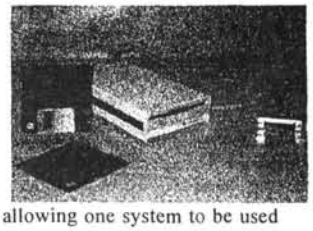
Lowest Cost PCjr Hard Drives

This system is identical to the system on the left, however it sells for less because a recertified hard drive is used. 90 day warranty. Limited quantities. Call to determine availability before ordering.

20MB PCjr Hard Drive $189 #78744
40MB PCjr Hard Drive $209 #78745
80MB PCjr Hard Drive $269 #78746

Other capacities available upon request!

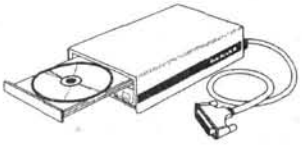
External Floppy Drives that plug into the PCjr's Printer Port



External systems come with their own power supply and enclosure, and can be connected to any PCjr, or other computer, that has a standard parallel printer port. These systems are popular with people who own more than one computer because they are portable– allowing one system to be used by any number of computers.

#12557	1.44MB System	**Sale** $199	Reg $325
#12558	2.88MB System	**Sale** $249	Reg $325
#12559	1.2 MB System	**Sale** $199	Reg $275

A CD-ROM Drive you can install on your PCjr!



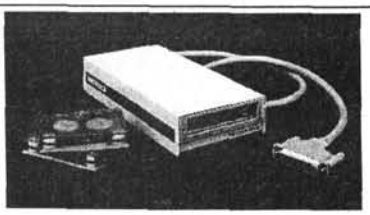
This is perhaps the easiest CD-ROM system to install because it plugs right into the PCjr's printer port. Also works in IBM PC, XT, and compatible computers.

- Built-in audio with headphone and line output jacks
- Multi Session PhotoCD compatible
- Works with MS-DOS 3.1 and above
- Plugs into any IBM compatible parallel printer port

Standard Version
#12575-1 $349

Dual Speed Version
#12572-2 $449

Backing up a hard drive has never been this easy!



External Tape Drive

This external tape drive plugs into your PCjr's printer port. You don't even need to remove your computer's cover. Backup to 240MB on a single DC2120 Mini Data Cartridge (#55018 $24.95).

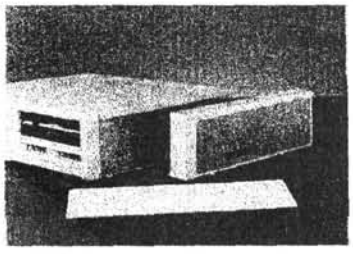
#12541 $349

Understanding Drives that plug into the Computer's Printer Port

The easiest way to connect a floppy, hard, or CD-ROM drive to the PCjr is to connect a drive that plugs into the computer's printer port! These drives do not interfere with your printer because a new printer connector is provided on the rear of the drive's enclosure. Printer port drives are also popular because they are portable, making it possible to use one drive with more than one computer. Daisy chain any number of drives together.

PCjr Memory Expansions

Megaboard Sidecars Add Megabytes of Memory to your PCjr

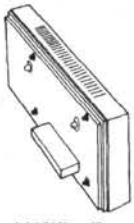


Sale
$199

1024KB PCE Megaboard Memory Expansion Sidecar

The most desirable memory product that we offer! Each MegaBoard expands conventional memory from 128KB to 736KB (753,664 bytes) while providing 416KB for use as a Ramdisk. MegaBoards provide tremendous performance improvement when used to run software designed to use a Ramdisk (examples: Ventura Publishing, dBase). New. Full year PCE warranty.

#14031 Reg. Price $325



$179

512KB PCE Memory Expansion Sidecar

PCE 512KB jrSidecars are brand new and dependable. A single 512KB sidecar increases memory from 128KB to 640KB. Expands 256KB PCjr's to 736KB. New. Full year PCE warranty.

#14024 Reg. Price $245

Upgrade your 640KB PCjr to 736KB

192KB Internal Memory Card

Replaces your existing 64KB memory card and therefore provides an additional 128KB of memory. PCjrs with 512KB are upgraded to 640KB while those with 640KB are upgraded to 736KB. PCE "Five System Board Modifications" required. Call for details.

#14032 $50

IBM PCjr Memory Expansion Sidecars Increase Memory to 640KB

Sale
$149

512KB IBM Memory Expansion Sidecar

These are previously owned IBM 128KB sidecars that have been upgraded to 512KB by PCE. Once installed, system memory is increased to 640KB. Limited quantities. Full year warranty.

#14019 Reg. Price $199

$99

128KB IBM PCjr Memory Expansion Sidecars allow 640KB PCjr's to expand to 736KB

Purchase this sidecar if you already have 640KB of memory and want to upgrade to 736KB. Once installed, your computer will have 753,664 bytes of total memory.

#78727

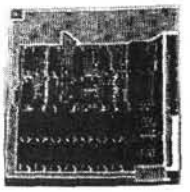
$99

Add 128KB of memory to your IBM PCjr

Purchase this sidecar if you currently have less than 640KB and would like to add memory in 128KB increments.

#78715

Racore Brand Memory Expansion Products



If your PCjr now has two internal floppy disk drives you may have a PCjr enhancement system made by Racore, Quadram, or Rapport installed. If your PCjr has one of these systems you can install either of the memory boards listed below.

Sale $59

512KB Racore Memory Expansion

Plugs inside any Rapport, Quadram, or Racore Drive II Enhancement System. Increases memory from 128KB to 640KB. Often purchased by those currently using an older 384KB board that only provides 512KB of system memory.

#32523

PCjr Memory Board Repair Only $80!!

If your PCjr memory sidecar has stopped working reliably programs may crash without warning. Other indications of memory problems include ERROR A and failure of the computer to count all its memory. We repair PCE, IBM, Tecmar, and Microsoft sidecars for a flat rate of $80 (parts and labor). Include a note explaining the problem, a copy of your boot diskette, and the power transformer (Tecmar jrCaptain only). Call our toll-free number for details.

#98507

640KB Memory Upgrades Only $99

If you already have a 128KB memory sidecar installed, your PCjr now has 256KB of memory. Send us your 128KB sidecar and we will turn it into a 512KB sidecar! Your PCjr will then have a total of 640KB of memory. This upgrade is offered for the Tecmar jrCaptain, Microsoft jrBooster, QuadMEMjr, AST jrCombo, Impulse, and IBM 128KB memory sidecars. Call our toll-free number for details. #97501 $99

736KB Upgrades only $35

If your PCjr already has 640KB and you also have an extra 128KB IBM sidecar, we can modify your 128KB IBM sidecar so it increases your PCjr's memory to 736KB! Call toll-free for details.

#97509 $35

Adding Memory to the IBM PCjr is Fast and Easy!!!

The Enhanced Model PCjr came with 128KB of memory, although the computer's memory can easily and inexpensively be increased to 736KB by installing memory expansion sidecars.

While many programs run with 128KB of memory installed, most require additional memory to run. Additional memory is therefore the first thing, and often the only thing the PCjr needs to run most PC compatible software.

Memory expansion products for PCjr computers come in sidecars. A sidecar is a computer add-on product inside a plastic case. The plastic case plugs into the right hand side of any PCjr, after the computer's snap-in-place plastic panel is removed. Upgrading the memory of your PCjr only takes about five minutes, and does not even require removing the computer's lid.

Upgrade Products for the IBM PCjr

IBM PCjr shown with CGA monitor, one 360KB floppy disk drive, and replacement style keyboard

Know What's Inside your Computer!

IBM PCjr Standard Features

Microprocessor: 8088
Conventional Memory: 128KB (expandable to 736KB)
Floppy Drive: One 360KB DSDD (low density)
Hard Drive: Optional
Display: Enhanced CGA
Expansion Bus: PCjr Sidecar (Proprietary)

Most Popular Options

Memory Sidecars increase conventional memory (RAM)
Hard Disk Drives adds internal program storage
Combo-Drives let you also use 3.5" 720KB diskettes
Compatibility Cartridges upgrade the computer's BIOS
PCjr Goodie Boxes include numerous assorted goodies
After School Special: Joysticks and game cartridges
Display-Master VGA Sidecar upgrades video to SVGA
DOS 6 (If you have a hard drive)

The IBM PCjr computer is an excellent computer to upgrade if you want to run IBM DOS-based software. The PCjr's major weaknesses are (1) the 8088 microprocessor is not as fast as those offered with newer computers, (2) the computer only came with 128KB of conventional memory (RAM), and (3) the computer did not come with a hard drive. In most cases the only thing you need to do to run DOS-based software is expand the computer's memory to 640KB.

Whether you are better off to upgrade your PCjr or to purchase a new computer comes down to your budget, and whether you need to run Multimedia or other Windows-based software.

Once expanded, the PCjr can run most DOS-based software including Quicken v7.0*, WordPerfect 5.1, Lotus 1-2-3, and dBase. You can use your PCjr as a word processor or to balance your checkbook and manage your personal finances. However, if you need to run the latest Windows-based software, trading your PCjr for a fast 486 computer makes the most sense. To run Windows and Multimedia software we recommend a 66MHz computer with a 80486 microprocessor, at least 4MB of RAM (8MB recommended) and the biggest hard drive you can afford (340MB or larger).

*Compatibility Cartridge required.

Everything You Need to get Started with your New PCjr

If you recently purchased an IBM PCjr, or received one as a gift, perhaps you did not receive the manuals and software that came with the PCjr. This package will enable you to immediately start using your new PCjr as well as guide you through the basic operation. Package includes:

DOS 2.10
This is the Disk Operation System (DOS) you need to start the computer and run software. The manual explains how to use DOS. ($29.95)

Guide to Operations Manual
This manual explains how to use and test the PCjr. It tells you what each connector on the back of the PCjr is used for, as well as different tests to trouble shoot problems. Includes PCjr starter diskette, "Exploring the IBM PCjr" and excellent hands-on training diskette. ($39.95)

PCjr Users Guide
This 158 page guide is the most important reference guide for PCjr users. Written by the writers, readers and editors of jrNewsletter. Published in 1994. ($19.95)

Compute!s Mapping the IBM PC and PCjr
Shows how a PCjr is the same, and how it is different from the IBM PC and other PC Compatibles. ($9.95)

PCjr Sampler Disk
Sample the power of the PCjr with these sample programs. This is the most commonly asked for PCjr starter diskette that we sell. ($14.95)

Remote Control
This is the official software version of MTV's ridiculous trivia game show. Its a fun game that helps you learn how to run software with your PCjr. ($9.95)

Win, Lose, or Draw Junior
A computerized version of the popular TV game show for ages 8 to 15. Are you "the quickest on the draw"? Find out ! ($9.95)

Beginner's Special
#10130 Reg. $134.65 Package Price $99.95 Save $34.70

All sales final. An additional $10 shipping fee is required for Priority Service.

Upgrade to IBM PC-DOS 6

Works on IBM PC, XT, AT, PS/2 and Tandy Computers!

Full DOS 6 Package with Registration Card and Written Manuals
Special Sale Price

$39

PC-DOS 6 detects nearly twice as many viruses as MS-DOS 6 while taking up a fraction of the space. What's more, it's got support for features that are unique to IBM PC, PCjr, and Tandy that you don't get with MS DOS.

IBM PC DOS 6 runs on virtually all older computers including IBM and compatible PC, PCjr, XT, AT, and P/S 2 computers. You can use IBM DOS 6 regardless of whether your computer has an 8088, 8086, 80286, 80386 or later microprocessor. IBM PC DOS v6 provides the best features and functions on the market today. It all adds up to an abundance of award-winning PC enhancements that cost you hundreds of dollars more if purchased separately.

DOS 6 includes all the functions of earlier DOS versions plus an entire portfolio of powerful new utilities. These new utilities include disk compression, anti-virus protection, full-screen backup, a full-featured editor and a program scheduler.

In addition, DOS 6 provides support often needed when older computers are upgraded. You'll be able to add hard drives that are larger than 32MB and floppy diskette drives that support newer densities.

Available on all four industry standard diskette types. Please specify when ordering.

Catalog #	Diskette Type
#86036-1	5.25 inch 360KB
#86036-2	3.5 inch 1.44MB
#86036-3	3.5 inch 720KB
#86036-4	5.25 inch 1.2MB

As newer versions of DOS become available PCE may substitute the newer version once determined to work well on older computers. Price subject to change.

Regular Price: $64.95

- Easy installation allows you to install PC DOS 6 over previous IBM and non-IBM versions of DOS 2.1 or higher
- Improved commands with built-in help for each command using /?
- Allows you to run more software than earlier versions of IBM DOS
- Allows you to have one drive letter for your entire hard drive.
- Anti-virus support finds over 1400 viruses, including generic lab, polymorphic, and stealth
- Disk compression allows your hard drive to hold significantly more data*
- Backup support allows you to schedule unattended backups to diskettes, tape or network drives
- A new editor program E provides ability to edit multiple files; more power and flexibility than DOS 5.0 Editor
- Defragger minimizes seek time with contiguous rewrite of fragmented files on non-compressed disks
- EMM386 memory manager dramatically increases performance over DOS 5.0 with 80386 and later microprocessors
- Memory optimizer makes more Upper Memory Blocks (UMB) available
- Low-end UMB support gives specific 8088/286 configurations up to an additional 60KB of memory
- FREE Installation when purchased with any complete PCE Hard Drive System!

*Disk compression does not work properly on PCjr computers unless a jrExcellerator is installed and PC Memory mode is used.

PCjr Users!

Upgrade to DOS 6 and boost Memory to 736KB

All PCjr users who use a hard disk drive should upgrade to PC-DOS 6. DOS 6 will allow you to run more software and is very easy to use.

Newer computers load DOS High making more memory available to load software. PCjr's with 736KB load DOS above program memory. Package includes DOS 6 on 360KB diskettes (#86036-1) and a 128KB sidecar that upgrades 640KB PCjrs to 736KB. Special DOS 6 installation diskette for PCjr also included. Hard drive and 640KB pre-existing memory required.

#10131 Package Price Only $129

What PCjr Owners Should Know About DOS 6

The best time to purchase a new version of DOS is when you purchase a hard drive. DOS 4.0 or later is required to access your entire hard drive as one drive letter.

Under normal circumstances, the PCjr requires a PCE Compatibility Cartridge to run DOS 5 or later. However, when you purchase a hard drive from PCE and also purchase DOS 6 we install a special version of DOS 6 that does not require the Compatibility Cartridge. You are provided with the original unmodified DOS diskettes, manuals, registration card and everything you need to reinstall the special PCjr DOS at any time in the future.

To Place an Order Call Toll Free 1-800-922-7257

Software Bargain Center

Buy Three and get One FREE!!

Select any four titles from the Software Bargain Center and receive the least expensive free! Limted quantities so call before orderjng.

Runs on IBM PC, XT, PCjr and Compatibles with 384KB or More Memory

Super Solvers: Outnumbered!

Recommended for ages 7-12. This fun-filled game combines arcade action with work problems that use charts, lists and graphics to help children analyze and solve basic math problems in multiplication, division, addition and subtraction. 512KB required.
#86211 $30.95

Super Solvers: Midnight Rescue!

Recommended for ages 8-11. Midnight Rescue! helps your child's reading and thinking skills; reading for the main idea, remembering facts, gathering meanings and drawing conclusions. Your child will have an appreciation of reading that will last forever. 512KB required.
#86212 $30.95

Super Solvers: Treasure Mountain!

Recommended for ages 5-9. Stop the Master of Mischief by answering questions from the local elves, who will assist you in finding the hidden treasures. Helps enrich your children's reading, thinking, math and science skills. 512KB required.
#86213 $30.95

Earl Weaver Baseball

New standard in baseball simulation software. This action packed game challenges your skill and puts you against a friend... or Earl Weaver. 384KB/512KB recommended.
#86507 $29.95

Awesome Earl in SkateRock

It's Skateboard Mania! Hit the streets with Awesome Earl and his radical skateboard, but be prepared for some fast action. 512KB.
#86633 $12.95

Super Solvers: Challenge of the Ancient Empires!

Recommended for ages 10 & up. The world's most priceless artifacts were stolen by thieves centuries ago. You must recover the priceless artifacts by discovering the secrets of the caverns and chambers, fearlessly confronting menacing cave creatures. 512KB required.
#86214 $30.95

Chuck Yeager's Advanced Flight Trainer

Climb into the cockpit with Chuck Yeager and learn the basics of flying Cessnas. Break the sound barrier in the Bell X-1. You'll follow Yeager through death-defying stunts. 384KB required.
#86506 $29.95

Starflight

Where no space game has gone before... You and your crew take off for the core of the galaxy – and soon discover that you're not alone. 384KB/512KB recommended.
#86505 $19.95

IBM Drawing Assistant

Create drawings and edit graphs for personal and business communications. Add text in four type styles and choose from a variety of colors or shades. Incorporate drawings into documents created by IBM Writing Assistant. Mouse required.
#86024 $49.95

The California Raisins

The California Raisins are being held captive at the dreaded Cereal Factory by some real "flakes". Help fight these junk food meanies.
#86654 $12.95

The Chessmaster 2100

Chessmaster 2100 contains every feature that skyrocketed "2000" to the top of the charts! Stunning 2-D and 3-D graphics, a mammoth opening library (now expanded to over 150,000 positions), "Hint", "Teaching", and "Show Best Variation" modes, and levels and styles of play from "Newcomer" to "Grandmaster". Perhaps the world's finest chess program. 384KB/512KB recommended.
#86508 $19.95

First Expedition

Thousands of miles of uncharted ocean. Hundreds of unexplored islands. Pirates. Traders. Storms. Braun the Explorer sets out with one boat, one companion, and a star to navigate by. 384KB/512KB recommended.
#86503 $29.95

Trivial Pursuit

Challenge your memory using your computer. Play against your friends or any of the six computer opponents. 384KB required.
#86622 $25.95

Leisure Suit Larry Goes Looking for Love

Larry wins the lottery (or does he?). Now Larry is looking only for Miss Right as opposed to Miss Right Now. Will Larry get lucky and find someone who loves him for the person that he is? 512KB required.
#86609 $29.39

Circus Games

Enter the Big Top and become a part of the fabulous Circus! Four action packed activities in all!
#86655 $12.95

Software Bargain Center

Buy Three and get One FREE!!

Select any four titles from the Software Bargain Center and receive the least expensive free! Limted quantities so call before ordering.

Runs on IBM PC, XT, PCjr and Compatibles with 256KB

Think Quick!

An educational, fun game which will help build your child's thinking skills. With six different game levels, your child will go from room to room solving different puzzles.
#86204 $25.95

Space Quest: The Sarian Encounter

The player will board enemy space ships, explore alien landscapes and encounter weird creatures in this tale of action and adventure in deep space. Features 3-D graphics and animation, arcade sequences and an inventive plot.
#86607 $29.95

Police Quest

In Police Quest, you take on the role of a street cop in uniform. You'll deal with the routine of police life, handing out tickets, attending briefings, and even discovering your best efforts tangled in the red tape of the judicial system. If you make a good cop, you may be asked to "go undercover" in an assignment to infiltrate the "Death Angel's" gang, and bring the racketeer to justice.
#86606 $29.95

DS Tutor

A powerful, interactive educational tool designed to teach beginning users how to use a personal computer and DOS. 384KB recommended.
#86015 $24.95

The Game Show

Animated game partners motivate learning in this exciting game of clues and target concepts. Contains 40 topics on math, science, language and social studies. You also get grade-specific documentation, lessons and activities. The right answer wins points– and applause. Ages 6 to adult.
#86624 $31.85

Wizard of Words

The Wizard creates his magic with a powerful list of 38,000 words. With the Wizard's word list you can tailor each game to develop your child's language skills. No knowledge of computers is necessary. Five fun learning games. Ages 5 to adult.
#86627 $31.85

Dinosaurs

A colorful prehistoric world that teaches pre-schoolers matching, classification, pre-reading and pre-counting through creative exploration. Colorful, animated rewards build your child's concentration and self-confidence.
#86628 $31.85

Stars & Planets

By exploring outer space children learn counting, sequencing, pre-reading and matching skills through creative discovery. Six fun-filled learning games include planet name matching, "moonscape" rock collecting, build your own rocket, and constellation matching. Ages 3 to 6.
#86629 $33.85

Demon's Tomb

An archaeological dig in a remote English forest uncovers an eerie tomb. The archaeologist is doomed to perish in a violent and horrifying way, and his son vows to solve the mystery of his death. Requires 384KB.
#86646 $9.95

Star Fleet I

Your ship: one of the most powerful fighting cruisers in the universe. Your mission: to protect the Alliance from invasion. Your challenge: meet the enemy's artificial intelligence with your own cunning. This is one of the most complex, challenging star fantasies ever! 384K recommended.
#86501 $29.95

Mavis Beacon Teaches Typing!

Dynamic progress charts track improvement in 25 areas. It's like having the world's best typing teacher at your elbow! Requires 2 disk drives.
#86016 $29.95

Leisure Suit Larry in the Land of the Lounge Lizards

A humorous and harmless 3-D animated adventure game for adults. Larry is the original blind date nightmare– the kind of guy you wouldn't want your daughter to date, let alone meet. The goal is to help Larry become a hit with the ladies.
#86601 $23.50

California Games

Put on your knee pads - you're about to have the most fun you've had since Mom hid your skateboard. Enter six wild events and compete against up to eight players. Win enough trophies to become a California champion! 640KB required.
#86608 $19.95

Software Bargain Center

Buy Three and get One FREE!!

Select any four titles from the Software Bargain Center and receive the least expensive free! Limted quantities so call before ordering.

Runs on IBM PC, XT, PCjr and Compatibles with 256KB

Win, Lose, or Draw Junior

Take the challenge! Are you "the quickest on the draw"? Find out. Play the game that always erupts into a frenzy of laughter. Delight in the amazing picture puzzles that appear before your eyes each time a new round starts and the computer begins drawing the game's first clues. Ages 8 to 15.
#86712 $9.95

Wheel of Fortune I

Just like the TV show, you take your turn spinning the wheel for a chance to guess a letter in the hidden phrase on the game board. Can you decipher the partially revealed phrase before your opponents do?
#86702 $9.95

Wheel of Fortune II

Wheel of Fortune II brings more authentic TV magic to your computer with hours on non-stop entertainment.
#86703 $9.95

Card Sharks

It's just you and "Lady Luck". How will the next card fall...higher or lower? Come on, bet big, take the gamble and play for hours. It's fast, fun and full or surprises.
#86707 $9.95

$100,000 Pyramid

Strike it rich as the newest contestant in the hottest word-association game. Hours of entertainment will be provided as you race against time to identify the objects and categories from the clues provided.
#86709 $9.95

Micro Cookbook

Need cooking ideas? This program allows you to choose from over 150 different recipes from all over the world. Designed to make cooking fun and easy!
#86310 $14.95

Certificate Maker

Create your own certificates. choose from over 200 certificates in many different categories. Includes various typefaces and borders. Also includes over three dozen colorful seals. Works best with a dot matrix printer.
#86311 $14.95

Bruce Lee

Twenty screens of excitement and skill, as the martial arts master sets out on a quest for immortality and wealth. Can he triumph over Ninja assassins and the Green Yamo?
#86510 $14.95

The Bard's Tale

The legend began here - with a heroic band of adventurers, an evil wizard named Namgar, and a mythical city called Skara Brae. Realistic first-person animated graphics, the fastest gameplay of any dungeon fantasy, and the unique powers of the Bard - a unique character whose magic is in his music. 384KB recommended
#86504 $14.95

Psycho

Travel to the Bates Motel to unravel this mystery. Enter both the Motel and the forbidden house on the hill. Search for clues. Keep your eyes alert and your back to the wall as you encounter the psychotic Norman Bates and his curiously silent mother.
#86610 $9.95

Writer Rabbit

Teaches children the basic building blocks for writing. In six carefully sequenced games, children learn to put together words and phrases to build complete sentences. Grades 2 to 4.
#86208 $29.95

Donald's Alphabet Chase

It's roundup time at Donald's house. Mischievous alphabet pets have slipped out of the toybox, and are running wild all over the house! Preschoolers are invited to join Donald in this crazy game of hide-and-seek as he scrambles from one end of the house to the other to recapture all 26 letters of the alphabet. Ages 2-5. 384KB required for Tandy.
#86221 $14.95

Concentration

Test your memory in this exciting computer version of the Official TV Game show. Match the pairs of prizes on the board and uncover pieces of a hidden picture puzzle. 384KB required.
#86706 $9.95

High Rollers

High stakes, big money, hard questions, and tough competition... all of this and more in this exciting computer version of the hit TV game show. Hit the buzzer, answer the multiple choice questions, and you will win the chance to roll the dice for cash and prizes. 384KB required.
#86708 $9.95

Challenger Pack

This package includes two programs for the price of one! Exciting space games challenge you to save the world, while the board games enable you to use your cunning mind to take the match!
#86644 $9.95

Software Bargain Center

Buy Three and get One FREE!!

Select any four titles from the Software Bargain Center and receive the least expensive free! Limted quantities so call before ordering.

Runs on IBM PC, XT, PCjr and Compatibles with 256KB

Win, Lose or Draw

Your animated host guides the action as the computer unveils a small piece of the illustration. The tension mounts as you get closer to the answer. And so do the laughs as you try to outwit your friends. It's fun for the whole family!
#86711 $9.95

Wipeout

Fascinating fun – fast and furious – challenging your memory and matching your wits against friends and family, or even the computer itself. All you have to do is keep choosing the right answer. It's that simple! Or is it? One wrong answer and ...WIPEOUT!
#86710 $9.95

Blackjack

Play against friends or match wits with the computer in this fun and realistic casino game for players of every skill level. Learn the rules, correct moves, improve play or study card-counting systems.
#86631 $14.95

Backgammon

Match wits with the computer in Backgammon, the game of skill and luck. If you're an experienced Backgammon player, you'll enjoy the challenge. If you've never played before, here's your chance to learn all the tricks of the game. Roll the dice!
#86632 $14.95

Alf's US Geography

Come join Alf on a fantastic journey through the fifty states of America! Learn about the unique geography that makes each state special! Contains five educational games for children ages eight and up.
#86624 $12.95

The Resume Writer

Everything you'll ever need to land that one-in-a-million job you've always dreamed of! This complete and interactive program is divided into four sections to take you step by step through the job search process from initial contact to follow-up letters.
#86339 $14.95

Flu-Shot +

A vaccination program that protects you and your computer system against invading, often lethal, computer viruses. Includes "The Virus Protection Handbook" ($19.95 value).
#86344 $12.95

Jonah Barrington's Squash

Squash, the fastest growing, fastest moving game around. Requiring total fitness and total dedication. This is the simulation that brings all of that to your computer.
#86649 $12.95

Designasaurus

An exciting program for everyone who loves dinosaurs! The program has three parts: Walk-A-Dinosaur, Build-A-Dinosaur and Print-A-Dinosaur, which increase the child's interest in science and stimulates creative and independent thought. 512KB required.
#86206 $9.95

Demon's Forge

Banished by the King for killing four Palace guards in a pub brawl, you have been sent to the caverns of Demon's Forge. You must escape from the perils inside by passing through the caverns.
#86648 $12.95

L.A. Crackdown

An illegal drug called Samadhi has just come in from Hong Kong. Unless you can break up the drug ring, half of Los Angeles will soon be under its pernicious influence.
#86635 $12.95

US History: Discovery to Reconstruction

Designed for students in grades 5 and above. Presents challenging questions about important people, dates, facts and events concerning the history of the United States from discovery and settlement to the reconstruction period following the Civil War.
#86228 $9.95

PC Powerpack

Three powerful, easy-to-use programs that interface together to create a complete productivity system. Includes PowerWord with spell checker, PowerCalc and PowerFiler with label maker.
#86337 $9.95

Codename: Iceman

You as Johnny Westland must crack the deadly security of a terrorist base and rescue a hostage ambassador. With the use of naval intelligence charts, pilot a submarine into the enemy territory. This exciting adventure game combines action and realistic simulation. Supports PCjr 16-color graphics. 640KB.
#86621 $35.25

To Place an Order Call Toll Free 1-800-922-7257

Software Bargain Center

Buy Three and get One FREE!!

Select any four titles from the Software Bargain Center and receive the least expensive free! Limted quantities so call before ordering.

Runs on IBM PC, XT, PCjr and Compatibles with 256KB

Feud

A magical mystery with a vengeance! Take the part of a feuding medieval wizard and slug it out, spell for spell, with an amazingly cunning computer opponent.
#86630 $9.95

Alf's World of Words

Explore the fascinating and exciting World of Words with Alf! Alf will help you 'Alf'-abetize his special lists of words and even create new compound words! Contains three educational games for children ages six and up.
#86223 $12.95

Discover Alphabet

Discover letters and abbreviations, two, three, four letter words and more! Ages six and up.
#86226 $12.95

Discover US History & Geography

Discover the United States, presidents, notable people and events. Ages eight and up.
#86227 $12.95

MTV's Remote Control

This is the official computer software version of MTV's ridiculous trivia game show. Just answer the silly questions about Rock-'n'-Roll and Junk Trivia and win lots of points! You'll be the envy of your friends, and best of all you don't have to be smart to win!
#86638 $9.95

Alf's Thinking Skills

Sharpen your child's thinking skills! Alf utilizes big shapes, bright colors and even the Tanner's pet, Lucky, to help your child solve logic problems. Contains three educational games for children ages seven and up.
#86225 $12.95

Dark Castle

Can you survive the haunted house on the hill? From the moment the creaking drawbridge closes behind you until you slay the Black Knight, Dark Castle is a nonstop life-and-death adventure.
#86634 $9.95

Alf

Alf's best buddies from Melmac have crash landed their spaceship on Earth! Guide Alf through the maze-like neighborhood, as he collects all that was lost from the spaceship. Join him in the race against time and the Dog Catcher as you help him collect objects, rebuild the spaceship, and return his friends safely to space! 384KB required.
#86603 $9.95

Grade A Student Word Processor

Three fully integrated modules in one program! This program allows you to plan and write papers more efficiently and effectively. Provides organizational tools to help you organize and create ideas as well as develop writing skills.
#86233 $29.95

Grade A Spelling

Improve spelling skills with this lively and challenging teacher-designed and classroom tested arcade style software. Have fun as you progress from the novice level to the intermediate level, and then on to advanced.

Grades 2, 3, & 4	#86232-1	$12.95
Grades 4, 5, & 6	#86232-2	$12.95
Grades 6, 7, & 8	#86232-3	$12.95

Grade A Vocabulary

Master 300 new words, definitions, and their usages with this exciting arcade style software. Have fun as you progress through the 12 word lists grouped into four levels of difficulty.

Grades 2, 3 & 4	#86231-1	$12.95
Grades 4, 5 & 6	#86231-2	$12.95
Grades 6, 7 & 8	#86231-3	$12.95

Ninja

Ninja! The most fearsome warrior in history, now faces the ultimate test in the Palace of Death. He must prove his worth to the Princess of the Orient by recovering her priceless idols from the grip of the Evil One. Are you good enough to take the test of Ninja and come out on top?
#86639 $9.95

Arcade Games & Sports Spectacular

Experience the thrills and perils of today's hottest arcade and sports games! PCjr requires Compatibility Cartridge.
#86640 $9.95

Shogun

Test out your powers of intelligence, cunning, politics and combat against some of the most powerful figures in history! Choose the part of Blackthorne, Ishido, Zen Master Ikematu, or become a Samurai Warrior - or even a Peasant.
#86641 $9.95

Software Bargain Center

Buy Three and get One FREE!!

Select any four titles from the Software Bargain Center and receive the least expensive free! Limted quantities so call before ordering.

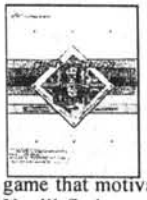
Runs on IBM PC, XT, PCjr and Compatibles with 128KB

Master Match

Match wits with the computer or a friend while you challenge your mind. The friendly owl invites you to find matches in pictures and words hidden beneath mystery squares on your screen. Peek under two squares each turn – then try to figure out how the clues match. Tension mounts as you uncover clues your opponent can use. A right answer wins you points. Ages 6 to adult.

#86626 $29.95

Tic Tac Show



Broaden your child's horizons with new facts and concepts about our world. Tic Tac Show gives your child an exciting strategy game that motivates while it entertains. You'll find questions in true/false, question/answer, fill-in-the-blank and multiple choice formats. Ages 4 to adult.

#86625 $29.95

BrownBag Word Processor

You can create keyboard macros and use the mailmerge feature with dBase and other database software. Full proportional font. 256K required to use spell check feature.

#86322 $29.95

Computer Novel Construction Set

Designed so that you can create your own exciting interactive fiction. Now, in addition to being the central character in text adventures, you can also be the author...the creator of swashbuckling heroes, dastardly villains, romantic encounters, alien planets, whatever your mind can conjure up. No programming skills required.

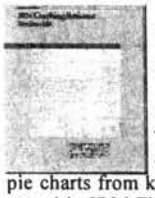
#86315 $9.95

IBM Planning Assistant

This easy-to-use electronic spreadsheet lets you analyze "what if" situations in planning, budgeting, projecting, and forecasting. Offers on-line help screens and customized formulas for advanced calculations. Exchanges data with other IBM Assistant programs.

#86006 $29.95

IBM Graphing Assistant



This program helps you create colorful line, bar, and pie charts from keyboard and information stored in IBM Filing Assistant. These charts and graphs can also be incorporated into documents produced with IBM Writing Assistant.

#86018 $29.95

IBM Reporting Assistant

Helps you custom-design reports from keyboard and IBM Filing Assistant. Select the items to be printed and the order in which they will appear. Use simple commands to format, sort, calculate, and print reports. Requires IBM Filing Assistant.

#86023 $29.95

Monsters and Make-Believe

Makes learning more fun!! You can create thousands of magical characters with over 100 body parts. Monsters and Make-Believe stimulates creative writing skills and helps the user develop a sense of balance, design, and matching skills. Design a monster coloring book, stationary or greeting cards. 3.5" diskettes.

#86220 $29.95

Time to Die

A noise in the dark - who's there? Better find out quickly because somebody's after you and if you don't stop them in time they are going to get away with murder! Yours! Excellent graphic illustrations.

#86642 $9.95

Storm

Corrine, the beloved wife of Storm the Warrior has been abducted by the evil Una Cum and is being held prisoner against her will in his laboratory lair. Take the part of Storm (or Agravain the Undead) in this multi-role, one or two player all action real-time adventure to rescue the Lady Corrine.

#86650 $14.95

The World's Greatest Baseball Game

Choose from over 75 great teams including classics from the past, World Series and All-Star teams using the actual players statistics. Not satisfied with your line-up? Make deals and trade for better players.

#86653 $19.95

Also Available:

The PCjr Users Guide

This 158 page guide may very well be the most important reference guide PCjr users can purchase. Written by the writers, readers and editors of jrNewsletter and published in 1994 this guide provides hundreds of useful tips and tricks to get the most from your PCjr.

Includes chapters titled "The Beginners Corner", "Getting to Know your Jr", "PCjr Tips and Tricks", "Diagnosing and Fixing Problems", and PCjr do-it-yourself projects. A must have for all PCjr users.

#85037 $19.95

To Place an Order Call Toll Free 1-800-922-7257

TABLE OF CONTENTS

SOFTWARE

Best Selling Software 8

Software Bargain Center ..... 10 – 15

UPGRADES FOR OLDER COMPUTERS

IBM PCjr ..... 17 – 30

TANDY EX & HX ..... 31 – 40

IBM PC, XT, PS/2 & TANDY ..... 41 – 62

SYSTEMS, PRINTERS & MONITORS ..... 63 – 69

486 UPGRADE KITS 72

ORDERING INFORMATION ..... 70 – 71

Attention Schools

Discount Pricing and Purchase Orders now Accepted for Qualified Districts. Contact our Customer Service Department or Fax your Purchase to: (908) 280-0010

Product Locator

Products for IBM PCjr Computers

Accelerators 25
Books and Manuals 27
Cartridges 26
Clock Modules 25
Floppy Drives 23
Goodie Boxes 20
Hard Drives 19
Keyboards 21
Keyboard Cables 21
Memory 18
Microprocessor Upgrades 25
Modems 24
Mouse Products 21
Power Supplies 24
Printers, Printer Attachments 28, 29
Serial Cables 24
Service and Repair 30
Sound Cards 25
System Board Modifications 22
Television Adapters 22
Thin-Font Module 25
VGA Upgrades 22

Products for Tandy 1000 EX and HX

Clock Modules 40
Floppy Drives 39
Hard Drives 34, 35
Memory 32, 33
Microprocessor Upgrades 40
Printers and Printer Cables 40
Serial Ports 34, 35
Sound Cards 36, 37
Modems 38
Mouse Products 35, 36
VGA Upgrades 36, 37

Products for IBM PC, XT, AT, PS/2, TANDY and PC COMPATIBLES

EMS Memory Boards 47
External Hard Drives 51
Floppy Drives 52, 53
Hard Drives 48
Hard Drive Kits 49, 51
Hard Drive Expansion Cards 50
I/O Cards 60
Joysticks 58
Keyboards 58
Memory Boards 43, 45, 46, 47
Memory Chips 45
Microprocessor Upgrades 42, 43
Miscellaneous 62
Modems (internal) 54
Modems (external) 55
Mouse Products 58
Multimedia Kits 56
SIMMs and SIPs 44, 46, 47
Scanners 58
Sound Cards 57
Speakers 57
Overdrive Processors 43
Printers 64
UMB Memory Boards 46, 47
Video Cards 59
VGA Upgrades 59

Best Selling Software Titles

Runs on IBM PC, XT, PCjr and Compatibles with 384KB or More Memory

Quicken

Here's an excellent reason to add a hard drive to your computer. Quicken is one of today's most popular DOS-based programs. Easy-to-use and powerful financial program that's ideal for both business and personal use. Reporting options include P&L's, cash flow and balance sheets. Works like your checkbook, so you'll know what to do right away! Quicken v7.0 for DOS runs on older computers as long as the computer is using DOS 3.0 or higher, has 640KB of RAM and a hard drive. PCjr requires Compatibility Cartridge. Runs very well!

for DOS #86303-1 $45.95
for Windows #86303-2 $45.95

ProComm Plus

This modem communications software allows remote access while you're away on business and enables you to dial into other BBS'. Supports 12 transmission protocols, emulates 16 types of terminals. Includes 1.44MB diskettes and coupon for free 360KB diskettes.

#86327 $99

Microsoft Windows v3.0

This is the latest version of Microsoft Windows that runs on computers that do not have extended memory. Requires 640KB, hard drive, and DOS 3.1 or later. And yes, Windows 3.0 runs on the PCjr!

#86041-1	360KB disks	$49.95
#86041-3	720KB disks	$49.95

MS-DOS 6.21 Upgrade

Microsoft's version of DOS is called MS-DOS. If you own an IBM computer IBM DOS (PC-DOS) may be a better choice This is especially true for PCjr and Tandy 1000 computers. Previous version of DOS required.

#86040-1	360KB disks	$59.95
#86040-2	1.44MB disks	$49.95
#86040-3	720KB disks	$59.95
#86040-4	1.2MB disks	$49.95

WordPerfect 5.1Plus

WordPerfect 5.1 Plus runs very well on a PC, XT, or PCjr computer, although the PCjr must be expanded to include 512KB of memory and a hard disk drive.

Wordprocessing applications are excellent examples of why so many people upgrade older computers. WordPerfect will run so well that you'll wonder why anyone would ever spend money for a faster computer!

Purchase the version upgrade if you already have an earlier version of WordPerfect, or purchase the competitive upgrade if you have previously purchased a qualified word processing package that competes with WordPerfect. Both packages are identical except proof that you own a previous version of WordPerfect or a competitive product is required before you register for telephone support. Comes on 720KB diskettes. To obtain 360KB diskettes you must purchase the 720KB package then contact the manufacturer. Fast no-charge turn around.

Version Upgrade
#86346-3 Price: $49
Competitive Upgrade
#86347-3 Price: $129
Full Package
#86348-3 Price: $299

Where in the USA is Carmen San Diego?

Travel the United States searching for Carmen and her gang. You'll have Fodor's USA travel guide to help dig up thousands of facts and interpret the clues. Includes a large fold-out map of the USA! 512KB.

#86612 $31.95

Where in the World is Carmen San Diego?

The metropolis awakens to find the Statue of Liberty's torch gone...Stolen! There are 10 possible suspects, 30 cities and nearly 1000 clues. Decipher clues by looking up facts in the World Almanac (included). 512KB.

#86611 $33.95

Bank Street Writer Plus

Word processors don't get any easier than Bank Street Writer Plus. But don't let its simplicity fool you. Bank Street Writer Plus is a sophisticated word processor offering a host of features once found only in much more expensive programs.

#86318 $59.96

Super PC-Kwik

This advanced disk cache program features up to 25% faster I/O than the previous version, simple installation, optional delayed writes, extended or expanded caches up to 16MB and dynamic memory-sharing with other applications. Compatible with IDE, MFM, RLL, ESDI, SCSI and floppy disks. If you own an older computer with expanded memory PC-Kwik is perhaps the best utility software package you can purchase.

#86330 $39.95

The New Print Shop

This program allows you to design your very own signs, banners, invitations, letterheads and more. With a large range of designs and eight different typefaces, it's like having your very own print shop right at home. This program runs on older computers using DOS 2.10 or higher and 512KB of RAM. A hard drive is required for color printing.

#86301 $39.95

The New Print Shop Companion

Expand your Print Shop! This program includes more typefaces, borders and graphics. 512KB.

#86302 $37.46

My Checkbook

An easy-to-use checkbook program that writes checks, and prints reports which put you in financial control. Holds approximately 1,000 checks on a 360K diskette and 3,000 checks on a 720K diskette or hard drive. 384KB required.

#86332 $24.95

How to Run Multimedia Software

You can install a CD-ROM drive and a sound card in any IBM PC, PCjr, XT or compatible computer, however computers that use 8088 microprocessors can not run Windows 3.1 and can not be upgraded to run Multimedia PC (MPC) software without major overhaul.

If you want to run MPC software we suggest you purchase one of the complete systems described elsewhere in our catalog with the PCE Multimedia kit installed. Nevertheless, you do not need to run Windows 3.1 in order to use a CD-ROM drive or a sound card. Thousands of DOS based CD-ROM titles are available that run fine on older computers.

1. Install a CD-ROM Drive

Installing a CD-ROM drive in most computers is quite simple provided the computer has industry standard ISA slots and a 5.25 inch drive bay. The interface card plugs into any unused expansion slot and connects with a cable to the drive. If your computer does not have an available ISA slot or 5.25 inch drive bay purchase an external CD-ROM drive that plugs into the parallel printer port. DOS 3.1 or later is required.

2. Install a Sound Card

An Adlib compatible sound card, or SoundBlaster and MPC compatible product only requires one unused slot and external computer speakers. The Adlib compatible sound card will produce 11-voice FM synthesized sound, and the SoundBlaster compatible sound card also produces speech and other sound effects. If the software that you run states it is Adlib or SoundBlaster compatible a sound card is an excellent upgrade to install.

22-voice sound cards have now become popular. These sound cards often produce "16-bit" sound, which means the sound card can produce CD quality sound. Of course, you'll need to run software that supports 22-voice sound and install good speakers to hear the difference.

To qualify as a MPC computer your computer needs a 386 or later microprocessor, 2MB of extended memory, Windows 3.1, a 1.44MB floppy disk drive, a mouse, a sound card, a CD-ROM drive, and a 30MB (or larger) hard drive!

A CD-ROM drive can be an excellent option to install as it allows you to run thousands of CD-ROM titles. To select CD-ROM software that runs on your computer be sure to purchase DOS-based CD-ROM software that supports your existing display adapter (CGA, EGA, VGA).

A sound card is an easy-to-install option that allows your AdLib and Sound Blaster compatible software to come to life with music, speech, and sound effects.

How to Run the Latest Windows-Based Software

Microsoft Windows 3.0 runs on all IBM and Tandy compatibles that have 640KB of conventional memory and a hard drive. Windows 3.1 however, requires a 286 microprocessor and extended memory.

486 upgrade kits allow you to obtain all the benefits of an 80486 microprocessor while saving over $500. You save money because you continue using your computer's monitor, hard drive, and floppy disk drives.

If your computer does not have a hard drive, trade it in for a new system. The PCE Upgrade System includes everything you normally get when you buy a new computer except the monitor. You'll save the $239 that you would otherwise spend for a monitor in addition to getting a $130 credit for your existing computer!

Many Windows-based applications that require Windows 3.1 or later run with only 1MB of RAM, however performance is often so poor that the program is virtually unusable. Purchase at least 4MB of RAM if you intend to run Windows and the latest Windows based applications!

Computers that have 8088 microprocessors can run Microsoft Windows and Windows-based software, however the latest release of Windows that can be used is 3.0. Later releases of Windows will not run on most older computers because extended memory is required. To run Microsoft Windows on an 8088, 8086, or 80286 microprocessor that does not have extended memory you have three options:

1. Run Microsoft Windows release 3.0

Windows 3.0 only requires 640KB of memory and a hard disk drive. While this is not the latest release of Windows, release 3.0 allows you to run most Windows-based software and to find out what Windows is all about.

2. Install a 486 Upgrade Kit

You can save up to $500 compared to the cost of a new computer when you purchase a PCE 486 Upgrade kit. This kit is actually a brand new computer that comes without a monitor, hard drive and floppy drives.

If you currently have a CGA or monochrome monitor, your monitor will display EGA graphics, although some flickering will be observed when running Windows because an interleave technique is used to display the 640 x 350 EGA mode. Purchase an SVGA monitor for flicker-free graphics and install 4 or 6MB of memory for improved performance.

3. Purchase a New Computer

If you are more curious about Windows than anything else, purchase a new computer with a video card that allows you to continue using your existing monitor. When you purchase the PCE Upgrade System you actually get a PCE Upgrade Kit (above) with the hard drive of your choice, and a floppy drive already installed. This is an excellent system to purchase because it is easily expandable and offers a reasonable balance of performance and price. Purchase with 4 or 8MB for improved performance.

Complete 486 Systems

PCE offers two complete computer systems for all needs. The 33MHz system is a good choice for anyone concerned with price. This system will allow you to run virtually any IBM compatible program you can buy. Purchase the system with 2MB of RAM if you expect to run mostly DOS-based application software, or with 4MB or 8MB if you will be running Windows-based software. If you are more concerned with performance than price purchase the 66MHz PCE 486 Local Bus System with 8MB of RAM. This system utilize a faster microprocessor and local bus architecture with 1MB of video memory to give you excellent performance and graphics while running Windows-based software. Don't be fooled by computers that sacrifice features to offer a lower price. Computers manufactured by PCE are easy and inexpensive to expand and service while offering excellent performance!

How to Run the Latest DOS-Based Software

If you want to run the latest DOS-based application software you are going to need additional conventional memory and hard drive storage. In addition, a 3.5 inch high density diskette drive is an excellent upgrade to install because most of today's software comes on 3.5 inch diskettes.

1. *Increase RAM memory to 736KB or add UMB memory*

Whether you own a newer or an older computer DOS is normally limited to using 640KB of RAM. Computers that have 80286 and later microprocessors are also limited to 640KB, however these computers have an important advantage. Newer computers can load DOS in the High Memory Area (HMA) and use Upper Memory Blocks (UMBs) to load device drivers and TSR programs. This means they can have more of the 640KB of RAM available to run software. Computers that have 8088 or 8086 microprocessors can not load DOS high, however they can add hardware that increases conventional memory as high as 736KB. Increasing RAM to 736KB more than makes up for the disadvantage that older computers can not load DOS high.

Increasing conventional memory from 640KB to 736KB is important because 8088 computers can not load DOS in the High Memory Area. The 96KB above 640KB allows 8088 computers to load DOS above the first 640KB of conventional memory.

2. *Add a 130MB, or larger, hard disk drive*

To run the latest software you'll want to use the latest DOS and will need lots of hard drive storage space for your applications. DOS 6 uses about 8MB of hard drive storage space, and each software package that you install should be expected to use 3MB or more. A 120MB hard drive therefore allows you to store about 40 programs. Purchase a large hard drive if you think you'll need space for more programs.

3. *Install a 3.5 inch high density floppy drive*

Your computer can use any type of floppy diskettes if you install the proper drive and controller card. The most common diskettes used today are 3.5 inch diskettes. Two types of 3.5 inch diskettes are common. Low density (720KB) diskettes and high density (1.44MB) diskettes can both be used if you purchase a high density drive.

When you install a 3.5" high density disk drive you can use 1.44MB and 720KB diskettes.

4. *Upgrade to EGA or VGA*

Many programs require an EGA or VGA display adapter to run. You can upgrade to EGA very inexpensively because a new monitor is not required. To upgrade from monochrome or CGA to EGA all you need is a new video card. Select a video card that has two connectors. A 9-pin (18-pin on PCjr) connector will allow you to display EGA graphics using your existing monitor, and a 15-pin connector will allow you to display Super VGA if an SVGA monitor is installed. Purchase the new monitor at a later date only if it becomes necessary. If you know you are going to need VGA or SVGA capabilities purchase a complete SVGA kit that includes a new video card and monitor.

To upgrade from CGA or monochrome graphics to EGA all you need is a new video card. EGA allows you to run more software, and enables software you now run to display four times more colors and much better detail.

An SVGA monitor allows your computer to display clearer text and millions of colors. However, to use this monitor you must first install an SVGA display adapter card.

How to Make your Older Computer Useful

All IBM and compatible computers can run thousands of useful programs. Popular uses include word processing, home budget and finance, inventment tracking, check book management, and countless other applications. In addition, your computer can be used to access CompuServe, Prodigy, or to cruise the Internet highway!

Increasing conventional memory is the single most important thing you can do to run more software.

1. Increase conventional RAM memory to 640KB

When you first turn your computer on it will likely perform a test of conventional memory. As this test is run you'll see the computer's memory counted up on the screen You can tell how much memory your computer has installed by observing how high the computer counts. If your computer has less than 640KB of memory the first thing you should do is increase memory. You are going to need 640KB of RAM to run must of todays DOS based software.

A hard drive allows you to run even more software and makes your computer easier to use.

2. Add storage space for programs. A 40MB hard drive will do.

A hard disk drive is like a storage trunk in your computer. If your computer has a hard drive you can copy software to the storage area inside the computer. Once software is copied to your hard drive you can turn the power off without losing information. A 40MB hard drive allows you to copy about 120 low density 5.25 inch diskettes inside your computer. This is more than adequate if you will not be using a lot of highly sophisticated software, however if you intend to use the latest DOS-based software, consider purchasing a larger hard drive. If you already have a hard drive and need additional storage capacity, select a hard drive that works without disabling your existing hard drive.

A fairly recent release of DOS is required to run much of today's software.

3. Upgrade to DOS 6

There are several good reasons to upgrade DOS. First, and most important, many programs require a fairly recent release of DOS in order to run. Check the software package to determine which versions of DOS are supported. Recent versions of DOS also allow you to add different types of floppy drives and to use hard drives that are larger than 32MB. In addition, DOS 6 allows you to check for and remove viruses, defragment and compress your hard drive, and easily back up your computer. Help is built into every command using the /? parameter. You can use DOS 6 if you have an IBM, Tandy, or compatible computer and a hard drive (PCjr's require a Compatibility Cartridge). The DOS 6 package sold in stores comes on high density diskettes, although a *coupon* is included to obtain low density diskettes. If you don't want to wait for the proper diskettes to arrive in the mail, be sure to purchase DOS 6 on the proper diskettes for your computer.

If you own an older computer, you have probably wondered what to do with it.

While prices for new computers have dropped significantly, so has the cost to upgrade older computers.

Expansion product prices have never been lower. Chances are you need to purchase very little to make your older computer useful. Purchase what you need to make your older computer useful and you'll be happy you did!

Does anyone in your family, at home or in school, need a computer to use for word processing?

Would someone you know enjoy using your computer to access Prodigy, CompuServe, Delphi or to cruise the Internet Highway?

Would you like to have a dedicated computer at your desk to keep track of your investments, pay your bills, and even print out checks?

If you answered YES to any of these questions, this Upgrade Manual for Older Computers will help you do exactly what you want. It shows how you can use your older computer to run WordPerfect 5.1 Plus, Quicken v7.0, and how to connect a modem to access a worldwide network of computers!

This Upgrade Manual is more than just a catalog of available products. It teaches you about your computer and tells you exactly how to make your older computer useful.

Upgrading your Existing Computer will Save you Money!!

Dear Customer:

Today's software requires a much more powerful computer than could have been imagined just a few years ago. Even if you recently purchased your computer, you have probably already started to crave more memory and a bigger hard drive. Perhaps you want to add something more exciting like a Fax/Modem, a scanner, sound board, CD-ROM drive, or even a color printer!

Very few people are willing to buy a new computer just because somebody came out with something else new. Adding expansion products to the computer you already own is the perfect solution. Expansion products allow you to continue using your existing computer, while still using the latest hardware and software products available.

If you want to upgrade your computer to make it more useful, chances are that you will need to purchase very little. The software that you decide to run will determine exactly what you need. An example makes this point very easy to understand. If you want to use your computer to type letters, reports, or even to write a long novel, you'll need word processing software. If you select Bank Street Writer (Broderbund) as the software that you use, you will have no trouble doing exactly what you want on almost any IBM or compatible computer. All the computer needs is 256KB of memory and any type of floppy disk drive. Your computer doesn't even need to have a hard drive! However, if you prefer to run the latest and most powerful word processing software available, you'll easily spend hundreds of dollars or more, to upgrade the same computer.

Ask yourself, what would you like to do with your computer. Do you simply want to make it *useful*, or do you want your computer to run *all* the latest software? Bank Street Writer is perfectly adequate for all my word processing needs. It has a built-in spelling checker, thesaurus, and all the features I would ever use. Even a grammar checker is available. Other people prefer the latest and most powerful software, and select WordPerfect 6.0 for Windows. While this program does have tremendous desktop publishing and presentation capabilities, it also requires a 386 or later microprocesser, 6MB of RAM, VGA display, and 33MB of hard disk space! Do you really need features like object linking and embedding?

PC Enterprises offers thousands of computer expansion products that let you add what you want, when you want it, without ever paying for features you don't need. We will help you upgrade your computer to make it more useful, or if you prefer, we'll help transform your computer into one that's powerful enough to run any software you can find. The choice is yours. PC Enterprises has upgrade products that fit your needs, and your budget, while saving you hundreds of dollars, and that's my guarantee!

P. Joseph Calabria
Owner and Founder, PC Enterprises

MEMBER BBB

Better Business Bureau of Central New Jersey

TOLL-FREE ORDERING

Order Toll-Free 8AM to 6PM EST Monday thru Friday

800 922-7257

ORDER BY FAX

Place your order by Fax 24 hours a day, every day

908 280-0010

CUSTOMER SERVICE

9AM to 4:30PM EST Monday thru Friday

908 280-0025

LOWEST SHIPPING PRICES

Don't be fooled by companies that advertise low-ball prices then overcharge for shipping!!

Shipping only $5 per Order

Anywhere in the US excluding Alaska and Hawaii. Additional shipping charges only apply to monitors, systems, printers and quantity purchases.

PC Enterprises offers thousands of the very best upgrade products available for all IBM PC and compatible computers at the lowest possible prices. Even novice computer users, including many who had never removed the cover from their computer, report that they had no trouble installing upgrade products in their own home. Only in rare circumstances does anyone ever need to send their computer to our facility, although its comforting to know that a professional and inexpensive installation service is simply a few days away. Illustrated instructions and unlimited technical help by phone are always available.

PC ENTERPRISES

"Computer Upgrade Specialists Since 1984"

2400 Belmar Blvd Bldg B16 • PO Box 292 • Belmar NJ 07719

#80371

486 Upgrade Kits as low as $295*

Upgrade your Computer to a Powerful 33MHz 486 in less than one hour!

Most computers can be upgraded to a 486 in less than one hour. If you are handy with a screwdriver, and want to spend the least amount of money possible, this 486 upgrade kit is for you!

The PCE 486 Upgrade Kit is a new computer that comes without drives or a monitor. To upgrade your existing computer remove the disk drives and install them in the new computer's case, Finally, plug in your keyboard and monitor.

If you have a 286 or 386 computer this kit is will almost always be the best way to upgrade to a 486 computer. You'll save over $500 because you will not need to replace your monitor or disk drives. There's no need to spend this much money to replace parts that work perfectly fine just because you want a faster computer!

Installation is simple. Customers have reported spending 30 minutes or less to complete the upgrade. Begin by removing the floppy disk drives and hard drives from your computer. If your hard drive is attached using a 40-conductor cable you will not need to remove anything else. Otherwise, unplug the hard drive controller card from your existing computer and plug it into the new computer.

The only other things you need are SIMM memory and a PC-AT keyboard. Purchase memory kits shown on this page, or reuse the memory already in your computer. If your existing computer is a genuine IBM PC or XT you will also need a PC-AT keyboard. If your computer is a clone check whether the keyboard has a PC/AT switch, or automatic PC/AT detection feature. Most 286 and 386 computers can continue using their existing PC-AT style keyboard (except Tandy 1000 and IBM PS/2).

Memory Options	Sockets Used	Catalog #	Price
1MB Kit	4	10128	$59.80
2MB Kit	2	10118	$99.90
4MB Kit	4	10111	$199.80
8MB Kit	2	10126	$319.80
10MB Kit	4	10127	$419.70
16MB Kit	4	10112	$639.60

What You Must Have

- A CGA, EGA, VGA, SVGA, or monochrome monitor.
- A half height hard disk drive. The kit includes an IDE hard drive controller and therefore allows you to use IDE hard drives (40-conductor cable) without buying anything else. If your computer has a SCSI hard drive (50-conductor cable) you will need to purchase an SCSI controller such as the TMC850 ($59).
- A floppy drive. Industry standard floppy drives always connect to the computer with a 34-conductor cable. Floppy drives used in most IBM PS/2 and certain Tandy 1000 computers are non-standard and therefore can not be used.
- A PC-AT style keyboard that has a standard AT keyboard connector. The connector should be round (.5" diameter with five pins).

Here's What You Get

- A mini tower computer enclosure with 200 Watt power supply and plenty of room for expansion. The case has space for two half height or one full height 5.25 inch drives. In addition, space is provided for three 3.5 inch drives.
- A 486SLC system board with internal cache and 4 available ISA slots for future expansion. The system board has four sockets that accept 1MB or 4MB SIMMS.
- An ATI video card that has digital and analog monitor connectors. The digital connector (9-pin D-type) works with monochrome, CGA, and EGA monitors. The analog connector (15-pin high density D-type) works with SVGA and VGA monitors. The ATI 512KB SVGA card is one of the finest ISA video cards in the industry.

Upgrade Kits save you money because you continue using your monitor, hard drive, and floppy drives.

Drives not included

- Two serial ports (9 and 25-pin connectors), a parallel port (25-pin connector), a joystick port (15-pin connector), a high density floppy drive controller that also controls low density drives (34-pin connector) and an IDE hard drive controller (40-pin connector).
- All cables to connect up to two floppy and one or two IDE hard drives.

33MHz 486SLC with 1KB internal cache #12804-1 $295
66MHz 486SLC2 with 16KB internal cache #12804-2 $445
Additional shipping $25.

*Memory Options

The price of the kit does not include memory. Four sockets are provided that allow you to install industry standard memory SIMMs. The kit requires 80ns or faster 30-pin SIMMs. Purchase a memory kit or use with SIMMs you already have. When memory kits are purchased from PCE we install and test the memory in your system at no added charge.

PC ENTERPRISES
2400 Belmar Blvd. Bldg B-1
PO Box 292
Belmar, New Jersey 07719

BULK RATE
US POSTAGE
PAID
PERMIT NO. 65
BELMAR NJ