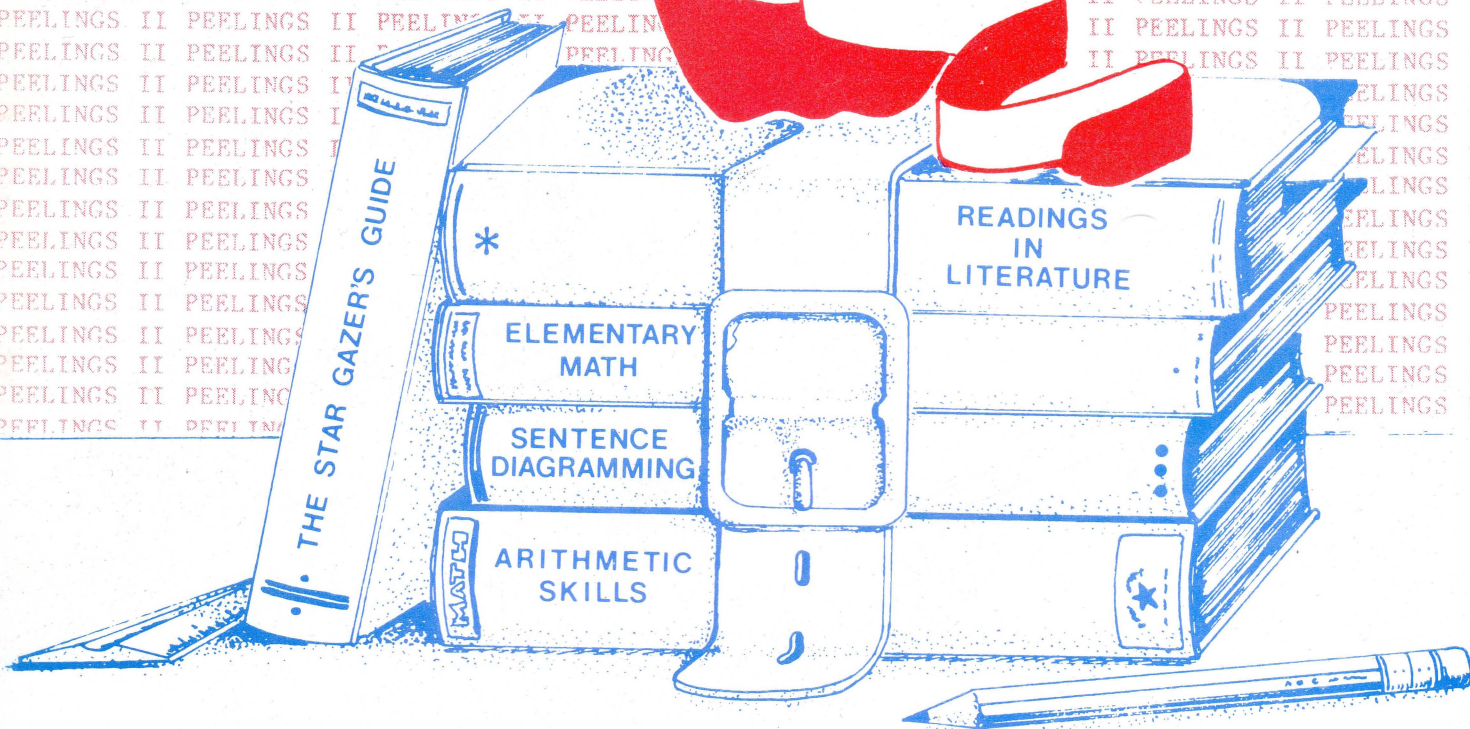




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A large, stylized red apple with a single green leaf on its stem. A significant portion of the right side of the apple has been bitten out, revealing a white interior. The apple is positioned centrally over a background consisting of a grid of repeating, faded, light-colored text that reads "LINGS II PEELINGS II PEELINGS II PEELINGS II PEE". Below the apple, there are blue, textured shapes resembling water or a surface.

[illegible]

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A LITTLE HISTORY

Many years ago, when the Apple II first came out, it was possible to program a 48K computer. At this time you were somewhat constrained to Integer BASIC and a cassette storage medium.

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The situation soon changed again when Apple introduced the APPLESOFT ROM card. For \$195 the programmer now had both Integer and APPLESOFT capabilities and 48K available.

In keeping with tradition, Apple followed the ROM card with an even more classier act: the Disk drive. A majority of Apple owners now have a 48K Apple computer with Integer BASIC, APPLESOFT, and a Disk Operating System (DOS). But the 48K in the computer is no longer fully available to the programmer since DOS occupies 10.5K of memory (actually 10752 bytes). A 48K Apple actually has 37.5K of programmable memory if DOS is booted.

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MEMORY MANAGEMENT SYSTEM (MMS)TM by C.D.S. is a unique, exciting **new** way to get back the 10.5K of memory allotted to DOS. Here's how it operates:

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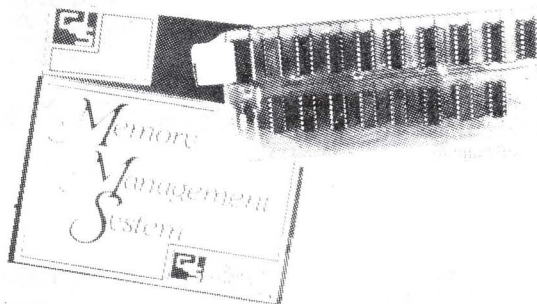
The final configuration of your Apple will be the **same** as above.

SINGLE LANGUAGE ALSO

If you don't need dual language capabilities (PLUS owners who only program in APPLESOFT, for example), then MMS will still relocate DOS on the 16K RAM card in slot 0. A full 48K will still be available to the programmer.

WHAT IS REQUIRED

- * 48K Apple II or Apple II PLUS
- * 1 or more disk drives.
- * 1 or 2 16K RAM EXPANSION BOARDS or APPLESOFT or INTEGER ROM CARD
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A FEW PROGRAMMER NOTES

DOS is somewhat altered with MMS. The command INIT is disabled, so you should INIT all your diskettes prior to starting up with MMS. In addition, MAXFILES automatically defaults to 2 but can be changed if desired.

The MMS program uses page 3 (\$300.-\$3FF) for interfacing and it is not available for programmer use.

Regardless of your Apple's configuration, approximately 2K of memory is devoted to the internal operating system (monitor).

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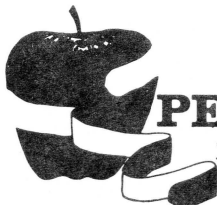
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THE MAGAZINE OF APPLE SOFTWARE EVALUATION

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The following authors are generally available evenings:

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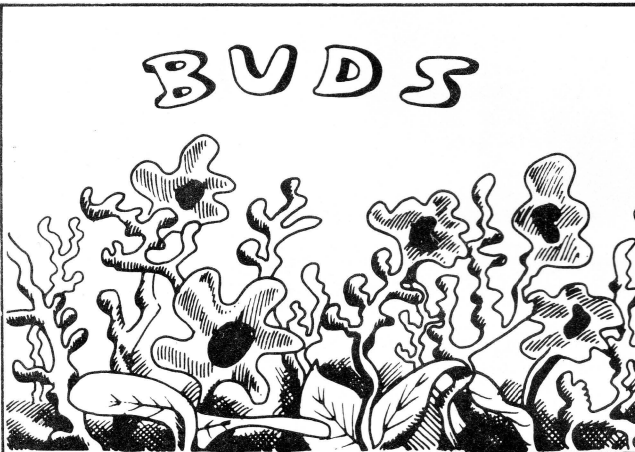
Let's hear it WV and RI!!

NOTICE

EDITORIAL

You may have noticed that there are some advertisements in this and preceeding issues of Peelings II for programs that are written by Peelings II authors (Pool, H-Edit by Howard de St. Germain and the Space Shuttle Landing Simulator, COMMLOGG by John Martellaro). Their companies (IDSI and HSSR) have paid the same rate as other advertisers, and the programs advertised have all been reviewed by the Peelings staff subject to our standard policy: advertisements are not run for programs that we think are questionable.

However, you will not find any reviews of these programs in Peelings II because 1) An unbiased review by the author or another Peelings II writer would be difficult, and 2) Such a review would be a conflict of interest and we would be justifiably open to criticism. We would prefer that other magazines review these products. If and when they are reviewed, we will publish a reference showing where they were reviewed. For starters, the Space Shuttle Landing Simulator was given cursory, mini-reviews in Robert Purser's magazine (Spring 1980) and in "The Book 1981."



Next issue will be a catch-up on some of the programs that we have promised but haven't delivered. That includes Super Text II, the 80 Column word processors, CCA DMS, Data Factory, and DB Master. We'll have a couple HIRES utility programs and some more Visi-Calc utilities.

BACK ISSUES

Due to financial considerations at start-up Peelings II does not have an abundance of back issues. Instead, we have high quality photo-copies made from originals. These necessarily cost more than the original press run copies, and we have to charge accordingly.

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BEGINNING BASIC

by Russell F. Still
Applied MicroSystems
P.O. Box 832
Roswell GA 30077

\$30.00 diskette
Applesoft
32K Disk II
Unlocked

PR=D
Howard J. de St. Germain

INTRODUCTION

Beginning Basic (BB) is supposed to be, according to the author, "a complete, interactive course in Applesoft Basic. It is geared toward the new computer user with little or no programming experience."

The course is divided into 12 lessons which claim to cover the following topics: datanames, input/output, decision making, arithmetic expressions, branching, looping, arrays, LORES and HIRES Graphics. The lessons are intended to take no more than 5-10 minutes to complete.

PROGRAM

Upon booting the "BB" diskette you are greeted with a copyright statement and a line telling you that Applesoft and Apple II are registered trademarks of Apple Computer, Inc. You are not given a menu from which to select the lesson you are interested in. In order to proceed you must "RUN LESSON#" where "#" is a number between 1 and 12.

Each lesson presents a series of paragraphs which are displayed on the text screen with a pause between them. This has the questionable advantage of "pacing" the student, and the unquestionable disadvantage of not allowing you to rapidly skip forward to a section of particular interest.

Lessons do proceed in a fairly natural order, building upon each other. The author of "BB" makes good use of the text screen by presenting sample programs on the upper portion of the screen and using the lower section to explain what that program does. He also uses inverse video to emphasize certain points.

None of the lessons go into great detail, as to be expected for a beginning course. Unfortunately, not enough examples are given throughout the course. For example, lesson 12 (which deals with HIRES) is very brief and displays two rather impressive looking spacecraft on the HIRES screen and then tells the student that HPLLOT can be used to draw a border around the screen. Such a border is drawn and briefly displayed. And the dimensions of the HIRES screen are given. This is basically all there is to lesson 12. A very inadequate introduction to Apple's exciting HIRES Graphics.

Lesson 3 has a serious problem when presenting the PRINT and INPUT statements. The student is shown the following input statement:

```
INPUT "ANY LITERAL" A$
```

The ";" preceeding the A\$ is not shown in the examples. It is shown in the summary of input formats. This can be especially confusing to a new programmer.

INTERACTION

"BB" claims to be an "interactive course in Applesoft BASIC." I carefully went through all 12 lessons and counted the number of questions asked the student. The average number was less than five, with four lessons asking no questions at all. Only three of the lessons provided the student with the opportunity to review a particular topic within the lesson.

After lesson 7 the student is told he should attempt to write a program. The recommended exercise is one which converts degrees Fahrenheit to Celsius. Four sentences (found in the documentation) are given as guides to how to go about this. The fourth "hint" says the program "should continue asking for and printing answers until the word "stop" is entered instead of temperature data." The implication in this statement is that the program should do its input as a string and convert this string (if it is not "stop") to a numeric value. Unfortunately, the "VAL" function (which lets you do this easily) was not covered in this course.

DOCUMENTATION

A 10 page instruction booklet of fairly high quality print is provided with "BB." Each page is

printed on only one side. It is composed of an introduction, brief course description, a brief outline of each lesson and special notes on some of the lessons.

SUMMARY

One must consider "Beginning Basic" by AMS a lecture oriented course in which interaction with the student is minimal. Most of the Applesoft commands are sufficiently covered for an introductory course, but "BB" is lacking in examples and user interaction. One might actually do better reading Apple's Applesoft manual.

It is the opinion of this reviewer that "BB" is not an appropriate course for a beginning Applesoft programmer.

PII

ELEMENTARY MATH ARITHMETIC SKILLS

ELEMENTARY MATH

by Edward Zeidman
Muse Software
330 N. Charles St
Baltimore MD 21201
301 659 7212
\$39.95 diskette
Applesoft
48K, Applesoft ROM, DOS 3.2.1
Copy protected but listable

PR=C-

ARITHMETIC SKILLS

by Sherwin Steffin
Edu-Ware
22222 Sherman Way, Suite 102
Canoga Park CA 91303
213 346 6783
\$49.95 diskette
Applesoft
48K, Applesoft ROM, DOS 3.2.1
Unlocked

PR=B

John Martellaro

GENERAL INTRODUCTION

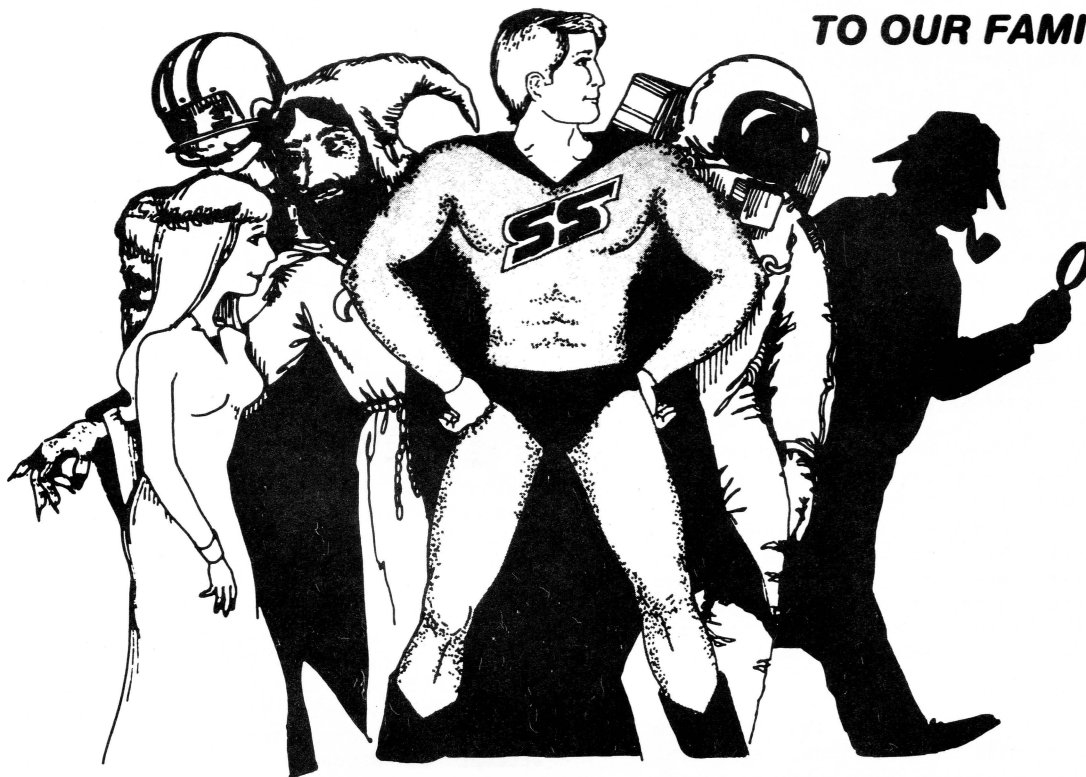
One of the things that computer pundits have emphasized in their enthusiasm to have computers installed in the classroom is the capability of the computer (program) to instruct, explain, test, and evaluate. This presupposes that such computer software will do several things:

1. Be effective, non-threatening, joyful to use, and enthusiastically accepted by educators.

2. Be written by professional educators who can make imaginative use of the computers available to them.



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- Globally search for or replace character strings.
- SuperScript has a built-in instruction capability such that if you forget how to use a command and the manual is not close by - you may simply ask SuperScript!
- Supports multiple disk drives!
- Will support alternate character sets.
- Produces form letters using address files easily!
- Supports the shift key modification if made to your Apple.
- Lets you work with your text on a screen at a time basis - reducing typos and allowing you to see your document as you edit it.
- Works with any printer!
- Supports the language card or any 16K expansion Ram card to keep more of your document readily available in memory.

SuperScript is 100% machine language and requires only a 48K Apple II or II Plus with a disk drive. It may be purchased through your local computer store or direct from us by sending \$89.95 plus \$2.50 to cover shipping to:

ON-LINE SYSTEMS - 36575 Mudge Ranch Road - Coarsegold, CA 93614 - 209-683-6858

C O D . Master Charge or Visa accepted

3. Be so thoroughly researched and carefully written that not only will the average teacher find the software desirable, but all those involved and interested will come to the conclusion that it is a good thing for children.

Unfortunately, in the desire to rush educational software into the (mildly profitable market) there have been all kinds of efforts by all calibre of programmers to supply all sorts of software vendors with all types of "tutorial" software. Some of it is very, very bad. Not much has been truly revolutionary for the simple but unavoidable fact that there is not yet the really big money in the field to attract the talent required. As an example, when it became clear what kind of money was available for those with a talent to write machine language HIRES color games for the Apple II, some very formidable talent became involved.

It does not appear that the current size of microcomputer software vendors allows the retaining of a staff of bright young Ph.D.'s in computer science and education theory. It is a simple fact that the need of the industry (brought about by inexpensive computers) has outstripped the technical ability of major vendors. (It was once thought that high school teachers would write their own software. That proved not to be the case.) And there are few college professors talented in both education and microcomputer programming with the motivation and time to write first class educational software. Small time stuff.

The upshot of all this is that there are great strides to be made in educational software. The vision of a quasi-intelligent computer gently and wisely leading a child through the intricacies of long division has degenerated because of the severe hardware and talent limitations in the micro field. Instead, we have simple drill and practice with minor variants of explanations clear to the writers but not to the poor child.

ELEMENTARY MATH - MUSE

This program is designed to test a child on the basic arithmetic skills: add, subtract, multiply, and divide. The maximum numbers involved are up to nine (e.g. $9 \times 9 = ?$). It starts with a short and questionable test to determine whether the child has the understanding to proceed. The test, despite the bibliographical reference given appears rather to test reading level. If the wrong answer is given, there is no other test. A start up menu provides the option of testing on one of the above four skills.

The program has an internal timer. If no response is given within a certain time, the program proceeds anyway. At this stage, when the supervisor is trying to give advice and instruction, this can be annoying. Further, if you boot and do absolutely nothing, the program will progress through choosing addition as the task, presenting a problem, asking if you need help, then go to a graphics page -- there to bomb with no recovery.

Interestingly, the child is asked to rate his own ability on a scale of 1 to 9 before proceeding. If the student is at the level where he is not sure what $2+3$ is, he should not be asked to rate himself by responding to questions worded in a very adult way. A default level should have been chosen and raised according to performance.

If the correct answer is given, the next problem is presented. However, if the user asks for help a graphical demonstration of the principles involved is presented. (Note, the program depends on a color display and is not effective in black and white.) These tutorials are different depending on whether the student has made errors or just asks for help.

At the end of a section, the student is scored and his performance is logged to the disk. (Only one student history per diskette is allowed.)

EVALUATION

Elementary Math (EM) has some good features. The user/child is prompted with colored, graphical explanations when he/she doesn't understand. The program addresses the student by name and says things that are worded nicely. On the other hand, there are some questionable features. The optional voice, sent through the speaker, is brash, squeaky, and irritating. It makes the Apple II sound overly mechanical and impatient. It is best left turned off. (The option to turn it off is available only in the start-up menu.) While the graphical discussion is fundamental and seemingly based on good pedagogical principles, there is no attempt to discover whether the student really understands the graphical explanations. Since the level is limited to numbers less than 9, there are no methodological problems arising from carries or multiple operations. Nevertheless, the program is overmotivated and the student could get undermotivated. Instead of using enchantment or intrigue or praise or curiosity to motivate the student, artificial motivation is provided by a relentless surging forward of the program flow. At the very least, some kind of child-like "fun" activity should be the motivation along with copious positive reinforcement.

At the end of a session (no way to escape!) a summary table is provided giving the number right and wrong. Also provided is percent correct. A child in the throes of 3×4 will have trouble appreciating the fact that he/she got 65% correct. This is best left to the teacher diagnostic page that can be called up by the supervisor.

There are random numbers and random numbers. A simple random number generator will often repeat numbers. Actually, a better method here is sampling without replacement. This insures that the student isn't presented with too many repeats -- an easy way to artificially raise performance. EM seems to use simple random numbers because of the many repeats.

This reviewer has a pretty good Sharp brand color TV on the Apple as well as a monitor. It has excellent color, but some of the graphical demonstrations did not really stand out well because of color conflicts.

In summary, the program seems overly rigid, uncompromising, annoying if the voice is left on, and devoid of any humor or humanism. This is all in contrast to the PLATO system where real computer power allows a joyful, playful atmosphere. The child/student is amused by the computer. It plays with him. Fun things happen in the display. There is none of that here, and perhaps the reviewer expects too much for \$39, but so be it.

ARITHMETIC SKILLS - EDU-WARE

This program is a little more sophisticated. It allows for either a child with little mathematical experience or a remedial learner who is older but needs a reformalization of his/her skills.

Essentially, the framework is the same as Elementary Math. The four basic skills of addition, subtraction, multiplication, and division are addressed. (A recap of counting is also available.) Again, at the lower levels of simple operations with single digit numbers, there is no methodology: just repetition. The differences with Arithmetic Skills (AS) are:

1. A formal model implemented and explained that seems to be a step forward.

2. The possibility for advanced skills that involve operations with two and three digit numbers. In this case, instruction by example and method is used with variable cut-offs for determining student success.

Some of the assumptions of the model are:

1. "Instruction should be individually prescribed." AS changes its procedure depending on student profile and performance.

2. "Instruction should not be text dependent." In contrast to EM, minimum emphasis is placed on reading skills. (One thing at a time.)

3. "Decrementing cues." This is some of the artificial intelligence missing in EM. As the student progresses, decreased cues give the learner more self-prompting responsibility and cut down on boredom.

4. "Cognitive/Motor Stimulation." Great care has been taken to defer to the student who may be intimidated or unfamiliar with the computer at first. A graphical hand presses depictions of the keys in the display and a set of visual prompts are set up. Seeing a hand press an image of the key is more helpful than text explanations.

5. "Conceptual Sequence." Learning is done by building on acquired skills, not just repetition.

In addition to the model condensed above, the supervisor of the learning has the ability to change the system parameters, instructional parameters, and performance criteria. Instead of being arbitrarily stuck with a computer assessment of performance (as with EM), the instructor can

change default values that relate to the required performance before progression. Without going into all the detail, the supervisor has far greater flexibility to configure the learning environment than with Elementary Math.

Despite these refinements, AS is also devoid of the fun aspect that makes computerized learning human and inspiring. The sole reinforcement is ever increasing complexity of the problems, and that might be frustrating. While the program does not try to be as formally informal as EM, the net result is that AS is, in fact, quiet, comfortable, non-irritating, easy paced and non-intimidating. It would be better though if the computer provided some excitement and fun rather than depend on the supervisor to ensure that progress is maintained.

A good program of this nature should be so intriguing that the child must be virtually pulled away from the console. (One idea that I've discussed with educators: sheep in a pasture jumping a fence. Six get over, but one stumbles and falls back in a crash, dazed. Underneath are the numbers 6 and 1. $7-6 = 1$. Considering what was done with "Alien Invaders" and Apple's own Maxwell character, this kind of animated "animal farm" stuff is possible on the Apple II.)

As with EM, only one student at a time is supported.

CONCLUSION

Neither program supplied for review was thoroughly debugged. In EM, when help was asked for on $0 \times 8 =$, we got ILLEGAL QUANTITY ERROR IN 6090. In AS, the correct entry to the problem 72×38 (a 7 in the partial product) could not be entered. The former error must be considered very serious: there is after all a function called ONERR GOTO!

The documentation on both programs is sufficient and thorough. Edu-ware will replace a defective diskette for \$5 (\$7 after 30 days). Muse will replace a diskette for \$10.

While neither program really exploits the Apple II to the fullest or creates the playful, exhilarating atmosphere of similar programs on minicomputers or mainframes, both have made attempts at applying formal educational theory. Arithmetic skills has done a better job and the product is more sensitive to both the needs of the learner and supervisor.

PII

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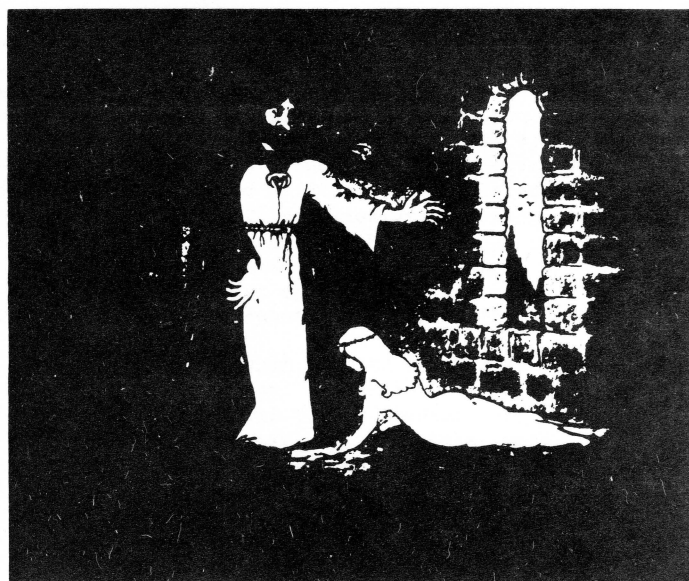
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SENTENCE DIAGRAMMING

Author unknown
 Avant-Garde Creations
 P. O. Box 30161
 Eugene, OR 97403
 503 345 3043
 \$19.95 diskette
 Applesoft
 48K, ROM Applesoft, Disk II
 DOS 3.2 or 3.3(BOOT 13)
 Locked

PR=A
 Edward Burlbaw

INTRODUCTION

Sentence Diagramming (SD) will not only drill in sentence diagramming but will also provide work in parts of speech, types of sentences, and usages of words in sentences. The program can be configured to keep track of each student's progress on the disk for future reference.

THE PROGRAM

There are four sections of exercises in SD. All are related, but may be used independently or in sequence, leading up to actually diagramming sentences. I will describe them in the order in which they are presented.

Parts of Speech. A sentence is presented and the user must correctly identify the part of speech of each word in the sentence. A question mark appears under the beginning letter of the word to be classified and the user must type the correct 3 letter abbreviation for noun, verb, adverb, etc. Incorrect guesses cost 1/2 point. There is a command to skip over this exercise if desired.

Usages. In this exercise, a numbered list of possible uses of words is provided and the user must correctly identify (by number) the usage of each word in the sample sentence. Approximately 5 guesses per word are allowed. The user may skip this section, if desired.

Type of Sentence. Here the user must type the first three letters to identify the sentence as declarative, interrogative, imperative or exclamatory. This section may be skipped, as well, if desired.

Sentence diagramming. In this exercise the actual sentence diagramming is done. The skeleton is provided and a question mark appears on the diagram. The word that goes there must be identified in the sentence that also appears on the screen above. The word is selected by placing an asterisk under the first letter of the word (by using the right and left arrows) and hitting the space bar. If the correct word was selected, then it appears on the diagram and the question mark moves to another position. After 5 incorrect attempts the correct word will be placed for you.

Provided on the disk are 20 sentences on each of 3 levels of difficulty. The user may start at any level or work up from the easiest to the hardest. Included on the harder level are compound, complex and compound-complex sentences. The easiest levels have simpler sentences, as would be expected.

USING SENTENCE DIAGRAMMING FOR INSTRUCTION

SD may be configured by the instructor to keep track of each student's progress (preferably on another disk). It is possible to format SD with respect to drive and slot of program disk and record disk and printer slot. Other formatting options are more directly related to the performance of the students; i.e., what is the required % of correctness to move the student up a level and what % of the sentences must the student attempt. Also a choice is whether the sentence diagramming section is to be a part of the exercise.

It is possible to read the records stored on the student disk. The teacher may look at all the recorded sessions of a single student or look at every student's latest record. The record contains the level and average of the student.

DOCUMENTATION

The program comes with a 5" X 8" booklet with 14 pages of documentation with a table of contents and a 3 page "let's try it out" section. Each section of the program is thoroughly described with all the available options. There is some discussion of the different ways to interpret word usages. The documentation is single spaced and as a result, I think, is difficult to read.

BACKUP COPIES

The diskette is locked and cannot be copied by normal means, however, a backup diskette can be obtained from Avant-Garde Creations for \$5.

OVERALL IMPRESSION

This is a very well done package, free of bugs and easy to use. Once configured by the teacher, the students should have no difficulty using the program with only a minimum of supervision.

PII

We have read the reviews of the various 80 column display boards in the latest issue of Softalk and the author mentions that Doublevision will not work with CP/M. This is no longer true. A software update is available from the Computer Stop for \$5.00.

DRILL II

by Joseph F. Hohlfield, PhD.

Cook's Computer company
1905 Bailey Drive
Marshalltown, IA 50158

-
\$29.95 diskette
Applesoft
32K, ROM Applesoft, Disk II
DOS 3.2 OR 3.3(BOOT 13)
Unlocked

PR=A
Edward Burlbaw

INTRODUCTION

DRILL II in Basic Facts and Spelling is a two disk package designed to provide drill and practice in addition, subtraction, multiplication, and spelling. One disk is the student disk and the other the teacher disk. This makes available certain features to the teacher and not the students.

"The drill in basic facts of multiplication is based on the author's research which indicates that students who used the drill system in these programs for six (6) minutes a day for twenty-five 25 days showed significant improvement in their knowledge of the basic facts of multiplication. The programs on addition and subtraction follow essentially, the same model as the multiplication programs." So states the documentation.

STUDENT USE

The student must "sign-on" using a first name and a student number to use the programs. After it has been verified that the student has been enrolled, the student is allowed to use the selected drill program, i.e., multiplication, addition, subtraction, or spelling. Now the work starts. The student has 6 minutes to answer correctly the basic facts of that section. The problem is presented on the screen and the student must type the correct answer. If the first character typed is incorrect, "OOPS" appears on the screen and the problem is redisplayed. If the first character is correct but the second is not, then the second digit is requested until it is typed correctly. When both the first and second digit is typed correctly, the problem with answer is displayed. Under no other circumstances does the student see anything to the right of the "=", i.e., wrong answers are not reinforced. If the student were to randomly press the keys, eventually the right answer would appear and the student would see it and, hopefully, remember it. The same problem would appear again later for another attempt.

At the end of the six minute period the student's score for the day will be printed on the screen and recorded on the disk. If the score is high, the student is complimented. Previous day's scores are shown and if today's score is higher than the average, the student is complimented for having improved.

The SPELLING drill section is done slightly differently than the mathematical drills. The word to be spelled is flashed momentarily on the screen and then the student is expected to spell the word. The word is presented long enough to be recognized but not long enough to be memorized. If the word is misspelled, it is redisplayed until it is spelled correctly. The student must spell the word correctly before going on to the next one. This is not the same as having the word spoken to one, but seems to be better than learning from a list.

TEACHER USE

The teacher has the following menu to choose from:

1. Enroll students
2. Look at a student ROSTER
3. Enter a new spelling list
4. Get a report on student progress
5. Create a new student disk
6. Correct student records or perhaps recover from a clobbered disk
7. Quit

The above are mostly self-explanatory. A student must be enrolled for each lesson that he will be using. The diskette comes without a spelling list and so must be entered by the teacher. This provides for greater versatility of the program.

No provisions are made for use of a printer with DRILL II. This will probably not be a problem in that grades are usually entered into a gradebook, anyway.

DOCUMENTATION

DRILL II comes with 6 half pages of documentation covering the use of the package by the teacher and the student. Very little documentation is required for the student and most of the manual covers use by the teacher along with a short discussion of the advantages of this method of instruction. The reference describing the results of research using this program is given. The documentation is clearly written and should be sufficient for even the least experienced (in computers) teacher.

There are a few words of advice given in the documentation that should be heeded; always back up the student diskette. If a student finds that his records have been wiped out by someone else, s/he could become very discouraged.

CONCLUSION

DRILL II is a very well done package. The drills chosen are definitely well suited to CAI. No one enjoys drill work, but unfortunately to really become proficient at least some amount must be done. Typically, the student must find someone else (parent, friend) to help with the exercise. Clearly, the computer with near infinite patience is an ideal drill instructor. Until Apples are available in every classroom, the parent-owner may consider buying DRILL II for the children's use.

READINGS IN LITERATURE

by George Earl
George Earl
1302 S. General McMullen
San Antonio, TX 78237

\$24.95 diskette

Apple II or Plus
32K, Disk II
DOS 3.2 or 3.3(BOOT 13)
Locked

PR=A
Edward Burlbaw

INTRODUCTION

Readings in Literature (RL) provides a novel way of memorizing famous poems, prose, and songs by playing "hangman" with the missing words.

THE PROGRAM

Contained on both sides of the diskette are selections of familiar prose, poems, and songs. Included, of course, are The Declaration of Independence, The Bill of Rights, The Gettysburg Address, and The Star Spangled Banner. From Shakespeare -- To Be or Not to Be, Friends, Romans, and Countrymen, and Is This A Dagger I See Before Me (MacBeth). Not to be forgotten are The 23rd Psalm, Annabel Lee, Casey at the Bat, Dixie, and Yankee Doodle. In all, there are 27 selections.

The game is played by presenting two lines of the selection with the last word of the first line replaced by question marks. The object is to type the first letter of the missing word. If that is not known, then the letters of the word may be guessed in "hangman" fashion. There is a LORES graphics display above the text and that gets "eaten away" for every wrong letter guessed. When it is all gone, three tries, the correct word is shown in the phrase as well as all over the remaining portion of the screen in random fashion. If the missing word is guessed correctly, PERFECT is displayed and RETURN must be pressed to go on to the next line. Previously incorrect phrases are re-presented occasionally until they are correctly answered. Sounds effects accompany the responses and actions on the screen.

After the entire selection has been presented, there is a test. This consists of presenting one line of the selection at a time with the last word missing as before. This will really show if you "cheated" on the first section, which was easy to do because the last word of the second phrase shown was the next missing word. At the end of the test your score is given in number perfect, good (word guessed letter by letter), or missed.

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"Truly different...unique...the program is an enjoyable one...cute...very interesting... new...nice...a good value!" Apple Orchard (Winter)

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(503) 345-3043

(12pm-6pm 7 days a week) *Apple is a trademark of Apple Computer, Inc.

LOCKED

Readings in Literature comes on a locked diskette that is readable by either 13 or 16 (BOOT 13) sector DOS. If the diskette becomes damaged in use George Earl will replace it for \$10 if it is returned to him.

OVERALL EVALUATION

This "hangman" method of memorization may be a solution to an otherwise tedious process, unless you have a photographic memory. I think that leaving out the last word of the phrase every time may not be as effective as random replacement throughout the line. This is partly accounted for by the test at the end of the selection as mentioned above. One other objection is that the reader (memorizer) doesn't get the overall picture of the selection by only seeing, at most, two lines at a time. I would have preferred to see the entire selection at one time or at least in larger pieces sometime during the process.

Aside from the already stated objections the program is well done and easy to use. GET statements are used throughout providing a pleasant man-machine interface. While this program could be used in the classroom, the selections provided are usually accumulated (in memory) over a number of years in various situations, rather than one year in school, and would not be directly useful in any one class.

MOTHER GOOSE RHYMES

by George Earl
George Earl
1302 S. General McMullen
San Antonio, TX 78237

- \$24.95 diskette

- 32K Apple II or Plus

Disk II

DOS 3.2 or 3.3(BOOT 13)

Locked

PR=A
Edward Burlbaw

INTRODUCTION

Mother Goose Rhymes is similar to Readings in Literature (reviewed elsewhere in this issue) except that the selections are Nursery Rhymes or similar.

THE PROGRAM

Included on both sides of the diskette are 14 selections. The popular Humpty Dumpty; Baa, Baa Black Sheep; Twinkle, Twinkle Little Star; Old Mother Hubbard; Rain, Rain Go Away; The Night before Christmas; and Paul Revere's Ride, to name just a few. The same process is used here as for Readings in Literature to present the selections and to guess the missing last word in each phrase.

OVERALL EVALUATION

The program employs good programming techniques with GET statements where appropriate and error trapping throughout. In my opinion, most of the selections presented are usually learned by children at their parent's knee and will be familiar to them long before they learn to read. This brings up two points. One, the children will not need to memorize using this program if they already know the rhyme (maybe the parents can refresh their own memories), and two, because the children already know the material, this program might help them learn to read. In either case, the potential user will have to decide if the \$24.95 is better spent on books. I think one must keep in mind that the graphics and sound effects might keep a child's attention where other methods have failed.

PII

APPLE OWNERS HAVE PEELINGS II

MICRO-PAINTER

by Bob Bishop
Datasoft Inc.
16606 Schoenborn Street
Sepulveda, CA 91343
213 894 9154
\$34.95 diskette
Applesoft
48K, ROM Applesoft, Disk II
DOS 3.2 OR 3.3(BOOT 13)
Unlocked

PR=A-
Edward Burlbaw

INTRODUCTION

MICRO-PAINTER (MP) is a program with a new twist to the uses of HIRES Graphics. MP is used to "color" HIRES pictures that already exist.

THE PROGRAM

On the MP diskette are eight binary HIRES screen images portraying a variety of objects, from Einstein to still lifes to a tiger. These images are black and white line drawings. The user is to fill in the spaces with any of the 21 HIRES colors available through MP.

The cursor or "paint brush" is positioned using the game paddles or a joystick in the middle of an uncolored area of the picture. The color is selected by simple two key mnemonics for the colors and when the paddle button is pushed the entire area is colored.

MICROSCOPE

One of the unique features of MP is the MICROSCOPE feature. By simply hitting the space bar the screen changes from normal view to a magnified view of part of the picture. The field of view can then be moved around by moving the paddles. Painting of the screen is then done one cell at a time instead of an entire space. This can sometimes be used to minimize the effects of adjacent colors interfering. One command particularly useful in this mode is the "freeze" command. This command allows the I,J,K,M keys to move the screen one cell at a time and disconnects paddle control. This resolves the "jitter" problem of the paddles.

GOSUB PAGE 20

ASCII EXPRESS II

by Bill Blue

The ASCII EXPRESS is the most complete, **intelligent** terminal package for the Apple II.* It is fully compatible with the Hayes Micromodem II* and the Apple Communications Card. It fully supports upper/lower case text both from the Apple II keyboard as well as its display.

With this package your Apple can talk to just about anything that has dialup access, from another Apple II to mainframe systems! It features file oriented upload/download facilities, a built in line editor with full editing functions as well as support for your printer and keyboard **macros** in the terminal routine.

Also included are support programs to help you convert Apple II programs, (Applesoft, Integer and binary) to their file form. Fast machine language "crunching" is used to compress program files to their minimum size to save online time.

. FEATURES .

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System requirements: 48K Apple II, disk w/FP ROM or language card. Lower case display board recommended.

Available from local dealers or:

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Santee, CA 92071
(714) 562-3670

Please Specify DOS 3.2 or 3.3

ASTRONOMY I/II

by R.W. King
Educational Software
3 Nappa Lane
Westport CT 06880
203 227 1438
\$32.00 diskette
Applesoft
48K, Disk II
DOS 3.2.1 or 3.3 or both (specify)
Unlocked

PR=B
John Martellaro

PROGRAM DESIGN

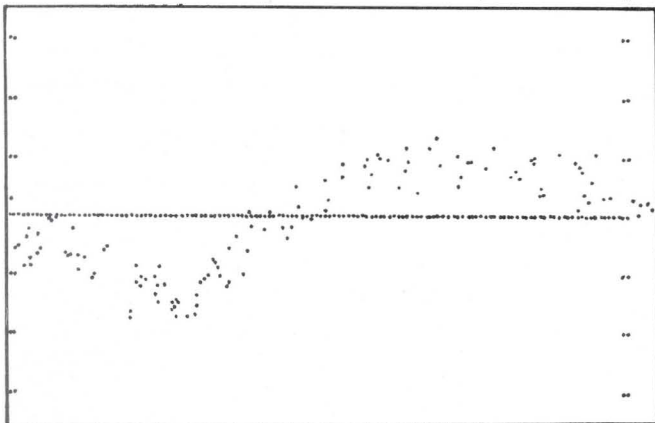
Astronomy I is an elementary level astronomy education program dealing with the fundamentals of stars and constellations.

The author uses good pedagogical principles in that he starts with an explanation of how to answer questions, turns to explanations with demonstrations, requires the user to participate by typing in constellation names, and then has a quiz. The quiz is simple, but it does identify weakness of understanding in a particular area.

At program start-up, the user is introduced to the Ursae Major and Minor, the pointer stars, and the pole star, Polaris. He is given a brief explanation of what constellations are. The the program terminates with the catalog and the user has a chance to get background information on the types of stars, classification of brightness, location etc.

In the discussion of stars, the author first explains meteors and satellites since these are sometimes thought to be stars. (The display of a satellite moving across a field of stars, changing brightness as it rotates is very well done as is the display of several scintillating meteors.)

A discussion of Right Ascension and Declination, and the stars of the Zodiac is recommended next. Good use of Apple graphics is made to show how the Earth's orbit around the sun translates into the apparent motion of the sun through the stars and the definition of 0 hours Right Ascension. Unfortunately, the program itself is going to be confusing in the discussion of declination unless it is made clear (it is not)



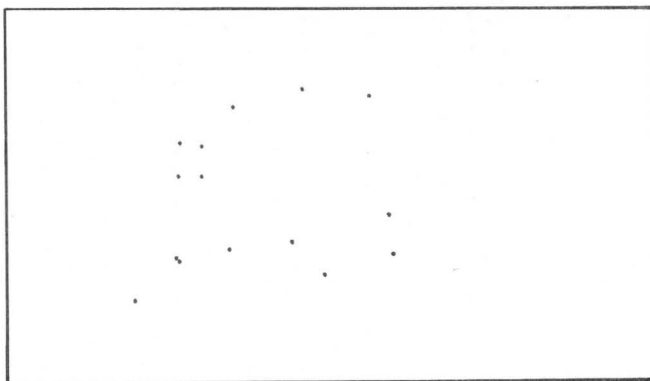
that the equator of the Earth is tilted 23.5 deg with respect to the ecliptic.

In Astronomy II, now on the same diskette, constellations are chosen for discussion. On the HIRES screen, a constellation will be displayed and the user's attention is drawn in sequence to important stars by having them flash and the speaker click. In the 4 line text area, information about each star is given. No attempt is made to make the stars appear near their natural colors via Apple II graphics. In a second stage, the user has a chance to select constellations for study (and has to spell their names correctly). This concludes with the user having to both identify constellations on the HIRES screen and answer questions about stars and constellations.

ASSESSMENT

While this program is laid out fairly well and uses good educational principles, it suffers a certain lack of sophistication and polish. It is polish and professionalism that makes a program useful for major educational work. A few examples are:

1. Occasional misspellings. Some are harmless but careless (Corcumpolar) and others are misleading (Celestial equation instead of Celestial equator).
2. Small omissions by the author leading to user confusion. Star temperatures are given in Kelvins without definition. The term "lightyear" is used without prior definition in one exercise.
3. The slow "writing" of text to the screen used so often to force reading seems intimidating and inflexible for students of different reading skills.
4. Curious omissions. At least in the program where star magnitudes are discussed, no mention is made of the source of the scale or ratio of brightness between magnitudes.
5. The user is now forced to type RUN PROGRAM since each lesson terminates with a catalog. This may be part of the author's intention to force the user to experience Apple DOS, but one thing at a time. A menu would have been nice.



CONCLUSION

The author claims that documentation comes with the program, but none was supplied for review. Further, the development of the set of programs seems to be in a state of flux. We have a very early version with constellation studies, and a recently sent version with just the introductory star and coordinates studies. Many corrections were made to the latest version, but it was difficult to assess the whole package, as it was, in pieces and without the documentation.

Because of the many small errors, omissions, and some lack of professionalism, many educators may be disappointed. Definitions and explanations seem cut short. Astronomy I/II may be suitable for children at home in the 6-11 year old range. A recommendation for institutional use, based on what has been sent to Peelings cannot be made.

The author has a bachelors degree in physics and teaches high school and university physics and astronomy.

PII

THE STAR GAZER'S GUIDE

by Kevin Bagley
Synergistic Software
5221 120th Ave S.E.
Bellevue WA 98006
206 226 3216
\$30.00 diskette
Applesoft
48K, Applesoft ROM, DOS 3.2.1
Unlocked

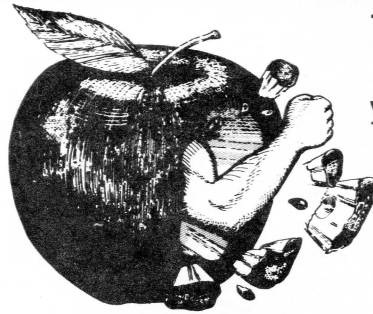
PR=A
John Martellaro

INTRODUCTION

The Star Gazer's Guide is a very well done casual introduction to the constellations and other astronomical objects. While it does not have the pedagogical methodology of Astronomy I, it more than makes up for that with very well done explanations, no technical errors, a very beautifully done and informative instruction booklet, and very fine programming.

The goal of this program is to educate an Apple owner with the fundamentals of observational astronomy and to allow him to identify major star groups.

When the program is first run, the user has a chance to get information about typical stellar objects like double stars, nebulae, open and globular clusters, and galaxies. Then he can look at either the summer or winter sky. On the HIRES screen is a rather congested display of the sky, brought about by the common problem of mapping a hemi-sphere onto a plane. The user can cause the



The Dakin5 12-in-1 Utility Kit gives your programming more punch!

Dakin5 Corporation, a Colorado software house, is making available to the public 12 utility programs on one 16 sector diskette, utilizing the new Apple DOS 3.3, which provides 23% more storage.

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Many of these utility programs have been developed and tested for in-house use while producing The Controller™ business package for Apple Computer Inc.

Each programming aids package includes a program diskette and very complete documentation, all attractively packaged in a padded, blue print vinyl 3-hole notebook with silver lettering. An identifying tab separates each program for convenient reference.

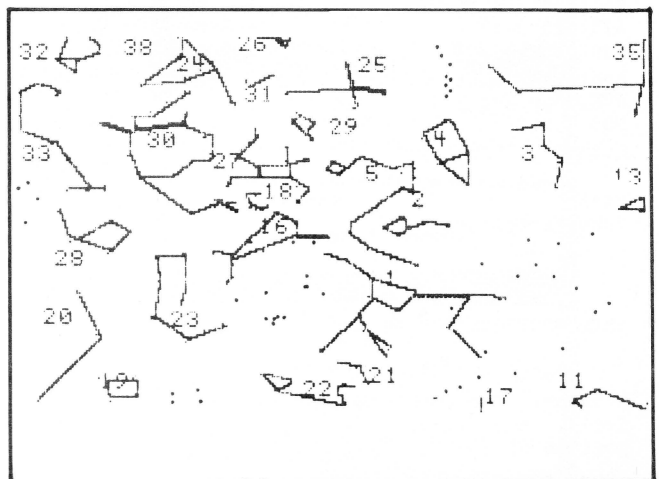
See your Apple dealer or contact Dakin5 Corporation, P.O. Box 21187, Denver, Colo. 80221. Telephone: 800-525-0463. VISA or MC welcome.

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DAKIN5 CORPORATION
...committed to solving the right problems.

stars to be connected in the usual fashion with lines to create a graphical depiction of the constellations and the associated stars. Then he can erase the lines and learn to "see" the groupings by himself, as he'll have to do outdoors.

If a particular constellation is of interest, the user can identify it by number and a new display will come up showing just that constellation. Historical and technical information is available about each of the 88 constellations.



ASSESSMENT

The Star Gazer's Guide is full of interesting information presented in an accurate and readable fashion. The computer is utilized not so much to create effects that are not possible in books or to quiz, but to assist the user in identification of constellations and to help him understand what he is seeing. The author is knowledgeable and the information is accurate and professionally presented. The difficult task of not trying to be an astronomy text book and yet present accurate and useful information has been handled well.

If there is a weakness in the program, it is the attempt to display the entire sky (distorted and congested on the graphics screen) to the user and still expect him to relate that to what he actually will see. It would have been better to display quadrants at low and high elevation to eliminate the distortion.

At the end of the beautifully done instruction book is an appendix giving catalogs of 1) the constellations, 2) the brightest stars, 3) the Messier object catalog, 4) a glossary, and 5) a well selected bibliography for further reading.

In this reviewer's opinion, TSGG would be very useful for individuals of all ages who want to learn about the sky or for high school or junior college programs synthesizing their Apples with astronomy education.

While the author has no degree, he is, in this reviewer's opinion, an extremely competent amateur astronomer who can present astronomical information readably, correctly, and professionally.

PII

TELLSTAR

by Evan Scharf
Information Unlimited Software
281 Arlington Ave
Berkeley CA 94707
415 525 9452
\$39.95 diskette
Applesoft
48K, Applesoft ROM, Disk II
DOS 3.2.1
Locked

PR=A+
John Martellaro

INTRODUCTION

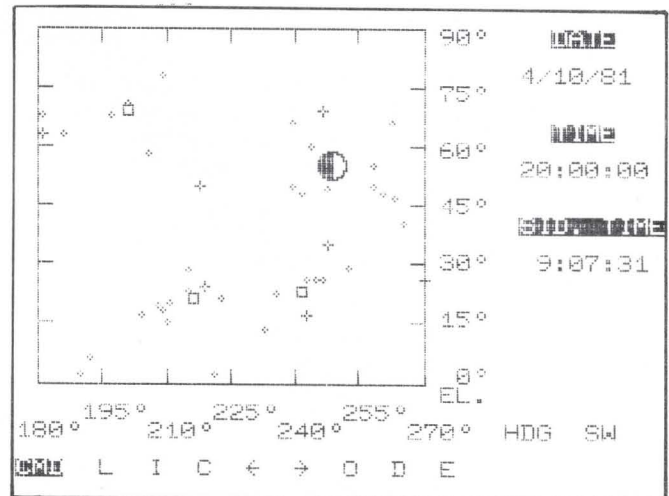
Tellstar is a hybrid educational/utility program. The emphasis is not on tutoring and drill, but rather on being able to display any portion of the sky from any place on Earth at any time (from 1950 to 1999) and get information about what can be seen.

The author has provided a utility that essentially distills the mathematics behind astronomical ephemeris tables and allows the user to query the computer about the whereabouts or nature of astronomical objects. While some learning is possible for the uninitiated, the program is really geared to the amateur astronomer who has some experience in astronomical terminology.

PROGRAM DESCRIPTION

The first thing the user is prompted to do is enter his position on the Earth (longitude and latitude) and the desired viewing date and time. From this, the program is able to evaluate the local Sidereal time and the apparent positions of the major stars (to 5th magnitude) and the planets, moon, and sun. This solves an important problem, since many astronomical charts are geared towards observers in the Northern hemisphere with a latitude of about 40 deg. If you are in the Southern hemisphere or at extreme northern latitudes, you seem to have been discriminated against. Tellstar allows freedom from this kind of economy born of pre-small-computer days.

In order to compensate for the distortion caused by displaying a sphere on a plane, there are two different displays: horizontal and



overhead. Overhead displays from the zenith down to 40 deg elevation, horizontal from the horizon up to 40 deg elevation.

The default view when the display comes up is south and horizontal. Since the program is written in Applesoft, it takes about six minutes of pre-processing to do the calculations. This isn't too bad since the serious user will often be busy doing other things during this time (reading the manual, setting up his telescope etc.).

When the display comes up, the user has the option to do several things:

L)ocate allows you to type in the name of any object in the star tables. There are 250 items including stars, Messier objects, 24 major constellations, the planets, the Moon, and Sun.

This started out to be a full page ad until an insane editor left out a chart that he shouldn't have. Anyway, we want to talk about COMMLOGG. This is the first and only completely smart dialer program for the Hayes Micro-modem II and the Apple II. It will display running time and charges on the screen as you talk. This is of great help when you want to watch your long distance charges closely and know at any moment the charges you have run up. COMMLOGG is smart. It takes care of most of the crazy things about the phone system including the 1+ prefix anomaly in the 213 area.

COMMLOGG logs to disk your calls and gives the total amount spent since you initialized your file. Below is an actual printout of a section from HSSR's billing file:

```
032081 1139 FLAT CONSTRUCTION 915 555 1212 01 $ .50 HSSR
032281 1328 BIPOLAR ICE COMPANY 505 523 5811 05 $ .00 AJM
032581 0958 GREY LENS OPTICAL 213 792 9748 09 $ 1.35 AJM*
032781 1208 KRELL POWER & LIGHT 915 568 2807 06 $ .92 PII
032881 1422 STARSHIP ENTERPRISES 213 954 0140 01 $ .50 HSSR
```

COMMLOGG's charge codes help you attribute calls to various persons or office divisions. The asterisk on a charge code indicated a "post-log" (after the fact). This program is a must for anyone who has trouble sorting out his bill at the end of the month. It's a must for home businesses, and regular businesses that want to know how their phone is being utilized.

COMMLOGG is recommended for use with a text file editor, but it is not absolutely required -- contrary to the ad to the right.

CONTINUED FROM PAGE 42

I AM AN APPLE II

LINE# SOUND PITCH LENGTH VOLUME

1	AH	6	3	7
2	I	7	2	7
3	E	8	3	7
4	E	9	2	6
5	PA1		8	
6	AE	6	3	7
7	M	6	3	7
8	M	7	4	7
9	PA1		8	
10	AE	6	3	7
11	AE	8	3	7
12	AE	10	2	5
13	N	9	2	5
14	PA1		8	
15	AE	6	5	7
16	P			
17	P			
18	P			
19	UH	8	3	5
20	L	9	2	6
21	L	10	1	5
22	PA1		8	
23	T			
24	U1	5	3	7
25	U2	7	2	7
26	U2	8	2	6

NEW SOFTWARE FROM HARVEY'S SPACE SHIP REPAIR

COMMLOGG

Now your Apple II and Hayes Micro-modem can be an intelligent phone system. COMMLOGG will dial your voice calls, display running time and charges, and keep a log of all your calls: who called, date, time, duration, charge, and cumulative charges to date.

COMMLOGG is smart. It has a built in calendar so it knows the day of the week. It needs the date only once a day. It maintains an auto-dial directory for two key dialing of often used numbers. It handles holiday rates. There's more!

COMMLOGG is convenient. Breeze through dialing your long distance calls with just a few keystrokes and have a complete, detailed summary of your calls. Charge codes allow you to attribute calls to different persons or office divisions.

COMMLOGG is a management tool. Seeing right on the screen running time and charges helps keep long distance costs to a minimum. COMMLOGG is great for home businesses and personal use too!

COMMLOGG keeps a sequential text file of your calls. It requires a simple word processor that can read and print sequential text files. If you don't have one, see H-EDIT below.

COMMLOGG is unlocked and requires a simple licensing agreement. Minimum 32K Apple II with Applesoft ROM, a Hayes Micro-modem II, and optional printer.

\$39.95 on diskette only

H-EDIT

H-EDIT, written by Howard De St. Germain, is a simple but powerful line oriented sequential text file editor. It has a fast machine language FIND. You can list your file with or without line numbers to screen or printer. Merge files, Move groups of lines, and easily change or delete lines.

H-EDIT is a fast and easy way to generate, look at, and print EXEC files or sequential text files.

Minimum 32K Apple II, requires Applesoft ROM, optional printer. Unlocked. \$15.95 diskette only

SPACE SHUTTLE LANDING SIMULATOR

Fan clubs have sprung up around it! Experience the thrill of a full color visual HIRES graphics flight simulator.

48K Apple II (Applesoft ROM or language system recommended).

\$29.95 diskette \$25.95 cassette

HARVEY'S SPACE SHIP REPAIR
BOX 3478
Las Cruces NM 88003

505/522 1482

Micro-modem II is a trademark of Hayes Microcomputer Products, Inc.

I)dentify mode allows the user to put a cross-hair on an object in the display with paddles or joystick. Pressing switch 0 then gives a description of that object.

C)onstellation mode connects the stars with lines to create a graphical view of the constellations for identification help.

D)irection allows the selection of eight major compass headings. Within each heading, the <- and -> keys are used to "move" the sky within the viewing area. One can also chose the overhead view.

In addition, there is a calculation mode that allows conversion between various coordinate systems: equatorial, alt-azimuth, and ecliptic. One can also get planetary data in short form without the full display section.

ASSESSMENT

The calculations performed are reasonably complex and seem to have been handled well. This reviewer has written similar, but simpler programs for the Hewlett-Packard 67 which give similar results. A conversation with the author revealed that in some cases, instead of polynomial fit equations, he used direct table look-up for more accuracy over the valid 49 year period. The author mentioned that he spent a lot of time having the calculations checked against tables and claims that all positions are accurate within a few minutes of arc. While not every case can be checked in a review, a few trial examples with my HP-67 program lend confidence.

The display section is particularly attractive and well done. Unlike The Star Gazer's Guide, the author wisely chose to show only small sections of the sky to reduce distortion. To be able to explore the sky at your leisure is not only fun but very instructive.

While more technically minded amateur astronomers may object to some of the simplifications in the (fool-proof) data entry mode and the slowness of the calculations, over-all Tellstar is very well done. It is recommended for guided instruction at any level or personal use for those with some previous exposure to amateur astronomy.

The author has a bachelors degree in Electrical Engineering, has been involved in satellite engineering, and is an amateur astronomer.

PII

CALLLED FROM PAGE 44

Mr de St. Germain,

In your review of "The Wizard and the Princess" you say "I would personally like to hear from anyone who has succeeded on their own to get past the snake." Well, I did. First, I mapped the desert (good adventuring policy). I sort of expected to find something special. When I didn't, I decided that I should look first at the rocks, as they were all I had. The rock without the scorpion was the last one I looked at -- I was

CALLLED FROM PAGE 14

OTHER FEATURES

MP has an "inverse" feature which, when invoked, reverses or complements the colors on the screen. Black becomes white, blue becomes green and orange turns into violet with a single keystroke.

Using CTRL commands one may save or load pictures or execute other DOS commands. There is a feature which prevents the coloring of black areas on the screen and it may be turned on or off with two other commands.

Another command which facilitates the use of MP with line drawings created by other programs is the "fix" command. This command alters the drawing so that the white lines are continuous. This prevents colors from "bleeding through" or escaping the boundaries of each area. This can be used on drawings of your own creation to prepare them for use with MP.

DOCUMENTATION

The documentation is in comic book or coloring book format with large letters and free style illustrations. Its 32 pages contain clear directions for both the novice and the more expert user. The pictures on the disk are also reproduced in the book, I assume, to be colored in your favorite choice of colors.

Included with the documentation is a program Micro-Draw. This must be typed in by the user. The documentation states "one of the more exciting parts of MICRO-PAINTER is called MICRO-DRAW. Through the magic of MICRO-DRAW you can actually draw fresh pictures on the screen of your Apple". If that is truly so, why is not the 30 line program included on the diskette?

Part of the MP package is a magnifying glass and six crayons in the Apple 6 colors. It is suggested that the user color the documentation booklet with the appropriate colors where called for. I'm not sure that it will add that much to the users knowledge, but it might be fun for some.

OVERALL IMPRESSION

MICRO-PAINTER is a very well done package that can provide hours of entertainment for children. The documentation is written with the novice in mind but also contains information about use of the HIRES colors that can be useful to the more experienced as well.

RETURN

pretty despairing by the time I looked at it. Now that I have gotten past the snake, I intend to run for President of the U.S. Contributions to my campaign will be appreciated.

H. Wasserman
Berkeley CA

RETURN

THE TERMINAL

by Michael C. Koss

Michael C. Koss
1502 Westgate
Cambridge, MA 02139
617 494 1097

\$20.00 diskette (\$15 if you furnish disk)
or cassette

Machine Language (approx 5K)
32K, Hayes Micromodem II or Apple Comm Card
DOS 3.2.1
Unlocked

PR=A
John Mitchener

OVERVIEW

Some of you may have found that the terminal program furnished in the PROM on the Hayes Micromodem or some other terminal program that you use is not meeting your needs completely. When this problem is encountered, it may mean that you need a "display" terminal, a terminal which will recognize various escape sequences sent by the host to control cursor position and other screen functions at the terminal site. Various terminal manufacturers often use different escape sequences to perform similar functions. Until recently, if you wanted options like these, you had to write your own terminal program.

Three other problems with using the Apple as a terminal are the 40 column display, the lack of a full keyboard, and the lack of lower case input. Of course these shortcomings can be mostly solved by buying an 80 column video board. If you happen to have other priorities for that money, like buying groceries, The Terminal could provide an answer.

FEATURES

Features of The Terminal include a 70 column by 32 line full ASCII display, menu selected setup, complete "virtual" keyboard capable of producing all of the ASCII characters, and display control sequences. The display control sequences are most similar to the DEC VT52.

EXTENDED DISPLAY

The 70 X 32 display is implemented on the HIRES screen using a 3 X 5 matrix for the characters. With this small character size, a monitor is almost a necessity. The characters are quite readable after a short adjustment period. An additional aspect of the display which I found to be very beneficial was the ability to select either white characters on a black background or more pleasant to use. To reduce the possibility of characters being lost while the program is performing such time consuming tasks as scrolling the HIRES page, both the input and output is buffered. Mr. Koss indicates that it is possible to overflow the buffers during these operations and an appropriate message is displayed. I have not encountered this situation in my use of the program.



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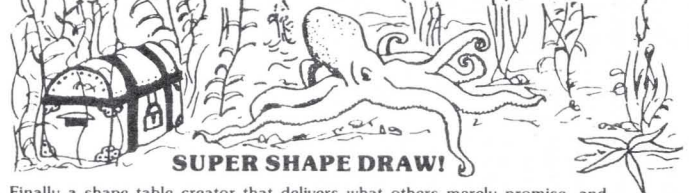
MYSTERY CODE: Move your paddles and listen to sound clues to help you decipher the 5 correct code characters from the dozens on your Hi-res screen game-board...before time runs out! \$9.95 disk

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TURN 'EM LOOSE: You're a naturalist who doesn't believe that animals should be locked up in zoos. You sneak around the zoo and turn the animals loose...but you must avoid the zookeeper and his deadly rifle! Hi-res \$9.95 disk

Any of the above \$9.95, or all 5 for only \$29.95!



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Eugene, OR 97403 Dept. pl
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12-6pm - 7 days a week

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*Apple is a registered trademark of Apple Computer, Inc.

"VIRTUAL" KEYBOARD

To send characters which do not appear on the Apple keyboard, various regular keyboard characters are preceded by an "&". For example, to send a left curly bracket, "<" is typed. The left bracket is "&("". The true ASCII character appears on the display.

Shifting between upper and lower case is also controlled by the "&". "&S" causes all subsequent characters to be interpreted as lower case. Should you wish to shift only one character, the right arrow key shifts the character immediately following. An "&C" effects a shift lock.

The dialing features of the Micromodem II are implemented with the "&". "&D" picks up and solicits for the number to be called. "&P" turns on the carrier in the event that you have dialed the number manually. "&H" hangs up.

MENU

The menu is used to select the initial operating parameters for the terminal to include type of card, baud rate, transmission format, slot, duplex, echo, key click, background, auto line feed, wrap around, and bell. These options are easy to set up and provide a wide range of operating characteristics.

S-C ASSEMBLER II

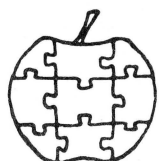
Version 4.0

for the Apple II

and Apple II Plus

Apple II and Apple II Plus are trademarks of Apple Computer, Inc.

"Makes assembly language programming almost as easy as BASIC."



S-C SOFTWARE
P.O. Box 5537
Richardson, TX 75080
(214) 324-2050

S-C ASSEMBLER II is a convenient and powerful tool for software development on the Apple II Computer. It is also surprisingly easy to use, including many useful features for creating, editing, assembling and testing your assembly language programs.

GENERAL FEATURES

- Operates in any Apple II or Apple II Plus with at least 32K RAM and one Disk II. (Tape version also available.)
- Distributed on copyable 13-sector disk with DOS 3.2.1. Fully compatible with 16-sector DOS 3.3 (use MUFFIN to make your copy).
- Quick Reference Card summarizes assembler commands and directives; 6502 and SWEET-16 opcodes; I/O addresses; DOS and monitor commands; ASCII character codes; and a memory map.
- Reference Manual (over 60 pages) with lots of helpful examples. Useful sample source programs included on disk.
- User extensible: two user-programmable commands and one user-programmable directive.
- Continuing development and support by S-C SOFTWARE to provide more useful features and extensions with future releases.

EDITING FEATURES

- BASIC-like text editing (easy to learn, easy to remember): line numbers, LIST, DELETE, cursor-based screen editing, Escape IJKM cursor control with or without Autostart ROM.
- LOAD, SAVE, HIDE, and MERGE commands to maintain source programs on disk or tape.
- Tab stops for opcode, operand and comment fields.
- Fast and general RENUMBER command, with selectable base, increment, and start.
- Automatic line numbering, with selectable increment.

ASSEMBLER FEATURES

- Fast and efficient! Assembles up to 6000 lines per minute.
- Labels up to 32 characters long.
- Local labels for more readable modular programs.
- Alphabetized symbol table at end of listing, also accessible after assembly with VAL command.
- Store object code in memory or on binary file.
- Assemble from source code in memory or on multiple disk files (no limit).
- Meaningful error messages, with automatic display of bad line to simplify correction.
- Assembles both 6502 and SWEET-16 opcodes, using standard syntax.
- Arithmetic expressions in operand field (using decimal and hexadecimal numbers, labels, and ASCII codes).

S-C ASSEMBLER COMMANDS

ASM	Assemble source program.
DELETE	Delete source line or line range.
FAST	Select normal listing speed, and disconnect printer.
FIND	List all lines containing specified string.
HIDE	Use with LOAD and MERGE to join two programs.
INCREMENT	Set auto-line-number increment to specified value.
LIST	List source line, line range, or entire program.
LOAD	Load source program from disk or tape.
MEMORY	Display memory pointers to source program and symbol table.
MERGE	Use with HIDE and LOAD to join two programs.
MGO	Execute object program.
NEW	Delete entire source program.
PRT	Call user printer software. Use PR#slot for turning on standard interface cards.)
RENUMBER	Renumber all or part of source program with specified base, starting line, and increment.
RESTORE	Restore root source program after an aborted assembly.
SAVE	Save source program on disk or tape.
SLOW	Select slow listing speed, and disconnect printer.
USR	User defined command.
VAL	Display value of expression.

S-C ASSEMBLER II DIRECTIVES

.AS dstringd	Ascii String (d is delimiter)
.BS expression	Block Storage
.DA expression	DAta (two bytes reversed)
.DA #expression	DAta (low-order byte)
.DA /expression	DAta (high-order byte)
.EN	END of program or included section
.EQ expression	EQuate expression to label
.HS hexstring	Hex String
.IN filename	INclude a source file
.LIST OFF	LISTing OFF
.LIST ON	LISTing ON
.OR expression	ORigin
.PG	PaGe eject
.TA expression	TArget Address
.TF filename	TArget File
.US	USer defined directive

DOS COMMANDS

All the Apple DOS commands are usable without leaving S-C ASSEMBLER II. Use LOAD and SAVE for your source programs; BLOAD, BSAVE, and BRUN for your object programs. Use PR#slot to select your printer interface. Use IN#slot to select a terminal or modem. Use CATALOG, INIT, RENAME, DELETE, LOCK, UNLOCK, VERIFY, et cetera. All without ever leaving S-C ASSEMBLER II!

MONITOR COMMANDS

All the Apple Monitor commands are usable without leaving S-C ASSEMBLER II. You use them by typing a dollar sign (\$) and the monitor command. With them you may examine, change, move or verify memory; read and write object programs on cassette tape; disassemble machine language programs; perform hexadecimal arithmetic; and more! If you have the old monitor ROM, you can use the single-step and trace commands in debugging your program. If you have Integer BASIC, you can use Apple's mini-assembler for a quick repair of some instructions. All of this without ever leaving S-C ASSEMBLER II!

HISTORY OF S-C ASSEMBLER II

S-C ASSEMBLER II began as a tape-based assembler, in August, 1978. It was the second assembler for the Apple to hit the market. That version used many routines from the Integer BASIC ROMs to save memory. The first disk-based version was published in January, 1979; a DOS 3.2 compatible version was released in July, 1979. The Version 3.2 release included separate versions for the Apple II and the Apple II Plus.

Version 4.0 was released in July, 1980. It is compatible with all types of Apples and both DOS 3.2 and 3.3. It is distributed on a 13-sector DOS 3.2.1 disk, but you can use MUFFIN to move it to a 16-sector DOS 3.3 disk.

S-C SOFTWARE is continuing the development of the S-C ASSEMBLER II, and new versions will be released periodically. Registered owners are notified of new versions, and may purchase upgrade kits.

SPECIAL VERSIONS

Tape Version: Version 4.0 is available on cassette tape if you have no disk drives. The tape version will run in any Apple with at least 16K RAM. It has all of the features of Disk Version 4.0 except those which require a disk. Documentation consists of the Disk Version 4.0 Reference Manual plus a single sheet describing the differences. Tape version owners may upgrade to the disk version for a nominal price.

6800 Version: A cross-assembler for the Motorola 6800/6801/6802 microcomputer. All of Disk Version 4.0 is here, but the source and object code is 680x instead of 6502. The package includes standard Disk Version 4.0 plus the 6800 Version. You get the Version 4.0 Reference Manual plus a chart showing all the 6800/6801/6802 opcodes.

REVIEWS

S-C ASSEMBLER II has been reviewed many times in both national magazines and club newsletters. Here is a list of some recent ones, in case you want to look them up:

Creative Computing	Dec. 1980	pp. 204,206
Creative Computing	Jul. 1980	p. 152
Peelings II	Sep. 1980	p. 12
Peelings II	Jul. 1980	pp. 14, 15
Call A.P.P.L.E.	Jan. 1980	pp. 19, 20
MICRO	May 1979	pp. 12:9-12:11
MICRO	Feb. 1979	pp. 9:19-9:21

COMMENTS BY USERS

Many owners have written their unsolicited comments in praise of S-C ASSEMBLER II.

"I am extremely pleased with the assembler. A great job!"
JM, New Mexico

"This is certainly a quality product. I also appreciate the promptness of your delivery." RC, Ohio

"The complete integration with Apple monitor commands made this assembler very fast to learn. Good documentation." JC, California

"Nice to have documentation that is both thorough and literate." JH, Virginia

"Thank you for sending the assembler so fast. It performs beautifully, and the documentation is excellent. You have packed a gratifying tool in a small package — thanks!"
GH, Maryland

"Thank you for your super-swift service. The assembler is terrific — how did I ever do without it? The .TA directive is a real bonus. All in all, this is the most usable, best documented piece of software that I have ever purchased."
NN, Massachusetts

"Sure am glad I bought your assembler — I would probably never have heard about the 'Apple Assembly Line' until too late. This is exactly what beginners such as this poor fellow needed." HS, Colorado

"E-X-C-E-L-L-E-N-T!!!! I like the auto-line numbering and escape-L features. A very fast assembler." BD, Texas

"I have found version 3.2 to work very well! I appreciate your excellent quality and excellent service." CC, Utah

"I love it!! Flexibility, ease of operation, sophistication...comprehensive. Better than any other I've used." JG, California

"Before I obtained this assembler I could never get very enthusiastic about extensive machine or assembly language programming. Now, with this assembler, this coding is as easy as BASIC. It's easy to learn, use, and remember." Chuck Carpenter, Texas

APPLE ASSEMBLY LINE NEWSLETTER

S-C ASSEMBLER II is the only software system for the Apple computer currently supported by a monthly newsletter. The APPLE ASSEMBLY LINE is dedicated to assembly language programmers. A year's subscription only costs \$12, and you get 16 pages every month crammed full of useful information and programs.

- Tutorial articles for beginners!
- Advanced hints and techniques which save memory and execution time!
- Ways to modify and improve standard products!
- Utility programs, ready to type in and run!
- Super subroutines to use in your own programs!
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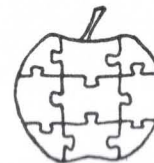
PRICES AND AVAILABILITY

Here are all the prices for the various versions and other items mentioned in this brochure:

S-C ASSEMBLER II Disk Version 4.0	\$55
S-C ASSEMBLER II Tape Version 4.0	\$45
Upgrade Kit (Tape 4.0 to Disk 4.0)	\$12.50
S-C ASSEMBLER II 6800 Version (includes standard 6502 Version 4.0)	\$300
Apple Assembly Line Newsletter	\$12/year
Apple Assembly Line back issues (from October, 1980)	\$1/each
Apple Assembly Line Quarterly Disk (for newsletter subscribers only)	\$15/disk

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CONTROL OF THE DISPLAY

A total of fourteen display control characters are recognized by the program. These include moving the cursor up or down one line (with or without scroll), move cursor left or right one position, home, clear to end of page, clear to end of line, insert and delete line, insert and delete character, plus absolute cursor positioning. These sequences are similar to those of the DEC VT52 terminal.

SUMMARY AND EVALUATION

The operation of The Terminal is very clean and shows a great deal of attention to the details which make for a good user/machine interface. Unfortunately this program does not have the ability to "capture" incoming data like the other programs I am reviewing in this issue, nor does it offer the ability to send files from a buffer or disk. The Terminal is a very good alternative to an 80 column board for terminal operations and is a great enhancement over the firmware on the Hayes card. If the host computer you are using will recognize a VT52, this program can provide benefits at a very reasonable price. When The Terminal is upgraded to include the capture capabilities and other features that are being considered by the author, it will be formidable competition for the other terminal programs reviewed in this issue.

PII

DATA CAPTURE 4.0

by David Hughes and George McClelland
Southeastern Software
6414 Derbyshire Drive
New Orleans, LA 70126
504 246 8438
\$65.00 diskette
Machine Language and Applesoft
48K, Hayes Micromodem or Apple Comm Card,
Disk II, optional printer
DOS 3.2, 3.2.1, may be Muffined to 3.3
Unlocked

PR=A
John Mitchener

OVERVIEW

Data Capture 4.0 (DC) is the new updated and improved version of Data Capture 3.0 which I reviewed in VIN1. Data Capture is a complete intelligent terminal program which includes features such as the capturing of text coming in over the modem and the ability to edit text and transmit files to remote systems. The remote system may be another Apple or it may be virtually any kind of "foreign" system.

SET UP

Instructions are provided for making the backup copies of the diskette using either one or two drives and either DOS.

After making the backups it is necessary to configure the program to your system. The configuration program is very straightforward and requires that you specify the modem type (Hayes or Apple Comm Card), the modem slot #, the printer slot #, one or two drives, initial baud rate, stop list character, and whether a lower case adapter is present in your system.

OPTION STATUS

Once you have the program running the screen shows three lines of status information. This is a feature which makes DC "friendly" for users. You never have to wonder about the status of any of the options. Options shown on the status line are: active drive, capture on/off, transmit on/off, # of lines in buffer, special characters on/off, duplex mode, baud rate, and remote carrier on/off.

MENU OPTIONS

The main menu is accessed by pressing the escape key. Options available are:

A)wait Call	L)ist Text
C)atalog Disk	M)erge From File
D)elete Text	P)rint Text
E)nter Phone Number	Q)uit Program
H)angup Phone	S)end Text
I)nsert Text	W)rite To File
T)oggle	
A)lternate Drive (1/2)	
B)aud Rate (110/300)	
C)apture (ON/OFF)	
D)uplex (FULL/HALF)	
L)ocal Carrier (ON/OFF)	
S)pecial Characters (ON/OFF)	
T)ransmit (ON/OFF)	

This is an impressive array of commands and indeed the commands are sufficient to handle virtually any situation that may be encountered in communicating with a remote system. I will briefly outline the function of each of the commands to give a feel for the operation of the program.

AWAIT CALL

This command sets DC up to receive a phone call from a remote site. Operating mode may be either attended or unattended. A convenient feature for those times when you want to send some data home.

CATALOG DISK

A command to catalog the active disk drive. If you have two drives, either may be cataloged by first toggling to the other drive. See Toggle.

ENTER PHONE NUMBER & HANGUP PHONE

These two commands are related to the operation of the Hayes Micromodem II.

EDITING COMMANDS

Text may be entered into the buffer either from the keyboard or by capturing incoming text in the enter/receive mode. The editing in Data

Capture is line, rather than character oriented. If you find that you need to edit significant amounts of text for transmission, a word processor which produces standard DOS sequential text files is an advantage. For short messages and EXEC files the editor furnished with DC is very adequate. A line or multiple lines may be inserted or deleted from the buffer. The insert command is a new feature of Version 4.0 and was not found in version 3.0. The entire buffer may be listed with the list command or just a range of lines. There is a capability to stop the listing and resume or terminate the listing entirely. The Merge command allows text to be appended to the buffer from disk.

PRINT TEXT

DC is designed to handle most any type of printer. There is room for a printer driver and the documentation explains which lines of the program must be modified for various types of printers.

WRITE TO FILE

The write command is used to save the contents of the buffer to a disk file. You will be prompted for a file name and the contents of the buffer will be saved.

TOGGLE

Toggle is used to switch on or off various options within the program. After selecting the "T" from the main menu, a secondary menu is displayed which shows the options which may be changed by pressing the first letter of the name.

Alternate Drive selects which drive is active. This command only works if you have two drives.

Capture turns on or off the capture mode. Capture can be turned off during logon procedures and then turned on when you are ready to retrieve data. The capture buffer is approximately 21K. The program is designed to capture 500 lines and then send a stop character to the remote system. This works only if the remote system recognizes a stop character. The buffer is then stored to disk. You may then restart the capture procedure. Another possibility is encountered when a large number of long lines. A memory overflow usually results in a loss of some data; however, the file is still saved.

Local carrier controls the modem carrier and lets you turn off the carrier to allow voice conversation on the same line. This applies to the Hayes Micromodem II only.

Transmit is the equivalent of terminal mode. When transmit is on, anything that is typed is sent to the remote system. Should you wish to only put text into the buffer, transmit must be toggled off.

Duplex is one of the protocol characteristics. Full duplex communications result in the transmitted character being echoed back to the screen. In half duplex operation the transmitted character is printed on the screen locally prior

to being sent to the remote. Duplex will be revisited in the send text command.

Special characters is a method of adding characters to the Apple keyboard which normally aren't there. The underline, backslash, left square bracket, vertical bar, and left and right curly brackets (braces) may be produced for transmission only using control characters. The characters may be displayed if you have the Lower Case Adapter. With special characters off the normal control characters are sent. The documentation includes instructions for modifying memory locations to map in the characters that you need.

SEND TEXT

The send command is used to transmit the buffer or part of the buffer to the remote system. Two modes of operation are available. In the first, full duplex, each character that is transmitted must be echoed by the remote before the next character is sent. This mode is dependent on the speed of the other system and is inherently slower than just sending text out at 300 baud. Speed is therefore sacrificed for accuracy in transmission.

The half duplex mode is basically an uncontrolled mode with text being transmitted at a continuous rate. It is possible to slow this down if necessary; however, on one system that I use which is half duplex only and quite slow, I still suffered from dropped characters.

It should be noted that the half duplex mode of transmission can be used on either a full

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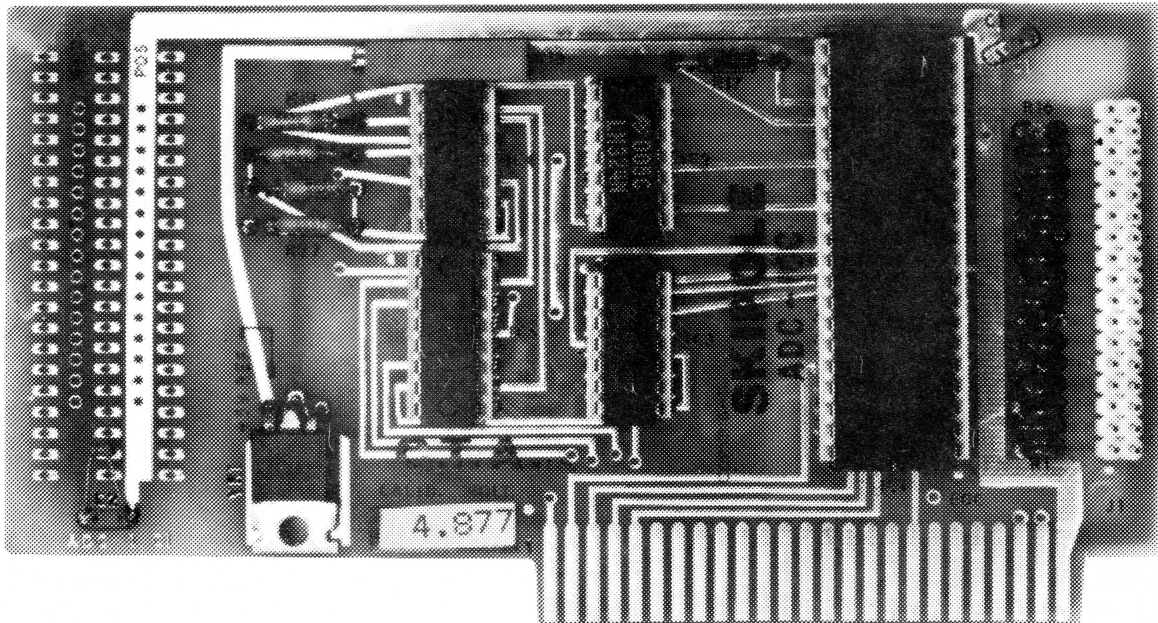
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duplex or a half duplex system. The full duplex mode can only be used where the remote will echo the characters back.

UTILITY PROGRAM

A utility program to convert Applesoft and Integer BASIC programs to text files suitable for transmission is furnished on the DC disk. There is no facility for transferring binary files.

DOCUMENTATION

The documentation for DC is 24 pages. It gives all of the information necessary unless you run into a speed problem while sending to a half duplex system. The new documentation will cover this problem.

UPDATE FROM DATA CAPTURE 3.0

For those of you who have Data Capture 3.0, you may get the update for \$35.00 plus \$2.50 handling. Send your DC 3.0 diskette and the original documentation.

SUMMARY AND EVALUATION

Data Capture 4.0 is a significant improvement over version 3.0. Gone are the control-A, control-X sequences to exit terminal mode. The addition of the status lines at the top of the screen make this the friendliest terminal program for the novice user. There are some negative aspects to this program. The problem with my slow half duplex system which would not accept a transmission without dropping some characters is a bit disconcerting. If your primary remote system is a half duplex only, you might want to try Data Capture out at your dealer before parting with the cash. If you work with a full duplex system primarily and the accuracy of transmitted data is of prime importance, then Data Capture is a good solution to the problem. Data Capture has been tested with many different configurations and, in most instances, is quite adequate.

Another inconvenience is the lack of an autodial directory that may be accessed by the program. I have a very difficult time keeping up with phone numbers of various bulletin board systems that I like to check into now and again. This is certainly not a feature which would disqualify a program from consideration, but I personally think it would be a nice feature. After all, keeping track of lists is supposed to be one of the strong points of a computer.

At first glance the program seems fairly complicated with the number of commands and the status lines, but with only a minimum of practice the status lines become a big help and you can run through the necessary commands without giving it any thought.

PII

LET YOUR PEELINGS SHOW

ASCII EXPRESS

by Bill Blue
Southwestern Data Systems
10159-G Mission Gorge Rd.
Santee, CA 92071
714 562 3670
\$64.95 diskette
Machine Language and Applesoft
48K, Hayes Micromodem II or Apple Comm Card,
Disk II, optional printer
DOS 3.3, 3.2 (Specify)
Locked

PR=A
John Mitchener

OVERVIEW

ASCII Express II (AE) is a full featured intelligent terminal program. Its features include the capability to store characters coming from the modem into memory and saving to disk or routing to the printer, the ability to edit text and transmit to a remote system, and a nice macro command system which simplifies dialing and logon procedures to timesharing systems.

SYSTEM INITIALIZATION

The first thing that you should be aware of is that if you have one of the old integer Apples (you remember them don't you?) and have AE on DOS 3.3, you will have to use the system master to modify AE to load Applesoft on boot. Instructions are provided. The system configuration involves running a program to establish the slot number of the modem. Default is 2. The actual terminal program is then loaded and all necessary changes are made in one line of code. It would be pleasant if a configuration program were provided to make all the necessary changes. These options become the default when the program is run. The items to be initialized include the printer slot, Micromodem or Comm Card, scroll speed, duplex mode, carrier detect status, baud rate, case select, special printer commands, and word length and parity options.

A word here about the case select option. AE is designed to be used with a lower case adaptor such as the Paymar or Lazer Systems. You may still configure the system to transmit lower case and display only upper case or display lower case in inverse video but some of the benefits are lost. For example, if you have the LCA and a printer which will sustain 30 cps, you may have data going to the screen, the buffer, and the printer at the same time. Without the lower case adaptor you must store the data in the buffer and print it out at a later time.

MENU OPTIONS

There are five different menus in AE. The main menu includes the following options:

A-Answer Phone	O-Send Buffer to Printer
B-Begin Sub Command Menu	P-Put File to Disk
D-Dial a System	R-Receive a File
E-End Program	S-Send a File
G-Get File from Disk	V-View Current Buffer
M-Macro Files	X-Exit to Line Editor
N-Number Files	

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The Answer Phone option is only available to Micromodem II users. It answers the phone and switches to half duplex.

The Dial a System command is again for Micromodem II users. It allows for the automatic dialing of the number of any system that you have previously entered into the number file. From this command you can make a call with just three keystrokes. Another option is an n-times automatic redial if no carrier is detected with or without an audible alarm when a connection is established. This is particularly useful when dialing ABBs which are often busy. There is no need to sit at the computer and keep redialing.

End the program command is the only graceful way to exit if you are using the autostart ROM. Reset errors are trapped and the worst that will happen is that you will be disconnected from the remote system if you are using the Micromodem II.

To load a file from disk, the Get File command is used. You may reference either drive on one controller or you may reference a different controller in another slot. The selected file can then be appended to the data in the current buffer or the buffer can be cleared before the file is put into memory.

Output Buffer to Printer causes the contents of the buffer to be sent to the printer.

Saving the buffer to disk is accomplished with the Put File to Disk command. The options of selecting slots, volumes, and drives are the same as the Get command. Additionally, a "/" saves the buffer under the same name as the last loaded file.

Receive a File is one method of moving information from a remote system to your Apple and subsequently to disk. You may select master or slave mode. In slave mode the remote system takes control of your Apple until a .EOF is received. In master mode you are in control and text coming in is placed in the buffer. None of the commands that you send are in the buffer which makes it simple to get a clean copy of a file. The option is available to either append the incoming file or clear the buffer before you start receiving.

Send a File transmits the contents of the buffer to a remote system. Depending on the nature of the system to which you are connected, a line at a time or a character at a time may be transmitted. The remote system must echo a character to use the character mode. Unlike Data Capture 4.0, AE doesn't check the echoed character for accuracy. The line mode offers a relatively faster transfer in that it transfers at 300 baud until it reaches the end of the line. You may then specify a prompt that AE will look for before the next line is sent. If you specify none, the buffer is transmitted without interruption.

The View Current Buffer command is used to examine the present contents of the buffer. The speed at which the text scrolls is initialized during the set up procedure. If you find that it is too fast, you can slow down the speed by hitting the left arrow key, or speed it up by using the right arrow key. The listing may be stopped with the space bar.

Another command available at this level is the free disk space command, "F". It is not displayed on the menu but is explained in the documentation. It gives the current free space left on the disk in both sectors and bytes.

SUB COMMAND MENU

This second menu seems to contain many of the functions that would be used in the normal operation of the program. There are some redundancies with the main menu, primarily for the sake of convenience. This menu is accessed either by a "B" from the main menu or by hitting three or four "esc" from terminal mode.

Commands on this menu include:

B-Begin Terminal Mode	M-Main Menu
C-Copy Buffer On/Off	O-Printer On, Resume
E-End Program	P-Put File to Disk
H-Hang up the Phone	

Begin Terminal Mode starts the routine which allows direct communication with a remote system. All characters that are typed on the keyboard are transmitted to the remote system. Characters received are displayed on the screen. Terminal mode allows the characters which are not supported on the Apple keyboard to be transmitted using a two character sequence such as, "ctrl-A /" will generate either vertical bar or a backslash depending on whether the Apple is in upper or lower case.

Copy Buffer On/Off is a software switch which turns on or off the capability to store the incoming data into the Apple's memory. This is the second method of receiving a file from a remote system. In this mode all characters, both incoming and outgoing are stored to the buffer and may be saved to disk or dumped to the printer.

End Program and Put File to Disk are redundant from the main menu.

Hang up the Phone terminates the connection when the Hayes Micromodem is used.

Main Menu returns control to the main menu.

Printer On, Resume is a convenient feature that allows the printer to be on at the same time as terminal mode. The result is that all of the commands and data displayed on the screen will also be in hardcopy. The printer must be capable of sustaining a data rate of 300 baud.

Two additional commands are available at this level even though they are not shown on the menu. The first of these is the alter baud rate command, "A". It merely toggles between 300 and 110 baud. The second command is the Special Control Character Display Mode, "Z". This command causes all control characters to be displayed in inverse video. The usefulness of the mode is mostly for determining what a remote system is sending.

MACROS

The macro subsystem of AE provides an increased capability that I find to be the sort of thing that computers do best. It is a pleasure to

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be able to avoid keying in all of the logon procedures each time that you call a particular system. The macro subsystem allows the saving of various strings necessary to logon to a remote system. Each macro may then be transmitted by a two keystroke sequence, Cntl-A, plus a number 0-; . These numbers were chosen to be logically placed on the keyboard so that you could work your way across the keyboard during a signon procedure. Each macro file may contain up to 12 strings, 0 through ;, where :=10 and ;=11. You can have as many macro files as you need, but only 12 strings per file.

The macro subsystem has a complete menu for setting up the macros and is straightforward and easy to use. The one problem in using the macros once you have the file loaded is remembering what string is associated with each number.

NUMBERS FILE

Another feature of AE that I personally find attractive is the numbers file. This file keeps the name, number, and the name of the associated macro file. When a number is selected, the macro file that goes with that number is loaded. After the connection is made, all of the macros that you need for that system are available.

LINE EDITOR

A line editor is included in the AE package. It is a separate program that is chained in when needed. It includes all of the features of line oriented editor such as insert, delete, list, save, retrieve, print, and modify. The modify uses a string substitution technique. The string to be changed is typed, followed by a "/", then the replacement string. This is not global, but only for the current line. Additional commands that are unique to an auxiliary editor are the center command and the set margin command. These are both very useful for formatting text to be sent to a bulletin board or to another system where line length is of concern and where you want to make the text look a bit nicer.

SUPPORT PROGRAMS

A set of utility programs are included on the disk to make the transfer of text easier and more efficient. There are programs to create text files from Integer and Applesoft programs, as well as binary data. A program called Spacecrunch is available to reduce, to a minimum, the size of a text file created from a program by eliminating unnecessary spaces and punctuation.

DOCUMENTATION

The documentation with AE is a beautifully done 36 page manual. The instructions are clear, although I recommend reading the documentation all the way through before booting the disk.

COPY PROTECTION

The protection scheme used by Southwestern Data Systems appears to be one that is fair, not only to them, but also to the legitimate user. A copy program is provided on the AE disk which will make four backup copies of AE. The copy program can be used to make copies of other unlocked software and as such is a general utility. When

AE is copied, the copy program itself is not transferred to the new disk.

EVALUATION

AE is a full featured communications package. It is not as friendly to the user as Data Capture 4.0; however, it does offer features that were omitted from Data Capture such as the macro capability and the phone number file.

I find that the failure to display all of the possible commands on the menu is a problem when first learning to use the program. After one becomes accustomed to using it, the program flows very well.

If you are planning to use this program a lot, the purchase of a lower case adapter board is very advisable. Much of the software being developed now supports the lower case adapter and therefore the LCA is a valuable hardware addition to the ease of using your Apple not only for this program but for many others as well.

Even with the above shortcomings of AE, I still find that it offers a great deal of power and it does keep track of phone numbers for me as well as the logon procedures. It is recommended as an excellent all-around communications package.

PII

Z-TERM

by Bill Blue
Southwestern Data Systems
10159-G Mission Gorge Rd.
Santee, CA 92071
714 562 3670
\$74.95 diskette
8080 Assembly Language
48K, Z-80 Softcard, Hayes Micromodem II or other
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terminal
CP/M 16 sector
Unlocked

PR=A
John Mitchener

OVERVIEW

Z-TERM is the first "written for the Apple" Z-80 communications software. The Micromodem cannot be used with the Z-80 card without some Z-80 or 8080 programming to do the interface to CP/M. Z-TERM provides the programming to do this and much more, including supporting any 80 column display boards or external terminals that is compatible with the Z-80 Softcard. Since Z-TERM was written by Bill Blue, the author of ASCII Express II, the command structure and the features are much the same. Some of the same liabilities are also present, such as not all of the available commands being shown on the menu.

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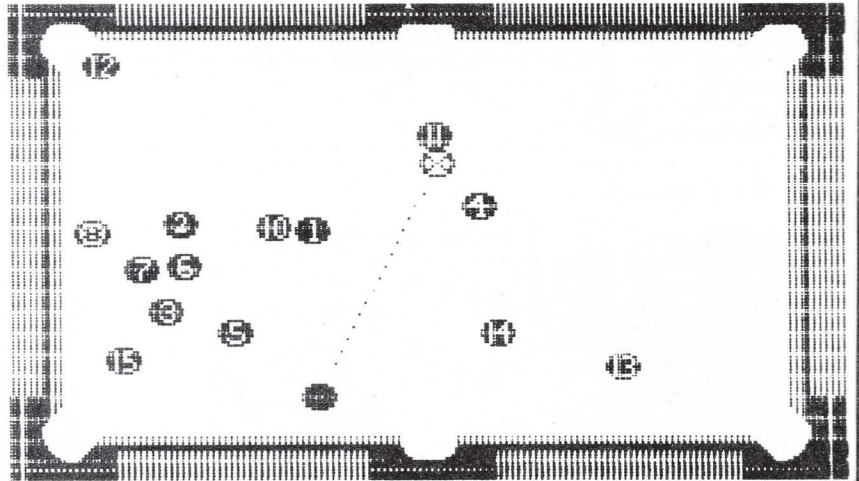
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MENU OPTIONS

Unlike ASCII Express, all of the displayed menu options in Z-TERM are available on one menu. The options are:

!-Display Current Status	L-Change Logged Disk
A-Show Control Characters	M-Macro Select(0-9)
C-Clear Buffer	P-Printer (on/off)
D-Dial or Connect	R-Copy Buffer(on/off)
E-Echo(Full/Half Duplex)	S-Send File
F-Free Buffer Space	V-View Buffer
H-Hang-up (Micromodem)	W-Write file to disk
I-Directory of Disk	X-Exit to CP/M
J-Print Disk File to Screen or Printer	

Other commands not displayed are:

B-Baud Rate Change	U-View Macro File
N-Set delay after C/R	T-Transpose
O-Auto-save (on/off)	Z-Screen Wrap

Many of the commands are self-explanatory and require no additional discussion. Some need a little explanation.

The ! command shows the current status of all of the on/off flags in the system.

The Dial command allows either the entry of a number or an "M" command which dials the number associated with the macro that was selected previously with the Macro Select command. The phone number for the system is contained in the macro file on Z-TERM rather than in a separate numbers file as in ASCII Express.

If you are concerned about how much of the buffer has been filled, the Free Buffer Space command is available. It is not too likely that the buffer will become full on a 56K system since the buffer is about 37K. Approximately 24K is available on a 44K system.

To change the currently logged disk the L command is used. Any valid disk may be logged from A: to F: and a CP/M write is acceptable only to the currently logged disk. Reading from a disk file may be accomplished by changing the currently logged disk or by including the drive specification before the filename.

The printer may be turned on in conjunction with normal operation of Z-TERM with the "p" toggle command. All I/O will then go to the printer as well as to the screen and modem.

The copy buffer is enabled by the R command, (evidently for Receive?) and will save into memory any text coming in over the modem.

The send command is similar to ASCII Express in that you can use the handshaking mode with either a line or character at a time or transmit without a handshake. In the line at a time mode, the speed may be lowered or raised with the < or > keys. Also a number of nulls may be added after each carriage return with the N command.

To protect yourself when downloading very large files, the auto-save feature should be

turned on. With this option in effect, an XOFF character is sent when the buffer is full. After writing the buffer to disk, you may send the XON character to continue.

MACRO USE

The MACRO.LIB file on the Z-TERM disk is an example of how to set up your own file. The file for the macros is limited to 2048 bytes because the whole file is read into a buffer at the start of the program. Each macro group may have up to 12 macro instructions similar to the operation of the macros in ASCII Express. The prefix character for Z-TERM is a Cntl-W instead of Cntl-A as in ASCII Express. To set up the MACRO.LIB file use the CP/M Editor.

SPECIAL CHARACTERS

Some of the characters not available on the Apple keyboard are preprogrammed into a character substitution table. The table is completely programmable so the characters that you particularly need may be generated.

EDITING

No editor is furnished with Z-TERM because an editor is furnished with the CP/M operating system and that is used for both editing text to be sent and received and for creating the MACRO.LIB.

CUSTOMIZING

Because of the way in which the operating system handles I/O, Z-TERM can be modified to emulate various types of terminals. This is available only to those who have 80 column boards or external terminals. Full details are provided in the documentation.

Another feature is the character substitution table. By modifying this table, the layout of the keys on the keyboard can be changed. As mentioned in the documentation, this is where you can set up a Dvorak Simplified Keyboard layout.

DOCUMENTATION

The documentation for Z-TERM is 30 pages which provides most of the information necessary to use the program. There are several references to the CP/M manuals which are furnished with the Softcard. If you are not very familiar with CP/M, you will spend some time studying the systems manuals to get oriented to the environment. The overall quality of the documentation is above average with good quality printing on attractive paper.

It should also be noted that the CP/M Operating System is not provided on the Z-TERM disk. You may move CP/M to the disk after you receive it.

EVALUATION

This is an excellent communications program for those who have a need to use the Z-80 card and the Micromodem II. Although other modem interfaces are supported, the strong support is to the Micromodem II.

A major complaint is the failure to show all of the options on the menu. The lack of meaningful mnemonics for some of the commands makes using the system initially more confusing. If you use the program often and become familiar with it, that will not be a major concern.

Z-TERM is an extremely powerful communications program and is quite well implemented. Even with the complaints, I recommend this program very highly.

PII

VISILIST

by George Baltzell
Computer Station
12 Crossroads Plaza
Granite City IL 62040
618 452 1860
\$24.95 diskette
Applesoft
16K, Disk II, Optional printer
DOS 3.2.1
Locked

PR=C
John Mitchener

VISICALC UTILITY

VisiList is a utility to list the contents of the text files that are built by the VisiCalc program from Personal Software, Inc. This capability is necessary as VisiCalc does not provide a capability for examining in hard copy the formulae that are used in the various fields of the electronic sheet.

FILE READER

The VisiList program is apparently a program to simply print out a standard sequential text file. If you have a word processor that will read standard text files such as Programma's PIE, the Correspondent, or Magic Window, this program is unnecessary. No formatting is done by the program and the logical sequence of the original sheet is not preserved.

EVALUATION

The usefulness of this program cannot be denied as VisiCalc does not allow the printing of the formulae used for the various fields; however, a program to merely print the contents of a text file for \$24.95 seems a bit high.

PII

When you buy from ads in Peelings II, mention where you saw the ad. This helps our advertisers realize how effective advertising is in PII. That's good for us and our readers for obvious reasons.

Computer Station 12 Crossroads Plaza Granite City, IL. 62040 (618) 452-1860

COMPUTER STATION proudly offers a high-speed binary video digitizer for the Apple II called the **DITHERTIZER II**. The peripheral board uses a video camera with external sync to load the hi-res page of the Apple with any image the camera can capture. The **DITHERTIZER II** is a frame grabber, DMA type digitizer requiring only $\frac{1}{100}$ th of a second to capture a binary image. Software supplied with the board enables building dithered images and capturing image intensity contours. Intensity and contrast are user controllable via the game paddles. Matrix size for dithering changable with one keystroke. Requires video camera, with external sync; recommended model, Sanyo VC1610X.

DITHERTIZER II, \$300; B/W SANYO VIDEO CAMERA, \$410; PACKAGE OF DITHERTIZER II AND CAMERA, \$650.



GRAPHICS DUMPS: COMPUTER STATION offers the highest degree of human engineering on the market for hard copy graphics from the hi-res pages of the Apple. The following machine language dump routines are available for BASIC:

IDS440G/445G*	\$44.95
IDS460G*	44.95
ANADEx 9501	44.95
NEC SPINWRITER 5510	44.95
NEC SPINWRITER 5520	44.95

* Also available for use with Pascal, \$44.95.

APPLEWRITER GRAPHICS: Hard copy of character sets found in DOS Tool Kit for use with Applewriter or print statements in your own programs. Requires DOS 3.3, DOS Tool Kit, one of graphic printers below:

Silentype	\$34.95
IDS440G/445G	34.95

VISILIST: Get hard copy of the FORMULAS used in VISICALC models. Prints grid location, contents (formulas or labels), and global parameters. Handy utility for all VISICALC users. **\$24.95**

PROGRAMMER'S GUIDE TO THE APPLE II: Thick reference card (40 page booklet). **\$4.95**

Send or call for free catalog.



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M-CAT2

Author unknown
 Highlands Computer Services
 14422 S.E. 132 ND.
 Renton WA 98055
 (206) 228-6691
 \$19.95 diskette
 Machine Language
 32K or 48K Disk II
 Unlocked

PR=A
 Howard J. de St. Germain

PROGRAM

M-CAT2 is a menu-driven machine language utility that creates a master catalog of multiple diskettes which can be listed on your screen or printer and saved to disk for later use. This list is composed of two parts: 1.) A sorted list by file name in the same format as 'DOS' with the addition of the volume number and a one character user specified volume ID. 2.) The second list is by volume number sorted by file name with a sector used value given. Figure 1 is an example of the type listing produced when three diskettes were used. Two of these had the same volume number 254. Figure 1 used the narrow format provided by M-CAT2.

```
110- *A 003 A-NEW-ONE
254B *A 005 ANOTHER FP PROG
254B *I 002 BASIC-PROG
254A *B 012 BIG APPEND
254B B 050 BIG-BINARY
110- T 017 BIGGER-TEXT-FILE
110- *A 003 FP-PROGRAM1
110- *I 002 HELLO
254A *A 002 HELLO
254B *A 003 HELLO
254A *B 024 M-CAT2
254B T 002 TEXT-FILE HERE
```

VOLUME 110- SECTORS USED 025

```
110- *A 003 A-NEW-ONE
110- T 017 BIGGER-TEXT-FILE
110- *A 003 FP-PROGRAM1
110- *I 002 HELLO
```

VOLUME 254A SECTORS USED 038

```
254A *B 012 BIG APPEND
254A *A 002 HELLO
254A *B 024 M-CAT2
```

VOLUME 254B SECTORS USED 062

```
254B *A 005 ANOTHER FP PROG
254B *I 002 BASIC-PROG
254B B 050 BIG-BINARY
254B *A 003 HELLO
254B T 002 TEXT-FILE HERE
```

FIGURE 1

INSTRUCTIONS

M-CAT2 supports DOS 3.2/3.3 and comes with a 10 page instruction booklet which was printed using a dot matrix printer. The documentation is generally well written and straight forward. The commands are as follows:

```
A ... Add catalog
D ... Delete catalog
R ... Replace catalog
S ... Save master catalog
G ... Get master catalog
L ... List
P ... Print (same as list but to printer)
E ... Exit
O ... Options (Slots columns etc.)
```

When you select 'O' from the list you can then direct M-CAT2 as to what slot your printer and disk are in and what one character ID you wish to use (the '-' is the default).

The 'A' command adds a new catalog to the master catalog by reading the diskette in the currently selected drive. This process takes about 15 seconds (or less) and includes an insertion sort so that the file names are in alphabetical order.

The 'D' and 'R' commands allow you to delete and replace selected catalogs. 'S' permits you to save the master catalog to disk under any name you desire. 'G' allows you to retrieve this master catalog. 'L'(LIST) allows you to do selective types of listings, for example, 'LI' will list all integer file names.

LISTINGS AND CAPACITY

The listing you can generate can be in a narrow or wide format. In order to use the wide form, your printer must be able to print 104 columns across. Control characters are stripped from the catalog so that your printer does not shoot paper all over the room.

According to an ad for M-CAT2, a 48K system can contain up to 1200 file names. Though this ad says you can use a 32K system, the documentation advises against using a 32K system.

SUMMARY

M-CAT2 replaces an earlier version called MCAT. This newer version is far superior and worth every penny of the \$19.95 price tag. If you have need for a tool to help you organize your diskettes, M-CAT2 is it.

PII

DISK U

by Horace Schmedlap
Rheam Associates
1 April Street, Suite 16
Wink TX 79000
915 555 1212
\$299.00 diskette
48K, 3 disks, DOS 3.3 PROMS,
Z-80 Softcard
Read-protected

PR=N
John Martellaro

INTRODUCTION

This is a unique software package that fills a need heretofore unexplored. It is a collection of highly useful disk utilities (for some people). These will be briefly described.

DISK LOCKER

For those who are thinking about marketing their own software, this very nice utility allows you to lock a diskette so that it cannot be read.

SUPER ASSEMBLER

This is a new kind of assembler for the Apple II. The assembler is written in Z-80 machine language. It accepts the usual 6502 assembly language input format similar to other assemblers in a free form format. However, instead of producing 6502 machine language, the output is p-code. The advantage of this is that the p-code can be interpreted by the Pascal p-code interpreter. A truly remarkable product.

DISKETTE COPY

Unlike most copy programs that use one (or possibly two) drives, this copy program uses three. The vendor claims that this revolutionary technique allows the initializing and copying of a diskette in just 4 seconds! One need only put the master in drive 1, the copy in drive 2 and a special "placebo" diskette (supplied) in the third drive. This reviewer has not yet been able to figure out what this third diskette does, but the copy process certainly will not work without it.

COMPRESS

For those who need to save space on their diskettes, this utility compresses a HIRES image down to a LORES image. Since there are more colors available in LORES, this will enhance your HIRES graphics considerably.

CRUSHER

There are several different utilities designed to eliminate wasted space in programs by removing REMarks. However, the documentation for this program states that this is a bad practice since BASIC programs are often poorly documented

anyway. The author instead saves space by moving all GOSUB calls to the end of the program and eliminating the "memory wasteful" GOTO statement in order to achieve a more "structured" program. Programs operated on with this utility terminate much, much faster than usual (just as claimed).

TRANSLATOR

This is the long awaited utility pushed so hard in Rheam's advertising. Essentially, it takes machine language programs and translates them into Applesoft for easier editing. This is a godsend for those who have difficulty understanding other people's machine code. This utility alone is worth the price of the package.

MINI-DOS

"For those who still have 4K systems." The big problem for all those thousands of Apple II owners still running 4K is adding a disk system. This ultra compacted MINI-DOS runs in just 941 bytes leaving the user over 1K for his programs. A truly remarkable achievement.

MEMORY SAVER

As everyone knows, the Apple II uses a 7 bit ASCII code. This is very wasteful of the eight bit architecture of the Apple II. The author has written ingenious software that makes the memory boundaries at 7 bit intervals. The maximum effective memory of the Apple II RAM is thus $8/7 \times 48K = 54.8K$. This can also be used in conjunction with MINI-DOS above.

STOCK MARKET UTILITIES

4 STOCK MARKET PROGRAMS ON DISK

Four programs provide a complete programming system for entry and storage of stock data, data correction, autoscaling Hi-Res graphical display of performance, and building historical data files electronically (program to download data not included).

STK.1 (39 Sectors) provides complete utilities for manual entry of stock data. **Features:** names stored alphabetically by exchange, easy addition and deletion of names, automatic prompting and extensive error trapping for data entry (date, volume, price), numerous entry points for data correction, all data displayed prior to updating stock files with further option for data correction, input historical data to a single data file, display contents of individual stock files from disk, option to reduce files to last 260 entries for high-res graphics. All data files are fully accessible.

DATA CORRECTOR (31 Sectors) used to correct and rewrite stock data files. **Features:** option for general data correction - correct any entry, option for stock splits - all prices and volumes prior to split scaled by split ratio (transaction dollars constant) to provide continuous momentum and price curves, also correct for incomplete updating due, for example, to a power outage.

EVAL (22 Sectors) provides comparative evaluation of stock performance. **Features:** synchronizes NYSE index ave with first stock entry, option to evaluate all stocks automatically or just one, simultaneous high-res display of momentum, price, and price relative to NYSE index, auto scaling graphics, numerical figure of merit for performance relative to NYSE index ave.

MICROQ (12 Sectors) is used to build historical data files electronically by converting downloaded stock price data obtained from Compuserve's Micro-Quote financial data base to data files compatible with these programs.

Programs written by H. S. PILLOFF.

Requires Apple II,* ROM Applesoft,* 48K and Disk

Price \$59.95
MD residents add 5%

H&H SCIENTIFIC

13507 Pendleton Street
Oxon Hill, MD 20022
Tel (301) 292-3100



FOUR BIT EMULATOR

As everyone knows, the SWEET-16 emulator in the Apple II is extremely space efficient, but slow. It was written in the days when memory was expensive. The author has extended this concept and written a four bit emulator. While programs are typically three times larger than their 8 bit equivalent, they can run almost three times faster. This is a must if you need speed in your graphics animations.

DOS SWITCHER

This clever utility allows one to read DOS 3.3 diskettes under DOS 3.2. A most remarkable breakthrough considering the potential problems. (See, however, the hardware requirements at the top of the review.)

CONCLUSION

Rheam Associates are to be congratulated for putting together a most useful and ingenious software package. These utilities should prove useful to most Apple II users. The only objection this reviewer has is the Rheam associates policy: you are leasing their software, not buying it. The diskette is highly locked (with their own DISK LOCKER) and self destructs after 100 boots. Then you must lease another copy. However, it must be said that it would take an ordinary user many years to accululate 100 boots. (I only have two myself.)

PII

MCAP

by Karl Savon
Hayden Book Co.
50 Essex Street
Rochelle Park, NJ 07662
201 843 0550
\$24.95 cassette
Applesoft
16K RAM with ROM AS, 24K without
DOS 3.2 or 3.3(BOOT 13)
Unlocked

PR=C
Edward Burlhaw

INTRODUCTION

MCAP, A Microcomputer Circuit Analysis Program, performs linear electronic circuit analysis to predict and/or verify the performance of a circuit. There are three modes or formats of analysis: voltage, impedance, and transfer impedance.

THE PROGRAM

MCAP performs linear circuit analysis on circuits containing any combination of the following elements: resistors, capacitors, inductors, transistors, FETs, and Op Amps. The circuit is described by its nodes or junctions and the program then calculates, lists, and plots (in text) the response of the circuit. The program assumes small signal levels so the elements are responding linearly about their operating points. Up to 15 nodes may be programmed in to be analyzed.

Each junction is numbered and the circuit elements are entered into the program by DATA statements following the specific format for each type of element. For example, the resistor format is quite simple while the transistor is necessarily more complex:

Resistor: 11000 DATA R, (node 1), (node 2), (value)

Transistor: 12000 DATA T, (emitter node), (base node), (collector node), (beta), (equiv. emitter resistance)

After typing in the necessary DATA statements the program is RUN and the amplitude, dB, and phase versus frequency is printed. Further, a "plot" on the TEXT screen is then available. The plot is automatically scaled to include the minimum and maximum values of the phase and amplitude (dB). Each of the axes may be rescaled independently to produce a better looking plot. The accompanying figure is a sample output for a very simple circuit.

ERRORS

Most of the errors encountered in this program were created by the DATA statements entered. For example, if too wide a frequency range were requested, a BAD SUBSCRIPT ERROR would result. This was because the arrays were only dimensioned a certain size and too many values were being produced. This error was discovered as

COMPONENT LIST

TYPE	NODES	VALUE	IMPEDANCE
RES	1 2	1000	
CAP	2 3	1E-07	

VOLTAGE ANALYSIS 3 NODES
INPUT NODE: 1 OUTPUT NODE: 2

FREQ	AMPLITUDE	DB	PHASE
500	0.954	-4.1	-17.43
1000	0.847	-1.45	-32.14
1500	0.728	-2.76	-43.29
2000	0.623	-4.10	-51.48
2500	0.537	-5.4	-57.51
3000	0.469	-6.58	-62.04
3500	0.414	-7.66	-65.55
4000	0.37	-8.64	-68.30
4500	0.333	-9.53	-70.52
5000	0.303	-10.35	-72.34
5500	0.278	-11.12	-73.86
6000	0.256	-11.82	-75.14
6500	0.238	-12.46	-76.24
7000	0.222	-13.08	-77.18
7500	0.208	-13.66	-78.02
8000	0.195	-14.19	-78.75
8500	0.184	-14.69	-79.39
9000	0.174	-15.18	-79.96
9500	0.165	-15.64	-80.49
10000	0.157	-16.07	-80.96

MAGIC WINDOW

word processing system

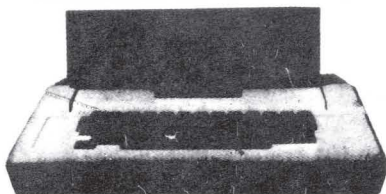
The MAGIC WINDOW transforms your Apple Computer into a sophisticated Word Processor/Text Editor. All types of documents can quickly be written, revised, edited, and printed. MAGIC WINDOW typing is so simple you can perform any editing task with a simple key stroke, from correcting typographical errors to moving paragraphs.



MAGIC WINDOW uses a new and creative software function to allow you to see 80 column paper on your video screen. Four way scrolling gives you the ability to view your full sized letter from any position.

A Closer Look

The most impressive feature of the WINDOW is the way it emulates a standard typewriter. You actually can see the edges of the paper you are typing on. This feature lets you position your text on the paper when you type it. You don't need to review your text and insert formatting commands.



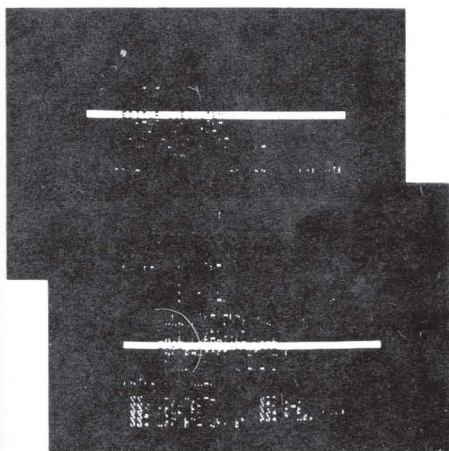
You have probably purchased one or more of the peripheral products available for you Apple (language system, lower case adapter, printer, etc.) The MAGIC WINDOW will automatically use these new products if you have them. MAGIC WINDOW will boot on 3.2 or 3.3 DOS systems. And if you have a language system it will use the extra memory.

Expandability



MAGIC WINDOW uses two types of disk storage, binary files and text files. The text file gives you the ability to load and save files that can be used by other programs. Binary files are used to store your documents, page size and tab stops quickly and completely.

Storage



With the MAGIC WINDOW you may never need to hit return. When your text touches the right margin the last word will automatically be picked up and placed on the next line allowing you to continue typing. When you reach the bottom of the page the WINDOW will jump to the top of the next page without causing any interruptions. The search function will help you find any occurrence of a word for correction or deletion.

Efficiency

Text storage, printing, and system configuration are controlled by a unique menu structure. This avoids complicated command sequences. Function selection is simple and syntax free.

Centering and justification is simplified by your being able to see text on the screen. There is no need to print out a work copy of your text.

Unlike other systems that separate the tasks of editing text and formatting for printing, MAGIC WINDOW shows you the exact placement of your text as you type it.



Along with the MAGIC WINDOW you receive:

- Full color keyboard poster showing all the keystroke commands.
- 33,000 word Webster Speller/Divider to help you spell correctly.
- 50 page easy to read manual and padded binder.
- Text file of post office approved state abbreviations for quick reference.
- Personal phone service for any problems or questions you may have.
- Lifetime media warranty.

Extras

ARTSCI INC

(213) 985-2922

10432 Burbank Boulevard, North Hollywood, California 91601

a result of trying one of the options of the program. According to the documentation the frequency steps may be calculated by either addition or multiplication, depending on one of the DATA statements. I entered the data required to step from 1 to 10E6 Hz by factors of 10, i.e., by decades; the program began calculating the response at 1, 11, 21, 31, etc. Hz. and it was not very long before the arrays were filled. The documentation states that this is the way to produce log-log plots because the response is always calculated in dB. It is unfortunate that such a useful option is inoperative.

DOCUMENTATION

The documentation consists of 9 half-size pages containing DATA statement formats and model descriptions of each of the elements available, as well as the requisite general operating instructions. There are also sample runs of the program. Brief, but adequate. There is an error in the description of the Op Amp format that could be quite confusing except for the sample runs included.

OTHER EMBELLISHMENTS

The documentation contains an Appendix describing the MCAP transistor model to guide the users who wish to add their own circuit models or macro definitions.

CONCLUSION

There is no question that a program such as this can be very useful to a number of different types of people. Any student in electronics will remember the number of frequency response plots and phase shift diagrams required by network analysis courses. This program would greatly reduce the calculations required to produce such a plot. For these same reasons, MCAP can be useful to the non-student as well.

PII

PHASE(X)	-90	-72	-54	-36	-18	0
DB(*)	-25	-20	-15	-10	-5	0
HZ	+-----+-----+-----+-----+-----+					
500					X	*
1000				X		*
1500			X			*
2000				X		*
2500	+	+	X+	+	*	+
3000			X		*	
3500			X		*	
4000		X			*	
4500		X		*		
5000	+	X	+	*	+	+
5500		X		*		
6000		X		*		
6500		X		*		
7000		X		*		
7500	+	X	+	+	+	+
8000		X		*		
8500		X		*		
9000		X		*		
9500		X		*		
10000	+	X	+	+	+	+
HZ	+-----+-----+-----+-----+-----+					
DB(*)	-25	-20	-15	-10	-5	0
PHASE(X)	-90	-72	-54	-36	-18	0

UNI-SOLVE

by Steven W. Peterson and
 Sherwin A. Steffin
 Edu-Ware Services, Inc.
 2222 Sherman Way, Suite 102
 Canoga Park, CA 91303
 213 346 6783
 \$24.95 diskette
 Applesoft
 32K RAM, Disk II
 DOS 3.2 or 3.3(BOOT 13)
 Unlocked

PR=C
 Edward Burlbaw

INTRODUCTION

UNI-SOLVE, The Electronics Designer, (US) is very similar to another program reviewed previously, Korsmeyer Electronic Design (KED). (See Peelings II V1 N1.) I will more specifically point out the similarities and differences further on.

THE PROGRAM

The documentation states that users with 48K and ROM Applesoft may prefer to load all of US into RAM at once. There is a program on the disk which contains all of the available subroutines. Using this program greatly increased the access time. If you do not have 48K you will have to use the version which loads each section when it is needed. The resulting disk access time quickly adds up.

Included in the package are the typical electronics formulae, i.e., Ohm's law, resistances (in series and parallel), inductances, reactances, impedances, Q factor, and transformer formulae, to name a few. These are mostly simple two or three variable formulae that most hobbyists know by heart. Some of the other sections may not be as familiar to everyone: DC meter formulae, 3 phase power, coil winding, vacuum tube formulae, transistor formulae, and transformer formulae. There are also transmission line, frequency to wavelength conversion, dB and volume, and conversion between average, rms, peak and p-p voltage and current formulae. In short, US contains all that KED does, EXCEPT the filter formulae, and with a few additions.

The same complaints can be made about US as were made about KED, the program uses INPUT rather than GET statements everywhere, so in order to select from any one of the many menus it is necessary to hit RETURN after the number, effectively doubling the number of keystrokes required. Similarly, there is no error trapping so the program can be "bombed" in any number of ways most of which would probably not happen when normal values are used.

No real documentation comes with UNI-SOLVE.

CONCLUSION

Without belaboring the point, US makes use of some very common and in most cases, simple formulae that could easily be punched out on a calculator. The user is never shown the formulae used so is not really educated by its use and there are the above mentioned inconveniences, however, this package is offered for only \$25 on diskette. The price alone may make it useful for many hobbyists to have all the formulae in one place. If one has a need for the filter formulae offered by KED it will cost an additional \$75, but US is practically identical in every other respect.

This program was one of Edu-Ware's first, and the low rating reflects the "old technology" days of Apple programming.

PII

ECHO II

Milo Street
Street Electronics Corp.
3152 E. La Palma, Suite C
Anaheim CA 92806
714 632 9950
\$225.00 (incl. speaker & software)
Speech Editor in Applesoft
32K, Disk II
Software Unlocked
DOS 3.2.X

John Martellaro

This is the first hardware review Peelings II has done, and we hope to do more. Many have requested that we review hardware, and with all the new Apple II hardware out, it is indeed necessary. Currently we are not planning on giving Peelings Ratings to hardware, so you will notice the absence of the PR=X line.

INTRODUCTION

The Echo II speech synthesizer consists of a card, speaker, and a diskette with software designed to allow the user to generate speech under software control. Unlike older methods in which the entire voice train was digitized --using quite a lot of memory -- this system uses the recently developed "Linear Predictive Coding." (LPC is discussed in reference 1.)

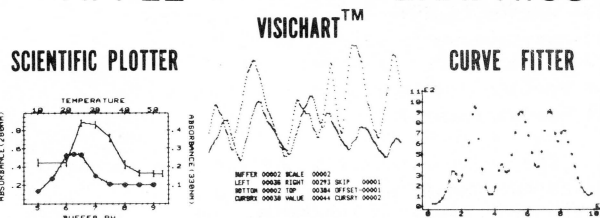
With the Echo II you can generate in memory ASCII symbols (perhaps just 10 to 20 bytes per word) which when sent to the hardware will create reasonably good human speech. A lot of it. And anything you want to say. This is very new and very powerful, and a whole lot of fun. For example, you could generate the phrase "I am an Apple II" and have the Apple II introduce itself to a prospective student in an educational lesson. Unlike the digitized speech used in Muse's "The Voice" (Peelings II, V2 N1) and

"Elementary Math" (this issue), the Echo II is true voice synthesis sent through a quality speaker which is supplied. It sounds terrific. Instead of being squeaky and brash and irritating, it sounds just like computer voice that you've heard on the big computers -- deep, mellow, and inflected (if you wish). Of course, the above mentioned programs probably do the best that can be done with Apple II hardware alone, and the trade off is that you pay a whole lot more for this hardware. But considering the technology you get for a mere "half a disk drive," it is a bargain.

BACKGROUND

The Echo II is based on the Texas Instruments TMS 5200 speech synthesizer chip. It is an upgraded version of the one used in TI's "Speak & Spell" for use with an 8 bit system. This chip is able to reconstruct speech when supplied with the codes for the basic human speech phonemes. Phonemes are the basic sounds produced by the mouth/nasal cavity. (For a more detailed discussion of this, see the references.) Voiced phonemes have fixed pitch and duration, unvoiced have variable. Below is a table of Echo II phonemes along with the English word that illustrates the phoneme.

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A2 - late	L - like	U1 - tune
AE - dad	M - many	U2 - tune
AH - bother	N - nice	UH - fun
AW - call	NG - long	Y - you
E - speak	O1 - oh	
EH - letter	O2 - oh	PA1 - a pause
ER - hurry	001- book	
I - finger		

VOICED

B - baby	K - kick	TH - think
CH - choose	P - print	TH1 - then
D - dog	R - red	W - will
DT - butter	S - see	Z - zero
F - if	SH - shoe	
G - get	T - too	PA - a pause
H - hello		
J - jet		

THE SOFTWARE

Supplied on diskette are: a speech editor program in Applesoft, some example programs, and four different sets of machine code (in order to accommodate the HIRES page in different size systems). This machine code translates the ASCII data generated by the speech editor into the data that the TMS 5200 wants to see. The code is not large: only 1024 bytes. In fact details are given on how to write a program that will look to see if there is an Echo II board plugged in. If so, it will use it, and if not, by-pass usage. The user may never be aware of the machine language routine hidden in your program. (Proprietary rights are not spelled out in the instructions. Check with the manufacturer.)

The editor is a line oriented editor used to set up the proper symbology for a phrase. It is basic and crude, but does the job. The commands are ADD, APPEND, CATALOG, DELETE, END, INSERT, LIST, LOAD, MODIFY, NEW, PRINT, SAVE, SPEAK, AND SPEAK-MEMORY. If you are at all familiar with editors, some of the commands above will be obvious in their meaning. I won't go into them all. (Not all the letters must be typed, e.g., APPEND needs only "AP".) SPEAK will have the system pronounce the current contents of the editor buffer. Since there is a limit of 40 lines in the buffer, longer phrases will have to be chained.

In the input mode, you enter your words sequentially, reminiscent of FORTE (Peelings II, V1 N1). For example, in the boxed figure is a listing of the editor contents I created to generate the phrase "I am an Apple II". (This was generated with the PRINT command.) In the first column is the phoneme, then pitch (1-16), length of sound (in lengths of 25 msec, 1-8), and volume (1-8). One of the things you will notice by looking carefully at the phonemes is that I had to experiment with different combinations of phonemes and their variables in order to produce what I thought sounded good. (The PA1's are pauses.) That's part of the fun of using this system. If the sound you want isn't exactly described by the available phonemes, you can often trick the system by clever combinations of phonemes from the list. Even more fun is making you Apple say things like "I am the voice of God" or other phrases that may suit your tastes.

While the editor has nice features like a space bar "stop list", neither is the current version well error trapped. The ability of the PRINT command to utilize other than slot 1 should be added.

DOCUMENTATION

The Echo II comes with a 10 page instruction manual that is crisp and to the point. It covers everything needed, but is sometimes too terse. For the novice, it may be too condensed. One confusing item is the discussion of the SETSLT routine which seems to indicate that the user must perform it. Actually, it is imbedded in the editor. Also, a discussion of the reasoning behind the two stage process for bringing in files from the disk to memory, then memory to the editor might be helpful. There is an appendix with the list of phonemes, memory addresses, and the sample vocabulary supplied. While information on where the machine language routines reside is given indirectly, it should be more explicit.

The sample vocabulary contains about 175 words that can be used either to help create your phrases or be of assistance in seeing how certain sounds are created.

CONCLUSION

The Echo II board uses Apple II RAM to store word data, but there are empty sockets on the board for later addition of vocabulary ROMs (when available). Also, the current version uses male sounding speech, and there are plans to introduce female sounding speech.

The board received for review occasionally didn't want to be recognized by the SETSLT routine. It didn't interfere with operation too much. I doubt that it was shipped that way and probably suffered a little due to rough handling during shipment.

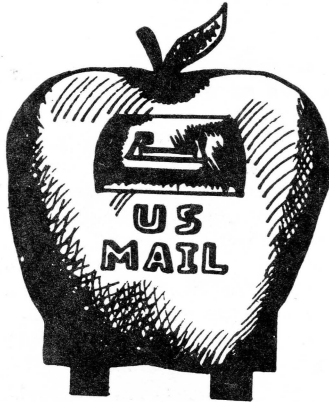
Overall, I am very impressed by the Echo II system. I was able to use it and have great fun with little effort. The price is eminently reasonable -- in fact astoundingly low. The potential is there for things like education, remote announcing of data at your observatory telescope, stand alone demonstrations, aid for the handicapped, artificial intelligence (Super-Eliza) just to name a few.

The vendor indicated that the manual was a preliminary version and will be revised.

REFERENCES

1. Dahmke, M., "Computer Speech: An Update," Byte V6 N2, February 1981, p 6+.
2. Fons, K. and T. Gargagliano, "Articulate Automata," Byte, V6 N2, February 1981, p 164+.

PII



Friends,

Your magazine is superb! I particularly appreciate your willingness to reveal the shortcomings in programs you review -- something no other magazine I know of does. I believe your approach honestly strengthens the software industry....

P.S. How about (in your spare time) adding firmware & peripheral reviews.

D. Norton
Garberville CA

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AJM

Dear Sirs,

I received my first issue the other day and was pleased with its content and format. With more diverse and higher priced software comes an increased need for a "peek" at the software before purchase. Good luck.

Hopefully at some future date you can expand the scope of your magazine to include hardware accessories for the Apple II....

S. Adams
Plattsburgh NY

Dear Sir,

I am a subscriber since Vol #1, #1. I am happy to see that Peelings II has improved much since that first issue.... Regarding data base programs, have you reviewed the CCA, Data Factory, or the Information Master (from High Technology)? When is a summary planned?

Somehow, I think you should not accept advertising to avoid any possibility of conflict of interest. I'd rather live with cheaper packaging instead.

T. King
Waggingers Falls NY

MR KING,

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AJM

Mr Martellaro,

This letter is in reference to your review of "DOGFIGHT" in volume 2 number 1 of PEELINGS II. I feel that you gave this game a classic 'hatchett job'....

A. Kimes
Los Angeles CA

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HI!

I just got the Jan-Feb 1981 issue of Peelings II and devoured it. This magazine really is getting better all the time, and I find myself agreeing more closely with your reviews in this issue than ever before. (E.G., I thought the remarks on DOGFIGHT and CYBER STRIKE summed up the reactions of friends who have these programs.)...

D. McCarthy
Brooklyn NY

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Dear Sir,

...I enjoy each issue of Peelings II -- a publication long overdue. Keep up your objective reviews.

J. Doherty
Santa Clara CA

Gentlemen:

As an attentive reader of Peelings II, I would like to add my own "dissenting comments" to your review of The Voice (Jan.-Feb.). The reviewer states that "the claims that it is easy to create your own vocabulary and add voice to BASIC programs are a little over optimistic." The first evening I tried the package, I was able to add ten words to an existing program with a resulting quality that I feel is comparable to the original. I used the microphone of our cassette player with the same volume and tone settings to load tapes. With the exception of the "disk full" crashes that the reviewer mentions, I have had no problems with the program when manipulating my own vocabulary disks.

I am the mother of preschoolers and have found The Voice to be a marvelous aid in creating programs for their enjoyment. To anyone considering using The Voice for a similar purpose, I could certainly recommend it. The reviewer's conclusions suggest that poor results are possible. I hope that mine will suggest that good ones are equally possible.

K. Berver
Las Cruces NM

COMM. PROGRAM COMPARISON CHART

GOSUB PAGE 20

	Data Capture 4.0	ASCII Express II	Z-TERM	The Terminal
Capture Text	Yes	Yes	Yes	No
Buffer Size	21K	21K	24k on 44K 37K on 56K	N/A
Dial from Directory with Micromodem	No	Yes	Yes	No
Macro Capability	No	Yes	Yes	No
Autosave on Buffer Overflow	Yes	No	Yes	N/A
80 Column Support	No	No	Yes	No
Extended Software Display	No	No	No	Yes 70 Col
Status Display	Yes	Some	Some	No
Multiple Disk Support	Yes (2)	Yes (any)	Yes (any)	No
Editor	Yes	Yes	No (CP/M ed)	No
Lower Case Adaptor Supported	Yes	Yes	Yes	No
Extra Characters Transmitted	Yes	Yes	Yes	Yes
Send From Buffer	Yes	Yes	No	N/A
Send Directly From Disk File	No	No	Yes	N/A
Handshake in Full Duplex	Yes	Yes	Yes	N/A
Wait for Prompt Character	No	Yes	Yes	N/A
Check Character Echo for Accuracy	Yes	No	No	N/A
Support Display Escape Sequences	No	No	Yes	Yes
Send Binary Files	No	Yes	Yes	N/A
Send BASIC Programs	Yes	Yes	Yes	N/A
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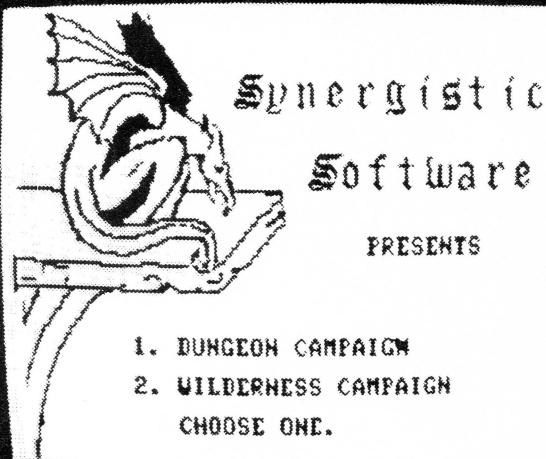
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