

# A C E C

# Put this desktop

Desk File View Options

The desktop environment includes the following elements:

- Icons:** Disk A, Disk B, 5 1/4" IBM, 500K Ramdisk, 20M Hard, 500M CD ROM, and Incinerator.
- WATCH:** 19:30:22, 07/14/86
- CONTROL PANEL:** 7:38 PM, 7/14/86, a volume slider, a numeric keypad (0-4), and a Cancel button.
- BREAKOUT:** A window showing the score 31.
- TI-59:** A Texas Instruments TI-59 calculator showing 485.00.

# on top of your desk!

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This newsletter is distributed for current ACE of Columbus membership. Dues are on an annual basis and entitle the members to all club benefits (Newsletter, Disk or Tape of the month, group discounts, etc.). Monthly meetings, at DeSales High School (Cafeteria) on Karl Road are open to nonmembers.

Upcoming meeting dates at 7:30 pm are:

July 14  
August 11  
September 15

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## ATARI EVOLUTION: Different Bytes For Different Likes

### Thoughts from the Editor

In Atari circles these days two letters seem to be equaled to owning a 'real' computer. Those letters are S & T of course, the ST series are in their own right a tremendous value and on the forefront of new desktop computer systems. BUT, don't let anyone pull a sales shuffle on you by convincing you that the only way your computer system can evolve and keep up with current trends (i.e. more memory, more storage, 80 columns, etc.) is to trade up to the ST. (Usually at a substantial loss of original investment of money and time spent in learning the 'system')

Currently, there are many more software and hardware enhancements for the 800/XL/XE line than for the ST, not to mention the availability of information and informed people that are readily accessible. (This is not the case with the ST, good info is hard to come by and often difficult to implement.)

New software and a number of 'critical' long awaited hardware products are now becoming available that lets your 8-biter compete favorably with many other systems often at a fraction of the cost. Atari has finally announced a production model of the XEP80 which plugs into the joystick ports and gives a sharp 80 column display on a standard monochrome monitor. It also supports some vector graphics and gives you parallel printer output.

Ever since Claus Buchholz published a memory upgrade for the 800XL and the advent of the 130XE, our 'little' computers that were limited to 64K (which included the OS and BASIC) have become memory hungry monsters with upgrades that range from '256K XE compatible anyone can do' (Read the Rambo XL article, this issue) to rumors of a full 1 MEGABYTE XE (1040XE?). This extra memory can be used for fast RAM-disks, bigger spreadsheets, more data in your data bases or whatever else you can dream up.

A company called ICD has recently developed an exciting enhancement that anyone considering switching to another computer to get increased storage should look into. It is a new parallel device for the XL/XE computers. It presently includes the following features:

**RAMDISK** - up to 1 Meg in 256K blocks. This device has its own power supply, so the RAMDISK contents remains intact when the computer is turned off!

**PRINTER INTERFACE** - uses a standard 850 cable to plug into your parallel printer!

PRINTER BUFFER - use any portion of the RAM as a printer buffer (spooler). This also retains data when the computer is turned off!

SERIAL INTERFACE - a standard 850 type (p:R: Connection type) serial interface except this one uses a UART which allows concurrent I/O through more than one channel at a time! ROM software emulates the 850 handler!

HARD DISK INTERFACE - supports both SASI and SCSI hard disk controllers. Use any size hard drive and up to 8 with the same computer and interface. ICD will have a packaged 10 or 20 Meg drive with case, power supply, and controller available shortly.

ICDBUS Expansion Port - for future add on boards.

ROM software includes RAMDISK handler, Printer interface, Printer buffer, 850 serial handler, Hard disk interface and configuration. Also included in ROM are defaults. Disk software (for hard disk) includes formatting routines (for SpartaDOS) and profile.

Those people interested in this device should contact ICD for availability and pricing information.

Atari is continuing to evolve, but not in just one direction. Both the 800/XL/XE and the ST series are getting more advanced, which doesn't mean trading up is the only means to improve and expand.

#### SIG Notes Warren Lieuallen

The June meeting of the ACEC SIG's was held at Whetstone Library again. Although I didn't take any kind of a survey, I think I can say without fear of contradiction that everyone had an enjoyable time.

Charles Lusco continued his explorations of the in's and out's of running a BBS by demonstrating his own version of AMIS locally (due to the lack of a phone line!). Our own ACEC BBS (268-0405) was also discussed; the new commands were explained, and the proper upload/download procedure was outlined.

Charles Brown led his band of renowneds through another Atari BASIC tutorial, with the help of the "Wizard" himself, Gary Schumacher. I know that this night's demonstration held the fascination of everyone present, because it was the first to start, and the last to end!

Perhaps the most rewarding happening was the return to the original discussion group format by several attendees. At these discussions, topics change rapidly, and opinions and advice are freely given; these forums allow the exchange of information and experience, which is precisely why the SIG's were started in the first place.

The Action! SIG is still waiting to form. Our major difficulty is that Dave Beck, our Action! expert has another commitment on Thursday nights. I don't know about anyone else, but I'm all for moving the SIG's to another night (I REALLY would like to learn Action!).

At any rate, the next SIG meeting is Thursday, July 24th, at 7:15 p.m., at the Whetstone Public Library. See you there.

Software Review: BASIC XL  
by Dr. Warren G. Lieuallen

At one point or another, most Atari owners end up delving into Atari BASIC for the purpose of writing a program to accomplish a certain task. Some of them become quite good, almost professional, while others barely get past the first few chapters of whichever book they happened to pick up.

Here in Columbus, we are rather lucky, because Charles Brown is teaching Atari BASIC to a devoted group at each SIG meeting. This makes learning BASIC much less painful. But, as Charles himself will tell you, there is a better way.

There is another dialect of Atari BASIC, available from OSS, Inc., (see my article "The Right Stuff", which should also be in this month's newsletter somewhere) called BASIC XL. This version is specifically for the 800 XL computer; another modification called BASIC XE is available for the 130 XE. As has been stated in reviews in several of the popular magazines, BASIC XL is the language which should have been built into our machines in the first place. Why such high praise? Read on and see.

As a program, and the programmer with it, develops, certain functions are thought of as an entire subroutine, rather than the individual commands. In Atari BASIC, there are a number of instances where to accomplish what seems like a simple operation requires a subroutine composed of several lines of complicated and confusing code. BASIC XL solves this problem, mostly by expanding the number and range of available commands.

Ever tried to use player/missile graphics? I did, once. Although there are several good sources for learning how to correctly set all the memory locations, and appropriately use the players and missiles, it is overly disorganized and "user-unfriendly". In BASIC XL, however, there are extra commands to take all the work out of it, such as: PMGRAPHICS to automatically perform all of the mystic POKE's required, and set aside the necessary memory space; PMMOVE to easily move the player to any desired location (and quickly, too), which is a programming feat unto itself in Atari BASIC; and others, such as MOVE, or BGET to simplify the definition of the shape of the player, and BUMP to detect collisions.

Related to the use of player/missiles is the use of the joysticks. While the series of numbers needed in Atari BASIC to determine the position of the joystick aren't that bad, wouldn't it be simpler to just use a command like IF HSTICK=1, or IF VSTICK=0? There is also built-in support of the light pen via the PEN() command.

Tired of typing all of those line numbers (and often making mistakes along the way!)? BASIC XL will automatically generate the line numbers for you, as well as providing other commands to renumber part or all of the program. Defined blocks of the program can also be deleted, which can be a real time-saver.

Going crazy trying to format your screen output correctly and aesthetically? BASIC XL supports the powerful PRINT USING command, with which pre-defined "masks" are used to characterize the type of printing to be done. A wide variety of both numeric and string definitions are possible, again allowing for maximum flexibility. A full-featured TAB command is also provided, adding to the usefulness of this system.

How about those frequent needs to return to DOS for a little disk maintenance? Many of the DOS commands are included as BASIC statements, including: RENAME, PROTECT and UNPROTECT, DIR, and ERASE (Delete). Now there's no reason to bother with MEM.SAV, and you don't have to worry about saving your creation every time you exit to DOS, because now you won't have to exit nearly as much.

And let's not forget the feeling of frustration when we realize that our masterpiece contains at least one bug (and almost always more!). Debugging is never pleasant, but with BASIC XL, it's less painful. Commands such as TRACE, to trace the program's path through the execution of each and every line allows specific localization of errors (By the way, the error messages are in English, rather than the cryptic "ERROR 83"). In addition, the LVAR command will produce a list of all the variables used in a program, and the lines where each variable is used. This command alone

has been sold as a complete debugging utility program. If that weren't enough, the listings produced are also easier to read, due to indentation of structured statements such as FOR/NEXT, or IF...ELSE...ENDIF.

There are many more commands in BASIC XL which make programming more enjoyable and understandable. But there are two more features which I would like to mention, which deal less with programming, and more with using programs.

Unlike some other supplementary BASIC's for the Atari, BASIC XL is compatible with Atari BASIC. So all of the programs which you already are using will run under BASIC XL. There is even a specific command to insure this compatibility. So, the programs which you currently have can be used and improved easily.

The final feature which I would like to present is one of the more exciting. There is a command which seems rather bland on the surface, but which is surprisingly valuable. This command is FAST. As you might guess, it acts to speed up the running of BASIC XL programs. It does this by "remembering" the location of each line number by doing a quick pre-compilation of the code. What this really means is that each time there is a GOTO, GOSUB or FOR/NEXT statement executed, it is not necessary to start from line 1 and search all the way through to finish thereby cutting the time required to execute all GOSUBs and GOTOs to a bare minimum. This feature combined with all the others makes BASICXL an excellent value and a 'must' for anyone interested in serious BASIC programming.

The Right Stuff  
by Dr. Warren G. Lieuallen

I've been in the Atari computer market for nearly two years now, and have been an ACEC officer for nearly a year. In that time, I have had the opportunity to learn new things, meet new people and review a number of new products. From each of these groups, I've seen both bad and good, but I recently found one so much better than all the rest, I just had to write it down so others could share my good fortune.

Now I'm not talking about any particular great new program, nor am I referring to a wonderful philanthropist. What I would like to discuss with you is a company --- Optimized Systemes Software, Inc., better known as OSS.

The list of products made by OSS is an impressive list, including: ACTION!, BASIC XL and XE, MAC/65, The Writer's Tool and DOS XL. As others (like ANTIC and ANALOG) have

noted in the past, the consistent quality of OSS's products is so remarkable, it makes you wonder if they are really just mortals like you and me! Over the years, OSS has produced more useful programs, languages and operating systems at reasonable prices for the Atari computer system than any other company I know of. As far as I am concerned, you can't go wrong in buying an OSS product, but it doesn't stop there.

OSS is also unique in their support of the computer user. I recently wrote to OSS, asking them for a review copy of BASIC XL to review in our SIG meetings. They not only responded in less than two weeks, their response was even more positive and helpful than I could have hoped for. I am so impressed with their response to my letter, I would like to quote it directly.

"People often underestimate the important role that user groups play in the computer world. But, we at OSS believe otherwise."

This is not the first letter I have written to OSS. And this is not the first time that I have been absolutely delighted at the response I've gotten. So, the next time you find yourself with that itch to run out and buy something new for your Atari to play with, just keep OSS in mind. They deserve your respect, your thanks, and most of all, your support.

THE ATARI MACRO ASSEMBLER  
EDITOR PART 2: THE SYSTEXT FILES  
by Charles E. Brown

In the last article I introduced you to a new assembler. The ATARI MACRO ASSEMBLER EDITOR. I hope you understand that it is a lot easier to use than the regular assembler editor. With the macro and systext files it makes for less typing. In the last article I showed how a macro worked. In this one I will talk a little bit about the systext files.

What is a systext file? Well, it is just a disk file where all my frequently used variables are defined, lets look at a part of a systext file.

```
ALLPOT EQU $D208
AUDC1 EQU $D201
AUDC2 EQU $D203
AUDC3 EQU $D205
AUDC4 EQU $D207
AUDCTL EQU $D208
AUDF1 EQU $D200
AUDF2 EQU $D202
AUDF3 EQU $D204
```



```
AUDF4 EQU $D206
CHACTL EQU $D401
CHART EQU $2F3
CHBASE EQU $D409
CHBAS EQU $2F4
COLBK EQU $D01A
COLOR4 EQU $2C8
COLPF0 EQU $D016
COLOR0 EQU $2C4
COLPF1 EQU $D017
COLOR1 EQU $2C5
```

The above list is just a sample of my systext file. It is very simple to understand. The 1st column is the variable name. The 2nd column is the letters EQU they mean equate or you could use equal. The 3rd column is the hexadecimal number for what the variable means. In these examples they are memory locations in the computer. For example lets look at the 1st one:

```
ALLPOT EQU $D208
```

The line simply means that the variable named allpot equates or equals \$d208. If I was writing a program and used the command lda ALLPOT. Then I would be telling the computer to load the accumulator with the value in location \$d208. So what ever was stored in that location would be put in the accumulator. If your interested the location is 53768 decimal. The location is used for reading the paddles. By using this systext file I would not have to define these variables. It would be done for me.

Many people might ask:

"Why use the variables? Why not just use the number itself? Such as lda \$d208. It would be the same thing and you wouldn't need the systext file."

Well, that would be true, but what would happen if you would go back to this program and try to read it. You might not know what that location is or what it does. That way you would not know what you were doing. You would have to look that location up to see what it does. On The other hand by using the variable name I could at least figure out I was doing something with the paddles. This would be very good if someone else was reading my program they could look at the variable names and sort of guess at what I was doing. Do you know what decimal location 632 (278 hex)is? If you would see it in a program would you know what it is for? Now how about stick(0)?Can you guess what it does? Well, they all mean the same memory location. I bet that if you saw the stick(0) you could take a wild guess that it has something to do with the joystick. You would be right, because it holds the value for

joystick 0. The one plugged into your 1st joystick port. By reading the values their it knows which way the stick is held. If it was a 15 then the stick is in the center. If it is a 14 then the stick is pushed away from you ect.

I hope that you can see from my examples. That the use of the systext file would make things much easier. By not having to define those variables each time it saves much wasted typing.

## Rambo XL

### What's In a Name?

by Dr. Warren Lieuallen

Although I thought I would NEVER buy anything named "Rambo", I did. I'm glad I did. Let me tell you why.

For those of you not familiar with the product, Rambo XL is the 256K memory upgrade for the 800 XL and 1200 XL computers. It is manufactured by ICD, Inc., the same people who brought you the SpartaDOS Construction Set, the US Doubler and the R-Time 8 device. For those of you not familiar with the other, cinematic Rambo, count your blessings!

I had been toying with the idea of upgrading my old Atari 800 XL for quite some time. To be perfectly honest, I was considering upgrading it to a 640K IBM XT clone with a 20 meg hard drive and two 360K floppy drives, but I didn't happen to have \$1600 with me that day! As you know if you read the March issue of the ACEC newsletter, there are now quite a few upgrades available for the eight-bit machines, including several 256K mods for the 800 XL's, and a 320K mod for the 130 XE. Some of these require an advanced degree in electrical engineering from one of the better schools to install properly, while others require an investment greater than the cost of the XE they emulate. Having neither, and desiring 130 XE compatibility for my XL, I chose the Rambo XL.

For the forty dollar purchase price, you receive a small circuit board with four IC chips already installed, a length of skinny blue wire and a nice instruction booklet. You must purchase separately eight 256K memory chips -- these are available locally, or through numerous mail order houses, and should run another \$20 or so.

I have not touched a soldering iron in at least six years, and as I remember, even then I burned myself every ten minutes or so. However, I'll do almost anything to save \$15,

so I thought I'd give the installation a try myself. Let me tell you right now, it's so easy, even Rambo himself could probably handle it.

The instructions in the manual are clear and easy to follow, if you just take it slow and make certain you understand everything before you do anything. I read the entire manual three or four times before I even took the screws out of the bottom of my computer! Better safe than sorry.

I ran into a little unexpected difficulty because I apparently own one of the older XL's. In my machine, the one small RAM address decoder chip which Rambo replaces was not socketed, but soldered in place onto the mother board. Now I know why it's called the MOTHER board, you know what I mean? At any rate, despite the manual's warnings about desoldering a chip being a difficult job even for the most skilled technician, I desoldered the chip.

"What the heck, I'm going to throw it away anyhow," I thought to myself. Thank goodness for small favors! By the time I was finished, that chip was READY to be thrown out.

Following the next fiasco of not having a socket installed for Rambo to fit neatly into, I managed to solder the extra board directly to my mother board. A couple of jumpers, one five wire lead to some pins on the Antic chip, and Voila! All told, I must admit, I spent three hours Friday evening, and another two hours Saturday morning, but that's because I wasted a lot of time dealing with the missing socket. If I had done the job directly, I, the rankest of amateur chip-splitters could have finished the job in two and a half hours. By the way, I burnt myself three times in the process! But it doesn't matter. There is nothing to match the satisfaction of seeing that little "READY" prompt appear on the screen after you've gutted your computer, and are convinced that it will never work again.

Now that I effectively own a 130 XE, with a 128K RAMDISK to boot (no pun intended!), let me tell you how it works. Both the XE and the modified XL's use the extra memory as blocks of 16K. Different blocks are selected by the settings of specific bits in one memory location. For more details on the technical aspects, read the Rambo doc's, some of the Byte articles, or find one of ACEC's hardware nuts. All I care is it DOES work. I booted up the XE version of PaperClip, and find that my free memory has jumped from 850 lines to 2072 lines (that's enough for more than twenty-five single spaced pages!). The ICD manual also says that with the optional configuration, PaperClip will use the full 256K of RAM. Unfortunately, they didn't happen to mention just what that optional configuration is. I booted up the 128K version of SynFile+, and my record capacity has gone from about 900 to

4397. The new AtariWriter Plus works just fine. In fact, I haven't found an XE program that hasn't worked.

I booted up DOS 2.5, and my screen tells me that it's setting up the 130 XE Ramdisk. Going to DOS (which takes about 2 seconds) verifies that my drive 8 has 499 sectors. The newest version of SpartaDOS has a new RD.COM file, which creates a 1536 sector Ramdisk by using all of the extra 192K RAM. There are probably other programs out there which will allow other configurations (viz. two single density Ramdisks, or one double density Ramdisk, etc.), and I intend to find them. If anyone has any information about any software for any of the XL modifications, I'd appreciate hearing about them. I'd like to put together a disk for our library containing all of the available programs and doc files.

So, if you'd really like to have a 130 XE, but you've got an 800 XL, don't despair. For \$60 and a little charred flesh, you can have your XE, and a free Ramdisk in the process.

By the way, does anyone have any plans or instructions for making a 64K printer buffer. I just happen to have some spare RAM chips lying around....

## Machine Language Courses

Gary Schumacher is offering courses in Atari 8 BIT machine language. Gary is a professional programmer and has worked at several large corporations in Columbus. In addition, Gary is very familiar with the Atari 8 Bit operating system and has written several machine language programs for the Atari. The courses will be in his home where he has two Atari computer systems set up. The courses will be limited to four people. Tuition is \$7.50 per course and each course will be two hours in duration. Listed below are several possible topics for courses. If you would be interested in one of these or would like suggest a topic please fill out this form and give it to Don Bowlin at either the monthly meeting or at the SIG meeting.

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I would be interested in more information on the courses checked below.

Name \_\_\_\_\_

Phone \_\_\_\_\_

What day of the week  
could you take a course \_\_\_\_\_

- Getting started with the Assembler Editor Cartridge.
  - Getting started with the Macro Assembler
  - Interrupts
  - Display Lists
  - Beginning Assembler Tricks
  - Player missile Graphics
  - Other \_\_\_\_\_
-

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