

DALLAS ATARI COMPUTER ENTHUSIASTS

VOLUME 6 ISSUE 1 JANUARY 1985



PRESIDENT'S PERSPECTIVE

Good news from all fronts (including California)! The good news ranges all the way from the success of the Toys for Tots Fair to more information on the new Atari machines and includes the great news that we have a full slate of officers for the February elections.

TOYS FOR TOTS

Many thanks to all of those that made this year's effort such a great success. At last count we have almost made the \$1000.00 goal! If you missed this event, you missed a lot of fun. You will probably never again have the opportunity to see/hear the Pres as an auctioneer. Well... maybe you didn't miss so much in that respect, but a great time was had by all and the cause was a great one. A very special "THANK YOU" to Susan Henderson for taking care of the toys delivery and converting the cash to toys. Thanks again to all!!

ATARI NEWS

At the December meeting we had a verbal announcement about the new "GEM" operating system for the new Atari machines. At that time we speculated that this was the graphics chip from the 7800 PROSYSTEM game machine (that has vanished from the public discussions). However, it turns out that GEM (Graphics Environment Manager) is a software development by Digital Research. It is a Disk Operating System that supports icons, pull down menus, windows, and many other advanced features. There is some speculation that it will support MS-DOS programs. Both Atari and DRI are claiming a new era in microcomputers based on this new system.

That's all well and good, but I want a machine that supports 256 colors per line and 100 player/missles! What happened to the 7800 PROSYSTEM game machine? Any machine with that capability will sell! Perhaps they decline the challenge to make better game machines because they think the game market is dead. I don't think so! It is true that the public is more demanding that it was a year ago. But with a machine like the PROSYSTEM, I think the market would respond like an over ripe slot machine! But alas, the real leaders have turned their attention to the PC field. You ever played a game on an IBM ... real dudsville! Besides, they cost too much. Get an 800XL, write a great new game, and make a million!

SLATE OF OFFICERS

The following is the official slate of DAL-ACE officers for the year 1985 as proposed by the board of directors. The elections will be held on February 2, 1985 at the Richardson Civic Center, beginning at 2:00 P.M.

Nominations will be accepted from the membership present for each of the proposed positions. The voting will proceed in the sequence of positions as listed below (i.e. we will begin by voting for president and proceed down the list). BE SURE TO BRING YOUR MEMBERSHIP CARD, YOU MUST HAVE A VALID DAL-ACE MEMBERSHIP TO VOTE! Family memberships will have only one vote.

- PRESIDENT DAVE GILLEN
GARY SEWELL
- VICE PRESIDENT JOHN PELLET
JOHN OLSON
- V.P. of COMMUNICATIONS ... MYRON WALTERS
- TREASURER DON ADAMS
- SECRETARY TOM BURKE
- MEMBERS-AT-LARGE (4)..... ROGER MARKLEY
JEFF GOLDEN
TIM CLARKE
BOB DAIN
CECIL DRADAT
CATHY BARROS
TANDY PENN
JOHN OLSEN

NOTE: 5 members at large will be elected from the above list (per the February, 1984 membership vote). The number of MEMBERS-AT-LARGE will be open for discussion at the February meeting. BE SURE TO ATTEND AND VOTE.

RESPECTFULLY Jim Chaney

OFFICIAL DAL-ACE ANNOUNCEMENT

DAL-ACE WILL BE VOTING ON AMMENDMENTS TO THE BY-LAWS AT THE REGULAR FEBRUARY 2, 1985 MEETING.

COPIES OF THE PROPOSED AMMENDMENTS WILL BE AVAILABLE AT 12:00 PM ON FEBRUARY 2, 1985.

THE VOTE ON THE PROPOSED AMMENDMENTS WILL FOLLOW THE ELECTION OF THE OFFICERS.

EDITOR'S STRING*

BITS & NIBBLES

In case you were not aware, VIDEO LAND gives a 10% discount on all regular priced software to DAL-ACE members. All you have to do is show the salesperson your membership card.

Speaking of membership cards, is yours current?

Congratulations to Danny Raisovich. He won the 800XL at our yearly Toy for Tots Computer Fair with a score of 28,230 points playing JAWBREAKER. Playing under the pressure of "the last game" he pulled it out. If you weren't there you missed a GOOD TIME.

This month's cover was done by Hal Waldrop. This is Hal's first contribution to the cover and I hope it is not his last.

Needed: A volunteer to be DAL-ACE's Advertising Manager. Ads help cover the expense of the newsletter.

....Myron Walters

*** Hardware Review ***

Prometheus 1200 Modem

Review by Mark Maxham

The world of telecommunications broadens daily. You've probably read how modems will change the future of computing, how you can save money and meet friends, and so on. This is true. But if you are planning on buying a modem, you want to know how to get the most modem for the least dollar. If you aren't content to settle for the pokey 300 baud modems, Prometheus has the answer.

The Prometheus 1200 modem is almost certainly the best 1200 baud modem available. For a long time, Hayes dominated the 1200 baud modem market with their Hayes 1200. Speaking from personal experience (I owned a Hayes 1200 for a year), the Hayes is a good modem, though at a list price of \$699 a bit expensive for my tastes. (However, at the time I didn't pay \$699). The ProModem, on the other hand, lists for about \$500, and is available around town for a good bit less--I paid \$300 for mine. The ProModem combines all the fine features of the Hayes, plus a lot more.

The ProModem is capable of complete Hayes compatibility. Either a command to the modem or a switch on the bottom of the modem put you in Hayes mode. This is good because of the numerous programs written specifically for the Hayes, which incorporate the features of the Hayes--such as Amodem+. In addition to the standard SmartModem commands (dial, answer, etc) and result codes, the ProModem adds the following:

* Built in clock You can access the clock by a simple AT@T?, the command which says, "What time is it?" The clock displays month/day, hour : min : sec and AM/PM. Handy for keeping a log of your communications activities; you can easily date any material you save on disk or printer.

* Automatic redialing When dialing, if the ProModem detects a busy signal, it will tell you "BUSY--WILL REDIAL IN 30 SECONDS." It will then pause and try again. Useful when trying to get on that busy bulletin board. You can abort redialing by hitting any key, or turn off redialing altogether by a switch on the bottom of the modem.

* Help Menus When looking for a command in a hurry, you can call up one of four (4) help menus. To say "Help!" tell the modem "AT@Hx", x being the help menu. The '0' menu is a description of the other three menus.

* Extended Intelligence The SmartModem got its name from its capabilities--compared to other modems at the time, which were "dumb". However, the ProModem is a "genius". It won't dial unless it can hear a dial tone--and it will tell you so. If it hears a ring, it tells you "RINGING". A busy signal will prompt it to hang up and say "BUSY". Even in "Hayes" mode, it will detect busy and hang up, rather than wait 30 seconds regardless, like the Hayes.

The ProModem even has expansion capabilities. I wasn't able to pick up too much detail from the brochure I found in the box, but I did find two available expansions:

1. Options Processor This will allow you to:

* Store data, options, and time even when the power goes out--stored in the ProModem RAM and backed up by battery.

* Keep an autodial directory in the ProModem of up to 12 numbers, and to group these by code names.

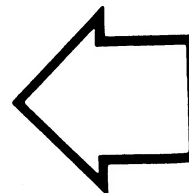
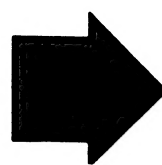
* Automatically send files. You can put a file in ProModem RAM and then tell it to dial a number (or many numbers) at a certain time, then send the data--no attendance needed! The computer doesn't even have to be on.

* Act as an answering machine, unattended. It can record incoming data, with time received, for later use. Again, no computer required.

2. Alphanumeric Display You can print up to 12 characters in the LED screen on the front of the modem.

I don't know where to get either of them (although I haven't been looking) and I don't know the price on either. But they would be a welcome addition!

In summary, the ProModem is the best 1200 baud modem on the market--and at one of the most reasonable prices. If you're looking for a good, inexpensive modem--this one's for you.



THE WRITER'S TOOL

by OSS, Optimized Systems Software, Inc.

The Writer's Tool is a recently released, word processor for the Atari. My first interest in this product came about after reading a statement in a newsletter from another club. They said that this word processor was better than the Atari-Writer. This clearly needed looking into.

Upon opening the manual, the first thing encountered was an 8x10 reference card. Listed on the card, were some simple instructions on how to start the program. "Computer off; Disk drive on; Insert Cartridge; Insert Disk; Turn computer on; Wait 30 seconds; Begin editing."

Sounds good so far. Thirty seconds after turning on the machine, this program invites you to begin writing. I decided to see how far I could go, without reading the manual. The one page reference card is my guide. Since the club needs another newsletter article, and this word processor needs testing, what you are reading now are my very first impressions of The Writer's Tool. Writing this article will be my test case.

As you can see the EDIT function works very well. Doesn't spell very well, but it edits well. Maybe K-MART will exchange it for a ball-glove that spells.

All of the cursor controls, backspace, and insert keys work as you would expect. The card says something about CURSOR-EXCHANGE. Pressing CTRL-CAPS reverses the effect of the control key on the arrow keys. You can now operate the cursor keys with one hand. In this mode, you press the CTRL-key to type a plus sign.

You can make the cursor jump to the next word, to the beginning or end of the line, and to the beginning or end of the data. You can also move forward and backward a full screen at a time. It is very easy to scroll back several lines to repair a mistake.

When you type to the end of the line, the word you are typing wraps to the next line. You can switch between insert and type-over modes, whichever you prefer, and you can start new paragraphs by hitting the return key.

Just tried a speed test, typing as fast as I can with two fingers hitting alternate keys. The program is keeping up in both insert and type-over modes. Striking two keys at the same time doesn't work, but then who would expect it to? I'm getting some extra "keybounce" characters, but have not noticed them in normal typing.

Tried insert, after 10,000 characters had been entered. It has slowed down quite a bit at the top of the file, but you can open up several lines of text, and use type-over mode to speed things up. Insert in the last half of the file is still OK.

You can mark a block of text with CTRL-Ms and then delete it with a CTRL-X. Marked blocks can also be copied and moved. You can delete characters and lines. The program gives a warning beep, when you delete a line. You can undo the line delete, or you can insert the line in another location. Lines can be duplicated with the same method. Just found out that you can toggle word-wrap off and on with the START key. I like the word wrap.

There is a line at the bottom of the screen that tells you the status of CAPS-LOCK, INVERSE, and the CURSER-EXCHANGE. You can turn the status line off.

Press OPTION for the main menu. The Main menu contains the options for Search, Search and Replace, DISKIO, Print, and Clear. Clear erases your text. I think I had better try DISKIO before trying CLEAR.

SEARCH worked. The program remembers your last search phrase, so you can go edit for awhile, and then hit CTRL-S to pop back into search. The program only searches forward, so you have to place the cursor somewhere prior to your target. CTRL-S can be used repetitively when looking for multiple occurrences.

DISKIO also worked well. You can list the directories, initialize disks, delete data sets, and SAVE or LOAD your text files. Having all these functions available came in handy. The disk was full, so I had to delete some files in order to save this file. The text in memory survived the DISK-FULL error, and the cleanup operation.

SAVE also has other nice features. My old word processor, only saves from the cursor to the end of the data. I have lost a few files that way. The Writer's Tool takes care of that situation nicely. You can still save part of the file, but it warns you, and gives you the option of saving the whole file, irregardless of the cursor position.

I tried the print option, and was able to print the text up to this point. It was necessary to add several "dot" commands to the text, and to load a printer support file for my printer. The printer files on the disk are labeled AT825, AT1027, AT1025, FX80, FX80M, GEN10X, GENERIC, ML82A, ML92, MX80, MX80G, MX80GS,

NECB023, PROWRTR, and RX80. You can take it from there.

I still have not looked at the manual. The functions to turn on the double-strike and emphasized printer modes are on the card, but they do not seem to work. So, now it is time to start reading the directions.

Up to this point, I have been impressed with the ease of using this program. A statement on the manual-cover claims that The Writer's TOOL is the most natural and complete word processor available for the Atari. They may be right.

Howdy, back from reading the manual. The manual was really super, several cuts above the usual documentation that comes with OSS products. The author is to be congratulated for writing one of the best computer-related manuals to be had. Somehow he manages to hold your attention without putting you to sleep. It is possible to read the whole 200 pages, thoroughly, in about three hours.

There is a lot of function in this word processor to learn about. Early on, the author lists a summary of what he considers to be the major features of the program. There were 43 items in the list of features.

The program will run on all Ataris with 48K of memory. There was 24,095 bytes of memory left, for text data, after loading the program. The program provides a file-linking function that chains files together for printing. This allows you to break up a long document into chapters that will fit into the available memory. The author claims to have written and printed his 200 page manual with this word processor. If that is the secret to creating such a fine book, let me at it.

There is a mail-merge facility that lets you create personalized letters from a template and a mailing list. The letter template is created with the regular text editor. The data items to be merged into the letter are identified, and positioned, by entering the data-names as inverse characters, at the point where the data is to be inserted. Another program then provides you with a data-entry facility that is used to build the data base for the merge-data. In addition to names and addresses, just about any type of data can merged into the common letter.

Good news for the newsletter editor. You can print your text in two columns, that is providing you have a reversing paper-feed printer such as the Prowriter or Atari 825. I do not care much for the way the programmer implemented this facility. It would not have

taken much more effort to have looked ahead and printed both columns at the same time.

The product prints headers, footers, left, right, centered, and alternate side page numbers. Justification comes with straight and ragged margins, soft-hyphens, proportional spacing, and micro-spacing, (printer support is required). You have a considerable amount of control over line widths, page lengths, margins and tab-stops. There are also Group commands for controlling "widows" and "orphans". The list goes on and on, but I cannot use up anymore space on it. This is a full-function word processor, that is incredibly easy and natural to use.

I mentioned earlier that I was having some difficulty with formatting. It turns out that for some reason my printer is not compatible with this program. My printer is a 3-year-old Epson MX80F/T. When I tried the program on a newer MX80F/T, all of the formatting difficulties disappeared, so now I am once again all smiles about this program.

This is the best word processor that I have used on the Atari. I have no experience with Atari Writer or Letter Perfect, so I cannot compare this program with the other two, but the other two will have a long way to go to match up with this one.

EDITOR'S NOTE: This review of THE WRITER'S TOOL was written by Jeff Golden. A copy of THE WRITER'S TOOL was loaned to Jeff for the review by Jim Chaney. Jeff liked THE WRITER'S TOOL so much he bought a copy within three days of passing it on to me.

I want to add my two cents to the review. As Jeff mentioned the "Editor" is very happy with the features I had a chance to look at. I currently use Atari!@#?er and THE WRITER'S TOOL is at least a generation beyond it.

One of the features I especially like is the ability to SEARCH for and REPLACE any ATARI character. As Editor, I get articles using all kinds of word processors. Some I've never heard of. If something is wrong with an article, the spacing, etc., I get to redo it with Atari!@#?er. I get to take out all the "foreign" control codes and replace them one at a time (it ain't my idea of a good time).

As Jeff mentioned THE WRITER'S TOOL will print in two columns. SHA..ZAM! Less cutting and pasting. More time for Ms. Editor and Editor Jr.

Maybe the club could buy THE WRITER'S TOOL or maybe OSS might give it to DAL-ACE as a sales promotion. OSS, my home number is 1-214-691-3401. Well, it doesn't cost anything to ask....MLW

MOIRES on the ATARI

by John Pellet

The Atari computers are capable of some tremendous graphics, including some spectacular versions of moires. The moire effect is defined by my dictionary as the effect of superimposing a repetitive design, such as a grid, on the same, or different design, to produce a pattern distinct from its components. In simple language, two or more patterns when combined can produce a new pattern with no obvious relation to its parents. The program below is a short basic program to produce a simple moire. It does demonstrate a small portion of what can be done. It draws 1 pattern and relays on the television picture tube mask for the other. It is formatted for standard 38-space lines and runs on my machine as is. If you want to try it I suggest you first put in numbers between 3 and 10. The effects are most obvious on a color TV but most anything will do.

```
10 REM . MOIRE & ARTIFACTING
20 REM . ON THE ATARI
30 REM
40 REM Use a color TV for best effect.
50 REM
60 TRAP 275:REM Run on errors.
70 GRAPHICS 8:REM Use 320x158 screen.
80 SETCOLOR 2,0,0:REM Set black bkgrd
90 COLOR 1:REM Set plotting color.
100 DIM A$(1):REM Var. setup
110 PLOT 0,0:DRAWTO 0,158
112 DRAWTO 319,158:DRAWTO 319,0
114 DRAWTO 0,0:REM Draw frame.
120 POKE 82,7:REM Set l. margin.
130 ? :? :? :? "Input Step Size";
140 INPUT SIZE:REM Plot increment.
150 IF SIZE<=0 THEN SIZE=0
160 REM DRAWING ROUTINE
170 FOR I=0 TO 319 STEP SIZE
180 PLOT 0,0:DRAWTO 319-I,158
190 PLOT 319,158:DRAWTO I,1
200 NEXT I
210 ? "Clear screen (Yes/No/End)";
220 INPUT A$:REM Continue/Start/Stop
230 IF A$="Y" THEN GOTO 275
240 IF A$="E" THEN GOTO 300
250 GOTO 130
275 RUN
300 GRAPHICS 0:POKE 82,0:LIST :END
```

HAVE FUN !

```
*****
#####
**
**
** V V I DDD EEEE ODD L AA N N DDD ! **
** V V I D D EEE O O L A A N N D D ! **
** V V I D D E O O L AAAA N NN D D ! **
** V I DDD EEEE ODD LLLL A A N N DDD ! **
**
**
** LOCATED ON PRESTON ROAD ACROSS FROM VALLEY VIEW **
**
*****
```

*** PERSONAL ADS ***

Personal Ads are printed free of charge for any paid up member of DAL-ACE. If you have something to sell (COMPUTER ORIENTED PRODUCT) or need something for your system, send your "copy" to the newsletter address by the 15th of the month for publication.

FOR SALE:

ATR 8000 64K PRICE NEGOTIABLE
CALL Bob Strong at 867-5264

GEMINI 10X PRINTER NEW \$175.00
STAR 5TX80 PRINTER NEW \$ 50.00
MPI DISK DRIVES
80 TRACK, SSDD, MODEL 891 \$100.00
80 TRACK, DSDD, MODEL 92 \$125.00
9"AMBER MONITOR by NEWTEK \$ 75.00
DUAL DISK DRIVE UNIT /p.s. & cable use w/ATR8000
MPI drives: 1-40 track, 1-80 track, both SSDD
Eligant oak + black metal case ALL FOR \$300.00
CALL Charles Davis 724-8084

All 1983 issues of COMPUTE \$ 20.00
CALL Kathy Barros at 530-2353

MFC EPROM Programmer \$ 75.00
NEW Delta 10 Printer \$350.00
CALL Wes Newell at 423-2697

FileManager 800+ (new) \$ 25.00
FASTCHIP (400/800) \$ 18.00
ATARI EDITOR/ASSEMBLER +4 ASM LANG./6502 BOOKS . \$ 45.00
CALL Myron Walters at 691-3401

WANTED:

ATARI 800 (unmodified)
2 ATARI 810 DRIVES (unmodified)
CALL Dave Gillen at 245-2732

I will give \$2.00 for five (5) original copies (good condition) of page 43/44 from ANALOG #13 (SEPT/OCT 1983).
Software for VOICE BOX II by ALIEN GROUP that has been modified for the 800XL.
CALL Bill Williams at 817-465-5964(res) or 266-2529(work)

APX CHAMELEON PROGRAM
CALL Dave Watkins at 221-2979

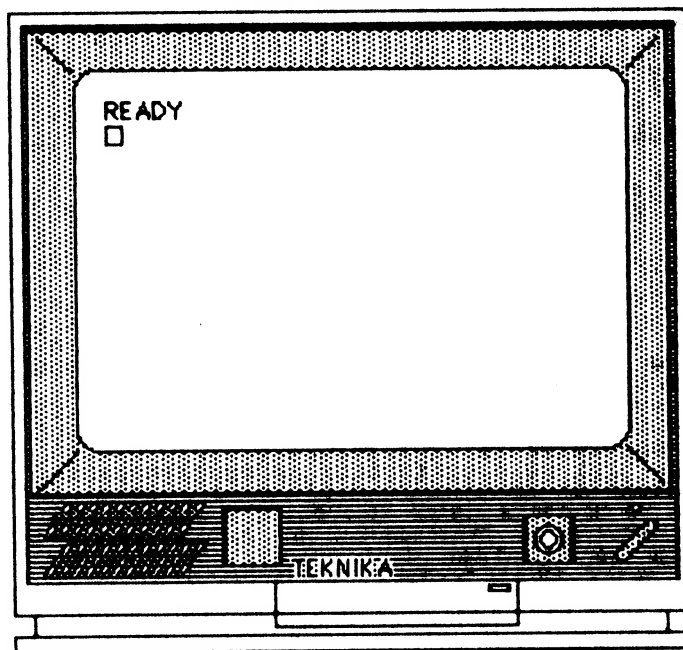
APX ATARI PASCAL
CALL Bob Millen at 239-6785

THE NEW

TEKNIKA MJ-10

AS SEEN IN THE FEBRUARY 1985 ISSUE OF
ANALOG COMPUTING

IN OUR OPINION, THIS IS THE BEST COMPOSITE MONITOR
ON THE MARKET TODAY.



13" COLOR HI-RES MONITOR
SEPARATE VIDEO INPUTS / NTSC COMPOSITE VIDEO
HIGH QUALITY SOUND
WILL ARTIFACT IN GRAPHICS BUT REDUCES ARTIFACTING IN TEXT
EASY-EYE SCREEN
WILL REPRODUCE CLEARLY DEFINED 80 COLUMN TEXT
ACCURATE REPRODUCTION OF ALL ATARI COLORS
LIST PRICE \$299.00

METROPOLITAN'S PRICE: \$270.00

The Utility Room: Some C Stuff

By Dave Gillen

Welcome back to my utility room! Sorry I've been away for a while. For those of you that are new to DALACE, let me tell you a bit about my utility room. You see, in your utility room at home, you have tools to do things like pound nails, saw wood, fix leaky pipes and so on. In my utility room, I have software tools that help me to do some interesting things with my Atari.

The tools that I want to tell you about today deal with the "C" language. I'm going to give you two tools to use with OSS' C/65 compiler. The first tool will allow you to figure out how many parameters were passed in a function call. The second tool is a simple PRINTF function, that is common to most other C compilers.

I want to emphasize before I begin that these tools are for the OSS C/65 compiler. They will NOT work with the Deep Blue C compiler. I challenge you to change this so that they work with both!

Let me say a few words about the C language first. C was developed by Dennis Ritchie and Brian Kernighan at Bell Laboratories in the early 1970s. It is a high-level structured language (on the order of BASIC) but allows you to access computer memory as if you were writing an assembly language program. C does have a few drawbacks, though. First, it can be a bit cryptic (of course so can BASIC). It also doesn't protect you from yourself! If you want to trash the DOS or the OS (by writing in any memory location), C lets you do it (it presumes that you know what you're doing).

A lot of the new software development being done out in industry is being done in the C language. I personally use it quite a bit where I work. Enough about history, on to the tools.

The first tool I call NUMPARMS. It is a function that you call from another C function to tell you the number of parameters that were passed when your function was called. This is handy if you have a function that may have any number of parameters passed to you.

Check out listing #1 below as I describe the parts. This program was written in assembly language using OSS' MAC/65. It can be adapted to use any assembler if you want.

Briefly, we look at the stack to find out who called NUMPARMS. Then we go further back on the stack to find out who called the caller of NUMPARMS. Ok, if you're still with me, we then look at the code of "the caller of the caller of NUMPARMS." The code that follows the call tells how many parameters to remove from the C/65 stack (this is not the same as the 6502 stack). This

number is what we extract and return to the caller of NUMPARMS. If this seems a little unclear, see the example below.

What I'll do is give you blocks of line numbers and tell what they do. Trying to explain the workings of a program with straight prose is pretty boring.

Lines	Function
100-1240	Comments that describe the program. You don't have to type them in unless you're a diehard, like me. The program will work just fine without them.
1260-2420	Prevents assembly of this code unless NUMPARMS is called (the ".IF .REF NUMPARMS" construct says that this code is assembled only if NUMPARMS is asked for).
1340-1440	Steps through the stack, backing up past the return address of the caller of NUMPARMS and the return address of the caller of the caller of NUMPARMS. You may notice that we back up only three bytes (instead of four). The 6502 stack pointer points to the middle of a two-byte return address, not after the last of the two bytes. So, we back up one byte for the return address of the caller of NUMPARMS (that's where we are now) and then two bytes for the return address of the caller of the caller of NUMPARMS.
1460-1800	Takes the return address of the caller of the caller of NUMPARMS and uses it as an index into the machine code.
1820-1980	Update the index so that we are pointing at the parameter count.
2000-2120	Extract the parameter count from the machine code.
2140-2200	Divide the parameter count by 2. That count was really the number of bytes to remove from the C/65 stack.
2220-2340	Ok, now that we have the parameter count, what do we do with it? Well, give it to somebody, of course! This we do by placing in the C/65 RLRH register pair. According to the documentation, this is the convention for returning parameters.
	There are two restrictions to NUMPARMS that you should be aware of. First, at least one parameter must have been passed by the caller of the caller of NUMPARMS. If none were passed, NUMPARMS returns an unreliable number. Unfortunately there is no way to check for this. The second restriction is that NUMPARMS can only "see" 255 parameters. I tend to doubt that you will ever run up against this restriction!
	Now for my next magical trick, I'll give you a tool that uses NUMPARMS. PRINTF is a fairly common C function that takes a format string and some arguments

and displays a formatted line on the screen. Well, C/65 didn't have one so I wrote my own.

Again, I'll give you blocks of line numbers and tell what they do. The line numbers correspond to lines in listing #2 below.

Lines	Function
0580-1260	Comments that describe tell about this function. They may be omitted and the program will still work.
1280-1360	Identifies the function and the expected argument (ARGS). Although there can be more than one argument for PRINTF, we don't know how many and presume at least 1. We also define the datatype of all variables used within the function.
1380-1440	Figure out how many parameters we were passed (in X) and position a pointer (ARGPTR) to the first one (skipping over the format).
1460-1480	If we were only given a format (a string to print out), print it out.
1500-2240	If there was more than one argument, begin stepping through the format (FORMAT). If we see a percent sign in the format ("%"), the next character is interpreted as a format type. Until we see a percent sign, we print out each character in the format.
1640-1940	If the format type was a "d", we will take the next passed argument (as pointed to by ARGPTR) and convert from a binary number to a decimal number for printout. If less than zero, put out a minus sign and use PRINTD to perform the conversion. If the value of the argument is positive, we pass it directly to PRINTD.
1960-2160	If the format type was a "h", we will take the next passed argument (as pointed to by ARGPTR) and convert from a binary number to a hexadecimal number using PRINTh. The number is printed on the screen.
2280-2600	This function prints a 16-bit binary value as a decimal string. This works by stripping off a decimal digit from the binary value. Until there are no more we call ourself. When there are no more digits to strip off, the conversion begins. The printable value is derived by computing its remainder when divided by ten (X modulo 10). The ASCII value for '0' is then added to it (you can add characters to numbers in C, tricky eh?).
2620-3020	This function prints a 16-bit binary value as a hexadecimal string. Each hexadecimal digit is stripped out of the binary value. When there are no more to be found, the printing begins. If a hex digit is greater than 9, then we add a value of 7 to force it to be a letter of the desired value (A-F). The hexadecimal digit is then added to the character '0'

which produces the proper digit.

Here is an example for both of these tools.

```

MAIN()
$(
  FUNCTIONA(1,2,3);
$)

FUNCTIONA()
$(
  INT HOWMANY;
  HOWMANY = NUMPARMS();
  PRINTF("I received %d arguments", HOWMANY);
  RETURN;
$)

```

Here is a brief description of this example. MAIN is the "caller of the caller of NUMPARMS" as I've referred to above. FUNCTIONA figures out how many parameters it was passed with NUMPARMS. PRINTF is used to tell what that value was. That's all there is to it!

I hope you enjoy these tools and I challenge you to develop some of your own. Better still, tell the rest of the world about them with an article!

Listing #1

```

0100 .TITLE 'NUMPARMS (22Jul84)'
0120 ;
0140 ; NUMPARMS
0160 ; [22Jul84]
0180 ;
0200 ; Obtain the number of parameters
0220 ; passed by a C/65 function call.
0240 ;
0260 ; This routine is for use ONLY
0280 ; with C/65 programs. It uses
0300 ; a "trick" to determine the
0320 ; number of parameters that were
0340 ; passed by the calling routine.
0360 ; The trick is to use the 6502
0380 ; stack to go back to the calling
0400 ; code and look to see how many
0420 ; parameters will be removed on
0440 ; return to the caller. This
0460 ; number is presumed to reside
0480 ; immediately after the call to
0500 ; a function.
0520 ;
0540 ; Calling Sequence:
0560 ; MAIN()
0580 ; $(
0600 ;   functiona(param1,...,paramn);
0620 ;   ;
0640 ; $)
0660 ; FUNCTIONA()
0680 ; $(
0700 ;   N = NUMPARMS();
0720 ; $)
0740 ;
0760 ; In the above calling sequence,
0780 ; FUNCTIONA wants to know how
0800 ; many parameters were passed by

```

```

0820 ; MAIN. That is what NUMPARMS
0840 ; will provide.
0860 ;
0880 ; NUMPARMS returns the parameter
0900 ; count on the C/65 stack by way
0920 ; of the RLRH C/65 register pair.
0940 ;
0960 ; Visualization of code and stack:
0980 ;     CODE
1000 ; $4000 JSR FUNCTIONA
1020 ; $4003 LDA #<$0002
1040 ;     ;
1060 ; FUNCTIONA:
1080 ; $4100 JSR NUMPARMS
1100 ;
1120 ;     STACK
1140 ; $01FF $40
1160 ; FE $02
1180 ; FD $41
1200 ; FC $02
1220 ; FB <---- SP points here
1240 ;
1260 .IF .REF NUMPARMS
1280 ?6502SP = $0100 ; 6502 stack ptr
1300 NUMPARMS
1320     TSX     ; Get the current SP
1340 ;
1360 ;... Skip over the return address
1380 ;... for the call to NUMPARMS
1400     INX
1420     INX
1440     INX
1460 ;
1480 ;... Now, get the return address
1500 ;... of the caller of the quering
1520 ;... function.
1540 ;
1560 ;... We presume that the return
1580 ;... address is actually the
1600 ;... last byte of the JSR in-
1620 ;... struction. We must adjust
1640 ;... this so that we can get
1660 ;... the needed information
1680 ;... from the caller's code.
1700 ;
1720     LDA ?6502SP,X ; Rtn low
1740     STA RL
1760     INX
1780     LDA ?6502SP,X ; Rtn high
1800     STA RH
1820 ;
1840 ;... Update ptr to the argument
1860 ;... byte of the LDA instruction.
1880     CLC
1900     LDA #$02
1920     ADC RL
1940     STA RL
1960     BNE ?NUMPARMS1
1980     INC RH
2000 ?NUMPARMS1
2020 ;
2040 ;... Obtain the number of bytes
2060 ;... that will be removed from
2080 ;... the C/65 stack on return.
2100     LDY #$00
2120     LDA (RL),Y ; 1 byte value

```

```

2140 ;
2160 ;... The number of parameters is
2180 ;... the byte count divided by 2.
2200     LSR A
2220 ;
2240 ;... In order to return the value
2260 ;... to C/65, place in the RLRH
2280 ;... pair.
2300     STA RL
2320     LDA #$00
2340     STA RH
2360 ;
2380 ;... All done
2400     RTS
2420 .ENDIF
2440 .END           Utility room: continues ----->

```

FORMAT DISKS THE EZ AND SAFE WAY

by Myron Walters

The other day I was reading about XIO commands and the DOS commands they provide. I know that you can format disks from BASIC (or BASIC XL) using ATARI DOS 2.0 (I haven't tried DOS XL or MYDOS). All of a sudden the light blub came on. How many times have I picked up the WRONG disk and formatted it losing programs I WANTED! (Ah, be honest you've done it.)

I immediately began writing EZFORMAT.BAS which has two features:

1. Format a box of disks with one key stroke per disk.
2. If a disk has already been formatted it will print the Directory on the screen and THEN asks if you want to format the disk.

```

10 GRAPHICS 0:POSITION 6,2:?
" ONE KEY STROKE DISK FORMAT "?:?
20 POKE 622,255:REM FINE SCROLLING FOR XL MACHINES ONLY.
400/800 DELETE THIS LINE
30 D=0:DIM F$(20)
40 OPEN #5,4,0,"K":POKE 752,1
50 D=D+1:?:? "INSERT DISK #";D;" AND PRESS ANY KEY":GET
#5,K
60 REM **** DOES DISK HAVE A DIRECTORY?
65 REM **** IF IT DOES PRINT TO SCREEN.
67 REM **** IF NOT TRAP SENDS PROGRAM TO LINE 190.
70 TRAP 190
80 CLOSE #2:OPEN #2,6,0,"D:*.?"
90 F$=" "?:? CHR$(253)
100 INPUT #2,F$?:? " "?:? F$
110 EOF=ASC(F$(2,2))
120 IF EOF>47 AND EOF<58 THEN TRAP 40000:GOTO 140
130 GOTO 100
140 ? :? " Do you want to FORMAT (F/N)?:POKE 764,255:GET
#5,K
150 IF K=70 THEN GOTO 190
160 IF K=78 THEN GOTO 50
170 ? CHR$(253):GOTO 140
180 REM *** FORMAT DISK
190 CLOSE #1:TRAP 210:XIO 254,#1,0,0,"D:*.?"
200 FOR I=1 TO 500:NEXT I:GOTO 50
210 CLOSE #1:?:? CHR$(253);"DISK #";D;" WOULD NOT
FORMAT!":GOTO 50

```

Listing #2

```

0580 /**
0600 PRINTF(format [,args])
0620 [13Aug84]
0640 **/
0660 /*
0680 .
0700 Formatted print function.
0720 .
0740 Arguments:
0760 format.cp.l.r, A string of text
0780 which may have the conven-
0800 tional format codes embedded
0820 within. Presently supported
0840 codes:
0860 %d, decimal number
0880 %h, a hexadecimal number
0900 args.c/i/p.l.r, a series of variables/
0920 values which are to be out-
0940 put in accordance with the
0960 format.
0980 .
1000 Notes:
1020 1. The caller of PRINTF must
1040 pass at least one argu-
1060 ment to PRINTF. Other-
1080 wise FORMAT isn't access-
1100 correctly. This is due
1120 to the fact that NUMPARGS
1140 cannot detect that no
1160 parameters were passed and
1180 sends strange results back
1200 to PRINTF. This will prob-
1220 ably never be fixed.
1240 .
1260 */
1280 PRINTF(ARGS)
1300 INT ARG;
1320 $(
1340 CHAR C, *FORMAT, *STRING;
1360 INT *ARGPTR, X;
1380 /* */
1400 X = NUMPARGS();
1420 ARGPTR = &ARGS + (X - 1);
1440 FORMAT = *ARGPTR--;
1460 IF(X == 1)
1480 FPUTS(FORMAT, 0);
1500 ELSE $(
1520 WHILE((C = *FORMAT++) != '\0')
1540 $(
1560 IF(C != '%')
1580 PUTCHAR(C);
1600 ELSE $(
1620 C = *FORMAT++;
1640 /* Decimal, %d */
1660 IF(C == 'd') $(
1680 X = *ARGPTR--;
1700 IF(X < 0) $(
1720 X = -X;
1740 IF(X < 0) $(
1760 /* Is - Infinity */
1780 PUTS("-32768");
1800 CONTINUE;
1820 $)
1840 ELSE
1860 PUTCHAR('%');
1880 $) /* done with minus */
1900 PRINTD(X);
1920 CONTINUE;
1940 $)
1960 ELSE $(
1980 /* Hexadecimal, %h */
2000 IF(C == 'h') $(
2020 PUTCHAR('%');
2040 PRINTH(*ARGPTR--);
2060 CONTINUE;
2080 $)
2100 ELSE
2120 PUTS("\n*** Unsupported Format ***");
2140 CONTINUE;
2160 $)
2180 $) /* End of format tests */
2200 $) /* End of WHILE */
2220 $) /* End of IF NUMPARGS */
2240 RETURN;
2260 $)
2280 /**
2300 PRINTD(number);
2320 [15Jul84]
2340 **/
2360 /*
2380 .
2400 Prints out a positive decimal
2420 number.
2440 */
2460 PRINTD(N)
2480 INT N;
2500 $(
2520 INT X;
2540 IF(X = N / 10)
2560 PRINTD(X);
2580 PUTCHAR(N % 10 + '0');
2600 $)
2620 /**
2640 PRINTH(number);
2660 [15Jul84]
2680 **/
2700 /*
2720 .
2740 Prints out a hexadecimal
2760 number. There will be one
2780 leading zero.
2800 */
2820 PRINTH(N)
2840 INT N;
2860 $(
2880 INT A;
2900 IF(N)
2920 PRINTH((N)>>4)&4095);
2940 /*A = N & 15;*/
2960 IF((A = N & 15) > 9)
2980 A = A + 7;
3000 PUTCHAR(A + '0');
3020 $)

```

1984 NEWSLETTER INDEX

TYPE	ARTICLE	ISSUE			
APPLICATION	CALCULATE YOUR CHECK BOOK BALANCE	NOV#10	REVIEW GAME	COMBAT LEADER	APR
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			REVIEW GAME	DIMENSION X	NOV#10
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ARTICLE	HOT RUMORS FROM ATARI	DEC	REVIEW GAME	F-15 STRIKE EAGLE	NOV#11
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ARTICLE	PROGRAMING (techiques)	AUG	REVIEW GAME	FLIGHT SIMULATOR	NOV#11
ARTICLE	PROGRAMING (techiques)	SEP	REVIEW GAME	FRACTION FEVER (educational)	SEP
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ARTICLE	PROGRAMING (techiques)	NOV#11	REVIEW GAME	IN SEARCH OF THE MOST AMAZING THING	SEP
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			REVIEW GAME	KING CRIBBAGE	NOV#10
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			REVIEW GAME	M.U.L.E.	APR
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COMMUNICATIONS	MORE TERMINAL EMULATORS	AUG	REVIEW GAME	SMOKE'EM OUT	APR
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			REVIEW GAME	THE FACTORY (educational)	NOV#11
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			REVIEW HARDWARE	HAPPY ENHANCEMENT	SEP
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REVIEW BOOK	FREE SOFTWARE FOR YOUR ATARI	AUG			
REVIEW BOOK	THE ATARI 400/800 DISK GUIDE	MAR			
REVIEW GAME	ARCHON II: ADEPT	SEP			
REVIEW GAME	AXIS ASSASSIN	APR			

ATARI DOS 3

Review by Jeff Golden

Yes, Atari is now shipping DOS Version 3. Some 1050 disk drive packages contain the new DOS. These packages are marked on the outside with an orange triangle containing the legend, "Now contains DOS 3".

According to a sign posted at Best Products, customers purchasing the older inventory of 1050s, (those that contain DOS 2.0), can also obtain DOS 3 by contacting Atari. I have an older 1050 drive, and one of the newer ones. They appear to be identical. DOS 3 works in double density mode on both of them.

I wish that I could write a positive review of DOS 3, but unfortunately this is not the case.

DOS 3 is not compatible with DOS 2.0. It cannot read a 2.0 formatted disk, and 2.0 cannot read a DOS 3 disk. DOS 3 does provide a utility that can convert a 2.0 file to DOS 3 format, but the process is rather tedious. Imagine copying every file in your present disk library, one by one. There is no way of reversing the process. All of the commercial software supports 2.0, not DOS 3, and it is usually copy-protected, so there would be no way of converting everything to DOS 3.

Pity the poor newcomer buyers of Atari disks, the ones with DOS 3 and no DOS 2.0 manuals. It is unlikely that DOS 3 will ever become the Atari standard. My advice to them is to obtain one of the readily available copies of 2.0, and stick with that. The lack of 2.0 manuals could be a severe handicap to a new user since the mysteries of DOS are not easy to learn without any guidance.

For the oldtimers, you should probably stick with 2.0, even if you have 1050 drives. The advantage of being able to put 50% more data on a disk is questionable.

DOS 3 still uses 128 byte sectors, but it combines eight sectors into a block, and disk space is now allocated in blocks. This means that you waste an average of 4 sectors for every file allocated. On a multi-file disk, this whittles away the 50% space advantage very quickly. The new block format is used on both single and double density disks, which accounts for the incompatibility with DOS 2.0.

Apparently, the DOS 3 designers had a need to address more sectors with the higher density disks, so they went the route of the 8-sector blocks.

Since they felt a need to screw up the sector format, and the directory, one wonders why they did not go all the way, and at least copy the IBM-PC, defacto standard. With 512 byte sectors, they could have given us true "double density" and the data disks could have been interchangeable with a lot of other machines. This ability would have helped, not hindered, the sales of Atari products.

Those of you who have DOS-XL, or MYDOS, are aware that they support both 2.0 format and double density, but unfortunately, they do not support double density on the 1050. You need a Percom or Indus drive. Interestingly, I had an Indus for awhile, tried the double density feature once, and then went back to DOS 2.0. DOS 2.0 was easier to use, and also was the standard format.

Disks are cheap nowadays, and unless you are into creating huge individual files, you are probably better off sticking with the cheaper, less troublesome, single density disks. Your disk library will not contain a conglomeration of differently formatted disks.

Take it from experience. . . I have quad-density drives on my brand-x machine. They are really neat. I can stuff 5 or 6 standard disks on a single quad disk. But... occasionally, I have a disk failure. 811,000 bytes of data goes down the drain in one fell swoop. I recently updated my system ROMs, and guess what? All of those quad disks are now sitting there, because I can't read them anymore. So much for oddball formats.

I promised a DOS 3 review so here it is. They changed the menu. Still the same functions, but the names are changed. Instead of A, B, C, D, you now enter mnemonic letters such as R for Rename and P for Protect. You now have to display the menu before you can enter anything. The functions also ask more questions, and require quite a few more key strokes to operate.

You can create various types of bootable program disks, depending on the DOS files placed on the disk. DOS.SYS and DUP.SYS are gone. These are replaced by FMS.SYS, KCP.SYS, and KCPOVER.SYS. Also, the functions of COPY, INIT, DUPDISK, and CONVERT-2.0 are broken out into separate utility files.

Using FMS.SYS gives you a program disk that will boot, but you cannot get to DOS from this disk. Adding the file KCP.SYS improves things a bit. When you type in "DOS", you get a message that requests that

you swap to the DOS master disk. Adding KCPOVER.SYS to your program disk, gives you the DOS menu, and will allow you to perform simple DOS operations like RENAME, ERASE, and LIST the directory. The disk space that these three files require is about equal to that of the old DOS.SYS and DUP.SYS, but you still cannot do things like COPY files or initialize disks. You have to add the utility files to do this, or you have to swap disks and use the DOS master disk.

You are almost locked into needing 2 drives, one for DOS and one for your program disks. The DOS disk always has to be in drive one. Perhaps you are beginning to get the picture, and the reasoning behind my earlier statement that DOS 3 will never become the standard.

They finally found a use for the HELP key on the XL models. This new DOS disk comes with a complete set of HELP screens, and they are pretty good, that is, if you do not already know how to use DOS. You can display the HELP screens from the main menu by selecting "H". You can also get help from within a function by hitting the HELP key, or the inverse Atari key (on 400/800 models).

The screen displays a cutesy message, "Help is on the way.", and the machine reads in the help files providing the DOS master disk is in drive 1.

If you are using the 850 RS232 interface for telecommunications, you also need to include the file HANDLERS.SYS on your bootable communications disk. This file acts like an AUTORUN.SYS and drags in the RS232 handler from the 850. This fact is not explained very well in the manuals.

Two manuals come with the new DOS, a 29 page DOS 3 Introductory, and a 100 page DOS 3 Reference Manual. The Introductory is supposed to make it easier for a newcomer, but it is difficult to read, and wordy, and I think it has the opposite effect. The newcomer may be better off starting with the reference manual, which explains things in clearer language. In some ways, the new reference manual is better than the old DOS 2.0 manual. There is more detail, and the meanings of the error messages are explained in more detail, but the error messages are hiding back in Appendix C, not under the front cover like they should be.

I received an errata sheet that mostly includes corrections to the sample programs. However there was one biggie that may affect some of you.

Early versions of DOS 3 are incompatible with large files, whatever that means. To find out which version you have, boot DOS 3 and BASIC, and enter PRINT PEEK(1816). If you get back 53, you are OK. The defective versions send back 51 or 56.

One last kicker. MEM.SAV only saves the part of memory that is occupied by KCPOVER.SYS. (FMS.SYS and KCP.SYS are resident and do not affect your program). If you use any of the DOS utility functions such as COPY, DUP, INIT, or HELP, you lose the program that you were hoping to save by using MEM.SAV in the first place.

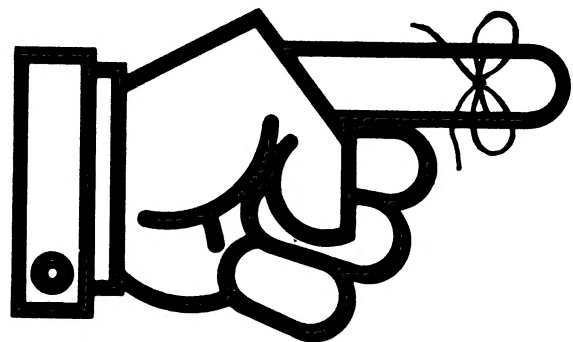
Also MEM.SAV can be toggled off and on, and you do not find out that it is off until you display the DOS menu. By that time, your program is gone.

In summary, get yourself a copy of DOS 2.0. Atari did not do you a favor by including DOS 3 in your new disk drive package.

DOUBLE DENSITY FOR ATARI 1050

When I went by MPC to pick up their ad for the newsletter I saw a new product for ATARI 1050 Disk drive users. USDoubler has produced a true double density kit for the 1050. It allows 180K of storage on a disk using the 1050. According to Jeff at MCP, the kit consists of two chips. It requires you to clip one lead but no soldering. It also includes SpartaDOS. The list price is \$59.95.

I (and 1050 users) would appreciate a review from anyone that buys the USDoubler. ...MLW



DON'T FORGET!
Contribute an article this month.

DAL-ACE CALENDAR

NEXT MEETING FEBRUARY 2, 1985

JANUARY:

- 5th at 3:00 Adventure SIG
- 9th at 7:30 "C" SIG
- 17th at 7:30 EXECUTIVE BOARD
- 19th at 1:00 NEWSLETTER MEETING
- 23th at 7:30 "C" SIG

FEBRUARY:

- 2nd at 12:00 DAL-ACE MEETING
- 16th at 1:00 NEWSLETTER MEETING

-----> <-----

--> SIGS <--

"SIG" is the acronym for "Special Interest Group". These groups are composed of members having a common interest in a specialized area of the general computing field. These specialized areas range from languages, to applications and special features of the ATARI. Join in with one of the groups listed below and get more out of your computer! If you would like to start a new SIG, send your name, phone number, and a description of the subject to Jim Chaney, DAL-ACE, 916 E. Berkeley, Richardson, Tx 75081. Deadline for all SIG information is the 15th of the month.

--> GRAPHICS <--

Members interested in the GRAPHICS SIG, please contact Sandra Stephens, 827-0493.

--> ADVENTURE SIG <--

The Adventure SIG will meet January 5, 1984 after the regular DAL-ACE meeting in the small room at 3:00 pm. Contact Steven Markley at 231-6918 for additional information on this BRAND NEW SIG.

--> "C" SIG <--

"C" is a language SIG. There will be two Wednesday meetings in January: 1-9 and 1-23

NOTE: At press time the location of the meetings has not been determined. Call Jim Chaney's the day before the meeting for the location.

Contact Gary Sewell at 214-727-6567 or Jim Chaney at 231-4402 for information on the "C" SIG.

RICHARDSON CIVIC CENTER - RICHARDSON, TEXAS
 DIRECTIONS: From LBJ (635), take Central Expressway (Highway 75) North to Arapaho Road in Richardson. Turn left (West) on Arapaho Road. The Civic Center is on the left between the Hwy 75 service road and the Richardson Public Library. Guest are WELCOME!!

MEETING AGENDA

- NOON TO 1:00 SALES (VENDORS & CLUB)
 DEMONSTRATIONS
 NEWSLETTER DISTRIBUTION
 NEW MEMBER REGISTRATION
 GUEST REGISTRATION
 SOCIALIZING
- 1:00 TO 2:00 SPECIAL PROGRAMS
 DEMONSTRATIONS
- 2:00 TO 3:00 BUSINESS MEETING
- 3:00 TO 4:00 SIGS

VENDOR RESERVATIONS

Vendors may reserve table space prior to the meeting by calling Jim Chaney (231-4402). Fee collections and table assignments will begin at 11:45, after which the vendors may begin to set up their areas. Those tables which have been reserved but not yet claimed by 12:30 may be purchased by other vendors at that time. Prepaid reservations will not be released. Space assignments will be on a "first come, first served" basis, unless prepaid. The current meeting facility allows for approximately 30 vendor tables.

NEWSLETTER ADVERTISEMENT

Personal FOR SALE or WANT ads are free to current members.

COMMERCIAL RATES:

- Full page (7 1/2" H by 9" V) \$35.00
- Half page (7 1/2" H by 4 1/4" V) \$25.00
- Quarter page (3 1/2" H by 4 1/4" V) ... \$15.00

Commercial ads must be camera ready. Ad deadline is the 15th of the month. Mail or deliver copy to DAL-ACE Newsletter, 4033 Southwestern Blvd, Dallas, TX 75225.

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