Titan
TECHNOLOGIES, INC.

RETAIL PRICE LIST

EFFECTIVE AUGUST 31, 1983

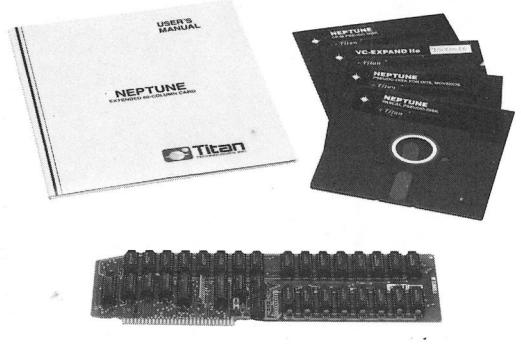
HARDWARE
Apple® II, II+, IIe and Their Compatibles

ACCELERATOR II™

The only 3½ MHz 6502 processor and high-speed memory board. Lets you run your computer at 3½ times normal speed, increasing productivity. Includes 64K high-speed memory, plus boot-up software diskette.

	Suggested List
ACCELERATOR II	$599

NEPTUNE™



The 80-column video display card, enhanced with on-board RAM designed expressly for the auxiliary slot of the Apple IIe. Comes complete with VC-EXPAND/80 software to expand VisiCalc® up to approximately 220K of usable memory. Also includes MOVEDOS memory enhancer, plus PSEUDO-DISK disk emulation software for PASCAL, CP/M® and DOS. Available with 64K, 128K or 192K RAM; smaller memory versions are fully upgradeable.

	Suggested List
NEPTUNE 64K	$249
NEPTUNE 128K	399
NEPTUNE 192K	499
64K UPGRADE KIT	149

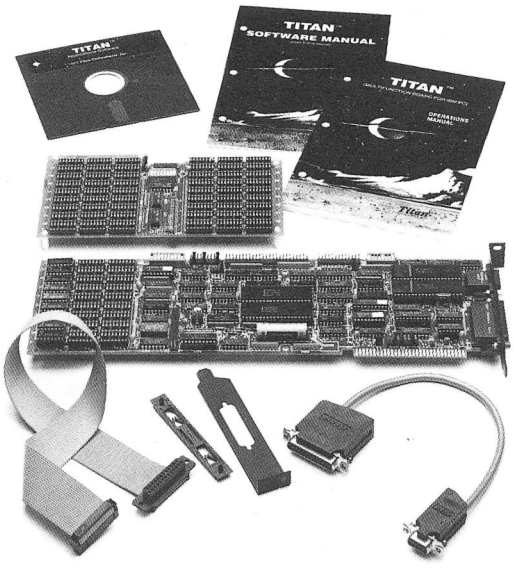
SATURN RAM

The original RAM memory boards that lifted Apple's 64K limit. Comprehensive package includes RAMEXPAND, MOVEDOS memory enhancer software, plus PSEUDO-DISK for DOS software. Our 64K and 128K versions also include PSEUDO-DISK software diskettes for PASCAL and CP/M. The 64K version can be upgraded to 128K with our 64K upgrade kit.

	Suggested List
32K SATURN RAM	$219
64K SATURN RAM	349
128K SATURN RAM	499
64K UPGRADE KIT FOR 64K SATURN RAM	149

HARDWARE
IBM® PC, XT and Their Compatibles

TITAN™



The only multi-function card with a SASI hard disk interface port, up to 576K of RAM (bank switchable), real-time clock/calendar with lithium battery circuit, two serial ports (COM1: or COM2:), one bi-directional parallel port (LPT1:, LPT2: or LPT3:). Includes PSEUDO-DISK™, PSEUDO-PRINT™, WHATIME™, and HARDISK™ software diskettes, Occupies only a single slot; piggyback attached board included with all models.

	Suggested List
TITAN 64K	$ 695
TITAN 128K	815
TITAN 256K	995
TITAN 576K	1495
TITAN 64K UPGRADE KIT	149

CYGNUS™

Parallel Port *Serial Port*

This Titan exclusive is the high-utility short board with three I/O functions. Each board has a clock/calendar function supported by WHATIME softare, an IBM game control adapter compatible port and either a serial or parallel port as defined by the -S1 or -P1 designator.

	Suggested List
CYGNUS-P1 Parallel Port	$199
CYGNUS-S1 Serial Port	229

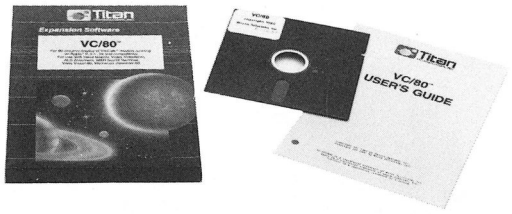
SOFTWARE
Apple and Apple Compatibles

VC-EXPAND/80™

The premier VisiCalc enhancement, VC-EXPAND/80 increases usable memory space to as much as 176K when teamed with Saturn or compatible RAM cards. Advanced features include 80-column display, variable width of individual columns, fast save/load, and special mutiple diskette storage for large worksheets.

	Suggested List
VC-EXPAND/80	$ 79.95
VC-EXPAND/80 FOR NESTAR NETWORK	400.00

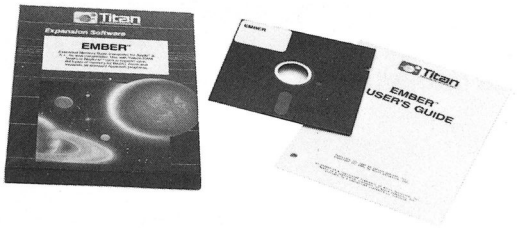
VC/80™



With VC/80, you see your VisiCalc in 80-column display — and can use lower case letters. VC/80 supports Videx Videoterm, ALS Smarterm, M&R Sup 'R' Terminal, Vista Vision-80, Micromax Viewmax-80 and others.

	Suggested List
VC/80	$49.95

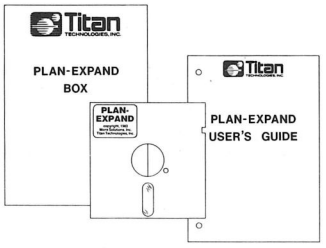
EMBER™



Titan's Extended Memory Basic Interpreter creates up to 4Mbytes memory for Applesoft when used with our Saturn RAM and/or Neptune cards.

	Suggested List
EMBER	$49.95

NEW! PLAN-EXPAND™



Expands workspace memory for Multiplan™ on Apple II or Apple II Plus when used with our Saturn RAM cards.

	Suggested List
PLAN-EXPAND	$49.95

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For information on Titan microcomputer products, see your computer dealer or contact: Titan Technologies, Inc., 310 West Ann Street, Ann Arbor, MI 48104; Telephone (313) 662-8542.

CP/M is a registered trademark of Digital Research Inc.
Apple is a registered trademark of Apple Computer Inc.
VisiCalc is a registered trademark of VisiCorp, Inc.

IBM PC & XT are registered trademarks of International Business Machines Corporation.
ACCELERATOR, NEPTUNE, TITAN, VC-EXPAND/80, PSEUDO-DISK, PSEUDO-PRINT, WHATIME, HARDISK, VC/80, EMBER and CYGNUS are trademarks of Titan Technologies, Inc.

NEW SOFTWARE!

1. PLAN-EXPAND doubles Multiplan memory

Our quick Plan-Expand pre-boot disk expands Microsoft's Multiplan to use any of our Saturn RAM Boards on an Apple II or II Plus. Check the following table to see how much your Multiplan can be improved:

Total Memory (Apple + cards)	100% Memory in Multiplan
64K	17.4K
80K	31.5K
96K or more	33.2K

On the Apple IIe, our Neptune Extended 80-Column Card gives you 36.4K of Multiplan memory without additional software.

Plan-Expand is written for the Saturn RAM Boards from Titan Technologies, Inc. Most other RAM boards are also compatible.

2. EMBER expands Basic programs

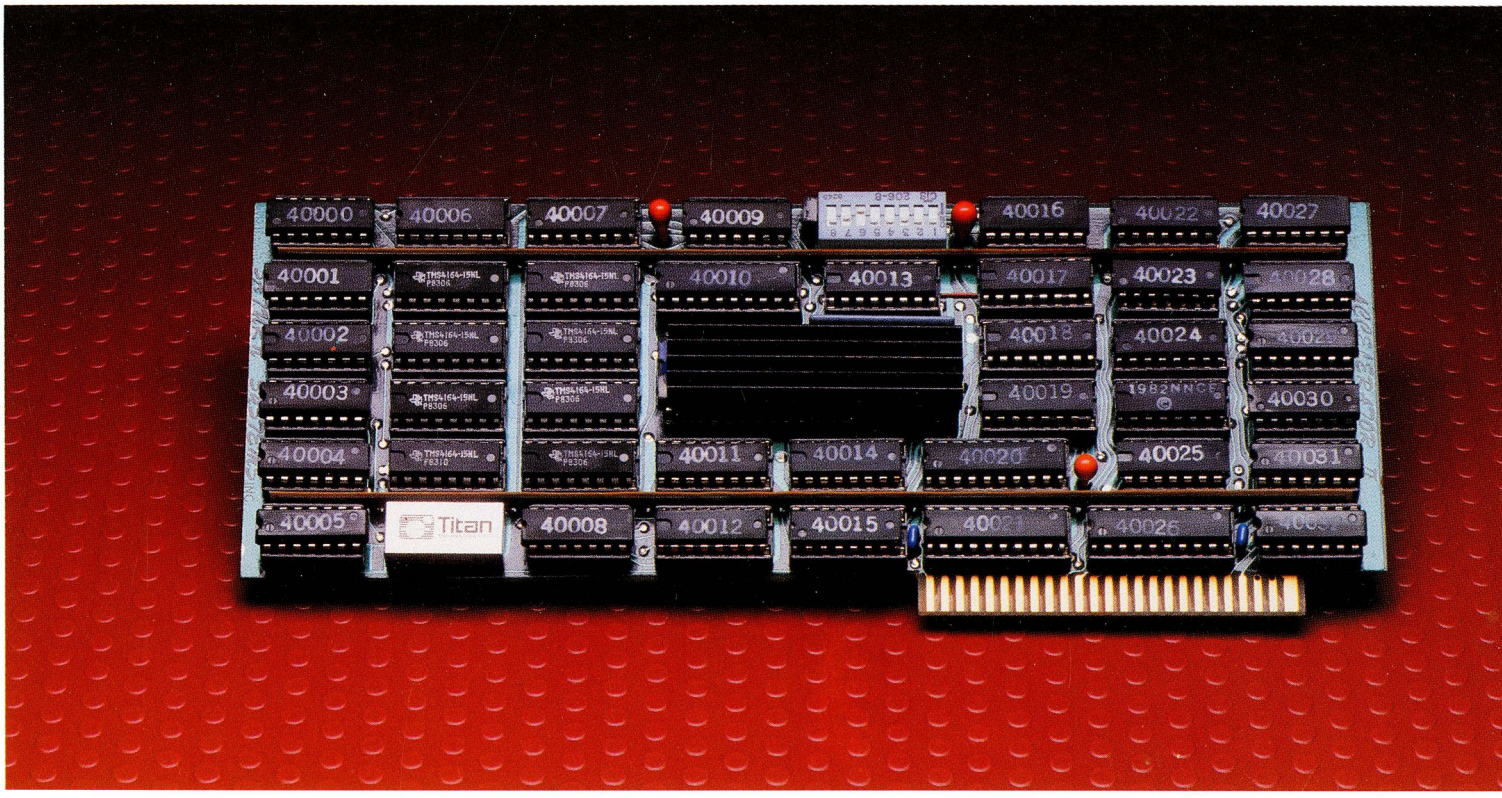
With our Extended Memory Basic Interpreter, EMBER, you can use as much memory as you can possibly plug into your Apple II, II Plus, or IIe. All the bank-switching is done for you. EMBER automatically puts variables, strings, and arrays in your expansion RAM boards. Now your dimension statements can look like this:

```
DIM X(12000)
DIM I%(32000)
DIM C$(16000)
```

EMBER runs just like Applesoft, only slower because of its greatly increased memory. But you can add our Accelerator II to make it just as fast as Applesoft, and speed up all your other work too!

Titan TECHNOLOGIES, INC.
P.O.Box 8050, 310 W. Ann, Ann Arbor, MI 48104
Telephone (313) 662-8542

ACCELERATOR II™ makes your Apple® run 3½ times faster.



New power for Apple II, II + and their compatibles.

Now you can run VisiCalc,® DB Master,® Applesoft, Apple Fortran or PASCAL without long delays. Just plug Accelerator II into any slot and watch your Apple, Franklin, Basis or other Apple II compatible take off!

A Titan Technologies exclusive.

Accelerator II has its own fast 6502 processor, 64K of high-speed memory, and built-in fast language card. It's like slipping an extra, faster Apple inside your present computer. And when you want to run programs at regular speed, just slow down the Accelerator II with your preboot disk.

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Spend more time computing, less time waiting.

To speed up virtually all your computer work, we've included a disk to put Applesoft, Integer or PASCAL on the faster Accelerator II instead of the regular language card. As a result, practically every program will run about 3½ times faster. The only exception is CP/M® software on the Microsoft Z-80 Softcard, which runs at normal speed. However, even CP/M programs run faster when you use certain Z-80 cards, such as the PCPI APPLI-CARD.

Get these advantages fast!

VisiCalc models recalculate in a third of the time. Data base management and other business applications benefit from increased throughput and productivity.

Compatible, of course.

Accelerator II is compatible with just about anything you may have in your computer. It's transparent to your software and compatible with most standard peripherals. And it works perfectly with our memory boards, or even those of our competitors. In fact, you can now triple or even quadruple your memory without sacrificing speed.

Make your Apple run faster without even breathing hard.

For details, see your local computer dealer or contact: Titan Technologies, Inc., 310 West Ann Street, Ann Arbor, MI 48104; Telephone (313) 662-8542.

Apple is a registered trademark of Apple Computer, Inc.

VisiCalc is a registered trademark of VisiCorp, Inc.

DB Master is a registered trademark of Stoneware, Inc.

CP/M is a registered trademark of Digital Research, Inc.

Accelerator is a trademark of Titan Technologies, Inc.

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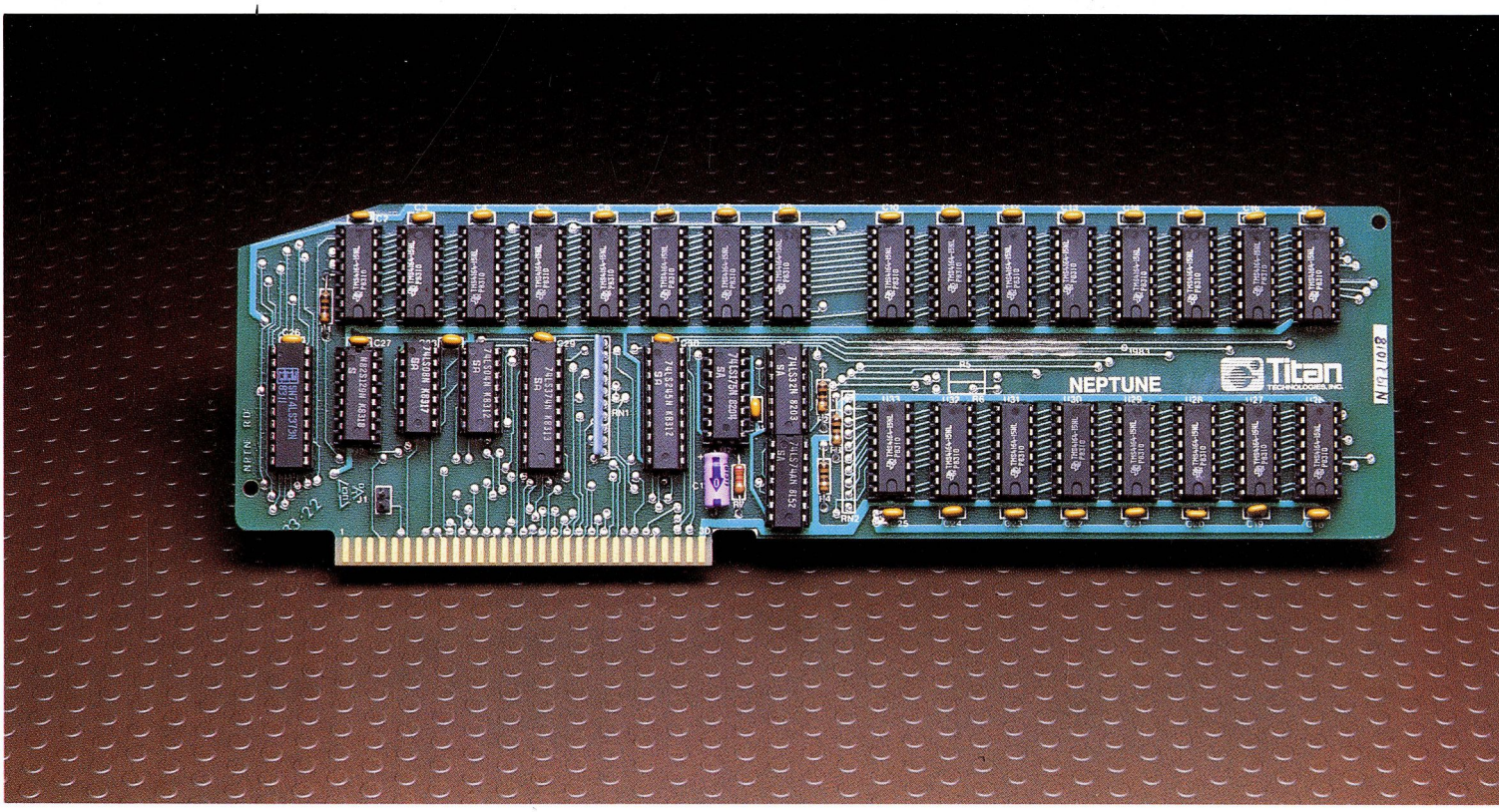
NEPTUNE™ adds 80-column display and up to 192K to your Apple® IIe.



The two most popular expansion features, on a single card.

Titan's exclusive Neptune Extended 80-Column Card gives you increased video display and up to 192K of extra memory by using just the auxiliary slot of your Apple IIe.

And you can select from three versions—64K, 128K or a full 192K of RAM.

Dramatic increases in speed and productivity.

Software included with Neptune lets you use the additional memory as a super-fast RAM disk—a big plus with many programs.

You also get Titan's special VC-EXPAND/80™ software to expand VisiCalc® up to 220K of workspace memory and to provide many more VisiCalc enhancements. DOS, PASCAL and CP/M® PSEUDO-DISK™ patches and a DOS relocation program are included with each Neptune card.

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Technical facts about Neptune.

The card consists of three banks of 64K dynamic RAM chips, which can be bank-switched into and out of the auxiliary RAM address space of the Apple IIe. Partially populated cards (64K and 128K versions) can be upgraded to 192K simply by plugging in chips from the Neptune upgrade kit. The built-in 80-column firmware of the Apple IIe is fully supported by all Neptune cards.

VisiCalc enhancements, made easy.

VisiCalc 218 never looked so good—or worked so well. Software included with Neptune provides variable individual column widths, fast save/fast load features, and multi-disk files. It also supports our Saturn RAM cards, plus Corvus and Davong hard disks for saving files. The workspace memory can be increased to as much as 220K.

PSEUDO-DISK software is also part of the package.

This advanced programming lets you use the Neptune card—and possibly our Saturn RAM board as well—like a standard disk drive but with increased speed. All PSEUDO-DISKs include turnkey operation features for exceptional ease of use.

☐ For DOS 3.2 or 3.3; programs, data, etc. can be saved in RAM simply by using DOS commands for disk access and specifying the drive designation assigned to the PSEUDO-DISK. Up to 384K can be used in the PSEUDO-DISK.

☐ For PASCAL, you can use the Neptune card as another volume. Compilation speeds up, and you get almost instantaneous response from the editor and filer. A FASTLOAD utility uploads and downloads an entire diskette. Additional utilities facilitate transfer of individual files between PSEUDO-DISK and a real disk drive. Up to 512K can be used in the PSEUDO-DISK.

☐ For CP/M, programming utility is greatly enhanced with ready storage of programs and data, plus the elimination of slow disk access. As much as 256K can be used in the PSEUDO-DISK.

An extra software bonus—MOVEDOS.

We've even included software to relocate DOS into the top 16K (built-in language card) of the Apple IIe, freeing up 10K of user memory. With MOVEDOS, you can generate a turnkey system by using INIT to create a copy of the relocated DOS. Later, the disk can be booted—even from power up—to automatically load DOS into the bank-switched memory in one simple step.

Enhance your Apple IIe the Titan way.

For details on Neptune, see your local computer dealer or contact:
Titan Technologies, Inc.,
310 West Ann Street,
Ann Arbor, MI 48104;
Telephone (313) 662-8542.

Apple is a registered trademark of Apple Computer, Inc.

VisiCalc is a registered trademark of VisiCorp, Inc.

CP/M is a registered trademark of Digital Research, Inc.

NEPTUNE, VC-EXPAND/80 and PSEUDO-DISK are trademarks of Titan Technologies, Inc.

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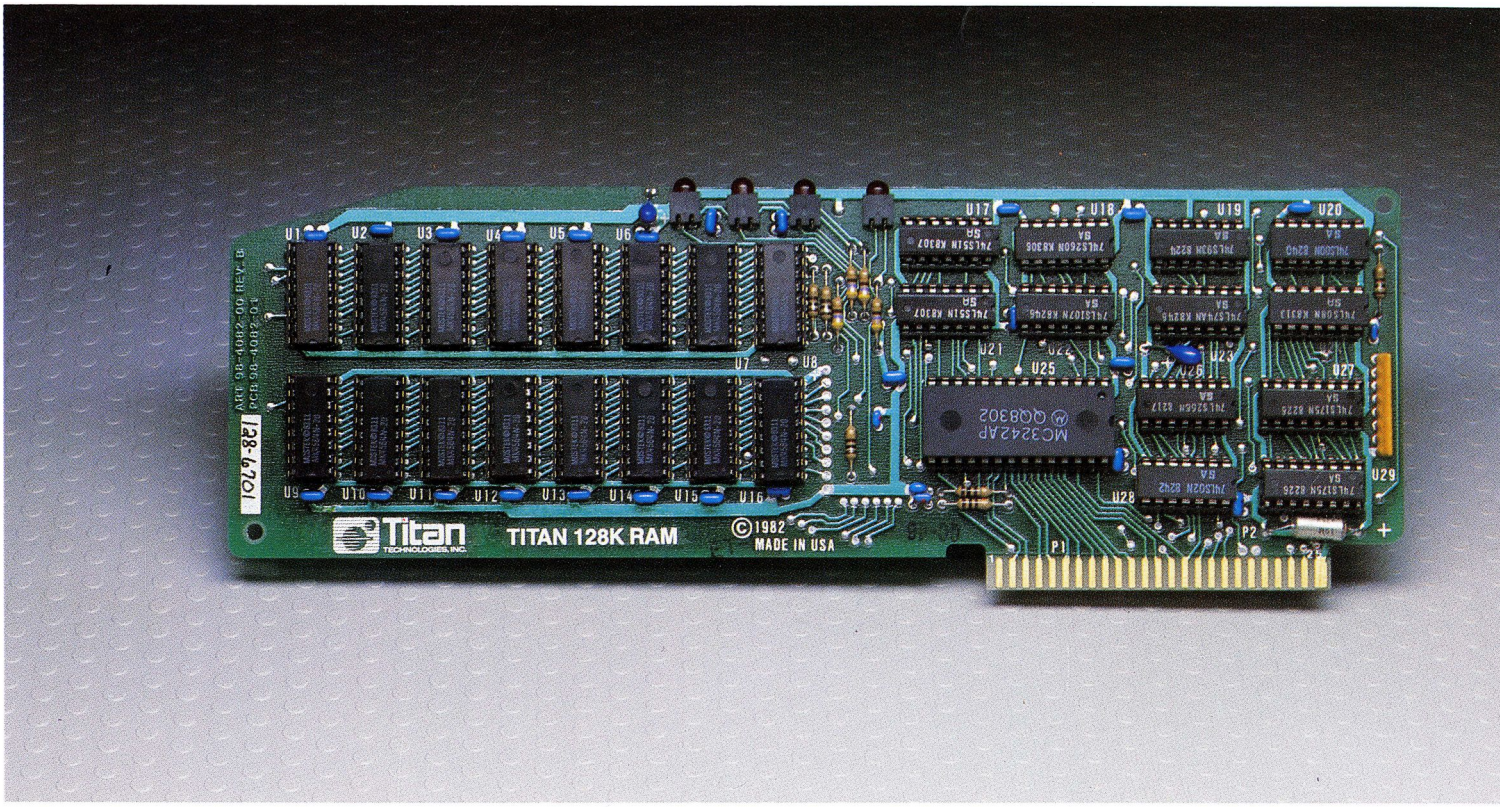
SATURN RAM gives your Apple® more memory and better software.



Perfect for Apple II, II + , IIe and their compatibles.

In 1981, we introduced our famous Saturn multi-bank RAM card to boost the Apple's memory by 32K. Now, we also offer 64K and 128K versions for even greater power.

Big on benefits.

Each Saturn RAM board performs all the functions of a language card. More important, its extra banks of RAM give you loads of memory space for BASIC, VisiCalc,® Multiplan™ and much more. You can even use your RAM boards like a speedy disk drive. Save time accessing data, and save wear and tear on your floppy drives! Saturn boards are a super aid for advanced word processing, data base management, spreadsheet, and accounting applications. They're ideal with PASCAL, CP/M® and BASIC too.

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Built the best, backed the best.

Saturn RAM boards incorporate high-reliability, pretested, dynamic RAM chips with low-power consumption. Peak performance is assured by a 1-year warranty. And you have a choice of three cards to match your price/performance needs.

☐ Saturn 32K includes software to relocate DOS into the memory board, enhance BASIC programs via chaining and overlays, and simulate a fast internal disk drive under DOS. Optional software can simulate a disk drive under CP/M or PASCAL, expand VisiCalc or Multiplan workspace, and add memory space for variables to BASIC automatically.

☐ Saturn 64K is a medium-range board with all the features of our 128K version. And with our upgrade kit of plug-in chips, you can double its capacity as your needs grow.

☐ Saturn 128K, our largest board, includes five comprehensive software packages: (1) MOVEDOS, for DOS relocation; (2) RAMEXPAND, for chaining and overlaying BASIC; (3) PSEUDO-DISK for DOS, to simulate a fast disk drive under DOS; (4) PSEUDO-DISK for PASCAL, and (5) PSEUDO-DISK for CP/M. Optional software can expand VisiCalc or Multiplan workspace and add up to 4 Mbytes of variable storage space to BASIC.

Easy installation.

Slip any Saturn RAM board into any slot in your Apple, Franklin, Basis or most other Apple compatibles. There's no jumper cable to bother with. And you can use our cards—or other standard RAM boards—in combination for sensational enhancements. Imagine 176K of VisiCalc workspace, or 256K of data storage on your fast access PSEUDO-DISK!

Buy from the leader.

We're the people who lifted Apple's 64K limit. We originated the concept of multi-bank circuitry on a single plug-in board, and provided the software to handle it. Find out more at your local computer store or contact Titan Technologies. Also, check out our other advanced add-ons and expansion products for the Apple, including the Accelerator II™ (to speed up the Apple by 3½ times) and the Neptune™ card (to put 192K of memory and 80-column display into the Apple IIe).

Enhance your Apple the Titan way.

See your computer dealer today or contact:
Titan Technologies, Inc.,
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Ann Arbor, MI 48104;
Telephone (313) 662-8542.

Apple is a registered trademark of Apple Computer, Inc.

VisiCalc is a registered trademark of VisiCorp, Inc.

Multiplan is a trademark of Microsoft Corporation.

CP/M is a registered trademark of Digital Research, Inc.

ACCELERATOR II and NEPTUNE are trademarks of Titan Technologies, Inc.

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TITAN™ VISICALC® ENHANCEMENTS enhance your Apple® with new modeling capabilities.

Special expansion software boosts productivity and output.

With more workspace, display features and format options, VisiCalc becomes a much more versatile tool for Apple II, II+, IIe and their compatibles. Now, you can create models you never dreamed possible on your machine. You can even save and reload your largest models in less than one minute.

Another super Titan package.

Our powerful VisiCalc expansion programs are easy to use and thoroughly documented. They're also exceptionally well supported, with constant attention devoted to expanding business needs. As new features are added, upgrades are made available to current users at nominal cost.

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VC/80™ for 80-column display of VisiCalc models.

Our first step up, VC/80 works in the 80-column format and also supports entry of upper/lower case letters in your models. It works with the following boards: ALS Smarterm and Smarterm II, Bit 3 Fullview-80, M & R Sup'R'Terminal, Micromax Viewmax-80, Videx Videoterm and Ultra-Term, and Vista Vision-80.

VC-EXPAND/80™ takes your micro to the max.

For starters, your 16-sector VisiCalc can take advantage of the full amount of memory on our Neptune™ or Saturn RAM boards (minus a few K for the program). A maximum of 176K can be used on the II and II +, or 220K on the IIe. VC-EXPAND/80 modifies VisiCalc in memory and will not noticeably slow down your VisiCalc calculations. However, your Apple will need more time to recalculate the much larger spreadsheets you'll be able to create with this system. So look into our Accelerator II™ board to increase speed 3½ times!

VC-EXPAND/80 features include:

- ☐ Variable column width on individual columns.
- ☐ Fast save/fast load option that saves files in binary format. Even your largest files can be saved or loaded in less than a minute.
- ☐ VisiCalc is modified to use the entire displayed matrix, from A1 to BK254. (VisiCalc alone allows only about 9,000 cells.)
- ☐ Multi-disk files feature lets you save files on more than one diskette when they get too large for a single diskette.
- ☐ Hard disk support to save files on the Corvus and Davong hard disks.
- ☐ Includes all the features of VC/80, described above.

VC-EXPAND/80 for NESTAR Cluster/One.

This program is installed on the NESTAR hard disk and can be accessed by each station. Only one copy of software is required for each network. Individual Apples in the network can have any combination of Saturn RAM boards and/or 80-column boards; the program will use whatever hardware is available at each station.

Find out more about Titan software.

See your local dealer or contact:
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Telephone (313) 662-8542.

Apple is a registered trademark of Apple Computer Inc.

VisiCalc is a registered trademark of VisiCorp, Inc.

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The VisiCalc expansion software is written for Titan Technologies by Micro Solutions, Inc.

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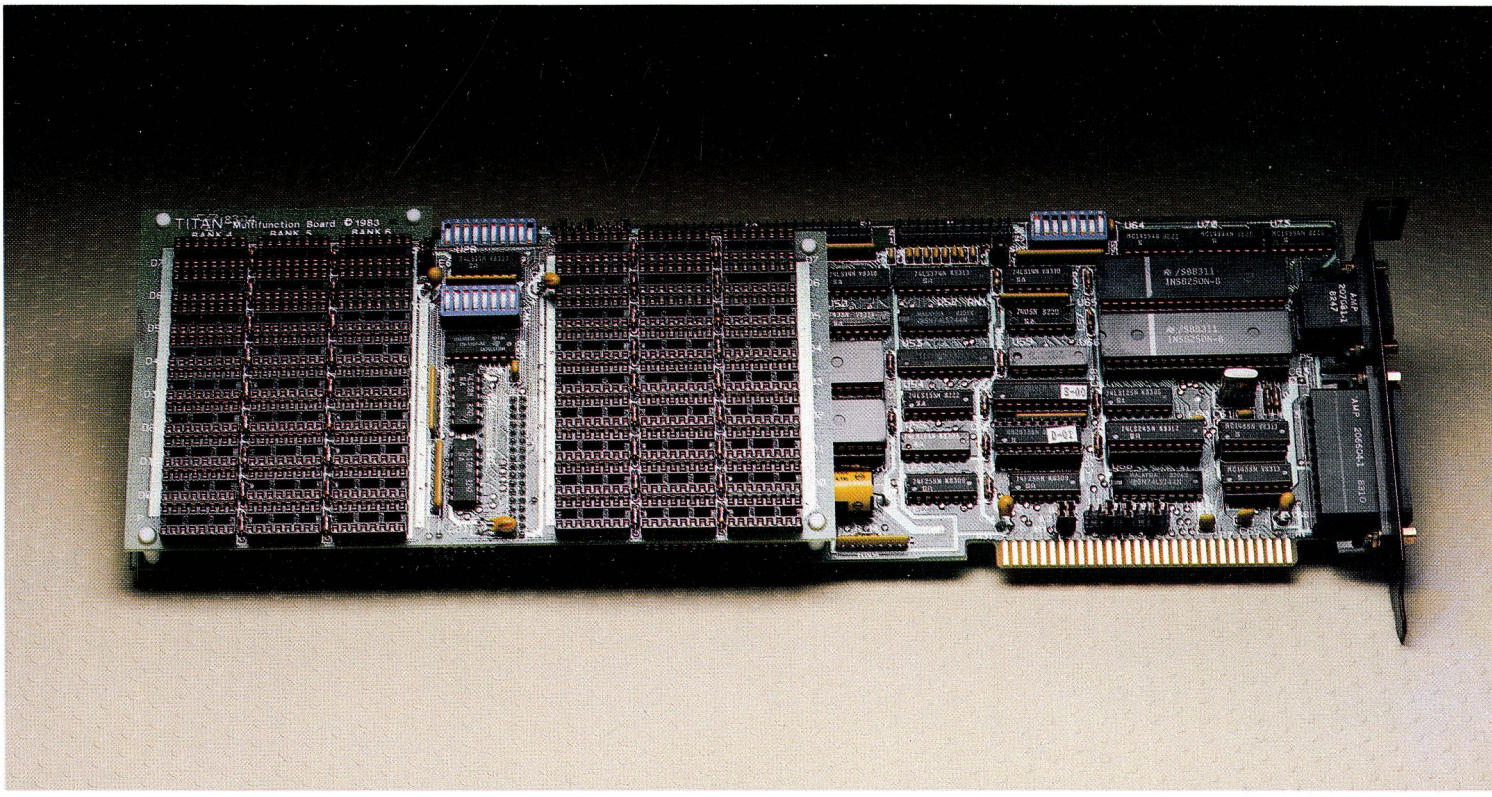
TITAN™ gives your IBM® Personal Computer more memory, three more ports, a clock/calendar, and even a hard disk interface.



Exclusive six-function card for IBM PC and XT. TITAN is the only expansion card that gives your IBM computer *both* hard disk interface and a parallel printer port. This advanced package also includes two RS-232C serial ports, a real-time clock/calendar with battery back-up, plus a choice of five memory expansions, from 64K to 576K (in 64K increments). And everything slips neatly into a single slot to keep future expansion options open.

Truly versatile hardware. To meet your needs for increased memory, you can pick a TITAN with parity-checked dynamic RAM of 64K to 576K.

Upgrading to larger memory versions is simple. Even the 64K TITAN boards include the piggyback board with all you need (except the RAM chips) to reach 576K. And each comes complete with a SASI host adapter for hard disk interface.

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The general-purpose standard or bi-directional parallel port is perfect for printer interface and may be assigned to LPT1:, LPT2:, or LPT3:. Serial ports may be assigned to COM1: or COM2:—and can be individually disabled without removing chips.

Along with your new TITAN multi-function board, you'll find a 25-pin ribbon cable, ready for your parallel printer, a 9-pin to 25-pin cable for your second serial port (wired especially as a "null modem" for direct serial printer interfacing), a card guide for installation of the board, and a ribbon cable bracket for mounting the parallel ribbon cable. There's no need to search for, wire or purchase any extras before you get started.

Super software included.
Your plug-in TITAN board comes ready to run with all this software (compatible with DOS 1.1 and 2.0):

☐ PSEUDO-DISK™ speeds up throughput by making the on-board RAM act like a very fast disk drive. This way, you gain extra on-line storage for programs that manipulate large data files.

☐ PSEUDO-PRINT™ print spooler lets you continue using your computer while the printer is running. Just start the print cycle and continue with your next computing job.

☐ WHATIME™ lets you set the clock on your TITAN board. Then, your system will come up with correct date and time automatically, thanks to the on-board battery back-up.

☐ HARDISK™ provides software support for a 5¼-inch Winchester hard disk drive with a 1410 XEBEC controller. Currently 5, 10, 15 and 20 Mbyte models from Creative Micro Systems* are supported directly.

Let us help you expand your IBM's productivity.
For information on our multi-function boards and other Titan microcomputer products, see your local computer dealer or contact: Titan Technologies, Inc., 310 West Ann Street, Ann Arbor, MI 48104; Telephone (313) 662-8542.

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TITAN, PSEUDO-DISK, PSEUDO-PRINT, WHATIME and HARDISK are trademarks of Titan Technologies, Inc.

*FCC approval pending as of September 1983.

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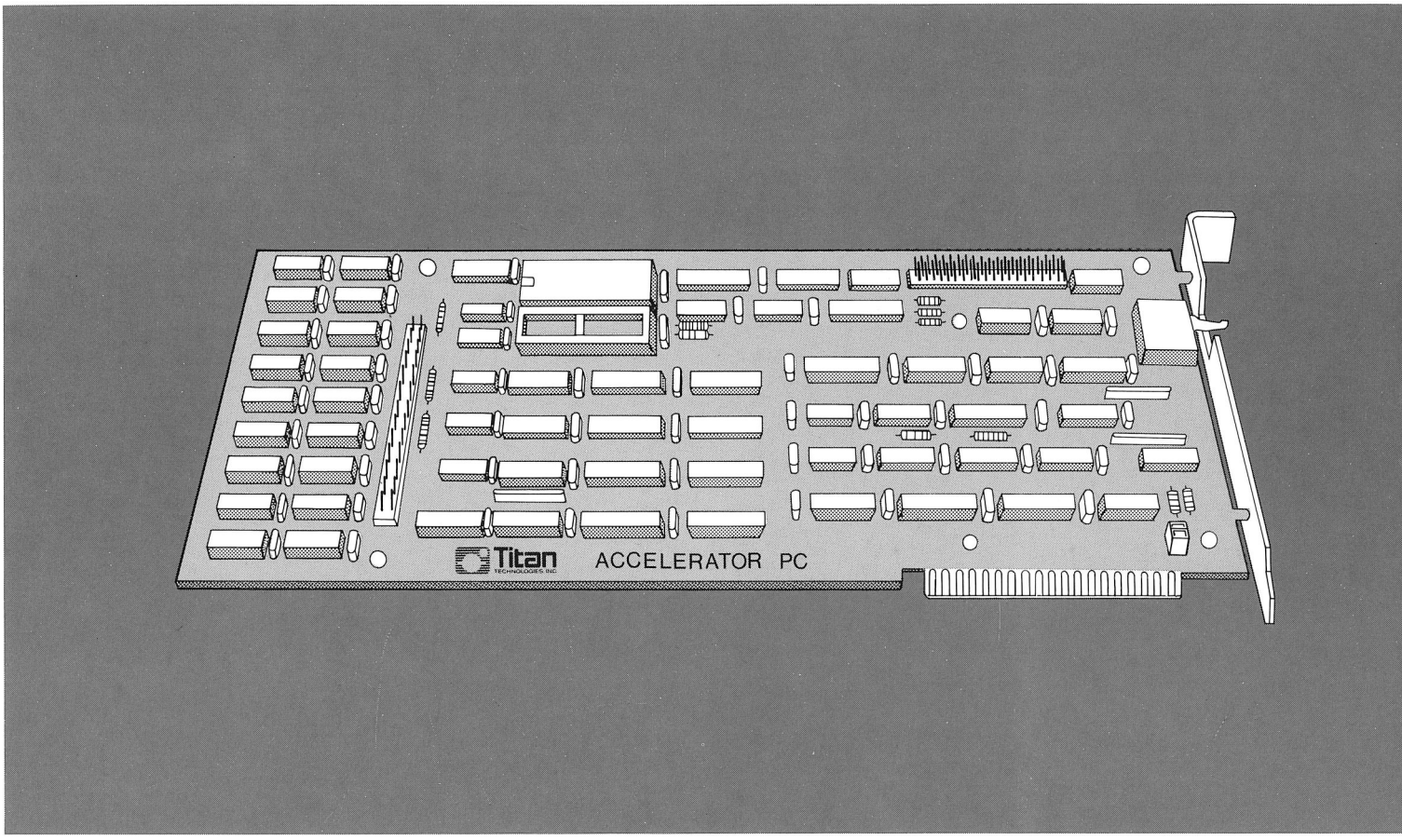
ACCELERATOR PC™ makes your IBM® PC or XT run 2½ to 4 times faster.



New power for IBM PC, and PC-XT.

Now you can run LOTUS 123™, VisiCalc™, Multiplan™, data bases, word processing packages, high speed graphics, and much more with spectacular efficiency. Just plug the ACCELERATOR PC into your IBM PC and watch your programs run 2½ to 4 times faster.

Get true 16-bit operation.

The ACCELERATOR PC includes a 10 MHz 8086 microprocessor and 128K to 640K of high-speed RAM. This converts your PC to a full-scale 16 bit machine, overcoming the limitations of the PC's 8-bit 8088 data bus. In addition, the clock cycle of the ACCELERATOR's 8086 is twice as fast as the IBM's 8088 clock cycle. Your total speed improvement is a factor of 2½ to 4, depending on the application. Typical programs run an average of 3 times faster.

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Fast RAM expansion too.

You can buy the ACCELERATOR PC with or without the special memory upgrade piggy-back board. This feature lets you put up to 640K of high-speed RAM *plus* your turbo-charged processor into a single slot.

The ACCELERATOR PC's fast RAM (128K standard) completely replaces the regular main board RAM for all calculations, giving you maximum speed benefits. You can upgrade to more fast RAM (128K at a time) whenever you wish.

Compatible with everything.

The ACCELERATOR PC is fully compatible with other PC hardware and software. It has no problem accessing expansion memory boards, such as our TITAN™ Multi-function Board and others. We even include PSEUDO-DISK™ software and a print spooler to make your PC truly the most powerful computing machine that will fit on your desk.

Built with the future in mind

The ACCELERATOR PC has provisions for a high-speed, 10 MHz 8087 arithmetic coprocessor (when available). 256K RAM chips will plug right in, as well.

Get these advantages fast!

The enhanced response time of your accelerated IBM will mean less waiting and more productivity for you. Get your work done in a third of the usual time. For more details, see your local computer dealer or contact: Titan Technologies, Inc., 310 West Ann Street, Ann Arbor, MI 48104; Telephone (313) 662-8542.

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VisiCalc is a registered trademark of VisiCorp Incorporated.

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