

1991

1992

1993

1994

1995

1996

1997

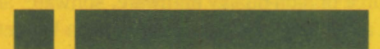
1998

1999

2000

**Since the day the Apple III (RIP) was introduced in 1980, the “experts” have been saying the Apple II is a dead machine. If the Apple III couldn’t kill it, the Lisa (RIP) or the PC Jr (RIP) or the 128K Mac (RIP) would. Some people never learn. I think we’ll see 2001 before we see the end of the Apple II. Here’s why...**

***A2-Central***

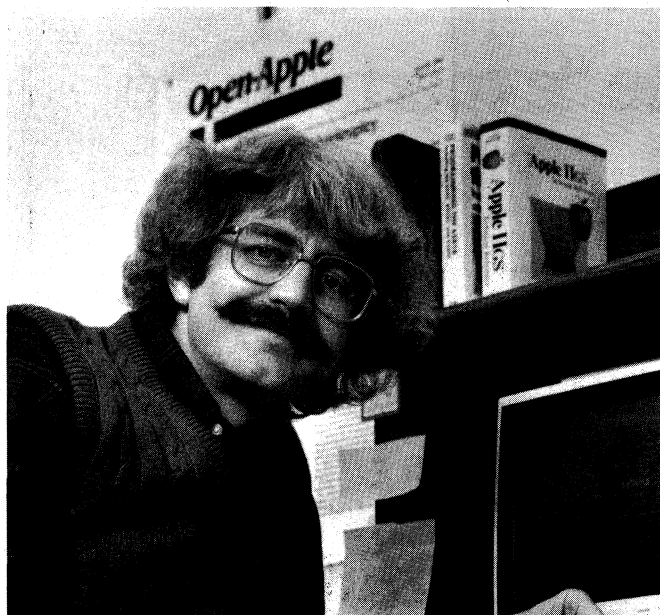


*We're Apple II experts.*

*Winter 1990*

# Introduction

## Greetings



Hi. I'm Tom Weishaar. I've been using Apple IIs since 1980. I've written Apple II software that was published by Beagle Bros; I've written articles and books about the Apple II for *Softalk* and Tab Books. I've been interviewed in *Nibble* (February 1988, page 10); and *inCider* called me an Apple II hero (December 1987, page 68). On the other hand, I could tell you about the time my Toyota stationwagon rolled into the creek behind my house, but that story isn't so flattering.

Six years ago, as computer industry experts were declaring the death of the Apple II, I started an 8-page monthly Apple II newsletter called **Open-Apple**. It was immediately successful and grew into **A2-Central**, a small company that's now at the heart of the world-wide Apple II community.

I still publish that 8-page monthly Apple II newsletter, but now it's called **A2-Central** and it's edited by Dennis Doms. We also publish a version of **A2-Central** on 3.5 disks. Dean Esmay puts that together for us.

This year we started two other 3.5-disk-based publications. The first, **Stack-Central**, edited by Terry Baker, revolves around *HyperStudio* and multimedia on the Apple IIs. The other, **TimeOut-Central**, edited by Richard Marchiafava, revolves around *AppleWorks* and the *TimeOut* series from Beagle Bros.

Each month we include a 4-page catalog in the envelope with our newsletter. Our goal has been to provide the Apple II community a reliable source of high-quality hardware, software, and books that are usually not available from local dealers. Tom Vanderpool, who was recently elected president of our local Apple user group here in the Kansas City area, runs this part of our business.

**A2-Central** manages the Apple II areas on GEnie, General Electric's international online information service. Chet Day is our head sysop.

Two years ago we started the **A2-Central Summer Conference**, which takes place at Avila College in Kansas City in late July. Popularly known as "KansasFest," our summer conference is heavily supported by Apple Computer and has become the premier technical gathering for Apple II hardware and software developers each year. Sally Dwyer is our conference manager.

Right behind these people you'll find the **A2-Central** supporting cast

## A word about the Apple II

As we've tried to show on our cover, people have been predicting the demise of the Apple II since the Apple III was introduced in 1980—just a few months after I bought my first Apple II. I once told people that I carried around in my billfold, where most people have pictures of their children, a seasonally-adjusted chart of the rate at which computer industry pundits were declaring the death of the Apple II. It's always been ridiculous.

Let me be clear: When I started this company six years ago, there were just as many unfounded rumors about Apple's upcoming discontinuance of the Apple II line as there are today. Here's why we've never believed these rumors and why you shouldn't either:

- **Apple has sold over 5 million Apple IIs (well over half of them since the Macintosh was introduced, incidentally) and continues to sell about half a billion dollars worth of them each year. Public companies like Apple don't just stop selling profitable products, product lines this large, or brand names as well known as this one.**
- **Don't be fooled by the apparent lack of dealer interest in the Apple II. Retail salespeople at Apple dealers rarely know anything about the Apple II. Meanwhile, the dealer's education salespeople in the back room are selling them by the truckload.**
- **About two-thirds of all computers in U.S. elementary and secondary schools are Apple IIs. The other third is a mix of various kinds of incompatible equipment. The U.S. education system is highly unlikely to throw away its investment in hardware, software, and training any time soon, particularly while the Apple II continues to meet the needs of the system.**
- **The Apple IIgs is a state-of-the-art computer, not "ten-year-old technology," as IBM education salespeople like to say. Its system software provides its users with a reliable, tested, and fully up-to-date desktop interface, it comes with built-in networking capability, its memory can be expanded to five or even eight megabytes, its sound and video capabilities are superb, and it is price-competitive with similar systems from other Fortune 500 companies.**
- **Apple's managers have repeatedly said that they intend to demonstrate and provide a long-term commitment to their Apple II customers. During the summer of 1990 they made a giant leap toward that goal by creating a high-level executive position that is concerned with nothing but the Apple II. Ralph Russo, a seven-year Apple veteran with a strong commitment to the Apple II, was appointed to the post.**

Six years ago I started a new Apple II-only publication and the "experts" said I was crazy. In 1990 I started two of them. Glory be.

of Jay Jennings, Jeff Neuer, Joyce Hammond, and even my mother, Jean Weishaar, who spends one week a month here making copies of our monthly disk and sending them out.

*The significant thing about the Apple II has always been the community of people that has sprung up around the machine, teaching other people how to use it, designing hard and software for it, exposing its inner flesh to light of day, and using it to manage businesses, run church groups, educate children, and turn out prosperous and happy human beings.*

You are the core of our business and we pledge to be here as long as you are. We're Apple II experts, we're proud of it, we use Apple IIs every day in our personal lives, and we envision continuing to do so as far ahead as we can see.



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## A2-Central Monthly Disks

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### April 1990 /A2.ON.DISK.9004

Filename	Blocks	Type	Description
V6.N03.APR.90	133	TXT	April 1990 A2-Central text
SUMMIT.REPORT	17	TXT	B. Stone's report on Apple summit
PROGRAMS	1	DIR	Useful stuff in here...
FINDFILE	1	DIR	A Iigs NDA file search utility
INFO.CMD	1	DIR	Clark Stiles' Get Info command
INFO	3	BIN	Added command for Applesoft
INFO.S	25	TXT	Merlin source code for INFO
NEWS	1	DIR	Demo of new Hypermedia program!
RAMSET	1	DIR	Revision of RAM Limiter for AW 3.0
SCREEN.MACRO	1	DIR	Macro puts AW screen into AMP file
MISC.GOODIES	1	DIR	Useless, fun stuff in here
EMACN	2	DIR	ProDOS based Eamon system in here!
PLAYER.MANUAL	50	TXT	Documentation for Eamon games
BEGINNERS.CAVE	1	DIR	Beginning adventure in here
EMACN.166	2	DIR	Storm Breaker adventure in here

### May 1990 /A2.ON.DISK.9005

Filename	Blocks	Type	Description
V6.N04.MAY.90	123	TXT	May '90 issue of A2-Central
RTC.MOBASIC.TXT	58	TXT	RTC Transcript with Morgan Davis
PROGRAMS	1	DIR	Useful, exciting stuff in here
DB.MASTER	1	DIR	DB Master Version V in here!
DCP	1	DIR	Program to disable GS Control Panel
SQUIRT	1	DIR	Shareware program selector in here
TECHNOTE.UPDATE	1	DIR	New technical notes in here
TN.UPD.3.90.SEK	313	SDO	May '90 Apple tech note update
TN.MISSING.S	30	SDO	Tech notes we've missed
SHRINKIT	1	DIR	New versions of ShrinkIt in here!
SHRINKIT	81	SYS	Actual ShrinkIt 3.0.1 program
IIPUS.SHRINKIT	24	SYS	Shrinks files on II+, un-enh. IIE
IIPUS.UNSHRINK	26	SYS	Unshrinks on II+, un-enh. IIE

### June 1990 /A2.ON.DISK.9006

Filename	Blocks	Type	Description
V6.N05.JUN.90	126	TXT	June '90 issue of A2-Central
APPLEPST.TXT	108	TXT	Subjective report on 5/90 Applefest
PUBLISH.IT.RTC	43	TXT	Interview with Publish-It! 3 author
PROGRAMS	1	DIR	Useful stuff in here

DICT.CONVERT	1	DIR	Convert Sensible Speller dictionary
CONVERT.GS	3	BIN	to Applesoft 3.0 dictionary
FINDER.KILLER	1	DIR	Finds & destroys FINDER.DATA files
INITMASTER.CDEV	1	DIR	GS Control panel DEVice in here
SHRINKIT.3.02	1	DIR	New version of ShrinkIt + bonus
SHRINKIT.SYSTEM	1	SYS	ShrinkIt version 3.0.2, bugs fixed
NUFX.MSGNR.DOCS	13	TXT	Documentation for NuFX messenger
NUFX.MESSENGER	17	BAS	Implements message in ShrinkIt files
SWITCH.CTRL.PNL	1	DIR	Switch Control Panel pgm in here
UN.LAUNCHER	1	DIR	UtilityWorks GS program launcher
LAUNCHER.DOC	150	TXT	Documentation for UMGs Launcher
UMGS.CONF.TXT	23	TXT	Interview with program author
MISC.GOODIES	1	DIR	Useless, fun stuff in here
OTHELLO	1	DIR	Game for any Apple II in here
PLASMALAB	1	DIR	Fun, educational Iigs "game" here

### July 1990 /A2.ON.DISK.9007

Filename	Blocks	Type	Description
V6.N06.JUL.90	132	TXT	July 1990 issue of A2-Central
NUUG.CONFERENCE	47	TXT	Interview of Warren Williams of NUUG
PROGRAMS	1	DIR	Useful stuff in here
FILE.CDA	1	DIR	Iigs file manager CDA in here
GRAMMAR.MACS	1	DIR	Automatic grammar checking system
GRAMMAR.CHECKER	66	AMP	2 files. Req's AWorks, UltraMacros
UTILITYWORKS.GS	1	DIR	Complete set of Iigs utilities
UMGS.DOC.A	855	TXT	6 files
MISC.GOODIES	1	DIR	Fun stuff in here
FRACTALS.ZE	1	DIR	8-bit program to generate fractals!
FRACTAL.ZE	73	TXT	6 files

### August 1990 /A2.ON.DISK.9008

Filename	Blocks	Type	Description
V6.N07.AUG.90	128	TXT	August, 1990 issue of A2-Central
LETTERS	41	TXT	Letters to Dean
SWITCHMASTER.RTC	40	TXT	Conference with Switchmaster authors
PROGRAMS	1	DIR	Useful stuff in here
ALARM.CLOCK	1	DIR	New alarm clock macro
ALARM.MACS	19	AMP	Requires AW 3.0, UltraMacros 3.1
JUMPSTART	1	DIR	Iigs program selector
JUMPSTART.DOC	387	TXT	5 files
SHRINKIT.IIPUS	1	DIR	ShrinkIt for II+/un-enh. IIE here
IIPUS.SHRINKIT	26	SYS	Use to shrink files or disks
IIPUS.UNSHRINKIT	24	SYS	Use to un-shrinkit files or disks

SHRINKIT.IIE	1	DIR	ShrinkIt for the IIE/IIC/Laser here
SHRINKIT	132	TXT	4 files
SHRINKIT.IIGS	1	DIR	ShrinkIt for the IIGs!
GSNK	285	S16	4 files
TECHNOTE.UPDATE	1	DIR	May 1990 tech note update in here
TECHNOTES.S	179	SDO	Use any above ShrinkIt to unpack
MISC.GOODIES	1	DIR	Odd stuff in here
PI.LASER.OUTPUT	12	TXT	Print Publish-It! files on a Mac
POWER	11	S16	Neat Iigs animation demo

### September 1990 /A2.ON.DISK.9009

Filename	Blocks	Type	Description
V6.N08.SEP.90	132	TXT	September, 1990 A2-Central
PROFORM.RTC	44	TXT	Interview with InSync
PROGRAMS	1	DIR	Useful stuff in here
ADDRESSBOOK	1	DIR	Little black book program in here
ADDRESSBOOK	42	BAS	3 files
DESK.ACCS	1	DIR	Iigs desk accessories in here
BASIC.CDA	4	CDA	Visit Applesoft from anywhere
MOUSETEXT.INFO	4	CDA	Bandy Mousertext chart
D.T.PAINTER	154	NDA	Paint program in a Iigs NDA!
FONT.VIEW	21	NDA	NDA to view any font
GENIE.MASTER	1	DIR	Genie navigation program in here
GEN	262	DIR	27 files
LIST	1	DIR	Stowe Keller's LIST utility
LIST.SYSTEM	163	SYS	2 files
MISC.GOODIES	2	DIR	Fun stuff in here
FOUNTS	2	DIR	Also in 10, 12, 14, 18, 20, 24, 28,
WALL.ST.9	5	FON	36, and 48 points. 9 files
PACKED.GAMES	1	DIR	Compressed 8-bit games in here!
SHRINKIT	81	SYS	Must use this to play games
FLORNOID.SDK	160	SDO	Super new Breakout game!
DEPNDONCLONE.SDK	80	SDO	Clone of an arcade classic

### October 1990 /A2.ON.DISK.9010

Filename	Blocks	Type	Description
V6.N09.OCT.90	133	TXT	October 1990 A2-Central
GENIE.INFO	17	TXT	New info on Genie services
A2.LIBRARIES	2	DIR	Genie's Apple II Library data bases
A2.12988.13457	1096	AOB	15 AppleWorks database files
PROGRAMS	1	DIR	New programs in here
OVERSCAN	1	DIR	Interesting Iigs demo in here
SHOWPIC	1	DIR	New version of a great Iigs NDA

## Desk Accessories

Desk Accessories are those nifty Apple IIgs programs you can get to while you're running another program. You get to the Classic Desk Accessory, or CDA, menu by pressing open-apple/control/escape. You get to the list of New Desk Accessories by pressing on the Apple icon at the left edge of the menu bar on desktop programs.

If you're looking for a complete set of desk accessories for your Apple IIgs, look no further. **Deskpak** from Simple Software Systems International contains tools and utilities that will make your computing life a breeze. The fifteen NDAs in this package include an appointment calendar, 25-page note pad, mini-database, full function calculator, disk utility, two games, file printer, and more. As this catalog went to press, *Deskpak* was being completely rewritten. The bargain-basement price we show here is for the old version. If we still have some, you can get one and then upgrade to the new version when it becomes

available for less than it will cost new.

If you find yourself needing to create subdirectories or move and delete files while you're in a program that doesn't have a full-featured utility menu, you're stuck. Or rather, you used to be stuck. Now you can choose between **Disk Access**, from Seven Hills Software, or **Desktop File Control**, from Roger Wagner Publishing. Both of them give you much the same control over your files. *Disk Access* gives you more functions, but *Desktop File Control* is more aesthetically pleasing (what can I say, I like groovy-looking interfaces). Do yourself a favor and get one of these packages. Quitting back to The *Finder* in order to move, copy, delete, etc., files will be a thing of the past. *Disk Access* also includes an elementary file launcher.

You can turn your Apple IIgs into a desk full of IIs that you can use at the same time with the **SoftSwitch** CDA from Roger Wagner Publishing. Switch instantly between different

ProDOS 8 or DOS 3.3 programs. Return to any of the programs exactly where you left off. You can save suspended programs in mid-operation, and you can copy and paste graphics screens between programs. You can take a "snap-shot" of any graphics or text screen. Requires a 768K IIgs.

**MacroMate**, also from Roger Wagner Publishing, is a CDA that allows you to create keyboard macros that work with virtually any 8 or 16-bit program. Set up a macro to create your letterhead in a word processor, or just replace any known set of keystrokes with one key. *MacroMate* allows you to record macros, or create them with the built-in editor.

SS-008 <b>Deskpak</b>	\$15.00
SH-001 <b>Disk Access</b>	\$30.00
RW-010 <b>Desktop File Control</b>	\$24.00
RW-003 <b>SoftSwitch</b>	\$45.00
RW-006 <b>MacroMate</b>	\$37.50

## Technical References/Trouble Shooting

Most of the technical reference books available for the Apple II series are listed among the programming items we carry on pages 12 to 15. We have a few goodies left that wouldn't fit there, however, and here they are.

First we have Apple's own **Technical Reference Manuals for the Apple IIe and Apple IIc**. These books have a wealth of information, including long descriptions of the machines' hardware and firmware, schematics, timing diagrams, and firmware source code.

We also have **Laser's Technical Reference Manual for the Laser 128**. It contains the

same kind of materials for that computer.

The **SAMS Computerfacts** series is a line of books written for the professional service technician. The books include schematics, troubleshooting tips, replacement part numbers, and service and adjustment tips. SAMS publishes these for the Apple IIc (includes CPU, disk drive, and monitor), Disk II, and Image-Writer I and II printers. We stock them all.

The **Apple II Plus/IIe Troubleshooting & Repair Guide**, by Robert Brenner, has chapters on basic and advanced troubleshooting for both computers. The strength of the book is its

detailed troubleshooting diagrams, which lead you step by step through figuring out what is wrong with a malfunctioning computer. Tells you which chips to replace, where you'll find them on the motherboard, and their part numbers.

AW-003 <b>Apple: IIe Tech Reference</b>	\$24.95
AW-004 <b>Apple: IIc Tech Reference</b>	\$24.95
LC-005 <b>Laser: Laser 128 Tech Reference</b>	\$29.95
HS-005 <b>SAMS Computerfacts: IIc</b>	\$39.95
HS-003 <b>SAMS Computerfacts: Disk II</b>	\$24.95
HS-004 <b>SAMS Computerfacts: IWriter I</b>	\$24.95
HS-008 <b>SAMS Computerfacts: IWriter II</b>	\$24.95
HS-006 <b>Apple II Troubleshooting &amp; Rpr</b>	\$19.95

## Games

We don't carry many games because local software stores usually carry an ample supply. We do have a couple of good ones that you're not likely to find locally, however.

**Wraith: Devil's Demise**, by John Carmack, is the favorite of our game expert, Joe Weishaar (age 9). He's put tens of hours into this game alone and with jealous Nintendo-owning friends at his side. He's been finding secret passageways and treasure chests in three cities, three castles, the Well of Souls, and Ancient Mines. He also says not to go into the toilets unless you're sure there's nobody in there or you'll have a fight on your hands. For a much longer review, see Neil Shapiro's "More Orcs for Your Bucks" in the July 1990 *Nibble*,

page 11. Runs on any Apple II, but requires a 3.5 drive.

We also carry Jem Software's **I.O. Silver**, by Brad Wilhelmsen. Your job in this game is to build the first 4th-generation supercomputer while racing the clock and battling bugs. *I.O. Silver* is two games in one. Without the pressure of the clock or killer bugs, it's an engrossing puzzle. When you're ready for the arcade version, the pace gets furious! *InCider* magazine said: "I.O. Silver causes acute arcade addiction—the strongest recommendation for any game. This is one of the most ruthlessly addicting games in years!" 5.25 disk only.

NO-003 <b>Wraith: Devil's Demise</b>	\$12.95
JE-002 <b>I.O. Silver</b>	\$20.00

## Everything Else

The truth is we can't fit everything else we carry in this little box. We're adding new items every week. And we have some hot products on the horizon, like **Cirtech's Duet** card, which will allow you to run Macintosh software on your Apple IIgs, and the **Liberty** card, which will allow you to connect IBM PC-type drives to your Apple II and read and write MS-DOS files.

Meanwhile, if you still can't find what you want, you need the **Menu Software Guide for the Apple II**. It lists virtually every program available for our favorite computer. If you're looking for a specific type of program, you can find out where to get it in *Menu*.

IN-003 <b>Menu Software Guide</b>	\$19.95
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# Software & Books

## Education

Since the primary place Apple II computers are used is in schools, it's strange that our education selection is so small. We've found that most of the education software publishers

sell direct to schools, however. That's why we don't have a large selection of their stuff.

We do have a few books related to Apple IIs and education that you'll have a hard time finding anywhere else, however.

Tom Snyder's *In Search of the Most Amazing Thing*, for example, argues that it's essential for teachers and parents to recognize the limits of technology in education. Snyder believes it's more important to put computers on teachers' desks than on those of students. Yes, this is the same Tom Snyder who is a prolific author of education software.

*Discovering Science on your Apple* uses short, simple Applesoft programs to help kids discover principles in Astronomy & Space Science, Earth and Life Science, and more.

*Smart Apples* is an introduction to artificial intelligence. It uses Applesoft to demonstrate

the basic principles of AI. The book includes many complete programs, focusing on games, learning, and text generation.

*How to Build a Better Mousetrap and 13 Other Science Projects Using the Apple II*

contains complete information (including software on disk) on fourteen projects for making measurements and controlling electrical devices using the Apple II. All the projects can be done with an Apple II-Plus, IIe, or IIgs; all but four work on a IIc or Laser 128. Measure pH! Control DC and stepper motors!

*Your Best Interest* is the best book ever written on the art and science of interest rates.

AW-013	Snyder: <i>In Search/Amazing Thing</i>	\$10.95
TB-003	Pellino: <i>Science On Your Apple</i>	\$14.95
TB-004	Horn: <i>Smart Apples</i>	\$12.95
VS-001	Vernier: <i>Build Better Mousetrap</i>	\$24.95
IB-001	Weishaar: <i>Your Best Interest</i>	\$9.95

### DiversiTune

When you need to show off the sound capabilities of your Apple IIs, reach for DiversiTune. This program turns your computer into a MIDI synthesizer, recording studio, and hi-fi system. You can use the 'follow the bouncing ball' feature to have a sing-along led by your Apple IIs. If you're into creating your own music, use DiversiTune to record your own MIDI instrument notes—then synthesize them, edit them, or mix them.

DR-001 *Diversi-Tune* \$59.00

## Disk Management Utilities

If your hard disk looks like my 13-year-old daughter's room, then you know what file clutter is. As program and data files multiply—whether you have a hard disk or not, managing a personal computer becomes a difficult task.

But if you have the right tools, any job is easier than before. And Apple II users are very lucky to have some excellent disk management utilities available to them.

If you use an Apple IIe or IIc, the software we recommend is Glen Bredon's *Prosel 8*. This package normally comes on a 3.5 disk, but we can supply it on 5.25s at your request. The *Prosel 8* package includes an incredible number of goodies. It's impossible to do justice to such a complete set of utilities as *ProSel* in the space we have here.

First, you get a program selector—a text-based menu that comes up when you start your computer and when you quit from programs. The menu, which you can edit, lets you select the next program you want to run by moving a cursor over the selections and pressing return. If you have more applications than will fit on one screen (60), you can create more application screens that can be jumped to at the touch of a button. Virtually any executable program can be launched from *Prosel*.

Beyond that, however, *Prosel* includes separate programs that allow file and disk manipulation, volume and directory testing and repair, hard drive or RAMdisk backup and restore, volume optimizing, block editing, password protection, and more.

The GS/OS version of this program is called *Prosel 16*. It does basically everything the 8-bit

version does, but more, better, and in a GS/OS context. It handles GS/OS extended files, has online help, allows file-by-file incremental backups, and includes a math calculator that will draw graphs of functions and an appointment calendar. We highly recommend *Prosel* to everyone, yet we admit it is a complex package that may force you to learn more about file management than you ever wanted to know.

Another option for Apple IIs users is the set of *Salvation Utilities* from Vitesse. Unlike *Prosel*, these use the familiar desktop interface.

*Salvation: Wings* is a program launcher and disk management utility. It has 128 single-click buttons (16 per screen) that allow you to launch virtually any program file. It allows you to define each of the launch buttons yourself. You can also launch programs from an on-screen list of files. Except that if you choose a graphics file you'll see the picture. If you choose a sound file you'll hear the sound. And if you click on a text or AppleWorks file, you'll pop into a mini-word processor. The file and volume utilities allow you to copy, move, verify, delete/undelete, compare, etc. You can also sort directories, format/erase volumes, and so on.

*Salvation: Guardian* is a full featured backup/restore program that allows you to backup a hard drive (or just selected folders or files) to 3.5 disks, 5.25 disks, another hard drive, or a specified file. When restoring a volume, you can choose to restore the entire volume, or just selected folders or files. A single catalog disk is all that's needed to find out which disk a given file or folder is on. A

unique feature of *Guardian* is the ability to stop a backup procedure in the middle and continue it at a later time. Also available are macros that allow you to setup different backup options to be run at a later date.

*Salvation: Renaissance* optimizes a volume by writing all the files and folders in the order they appear in the directory. By eliminating all the unused blocks between files, you end up with shorter disk access times. You can also sort directories before optimization. This allows you to put the files that are changed rarely (or never) at the beginning of the directory. This will cut down on the amount of fragmentation that happens.

*Salvation: Exorciser* is a virus detection program. One of the worst things that can happen to a computer user is to find out your system is infected by a virus. Unfortunately, you usually discover this only after your hard drive has been erased, or whatever. *Exorciser* combats computer viruses by detecting and correcting infected systems. You can check for and correct any single virus or use the *Exorciser* utilities to analyze machine language calls in any file. This could help in detecting new virus strains. If you're not into virus-spotting, don't worry. *Exorciser* can handle add-on virus check files that will be available from Vitesse (if necessary).

GB-001	<i>Prosel 8</i>	\$40.00
GB-002	<i>Prosel 16</i>	\$60.00
VI-005	<i>Salvation: Wings</i>	\$59.00
VI-002	<i>Salvation: Guardian</i>	\$37.00
VI-003	<i>Salvation: Renaissance</i>	\$37.00
VI-004	<i>Salvation: Exorciser</i>	\$34.00

## Apple II to IBM file conversion

Even though it might be deemed cruel and unusual punishment, some people are forced to use MS-DOS computers at work. One big request they have is a way to transfer data from their Apple to their IBM and back.

Cross-Works is a ProDOS to MS-DOS file exchange utility. You get an 8 foot cable with multiple connectors that attach to a Iie, IIc, IIc-Plus, IIgs, or Laser 128 on one end and an IBM PC, XT, AT, PS/2, or compatible on the other. You also get 5.25 and 3.5 disks for both the Apple and the PC.

File conversions can be made in either direction. Formatting embedded in a file is retained—for example, an *AppleWorks*

underline code will be converted to a *WordPerfect* underline code and a *Lotus 1-2-3* formula will be translated to an *AppleWorks* formula.

*Cross-Works* supports transfers between files created with classic *AppleWorks* (not *AppleWorks GS*) versions 1.0-through 3.0 and *Lotus 1-2-3: dBase III, III-Plus, IV, Q&A, R:Base, Paradox, Fox Base*, and other data base programs; *WordPerfect* versions 4.1 through 5.1; and the MS-DOS version of *Microsoft Works*. Also does generic text file transfers. Modem transfers are supported but require an operator at each end.

**SS-006 Cross-Works** \$79.95

## Cooling fans

Keeping your computer cool is important to its health. Apple suggests a fan if you have more than two cards in your computer. Apple's own fan, however, is noisy and expensive. So Cirtech developed a pair of fans, one for the IIgs and one for the Iie, that are whisper quiet. They're three times quieter than Apple's fan and use only one-third the energy.

The fans install in about two minutes and operate directly from the Apple power supply—you have no power cord to run. Installs on the side of the power supply on the IIgs and under the keyboard on the Iie.

**CT-FAN-GS Cool-It for the IIgs** \$49.00  
**CT-FAN-E Cool-It for the Iie** \$49.00

## IIgs battery

When your IIgs can't remember your control panel settings or the time of day, you need to replace the battery. But since the battery is soldered onto original IIgs motherboards, some dealers want to charge you several hundred dollars for a motherboard exchange to fix a dead battery!

Nite Owl's *Slide-On Battery* allows you to clip off your old battery and slide a new one onto the old leads, without solder, in just a few minutes. It's an exact replacement for the original IIgs battery. It comes with complete installation instructions.

Purchase ahead and be ready!

**NO-001 Nite Owl Slide-On Battery Kit** \$14.95

## Math Coprocessor

The *Floating Point Engine* is a math coprocessor card for your Apple Iie or IIgs. This card can lessen the time it takes your computer to do math operations. It works in any available slot and it uses an on-board Motorola MC68881 floating point processor, the same math chip used in the Macintosh.

On a IIgs running under GS/OS, any program that uses the built-in Apple IIgs SANE math calls will automatically use the FPE instead. All you have to do is copy a file called *FPETOOL.INIT* into the SYSTEM/SYSTEM.SETUP folder on your boot disk.

The FPE also comes with patches for all versions of classic *AppleWorks*. It increases

the speed of spreadsheet calculations and of some data base operations.

The *Floating Point Engine* is also directly supported by the *Beagle Compiler* (see page 13).

Glen Bredon, author of the *Prosel* utility package, has written routines that let you use the card from Applesoft. These are included in the package.

The card's manual explains how to access the coprocessor from assembly language. You also get a version of Apple's 8-bit SANE tool that uses the card.

**IS-001 Floating Point Engine** \$249.00

## A2-Central Monthly Disks

Continued from page 5

### February 1990 /A2.ON.DISK.9002

Filename	Blocks	Type	Description
V6.N01.FEB.90	132	TEXT	February, 1990 issue of A2-Central
PROGRAMS	2	DIR	Neat, useful stuff in here
AWG.0.RAM.PATCH	1	DIR	Patches Appleworks 3.0 for RAM disk
RAMSET	13	BAS	Desktop limiter for Appleworks 3.0
BACK.REST	1	DIR	Backs up & restores multiple
BACK.REST	23	S16	IIgs control panel settings. 4 files
BRKCURSOR	1	DIR	Break Cursor IIgs init in here
BRKCURSOR.DOC	10	TEXT	3 files
DESK.ACCS	1	DIR	IIgs desk accessories in here
DISEWITCH.DOC	9	TEXT	Documentation for Disk Witch
DISK.WITCH	45	CDA	File utilities in a GS CDA
IKW.DA	25	CDA	Nifty CDA to control Imagewriter
SHUTDOWN	3	NDA	Quick frigid reboot NDA
SRUMPTIC4.27	22	NDA	Swiss Army Knife graphic NDA
MACRO.STUFF	1	DIR	Timeout Ultramacros 3.1 stuff
MAR.REF.DOCS	13	AMP	Documentation for macro reference
MACRO.REFERENCE	34	AMP	Special Ultramacro writing utility
FCMB.CONST.KIT	28	AMP	File Card Menu Construction Kit
FCMB.CONST.KIT	50	AMP	allows creation of file card
FCMS.CONST.KIT	70	AMP	menus within Appleworks with
ADD.FILES.MENU	20	AMP	Ultramacros 3.1!

DAILY	1	DIR	These directories are used by
BUS	1	DIR	the example macros in the
TUDO	1	AMP	File Card Menu kit.
MORE.MACROS	1	DIR	More Ultramacros 3.1 macros!
AGE.MAC.DOCS	13	AMP	Documentation for Age macros
AGE.MACS.1	10	AMP	Examples of macros to handle
AGE.MACS.2	9	AMP	date math within Appleworks
AGE.MACS.3	11	AMP	3.0.
TUTORTECH.DEMO1	1	DIR	Tutor-Tech demo program #1 in here
STUDENT.SYSTEM	1	SYS	8-bit Hypermedia program demo!
FOUNTS	16	NON	(remaining files deleted from
STUDENT.OBJ	26	NON	list for space)
TUTORTECH.DEMO2	1	DIR	Tutor-Tech demo program #2 in here
TEACHER.SYSTEM	1	SYS	Allows creation & modification of
FOUNTS	16	NON	Tutor-Tech "stacks" (changes
TEACHER.OBJ	55	NON	cannot be saved).
VIRUS.PROGRAM	1	DIR	New version of Virus.Rx
RV.DOC	21	TEXT	Documentation for Virus.Rx
APPLE.RX	20	SYS	Virus protection program
MISC.GOODIES	1	DIR	Fun, silly stuff in here
DESPTIC.INIT	1	DIR	Despic initialization in here
DESPTIC.INIT	1	\$B7	Place in *SYSTEM/SYSTEM.SETUP
DESPECTURE	65	PIC	" " " " " " " "
GERM.4	3	DIR	Germ Lab, Chapter IV
STARTUP	66	BAS	5 files

### March 1990 /A2.ON.DISK.9003

Filename	Blocks	Type	Description
V6.N02.MAR.90	132	TEXT	March, 1990 issue of A2-Central
II.INFINITUM	9	TEXT	Letter campaign info
MACROS.UPDATE	3	TEXT	Letter from Filecard Macro author
TECHNOTE.UPDATE	1	DIR	Technical note update from Apple!
TYPE.NOTES	1	DIR	New file type notes
TECH.NOTES	1	DIR	New general technical notes
PROGRAMS	1	DIR	Useful & informative stuff in here
BEAGLE.PATCH	1	DIR	Update of patch from Beagle Bros
PATCHER.SYSTEM	27	SYS	Fixes Appleworks 3.0 bugs
POLYGONIA	1	DIR	New Fill Mode stuff from J.Harper
POLYGONIA.I	54	S16	Amazing 3D animation program
WORDSEARCH	2	DIR	Word Search puzzle generator
WRITE.IT	1	DIR	Mini Word Processor NDA
MISC.GOODIES	1	DIR	Miscellaneous Goodies...
FOUNTS	1	DIR	Clairvaux, in 9 sizes:
CLAIRVAUX.12	8	PON	10, 12, 14, 18, 20
CLAIRVAUX.14	9	PON	24, 28, 36, and 40 pts
GERM.5	2	DIR	Final chapter of Germ Lab saga
QUADIMINO.NDA	1	DIR	Tetris look-alike in an NDA!
TAXES.89	1	DIR	Tax worksheets for 1989 income tax

Continued on page 22

# Other peripherals

## Printers

Your local electronics superstore is filled with high-quality dot matrix printers that are cheaper than an Apple ImageWriter. The problem with them is that very few respond correctly to the ImageWriter command codes that all Apple II software supports.

For example, an ImageWriter responds to the code "ESCAPE X" by beginning to underline. But other printers might use that code to begin a subscript, or to use slashed zeros, or to perform reverse paper feeds. Thus, when you use one of these printers with an Apple II expecting an ImageWriter, the results are not what you expect. You may find there's no way to use your printer's advanced features without becoming a printer expert and patching all your software with your printer's codes.

Everyone knows that Laser Computer, Inc. builds Apple II compatible computers. It seems to be a secret, however, that Laser also makes an ImageWriter-compatible dot-matrix printer called the **Laser 190A**. It won't do color like the ImageWriter II and it has a different ribbon, but we've used Laser's printer with all our GS/OS and ProDOS 8 software with results

exactly like those of the ImageWriter. Just tell your software that you're using an ImageWriter.

Laser's printer handles standard 8.5 inch continuous-form paper or single sheets of any width up to 8.5 inches. Continuous forms of other widths require an optional tractor feed attachment. It uses standard Epson LX-80/LX-90 ribbons available from us or your local ribbon outlet (ribbons also fit Olympia NP30).

To use the printer with a IIc or IIgs, you need the "serial" version of the printer. Don't forget to also order the correct cable. With a IIc, the printer will connect to a card inside your computer. Whether you need the serial or parallel version depends on whether you have a serial or parallel card. 110 volts only.

LC-001	<b>Laser 190A serial printer</b>	\$249.00*
LC-003	<b>Laser 190A parallel printer</b>	\$199.00*
LC-006	<b>tractor feed attachment</b>	\$59.95
LC-007	<b>five ribbons</b>	\$14.95
RC-001	<b>8' serial cable for IIgs/IIc-Plus</b>	\$15.00
RC-002	<b>8' serial cable for older IIc</b>	\$15.00
RC-003	<b>8' serial cable for serial cards</b>	\$15.00
	<b>* surface shipping outside U.S.</b>	\$25.00

## Reference Books

Confused by RS-232 and serial links? *The RS-232 Solution* is the best book we've found to clear things up for you.

East's *Handbook of Printer Commands* is a three volume set of books that lists the features and command codes for almost every printer on the market.

SAMS Computerfacts manuals are written for dealer service personnel. They include schematics, trouble-shooting tips, and so on.

Addison-Wesley's Apple Technical Library includes reference manuals for the ImageWriter II and LQ and the LaserWriter.

SY-003	<b>The RS-232 Solution, 2nd Ed</b>	\$21.95
CP-001	<b>Handbk of Printer Cmds (3 vols)</b>	\$89.95
HS-004	<b>SAMS Computerfacts: IWriter I</b>	\$24.95
HS-008	<b>SAMS Computerfacts: IWriter II</b>	\$24.95
AW-008	<b>ImageWriter II Technical Ref</b>	\$19.95
AW-025	<b>ImageWriter LQ Reference</b>	\$22.95
AW-028	<b>LaserWriter Reference</b>	\$19.95

## Monitors

If you're planning to buy a new IIgs or if your old IIgs RGB color monitor needs to be replaced, you can get a **Magnavox RGB** monitor and cable from us that's cheaper than Apple's monitor and that has more features.

Magnavox designed its monitor for use with a variety of home and personal computer products. It works with any computer that generates a 15.7 KHz digital (TTL) or analog

RGB signal. In addition, it has stereo audio inputs, speakers and volume control, and video inputs for use with North American standard NTSC or Super VHS video tape and video disk players. It's perfect for schools or other multimedia applications—one classroom monitor works with both a computer and a video player. Using the VCR's tuner, you could also easily reconfigure it as a standard

television. 120 volts, 60 Hz, 2 year warranty.

For those of you with more simple needs, we also carry Magnavox monochrome monitors with your choice of amber or green screens.

DC-003	<b>Magnavox IIgs RGB Monitor</b>	\$349.00*
RC-005	<b>IIgs RGB cable for monitor</b>	\$23.00
DC-004	<b>Magnavox monochrome, green</b>	\$99.00*
DC-005	<b>Magnavox monochrome, amber</b>	\$99.00*
	<b>* Surface shipping outside U.S.</b>	\$20.00

## AppleTalk Networks

Apple designed AppleTalk as a low-cost way for work groups to share files and expensive peripherals such as laser printers. The Apple IIgs, Apple LaserWriters, and Macintoshes have AppleTalk capability built-in. You can get a "Workstation Card" for Apple IIes or an AppleTalk card for Apple ImageWriter printers that allow those devices to join the network.

To actually share files you need a hard drive on the network connected to a Macintosh that's running Apple's AppleShare software. To share printers, however, you need nothing beyond the standard Apple II system software, a special connector for each device on the network, and cables to chain the connectors together.

Apple's connector and cable solution consists of some amazingly expensive items called "LocalTalk" cables and connectors. The

connectors are about the size of a mouse. They have a tail that plugs into the serial port on the device you want to add to the network.

A company called **ModuNet** makes similar connectors that replace the expensive boxes Apple sells. Not only do ModuNet's connectors cost less than Apple's, they also work with inexpensive telephone wire (not supplied) rather than Apple's expensive cables.

We bought our telephone wire at Radio Shack. We also got a tool that can attach a modular plug to the end of the cable. The Modunet connectors have jacks for modular telephone plugs. They also have screws you can use to attach bare wire.

### ModuNet connectors:

OE-001	<b>8-pin for IIe/IIgs/new Macs</b>	\$34.95
OE-002	<b>9-pin for old LaserWriters &amp; Macs</b>	\$34.95

## Reference Books

If you'd like more information on installing and managing an AppleTalk network, we recommend *Hands On AppleTalk* from Brady books.

The other three books listed here are part of Addison-Wesley's Apple Technical Library.

*Understanding Networks* is also useful for getting up to speed with networks. The other books are for programmers writing software that uses AppleTalk.

IN-002	<b>Hands On AppleTalk</b>	\$21.95
AW-030	<b>Understanding Networks</b>	\$9.95
AW-031	<b>AppleTalk Network Overview</b>	\$14.95
AW-035	<b>Inside AppleTalk</b>	\$34.95



## Hard drives on a card

There are some price advantages to buying hard drives in kit form, but if you can afford the smallest, most modern disk drive made for Apple IIs, it's definitely worth it.

The **Cirtech CID-20 and CID-40** 20- and 40-meg hard drives fit on a card that you plug into a slot in your Apple II. (Since IIs don't have slots, this drive doesn't work with the IIc.) That's all there is to it. No cables, no search for desk space, and whisper quiet.

And if portability is important to you—if you need to take large files to clients or to dem-

onstrations—you can't beat one of these hard drives. It comes right out of one computer, fits in a shirt pocket, weighs almost nothing, and simply plugs back in at your destination. No cables to lose. No cables to forget. No cables to connect. Not even a power cable! The Cirtech drive uses a special hard drive mechanism designed for portable computers that uses relatively little power.

The card that Cirtech's internal hard drive is mounted on is identical to its SCSI card, mentioned on the previous page. Consequently,

it has a connector you can use to add additional, external hard drives to your system.

The software Cirtech supplies allows you to partition the hard drive for GS/OS, ProDOS, DOS 3.3, Pascal, or CP/M—individually, or all on the same hard drive at one time.

Cirtech's internal hard drive comes ready to plug in and use. It's the smallest, quietest, finest, most modern drive available today for Apple II computers.

**CT-CID20 Cirtech 20-meg internal** \$695.00  
**CT-CID40 Cirtech 40-meg internal** \$895.00

## 3.5 Disks and Drives

Our staff member Jay Jennings remembers that the best peripheral he ever bought for his Apple IIc was an Apple 3.5 Unidisk. For about \$450 he had more data storage than he ever thought he'd need. You can still pay more than \$400 for an Apple 3.5 drive, but why? We sell the **AMR 3.5 Drive** for a couple hundred bucks less. You can plug it straight into an Apple IIc-Plus, or you can plug one or two of them into a IIgs, or you can get the **Laser 3.5 Disk Controller Card** and use one or two AMR drives with your Apple IIe.

We've used several of the AMR drives here in the office for months. They're the same color as Apple drives but they're slightly smaller. We think they're great!

**AM-001 AMR 3.5 Drive** \$189.00  
**AM-002 Laser 3.5 controller for IIe** \$59.00

### Blank 3.5 disks, labels, binder storage pages

We use thousands of blank 3.5 disks every month in publishing our disk-based newsletters, so we're able to get them at a very good price. They're generic 800K disks that come without a box or labels. The price shown here is our normal price for these disks, but be sure to catch our special price, mentioned in a big, bold headline on page 3.

Now, you know about those blank disks that come without labels? Well, guess what we also sell? Unlike the labels you usually get with blank disks, however, these come on continuous, tractor-feed forms so that you can run them through your printer. They

come in sets of 100 and are 2.75 inches on each side. This means they wrap around the disk so that you can write or print on the spine.

Now, you know about those blank disks that come without boxes? Well, guess what we also sell? Wrong, not boxes! We have Static-Guard vinyl disk-holders that store four 3.5 disks each and that fit in a three-ring binder. Sold in packs of 10.

**A2-001 10 generic blank 3.5 disks** \$9.49  
**A2-002 100 blank, continuous labels** \$1.99  
**A2-003 10 Static-Guard binder storage pages for 3.5 disks** \$9.97

## Memory expansion cards, RAM chips

An Apple IIe comes with 128K of RAM. This is fine for many applications, but if you want more than a 55K desktop in AppleWorks, for example, you need more memory. The Apple IIgs comes with 1 Megabyte memory installed. This is fine for many applications, but if you want to use desk accessories or a RAMdisk, you run out of memory very quickly.

Cirtech's **plusRAM PR-16** is a standard-slot memory card that can be used in a II-Plus, IIe, or IIgs. It uses standard 1-meg RAM chips and can handle configurations of 1-4 megabytes (with upcoming 4-meg chips it can be configured for 16 megabytes). The card works, automatically, as a RAMdisk. And AppleWorks (V1.3 and higher) will automatically expand its desktop into this type of card (1-2 megs only). The card also comes with software that allows it to be partitioned as a RAMdisk for DOS 3.3, Pascal, or CPM (ProDOS is automatic).

For the Apple IIgs, we recommend the **Cirtech Primo** or the **Chinook RAM 4000** memory expansion cards. These cards are DMA compatible and can be configured for 1, 2, or 4-Megabytes of memory using standard 1-meg RAM chips. The Cirtech card comes with software for a DOS 3.3 RAMdisk and has a connector that in the future will allow you to add a SCSI internal or external hard drive to your system. The Chinook card has a multi-layer circuit board that reduces electronic noise and comes with a five year warranty.

**PR-16-1 1 meg CIRTECH plusRAM** \$359.00

Cirtech #	Chinook #	Memory	Price
CT-P0	CH-002-0	0 meg	\$99.00
CT-P1	CH-002-1	1 meg	\$169.00
CT-P2	CH-002-1	2 meg	\$239.00
CT-P4	CH-002-1	4 meg	\$379.00

**DRAM-1 Set of 8 std 1-meg RAM chips** \$70.00  
*fit PR-16, Primo, RAM 4000, and many others.*

### StatDisk

The **Cirtech StatDisk** is a standard-slot RAM card with a twist. It uses very-low-power static RAM that's backed up with an on-board battery. All the data stored on the card is retained, even when the card is pulled out of your machine! The battery will hold the data intact for up to two months and the battery is recharged every time the computer is turned on. The StatDisk works in both the Apple IIe and IIgs. Sizes from 128K to 1 meg are available. Over 512K the card blocks the next higher slot except when used in IIe slot 7. It has no moving parts, makes no noise, and is *the fastest and most reliable storage medium* you can buy.

**SD-4 512K CIRTECH StatDisk** \$389.00  
**SD-8 1 meg CIRTECH StatDisk** \$699.00  
**SRAM-32 2 chips (64K) for StatDisk** \$30.00



# Hard, 3.5 & RAM Disks

## Hard Drive Kits

It used to be that 5.25 inch floppies were all anybody ever needed. Then we started switching to 3.5 inch drives because we had to have more storage room. And increasingly, people are moving on to hard drives that hold from 20 to more than 100 megabytes of data (a 5.25 disk holds a little more than one-tenth of a megabyte—a 3.5 disk holds eight-tenths of a megabyte).

The Apple II was designed to be used without a hard drive, but once you've tried one it's hard to go back to a floppy-based system. Particularly if you use a IIgs, chances are that you'll go stark raving mad without a hard drive. The IIgs system software itself takes up so much space on a disk that a hard drive is almost a necessity. In addition, hard drives can retrieve and transmit data several times faster than 3.5 drives.

You can walk into any computer store and purchase a hard drive off the shelf, but you can save hundreds of dollars by purchasing the pieces of a hard drive and putting it together yourself. Wait! Don't panic! Hard drive assembly takes just a few minutes and only requires a screwdriver and some pliers. No soldering, no electrical work, and no dust-free rooms are required. We have all the pieces you need to put together your own fixed- or removable-media hard drive. And to make ordering easy,

we have a couple of Easy Order Bundles that include almost everything you need.

These hard drives are designed to be compatible with a computer industry standard called the Small Computer Systems Interface, or SCSI (scuzzy). In order to use one of these drives with an Apple II, you have to add a SCSI card to one of the slots in your system (IIc owners don't have slots, sorry). A single SCSI card can be connected to as many as seven SCSI peripherals, including hard disk drives, CD-ROM drives, tape backup units and so on.

Our **80-megabyte Easy Order Bundle** includes a case with 60 watt power supply, a **Seagate** hard drive sub-assembly, and a SCSI cable that connects your hard drive to your computer. The only other piece you need is a SCSI card, which we sell separately because there are three different choices.

We also have a **42-megabyte Easy Order Bundle**. This one comes with a **SyQuest Removable Media** hard drive sub-assembly. The neat thing about this system is that it uses removable hard disk cartridges—you can have as many cartridges as your wallet will allow! The sub-assembly comes without a cartridge so you'll have to buy at least one. This is like having a 3.5 disk drive with hard drive-like speed and virtually unlimited storage capacity.

Each of the items in our bundles can also be

ordered separately. The case we have comes completely assembled and is 5.5 inches high, 7 inches wide, and 15 inches deep (130 mm x 175 mm x 395 mm). It will hold two half-height "5.25 inch" drives, so you can, for example, put both our 80-meg Seagate and our 42-meg SyQuest drives in one case. It has a built-in 60 watt power supply with power cord and replaceable fuse. It comes from the factory set for 110 volt operation, but disconnecting and reconnecting one well-marked wire makes it ready for use in 220 volt countries. It has a built-in fan, weighs 2.65 kilograms, and matches your other Apple equipment in color. It looks like a commercial unit—no one will ever guess that it's part of a kit.

Our 5 foot SCSI cable has a 25-pin connector on the SCSI card end and a 50-pin connector on the hard drive end.

DC-001	<b>Case &amp; power supply</b>	\$124.00*
RC-004	<b>SCSI cable</b>	\$30.00
DC-002	<b>Seagate 80 meg SCSI asmbly</b>	\$519.00*
DC-006	<b>SyQuest 42 meg removable</b>	\$649.00*
DC-007	<b>cartridge for SyQuest drive</b>	\$119.00
CD-001	<b>80-meg Easy Order Bundle:</b>	
	<b>DC-001, DC-002, RC-004</b>	\$649.00*
CD-008	<b>42-meg Easy Order Bundle: DC-001,</b>	
	<b>DC-006, DC-007, RC-004</b>	\$874.00*
	<b>* Surface shipping outside U.S.</b>	\$25.00

## Hard Disk Primer

This is a great how-to book for users who are thinking about purchasing a hard drive, for new owners, and for experienced owners who want to get more from their investment. The author, Gary Morrison, compares the different types of hard drives and takes you through the step-by-step procedures necessary to install and configure a hard drive. Also describes disk management programs, backing up your hard drive, and using it with AppleWorks.

NA-002 **Hard Disk Primer**

\$16.95

## Disk Management Utilities

Once you have a hard drive it's helpful to have advanced software for managing your data storage. There are a number of programs available for copying files, backing up hard disks, optimizing drives, checking for viruses, and so on.

For Apple IIe users we recommend Glen Bredon's excellent *Prosel 8*. Apple IIgs users can select from Bredon's *Prosel 16* or the *Salvation Utilities* from Vitesse. For more information on these programs, see the "Disk Management Utilities" box on page 20.

## SCSI Cards

A SCSI card plugs into a slot on your computer so that you have a place to connect the cable that goes to your SCSI-based hard drive. We carry three different SCSI cards.

The **Cirtech SCSI Card** is unique in that it comes with software that allows you to split your hard drive for use by five different operating systems—GS/OS, ProDOS 8, DOS 3.3, Pascal, or CP/M. It also comes with networking software that allows you to give several computers (each computer needs one card) private partitions on a single hard drive.

The unique feature of the **Apple High-Speed SCSI Card** is that it will work with

virtually any generic SCSI device, including tape backup units, CD-ROM drives, and so. And since it uses DMA (Direct Memory Access) it's faster than Apple's old Rev C SCSI Card.

For the fastest SCSI drive around, however, you'll need the **RAMfast SCSI Card**. Its on-board 256K RAM cache and DMA give you a blazingly fast hard drive. It works by keeping your most frequently accessed data in a RAM cache on the card itself.

CT-SC	<b>CIRTECH SCSI Card</b>	\$109.00
AP-001	<b>Apple High-Speed SCSI Card</b>	\$119.00
CV-001	<b>RAMfast SCSI Card</b>	\$219.00

## SCSI Utilities

Software for formatting SCSI hard drives comes with all the SCSI cards we sell, but some people like a little more power. That's where the **Chinook SCSI Utilities** come in. These utilities were created for use with Apple's Rev C and High Speed SCSI cards. They don't work with our other SCSI cards.

With Chinook's utilities you can do low level formats, split one partition without erasing the

others, conduct speed tests to find out the fastest interleave to use when formatting your hard drive, and print out virtually all information the SCSI card is capable of outputting. Uses a file card interface (like AppleWorks) for ease of use, and will run on all Apple II's from the un-enhanced IIe on up.

CH-001 **Chinook SCSI Utilities** \$30.00

## Assembly Language Development Tools

Assembly Language is the most powerful language you can program in. It has its disadvantages—programs take longer to write and aren't portable from one type of computer to another—but for professional work the speed and power of assembly language programs is unbeatable. To program in assembly you need an "assembler." We carry and support the two most popular assemblers for the Apple IIGs—*Merlin 8/16* and *Orca/M*. Both can assemble programs written for the 6502, 65C02, or 65816 microprocessor.

*Orca/M* is more than just an assembler, it's a complete development environment. It provides a UNIX-like text-based shell for any compiler or accessory that is compatible with APW (Apple Programmer's Workshop). The shell allows you to copy, delete, move, or rename files, launch programs, create "batch" files, and more. If you want to mix programming languages (C programs with assembly modules, for example), or if you want to use the Rez resource compiler or other APDA (Apple Programmer's and Developer's Association) supplied utilities, *Orca/M* is a must.

The assembler in *Orca/M* assembles up to 5,000 lines per minute, supports partial assembly for faster turnaround, and includes an extensive macro language. Also included is a full-screen text editor, subroutine libraries, and a linker.

The *Merlin 8/16* assembler comes with not only a full IIGs version, but also a DOS 3.3 and ProDOS 8 versions that will run on any Apple II,

and a special version that will run on a IIE or IIC that has a 65802 installed. Built-in file utilities allow copying, directory compares, etc. The editor includes mouse control, a split screen function, and a 4,000 step undo buffer.

*Merlin 16-Plus* (the IIGs-only version) assembles up to 40,000 lines per minute, supports automatic partial assemblies, includes SuperMacros, subroutine libraries, and three linkers. The *Merlin* package also includes the *Sourceror* disassembler.

If you own one assembler but want to use source code that was written for the other, you either need a lot of patience or an automatic source code converter. An *Orca*-to-*Merlin* converter comes with the *Merlin* assembler. A *Merlin*-to-*Orca* converter is available as an extra-cost option. Both converters include source code.

Both assemblers have their strengths and weaknesses. If mixing languages is more important to you, go for the *Orca/M* package. If blazing speed is what you're after, get *Merlin*. Both require a minimum of 1 megabyte memory.

There are a couple ways to learn assembly language. The first is the tutorial approach and for that we have a couple of books that are good for novices. The first, *Apple IIGs Machine Language for Beginners*, by Roger Wagner, uses *Merlin* source code for the examples. The second, *Programming the IIGs in Assembly Language*, by Lichty and Eyes, uses APW source code (almost identical to *Orca/M* source code).

Source code disks are available for both books. We also have a *Merlin 16-Plus* source code disk, and an *Orca/C* source code disk available for the *Lichty and Eyes* book.

The second way to learn assembly language is via the "jump in and learn" route. A big help in this area is a disassembler, which takes a runnable program and turns it into source code that you can study. The *Orca/Disassembler* is the best we've seen. Two versions are included in the package—a text version that runs under the *Orca/M* shell and a stand-alone desktop version. The disassembler automatically recognizes IIGs Toolbox and GS/OS calls to help make disassembly a snap.

The text version of the *Orca/Disassembler* requires 512K of memory and the *Orca/M* or APW shell. The desktop version requires GS/OS 5.0 and 768K of memory.

### Assemblers

RW-002	<i>Merlin 8/16</i>	\$99.00
BW-005	<i>Orca/M Assembler</i>	\$42.00
BW-008	<i>Merlin to Orca Source Convert</i>	\$24.00

### Disassemblers

BW-007	<i>Orca/Disassembler</i>	\$30.00
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### Books

CB-002	<i>IIGs Machine Lang for Beginners</i>	\$19.95
DS-005	<i>disk for this book (3.5)</i>	\$15.95
SS-005	<i>Prgmng the IIGs in Asm Lang</i>	\$29.95
DS-008	<i>APW disk for this book (3.5)</i>	\$20.00
DS-009	<i>Merlin disk for this book (3.5)</i>	\$10.00
DS-010	<i>Orca/C disk for this book (3.5)</i>	\$20.00

## Pascal & C Development Tools

Assembly language is called a low-level language because it allows you (or forces you, depending on your perspective) to program as close to the computer hardware as possible. A high-level language insulates you from the machine, thus making programming easier and your programs more compatible, yet still gives you enough control to create powerful applications.

Pascal was designed to be a language for learning how to program, though many professionals use it in their projects. Its focus on "structured" programming keeps the beginning student from learning bad coding habits. And it's also powerful enough to be used as the development platform for major (or minor) programs.

If you're beginning from ground zero, you can start with the *Learn To Program in Pascal* course from The Byte Works. This 16-lesson tutorial starts with text-based programs and

works up to a simple "Break-Out" type graphics game program.

The *Learn To Program* course uses the *Orca/Pascal* compiler, which is a desktop-based ISO Standard Pascal Compiler, with extensions (fancy talk that means it's very similar to Pascal compilers on other machines). *Orca/Pascal* provides full access to the IIGs Toolbox, support for NDAs, CDAs, desktop, and text programming. A sample disk is also included. It's filled with programming examples and complete source code. And with the included *Source Level Debugger* you can step through your programs and see exactly how the computer executes your code.

If you're an Applesoft programmer, you may like the book *Pascal for Basic Programmers*.

C is probably the "hottest" language in the computer industry today. It's in use on every major computer, including the Apple IIGs. *Orca/C* is an ANSI C compiler with complete C

libraries and extensions for the Apple IIGs Toolbox. You can use *Orca/C* to create stand-alone programs, shell utilities, CDAs, or NDAs. You can use a text-based or desktop environment for program development, and just like *Orca/Pascal*, *Orca/C* includes the *Source Level Debugger*.

If you don't know C but would like to learn, try the *Learn to Program in C* course. It's just like the Pascal course mentioned above.

*Orca/Pascal* and *Orca/C* both require 1 megabyte of memory.

### Pascal

BW-001	<i>Orca/Pascal compiler</i>	\$90.00
BW-002	<i>Learn to Program in Pascal</i>	\$50.00
AW-037	<i>Pascal for Basic Programmers</i>	\$12.95

### C

BW-003	<i>Orca/C compiler</i>	\$90.00
BW-004	<i>Learn to Program in C</i>	\$50.00

# IIgs Programming

## Technical manuals

Like Apple's Macintosh line of computers, the Apple IIgs supports the Desktop Interface using a built-in programmer's toolbox. The toolbox makes writing programs that use the desktop interface much easier than they would be otherwise; nonetheless, describing the multitude of tool calls available on the Apple IIgs and how to use them takes an entire library of books.

### Introductory Books

Our favorite introduction to Apple IIgs programming is Gary Little's *Exploring the Apple IIgs*. Little covers the architecture of the IIgs, its 65816 microprocessor, and its development tools, and introduces toolbox programming. A disk that includes the programs in this book is available separately.

Apple itself has published two introductory books that together go into a great deal more detail than Little's book. They are the *Technical Introduction to the Apple IIgs* and the *Programmer's Introduction to the Apple IIgs*.

The *Technical Intro* contains a full overview of the Apple IIgs, including hardware, firmware, and I/O features, a description of the computer's architecture, and a discussion of the toolbox and development environment.

The *Programmer's Intro* includes a disk and takes you step-by-step through the creation of a demonstration program called *HodgePodge*. *HodgePodge* sample source code comes on the disk you get with the book. The program has samples of creating menus, windows, and dialog boxes; of using fonts and an event loop; and of printing.

AW-017	<i>Exploring the Apple IIgs</i>	\$22.95
DS-007	disk for this book (3.5)	\$20.00
AW-018	<i>Technical Intro to the Apple IIgs</i>	\$9.95
AW-011	<i>Prgrmr's Intro to IIgs (w/disk)</i>	\$32.95

### Toolbox Manuals

The programmer's toolbox built into the Apple IIgs supports literally hundreds of calls. Apple's toolbox reference manuals give each call equal time and space, which makes it difficult to find a place to start.

If toolbox programming is new to you, we recommend *Mastering the IIgs Toolbox* and *Advanced Programming Techniques for the IIgs Toolbox*, by Dan Gookin and Morgan Davis. These books start at a beginning, show you which tools are most important, and have a more tutorial flavor than Apple's reference-oriented books.

Nonetheless, serious Apple IIgs programmers will find no adequate substitute for Apple's complete set of toolbox manuals. Apple has published three of these. They discuss each of the tools available to Apple IIgs programmers and how they are used. Volume 3 is brand new and includes both new tools and updated discussions of tools introduced in Volumes 1 and 2.

CB-005	<i>Mastering the IIgs Toolbox</i>	\$19.95
CB-007	<i>Adv Prog Tech for IIgs Toolbox</i>	\$19.95
AW-019	<i>Apple IIgs Toolbox Ref, Vol 1</i>	\$26.95
AW-006	<i>Apple IIgs Toolbox Ref, Vol 2</i>	\$26.95
AW-036	<i>Apple IIgs Toolbox Ref, Vol 3</i>	\$39.95

### GS/OS

The best introduction to GS/OS is Gary Little's *Exploring GS/OS and ProDOS 8*. Little's book has a tutorial style. It develops a ProDOS 8 base and then discusses GS/OS in that context. It also has a good section on the GS/OS console driver. We also have Little's disk, which includes all of the programs in the book.

Following tradition, Apple has a separate manual for GS/OS. This is the *Apple IIgs GS/OS*

*Reference*. This book is brand new and has a complete description of all the GS/OS calls and how to use them. It also has full information on using the GS/OS console driver for text-based interfaces.

AW-026	<i>Exploring GS/OS and ProDOS 8</i>	\$21.95
DS-006	disk for this book (3.5)	\$15.00
AW-041	<i>Apple IIgs GS/OS Reference</i>	\$28.95

### Technical References

In addition to the ToolBox manuals, Apple has published the *Apple IIgs Firmware Reference* and the *Apple IIgs Hardware Reference*. The firmware book discusses the routines built into the IIgs that aren't a part of the ToolBox but that make the IIgs compatible with earlier Apple IIs. The hardware manual, which is a new 2nd edition first published late in 1989, includes schematics for the Apple IIgs and a thorough discussion of the machine's hardware.

Two other books of interest from Apple are the *Apple Numerics Manual, Second Edition* and *Human Interface Guidelines*. These books were written both for Apple IIgs and Macintosh programmers.

The *Numerics Manual* discusses the Standard Apple Numerics Environment, or SANE, in detail. The first part of the book is mainly for people who perform scientific, statistical, or engineering computations on Apple computers. The second part is for people who write these kinds of programs.

*Human Interface Guidelines* discusses Apple's philosophy and recommendations regarding the Desktop Interface.

AW-022	<i>Apple IIgs Firmware Ref</i>	\$24.95
AW-002	<i>Apple IIgs Hardware Ref</i>	\$26.95
AW-001	<i>Apple Numerics Reference</i>	\$29.95
AW-014	<i>Human Interface Guidelines</i>	\$14.95

## Resource editors

GS/OS supports "resources." The use of resources can cut weeks off the time it takes you to develop desktop programs. That's because a "resource editor" will allow you to specify all your menus, windows, dialog boxes, and controls with points and clicks in a desktop environment (instead of byte-by-byte in a program editor).

*Genesys* is a program that creates and edits resources. You see the results of your changes on the screen in front of you, instantaneously, without compiling or linking or anything. Once you've created your program's interface with *Genesys*, it will generate *fully commented* source code for ANY language that supports

Apple IIgs System Software 5.0.

Novice desktop programmers can use *Genesys* to gain insights into how desktop programs work. Non-programmers can use *Genesys* to tailor desktop programs that use GS/OS resources to their tastes. You can use *Genesys* to rename menu items or controls, to change the shape or color of windows or controls, to add keyboard equivalents to menus and controls, and more.

*Design Master*, from The Byte Works, is much like *Genesys* in that it allows you to "paint" your windows, menus, etc., on the screen, and then create resource forks or source code. Unlike *Genesys*, *Design Master* won't read resource

forks, even though it will create them. This means you can't edit resources with *Design Master*. However, you can save *Design Master*-created resources in a file *Design Master* can reload and edit.

*Design Master* lets you visually create menu bars, windows, and dialogs in either 640 or 320 mode (*Genesys* works only in 640 mode) and it includes a unique "test run" feature that allows you to see exactly how your created objects will act in your finished program.

SS-007	<i>Genesys</i>	\$90.00
BW-006	<i>Design Master</i>	\$57.00



## Applesoft

Applesoft BASIC is the "universal language" of the Apple II. An Applesoft program will run on every Apple II ever built. Most Apple II programmers started with Applesoft and programming examples often use it.

We have materials suitable for teaching yourself how to write Applesoft programs and we have materials that push Applesoft to near state-of-the-art levels—incredible for a language written to run on 48K computers more than ten years ago.

### Learning Applesoft

The best book for getting started with Applesoft came in the box with your computer and is called *A Touch of Applesoft BASIC*. We can't sell you one, but you should already have a copy. Another good place to start is a book we do stock called *A Bit of Applesoft BASIC*, by Margot Critchfield and Thomas Dwyer. It starts at the very beginning and is a good introduction to Apple IIs as well as Applesoft.

If the taste of Applesoft you get from one of these books pleases you, the next step is Apple's *Applesoft Tutorial*. This book comes with a 5.25 ProDOS disk with copies of the sample programs in the book.

Finally, if you intend to get serious about Applesoft, you should have Apple's *Applesoft BASIC Programmer's Reference Manual*. This book is also the one you should have if you're already familiar with computers and

programming but want to learn about Applesoft.

None of these books go into much detail on what you have to do to store data on disks. If this is important to you, you'll also need one or more of the books listed in the "ProDOS 8" box at the bottom of this page. If you are interested in using files from the earlier DOS 3.3 rather than ProDOS, Larry Wintermeyer's *Applesoft BASIC Toolbox* is your best choice.

<b>AW-040</b>	<b>A Bit of Applesoft BASIC</b>	\$9.95
<b>AW-010</b>	<b>Apple: Applesoft Tutorial (w/disk)</b>	\$29.95
<b>AW-021</b>	<b>Apple: Applesoft Prgrmr's Ref</b>	\$22.95
<b>AW-038</b>	<b>Wintermeyer: Applesoft Toolbox</b>	\$9.95

### Development Tools

If you're serious about Applesoft you should know about two programs from Beagle Bros.

*Program Writer* is a full-screen editor specifically for writing Applesoft programs. It features search/replace, auto-number and renumber, cut and paste between programs, one-key macros, and it can list the variables you've used. *Beagle Compiler* speeds up your string-intensive Applesoft programs by a factor of 15 or more.

*MD-Basic* is a new "pre-compiler" for Applesoft that we really like. It allows you to write programs that have many of the features Applesoft lacks, such as named subroutines (no line numbers), long variable names, IF-THEN-ELSE, REPEAT-UNTIL, and WHILE-WEND loops. It allows you to "include" files, which makes it

easier to have a library of often-used routines, and to "define" constants and code macros. *MD-Basic* translates your file into standard Applesoft that can run on any Apple II and that can be compiled with the *Beagle Compiler*. *MD-Basic* itself, however, will run only on a IIgs.

<b>BB-003</b>	<b>Beagle: Program Writer</b>	\$37.50
<b>BB-002</b>	<b>Beagle: Beagle Compiler</b>	\$59.00
<b>MD-001</b>	<b>Davis: MD-Basic</b>	\$49.95

### Applesoft Graphics

The Apple II was the first personal computer to come with a built-in color graphics capability and several books have been written about how to take advantage of this. We carry David Miller's *Mastering Applesoft Graphics* and Roy Myers' *Microcomputer Graphics for the Apple Computer*.

Miller's book is the more recent. It covers low res, high-res, and IIgs super-hi-res graphics. It discusses programming with the "drawing" commands (lines, circles and so on), with "shapes", and also programming of graphs (line, bar, pie and so on).

Myers' book sticks with standard high-res but goes into more detail on the drawing routines. It includes more than eighty Applesoft programs that illustrate hidden lines, hidden surfaces, scaling, rotation, animation, and more.

<b>SF-001</b>	<b>Miller: Mastering Aplsft Graphics</b>	\$18.95
<b>AW-039</b>	<b>Myers: Graphics for the Apple II</b>	\$9.95

## 6502 Assembly Language

Many professional programs are written in a combination of Applesoft and 6502 assembly language. If you don't know assembly language at all, we recommend our *6502 Starter Kit*. It includes Roger Wagner's *Assembly Lines: The Book*, which is an excellent introduction to assembly language, a disk with the programs in the book, and DOS 3.3 and ProDOS 8 versions of *Merlin Pro*, the most widely used assembler on 8-bit Apples. The book and disk are also available separately.

*Assembly Language for the Applesoft Programmer* is a good book that shows how to link the two languages.

For more advanced programmers, we recommend the *Object Module Manager* from Morgan-Davis of *MD-BASIC*. It's a "memory manager" for assembly language modules used with Applesoft. It supports built-in ampersand parsing, relocates modules from disk into memory, and provides a way for modules to communicate with each other.

We also have Lance Leventhal's 6502 books, which are considered by many to be classics.

<b>RW-SET</b>	<b>6502 Starter Kit</b>	\$39.95
<b>RW-001</b>	<b>Wagner: Assembly Lines</b>	\$19.95
<b>DS-004</b>	<b>disk for this book</b>	\$15.95
<b>AW-012</b>	<b>Asmby Lang for Applesoft Prgrmr</b>	\$18.95
<b>MD-002</b>	<b>Davis: Object Module Manager</b>	\$24.95
<b>MH-007</b>	<b>Leventhal: 6502 Prgrmg, 2nd Ed</b>	\$19.95
<b>MH-008</b>	<b>Leventhal: 6502 Subroutines</b>	\$19.95

## ProDOS 8

Applesoft was originally written well before Apple IIs were using disk drives. To this day, Apple's Applesoft manuals say very little about how to use data files on disks. Instead, this information is in Apple's *BASIC Programming with ProDOS*. The book includes a disk with utilities and sample programs.

Another good book about Applesoft

programming under ProDOS is *ProDOS Inside and Out*, which was written by our own Dennis Doms and Tom Weishaar. This book also has a disk, sold separately, with the book's programs.

One other important ProDOS reference we stock is Apple's *ProDOS 8 Technical Reference Manual*. This book has a great deal of technical information on the inner workings of ProDOS,

including disk, directory, and file structures and formats. Includes complete information on using the ProDOS Machine Language Interface from assembly language.

<b>AW-024</b>	<b>Basic Prgrmg w/ ProDOS (w/disk)</b>	\$29.95
<b>TB-006</b>	<b>ProDOS Inside and Out</b>	\$16.95
<b>DS-002</b>	<b>disk for this book</b>	\$10.00
<b>AW-023</b>	<b>ProDOS 8 Tech Ref (w/disk)</b>	\$29.95

# Programming

## A2-Central Summer Conference

The world's largest Apple II-oriented technical gathering is our own **A2-Central Summer Conference**. The conference takes place each summer, during July, in Kansas City.

Apple Computer is a major sponsor of the conference. Each year it sends 20 or more engineers from its Apple II development labs and from its Developer Technical Support team. Last summer Ralph Russo, Apple's top executive in charge of the Apple II; Jane Lee, Apple's head of Apple II marketing; and David Szetela, head of Developer Services, also spoke at our conference.

During 1990's conference, Apple's engineers showed off a number of new tools for the Apple IIs. Apple also brought a logic analyzer and used it as the primary tool in their bug-busting room, which solved major problems for several developers.

The main part of the conference lasts two days. We have several tracks of sessions going on simultaneously. Some sessions are done by Apple's people, the rest are done by people like Roger Wagner, head of Roger Wagner Publishing; Mike Westerfield, head of The Byte Works; and Randy Brandt, head of JEM Software and author of *TimeOut UltraMacros*. You can get a better idea of the number of sessions and their topics by studying the list of audio tapes we have available from last summer's conference. You'll find the list in the box below.

For the last two years we've taken over the dorms, cafeteria, and conference center of Kansas City's Avila College. This allowed us to offer those who attended a place to stay, a large selection of technical sessions, and three meals a day at a very good price. For those who prefer a hotel, there are several, covering a wide price range, just a few

minutes from the college.

Last summer Apple did an Apple IIs College the day before our conference started. Next summer we're hoping to have three choices prior to our conference: a two-day Apple IIs College and two-day introductions to programming in Pascal and C on the Apple IIs. Our tentative date for these sessions is July 16 and 17, 1991.

We're planning to hold our own conference on July 18 and 19. This will be a Thursday and Friday. Previously our conference has been on Friday and Saturday. We're moving it ahead a day for 1991 to open up room on Saturday and Sunday, July 20 and 21, for a public, Apple II-oriented trade show. Our plans are only tentative as this catalog is being written, but if we can pull it off, will this be neat or what?

While we do intend to once again provide those who attend with the option of Avila College's inexpensive food and accommodations, we are currently planning to hold the actual colleges, conference, and exhibit fair at the facilities of the National Office Machine Dealers Association, which is within walking distance of Avila College. NOMDA's facility includes a larger auditorium, more comfortable seminar rooms with built-in color projection systems, and much more room for exhibits than we've had in the past.

While the sessions are important, most attendees agree that the real reason to attend our conference is the chance to meet and talk to other Apple II developers. It's like a reunion, only better. To get on our conference mailing list, write the following number on our order form and we'll send you full details when we have them available.

CONF-ML **More Information on the A2-Central Summer Conference** free

## Conference Audio Tapes

These audio tapes were all made during sessions of the **1990 A2-Central Summer Conference**, held in Kansas City on July 20 and 21. The list is a good overview of the types of sessions you can attend at the conference. The tapes themselves are full of good information.

### Apple IIs College

- ATO-51 50 min **GS/OS & Toolbox Overview**  
 ATO-52 50 min **Programming Strategies (same content as ATO-14)**  
 ATO-53 50 min **Writing the Code**  
 ATO-54 50 min **Debugging (same content as ATO-16)**  
 ATO-55 50 min **Using a Test Plan**  
 ATO-56 50 min **Appletalk (same content as ATO-07)**  
 ATO-58 50 min **Seminar: Graphics**  
 ATO-59 50 min **Seminar: Networking**  
 ATO-60 50 min **Seminar: GS/OS, SCSI**  
 ATO-61 50 min **Seminar: Development Tools**  
 ATO-62 50 min **Seminar: Printing (same content as ATO-20)**

### Other Apple IIs

- ATO-01 50 min **Apple IIs System Software Update**  
 ATO-02 50 min **New Apple IIs Sound Tools**  
 ATO-03 50 min **Unleashing the Sound of the IIs**  
 ATO-04 50 min **The Apple IIs Animation Toolkit**  
 ATO-05 50 min **Apple IIs Animation Secrets**  
 ATO-06 110 min **Sound and Animation Q & A**  
 ATO-07 50 min **AppleTalk: How to Make the Calls**

- ATO-08 60 min **(Apple)Talkin' 'bout My Generation**  
 ATO-09 50 min **Genesys - In The Beginning**  
 ATO-11 50 min **New Apple II SCSI card**  
 ATO-12 50 min **CD-ROM and the Apple II**  
 ATO-13 50 min **Apple IIs Media Integration**  
 ATO-14 50 min **Apple IIs Programming Tips**  
 ATO-16 50 min **Advanced Apple IIs Debugging**  
 ATO-17 50 min **Writing DAs, CDevs, and Inits**  
 ATO-18 50 min **Creating Apple IIs Device Drivers**  
 ATO-20 50 min **Printing and the Apple IIs**  
 ATO-21 50 min **Toast and the Human Interface**  
 ATO-22 50 min **Working with the Apple IIs Finder**  
 ATO-23 50 min **Sex, Lies, and File Formats**  
 ATO-24 50 min **IIs Programming for the 1990s**  
 ATO-25 50 min **Languages & Tools from Byte Works**  
 ATO-26 50 min **Developing with Micol Adv Basic**  
 ATO-35 50 min **Introduction to Debugging**

### HyperStudio

- ATO-27 50 min **HyperStudio Stack Authoring**  
 ATO-28 50 min **HyperStudio XCMDs**

### Cross Development

- ATO-29 50 min **2-For-1: Parallel Development**  
 ATO-30 50 min **Working With The Enemy**  
 ATO-31 50 min **Dynamo & Pizzazz**

### Marketing

- ATO-41 50 min **Marketing for Small Developers**  
 ATO-42 50 min **Turn Your Software Into Cash**  
 ATO-43 50 min **The Road to Fame & Fortune**

### 8-Bit

- ATO-32 25 min **Apple II and ProDOS 8 Update**  
 ATO-33 50 min **8-Bit Development Environments**  
 ATO-34 50 min **Using MD-BASIC**  
 ATO-36 50 min **Stalking the Elusive Auxmem**  
 ATO-37 50 min **Dev Systems for DB Master**

### UltraMacros

- ATO-38 50 min **Brandt on UltraMacros**  
 ATO-39 50 min **UltraMacros Prgming for Developers**  
 ATO-40 50 min **AWorks Routines from UltraMacros**

### Other

- ATO-70 30 min **Jane Lee luncheon speech**  
 ATO-71 50 min **Dev Assn Meeting (Ralph Russo)**  
 ATO-72 50 min **David Szetela luncheon speech**  
 ATO-44 50 min **Laser Computer and Apple Technlgy**  
 ATO-45 50 min **Extending the Life of the Apple II**  
 ATO-46 50 min **Computing for the Handicapped**  
 ATO-47 25 min **Where to Go for Apple Tech Info**  
 ATO-48 50 min **Online Resources for Programmers**  
 ATO-49 50 min **BBS Design and Operation**  
 ATO-50 50 min **Computing in the USSR**  
 ATO-80 50 min **SEA Software Tools**

### Tape Prices

number of tapes	price/each
1-5	\$3.95
6-11	\$3.25
12-24	\$2.95
25-49	\$2.45
50+	\$1.95

## Modems

A modem allows you to hook your computer to the world-wide telephone network. Once connected, you can call other computers—from Apple IIs running local bulletin boards to the large mainframes used by international information services such as GENie.

Modems work at various speeds, or "baud rates." Most modems sold today have a top operating speed of 2400 baud.

All of the modems we sell are *external* modems. This means they sit on the desk beside your computer. They come with one of those little power cubes that plugs into the wall and a phone cable that plugs into a modular jack. You also have to connect the modem to your computer with a "serial cable." Since the serial cable you need depends on which computer you have, the cable is sold separately. See the box below.

Our best-selling modem is the **SupraModem 2400**. It's a good, inexpensive, all-purpose modem that's fully compatible with the industry-standard "AT" command set. It will operate at 300, 1200, or 2400 baud and is compatible with Bell 103/212A, CCITT V.21, CCITT V.22, and CCITT V.22bis protocols, which means it works all over the world.

It supports automatic answer/automatic dial (tone or pulse) and has a programmable non-volatile memory that stores a telephone number and your user configuration profile without any need for setting switches. It has two modular phone jacks, one for the cable that goes to the wall and one for a phone. It also has a speaker with volume control, a one-year

warranty, and it's made in the U.S.A.

In addition to the 110 volt North American model, we stock three 220-volt versions of this modem. These differ only in the type of plug on the power supply. This chart shows you the types of plugs available—order the one that matches the sockets in your locality.

### Int'l power plugs



Australia



W Germany



Britain

For those of you who spend hours on line, we also have the **Computer Peripherals ViVa24m MNP modem**. Besides being hip looking, this 2400 baud modem supports MNP error correction and data compression levels 2 through 5 when connected to other MNP modems. Most GENie nodes support MNP to level 4, for example.

MNP is a data communications protocol for error-free communication over ordinary voice-grade telephone lines. The classes of MNP have varying levels of capability. With MNP Class 5, you typically set your modem-computer baud rate at 9600 even though the modem-modem baud rate will be lower (1200 or 2400 baud). Besides error detecting and correcting, two MNP Class 5 modems connected to each other will also perform compression of transmitted data. On ordinary text the compression can be about 50 per cent, which doubles the effective baud rate.

All our modems, by the way, will work with any personal computer, not just an Apple II.

## Cables

One end of these cables plugs into any of the modems or printers we carry. The other end plugs into the type of computer you have. These cables are all 8 feet long.

RC-001	8-pin connector for IIGs, IIC-Plus, Macintosh	\$15.00
RC-002	5-pin connector for older IIC	\$15.00
RC-003	25-pin connector for serial cards (Apple IIe, MS-DOS)	\$15.00

SC-001	Supra 2400 for North America (110 volts)	\$129.00
SC-002-AU	Supra 2400 for Australia (220 volts)	\$139.00
SC-002-WG	Supra 2400 for West Germany (220 volts)	\$139.00
SC-002-UK	Supra 2400 for Britain (220 volts)	\$139.00
DC-008	ViVa24m 2400 baud MNP 5 modem (110 volts)	\$199.00
SHIP	Surface shipping any modem outside U.S.	\$3.00

## Telecom Software

In order to use a modem you have to have telecommunications software running on your computer. At a minimum, this software takes your keystrokes and passes them to the modem, which passes them on to the remote computer you're connected to, and it grabs the characters coming in from the remote computer and displays them on your screen.

**Talk Is Cheap** is an excellent, inexpensive telecommunications package. It has the ability to save all incoming characters—you can scroll back through the text that disappears off the top of your screen. It comes with an editor you can use to write messages and it has a special mode for use in real-time conferences. It supports the file transfer protocols known as XMODEM and YMODEM, which are used to prevent errors creeping into files being transferred between computers. And it has the

ability to trick mainframe and minicomputers into thinking your Apple II is one of a variety of mainframe terminals, including models from TeleVideo, Hazeltine, ADM, ADDS, and the DEC VT-52.

Its strongest feature is a robust "scripting language," which allows it to be turned into a "telecommunications robot." It can follow sophisticated scripts that log onto a service, read your mail, read the bulletin boards you are interested in, download software, and log off—all automatically. You touch the keyboard only to start the script in motion. It's because of this feature that software such as *Co-Pilot* and *GENie Master* (next box) require **Talk Is Cheap**.

CS-001	Talk Is Cheap	\$40.00
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## Co-Pilot / GENie Master

**Co-Pilot** and **GENie Master** are two programs designed to make it easy and cheap to use GENie. They log on to GENie for you and do the things you want done, all automatically. You read and respond to the information collected from GENie later, while offline. No need to worry about a clock ticking in the background.

**Co-Pilot** is an Apple IIGs program that uses the desktop interface. You control it with easy-to-use pull-down menus. **Co-Pilot** uses either *Talk Is Cheap* or *Point-To-Point*, the telecom package published by Beagle Bros, for its online robot. You must have one or the other.

**GENie Master**, on the other hand, has an AppleWorks-like interface. It consists of sophisticated scripts for *TimeOut UltraMacros* and *Talk Is Cheap*. It requires that you have *AppleWorks* and *Talk Is Cheap*, although you don't need to have *UltraMacros* (it's distributed as a "task file"). Currently **GENie Master** requires AppleWorks 2.0 or 2.1; it doesn't work with AppleWorks 3.0.

CS-001	GENie Master	\$20.00
KG-001	Co-Pilot	\$25.00



# Telecommunications

## GE<sup>SM</sup>nie

**A2-Central** manages the Apple II areas on GEnie Services, the leading online information service owned and operated by General Electric. There are two Apple II areas on GEnie. The larger of the two is called the Apple II RoundTable, or "A2." The other is the Apple II Programmers and Developers RoundTable, or "A2Pro."

Each area includes a library of the best Apple II-related software and data files you'll find anywhere, including system software updates and technical notes direct from Apple, classic Beagle Bros software, the **A2-Central** Font Clearing House, graphics, games, and AppleWorks templates. In A2Pro's library, you'll find reams of sample source code.

In addition to the library, each area has a bulletin board where you can get fast answers to your questions. Most of the leading Apple II-related companies provide customer support inside the A2 bulletin board. In A2Pro we not only have some of the best IIGs programmers in the world, but a number of Apple's engineers come by on their own time to help developers with Apple II-related puzzles.

Each RoundTable also has real-time conference rooms where you can ask questions at regularly scheduled formal and informal conferences with leading guests from the Apple II community.

### How to open an account on GEnie

payment: Have your credit card number ready  
Invoice billing available in the U.S.—call the customer service number shown for more information.

#### United States

Set-up: Half Duplex (local echo) 300, 1200, or 2400 baud  
Dial: 1-800-638-8369  
Upon connection, enter: HHH  
At the "U#=" prompt, enter: XJM11797,CENTRAL (no spaces) and press RETURN  
Need help? For GEnie customer service (voice) call 1-800-638-9636

#### Canada

Set-up: Half Duplex (local echo) 300, 1200, or 2400 baud  
Dial: 1-800-387-8330  
Upon connection, enter: HHH  
At the "U#=" prompt, enter: XJM11797,CENTRAL (no spaces) and press RETURN  
Need help? For GEnie customer service (voice) call 1-800-638-9636

#### Switzerland

Set-up: 8N1, Half Duplex (local echo) 1200 baud  
Dial: Zurich .....01-556821 Lausanne.....021-6174511  
Basel .....061-350523 Geneva .....022-7985566  
Upon connection, enter: HHH  
At the "U#=" prompt, enter: XJM11797,CENTRAL (no spaces) and press RETURN  
Need help? For GEnie customer service (voice) call 2233-6091 (Huerth-Effern, West Germany)

#### Germany/Austria

Service Provider: DATEX-P  
Dial: Call GEnie customer service at 2233-6091 (voice, Huerth-Effern, West Germany) for number of your local node and for access codes.  
At the "U#=" prompt, enter: XJM11797,CENTRAL (no spaces) and press RETURN  
Need help? For GEnie customer service (voice) call 2233-6091 (Huerth-Effern, West Germany)

#### Japan

Service Provider: C&C VAN  
Dial: Call NEC Client Services at 03-452-9800 (voice) for number of your local node and for access codes  
At the "U#=" prompt, enter: XJM11797,CENTRAL (no spaces) and press RETURN  
Need help? For NEC customer service (voice) call 03-452-9800

#### Public Data Network Countries (PDN)

PDN country list:	Australia	Ireland	Philippines	Sweden
	Belgium	Italy	Portugal	Taiwan
	Denmark	Mexico	Singapore	Unitted Kingdom
	Finland	Netherlands	South Africa	
	France	New Zealand	South Korea	
	Hong Kong	Norway	Spain	

Dial: Contact your local telephone company to get a PDN account number and to find out how to access the PDN  
Upon connection, enter: 3136900 (in some countries an additional 7 zeros may be required)  
At the "U#=" prompt, enter: XJM11797,CENTRAL (no spaces) and press RETURN  
Need help? For GEnie customer service (email only) send a message to FEEDBACK. After you sign up, GEnie will mail you a contract. The contract must be signed and returned before your account can be validated. You may fax the signed contract to GEnie.

### GEnie announces price reductions

On Oct. 1, 1990, GEnie's subscription rate in the U.S. was changed to \$4.95 per month. The basic subscription includes unlimited, non-prime time access to more than 100 products and services, including electronic mail, an online encyclopedia, single-player games, stock quotes, news, and weather. GEnie calls these its Star\*Services.

While the basic rate does not include the Apple II RoundTables, GEnie simultaneously announced a new non-prime hourly rate of \$6 per hour for all three speeds (300, 1200, and 2400 baud) to access services not covered by the basic subscription. This is a 40 per cent reduction from the previous 2400 baud non-prime time rate. The prime time rate remains at \$18 per hour for all three access speeds.

The hourly rate applies to all the personal computing RoundTables, software libraries, financial services, value-added services, chat lines, real-time conferences, and multi-player games.

GEnie also announced a new **money-back guarantee**. After trying GEnie Star\*Services for one month, unsatisfied subscribers can cancel their membership and their \$4.95 subscription fee will be refunded. This offer applies only to first-time GEnie subscribers, one per household.

### Expanded International Access

In addition, GEnie announced that it is now available via the Public Data Network in 21 countries, in addition to its previous availability in the U.S., Canada, Austria, Japan, Switzerland, and West Germany.

The 21 countries with GEnie availability through PDN are Australia, New Zealand, Mexico, Portugal, Spain, Ireland, the United Kingdom, France, Italy, Belgium, Netherlands, Denmark, Norway, Sweden, Finland, South Africa, Singapore, Hong Kong, the Philippines, Taiwan, and South Korea.

The new Star\*Services rate is not available in PDN countries. Hourly rates are \$8 non-prime and \$20 prime time (local times). PDN users will be billed separately by their local telephone company for PDN charges. GEnie charges will be billed, in U.S. dollars, to the subscriber's credit card.

### Join GEnie free!

The former \$29.95 sign-up fee for the GEnie service has also been eliminated for all new subscribers. As a result, there is no real cost to subscribe to the GEnie service (Japan excluded), except for the first month subscription rate of \$4.95 in the U.S. and Canada. The certificate and agreement numbers formerly assigned to **A2-Central** subscribers are no longer necessary.

### World-wide rates

As of October 1, 1990, in U.S. dollars except where noted:

	basic monthly rate	non-prime * per hour	prime per hour	sign-up fee
U.S.	\$4.95	\$6	\$18	free
Canada (in Canadian \$)	C\$ 5.95	C\$ 8	C\$ 25	free
Austria/Germany/Switzerland	NA	\$18	\$27	free
Japan (in Yen)	NA	Y 5400	Y 5400	Y 8000
PDN countries	NA	\$8	\$20	free

In PDN countries the phone company will bill you separately for PDN access

\* **Non-prime rates** apply Monday through Friday from 6 PM to 8 AM local time and all day Saturday, Sunday, and designated holidays. Hourly rates shown are billed in one-minute increments. Some GEnie connections in smaller U.S. cities carry an additional surcharge. GEnie rates and services are subject to change. Some third party services offered on GEnie may be subject to specific country restrictions or may carry additional charges. GEnie is a service mark of General Electric Company, U.S.A.

## Electronic Imaging

Hypermedia authors (and others interested in the Apple II's ability to display pictures as well as text on its screen) soon feel a need to create their own graphics. Actually drawing an image with a program such as *MiniPaint* (described elsewhere on this page) is an option for those with the ability to draw. And for the rest of us there's electronic imaging.

There are two kinds of imaging equipment available for the Apple II, scanners and digitizers. A scanner is used with graphics that are already on a sheet of paper. A digitizer is used with video images coming from a video camera, VCR, or video disk player.

**The scanner we carry is the Quickie hand scanner from Vitesse.** It comes with a card you put into one of your computer's slots and software that runs under GS/OS or ProDOS 8. The scanner itself is about the size of a double-wide mouse. It has a cable that plugs into the card. It can scan an area about four inches wide. The length of the scan depends on how much memory you have in your computer.

The IIGs software comes both in NDA and stand-alone versions. It allows you to create both 320- and 640-mode graphics in black and

white or 16-level grey scales. You can also save scans in high-res, double-high-res, and *Print Shop GS* formats. The Apple IIe software works in black and white and can save data in high-res or double high-res files.

**The video digitizer we carry is Digital Vision's ComputerEyes.** This device comes in two models. One is a black and white version that will work in any slotted Apple II and with any composite video source, including PAL and SECAM. By itself, it can create hi-res and double hi-res black and white images. With optional enhancement software it supports *Print Shop* and *Newsroom* formats, image negate, shrink/expand, left-right flip, and so on. With optional IIGs support software, it can create 320-mode graphics using a 16-level gray scale.

The Color ComputerEyes requires the North American standard NTSC video and an Apple IIGs. It can do everything the black and white digitizer and software can do, but it can also do what the black and white model can't—create 320-mode graphics with 16 colors. It can also create 640-mode graphics in black and white or four-level gray scale.

These digitizers work best with still images

from video cameras or video disk players. VCRs that can display a noise-free single-frame picture also work well. Scan times are less than 6 seconds except in 640-mode, which takes less than twelve seconds.

VI-001 <b>Quickie Scanner</b>	\$219.95
DV-001 <b>B&amp;W ComputerEyes</b>	\$119.95
DV-002 <b>Enhancement Software</b>	\$22.95
DV-003 <b>IIGs Support Software</b>	\$22.95
DV-004 <b>Color ComputerEyes for IIGs</b>	\$219.95

## Second Chance

**Second Chance V2.0** is an image enhancement package written to work with Apple IIGs 320-mode 16-level gray scale images. It will also convert 640-mode images to 320 and back again so they can be enhanced as well.

Includes ten smoothing (blurring) algorithms, seven sharpening algorithms, sample photographs, and a technical discussion of what the algorithms (many of which use Fast Fourier Transforms) actually do.

RI-001 <b>Second Chance</b>	\$39.95
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## Fonts, clip art, clip sounds

**The A2-Central Font Clearinghouse** on GEnie (see next page) is the best source for public domain fonts that work with Apple IIGs programs and with many 8-bit programs such as Beagle Bros' *TimeOut SuperFonts* and TimeWork's *PublishIt!* We've compressed all but the most recently uploaded fonts onto eight 3.5 disks so that you can have a complete font collection. Besides fonts, the disks include a copy of *ShrinkIt* that you'll need to uncompress the fonts, an AppleWorks database file showing the characteristics of the fonts, graphics files showing the look of the fonts, and general technical information.

**HyperStudio Clip-Art, Volume 1** has more than 550 Apple IIGs 640-mode graphic images you can use with *HyperStudio*, *AppleWorks GS*, or other programs. The images include 27 animations that will work within *HyperStudio*. The disk also includes a slide-show program for viewing the files and a printed manual with images of the graphics.

**HyperStudio Clip-Sounds, Volume 1** has 41 sound files including musical transitions, button noises, and sound effects. It also includes two Xcmds, *ButtonPlay* and *DiskPlay*.

The *ButtonPlay* Xcmd will play a sound that's already attached to another button so that the

sound won't have to be embedded in the stack more than once. The *DiskPlay Xcmd* will play sounds directly from disk. Normally *HyperStudio* loads sounds into memory before playing them. On some machines you'll run out of memory before a long sound is completely loaded. On others, the sound may fit but there will be a long delay as the sound loads. The *DiskPlay Xcmd* solves these problems.

All these fonts, sound clips and art clips may be used in stacks you distribute to others.

FC-001 <b>A2-Central Font Collection</b>	\$39.00
RW-007 <b>HyperStudio Clip-Art, Vol 1</b>	\$19.95
RW-008 <b>HyperStudio Clip-Sounds, Vol 1</b>	\$19.95

## Graphics tools

**MiniPaint is a full-featured, full-color, 320- and 640-mode paint program for the Apple IIGs.** *MiniPaint* is published by JEM and has:

- auto-shadowing for powerful "light source" control
- scroll bars that speed you to any part of your picture
- exotic lasso and marquee options that add power
- "Dither Lock" to keep 640-mode colors accurate
- keyboard shortcuts to speed up work, increase control
- coordinate display gives pixel-by-pixel control
- prints on LaserWriters, in color on ImageWriters

Nonetheless, its most remarkable feature is

its price—just a fraction of what other IIGs paint programs cost even though it includes most of their features.

**Roger Wagner Publishing's The Graphic Exchange** is for you if you already have or can get the graphics you want but they're in the wrong format.

This Apple IIGs program allows you to exchange virtually any Apple II graphic image from one format to another. Supported formats include normal and double low-res and hi-res, 320- and 640-mode super high-res, *Print Shop*,

*Print Shop GS*, and *Newsroom*, as well as *MacPaint* files. The program can even read Macintosh 3.5 disks!

Graphics can be examined, cropped, and scaled and colors can be manipulated. A new, recently-released GS/OS version does batch conversions and can also convert graphics to Mac format for use on a network or with Apple File Exchange.

JE-003 <b>MiniPaint</b>	\$25.00
RW-004 <b>The Graphic Exchange</b>	\$37.50

# Hypermedia

## I know what hyperactive is, but what is hypermedia?

Frankly, there's a lot of hype surrounding hypermedia. But it's not *all* hype. At its kernel, hypermedia technology allows anyone to bring together informational material that includes text, sounds, graphics, and even videotape or videodisk segments and to give users multiple ways to explore this material.

Computers are at the center of hypermedia. In schools, the primary hypermedia machine is the Apple IIGs. The primary hypermedia software is Roger Wagner Publishing's *HyperStudio*.

*HyperStudio*, like *HyperCard* on the Macintosh, uses the metaphor of a "stack" of "cards". Stack authors write text or paint pictures on these cards, or they attach sounds or videos to them that are played when a card appears. They can also put "buttons" on the cards that play sounds or videos, that score tests, or that bring up other cards.

The major differences between *HyperStudio* running on an Apple IIGs and *HyperCard* running on a Macintosh are that the *HyperStudio* machines **cost less**, support **color**, and have a more sophisticated **sound system**. In addition, with *HyperStudio*, stack authors create stacks by using the point-and-click Apple desktop. With the Mac's *HyperCard*, stacks are created by writing programs.

**Stack-Central** is a 3.5-disk based publication for people who are creating stacks with *HyperStudio*. It's published every other month by the gang at **A2-Central**. Each two-disk issue is filled with tips and tricks, sounds, and graphics that stack authors can use in creating their own stacks. Each issue also includes state-of-the art public domain and shareware stacks.

If you'd like to **see** the potential of *HyperStudio* on your own Apple IIGs, send for a **Stack-Central** sampler disk. It includes a demo version of *HyperStudio* and several stacks. If you'd like to **take advantage** of *HyperStudio*'s potential, you'd better get a **Stack-Central** subscription.

### Stack-Central

	1 year	2 years	3 years	1 issue trial
<b>Subscription prices</b> 6 issues/year, 3.5 disk only	\$42	\$81	\$117	\$7

**Stack-Central Sampler & HyperStudio Demo** \$3

### Back Issues

#### Stack-Central

**Stack-Central** has been published every other month since February, 1990. Each issue consists of two 800K, 3.5 disks and includes a *HyperStudio* stack containing editor Terry Baker's tips, tricks, and letters from readers for that month. Each issue also includes public domain and shareware stacks. Specific issues contain sounds, xcmds, and other material you can use in your own stacks.

**Stack-Central** back issues are available for \$10 each.

SC-90S1 **Semiannual disk set (Feb/Apr/Jun 90)** \$25.00

### Free airmail world-wide

All of our publications, **A2-Central**, **TimeOut-Central**, and **Stack-Central** are sent to you by airmail. To U.S. addresses this means first class mail. To most other countries we use international priority airmail. This means you'll get your issue within about a week of when we mail it, no matter where in the world you live. There is no additional charge for this service. Each of our publications has a single world-wide price.

## HyperStudio

*HyperStudio* is a hypermedia authoring system for the Apple IIGs. You create "stacks" made up of "cards." Each card consists of a graphic background and can also hold text objects, graphic objects, sounds, and buttons.

Text Objects are scrolling windows that can hold much more information than would otherwise fit on one card. You can make the text editable or read-only. The text can be part of the stack or it can be in separate files.

Buttons can be used to move to another card, stack, or program; to play a sound or a segment from a video disk; to activate an animation; or to execute an external assembly language command called an "Xcommand". Buttons can also be used to keep test scores.

*HyperStudio* comes with tools for creating sounds and graphics, including a sound digitizing hardware card that doesn't need a slot, a microphone, and a separate program called *Sound Shop* that allows you to edit and add special effects to the sounds you record. You can also use *Sound Shop* to convert sound files from other software/hardware packages into *HyperStudio* format. In addition, you can record sounds from within *HyperStudio* while you are creating a stack. You don't have to use

*Sound Shop* unless you want to.

*HyperStudio* includes graphic tools for creating Apple IIGs 640-mode Super High Resolution graphics or you can import graphics from other IIGs programs. For example, you can use the Quickie Scanner or the ComputerEyes Video digitizer described on the opposite page to create personalized graphics you can use with *HyperStudio*.

*HyperStudio* also supports video disk players that can be controlled through an RS-232 serial port. You can play video segments on a separate monitor, or, with Apple's Video Overlay Card, on the Apple IIGs screen itself.

RW-005 **HyperStudio** \$99.95

SC-D **HyperStudio/Stack-Central Demo** \$3.00

### HyperStudio Xcmds

"Xcommands" are external assembly language programs that can be used by *HyperStudio*. Normally you can only use one per stack, but the *HyperStudio Xcmd Library Disk, Volume 1*, by Ken Kashmarek, provides a Master Xcmd that lets you use many. It also gives *HyperStudio* text-based scripting ability and includes 18 useful Xcmds.

RW-009 **HyperStudio Xcmds, Vol. 1** \$39.95

## Nexus

Since *HyperStudio* and *HyperCard* use the "stack of cards" metaphor, many people think that hypermedia is defined by stacks. That isn't right. Hypermedia is defined by *links*. Hypermedia simply provides users with multiple paths through a set of informational material.

Another approach to hypermedia is to present the user with text and graphic files that have embedded links to other text, graphic, and sound files. For example, imagine that a highlighted word in a text file indicates that you can obtain expanded information on the word (more text, a picture, or a sound) by clicking on that word. Or imagine being able to click on a face in a photograph of a basketball team and getting a text file with that player's name and statistics.

Tracy Valteau's *Nexus* is an Apple IIGs program that allows you to create these kinds of "linked sets" of information. You can even edit the text or graphics without destroying the links. *Nexus* includes a file you can distribute so anyone can use your linked set. For more, see the April 1990 **A2-Central** disk, which includes a demo version of *Nexus*.

GC-001 **Nexus**

\$69.95



## AppleWorks gems

One of the things that makes AppleWorks one of the great programs of all times is the *TimeOut* series of add-ons from Beagle Bros. We love them and we use them every day, but we don't actually sell most of them. That's because they're widely available in stores and we've tended to specialize in the hard-to-find stuff of exceptional quality.

Randy Brandt is a software author who has been associated with Beagle Bros for years. He has written several *TimeOut* packages, most notably *UltraMacros*, which you can read about elsewhere on this page. He was also a member of the Beagle team that wrote AppleWorks 3.0 for Claris.

Brandt is also the brains and brawn behind a small Apple II software company called JEM. He and his associates have produced a number of interesting products that work with AppleWorks.

**Outline 3.0** is an integrated Outliner for the AppleWorks 3.0 word processor. It modifies your copy of AppleWorks so that the Outliner is always there when you need it. It was written by Brandt himself.

From a word processor document, you simply press open-apple+. You'll see the word "OUTLINER" at the top of the screen.

Outline supports six levels of topics and five label options, including custom (design your own). You can arrange topics in ascending or descending order, you can bump topics up or down a level, you can collapse or expand an entire outline or zoom to a specific level. Text can be added to topics and can be displayed or hidden.

Brandt also wrote **Pathfinder**, which replaces the "Format a Blank Disk" option on the AppleWorks 3.0 "Other Activities" menu. It allows you to lock, unlock, and rename files, to delete

subdirectories, and to easily add and drop subdirectories to or from the current directory. The disk also comes with the *TimeOut* application **PathMaster**, by Mark Munz, which gives an alternate way to add and drop subdirectories.

**DoubleData**, by Dan Verkade, doubles the number of categories in the AppleWorks Data Base! DoubleData gives you 60 categories for every record; two pages of 30 categories each so that you can set up those large Data Bases just the way you've always wanted. Press OA-J to jump to the other page instantly, or move categories from one page to another to fine-tune your layout. The 30-category barrier is history!

Randy Brandt wrote **SpellCopy** to copy your AppleWorks dictionaries to a RAMdisk at bootup for maximum spelling checker speed!

SpellCopy also features the ability to modify AppleWorks so that your dictionaries can be on a drive other than your AppleWorks disk. This means that if not much RAM is available you can put AppleWorks on the RAMdisk, but keep the dictionaries on the AppleWorks disk.

**FlexiCal**, by Lester Simpson, works with AppleWorks 2.0, 2.1, and 3.0. Never miss another appointment! Too many computer calendars unrealistically require the user to be desk-bound all day. This one is for people on the go; real people like teachers and businessmen who have to take their calendars with them, daytime or night.

Written by a teacher, FlexiCal gives you practical daily, weekly and monthly calendars that you print as needed. The weekly and monthly calendars are automated by a special version of *UltraMacros* (included) so that you can effortlessly enter, arrange, and view

everything you need to stay efficiently organized.

**Mr. Invoice**, by Mark Munz & Bob Martz, is a fast and easy invoicing system for AppleWorks users. Mr. Invoice uses the power of UltraMacros (special version included) to guide you as you enter orders. Mr. Invoice will:

- maintain a customer data base
- automatically update inventory
- automatically track backorders
- let you print to any custom form
- optionally track monthly or annual (1 or 2 year) sales
- print on standard continuous-feed invoice forms

JE-008	<b>Outline 3.0</b>	\$39.00
JE-005	<b>Pathfinder</b>	\$20.00
JE-007	<b>DoubleData</b>	\$30.00
JE-006	<b>SpellCopy</b>	\$12.50
JE-001	<b>FlexiCal</b>	\$30.00
JE-004	<b>Mr. Invoice</b>	\$40.00

## Patch programs

Classic AppleWorks is known for its flexibility. But not everyone knows that this flexibility extends right down to your ability to make subtle changes, or patches, to the AppleWorks program code itself. We carry two programs that make these patches, such as overstrike cursor on startup, "Yes" highlighted at prompts, use of MouseText where appropriate, and much more.

**SuperPatch** works with AppleWorks 2.0, 2.1, and 3.0. Beagle Bros *AppleWorks 3.0 Companion* works only with 3.0. See the October 1990 *InCider/A+*, page 56, for a complete comparative list of what each program can do.

QC-001	<b>SuperPatch</b>	\$39.95
BB-004	<b>Beagle AppleWorks 3.0 Companion</b>	\$39.95

## TimeOut UltraMacros

Beagle Bros' **TimeOut UltraMacros** lets you turn AppleWorks 3.0 into a *player piano*. You can "record" complicated keystroke sequences and play them back easily. The sequences can include AppleWorks and TimeOut commands.

In addition to recording keystrokes, you can use the Appleworks word processor to write *UltraMacros* programs. For example, *Flexical* and *Mr. Invoice*, which appear on this page with JEM's software, and *GEnie Master*, which appears in our Telecommunications section, were all written with *TimeOut UltraMacros*. You can write programs for your own use or you can write programs for sale. And you can license a special version of *UltraMacros* from the program's author, Randy Brandt, so that your customers won't actually have to own

*UltraMacros* to run your software.

The *UltraMacros* compiler supports more than 50 commands, including IF-THEN-ELSE, recursion, PEEK, POKE, and CALL. It has a screen blanker and can execute commands at preset times. And it adds mouse control to AppleWorks. Many say this enhancement alone is worth the price of *UltraMacros*.

Beagle Bros has also published *MacroEase*, which includes a TimeOut debugging utility that allows you to see the names and values of variables in use, seven full-blown macro applications that do things like convert word processor documents to two or three columns, write checks, and create interactive multiple-choice quizzes. The package also includes 57 sample macros you can use to do everything

from eject disks to write a number as words.

BB-005	<b>TimeOut UltraMacros</b>	\$49.95
BB-006	<b>MacroEase</b>	\$34.95

## UltraMacros Primer

The *UltraMacros Primer* was written by macro expert Mark Munz and published by the National AppleWorks User Group to help users get started with *TimeOut UltraMacros*. The book is the best introduction to the program available. It starts by helping you get *UltraMacros* installed and then walks you up a gentle slope all the way to advanced programming. Munz illustrates his work with useful sample macros.

NA-001	<b>UltraMacros Primer</b>	\$19.95
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# AppleWorks

## Teachers should have secretaries...

and many of them do. These secretaries help with grading and with attendance, with reports to parents and to students, and with collecting and organizing materials for classroom presentation.

No, these teachers aren't self-funded sweep-stakes winners. These are simply teachers who have learned to use their classroom computers and *AppleWorks* to get more done, more gracefully, in less time.

Of course, it's not just teachers who get more done with *AppleWorks*. Virtually everyone who uses an Apple II uses *AppleWorks*. We'll show you the actual templates and techniques these people use in our new 3.5-disk based publication, *TimeOut-Central*.

It's named after Beagle Brother's famous *TimeOut* series of *AppleWorks* add-ons. Through our contacts at Beagle, at Claris, and at schools around the world we're able to bring you the latest news and the best tips and tricks about *AppleWorks* and *TimeOut*. And because we're a disk-based publication, we can send you not just text, but complete computer files. The exact files other people use every day!

*TimeOut-Central* is published every other month (6 issues a year) by the gang at *A2-Central*. The editor is Richard Marchiafava, author of the "AppleWorks Advisor" column that has appeared monthly in user-group newsletters around the world.

Every day, people like you are using *AppleWorks* to make themselves better teachers, better students, and better businesspeople. Our goal is to create a clearinghouse linking these early *AppleWorks* adopters together with each other and with the many other people who have seen the potential of *AppleWorks* and *TimeOut* and who are hungry for ideas and examples.

If you already use *AppleWorks* as your secretary, share your best ideas with us. If not, let us show you what computer-aided instruction really means.

### TimeOut-Central

	1 year	2 years	3 years	1 issue trial
subscription prices	\$42	\$81	\$117	\$7
6 issues/year, 3.5 disk only				

### Back Issues

#### TimeOut-Central

*TimeOut-Central* has been published every other month since September, 1990. Each issue consists of one 800K, 3.5 disk and includes a column by the editor, Richard Marchiafava, letters from readers, as well as public domain and shareware files.

*TimeOut-Central* back issues are \$10 each.

### Free airmail world-wide

All of our publications, *A2-Central*, *TimeOut-Central*, and *Stack-Central* are sent to you by airmail. To U.S. addresses this means first class mail. To most other countries we use international priority airmail. This means you'll get your issue within about a week of when we mail it, no matter where in the world you live. There is no additional charge for this service. Each of our publications has a single world-wide price.

## AppleWorks Books

There are more books in print on *AppleWorks* than on any other Apple II subject. People sometimes have a hard time selecting the one that would be best for their needs.

We carry two books that have been updated to reflect the changes in *AppleWorks* 3.0 and we carry two *AppleWorks* 2.0 classics that

### AppleWorks GS

We carry two books about *AppleWorks* GS. They were written by different authors and published by different companies, but otherwise they are fairly similar—in fact, they have exactly the same title: *Using AppleWorks GS*.

Katherine Murray wrote the *Using AppleWorks GS* published by Que. She's written a number of user guide books across the MS-DOS, Mac, and Apple II range. Her book has higher-quality illustrations and more of them. She also includes a neat little Quick-Key appendix.

Douglas Brown wrote his book for Addison-Wesley. He was one of the authors of the manuals that come in the box with *AppleWorks* GS. He includes introductory and advanced chapters for each of the six *AppleWorks* GS modules.

IN-005 Murray: *Using AppleWorks GS (Que)* \$21.95  
AW-027 Brown: *Using AppleWorks GS (AW)* \$19.95

haven't yet been updated.

The books that were rewritten for *AppleWorks* 3.0 are Ruth Witkin's *The Best Book of AppleWorks* and Arthur and Elaine Aron's *Using AppleWorks*.

Witkin writes the monthly "AppleWorks in Action" column for *inCider/A+* magazine. Her book is a combination of tutorials and hands-on examples. Its strength is a series of business-oriented examples, including cash flow management, a billing system, receivables tracking, break-even analysis, financial calculations, sales force evaluation, employee and customer data bases, mailing lists, form letters, and handbooks.

The Arons' book depends less on hands-on examples and more on a thorough discussion of each element of *AppleWorks*. This book includes hundreds of illustrations of the *AppleWorks* screen. Like Witkin's book, it is suitable both for beginners and more advanced users.

The two *AppleWorks* 2.0 classics we still carry are *Mastering AppleWorks* by Elna Tymes and Robert Ericson's *AppleWorks Tips and Techniques*.

*Mastering AppleWorks* is a classic introduction that has been used by thousands

of *AppleWorks* novices. It has a good word-of-mouth reputation; we carry it for all the people who ask for it by name.

Ericson's *AppleWorks Tips and Techniques* supplements the *AppleWorks* manuals with literally hundreds of new tips, tricks, and intelligent observations. Its structure, concise headings, and detailed index allow you to quickly find practical solutions to typical problems. What sets this book apart from the others is Ericson's ability to recognize and organize good, new ideas. Ericson has also created a disk that includes all the templates in his book, which we also carry.

IN-004 Witkin: *Best Book of AppleWorks* \$21.95  
IN-006 Aron: *Using AppleWorks* \$21.95  
SY-007 Tymes: *Mastering AppleWorks* \$21.95  
SY-008 Ericson: *AppleWorks Tips & Tech* \$19.95  
DS-003 disk for Ericson's book \$12.00

### ClassWorks: AppleWorks for the Classroom

Rick Thomas. An organized approach to teaching *AppleWorks*. Includes lessons plans, hand-outs, quizzes, and overhead transparencies. Includes a disk with copies of all student activities. Use as-is or modify to your special needs. Successful with 7th grade through adult training.

CE-001 Thomas: *ClassWorks* \$45.00

# Subscriptions

talking software that comes with it to read our newsletter each month. Secondly, we have subscribers who put each month's issue on a hard disk, where it can be quickly scanned with full-text searching software to find the latest

## Secret free trial

We usually get people to pay \$7 for a three-issue trial to **A2-Central**, but here's how you can get a two-issue trial absolutely free. Closely examine the order form on the back cover of this catalog. On the reverse side there's an area where we ask for the names of your friends who might be interested in **A2-Central**. What do you think would happen if you put your own name there and sent it to us? Shhhh....

phone number for that company you want to call or to find the solution to that problem with printer tabs you're having.

To give you a clearer idea of what's on our monthly disks, we've included a listing of the files on our latest disks in the box at the bottom of this page. The list continues on page 19. In addition to buying disks by subscription, you can also buy our back disks singly, or in quarterly or annual sets. Prices are shown in the "Back Issues" box to the right.

Subscription prices	1 year	2 years	3 years
<b>A2-Central</b>	\$28	\$54	\$78
12 issues/year, paper only			
<b>A2-Central (disk)</b>	\$84	\$162	\$234
12 issues/year, paper & 3.5 disk			

## Back Issues

### A2-Central

**A2-Central** has been published monthly since January, 1985. Single back issues are \$2 each. Bound, indexed annual volumes are \$14.95. A full set of every issue ever published (volumes and singles) is available at the special price of \$39.

The **Full-Text on Disk** version of our back issues is shipped on 3.5 disks and takes up about 5 megabytes of hard disk storage. Includes every issue ever published. Use with text-talking or full-text search software.

### Bound, indexed back issue volumes

QA-001	Vol. 1	Jan 1985-Jan 1986	\$14.95
QA-002	Vol. 2	Feb 1986-Jan 1987	\$14.95
QA-003	Vol. 3	Feb 1987-Jan 1988	\$14.95
QA-004	Vol. 4	Feb 1988-Jan 1989	\$14.95
QA-005	Vol. 5	Feb 1989-Jan 1990	\$14.95

### Full Set Specials (every issue ever published)

FS-N	All five volumes and current singles	\$39.00
FS-D	Our full text on 3.5 disks	\$39.00

### A2-Central on disk

**A2-Central** disks have been published monthly since February, 1989. Each 800K, 3.5 disk contains the full text of that month's paper issue and text-talking software for blind subscribers. In addition, specific issues contain Apple system software and technical note updates and the world's best public domain and shareware software. Contents of recent disks are in the box at the bottom of this page.

### Quarterly sets

Our disks are available in sets of 3 for \$6 each:

A2-89S1	Quarterly disk set (Feb /March/April 89)	\$18.00
A2-89S2	Quarterly disk set (May/June/July 89)	\$18.00
A2-89S3	Quarterly disk set (Aug/Sept/Oct 89)	\$18.00
A2-89S4	Quarterly disk set (Nov/Dec/Jan 90)	\$18.00
A2-90S1	Quarterly disk set (Feb/March/April 90)	\$18.00
A2-90S2	Quarterly disk set (May/June/July 90)	\$18.00
A2-90S3	Quarterly disk set (Aug/Sept/Oct 90)	\$18.00

### Annual sets

Our disks are available in annual sets of 12 for \$5 each:

A2-89FS	Annual disk set (Feb 89 to Jan 90)	\$60.00
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## Full text searches

You can quickly scan through a large body of information, such as our back issues or Apple's technical notes, using software that scans every word in a file looking for matches with words you specify. Two products that can do this are the *Prosel* series (see page 20) and *FastData Pro*.

*Fastdata Pro* allows you to search, print, cut from, paste into, split, or merge any type of file. You can scroll up and down through the text it finds. You can even use it with a word processor as a free-form data base manager. (ProDOS 8, 64K, 3.5 disk.)

FD-001	<b>Fastdata Pro</b>	\$49.95
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# Disk descriptions

All disks contain the latest versions of ProDOS 8 and Basic.system under license from Apple, as well as a several standard utility programs and an introduction written by Dean Esmay, editor of our monthly disk. The utilities include text readers for both blind and sighted users, a text file splitter, and a program selector called *Windows*. None of these files are shown in the following listings.

## December 1989 /A2.ON.DISK.8912

Filename	Blocks	Type	Description
VS.N11.DEC.89	139	TXT	December, 1989 issue of A2-Central
PROGRAMS	1	DIR	Useful stuff in here
LOADRON.DTECT	1	DIR	Help on a new virus in here
VIRUS.NOTES	23	TXT	Notes on Load Runner
VIRUS.KILLER	6	BIN	"Cures" Load Runner infection
MAC.FONT.STUFF	1	DIR	Converting Mac Fonts stuff in here
RES.TXT.INFO	5	TXT	Describes these files
RESOURCE.TXT	8	TXT	Info on Macintosh resources
RESLIST	8	BAS	Gives info on Mac file's resources
FONT.MANAGER	3	BAS	Helps with Mac font conversion
FIGURE.6.SHR	18	PWT	Picture detailing Mac resources
FIGURE.9.SHR	15	PWT	" " " " " "
FIGURE.10.SHR	35	PWT	" " " " " "
SYS.5.02.UPDATE	1	DIR	New version of GS System Software!
SHRINKIT	72	SYS	Main ShrinkIt program
UPDATE.SYS.SDK	770	SDO	Updates System 5.0 to 5.02

MISC.GOODIES	1	DIR	Pun stuff in here
FOUNTS	1	DIR	This month's featured font in here
HEBREW.12	6	POW	12 point Hebrew language font
HEBREW.18	8	POW	18 point Hebrew language font
HEBREW.24	14	POW	24 point Hebrew language font
GERM.LAB.2	3	DIR	Germ Lab Chapter II in here

## January 1990 /A2.ON.DISK.9001

Filename	Blocks	Type	Description
VS.N12.JAN.90	131	TXT	January 1990 issue of A2-Central
RIC.HYPERSTUDIO	46	TXT	Transcript of Hyperstudio conference
AW.3.0.QNA	32	TXT	Appletalks 3.0 Questions & Answers
TECHNOTE.UPDATE	1	DIR	Technical note updates from Apple
TYPE.NOTES	3	DIR	File type notes in here
FIN.ABOUT.11.89	32	TXT	About Apple II file types
FIN.19.XXXX	46	TXT	Revised Appletalks DB info
FIN.1A.XXXX	29	TXT	Revised Appletalks WF info
FIN.1B.XXXX	56	TXT	Revised Appletalks SS info
FIN.1C.XXXX	18	TXT	Info on IIGs device driver files
FIN.C7.XXXX	31	TXT	Info on IIGs CDEV files
FIN.E0.8000	55	TXT	Binary II file info
FIN.E0.8002	83	TXT	WEX (ShrinkIt) file info
TECH.NOTES	4	DIR	General tech notes in here
TN.ABOUT.11.89	25	TXT	About Apple II Tech Notes
TN.ATLK.007	11	TXT	Ile Appletalk tech note
TN.GSOS.001	77	TXT	System 5.0.2 detailed description
TN.IIGS.025	32	TXT	IIGs Firmware update info
TN.IIGS.053	26	TXT	IIGs Desk Accessory guidelines
TN.IIGS.067	15	TXT	Laserwriter Font mapping info
TN.IIGS.071	11	TXT	CDA Tips and Techniques
TN.IIGS.072	8	TXT	Info on Quickdraw II quirks
TN.IIGS.073	10	TXT	User-defined Tools info
TN.IIGS.074	11	TXT	Faster List Manager routine
TN.PDOS.017	68	TXT	ProDOS 8 recursive catalog routine
TN.PDOS.024	7	TXT	BASIC.SYSTEM version info
PROGRAMS	1	DIR	Useful stuff in here
AW.3.0.PATCHER	1	DIR	Appletalks 3.0 patches from Beagle
PATCHER.DOC5	21	AMP	Documentation for PATCHER program
PATCHER.SYSTEM	26	SYS	Fixes 6 bugs in Appletalks 3.0
DIALER	1	DIR	Phone dialer for Hayes Micromodems
PHONE.DIALER	31	BAS	Dials phone and monitors calls
IIE.SHR	1	DIR	Super Hires Loader program in here
SHILO.SYSTEM	13	SYS	Shows IIGs graphics on a Ile/IIC
ISSUE.PROGS	1	DIR	Programs from this month's issue
DIR.READER	3	BAS	Dennis' directory reading program
KIDMAIL	1	DIR	Wonderful education & home program
SHRINKIT	72	SYS	Use this to process KID.MAIL.SDK
KID.MAIL.SDK	41	SDO	Mini message system for children
P8.SCSI.SWIFF	1	DIR	ProDOS 8 SCSI drive management
SWAPSCSI	1	BIN	Swaps SCSI partitions under P8
VANTILLA	24	BAS	Format & Partition HD's under P8
SMARTPORT	36	BAS	Modified A2-Central Smartport ppm
VERIFY	3	BIN	Verify routine for HD formatting
DISK.TEST	7	SYS	ProDOS 8 disk timing program
PS.ENVELCFPE	1	DIR	Print Shop Envelope maker in here
MISC.GOODIES	1	DIR	Pun stuff in here
GERM.3	3	DIR	Germ Lab, Chapter III
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Continued on page 19



# A2-Central

## Your link to the world-wide Apple II community

**A2-Central** is a thin but information-dense monthly newsletter. Everything we do has grown from this newsletter, which was started in 1985 to link together Apple II users all over the world.

About half of each 8-page issue consists of letters from readers and our responses to their questions and comments. The rest consists of news about the Apple II world and technical pieces designed to enhance your understanding of some element of the Apple II universe.

You may have heard of a similar newsletter called **Open-Apple**. That's us, too. We changed the name to **A2-Central** in February 1989.

The only focus of **A2-Central** is the Apple II and related lines of computers. Our editorial direction is determined month-by-month and is based on the kinds of questions subscribers send us and breaking developments in the Apple II world. We have a very short lead time compared to magazines and are well-known for being the first to print Apple II news.

For example, our issue on AppleWorks 3.0 (July 1989) was the first article published on this major update. Not only that, but to this day it's the best and most detailed comparison of AppleWorks 3.0 to earlier versions of AppleWorks you'll find anywhere.

**A2-Central** covers far more than just AppleWorks, however. We talk about ProDOS and GS/OS problems and solutions. We solve problems people are having with printers. We dabble in programming (our back issues are among the best resources available to Applesoft programmers). We help people with modems and with hard drives and with AppleTalk networks.

It's hard to put into words just how broad our reach in the Apple II world is. To give you a better idea, we've included a small part of our Volume 5 index in the box at the bottom of this page. Our annual indexes look just like this sample and are four pages long. You'll receive one free with each February issue of **A2-Central**.

### A2-Central on disk

Some of our subscribers pay a little extra (less than what most user groups charge for a 3.5 disk-of-the-month) and get a 3.5 disk in the envelope each month with their newsletter. We use this disk to distribute stuff that won't (or can't) fit in the newsletter, such as Apple's system software updates and technotes. Each disk also includes the latest and best public domain and shareware software.

The main feature of the disk, however, is a file holding the full text of that month's issue. We distribute the full text on disk for two reasons. First, we have a number of blind subscribers who use the disk and text-

### Free airmail world-wide

All of our publications, **A2-Central**, **TimeOut-Central**, and **Stack-Central** are sent to you by airmail. To U.S. addresses this means first class mail. To most other countries we use international priority airmail. This means you'll get your issue within about a week of when we mail it, no matter where in the world you live. There is no additional charge for this service. Each of our publications has a single world-wide price.

## Index to Volume 5

by Alan Womack

In the following index, a lowercase letter appears after each page number. This letter points to the column an entry appears in. For example, "47a" refers to the first column on page 47; "56c" to the third column on page 56.

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## Specials

# GSNumerics—\$97

Limit 1

GSNumerics is our choice for best new IIGS software of 1990! Normally priced at \$139.95, we'll sell you a copy from now until January 31, 1991 for just \$97 if you order using the form on the back of this catalog.

GSNumerics is a complete mathematical program for high school and university students and for working professionals. It emphasizes basic algebra and trigonometry—the fundamental building blocks of calculus and other higher math. Special emphasis is directed toward analyzing polynomials, trigonometric functions, and the exponential functions. Analysis can be done either analytically or graphically, allowing the student to see the form of functions without the time-intensive labor required to draw graphs by hand. The program features a 64-function scientific calculator, polynomial operations, non-polynomial functions, x-y data analysis, systems of linear equations, matrix operations, file operations, and graphics.

Requires an Apple IIGS with one megabyte of RAM, one 3.5 drive, and GS/OS.

SB-001      **GSNumerics (limit 1, offer expires Jan 31, 1991)**      \$97.00

# 3.5 disks—57¢

Limit 50

We buy 3.5 disks in bulk for our disk-based products. They're generic, blank, and come without labels or a box. We send out thousands every month with a return rate very close to zero—so we *know* they're good. Nonetheless, if you get one that won't format, we'll replace it free. To get this price you must order using the form on the back of this catalog. Offer expires December 31, 1990.

**A2-004 1 to 50 blank 3.5 disks (offer expires Dec 31, 1990) 57¢ each**

## Your excuse to buy

My dad was a farm equipment dealer in a small town in Kansas. I learned most of what I know about running a business from him. One of the things he told me was that you've got to give your customers an "excuse to buy." Here's your excuse—3.5 disks at 57¢ and GSNumerics at \$97, **shipping and handling included**. Here's your chance to have the **A2-Central** shopping experience first hand and save a bundle.

## How to get our best deal

Apple II users are a notoriously frugal lot. We know you like to shop around looking for the best price you can get. While we have the best deal available on most of the items we sell, we often don't have the lowest price. Here's the difference between the *deal* you get from us and the *price* you get from others.

### No shipping or handling charges

We have no handling fees on any item in this catalog. Surface shipping to U.S. destinations is always free. A few heavy items have an additional surcharge for foreign surface shipping, which is noted with the catalog entry for that item. If the entry doesn't mention a foreign shipping cost, we'll ship it free! And, at your request, we will ship any item by airmail and charge you only our actual postage costs.

Walk-in stores don't charge you "handling" charges and we've never understood why people let mail order companies do it. Many mail order merchants quote unrealistically low prices to get your order, then make up the difference with equally unrealistic shipping and handling charges. Buyer beware. When you buy from us, you know exactly what you'll be paying because we don't tack on extra bucks for shipping or for "handling" your order.

### No restocking fee / guaranteed compatibility

Unlike the Apple II direct merchants whose multi-page ads you see in the magazines, we have no restocking fee and we guarantee compatibility with your equipment. If you buy something from us and it doesn't work for you, write or call and we'll take care of it.

### No copy-protected software

We don't sell copy-protected software. Period. You don't need to worry about a copy-protection surprise when you buy from us.

## Technical support

We offer complete technical support for the products you buy from us by mail, by fax, by phone, and online on GENie. In the unlikely case that it becomes necessary, we'll work with you to get items you buy from us serviced and to get manufacturers' warranties honored.

## Fair prices

The prices we charge are fair to you and fair to us.

## Our bottom-line guarantee

Our ultimate guarantee is pretty simple and goes like this:

**Our customers are the core of our business. If you are unsatisfied with *anything*, write or call and we will make it right. If we can satisfy you in no other way, we will refund your purchase price in exchange for the goods you've purchased. We cannot and do not accept responsibility for incidental or consequential damages.**

## Business card

This catalog is published by:

**A2-Central**

P.O. Box 11250  
Overland Park, Kansas 66207  
USA

Phone: 913-469-6502  
Fax: 913-469-6507  
GENie: A2-CENTRAL  
Applelink: A2.CENTRAL

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# A2-Central

**P.O. Box 11250  
 Overland Park, KS 66207  
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## Tell us about yourself:

What's your primary computer? (Check just one)      What other computers do you use? (Check all that apply)

- .....Apple Iigs.....
- .....Apple IIc-Plus.....
- .....Apple IIc.....
- .....Apple IIe.....
- .....Apple II / Apple II-Plus.....
- .....Laser 128 EX/2.....
- .....Laser 128 EX.....
- .....Laser 128.....
- .....other Apple II compatible.....
- .....Macintosh, classic.....
- .....Macintosh, modular.....
- .....MS-DOS.....
- .....Amiga.....
- .....Atari-ST.....
- .....other.....

Do you use a:

- .....5.25 disk drive
- .....3.5 disk drive
- .....hard disk drive \_\_\_\_\_megs
- .....ImageWriter printer
- .....other dot matrix \_\_\_\_\_brand
- .....LaserWriter printer
- .....other laser prntr \_\_\_\_\_brand
- .....AppleTalk network
- .....other network \_\_\_\_\_brand
- .....modem \_\_\_\_\_baud
- .....video overlay card
- .....video disk player
- .....video digitizer
- .....scanner

Do you write programs using:

- ....UltraMacros       ....Basic (GS/OS)
- ....Applesoft       ....C (GS/OS)
- ....assembly (P8)       ....Pascal (GS/OS)
- ....other 8-bit       ....assembly (GS/OS)

Do you use:

- .....Classic AppleWorks
- .....UltraMacros
- .....other TimeOut applications
- .....Print Shop
- .....Publish It
- .....other desktop publishing software \_\_\_\_\_name
- .....AppleWorks GS
- .....HyperStudio

Tell us about your favorite hardware or software here:

## Tell us about your friends:

Do you know some people who could benefit from knowing us? Send us their names and addresses and we'll send each of them a FREE copy of this catalog and a two-month trial subscription to our **A2-Central** newsletter (offer good one time only). Help us and help your friends.


Use additional sheets if you have more names.

# A2-Central

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### Your name and address

If you're sending us an order and there's a mailing label under this box, please make sure the name and address are yours and are correct. If not, or if there's no mailing label, please print your correct name and address here:

### Your telephone number

Please give us a telephone number and a time of day we can reach you in case of a problem with your order:

time: \_\_\_\_\_

ext: \_\_\_\_\_



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PHOENIX AZ 85023

## Fax/Phone/Postal Reply Form

**FAX: 913-469-6507**  
**PHONE: 913-469-6502**

item code	how many	price each	item description	item total																																				
<b>Subscriptions</b>																																								
			<table border="0"> <tr> <td></td> <td>1 year</td> <td>2 years</td> <td>3 years</td> </tr> <tr> <td><b>A2-Central</b></td> <td><input type="checkbox"/> \$28</td> <td><input type="checkbox"/> \$54</td> <td><input type="checkbox"/> \$78</td> </tr> <tr> <td colspan="4">12 issues/year, paper only</td> </tr> <tr> <td><b>A2-Central (disk)</b></td> <td><input type="checkbox"/> \$84</td> <td><input type="checkbox"/> \$162</td> <td><input type="checkbox"/> \$234</td> </tr> <tr> <td colspan="4">12 issues/year, paper and 3.5 disks</td> </tr> <tr> <td><b>Stack-Central</b></td> <td><input type="checkbox"/> \$42</td> <td><input type="checkbox"/> \$81</td> <td><input type="checkbox"/> \$117</td> </tr> <tr> <td colspan="4">6 issues/year, 3.5 disk only</td> </tr> <tr> <td><b>TimeOut-Central</b></td> <td><input type="checkbox"/> \$42</td> <td><input type="checkbox"/> \$81</td> <td><input type="checkbox"/> \$117</td> </tr> <tr> <td colspan="4">6 issues/year, 3.5 disk only</td> </tr> </table>		1 year	2 years	3 years	<b>A2-Central</b>	<input type="checkbox"/> \$28	<input type="checkbox"/> \$54	<input type="checkbox"/> \$78	12 issues/year, paper only				<b>A2-Central (disk)</b>	<input type="checkbox"/> \$84	<input type="checkbox"/> \$162	<input type="checkbox"/> \$234	12 issues/year, paper and 3.5 disks				<b>Stack-Central</b>	<input type="checkbox"/> \$42	<input type="checkbox"/> \$81	<input type="checkbox"/> \$117	6 issues/year, 3.5 disk only				<b>TimeOut-Central</b>	<input type="checkbox"/> \$42	<input type="checkbox"/> \$81	<input type="checkbox"/> \$117	6 issues/year, 3.5 disk only				
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PAPER: bound, indexed volumes & singles				<input type="checkbox"/> \$39																																				
3.5 DISKS: over 5 megabytes of newsletter text				<input type="checkbox"/> \$39																																				

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For everything else, unless an item's description in our catalog gives a shipping charge, it will be shipped by surface mail free. We can also ship by airmail, see "Airmail" box below.

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Our goal is to keep everything we sell in stock and to ship all orders within 24 hours. If we are out of stock we will notify you immediately. Items ordered together may be shipped in more than one box. Surface shipping free.

### Technical questions

We respond to all Apple II-related technical questions mailed to us. And we answer questions in GEnie's Apple II and A2Pro RoundTables and in electronic mail (our address is A2-CENTRAL). We also answer technical questions by phone, but this service is limited to products you've purchased from us.

### FAX orders

Write your order on this sheet or a photocopy and fax it to 913-469-6507.

### Phone orders

Phone us during business hours or leave a message on our answering machine at 913-469-6502.

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Please add 5.85% sales tax to subtotal (including subscription payments).

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Subscriptions include airmail shipping. All other items are sent airmail only when you specifically request it. To get airmail shipment, you must pay by credit card. We will add our actual postage costs to the amount we charge your card.

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Total

All prices are in U.S. \$

### Payment

Payment must accompany all orders, including school purchase orders. We prefer to be paid with a check (U.S. banks only). We also accept Visa, MasterCard, and related international credit cards.

check  Visa  MasterCard

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