



mini'app'les

apple computer user group newsletter

VOLUME VI No 5

MAY 1983

CALENDAR	CALENDAR	CALENDAR	CALENDAR	CALENDAR
WHICH	WHEN	WHERE	WEAT	
St. Paul Branch - Note 3	Tue May 3 7pm-10pm	Mahtomedi Fire House Hallam & Stillwater.	Doug Arnott on GRPRINT and the LOGO Language.	
Pascal Note 1	Wed May 4 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Pascal Special Interest Group Meeting.	
Dakota County Branch	Tue May 10 7pm-10pm	St. John Neumann Church Pilot Knob Rd, Eagan	General branch meeting. Note 7	
Board Meeting Note 5.	Wed May 11 7:30 pm	Board will be contacted.	Installation of board. Meeting is open to all members.	
Business Note 10	Thu May 12 7.00pm	Minnesota Sch of Bus's 11 S 5th, Mpls	Eric Carlson on VisiFile. VisiCalc SIG combined with this meeting!	
REGULAR MINI'APP'LES Note 2 Map inside	WEDNESDAY May 18th Prgm-7:00pm SIGs-8:00pm+	UNIVERSITY MINNESOTA ST. PAUL Room B45 Bldg 412 Near State Fair Ground	Chuck Boody on "Things not to be afraid of." or, "What to do if". This is for beginners!	
Education SIG Note 12	Wed May 18	After main meeting	Spinnaker Software See Announcements inside	
Investment Note 4	Thu May 19 7.00pm	Minnesota Sch of Bus's 11 S 5th, Mpls	DJ Market Analyzer - Continued!	
VisiCalc	Tue May 22	Meeting cancelled;	See Bus's SIG - May 12.	
Minnetonka Branch	Wed May 23 7pm-10pm	Minnetonka High Sch Cafeteria	Note 8	
Pascal Note 1	Wed Jun 1 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Pascal Special Interest Group Meeting.	
Amateur Fair	Sat Jun 4	State Fair Grounds	Huge SwapFest	
St. Paul Branch - Note 3	Tue Jun 7 7pm-10pm	Mahtomedi Fire House Hallam & Stillwater.	Chuck Boody on on creating Music	
Dakota County Branch	Tue Jun 7 7pm-10pm	St. John Neumann Church Pilot Knob Rd. Eagan	Note 7	
Business Note 10	Thu Jun 9 7:00pm	Minnesota Sch of Bus's 11 S. 5th St., Mpls	Dick Marchiafava on Magic Window II.	
REGULAR MINI'APP'LES	WEDNESDAY June 15th	PENN COMMUNITY CENTER	Note 2 Bloomington	
VisiCalc Note 9	Tue Jun 21 7.00pm	PBS 4306 Upton Ave S.	Advanced VisiCalc for the //e	
Minnetonka Branch	Wed Jun 22 7pm-10pm	Minnetonka High Sch Cafeteria, 18301 Hwy 7	Q&A groups - Note 8	

Notes: (See page 2 for telephone numbers.)

- | | | | |
|--------------------|-------------------|------------------|----------------------|
| 1. John Schoeppner | 4. Eric Holterman | 7. Bob Pfaff | 10. Subir Chatterjee |
| 2. Chuck Thiesfeld | 5. Chase Allen | 8. Martin Thames | 11. Bill DeCoursey |
| 3. Pete Halden | 6. Dan Buchler | 9. Mike Carlson | 12. Jane Chatterjee |

MINI'APP'LES

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INFORMATION

This is the Newsletter of Mini'app'les, the Minnesota Apple Computer Users' Group, Inc., a non-profit club. Articles may be reproduced in other User Groups' publications except where specifically copyrighted by author.

Questions

Please direct questions to appropriate board member or any officer. Technical questions should be directed to one of the Technical Advisers listed here.

Membership

Applications for membership should be directed to the Membership Co-ordinator: Ann Bell 544-4505
8325 39th Avenue N.
New Hope,
Minnesota, 55427

\$12 buys membership for one year. Members receive a subscription to this newsletter and all club benefits.

DOMs

The 3 most recent DOMs (Disk of the Month) are available at meetings for \$5/disk or any DOM may be ordered by mail for \$7.50/disk. Contact Software Sales coord'r. Members have DOMs copied to their own media. Contact the Vice President.

Dealers

Mini'app'les does not endorse any specific dealers but does promote distribution of information which may help club members to identify the best buys and service. Consequently, the club does participate in bulk purchases of media, software, hardware and publications on behalf of its members.

Newsletter Contributions

Please send contributions directly to the Newsletter Editor. Hard copy binary or text files are preferred, but any form will be gratefully accepted. Deadline for publication is the 1st Wednesday of the month preceding the month in which the item might be included. An article will be printed when space permits if, in the opinion of the Newsletter Editor, it constitutes suitable material for publication.

Advertising

Direct Advertising inquiries to our co-ordinator Eric Holterman at: 19S 1st St., B1704
Minneapolis, MN, 55401
612-332-8460

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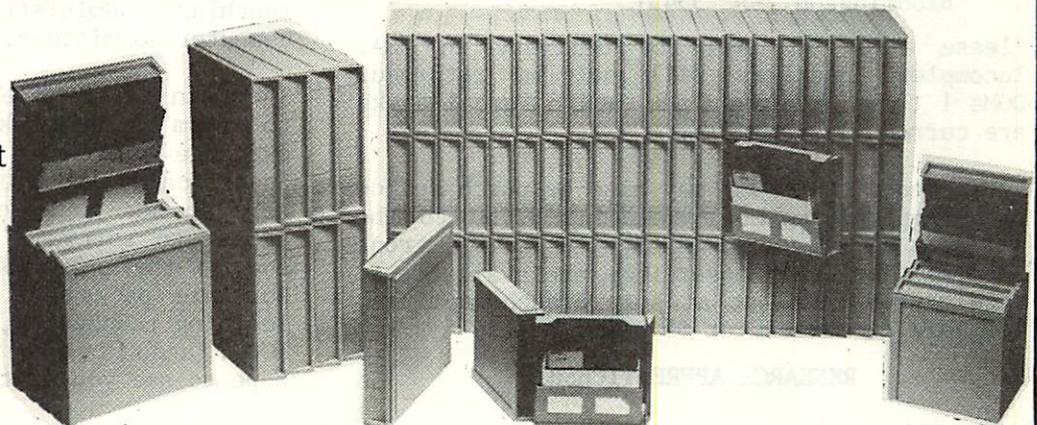
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1. The June Newsletter will go into final composition on May 14th. This is one week earlier than usual.
2. We hope to have a review in the June issue of Call Apple's Spreadsheet No. 2, which they are selling for \$60.

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ANNOUNCEMENTS

NEW DOM CATALOGS

We have just reprinted the DOM catalogs. There is now a revised CATALOG for DOMS 1 thru 15, and an addendum covering DOMS 16 thru 22. If you think you want one and can't make it to a meeting, call Terry Schoeppner or Hugh Kurtzman for pricing and our current mailing philosophy.

DOMs by MAIL

New Service for Mini'app'les members

by Chuck Thiesfeld

Now members can order DOMs using their own diskettes. Here is the procedure:

Make up a package containing the following:

1. Blank diskette (or diskettes if more than one is desired).
2. Mailer. Diskettes will be returned in same protective device used to send the diskettes provided such will fit in the mailer.
3. Return postage (same as sending postage).
4. Self-addressed return label.
5. \$1.00 copying fee per DOM or disk.
6. A note indicating which DOMs are desired.

Send to:

C. Thiesfeld
8416 Xerxes Avenue S.,
Bloomington, MN 55431

Please allow 60 days for delivery in USA. Incomplete packages will not be returned. DOMs 1 thru 22, except 18, and 8 Pascal disks are currently available.

Please note that DOMs may also be purchased on club-supplied media by sending \$7.50 to the software sales coordinator. See inside front cover. Also, the latest DOMs are available at regular meetings, at at some Branch meetings, for sale to members at \$5 each.

RESEARCH APPRENTICESHIP

One USDA research apprenticeship at the University of Minnesota Soil Science Department will be awarded to a high school junior or senior for this summer. Work with computer applications in Agricultural Science. Minorities and women are encouraged to apply. If interested, call Marlyn Johnson by May 11 at 373-5927 or 373-5916.

EDUCATION SIG by Jane Chatterjee

The Education SIG will meet on May 18th, at 8:00 pm, after the main Mini'app'les meeting on the St Paul U of M campus. There will be a demonstration of several Spinnaker Software packages, including Delta Drawing and Story Machine. We will be distributing a list of people who answered the EdSIG survey, including various information.

If you have not yet filled one in, please do so, in order to be included on the update list. We would like you to bring a list of the educational software you own, use or are very familiar with, as we will be compiling a resource list on this basis. The meeting will also be used to talk about the future of the group, including meeting time, place and format, computer availability, topics you would like to see addressed in future meetings, including setting the topics for the next few months' meetings.

We would like to establish a format for brief software reviews, to be written by members and published in the newsletter. Here are the general results of our EdSIG survey so far: Over 30 people responded, of whom about 20 were professionally involved in education, about 10 were professionally involved in programming. About 20 were parents, and children's ages ranged from kindergarten to late teens. Around 20 school districts and institutions were represented, and individual involvement with computers included use in teaching, administration, resource centers, computer committees, and instructional design.

The main interest expressed by the group was to form a network for communication and exchange of ideas, information and expertise. Specifically, people were interested in being able to see good software demonstrated, have access to software reviews relevant to them, and to the opinions of others on particular software packages. Other interests were in learning languages, particularly BASIC and LOGO, and in creating educational software. Hope to see you at the May meeting.

For more information about the Education SIG, call:

Jane Chatterjee	888-9447
Janelle Norris	920-1430
Jeanne Walsh	753-3204



Announcements Continued

Volunteers Needed

The Penn Community Center needs volunteer Instructor Aides to assist in an adaptive community education class entitled Learn How to Use the Apple][Computer. The class is designed to serve adults who are mentally handicapped and will require a high student to staff ratio. Some knowledge of Apple][s required.

Thursday June 16; 6:30 - 8:00pm.
Thursday July 7; 6:30 - 8:00pm.

Penn Community Center
84th and Penn
Bloomington

Call Sharon Wenger, Learning Exchange coordinator, 888-5328

This program is coordinated by the Learning Exchange, a Bloomington Community Education service and is funded by the Minnesota Council on Quality Education.

VisiCalc SIG

by Mike Carlson

The VisiCalc SIG meeting will be combined with the Business SIG meeting on May 12. There will not be a VisiCalc SIG meeting on May 22nd. The June meeting will be held at PBS on June 21st at 7pm. Advanced VisiCalc for the //e will be the topic.

Business SIG

The snowstorm on April 12th resulted in the cancellation of the April meeting. My apologies to those hardy souls who made their way to the Minnesota School of Business. It was not open!

The schedules have been postponed by a month - please check the calendar for details.

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APPLE ORCHARD SUBSCRIPTIONS

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St. Paul Branch

The St. Paul branch of Mini'app'les has until recently been meeting in White Bear Lake. In April we moved to Mahtomedi. One member asked why the St. Paul branch didn't move to St. Paul, a more logical place for that branch to meet.

We are now considering renaming the present branch to the Mahtomedi branch and starting a new branch in St. Paul. To do this we need to know whether there are enough members to support meetings in two locations.

Tom Karl 644-0554
Pete Halden 770-6624

Evenings and weekends

Possible locations for a St. Paul branch meeting are:

1. St Paul Campus of U. of M.
2. Midway (somewhere between Snelling and University).
3. Macalaster area.
4. Highland area.
5. Other, you specify.

Anyone with ideas or opinions on this matter is asked to call one of the persons below. It is important that we hear from you so we can determine if there is sufficient interest to proceed.

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TWIN CITY COMPUTER SHOW SEMINARS

The Twin City Computer Show will be held once again in Minneapolis from September 15th thru 18th. We are contacting Northeast Expositions to offer our services in organizing a few seminars at this show. For example, a presentation on "What is a user group" would seem to be appropriate. If anybody has any ideas or wants to participate, please contact Dan Buchler at 890-5051.

St. Louis Park COMMUNITY COMPUTER RESOURCE CENTER

The just opened Community Computer Resource Center was established through a grant from ITT for the "BEST CIVIC IDEA." The goal of the Computer Center is to help make St Louis Park a computer literate community. The Center is now used for classes including two hour orientations, beginning and intermediate BASIC, business and office applications, and an introduction to CP/M. Three lab periods are also available.

The center's hardware includes 10 APPLE IIe's (each with a disk drive, 80 column card and Microsoft's CP/M card), NEC PC-8023A-C printer, and a Corvus 20 Megabyte Drive with Omnet. Available software covers many applications. Visicalc and Supercalc spreadsheets and VisiTrend/Plot, Desktop/Plan II, and Plan 80 for financial modeling; Condor, Quic-n-Easi Pro and dB Master data base management systems; Quic-n-Easi AG applications generator; Apple Writer II, Executive Secretary, and Word Star word processors; and educational programs from MECC and others are on hand. Languages supported include BASIC, Applesoft, Microsoft CP/M, Apple LOGO and Pascal.

The Computer Center is a valuable community resource and invites new (self-supporting) activities! They are looking for new instructors; if interested, please call. They encourage everyone, especially St Louis Park residents, to volunteer, suggest activities, donate software, and otherwise participate to help make this unique community resource ACCESSIBLE, HELPFUL, and ENJOYABLE!!

The Computer Center is located at the Central Community Center, Room 132, 6300 Walker St. in St Louis Park. Contact them through Community Education, 6425 West 33rd St., St Louis Park, MN 55426, or phone:

John Shiner, SLPCCRC Advisory Council 545-3688
Laurie Trach, Community Education Coordinator 925-4300



CRISIS ALERT!

TO EXPERIENCED APPLE GRAPPLERS

S.O.S. MAYDAY HELP!

Please read the "Strictly for Beginners" column which follows. In it an appeal is made for help which you may be able to provide, thus giving you an opportunity to be of service to neophyte Apple users. Isn't it nice to be needed?

Strictly for Beginners

by Jo Hornung

Most everyone who buys an Apple becomes aware all too soon that the initial purchase of computer, disk drive and monitor is only the beginning. As with Crackerjack, the more you "eat" the more you want.

Acquiring additions does present problems and frustrations, particularly for those of us who are absolute beginners, and even more particularly for a beginner (me) who is not involved in a computer-related profession.

When I bought my Apple II Plus a little more than a year ago, I naively thought this would be it — my investment was complete. Ha! Not for long. I soon wanted to have a word processing program. I bought Apple Writer II.

Then, of course, almost immediately two things occurred to me:

- (1) This program is hard to use with only one disk drive, and,
- (2) using a word processing program does not make much sense without a printer.

So, I invested in a second disk drive, a CItch printer and Wizard Intelligent Printer Interface Card. This is where frustration REALLY set in. Both the CItch and the Wizard come equipped with manuals, but they may as well be written in Sanskrit for all the good they are to me.

There oughta be a law! Manufacturers of computers and related equipment should be required to issue understandable, workable manuals which instruct the user, step by step, clearly and practically, on how to use the product.

Actually, I think it would be great if some of our own knowledgeable members (Their name is legion!) would see this as a challenge and would develop a step-by-step, clear and simple manual, instructing beginners in exactly how to operate a CItch, Epson, or other printer, with an Apple. A PRIMER is what I have in mind — actual samples of what should be fed into the Apple, line by line, in what order, to accomplish such feats as underline, bold face, and graphics.

With that said, it occurs to me that some of you other beginning Apple users may have your own problems and questions for which you would like to have answers. Perhaps the Mini'app'les newsletter could serve as a vehicle to help — with a "Strictly for Beginners" column, for example.

While I'm certainly not the person with the answers, I am willing to serve as the clearinghouse. If you have questions which could be addressed in this newsletter with some degree of brevity, send them to me (Jo Hornung, 6309 York Ave., So., Apt. 102, Edina, MN 55435, 922-7665), and I will try to find someone to provide a clear, succinct, intelligent answer (Meaning, I will call Dan Buchler and ask him to tell me who is the best person to ask to field the question).

If any beginners have questions, to which you need quick answers, then please call our Beginners' Consultant, S.K. Johnson, at 869-3447.

Take heart, beginners. Help is on the way. I hope.





Magic Window II

WORD PROCESSING SYSTEM REVIEW

"The word processor that handles documents- not just text."

by Dick Marchiafava

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(Prior permission to reprint must be obtained from the author.)

Magic Window II, version 2.2, is a word processing system published by

ARTSCI, Inc.,
5547 Satsuma Avenue,
North Hollywood, CA 91601.

This is a new and more powerful version of Magic Window that extends the features of Magic Window, and has additional features that are very worthwhile. The list price is \$149.95.

The hardware requirements are: APPLE II with 48k, 16k language card (optional), monitor, 1 disk drive, and a printer. Magic Window II is available for the APPLE //e which utilizes all 64k of memory - more if you have it.

This software supports lower case video, lower case keyboard, lower case adapter, one wire shift key, and 80 column boards. It is compatible with Pascal 80 column and hard disk drives.

EPSON MW-80 & 100 with GRAFTRAX + are supported and allow many printer functions to be called up, including underline, sub/superscript, and italics font. DIABLO, NEC SPINWRITER and QUME SPRINT printers are supported. These offer 10/12 CPI, and Incremental Justification.

Magic Window II uses the APPLE DOS 3.3 operating system.

Magic Window II comes with a Program disk and a Printer and Video Driver disk. One can use the default values on the Program disk and change the options each time, or boot the Driver disk, answer the questions about Video Variety, Printer Potpourri and Keyboard Kind. This tailors the driver disk to your system. Then a slave Driver Disk can be made and used when the program is booted.

The system gives a choice (at the time you you enter the word-processor at the start of a session) of 3 types of video displays:

- 40 column,
- 80 column requires 80 col card but gives more free space in memory, ARTSCI
- 70 column software generated. In the 70 column mode, the display uses a hi-res screen which uses some memory. This limits the size of files that can be used. But the addition of a 16k RAM card solves this problem nicely.

The hi-res screen and 16k RAM card give a 70 column display without the higher cost, heat and power consumption of an 80 column board. In the 70 column mode the system has lower case letters available on video, without the use of a lower case adapter and does not use inverted video to distinguish upper case letters. Characters are constructed on the screen out of a 4 by 7 dot matrix.

Magic Window II has retained the ability to scroll the page across the screen if the text exceeds the width of the display mode selected, up to 160 columns. In the original Magic Window, the cursor remained stationary in the center of the screen and the page scrolled across the screen. With Magic Window II, as text is typed in, or as one manipulates the cursor, it slides right or left to the edge of the screen at which point the screen will automatically scroll several columns in the appropriate direction.

Text is entered on a screen which shows the file name, page, line and column numbers at the top (Editor Line). (That's a thing on the screen, not a wise crack - Ed.) When a file is loaded, the system loads the equivalent of 102 sectors of disk space in the 40/80 column mode, and 51 sectors in 70 column mode. A line displayed at the bottom of the screen shows the number of free sectors available in that file (Status Line).



Magic Window Continued

With Magic Window II I can create, edit, store and retrieve formatted (binary) and unformatted files (sequential text files). Text entry and editing are done in the EDITOR SUBSYSTEM. Character, line and paragraph editing features are operated in this subsystem, along with SPLIT, GLUE, and JUSTIFY (see extra EDITOR FUNCTIONS also). All text is formatted as it is entered. The way the page is displayed is the way it will look when printed. The system includes Word Wrap and Type Ahead Buffer. The menu operations allows movement thru the SUBSYSTEM MENUS by means of single key strokes, there is no need to "step thru" menus or type in file names once they are entered.

The FILER SUBSYSTEM has all of the LOAD/SAVE functions and also DOS COMMAND which allows the execution of the DOS commands INIT, CATALOG, DELETE, RENAME, LOCK and UNLOCK from within the program. The following Error Messages can be displayed by the system: DISK FULL, FILE NOT FOUND, I/O ERROR, FILE LOCKED, WRITE PROTECTED and FILE TYPE MISMATCH. The system provides for file transfers and merging. When a file is SAVED, the prompt UPDATE AS "FILE NAME?" allows the file name to be changed, or the file to be updated with the same name.

The PRINT SUBSYSTEM includes printing multiple copies of a file and the CREATE FILE LIST will print consecutively the files specified. Printer control characters are entered with the text to turn on various printing modes. CONTROL B in conjunction with the top row of keys on the Apple keyboard allows one to display and print several special characters. CONTROL B used in conjunction with the alpha characters allows one to enter printer control characters so that the advanced capabilities of many of today's printers can be fully utilized. Inserting control characters does mess up the line length, but this can be compensated for by going back and altering the line length of those lines which contain control characters.

I use a WIZARD BPO printer buffer card with my system to good effect. In the 32K version, this buffer holds 10 pages of text from this word processor. The buffer allows for faster printing; but of greater importance, it returns control of the computer to the operator when the buffer is not overfilled. This means the operator is not waiting on the printer. I do a lot of multiple copy printing, and this helps keep the computer in operation while printing. (A buffered interface card will, of course, do what Dick

GOTO 10



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Magic Window Continued from page 9

describes with any word processor - Ed.) The FORMAT SUBSYSTEM allows definition of the page size and text limits. The maximum page length is 112 lines. Page width minimum is 20 columns and maximum is 160 columns. The format parameters are saved with the file and will be reloaded whenever the file is recalled, including the tab stops and printer commands.

A CONFIGURATION SUBSYSTEM allows the system to be told about the hardware and saves the configuration in a file called SYS OPS. Each time the disk is booted it comes up in the saved configuration.

Extra EDITOR functions include SEARCH AND REPLACE, TITLE LINE and PAGE NUMBERING, and CLEAR ALL TAB STOPS. The PARAGRAPH MODE automatically GLUES or JUSTIFIES all the lines of the paragraph the cursor is in. KEYPRESSED SOUND gives an audible click when keys are pressed, an aid when typing. These functions are all optional.

Magic Window II does what the manual says it will, in my experience.

I find this word processor easy to use, and have the feeling of being in touch with the systems functions. I find that, after a

little experience, operation is "second nature", with the need to refer to the manual infrequent, and limited to functions that I seldom use.

Any attempt to load a file or to exit the system will result in a warning if the file in work has not been saved. An attempt to change options within Subsystem Menus that result in improper combinations will result in a BELL and a prompt describing the problem. As a file nears the size limit of the operating mode, MEMORY FULL, SAVE FILE is displayed. If a file is too large to load in 70/80 mode, the 40 column mode can be used to continue, or the file can be divided.

Magic Window II files may be managed with the DOS FID program by adding the suffix .MW to the file name when prompted for it. Back-up data disks can be made with DOS COPYPA. MAGIC WORDS and MAGIC MAILER, or other spelling checkers, and mail merge software may be used.

Files from some spreadsheet programs such as VISICALC and MAGICALC can be transferred to Magic Window II to be edited. This includes adding text, changing column size, using print enhancing options, justifying/searching/replacing, checking spelling, and adding \$\$ signs and commas.

WORD MACHINE

WHAT DO YOU GET FOR \$39.95?

Most of the more expensive word processors on the market today include functions which add to the cost and complexity of the software, but which are relatively useless to the average user. Such functions as proportional spacing, subscripting and superscripting are useless without a printer that supports these special functions, and printer spooling seldom (if ever) works without a language card. Another sophisticated feature being offered is the software generated 70 column display. Unfortunately, the print quality is so poor that many (if not all) of the programs which offer this feature also provide a 40 column display. Why pay for features you can't or won't use?

Word Machine concentrates on speed, ease of use, and the fundamentals. When it comes to accessing text, searching and replacing, inserting and deleting characters and lines, rearranging and moving blocks of text, manipulating files, finding words that need hyphenation, and printing, Word Machine does a better job than programs costing 2 to 10 times as much. What do you get for \$39.95? A powerful word processor for the price of a game. SYSTEM REQUIREMENTS: 48K Apple II, II Plus, or IIe with Applesoft in ROM and 1 or 2 DOS 3.3 drives. Works with almost any printer.

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Magic Window Concluded

With Magic Window II one can write a program in BASIC, and then use the Magic Window II editing features. MAGIC WORDS, or any compatible spelling checker may be used, and the user defined words portion of the spelling checker can be loaded with programming "words" that will not be found in the dictionary. The spelling checker can then be used to correct typos and misspelled words. When editing is complete, the program is transferred out as a sequential text file.

The Magic Window II manual is good and contains familiarization pages and training exercises in the manual and on the program disks. The subject of each exercise is summarized at the end of the exercise, and makes a handy reference. Included in the manual is a 6 x 9 editing commands reference card that gives a color coded illustration of the keyboard, and summarizes the four types of editing commands.

There is a 90 day, no charge replacement warranty on materials and workmanship. A replacement disk is available for up to 1 year at \$20.00. A backup disk is also \$20.00. The program is not copyable.

I found the people at ARTSCI to be courteous when I telephoned with a problem relating to transferring my existing word processor files to this system and they promptly got me the answer I needed.

In summary, I find Magic Window II to be very impressive! ARTSCI has taken the good features of MAGIC WINDOW, expanded on and added to them. A feature I miss is the lines that mark the edges of the "paper", like the lines that mark the page breaks. This is a nit pick, however. I think that MAGIC WINDOW II is a very capable piece of software, at a moderate price.

I do find the text displayed on the 70/80 column hi-res screen to be a little small. This may be characteristic of any 80 column display on a 12 inch monitor or of the slight astigmatism that I have. I am getting used to it any case.

I rate Magic Window II excellent. It is a capable piece of software, has impressive features, is easy to use, and is moderately priced. Editorial Summary: I don't use Magic Window II, but it does sound like a good word processor (WP). If you want the type of WP which is in "the what you see is what you get"

category, this may be the one for you. It does not suffer from the limitations of Word Handler in the area of printer control and sounds very effective for typing tabular material. I don't plan to trade in my Pie Writer yet, but you don't sue for divorce everytime a good looking companion appears on the scene, do you? - Ed.



REAR GUARD

A review

by Hugh Kurtzman

Rear Guard is a hi res game in which you must shoot down alien ships to survive. There are 6 different aliens that give you from 25 to 300 points when you destroy them. There are also two Satellites. One with 'fuel' the other with 'shields'. By zaping one of these you will add to your fuel or shield supply. You may play the game with paddles, joysticks, or the keyboard. The ESC key freezes the action. Your score is saved and inserted into the list by rank.

I am a beginner at games so I can't compare this game with others. I found the one page instruction sheet enough to get started and was able to 'increase my score almost every time I played. I tried the game with paddles and the keyboard and found I could get higher scores with the paddles. I don't own a joystick so couldn't try that mode. Several young people I asked to try Rear Guard said it was 'ok', but it didn't challenge them very long!

I did not figure out how to trade pods for fuel, shields and/or bonus points. There is a pointer that is used to accomplish this.

Rear Guard requires one disk drive, 48k of memory, and DOS 3.3.

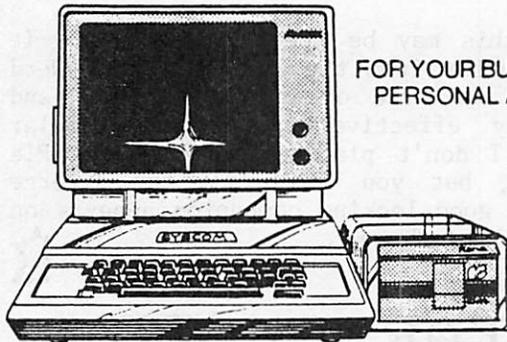
Adventure International has a good replacement and backup policy. They will replace any disk that will not boot free the first year and for \$5.00 after the first year. They also included a coupon that could be used to purchase a backup for \$3.99.



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68000 Happenings

By Dan Buchler

Those of you who have been in our club for a year or more will remember that we evaluated the DTACK GROUNDED 68000 board for the Apple about a year ago. We were very impressed with the system's capability which under certain conditions can out-perform the Apple by a factor of 100:1! Hal Hardenbergh, President of DTACK, continues to write and distribute a regular newsletter about his product and 68000s in general. The newsletter often contains 68000 source code listings of various math routines.

Hal's company now has expanded its software offering to include

1. a BASIC run time package which makes the Math functions run much faster.
2. a 68000 interpreter called HALGOL.
3. a special 68000 monitor program.

DTACK Grounded has, in fact, developed quite a lot of software. HALGOL is an interpreter which decodes a high level threaded code at runtime. It is loosely based on ALGOL: hence, Hal's ALGOL DTACK also has developed an interesting 6 degrees of freedom (DOF) simulation of a simple 'spacecraft'. DTACK provides source code for all its software. This is, of course, an unusual tactic in today's software industry! In addition to the above, 3rd party software is available which includes a 68000 assembler and a very effective chess program.

A British company has been selling a 68000 based board for at least a year and now there is another US made board which offers a lot of capability. This new board is made by Analytical Engines, Inc., of Austin Texas, and is called Saybrook™.

I'll summarize the capabilities of the Saybrook™ with comparisons to the DTACK Grounded.

Saybrook™

- 12.5MHz or 8MHz
- All electronics on board in Apple slot
- 128K Base system Expandable to 512K on board or million bytes externally. (See discussion below)
- On board timer

DTACK Grounded

- 12.5MHz or 8MHz
- Interface board in Apple. Main electronics outside Apple. No case!
- 92K on 1st external board. Expandable to 16 million bytes.

- Apple interface allows addressing Apple memory and I/O.
- UCSD p-System PASCAL, BASIC and FORTRAN-77, all working in 68000. CP/M-68K, UNIX and Applesoft compatible BASIC coming as options, (2Q 1983)
- Apple interface through high speed parallel port.
- HALGOL, Assembler. BASIC coming.
- Pricing: \$1550 list for 8MHz version and 128K including UCSD stuff.
- Pricing: \$947 for 8MHz version and 92K. \$595 for 4K.

With all fairness to Hal Hardenbergh, he does try to sell his board as a development or learning system. See 2-page ad in April '83 CALL A.P.P.L.E. You can probably save money with the DTACK approach. The Saybrook™ uses 256K RAM chips to get to 512K. This is likely to be expensive for a year or two until said chips get into production. DTACK also has a Dynamic RAM version on the drawing board which will give you a 256K system for somewhere around \$1200. The regular DTACK uses STATIC RAMS which Hal Hardenbergh insists are needed for high reliability applications such as finance! The 128k Saybrook™ uses 64K Dynamic RAMs. Both systems provide memory expansion connectors for boards external to the Apple. DTACK has such expansion boards already on the market.

The Saybrook™ seems to be a better integrated product. We haven't seen it work and this assumption is based on the spec sheet. The UCSD PASCAL software provides a very important capability. However, Saybrook™ is using canned software which could be a problem if compatibility problems turn up. DTACK's software is simpler, but developed and fully supported by DTACK (I hope).

After all, if you really want a powerful 68000, you can buy a full system for not much more than \$5000 or an Apple Lisa for \$10,000. However, those of us who have Apples, and there are nearly 3/4 of a million of us, and who want to upgrade their Apples into something more powerful, now have several choices.

In summary, I would like to say to those considering 8086 or similar co-processors - think about a 68000 system. It's probably a lot more powerful!



Home Projects (6)

Storage Box for Diskettes

By Roger Flint (771-2868)

As with all of my projects, this is not intended to be a complete construction article. It simply provides a starting point for constructing an item in conjunction with others doing the same thing. You are encouraged to call me before and during the construction period.

The BOX I found at St. Paul Book & Stationary. The size was just right to hold about 100 disks at a time. Measurements are 8 1/2" wide by 13" long by 6 1/2" tall. Cost was \$17.50. The box was nice but it needed to be carried around easily, so I went to the hardware store and picked up a latch for \$1.19, like the ones used on lunch boxes, but with a place to attach a small padlock, should you so desire. The box also needed a handle. I found one (1281xc) for \$1.10, like the ones used on tool boxes. Last, but not least, the box had to have rubber feet on the bottom so as not to scratch the top of a desk. I used self-adhesive bumpers (444xc) at \$0.59 per set. As an option you might wish to get file cards for dividing up groups of disks, at \$2.50 per set.

The box has a slide backstop so it can be adjusted to as many or few disks you may have in the box.

Now I have a few corrections to the key pad project as printed in the January issue. The line for pin 11 should read:

(pin 11) - (/,{.},m,n,b,v,c,x,z,{,})

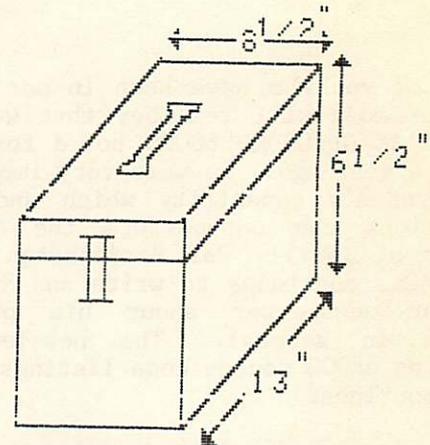
The line for pin 15 should read:

(pin 15) - (0,i,{;},{,})

Also I found Radio Shack part numbers for the RS232 connector. These are: 276-1559 and 276-1565.

For anyone interested in the amp plug used in the keypad project, I still have about 8 left from the 50 ordered, at a cost of \$5.00 ea.

Next month's project is going to be a clock card so your Apple can tell time! As always, call if you have questions on any of the projects and send me projects you may have worked on, so the whole group can possibly build one.



DISK STORAGE BOX by HOME-PROJECTS
by Roger Flint 771-2868

(Anyone intested in an Apple expansion chassis, from which one can select 1 of 2, or 3, or 4 cards with a manual switch? I would be! Anbody else? Ed.)



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DB Master

A review
By Ann Bell

I have been asked, as a frequent user of DB MASTER, to write an article on it from that standpoint. Mini'app'les has been using DBM for the membership files for over a year now, and as of this writing, we have over 1800 records in the data-base. Use of the program is a constant learning process, which I find to be fascinating, most of the time, but very frustrating at others.

I must say, however, in defense of the frustrations, that no one I know has come up with a better solution to the storage and ready access of as large a data-base as we must maintain.

I will try to make a few suggestions for those of you who are attempting to cope with DB MASTER, or plan to in the future.

First things first. You must have TWO(2) empty disks available, before you start. I had one member call and I worked with him for a considerable length of time, getting his data base started, and then he realized that he didn't have another disk that he could use. Another fine point, which should be decided before you start, is whether or not you will want a password. Read the uses for one in the manual, and decide. I have assigned only 1 "PASSWORD", so that I have the option of adding others if I should ever feel the need.

The next, and most important decision you must make, is what the primary key field in your data-base will be. You are allowed up to 35 characters and 10 fields in that primary key. I have discovered, for our particular use, that more than one is not only redundant, but gets in the way. I started the record with NAME and I.D.# both as primary key fields. This is worthless! Any search, for which you have the full name, as entered, will find the record VERY rapidly, but a search by membership # alone, will be treated like any other sub-field. One useful purpose served by the inclusion of more than 1 field in the primary key, is to avoid duplication of identical records, which DB MASTER will not allow. The only time that would have been useful for the Club records, however, is when entering several NLE's(Newsletter Exchanges) which all have the same membership #0000. That makes this function still useless for our data-base.

You may add Secondary search keys at any time, or remove them, and that seems to be the

more efficient way to make record searches quicker.

I should note the set-up of the Club data-base, by the way, so you may see how my problems (& solutions) have come about.

```

NAME:!      (primary key - 25 CHR -A/NUM)
I.D.#:      (4 CHR - NUM)
ADDR1:      (25 CHR - A/NUM)
ADDR2:      (25 CHR - A/NUM)
CITY:       (15 CHR - A/NUM *default:MINNEAPOLIS)
STATE:      (2 CHR - A/NUM *default:MN)
ZIP:        (10 CHR - A/NUM *allow for 9 digit ZIP)
HM PH:      (12 CHR - PHONE *default 612)
WK PH:      (12 CHR - PHONE *default 612)
PD.TO:      (5 CHR - A/NUM *permit long codes)
CONFIG:     (30 CHR - A/NUM)
INTRST:     (30 CHR - A/NUM)
COMMT:      (30 CHR - A/NUM)
SPOUSE:     (10 CHR - A/NUM)
AUTO DATE:(8 CHR - AUTO DATE FIELD)

```

The first field in your record will determine the default file order that your records are stored in. Thus mine is an Alpha sort.

When doing a sort by ANY other field (including any other portion of a primary key) you will need 1 or more separate "sort" disks for the program to store the sorted file on. this is another reason for additional fields in the primary key being superfluous. This "sorted" record has to be used for whatever you are making it for immediately. It is not saved for multiple uses. Another interesting note about "sorts". I have reached the point that in ZIP sorting for the mailing labels, I must use 2 disks, and am required to sit by the computer to switch disks every 2 to 8 seconds after about 980 records. FRUSTRATING! I decided, this month, to divide the ZIP record into 2 parts, and print-out in 2 runs....for instance 00000 to 55401, then 55402 to ZZ (some of our foreign ZIPS have alpha characters in them. This was not successful, this time, and I will attempt to explain what I did wrong. That is what I mean by a constant learning process. I put in my ZIP ranges, as above, and then hit CTRL-O for "or/and" and entered DEAD for the exclusion of memberships that have not been renewed. IS THAT YOU??? In the first place DB MASTER does not honor DEAD, as that is a long code description, added to my PD.TO field. In the second place, I should not have used the "and/or" function. I should have simply put in my ZIP ranges, and then added the date I wanted excluded to that same select screen. That works, but now I will have to repeat that select screen for each month that I want to exclude. SEE WHY IT'S IMPORTANT FOR YOU TO

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SOFTWARE™



DB Master Continued

RENEW ON TIME !!! See following paragraph on the new Utility pak #1.

As you can see from the configuration of my file, I have Approximately 242 bytes per record (DB MASTER discards any unused lines or portions of lines as they are stored, so the actual count is some-what smaller for most records. Nevertheless, I have reached the need for 3 "MASTER" diskettes for my file.) So far, I have been able to RE-BLOCK and get back down to 2, but that will not last too much longer.

A tip for entry of records, when storage has flowed over from 1 "MASTER", key in your records in primary key order, so that less disk swapping will be necessary.

The rest of your data fields must be figured carefully, to allow plenty of room for each line item, but not too long, to conserve storage space. Here again, remember the program does not store empty spaces, so err on the long side, if you must. I might point out, however, that it is sometimes handy to be able to flag a field for long code descriptions, such as I have done with the PD.TO field. If you want to do that, then your field may not be more than 5 CHRs long.

One of the questions I have been asked most frequently, is "How can I print-out just 1 label or record?" This is quite simple. Enter a "5" from the main menu, to "create or print report", then answer "no" to "create new report". Now select the report format you want to use. Now your prompt line at the bottom of the screen will have "CHANGE SELECT" an option. Enter CTRL-S and when the empty form is presented, just enter your search criteria on the appropriate line (or lines), & hit CTRL-F for "finished". This will pull out 1 record and print it in the chosen format, but you had better verify that you have chosen the record you want, by printing it to the screen first.

Now, as to the Utilities, the club has recently purchased DBM UTILITY #1 & #2. I have not had the time, or the need to use all of the features of #1, but did use it to re-configure my file. WARNING!!! It wipes out ALL of your report formats, so you had better print out all of the specs for them, or have them written out clearly. It also wiped out all of my defaults, but I went back into Utility pak #1 and replaced them. Utility #1 will allow very flexible changes to your entire data-base format provided that you are careful not to destroy or change any fields you have already entered data into so that they are unusable...for instance, changing a

numeric to an alpha, or vice-versa. Utility pak #1 also will create a DIF file from your data-base for inter-use with Micromodem, VisiCalc, word processors, etc. It will also allow merging of files with the same format together. This could be invaluable for people entering data at different locations. I have now created a separate data-base for expired members. I simply merge them back and forth, as they expire, or subsequently renew.

Utility #2 has a Global Editor. It can edit or delete groups of records automatically (I could delete all "EXPIRED" members, for instance). I also functions as a mailing label printer, which I am not using. It re-formats your label to eliminate extraneous spaces, and prints 1 to 5 labels across. There are ways to circumvent the spacing problems (I want all of mine exactly where they are), by adding "comment fields" where you want spaces, but it seems cumbersome to me. It would not do us any good, at this time, to print labels more than 1 across, because that would foul-up the ZIP sort feature. It does, however allow you to print the same label more than once and then you could print 2,3,4,or 5 of the same name across a sheet. This would be very handy for someone whose mailing does not change every time it is printed out. The feature also will give you a "Test Pattern" to permit you to align your labels properly befor starting to print them out. It will also print them in upper & lower case, if you have that capability.

Another feature available in Utility #2 is a "Print Data Entry Forms". This allows you to print out hard copy of your data format to allow easier collection of data when away from your keyboard.

I tried, briefly, to work out a financial data-base, and I'm sure it could be done, but each record must be unique, and thus, if you entered transactions that all fell under the same category, or heading, you would get a running total, but not each individual transaction. A check book program could be done, because each check # would make that transaction unique if that number were included in your primary key fields. For income & deposits, you would have to work out some sort of numbering sequence to make each one different. Maybe someone out there has used it for this purpose, and would let us in on the solution? I have just begun to have a need for this capability, and so will have to do a bit more research on it.

I have 2 other files going with DB MASTER, also. One is a record of articles, reviews, programs, etc., in all of the Appl publications I receive. The other is a 2-pag record of my Microwave recipes (it may expand to others, but that took months!). Page 1 is



DB Master Concluded

strictly search & use criteria, and page 2 is the recipe itself.

The primary reason that I would like to make DB MASTER work for more applications, is the virtually unlimited amount of data that it can accept. None of the other programs, whether they be mailing lists, Visi/Calc, Spread Sheet (which I am very fond of), all have limits on the number of records or amount of data that they can manage. DB MASTER is almost unlimited. It does have some pretty serious drawbacks in handling. Most of the time I figure that problems I am having are just from not understanding some part of the program, but I have heard the same complaints from a number of people, and must conclude that it isn't ALL ME.

When Mini'app'les recently purchased pin/fed index and post card stock for me, it presented another learning experience. Take an index card, for instance. At 3x5 (in condensed print mode) you have 24 lines to account for. DB Master will allow only 9 lines per report. This leaves you short by some! Now add 2 blank comment lines, and 9 lines to be skipped between reports, and there you are! Why? Because the program adds a 1/2 inch skip at the page boundary (4 print lines), and you have set the page length at 24. SIMPLE!!?? I would not like you to think that it's all that easy. This report, and the one for post cards took hours to set up. When I tried to get this and the post card set up, DB Master actually BOMBED on me. I wound up calling Stoneware, and getting no help except "Re-block your files and see if that's it." I finally figured out that I actually had 1 extra comment line in the report, and DBM could not reconcile that to the page length I had defined. For the post card... at 3 1/2x5, we need 28 lines to fill it. Take off the 4 used for the page skip, and you're back to 24 lines. The problem here is that my report (mailing addresses) is only 4 lines. You have to use these 4, enter the other 5 as empty lines, enter 6 comment (or title) lines to the BOTTOM of your report, then add the 9 lines you may skip between reports. So far, I have found that I can "trick" DB MASTER into doing anything that I need to do. With one notable exception! I have had numerous occasions to need the &/OR sort feature, and it has refused me every time. I have to be doing something wrong, but I always need the data so quickly, that I have had to find it by another route. I must spend some TIME (who has any?) and find error. Recently, I needed 3 Zips. I wound up having to print them with a "Range" search,

and accept a few in-between Zips that I didn't need.

I may come across a new experience with DB MASTER, worth sharing with you at some future time. Until then, bye.



Announcements Continued from page 6

SOFTWARE FOR SCHOOLS

The following is extracted from a Silicon Valley Systems release and should be of particular interest to educators in public school systems.

Nathan Schulhof, president of Silicon Valley Systems (producer of THE "WORDHANDLER" and other software), recently announced they will be giving away over \$1,000,000 worth of word processing and educational software to public schools.

"Our software is ready to ship -- all we require is that the schools wishing the software write and let us know they want it." Giving away their products may be unusual for most companies, but not for Silicon Valley Systems. The company has stressed helping people outside the high-tech world. "Our interface is the community," Schulhof stresses. "We want to share our enthusiasm and knowledge of the computer world of 'tomorrow' with the kids of today."

For over a year Silicon Valley Systems has done just that, visiting several children's hospitals in the San Francisco Bay area. Young patients have been entertained with both the company's software and mime, Rainbow. Each hospital visited also receives a gift.

The company is extending its gift giving philosophy to public schools. The aim is to foster computer literacy and is a gesture of response to President Reagan's call for private enterprise to substitute for government. Schools which would like to receive the free software or further information should write to:

Peggy Johnson
Assistant to the President
Silicon Valley Systems, Inc.
1625 El Camino Real
Belmont, California 94002

Be sure to include the name of the school and school district, the number and type of computers currently in use, and the contact person.



DAISY WHEELING

by Arsen Darnay

The Art of Boring In

Ever since, some weeks ago, I got completely shut out of a conversation by a man who held forth about Velikovsky's cosmological theories (to the delight of all the ladies present), I've known that people like us need some HELP!

By 'people like us' I mean, of course, people who have the same three friends — Me, Myself, and I. And I defy the rest of you to find three such delightful and perpetually absorbing companions!

But people like us sometimes have problems, too — not least of which is the yawning indifference much of the world displays toward our new expertise in computers. They insist on talking, talking, talking — about matters of great unimportance to us. Sports, politics, sex, religion . . . And sometimes it's damned difficult to get a byte in edgewise.

But help's on the way. This article will get you started mastering the art of boring in; i.e., to twist every conversation to an interesting subject — you and your Apple.

The art requires a little attention to what others are saying. That's hard, I know, but the end justifies the unpleasant means. A little ingenuity, thereafter, will have you 'boring in' on the subject from your particular angle. An example or two:

He says: "They don't make cars like they used to."

You pounce: "You're right about cars, but computers are something else. Now you take my Apple . . ."

He says: "Have you ever known Northwest to be on time?"

You pounce: "It's their computers. From the Stone Age. Nowadays an ordinary guy like me has more computing power than an airline. You take this morning . . ."

She says: "I could whip up something for us at my apartment. My room mate's gone home for the weekend."

You pounce: "Did she fly or disk-drive?"

You get the idea. Seriously, though, sometimes it's not easy to bore in on people who think that RETURN means 'coming back' and ESCAPE means 'to get away.' It pays to prepare. Here are some tutorial materials that, I hope, will be of help.

Politics: Say that they're talking about some prominent person (Kennedy?) and wondering whether or not he'll run. You say: "Speaking of running, I bought a new software package for my Apple, and I had the same question. Would it run or not. I'm happy to report [they're dying to hear!!] that it ran just fine."

Sports: "Momentum, you say? I go by the statistics myself. And speaking of which . . ."

Business: "It took you HOW long? Key-ryst! What you need is power. Now you take my Apple . . ."

Unemployment: "The Star-Trib may say it's 9.75 percent, but I ran the data on my Apple just to make sure, and would you believe . . . They're wrong. It's 9.76 percent." [And all bow to Mecca.]

Nuclear Disarmament: "As for me, I'm ready for 'em. Bought a generator set for our fall-out shelter. Soon's I got my Apple //e, I installed the] [+ out there . . ."

Educational Reform: "I should hope I'm doing MY part. I strap little Mary down before the Apple every day. She is pretty good a keying checks, and she not in kindergarden yet."

The Crime Wave: "They'll never get my Apple. Had to move the furnace to make room for the trapdoor, but what a feeling of security . . ."

When company starts talking sex, boring in (paradoxically) is especially difficult. They get so damned INVOLVED. They LAUGH so much. Time to recall that arcade game, Custer's Revenge, featuring digital rape. Or, pretending to be amused, laugh, wipe your eyes, sigh, and say: "Oh, my. It's been like that ever since Adam and Eve. Yeah. Eve and her apple. Which reminds me . . ."

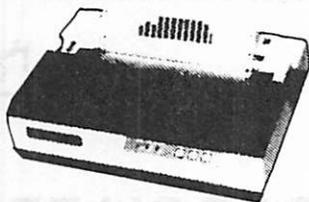
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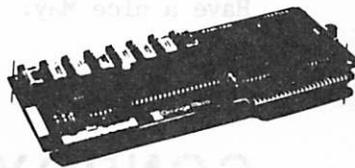
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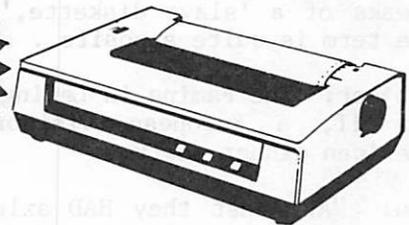


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Daisy Wheeling Concluded from page 20

Religion is another somewhat ticklish subject until you remember that someone has put the Bible on fifty some odd diskettes and thus the search for that fitting verse is lightning fast. (What a friend we have in Apple!)

And when the conversation becomes sophisticated — which usually means that you're competing with another bore — the cultural component of your art must increase apace.

Subject: The Reign of Caligula, a professorial type holding forth.

You: "Interesting, your mention of slavery. Points out how terminology changes, linguistically-speaking. In computers, one speaks of a 'slave diskette,' and the use of the term is quite apposite . . . "

Subject: The Famine in Leningrad during World War II, a European visitor lecturing an American dinner party.

You: "At least they HAD axle-grease to eat. Now in this modern day of sintered metals, hard surfaces, and robotics [you're on your way], what could WE eat? Silicon chips? [You're almost there.] Isn't it ironical that our best-selling small computer is called an 'Apple'? [You're there. Now keep the lead.] You can't eat it, of course, but it's just great for menu planning. As a matter of fact . . . "

That's how it's done. Now let me wind up by giving some pointers on how to deal with the worst kind of competitor of all, an aggressive computer fanatic ably representing some mongrel brand.

The following, recommended, comments should be made during conversational lulls in a stage whisper:

"To hear this guy talk, you'd think that he's shackled up with a radio."

"What's this 'I BM', 'I BM' stuff. If he has to have a BM, why doesn't he just excuse himself rather than mumbling in pidgin."

"I didn't quite get that. Did he say that he has a commodore for a pet?"

"Osborne users eat quiche."

"Yes. He was right, you know. I've heard that Atari is so powerful you can use it as a microwave oven." . . .

I hope that all this helps a little in the grim battle for attention. Few the times and few the places when and where it is impossible to draw the talk to Apples. Occasions present themselves from cradle to the grave. After all, life is just a PEEK into reality, begins with a POKE, RUNs its course, and can be said to be a great GOSUB from heaven from which, at death, we last RETURN when CALLED.

* * *

A small correction; in last month's column, in the 'print using' program, in line 8070, there should be a space between the quotation marks. Without that space, the program will eternally try to carry out the line 8070 instruction without success.

Have a nice May.



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RS232C is standard.... Isn't it?

by Al Guthrie

From THE HARVEST, Dec. '82
relayed through the IAC compiler

*** Table 1 ***
RS-232C PIN-OUT

Description	Pin	Pin	Description
Transmitted data	2	1	Frame ground
Request to send	4	3	Received data
data set ready	6	5	Clear to send
Received line signal	8	7	Signal ground
-DC test voltage	10	9	+DC test voltage
Secondary received line detector	12	11	Unassigned
Secondary transmitted data	14	13	Secondary clear to send
Secondary received data	16	15	Transmitter clock
Unassigned	18	17	Received clock
Data terminal ready	20	19	Secondary request to send
Ring indicator	22	21	Signal quality detect
External transmitter clock	24	23	Data rate select
		25	Unassigned

The words RS-232C interface have a nice, reassuring ring. The bargain hunting back-of-the-book ad reader has visions of a universally useable device, which can be plugged into any RS-232C serial interface on any computer.

Well, it ain't necessarily so.

This notion of a simple, standard interface is due to a misunderstanding of just what is actually being standardized. The Electronic Industries Association (EIA) RS-232 standard is intended for the interconnection of communications devices. It has been applied, and sometimes mis-applied, to devices that had no standard of their own, such as computers and serial printers.

The standard defines the type of connector to be used, assigns the pin positions, and describes the permissible signal voltage levels. It allows wide variation in the protocol, or "handshaking", that takes place between two devices that want to talk to each other.

The connector specified is a Cinch or Canon DB25. It is about 2 inches long and 3/8 inch wide. One side has twelve pins and the other has thirteen, so that the male and female connector can only be connected one way. The standard says the Data Terminal Equipment (DTE) will have a cable terminated in a male connector; the Data Communications Equipment (DCE) will have a female connector. A modem, for example, is a DCE. In that case, a computer connected to a modem is a DTE.

Here is where the first problem arises. If a printer is connected to an Apple, which is the DCE? It turns out the Apple thinks it is a DCE. What the printer thinks is another matter. If your printer and your serial interface board don't agree on this point, you will have to rewire the cable or perhaps make an adapter.

The uses of all but three of the connector's pins are defined by the standard. Please note, however, that just because the use of a pin is defined in the standard does not mean the pin must actually be used. In fact, only a few will ever be of concern to the Apple.

Table 1 shows the standard pin assignments.

Pins dealing with secondary signals (12,13,14, and 19) are used where a sub-channel on a Communications circuit carries the control signals. Pins 8 through 10, 15, and 21 through 23 are used on switched networks. None of these are likely to be used in a printer application.

Pins 2,3 and 7 are always essential, since these carry data to and from the interconnected devices. The remaining pins allow plenty of scope or variation.

It's nice if the printer can let the Apple know when to stop sending data. Otherwise, if the printer ran out of paper, and the stream or data continued without pause, the data would wind up smudged all over the platen.

Some printers handle this problem by use of the Data Terminal Ready line (pin 20). The Apple must monitor this pin and when it is low (the voltage drops) it must stop transmission until it is high again. That sounds like a sensible solution except that not all serial printers use this scheme, and not all interface boards (the Apple Serial Interface Board among them) pay any attention to this signal.

Other control methods are possible, such as using the Request To Send and Clear To Send



RS232 Concluded from page 23

lines (pins 4 and 5). The point is, that both devices must use the same scheme or nothing is accomplished.

Another method commonly employed is to end a control code over the data circuit and not use the control circuits at all. This works well providing the two devices agree on what the codes should be. Some use DCL/DC3 (Apple keyboard control Q and control S). The Apple Serial Interface prefers ETX/ACK (control C and control F).

What if you get a printer that uses a control scheme none of the available interface boards support? Or, you are stuck with a hoard that insists on a different protocol? As far as recognizing an out of paper or other abnormal condition, there is really nothing you can do, except be an attentive operator. The more vexing problem however, is buffer overflow.

Buffer overflow occurs because data can be transmitted much faster than it can be printed. For example, a printer with an IBM Selectric mechanism is limited to a maximum print rate of 14.9 characters per second. If you transmit at the relatively slow rate of 300 baud, characters will arrive twice as fast as they are used. Eventually the buffer, no matter how large, will be full and unable to accept more data. If the bit stream continues to flow it will spill out on the floor or somewhere, and some characters will be lost.

The only solution is to slow the transmission rate to less than the printer's rated speed and allow it to operate at less than an optimum rate.

The moral of the story is clear. Marriages may be made in heaven, but printers and interface boards are made in different factories.



//e Update

By Dan Buchler

I may not have made it absolutely clear about the difference between the Rev A and B //e boards.

The main thing is that the Rev B board is required to make use of the **double-density high-resolution graphics**. This capability works only in conjunction with the \$295 Extended 80 column card. It allows one to display graphics with a horizontal resolution of 560 dots.

Apple will not upgrade your machine unless you have the extended 80 column board or you go out and buy one, for otherwise you wouldn't need that capability.

Be advised also that there is little if any software that currently makes use of that feature.



Announcements Concluded from page 19

Teachers Wanted

The Bloomington Community Education is looking for persons interested in teaching computer literacy courses between June 13 and July 22nd. Hours are flexible. Salary is \$10/hour. No certification is required.

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INVESTMENT SIG

by Eric Holterman

At our March meeting Dick Seng and Bill Jensen discussed Compu Trac. While most of the program is applicable to both stocks and commodities, commodity applications were used for the presentation. Compu Trac was shown to be a comprehensive, interactive and chart oriented package of interrelated programs for technical analysis. The system has become a standard in the field with many other programs using the Compu Trac data format. The system also provides for individual programming which can draw on Compu Trac data structures, subroutines and charting capabilities.

Compu Trac is not a trading system but would be more appropriately looked at as a tool box for a trader to develop and implement his own trading system. Once he has done this, his daily procedures can be stored and run automatically. Current trading data can be inputted into the system by modem off of data base services.

When you purchase the program you become part of a 2000 member group of users. The original purchase price is approximately \$2000 and the annual maintenance fee is \$200. Compu Trac has 7 full time programers, runs seminars on the program and maintains a computer bulletin board in addition to phone support for members.

We will continue discussing the Dow Jones Market Analyzer at our May 19 meeting. Hopefully we can get into other software designed specifically for the Dow Jones services. Please note that the May meeting will be the last one held at the Minnesota School of Business. Check your June newsletter for the location of the June and later meetings.



CONSULTANTS

Jane Chatterjee
Conroy Associates

The series of 16 articles, appeared in Info World between July 12 and October 25 1982. The author, Paul Hechel, is president of the Californian software companies Quickview Systems and Interactive Systems Consultants. The series of articles discusses in detail the art of designing good, user-friendly software, for which he has coined the term Intelligence Design. Throughout the series, he compares the good software designer with the good technical writer and other types of communicators, such as in sales and teaching. He is confident that designers can learn from existing examples of good design, and frequently refers to the aspects of innovation and good design that are features of such software as VisiCalc and Wordstar. He also discusses his own challenges in designing his hand-held language translator. The remainder of this article deals with the central themes of Heckel's series of articles. For a greater depth of coverage of the topics, I would recommend reading the series of articles.

Communicating with the user:

Good communication with the user begins with seeing the design from the user's perspective, as a tool to solve his problems. The most important aspect of the design is the user interface, which should behave as an extension of the user. Communication must take into account the user's perceptions, expectations and prejudices. It must be empathetic with the user, as opposed to evaluative. Communication must take place in terms of specifics, rather than generalities. Visual communication is very important, to create mental images, and also communication via everyday metaphors, such as paper and pencil, filecabinet.

Design features:

The most important overall feature is the conceptual integrity of the design. One must take a multilevel design perspective, from the global down to the fine detail level. A good designer combines knowledge of the software technology with knowledge of communication techniques, and of the subject being communicated. Design teams need particularly good internal communication. A simple user interface involves elegance of design and programming complexity. The software should be

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Summary of Info World's series of articles entitled: 'SOFTWARE FOR PEOPLE' by Paul Hechel'

extremely reliable; often software is run under the worst conditions. The user should control the software, rather than the other way around. The opening sequences are extremely important in creating first impressions. The software should have a range of capabilities, to suit both the novice and the sophisticated user; it should be able to meet the user at his level, and teach him. The features of the software should be coordinated and organized through the use of menus. The user's actions should be immediately visible, and help sequences should be accessible.

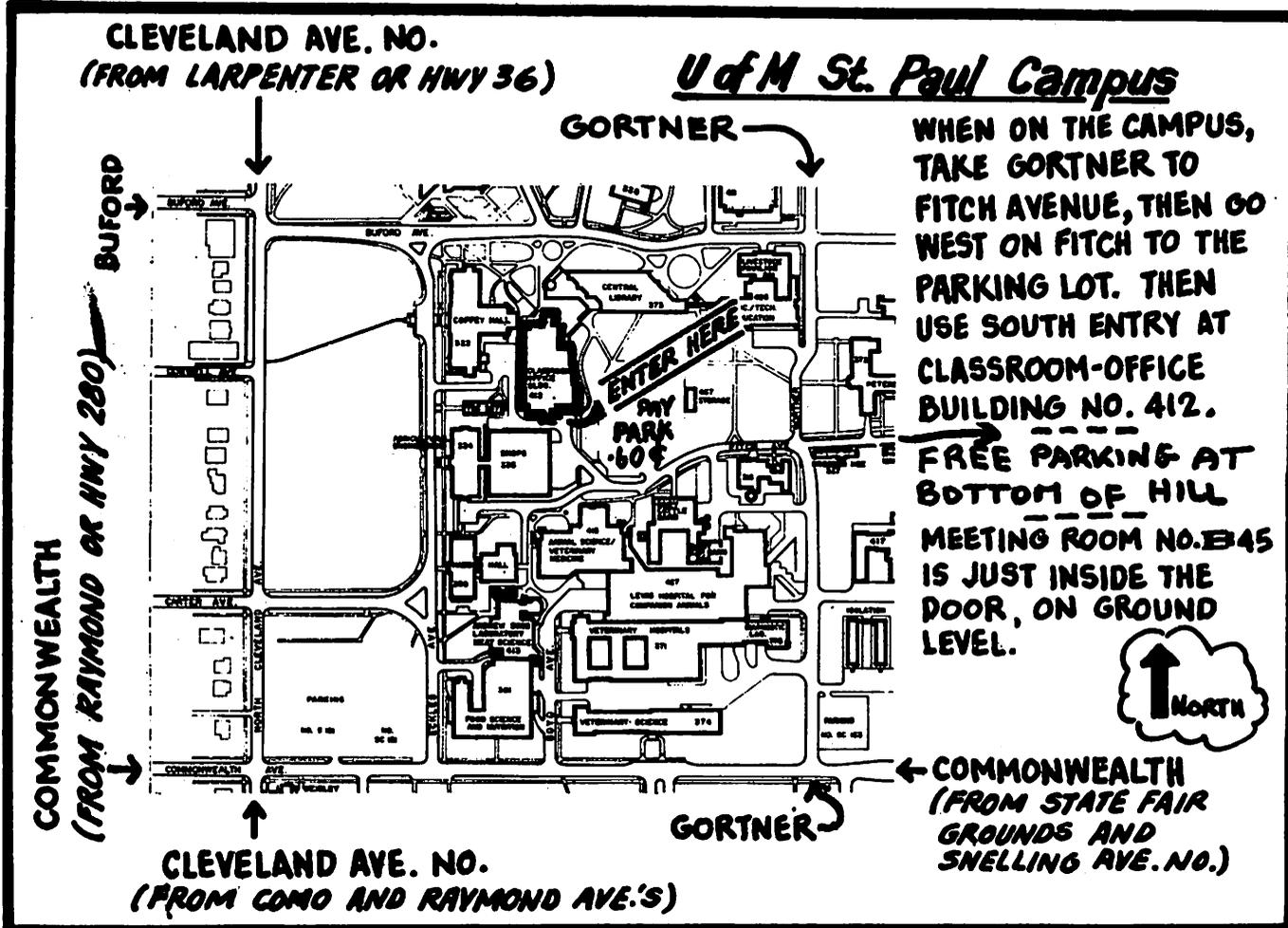
The manual is part of the user interface, and should be clearly written and easy to use. In the design process, it is important to have an early working prototype, to be used for evaluation purposes. Feedback from user testing will lead to extensive revision and to high quality design. The greater the client focus taken in the overall design, the better the end product will be. An extensive bibliography is provided in the final article, including several other works by the author.

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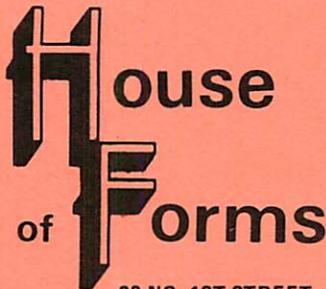
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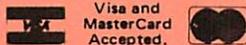
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