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**Düsseldorf Atari  
Show Report**

**ST Virus Write  
Detector**

**32,768 Color Support  
for the ST**

**Turbo-816 Info #4**

**Hard Drive Myths  
and Mysteries**

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## On the Cover

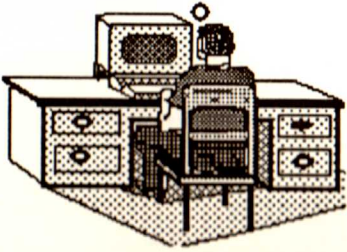
Artwork and logo from the game Bloodwych. Artwork by Chris Achillios.

Managing Editor: Patricia Snyder-Rayl  
Editor: Bill Rayl  
Artwork: Steve Volker

AIM is produced on a 2.5 Meg Atari ST, HP LaserJet II, Timeworks DTP and PageStream.

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## Editorial Ramblings

Welcome, CCCC, RACC, MAUG and LACE! Welcome to the AIM "Family" of Atari User Groups!

CCCC stands for the Central Connecticut Computer Club from Bristol, CT. They boast as one of their members the Atari GENie SysOp Darlah Pine. Their club president is Rich Scheidel, otherwise known to CIS callers as Yankee Rich.

RACC is the Rockford Atari Computer Club from Rockford, Illinois. RACC members are receiving AIM as a supplement to their own newsletter. As you know, Rockford, IL is also the home of ICD, Inc., and this Atari Club has hosted meetings with ICD people like Craig Thom. We look forward to the report from the next meeting he has with RACC!

MAUG is the Mid-Ohio Atari User Group. Their club president is none other than Chuck Steinman, the creator of the Turbo-816. Readers of AIM have been enjoying his articles on the Turbo-816, the 16bit processor for the 8bit Atari line, for several months now. MAUG is based in Ontario, OH.

LACE is the Layton Atari Computer Enthusiasts. Their club is based in Roy, Utah. Irwin Brooks is the president of this small, but very devoted, Atari club. LACE is trying AIM out for this month to see how we fit their needs. We hope to have them along for as long as they find us useful!

On another note, the Genesse Atari Group (GAG) has changed status to an Affiliated club, and the Capitol Hill Atari Owners Society (CHAOS) has dropped relationship with AIM altogether.

We are happy to say we anticipate many more clubs joining the magazine as Participating Groups. We have four clubs now waiting to jump on with the November issue, and we may hear from others before the November deadline passes.

Bringing user groups more closely together to share ideas and experiences is what Atari Interface Magazine is all about. We would like to take this opportunity to give a special THANK YOU to all the clubs (and their contributing members!) that have participated in making AIM a first-class user group oriented publication.

### **Oops!**

We made an error last month in saying John Scrutch was no longer employed at Atari Corp. We apologize to him and to his family for saying he was out of a job! In fact, John Scrutch is in charge of marketing for the 8bit systems at Atari.

**Bill & Pattie Rayl**

# Atari Interface Magazine Offers User Groups a Low-Cost, Hassel-Free Newsletter Alternative

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## Press Release

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ANN ARBOR, MI — Has your Atari user group found itself spending a large chunk of its funds to produce and mail a club newsletter? Do you have an over-worked newsletter editor who scrambles to get each newsletter produced? Does your club find it increasingly harder to have a quality newsletter containing original articles? Has your club tried including Z\*Net supplements only to find the increased production costs far outweigh the benefits?

Unicorn Publications, producer of Atari Interface Magazine (AIM), announces a plan to help Atari user groups overcome the hassles associated with producing a club newsletter. We invite your club to join groups from Michigan, Oklahoma, Texas, Illinois, Utah, Ohio and Connecticut in becoming a Participating Club in Atari Interface Magazine for the low price of only 50 cents per issue per member...for each member, that's only \$6.00 per year!

For the price many clubs are currently paying for postage alone, your members can have a high quality, national newsletter delivered each month to their doors.

Here's how it works: Participating Clubs submit club news, minutes, reviews, editorials and other feature articles on or before the 17th of each month. Participating clubs also supply mailing labels for their members and a check or money order for 50 cents per supplied label.

Here at Unicorn Publications, we write monthly columns and features, and we do all the "dirty work" — editing, laying out and producing the magazine and mailing each issue to the club members.

For those of you unfamiliar with the history behind AIM, Unicorn Publications began producing the magazine in December, 1987, under the name Michigan Atari Magazine. With the addition of Participating Clubs outside Michigan, the publication evolved into Atari Interface Magazine.

The magazine supports both the Atari 8bit and ST computers. With over-the-counter sales in select Atari stores from Maine to California, chances are you can find AIM at your local dealer.

As well as submissions from participating clubs, the magazine currently includes these regular monthly columns:

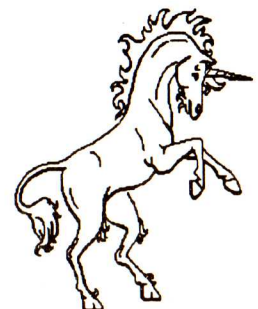
- ◆ Atari Bulletin Board, a look at what's new each month in the Atari world
- ◆ Turbo Info by DataQue's Chuck Steinman who discusses the Turbo-816 16bit processor upgrade for Atari 8bit owners
- ◆ Hard Drive Myths and Mysteries
- ◆ An in-depth tutorial to help people get the most from the AtariWriter+ wordprocessor
- ◆ The Right Brain, a look at Atari computing through the eyes of Paul Stampfli of the ST Club of El Paso

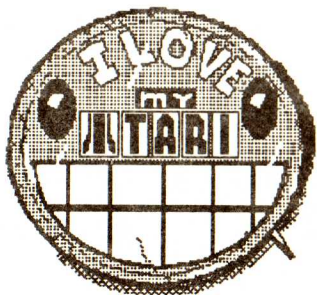
If your editor is currently struggling to produce a monthly newsletter, or if your club has tried including Z\*Net supplements only to find that local content has to be decreased or newsletter production costs soar out of reach, we urge you to consider participating in AIM.

Production and mailing of a monthly club newsletter is, quite often, the largest expense for a club. As a Participating Club paying only 50 cents per issue per member, your newsletter costs should decrease substantially. At the same time, your club joins with other Atari user groups to gain the benefits of participating in a national user group oriented publication.

For more information on becoming a Participating Club in Atari Interface Magazine and other benefits of participation, contact Pattie Snyder-Rayl at (313) 973-8825. Or, give our BBS a call at (313) 973-9137 (300/1200/2400 baud).

Unicorn Publications can be reached via electronic mail on CompuServe (ID 71361,411), GENie (UNICORNPUB) and Delphi (UNICORNPUB). We hope to hear from your club soon!





# Atari Bulletin Board

by Bill and Pattie Rayl

There is a bit of news this month from Atari headquarters. Atari President Sam Tramiel held an online conference on GENie and lots of press releases appeared after The Dusseldorf Messe at the end of August.

In this issue, there is a report, complete with product pictures, on the Dusseldorf show from special correspondents Christian Strasheim and Michael Schutz of ST Vision.

## Sam Tramiel Conference

In the online conference held on August 30, Sam Tramiel talked about the new STE and TT, both of which were officially announced to the public at the Dusseldorf show.

"The 1040 STE has a palette of 4096 colors, hardware fine screen scrolling and support for light guns, paddles and extra controllers. Also, Genlock is supported without the need for internal modification," Sam Tramiel stated. "The sound in the STE and TT are 8bit stereo PCM. The number of channels depends on the software.

"The TT has six built in graphics modes: the three ST modes, with 4096 colors, and three new modes: 640x480 16 colors, and 320x480 256 colors, both using the 4096 color palette, as well as a very high 1280x960 monochrome resolution. The TT has three chips for serial IO. Two 68901's, and an SCC, which can go much faster than the 68901. As well, in the VME slot, we will have future video boards which will knock your socks off.

"We plan to ship the TT in 4th quar-

ter, 1989." Tramiel continued, "We will be shipping Stacy by October, in the US also, pending FCC bureaucracy.

"We will advertise in the appropriate magazines as we have all along. We are actively looking for a new US sales team and plan to launch the Portfolio with direct response big advertising in mid-September and to use this machine to attract dealers for the ST line as well."

Tramiel also indicated the STE would be available in the US by the end of October.

## The Atari Marketplace

Sam went on to talk about the US and European markets. "There were 35,000 attendees at the three day Atari Fair. There were 145 third party software and hardware suppliers there as well. It was one hell of a show. The next challenge is to get the US market up to the same level of support.

"As most of you know, we had a tremendous DRAM shortage in the years of 1987 and 1988. We made a tactical decision to support Europe and keep our market there very strong. Very sorry to our loyal US supporters, but it was a necessity. Now the DRAM situation has reversed. Does anyone out there want DRAM?

"But seriously, it's now time to re-enter the US," Sam added. "At the Dusseldorf fair, we saw a lot of serious software, particularly graphics software. This runs on all ST products today. There is no question that in the personal computer market, games are very important. The better they are on your machine, the more you sell. But for reasons I mentioned be-

fore, we have not really launched in the US, but plan to starting in mid-September. As our distribution increases, so will our advertising.

## ATW Afterthought

"Regarding the ATW, we have shipped the first 300 machines to Europe and plan to bring this machine into the US some time before the end of the year. I also think it is a great product, but we must focus on getting the ST going in the US, and if we do too many things at one time, we will not succeed," Sam concluded.

While he was in conference, he told conference attendees that he just heard news from overseas that Atari France burnt to the ground, with no one injured. The building next to Atari France's offices was reportedly to blame for the fire.

## (Rainbow) TOS 1.4

Atari has released TOS 1.4 (also called Rainbow TOS), and you should be able to purchase the 6-chip ROM sets at your local Atari dealer.

Prices may vary, but Atari has set the retail price on the set at \$99, not including installation. If you don't know who your nearest dealer with TOS 1.4 is, you can call Atari Customer Service at (408) 745-2367.

Atari Corp. recently modified their "trade-in" policy, increasing prices across the board. In the past, a standard 520ST CPU that had ceased to function could be traded in for only \$95. With the new pricing, replacing that dead ST will now cost \$300.

### Atari Stock Watch

Atari Stock is on the rise! As we write this, Atari's stock was at 11-3/4. Atari's stock has been the most active stock on the American Stock Exchange for the month of September, and has risen in price by 40 percent.

In fact, on the 12th and 13th of September, more than *a million* shares of Atari stock changed hands. Most stock-watchers attribute this rise to the market's interest in the Atari Portfolio.

### Portfolio at Local Dealers

On September 13, 1989, Atari officially announced that the Atari Portfolio was available worldwide. The IBM PC-compatible "palmtop" computer weighs one pound, is powered by three "AA" batteries and retails for \$399.95. According to Atari President Sam Tramiel, "Atari Computer has been shipping the Portfolio to key European markets for a few months and we can't keep them on the shelves." The Portfolio was first introduced at the Spring COMDEX last April.

### New Products

"Look Mom, No wires!" Practical Solutions has announced their Cordless Mouse for the ST. The mouse uses an infra-red signal, allowing you to use the device up to five feet away from the receiver. The Cordless Mouse comes with a full one year warranty, and though the mouse is due for release on October 20, Practical Solutions reports demand has been overwhelming. The Practical Solutions mouse retails for \$129.95 and runs on two AAA batteries. For more information, contact Practical Solutions at (602) 322-6100.

The Cordless Mouse might be a good addition for the new "Hottest" game on the ST, Bloodwych from MirrorSoft. You'll find a review of this Dungeon Master-like game in this issue. Bloodwych's popularity is already assured, after the first shipments of the game into the US from England were sold out in a matter of days at most dealers!

### Emulators Now Available

Another product who's popularity has been assured is Avant Garde's PC Ditto II, the hardware IBM/XT emulator for your ST. The coupons for half-off the retail price (\$299) have been sent to registered owners of PC Ditto I, and most of the PC Ditto userbase should have received them. The Coupon is only redeemable until the 15th of October. According to Rick Flashman of Gribnif, the \$150 coupon price for PC Ditto II is \$50 below DEALER cost and a great bargain!

MichTron has recently announced they are marketing the German IBM emulator known as PC Speed. This upgrade board is similar to Avant Garde's design in that they both fit over the 68000 CPU chip. However, the PC Speed board requires solder-

ing to the 68000, while PC Ditto II simply snaps in above the 68000 chip. PC Speed has a Norton SI Rating of 4, which is faster than PC Ditto II's advertised SI Rating of 3. PC Speed retails for \$399.95. For more information, call MichTron at (313) 334-5700.

### New Version of WordPerfect

WordPerfect Corp. has just started shipping their latest version of the word processor extraordinaire. If you have an earlier version of WordPerfect other than 4.1, you can upgrade for only \$17.50 — including shipping and handling. To send for the upgrade, write WordPerfect Atari Update, 1555 N. Technology Way, Orem, UT 84057 or call (801) 225-5000.

### New Utility Package

Double Click Software has announced the availability of DC Utilities, a collection of some very useful and innovative utility programs for the ST. Included on the disk is a fast ARC extraction Desk Accessory, a self-extracting ARC program, a program to turn Desktop.Inf files into executable files, "the fastest RAM-disk available," and more. DC Utilities retails for \$30. For more information, call Double Click's support BBS at (713) 944-0108.

The long-awaited MasterLink terminal program for the ST from Intersect Software is now available. Featuring "total background operation," loadable file transfer protocols, a built-in script language and much more, MasterLink (version 1.2) brings new power to ST telecommunications. MasterLink retails for \$59, and owners of InterLink can upgrade for only \$23. Contact Intersect Software, 3949 Sawyer Rd, Sarasota, FL 34233.

### Commercial to Shareware Packages

Draper Pascal 2.1 for the Atari 8bit is now Shareware and is available on the online services (and probably your local User Group!). A 39-page manual with tutorial is included in this Shareware release.

On the ST side, Aegis Animator has been released into the Shareware market! If you're looking for a graphic animation package, take a look at Aegis Animator.

Remember to support the Shareware concept: if you continue to use these programs, send in your contribution!

### ST Vision Magazine

ST Vision is a German User Group located in Langen, West Germany. Their newsletter goes to over 5,000 readers and is as professionally done as some US ST magazines — possibly more so! You can get the latest European Atari news delivered monthly, but you need to read German! Their address is Postfach 1651, D-6070 Langen, West Germany.

# Atari Messe Dusseldorf (August 25 - 27, 1989)

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by Christian Strasheim  
and Michael Schutz

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*This show report appears courtesy of the ST VISION User Group of West Germany.*

During the last weekend in August, Atari again held its annual "Atari Messe" in Dusseldorf, West Germany. Over 150 exhibitors from all over Europe — and even some from overseas — showed their Atari related products in Halls 1 and 2 of the fairground in Dusseldorf. The fair lasted the usual three days, and during that time more than 35,000 visitors strolled through the halls.

As announced by Atari before the fair, Dusseldorf saw the world premiere of two new Atari computer models — the TT and the 1040 STE. Over the last one-and-a-half years the TT had already been shown secretly in backrooms at other fairs, but here in Dusseldorf, the new flagship of the Atari ST line was presented publicly for the first time.

The TT uses the Motorola 68030 processor and runs under the new TOS030. Most of the currently available ST software will run on the TT without major changes — with a speed improvement ranging from three to ten times faster than on an 8MHz 68000 ST.

At the end of this year, UNIX System V (Version

5.31), XWINDOWS and the newly developed operating system for the TT will be available. The TT itself will be available sometime in November '89 for a price of approximately DM 6,500. This includes the TT with TOS030, 2 MB RAM, a 30 MB harddisk and a monochrome monitor.

The Enhanced ST (1040 STE) is a 1040 ST with a new TOS and much better sound and graphic abilities. It can display 512 colors at once out of 4,096 different colors/shades. [Ed. Note: According to Atari U.S. the STE will only be able to display 16 colors in low resolution and four colors in medium — the same as the current ST computers. Access to, and displaying of, more than 16 colors at once must be handled by software.]

Besides the standard connections, the STE allows the user to plug in up to six joysticks, a lightgun or a light rifle. A

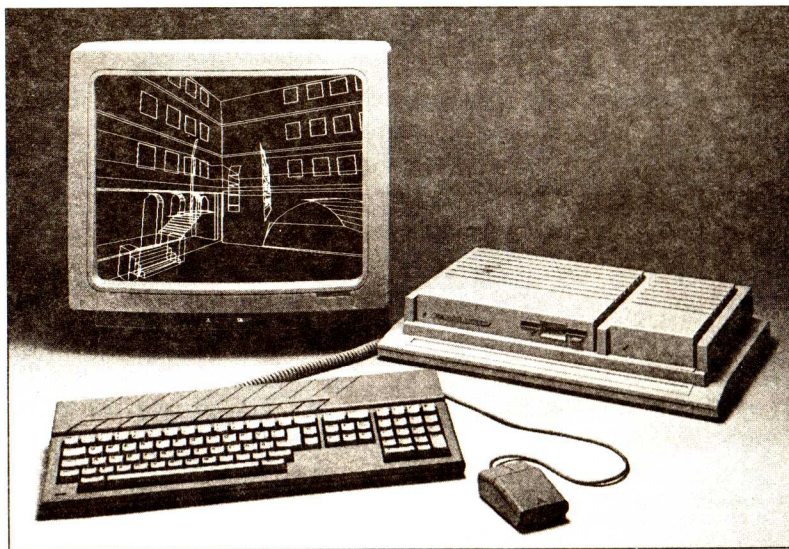
stereo-sound-output makes the playing of PCM sound directly through a stereo system possible. [Ed. Note: According to Sam Tramiel, the STE also supports GENLOCK with no internal modifications.] The 1040 STE with these features is aimed at the young computer gamers and graphics applications. Its similarities to the Amiga 500 are obvious.

The price of the 1040 STE lies around DM 1,500 — slightly above the price for a standard 1040 ST. This raises the question of whether Atari will discontinue production of the older 1040 model soon, because who in the future will buy an inferior machine if he/she can get a much better one for a little bit more money?

Other products shown by Atari were the PC Portfolio, the ATW transputer and the small transportable game system LYNX (better known as Portable Color Entertainment System) and, naturally, the PC line up to the 80386-based PC5. As already seen at other fairs, both PC Portfolio and LYNX got a lot of attention during their presentations.

Many ST users waited for it a long time, but since a couple of weeks ago the wait here in Germany is over. At last the ST can run MS-DOS software through the help of hardware MS-DOS emulators.

In Dusseldorf, the two German hardware emulators, PC Speed and SuperCharger, were



The Newly Announced Atari TT



demoed. While the SuperCharger starts selling soon after the fair, PC Speed has been on the market for a couple of weeks before the show. Both products are not vaporware; they are running and are looking good. [Ed. Note: Michtron has just announced they will be selling PC Speed here in the U.S. For more info, see "Atari Bulletin Board" elsewhere in this issue.]

Another topic of the fair was networking with the ST. In Dusseldorf, a couple of companies were showing their ST network solutions. The Munich-based company Bavaria Soft presented a complete networking solution for LAN's (Local Area Networks) based on ST computers in combination with BioNet or eLAN. The system includes up to 20 terminals and features address-, customer- and department-management, order handling, writing of invoices, product calculation and accounting.

Many other new products were demoed, plus new versions of established programs were announced. But, the most interesting fact that distinguishes this fair from a lot of other fairs is that in Dusseldorf — other than a very small percentage — most of the exhibitors presented only application software and hardware and no games. This show once again proved that the ST here in Europe, especially in Germany, is playing a major role in the computer market.

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# Dallas WOA

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by Tim Holt (ST of El Paso)

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I convinced fellow member Richard Hayden that driving to Dallas from El Paso would be a neat way to end the summer. I guess that I forgot Dallas is 600 miles from El Paso. I guess that I forgot that the first 300 miles are all scrub brush and tumbleweeds. Oh well, when we finally got to Dallas, I forgot that the Dallas World of Atari Show wasn't in Dallas, it was in Irving, the same city the Dallas Cowboys are from. What a strange state Texas is.

We arrived at the Dallas WOA show before it actually opened. It was being held in a meeting room at a Holiday Inn. I would guess three hundred folks were in the small lobby, all talking computer-ese.

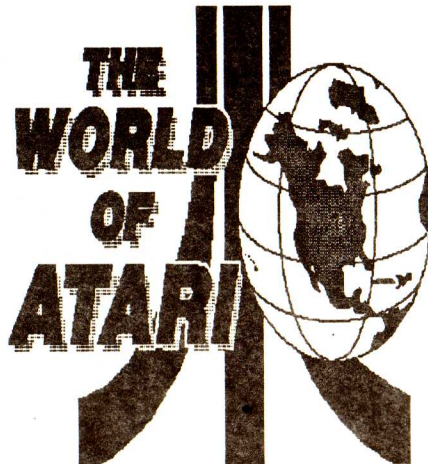
"Say Leroy, your Z-28.9 D upgrade is unusable. It needs a B45 chip in the doo-hickey slot."

"Ok, Billy, I will send it to you with a B-17 hard drive processor file with the FBI index monitor thing-a-ma-bob."

I looked around. I looked at Richard. We both had the same thought at the same time: we had stepped into the Twilight Zone and were part of the episode "Invasion of the Nerd People." It was scary.

When the doors finally opened (15 minutes late), it was like stepping into an Atari orgasm. There were things on display that I had only heard of, things that I knew I could never afford. I headed straight for the Atari booth. STacy had to be there. Portfolio had to be there. Lynx had to be there. TT maybe? ST-E maybe?

Well, it was a bit of a disappointment.



No STacy. A Mr. Crosby from Atari said it was going to a more important show in Canada. I felt a bit slighted.

Then Mr. Crosby said that the LYNX game system was not going to be shown either. I felt more slighted. The Portfolio was there and I played with it for a while. It was guarded by about 6 Atari business suit types, like the crown jewels.

Sig Hartmann was there, and some Texas good old boy was trying to pick a fight with him. "Atari said that there would be this, and that, and this.." Sig looked at the gent, "You have a poor memory..." and that set them off for about 10 more minutes. Welcome to Texas.

Ok, the Atari booth was a waste, but the dealers' booths were great! Things from Europe that I never heard of. Ever heard of a game called KULT? We got it for \$17. Great deals on other stuff too. WordWriter for \$30. Hotwire for \$30. Codehead was there, showing off all the goodies: Migraph had a lovely lady showing off the Hand Scanner. I only mention that she was lovely because there was a

nice-looking guy there doing the same thing, and no one was paying attention to him.

I met Dave and Sandy Small, who were showing off the new Spectre GCR. Looked really nice. I even got a pin that says: I've seen the Spectre GCR.

There were literally hundreds of copies of the Falcon Mission disk being sold for \$15. If they say that they haven't sold any of those babies, I will know the truth!

I went to a conference where Sig Hartmann continued the song and dance about this being the year of Atari in the US. I would have believed it in February. It was August. I didn't believe it.

I was glad I went. There were incredible deals. From an economic point of view, these shows are great. Unfortunately, every person that was there was an Atari user. Every person at the Holiday Inn knew about the value of Atari. The show was preaching to the choir. And that is not the folks that Atari, or the folks that organize these shows, need to preach to. It is the Mac users, the IBM-ers and all the undecided users who need to know about Atari.

Reports I have read said that anywhere from 1200-1700 people saw the WOA show. I believe that latter number. The place was packed on Saturday. Not bad considering...there was NO ADVERTIZING at all in any Dallas paper. NO radio advertizing. NO TV coverage or advertizing. I really wonder how anyone can expect to spread the word, when there is no word going out. Oh well, we know about it. I am glad I went. Too bad the "real world" didn't know about the show.

# Expectations

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by Jim Jenkins (El Paso)

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Every one of us has expectations of the firms we do business with. Since each of us is different, it is only natural to assume there are as many different expectations as there are customers. Consumer oriented firms must respond to *rational* expectations in a reasonable manner, otherwise, we will take our business elsewhere.

Recently, while discussing expectations about a certain firm, I found myself on the defensive. I accused my friend of irrational expectations, demands and attitudes about the company. And then I began to think about it...

## What should you expect from "the company?"

Expect self-preservation. Policy and procedures must be made to preserve the corporate body. Failure to do so means they will not exist when you need them. If you want them to be there for you, then expect them to make policies and procedures which will insure they will. And, you must "be there for them."

Expect the company to make a "normal" profit. Failure to make a normal profit contradicts the first expectation. A company does not attract or retain shareholders unless it makes a reasonable profit. Every organization has profit centers and cost centers.

The myopic view eliminates "cost centers" and creates "profit centers" which maximize profits by charging "what the traffic will bear." Losses occur, especially in service centers, but these losses are normally balanced by an

allowance in the normal mark-up. The necessary mark-up on products must include other costs such as marketing, warranty service, and research and development. So, if you want the company to make a normal profit, you must be willing to pay for my expectations.

Expect a professional attitude from the board of directors and that the same attitude will permeate the entire organization. Professional attitude is a combination of understanding the products and the goals of the company, and consistent attempts to satisfy the needs of the customer.

If you expect the "company" to display a professional attitude, you must be willing to act professionally. Part of this professional attitude is mutual respect. Any firm must respect its customer base. (And its dealer base.) Respect does not mean unwise policies biased toward the customer. Respect does mean a responsible attempt by the company to meet the needs of the customers (and dealers) in light of self-preservation and normal profits. It is not callous attitudes toward these persons. Respect is based on trust and information.

Expect credibility in a company. The company must release reliable information to meet the needs of the consumer, and the consumer must not encourage rumor by stating opinion and half-truth as if it is fact. Press releases and news conferences must not be a source of disinformation. Constant delays and announcements for products which never reach the market destroy confidence.

Expect research and product development. Technology which stands still is destined for obscurity. Product revisions must be made available to the installed

customer base, but only within the limits established by these other expectations.

New products and innovations which cannot be classed as revisions must also be developed. Upward compatibility is desirable in new products, but if you must change, don't abandon your older products. Since you want both revisions and innovations, you must be prepared to buy both.

These expectations are reasonable. Any firm which ignores these points is destined to fail. Often it is difficult to make observations which are neither biased nor emotional. Perhaps by applying these expectations to our observations, we can better understand what is taking place.

## Why don't you advertise more?

The most powerful form of advertising today is the television. The media executives realize this and charge accordingly. An advertising campaign must either be massive or consistent. National rates for "prime" advertising spots are so high that millions of dollars must be spent to achieve recognition.

If a two million dollar advertising campaign is implemented, then two million dollars must be added to the cost of the products. Raising prices is a difficult task, especially if you are trying to be a price leader. And advertising more will mean raising prices.

Since an efficient company will operate at lowest possible production cost, selling more does not increase profit margin, just total revenues. When we ask for more advertising, aren't we asking for higher prices?

### Why do you constantly announce products that you don't deliver?

Research and development can carry technology beyond the capability to deliver at a reasonable cost. Proto-typing is expensive, but manufacturing something that will not sell is even more expensive. Because a production line requires a minimum quantity be manufactured, a market must exist before a product is made. Product announcements, industry wide, are made to help establish initial production requirements. If the survey indicates the product will not be successful, then the product is shelved, and only the R&D cost for proto-typing is lost.

### Why can't you offer trade-in upgrades to newer products?

Anybody can offer a trade, but if we accept these expectations, the company must break even (make a normal profit) on the trade. Depreciation and obsolescence must be accounted for,

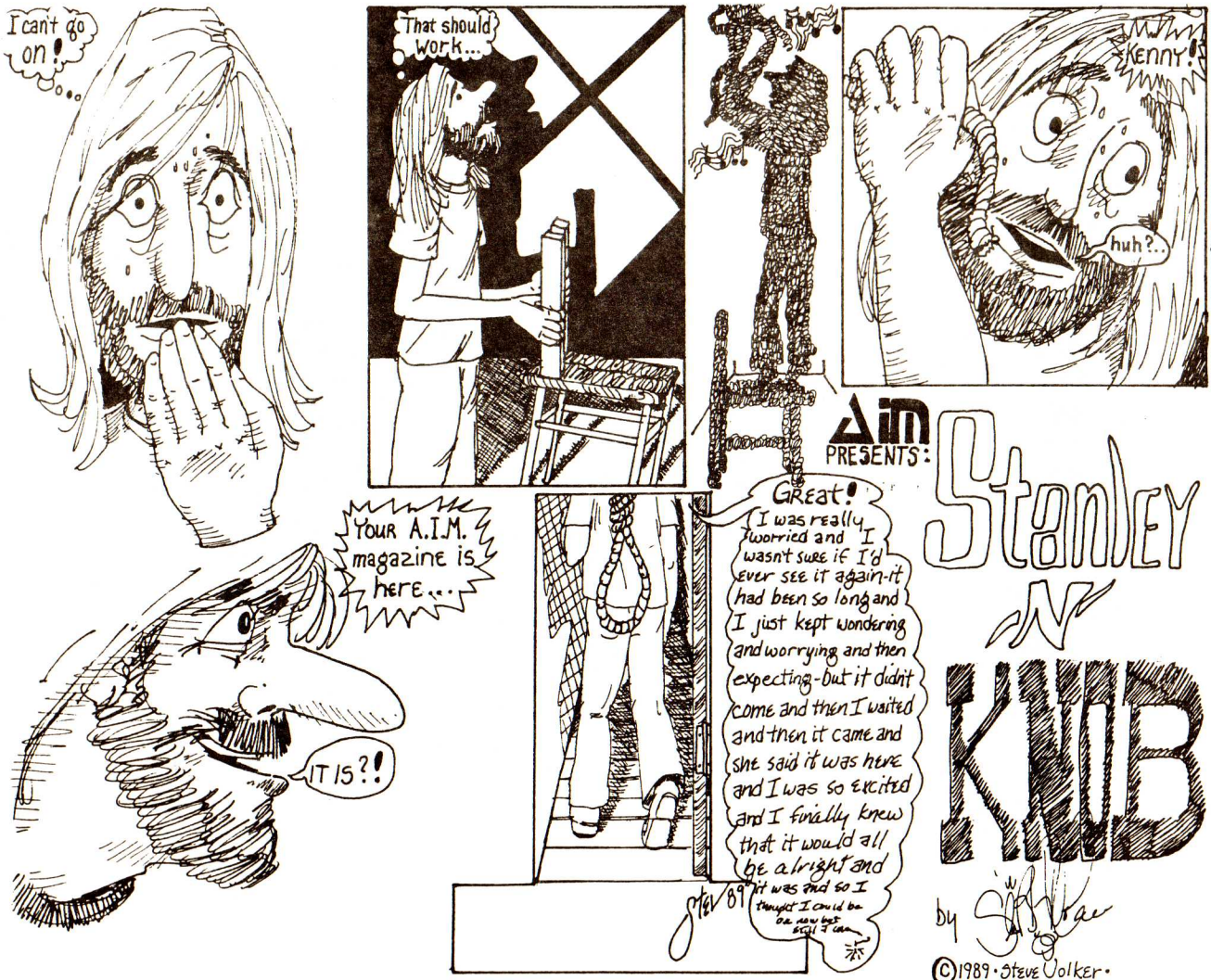
as should be the value derived from your use of the product. Subtract about 30% from a realistic purchase price for used equipment, and you have the approximate trade value against suggested RETAIL price.

Dealers may offer trades, but VERY FEW manufacturers do. Trade value varies according to what you buy and "what you pay" for the new merchandise. If we ask manufactures to offer us direct trade-ins, are we going to be happy with their offer? I doubt it. And, will we be satisfied when you local dealer invites you to get your service directly from the manufacturer?

And now I leave you to evaluate "the company."

*About the Author: Jim Jenkins Partner, Jenkins' Computer Store, Atari and IBM Compatables, 9348 Dyer St. El Paso, TX 79924 (915) 751-6938*

*Instructor, Computer Information Systems Univ of Texas at El Paso Management Department El Paso, TX 79902*



# Virus Write Detector for the ST

by Don Neff (MACE)

I usually buy PD disks from the many Atari user groups that attend the computer shows around our area. Recently the disk librarian of one of these groups alerted MACE that most of his PD disks were carrying a virus.

When I checked my disk collection I found the virus on every disk I bought at the Detroit WOA show. Luckily this particular virus affects only floppy disks and, since I boot from a hard drive, my system had not been harmed by it. I was lucky this time, but what if the next virus affects hard drives too?

We obviously need something to alert us when a virus is copying itself to our floppy disks and it has to be something a virus cannot turn off or "trap" its way around. I developed the simple circuit in Figure 1 to monitor ST floppy drives and give us a fighting chance to prevent a virus from spreading through all our disks.

## Virus Reproduction

A virus can't begin causing problems right away because that would be announcing itself and we'd get rid of it,

ending the problem immediately.

Instead, a virus reproduces itself quietly on your other floppy disks first before doing its damage or getting detected. Some viruses have counters that set them off only after they've reproduced on a certain number of disks first. Other viruses are triggered by dates captured from your system clock.

The one I encountered is waiting for a "Key" disk that contains the rest of the code needed to do its nasty deed. This same virus is probably in all the Atari user group libraries across the U.S. and Canada already since it has remained dormant, and therefore undetected until recently.

Users of other brands of computers have been unfortunate enough to receive viruses in sealed, commercial software packages from trusted software houses. One such virus came directly from inside Apple Corp itself in their own official software. Do not assume you are safe from viruses just because you've been avoiding PD software.

Viruses share one weakness in common; they all must write to your disks to reproduce themselves. Every time you boot from a virus-contaminated floppy disk the virus gets installed in your ST where it runs continuously in the back-

ground, checking all subsequent disks.

The virus won't read a disk itself because the drive access light would come on at inappropriate times and that would be a giveaway that a virus exists. Instead, it waits until you do a disk operation and then does its work while the drive is still running.

Since we are accustomed to the drive light staying on longer than needed anyway, we don't notice the extra second or two the virus adds to the operation. Whenever you read or write to a floppy disk, the virus program takes the opportunity to check that disk to see if a copy of the virus already exists on the disk. If it doesn't find a copy of itself, and the disk is not write protected, it writes itself to the boot sector of the disk.

The virus program either monitors or traps the "Write Protect" signal from the disk drive so it doesn't reveal itself by triggering the "Disk is Write Protected" dialog box by trying to copy itself to a write protected disk during a read operation. Fortunately, there is another signal the virus cannot control without neutering itself in the process; a "catch 22" for virus authors that we will use to our benefit.

## Write Gates

Every disk drive defaults to "Read Only" status until it is temporarily forced into "Write" mode by an extra signal. The data to be written is blocked from the floppy disk in the drive by a protective system referred to as a "Write Gate."

In order to write anything to a floppy disk, the computer must open this gate first with the "Write Gate Signal" on pin 24 of the 34-pin floppy drive ribbon cable. Every virus has to use this same

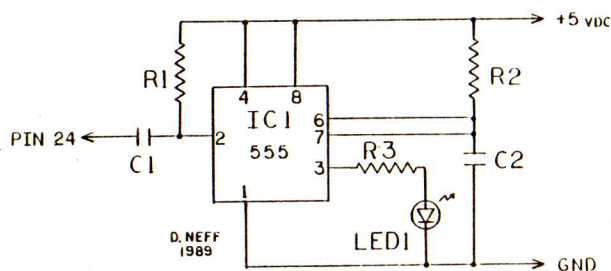


FIGURE 1

signal to reproduce itself on your floppy disks.

The circuit in Figure 1 monitors this signal line and lights an LED to tell you every time the write gate is being opened. The LED will light up whenever you write to a disk, erase a file or format a disk whether a virus is active or not. But, if this LED ever lights up when you are not intentionally writing to a disk, (i.e. copying files from a disk or just reading a directory) you can be certain that a virus is in your ST and is writing itself to your disk.

### The Circuit

IC1, a 555 timer, sits idle until line 24 of the 34-pin drive connector cable opens a write gate by dropping to a low voltage level. The low voltage turns on the 555 timer which lights the LED for about 3 seconds. Most virus writing operations will take place quickly and the resulting quick blink of the LED would be overlooked without the 3 second time delay.

Since this write gate signal is common to both of your floppy drives, this one LED will monitor both drives at the same time regardless of which one it is connected to. The LED will tell you a drive is being written to, and the access light of that drive will tell you which drive is being affected.

The circuit board is small enough to fit comfortably inside an ST case or a GTS-100 drive but may be a bit tight in a standard Atari external floppy drive case. The 5 volt and the ground connections are made at the power plug of one of the drives. The

LED must be mounted so it is always visible from your normal position at the computer keyboard or its usefulness will be lost.

### Shareware Journalism

User groups may reproduce my ST articles in their club newsletters. All I ask for in return is a copy of your newsletter containing my article (send it to 9211 Pierson, Detroit, Michigan, 48228). I enjoy reading about other Atari users, and this also tells me if you are interested in these projects (which take a lot of my time to develop and write).

I made the same request when I wrote about Atari 8bit projects, but have never received a single issue of any club newsletters. I interpreted that as a sign of total lack of interest in my Atari 8bit projects and stopped writing about 8bits. Several 8bit projects I had completed, but not published, are being converted to the ST and will be printed here in AIM.

### Parts List

All the parts for this project are available from Radio Shack. The value and stock number for each part are listed here for your convenience.

C	1.01 uf	272-131	C2	100 uf	272-1016
IC1	555 IC	276-1723	LED1	Red	276-041
R1	47K	271-042	R2	33K	271-040
R3	330	271-017	PC Board		276-159

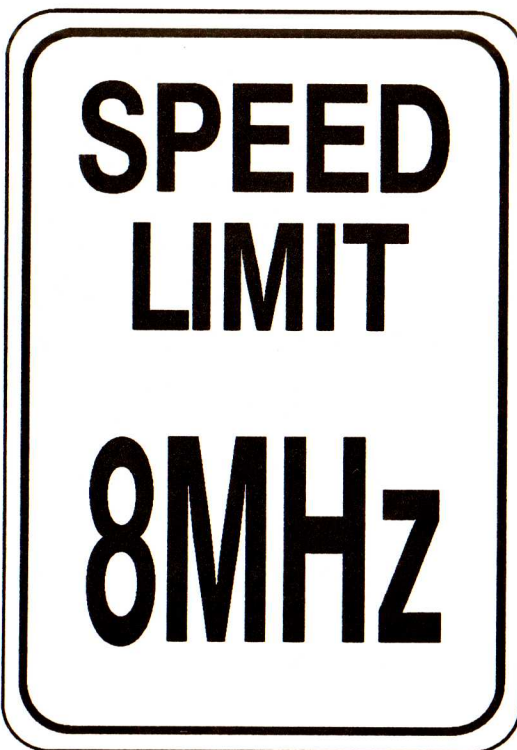
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# Punch it.

productivity than a hard disk, and at \$299 suggested list, a far lesser effect on your wallet.

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TURBO16 is a trademark of Fast Technology. Atari is a registered trademark and ST, 520ST, 1040ST, MEGA and STACY are trademarks of Atari Corp. Spectre 128 is a trademark of Gadgets by Small, Inc. pc-ditto is a trademark of Avant-Garde Systems.

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# The Black Box Now Available from Computer Software Services

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## Courtesy CSS

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There has been a great deal of interest since the announcement this spring concerning the Black Box, so hopefully this article will answer the majority of questions.

The Black Box is an add-on board for the Atari 600XL (upgraded), 800XL and 130XE 8-bit computers. It is a T-shaped board that plugs into the PBI port of the XL computer or the ECI and cartridge ports of the 130XE. Connectors for both types of computers are built-in to the Black Box, so no adaptor boards are necessary.

A cartridge port is available on the board itself for 130XE users, since the board plugs in where cartridges are normally added. The board is 12 inches wide and 3 inches deep, sitting back 3 inches from your computer. It has two switches, two push-buttons and a set of dip switches on the top.

## What the Black Box does

The Black Box provides many unique and useful functions. The three primary functions are: RS-232 serial modem port, Parallel printer port and a SASI/SCSI hard disk port. A fourth floppy disk port for connecting 3.5" or 5.25" floppy drives will be available at a later date.

The RS-232 port provides the full RS232 specification signal levels for a modem or other serial device. It emulates the Atari 850 interface very closely, but goes beyond by providing 19,200 baud capability.

The R: driver is built-in to the Black

Box, so it does not use ANY user memory!

The Parallel Printer port interfaces to most Centronics-type printers. You may assign the printer number and linefeed options from within the Black Box's configuration menu. The Black Box also provides you with a printer buffer, if the board or your computer has extra memory.

A printer buffer allows you to quickly dump your file to be printed into the buffer memory, then go about your business as the Black Box sends the data to your printer; a real time saver! The Black Box will use either its own RAM (if you order the 64K version) or the 130XE extended memory banks; it's all controlled by the configuration menu.

## 8Bit Hard Drive Interface

The Hard Disk port is the real reason for the design of the Black Box. You may connect most any hard disk controller that is SASI or SCSI compatible or drives with embedded SCSI controllers. It is totally compatible with the current versions of MYDOS and SpartaDOS (which both have a limit of 16 megabytes per logical drive), but a newer version of MYDOS is provided that is capable of 48 megs per drive. Combine that with nine drives and that's over 400 megs available at one time!

The Black Box also provides a conversion toggle for drives capable of 512 byte sectors only. Many of the embedded drives have this limitation and previously were unusable. The Black Box splits each 512 byte sector into two 256 byte sectors, so your DOS will still only see what it requires.

Another advantage is storage space. Many drives/controllers will give you more storage when using 512 byte sectors, some as much as 15% more!

Currently, format software for the Black Box supports the following drives/controllers: Adaptec 4000A and 4070, Xebec S1410, Western Digital 1002S HD, OMTI 352x controllers and all Maxtor and Seagate embedded SCSI drives.

## Hard Drive Features

A partition is defined as a part of the hard disk that is seen by the computer as a separate disk drive. Since many hard disks are very large, it is useful to create several partitions of the drive, instead of one single drive, as your DOS sees it.

The Black Box goes one step further in not only letting you define the partition for each of your nine available drives, but allows you to have a list of up to 96 partitions, with names! Since a partition can be very small, you can make several small partitions of 720 sectors (the same length as a standard floppy disk) and sector-copy any of your non-protected programs to these partitions. Now you can swap that partition in as Drive 1 and boot your program at hard disk speed!

## Configuring the Black Box

The configuration menu is the 'heart' of the Black Box. You can enter the menu from anywhere you are by simply pressing one of the buttons on the board. You may now edit the hard disk configuration, exchange drive numbers, enable/disable the modem and printer ports or go into the 6502 monitor.

After you are finished, pressing ESCAPE will put you right back into the

### Hard Disk Systems to Fit Every Budget

- All systems are complete and ready to use, included at *no extra cost* are clock/calendar and cooling blower(s).
- All ABCO Hard Disk Systems Are Fully Expandable (you are *not* limited to two drives only!) All cables and connectors installed.
- Seagate Hard Disk Mechanisms Only!
- ICD Host Adapters Used Exclusively
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145mb #SG3A4210	989.00
170mb #SGT41776	1389.00
260mb #SG1244Q	2169.00
320mb #SGN7788Q	3295.00

Listed above are a sampling of the systems available. Prices also reflect various cabinet/power supply configurations (over 60 configurations are available) All Units: Average Access Time: 24ms to 34m. Larger units are available (special order only).

- All Units Compatible with Magic Sac, PC-Ditto/II and the Spectre/GCR
- Removable Media Devices Available (44mb) Syquest 555
- Available for ST -- Amiga -- IBM
- Lowboy - Standard - Dual Blower Cabinets
- Custom Walnut WOODEN Cabinets
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program you were using! No memory or screen display is destroyed by using the menu!

The 6502 monitor is very handy for machine language programmers. How often have you wondered where your program was or what caused an apparent 'lock-up'? Entering the monitor will show you all the processor registers and display the disassembly of the instruction it was about to execute when you entered the monitor. Users of MAC/65's DDT will feel right at home with the monitor's use.

### Other Features

The Black Box has other 'goodies' in it. Any communication with your floppy drive will be in high speed if you are using an XF-551, a modified 1050 or a Happy 810. This will work with just about ANY DOS or utility!

A text or graphics printer dump of your current screen may be done at any time by pressing one of the buttons on the Black Box. (The graphics dump is only available for dot-matrix printers capable of graphics.)

You may write-protect ALL of your hard disks by flipping another switch on the board. This can be a real life-saver when running a new piece of software. The Black Box provides disk I/O tones with separate pitches for disk reads and writes to your hard disk, so you can hear what's going on! This option may be disabled within the configuration menu.

The Black Box also provides support for users who have used an MIO previously to store data on a hard disk. The MIO actually stores data invertedly; this is fine as long as the MIO reads it, but when another host adapter reads the same data, it will be meaningless. By setting a dip switch, a previous MIO user will now be able to access all the data on his drive with the Black Box, with a small sacrifice in speed.

If you have any more questions, please feel free to call. User group and dealer discounts are available.

The retail price of the Black Box with no buffer ram is \$199.95, and with 64K RAM buffer is \$249.95.

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(716) 586-5545



# AtariWriter+ for Those Who Don't Want to Read the Book -- Part III

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by Jimmy Boyce (CACE)

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Well as I promised last month we are done with editing — HOORAY!!!

Now, let's check the spelling before we print it. That way we won't waste printer paper doing it over again because we misspelled a word.

The creators of AtariWriter+ call their spellchecker "ATARI Proofreader" <pg 49>. A rose by any other color still checks spelling. The dictionary disk is very small (only 36,000 words), but you can improve on that by creating your own dictionary disk. We will go over all of that in due time. Believe me, if you don't have your own dictionary disk and you use a lot of technical terms like I do, then I suggest setting one up. It will save you a wealth of time and trouble.

Proofreader is a menu-driven program just like AW+ and just as easy to use. So, let's get started! You have just finished your document and it is edited and saved. Go to the menu and gently stroke the letter[V].

Ah, the purr and whirr of the disk drive...and then, what to your wondering eyes should appear? No, not Santa Claus, but a little message that says, "INSERT PROGRAM DISK THEN PRESS RETURN." Hmm. OK, stick in the dictionary disk and press RETURN.

Purr and whirr..."INSERT PROGRAM DISK THEN PRESS RETURN." Wait a minute, I did that! "Stupid program doesn't work." That was my first encounter with Proofreader, so I put the program disk back in, did the whole bit again and up at the top of the screen it said in bold and brazen letters "LOAD-

ING PROOFREADER" <pg 49>. And, what to my wondering eyes should appear but a whole new menu <pg 50>.

First off, let me say that nice key in the upper left corner of the keyboard ([ESC] <pg 51>) will get you out of most any jam and get you back to the menu that you are presently staring at (assuming you are following along in AtariWriter+ while reading this. You are doing that, aren't you?).

This menu works just like the Main Menu. When you poke the key that matches the inverse letter on the screen, little messages are given at the bottom of the screen and you do what the messages tell you to do. Pretty simple actually, unless you are like me and can't or won't read the book until you get into trouble.

A couple things to remember, first this is a spell checker and that is it. Second, if the word is spelled correctly but is in the wrong context, Proofreader will say it is a valid spelling (i.e., their and there). Proofreader does not capitalize either, nor does it check punctuation.

This is the nifty one — if you spell a word correctly and that word is not in the Proofreader's dictionary, your word will be considered spelled wrong (another case for a personal dictionary). So, let's get on with it.

The first item on the menu is CORRECT ERRORS <pg 53>. Lay a finger tip on the letter [C] and you are told where to put your dictionary disk. If you have a one drive system, then it is logical that you must place the dictionary disk in drive one. If you have a two drive system, you will be prompted to place the dictionary disk in drive two (if you have it turned on).

Now the fun begins — notice that

your document is on the screen and a little menu is at the bottom of the screen. The little menu reads:

C RETURN CORRECT WORD

D RETURN SEARCH DICTIONARY

RETURN KEEP THIS SPELLING

and over on the extreme right hand side it says "CHOICE:"

As your masterpiece blips past your eyes, the words are in their regular appearance on your screen. Oops, what is this? All has stopped and there sits the word TAHT highlighted. Now you have a choice to make.

First choice: pounce on the letter [C] and change the spelling to THAT, and answer the prompts.

Second choice: let's say it is one of those days that you cannot remember how to tie your shoelaces and you cannot remember how to spell the highlighted word.

Bang on the [D] key and do as directed — type in at least two letters of the word, hit [RETURN] and a list of words with those beginning two letters will appear at the top of the screen (if there are any). Once you find your correct spelling, follow the directions at the bottom of the screen and type in the correct spelling.

Your third option is that TAHT is a name or something of that nature and you strike [RETURN] to keep the spelling of that particular word. Proofreader keeps in memory the word TAHT and will accept it for the rest of your document.

Well, folks. That is it for now. Bye until next time.





# Bloodwych

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by Bob Retelle (MACE,WAUG)

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Stop the presses! *Dungeon Master II* is here! Only it's not called "Chaos Strikes Back" or "The Revenge of Chaos." It's called "Bloodwych," and it's from Image Works in England, not FTL.

Almost immediately after the release of *Dungeon Master*, the phenomenally successful graphic role-playing game from FTL Games, there was a tremendous demand for more of the same. For whatever reason, that demand has gone unfulfilled, until now.

In a review in a British magazine, it was mentioned that the author of *Bloodwych* didn't model the game after *Dungeon Master*, but the similarities are immediately obvious as soon as you boot up the game. Whether it's true or not that *Bloodwych* was developed independently, it will always be part of the "Dungeon Master" genre.

## Bloodwych Basics

Essentially, *Bloodwych* is a "2-player" *Dungeon Master*. When you load the game, you can choose either a one-player or two-player game. A one-player game is played with the mouse, almost exactly like *Dungeon Master*, while a 2-player game forces both players to use joysticks. In both cases the keyboard can be used to move your party, again just like in *Dungeon Master*.

The 2-player game divides the screen in half horizontally, and everything is duplicated for both players. Each player sees the view that his party sees, independently of the other player's party. Thus you can actually find the other

player's party and see them, while you see your own party in the other player's view.

The instruction manual that comes with the import version of the game appears quite extensive at first, until you realize it's written in four different languages. The 20 or so pages in English do a good job of explaining how to operate the game, which is very complex.

Anyone who hasn't played *Dungeon Master* before (IS there anyone who hasn't played *Dungeon Master*?) will have to do a lot of experimenting with the controls and screens to master them. Even experienced *Dungeon Master* players will have to become accustomed to the differences in the ways the displays and spells work, although it soon becomes second nature to flash around the screen clicking on status charts and spell books.

## Storybook Time

As is customary in these kinds of games, there is a three page introductory story to set the scene. This time, the brotherhood of Psychic Mages, which was called the *Bloodwych*, let themselves fall victim to one of their own, an ambitious Wizard named Zendick. He destroyed the leader of the *Bloodwych* and banished the other members to the astral plane. Then began the mandatory reign of terror on the countryside.

You (of course) are the one hero in the *Bloodwych* who can save the world from chaos. By choosing among the last sixteen mortal Champions in the realm, and guiding them through Zendick's castle, you can restore order and balance to the universe (stop me if any of this sounds too familiar).

The overall goal of *Bloodwych* is to explore the four towers of the castle in search of four crystals that will help you destroy Zendick, then to confront and defeat the evil Wizard himself.

## Getting Started

At the start of the game, you can choose between a one or two player game and whether you want to choose your own Champions or have a random party preselected for you. There are 16 Champions, four each of four different "Psyche Types," with each type represented by a different card suit (Spades, Clubs, Hearts, Diamonds). They are Fighters, Mages, Adventurers and Archer/Assasins.

There is also four specialization classes for magical abilities denoted by the color of the Champion's card suit — Serpent Magic, Moon Magic, Dragon Magic and Chaos Magic. Thus, each Champion has his or her own unique characteristics, in addition to their physical statistics. All have varying levels of Strength, Agility, and so on, but the most important characteristic of all turns out to be overall Vitality.

## Forming the Right Party

Each player chooses one Champion to be their party leader, then the game begins. Your first task is to explore the immediate area and "interview" prospective party members to fill out the rest of your party. One unique feature of *Bloodwych* is the ability to converse with other denizens of the Castle. While the options are fairly limited and the conversation somewhat less than sparkling, this ability to speak to other characters really does add a lot to the game.

You can ask someone's name, what their occupation is, and whether they've heard of anything interesting in the vicinity. You can also engage in "smalltalk," either boasting about your own abilities or praising the other's. If you want, you can try insulting the other person or asking if they have anything to trade or sell. You can offer to sell them extra items you've found in the castle, such as armor or weapons you don't need.

The Champions all start out with the same equipment (10 coins, 5 "common keys," some food and a weapon suitable for their character type), so their possessions don't really enter into the choice of your party. Physical characteristics and Magical Spells owned are the main differences. One very nice feature is that there is both the typical "head and shoulders" picture of each character's face and a full-length picture showing what each one is wearing. You can see them "put on" and "take off" their armor. (No, you *can't* take off *all* their clothes...anyone remember being disappointed that the picture didn't change when Sonja threw her bra across the pit to trigger the floorplate on the other side in *Dungeon Master*? Hmm...nevermind...I guess you had to be there)

### Character Characteristics

As in *Dungeon Master*, there are both male and female characters to choose from, as well as an array of non-humans (Mr. Flay, the friendly skeleton is one interesting character). Unfortunately, you must accept each one with the name and statistics they come with. Unless you spend a lot of time on the initial screen examining the Champions' statistics, the process of choosing a party can be pretty involved if you're trying to assemble the "perfect" group. When you run into an unattached character, you can greet them and invite them to join your party, but you don't have a chance to see their statistics until they actually join. If you decide you'd rather have someone else in your party, you do have the option of dismissing them.

Each character has a backpack with several slots to store things and positions for armor, shields and weapons. An interesting feature of the game is the "spellbook" that each Champion is equipped with. Instead of having to combine magical elements, spells in *Bloodwych* are cast by "reading" them from the pages of the spellbook. The book itself has eight pages, each with four slots for spells (and a nicely animated "page flipping" effect), for a total of 32 possible spells.

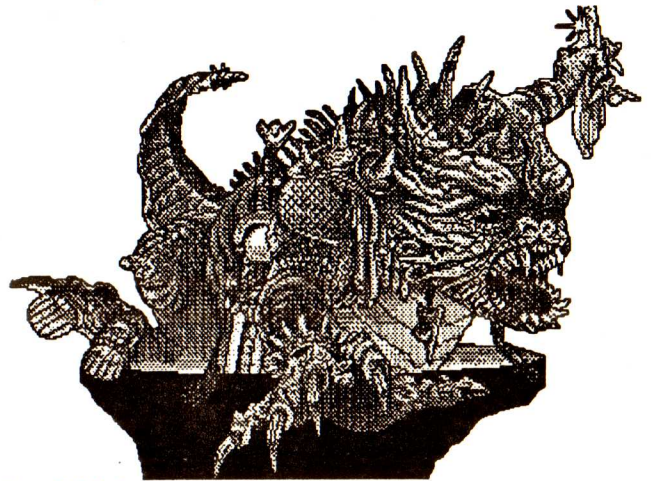
### Magic Abilities

Each spell is identified when you click on it, so there's nothing for you to memorize. Spells in the Champion's area of specialization are more likely to succeed, although any character can cast a spell in any of the areas. Putting more magical power into a spell increases the percentage of its working, as well as increasing its effect.

A spell can be cast again and again, but there is a "resting period" enforced before the character can make another attempt. Also, each Champion has a limited amount of magical energy

available, and this energy can be recovered by resting. While your party sleeps (hopefully in a safe area), any new levels of experience they've gained through combat will be awarded.

Also, if any of the Champions are ready to receive new spells, the "Spell Faeries" will visit them during sleep and offer to sell them new spells. Yes, in *Bloodwych*, spells must be *purchased* with gold coins. This means that you must balance the need for more magic against the need to buy armor and other necessities for the party. There are gold coins available here and there in the castle, but (naturally) never enough. It's a good idea to evenly distribute the gold you have, maybe giving a bit more to your Wizard(s), to make sure everyone will be able to gain new spells when they can.



### Spell Lists

A lot of the spells don't seem to be particularly effective or valuable, for example "Beguile" and "Paralyze" (did anyone *really* ever cast "Darkness" in *Dungeon Master*?). My poor Adventurer beguiled the heck out of everyone he met and still got bashed for his trouble. My Wizard hit with spell after spell, and if the monsters were paralyzed, they didn't seem to notice. It certainly didn't slow them down any!

On the other hand, there are several spells that are invaluable in keeping the party alive. It's just a matter of discovering which ones they are and practicing them until they can be cast reliably. Then too, there are still a LOT of empty slots in my characters' spellbooks, so there may be some interesting surprises still in store for me.

### Fighting off the Monsters

One of the places where *Bloodwych* differs very greatly from *Dungeon Master* is in the way combat is handled. Instead of having to decide what kind of attack each party member will use, then clicking on a selection from a menu for each individual party member for each and every swing of the battle, you only have to click on the "Fight" icon in *Bloodwych*. The party members will fight continuously until the enemy is killed or you break off the fight by retreating. However, only the Leader is under your direct control. The others will join in as they see fit, giving

more of a feeling that this is a group of actual individuals. You can influence the others by "commending" them for their actions, or you can "correct" them if they do something you'd rather they didn't do. This combat setup simplifies battles considerably, which may be attractive to those who found *Dungeon Master's* fighting to be overly complex. Actually, I preferred the feeling of involvement that *Dungeon Master* gave. I found it was much more satisfying to direct the action, rather than just observing.

There is also a "Defend" icon, which puts the party into a defensive mode to fend off an attack while you get spells ready or rearrange the order of the party. The only way to break off an attack seems to be to retreat from whoever (or whatever) you're fighting.

Movement through the corridors of Zendick's castle is identical to the way *Dungeon Master's* movement through the tunnels of Mount Anaias is controlled. You can either click on a set of icons to move you forward, backward, to either side or to turn in place left or right, or you can use a set of keys on the keyboard to move. Again, as in *Dungeon Master*, the keys for a one player game (or Player 1 in a 2-player game) are the cursor keys for movement, and the Insert and Ctl/Home keys to turn in place. Player 2 in a 2-player game can use a group of keys on the left-hand side of the keyboard for movement. As in *Dungeon Master*, using the keyboard to move your party is far better than trying to click on the rather small icons on the screen.

### The Leaders Among Us

Speaking of clicking on icons, I had some difficulty at first when trying to switch Leader status among the party. Each party member can hold a spell ready to be cast, which is the first thing they'll do in a battle. But only the Leader's spellbook is available to you. So, if you want everyone to cast another spell right away, you have to make each party member Leader, select their spell, then make the next person Leader, and so on.

The problem is that the same set of icons is used to set up the "marching order" of the group. I found that in the heat of battle, instead of making my Wizard the Leader, I ended up more often than not exchanging his position with one of the Fighters in the front row, leaving him to face whatever nasty creatures were beating on the group while I frantically tried to get him back in the back row where he belonged! After going through this drill several times, I found that a nice, slow, deliberate "double-click" on a player's icon will make them Leader without changing their places. You've just got to keep your cool in the face of giant crab-things and don't click too fast.

### Types of Monsters to Expect

As far as I've gotten in the game, the adversaries have been mostly humanoid. There've been a few skeletons, and the giant crab-things, and a Blue or Green Dragon or two. As in *Dungeon Master*, it's extremely important to Save the game OFTEN. You never know what may be behind the next door!

Speaking of doors, there's no "Slam the door on the Rockpile Monsters" trick in *Bloodwych*. Once a creature is into the doorway, you've got a real problem because it's on YOUR side of the door now. Worse yet, the bad guys know how to open some of the doors, so just slamming the door in their faces isn't going to help you! It was a long time before I discovered that you could lock a wooden door shut with the "common keys" each character has and which are available in abundant supply around the castle. I'm still not sure why it is that the bad guys can open a wooden door, but can't figure out how to get an iron grate door open, although I'm glad they can't!

### Differences from *Dungeon Master*

One thing I've noticed is that *Bloodwych* doesn't have the emphasis on puzzle solving that *Dungeon Master* had, at least as far as I've gotten into the game. There is a Maze, and I've found that there are "spinners," or floor sections that will turn you around, but nothing like the kinds of things that were introduced as early as Level 2 of *Dungeon Master*. Then again, I'm pretty sure I've still got a long way to go in *Bloodwych*, so there's no telling what may lie ahead. By the same token, while there are hidden wall sections, and buttons on the walls to reveal them, the buttons so far have all been easy to spot. Not all of them produce any immediately obvious results though, so you have to be watchful to see what they do.

Another *very* important difference between *Bloodwych* and *Dungeon Master* is that there really isn't the same concept of "Levels" in *Bloodwych*. There are stairways leading up and down, but there are so many, leading in different directions, that it's a little hard to keep track of what "level" you're on. You may go up a stairway only to find yourself faced with another stairway that leads back down to another part of the level you just left. Later on, pushing a button may open up a way from the top of those stairs into a higher level. Eventually, in the center of the "first level" you'll find a place where three stairways lead upwards. These will bring you into the area of the castle's towers. There's the Dragon Tower, the Moon Tower, the Chaos Tower, the Serpent Tower (where I'm currently wandering) and Zendick's Tower (where the ultimate confrontation will occur). All of these staircases up and down will make mapping interesting, to say the least!

### Two-Player *Bloodwych*

I haven't played *Bloodwych* as a 2-player game yet, but I have some reservations about it. The first is related to having to use joysticks. Moving your pointer around with a joystick is awfully slow (excruciatingly slow in fact), compared to using the mouse. Also, the accuracy of hitting the icons on the screen isn't as good as it is with a mouse, so you'll spend more time trying to hit the right spot with your arrow, while monsters are making mincemeat of your characters.

Another real problem is that most of the corridors aren't wide enough for both parties to pass each other, so you may find your

retreat cut off by being blocked by the other player's party. It'll take a LOT of coordination between the players to avoid having one party get beat up while the other party is in the way. It IS possible to try to maneuver around a monster so one group can hit it from the front while the other group attacks from its back, so it may not be as great a problem as I suspect it will be.

One of my first thoughts about playing this kind of game with two players was that you could have one group of Champions go off and explore one tower while the other group explores another. In playing Bloodwych so far though, it's been pretty "linear." That is, you "can't get in here until you've gotten in there." Sending a group off on its own looks as if it would be fairly futile, since they wouldn't have the keys necessary to go anywhere other than where the second group is exploring.

### Feeding the Adventurers

There also isn't enough food in the castle to feed one party of four, much less two groups, although this is only a problem until you discover how to get around needing to feed your Champions.

Even though I think that a "serious" attempt to win the game would be better off done with the mouse controls and somewhat greater freedom of movement of a 1-player game, it still sounds as though it would be great fun just playing a "Dungeon Master" style game with another person.

The graphics in the game are very good, even though I've heard one complaint that the colors are too bright. This may actually be due to the fact that the corridors of the castle are brightly lit, with no need to provide your own light source. It's quite a change from Dungeon Master, where you always had to have a torch or magic light spell handy.

The sound effects in Bloodwych aren't as good as in Dungeon Master, although they're not bad by any standards. The game uses virtually the same Save game setup as Dungeon Master, so you can Save the game out to different disks at different places, or rotate your Save disks so you always have one or two fairly current Saved games. Also, just like Dungeon Master did, the game renames the last Save game with a .BAK extension, so you can always restore to the next most recent Save. Unlike Dungeon Master though, Bloodwych allows you to Load a saved game at any time. This means you don't have to have your party "commit suicide" by throwing fireballs at a nearby wall if you want to start over.

### In Summary

Overall, Bloodwych has a lot to offer, both to those who have become tired of waiting for the sequel to Dungeon Master and also to those who haven't yet had the opportunity to experience this kind of graphics adventure game. It's not quite Dungeon Master, but it's a definite winner, with lots of unique features and is *highly* recommended. If you don't buy any other game until Dungeon Master II (\*really\*) comes out, be sure to buy Bloodwych!

## Letter from CEO of Sphere, Inc.

*[This "letter" from Gilman Louie recently appeared on CompuServe. The message was posted as a response to Ralph Mariano of ST Report, but it is really aimed at all ST users who have been involved in the heated discussion concerning FALCON and the issue of piracy.]*

First off, I want to thank all of those ST users who have supported us by buying FALCON. As of August 25, 1989, we have sold 12,962 units in North America. In addition, we have sold 1,640 FALCON Mission Disks (Operation: Counterstrike) since the beginning of the month. For the statisticians, total sales in August for ST FALCON were 202 units as compared to 836 for the Amiga, 1,151 for the IBM and 1,167 for the Mac version.

By the way, I have not been giving the ST users the "Silent Treatment" as you claim: it's just that some of us are trying to get new products out, such as the Mission Disk, and feel that this is the best way to support ST users. The ST users who have bought our products have been wonderful. They have shown that there is a market for the ST in the United States, and they deserve the support of other software companies. Many have written to me or left messages on on-line services.

ST users are fed up with piracy and have turned in a number of "pirate boards" to us. We, in turn, have turned these over to the Software Publishers Association (SPA). These boards should not be allowed to ruin the market for the rest of us.

While we were once again disappointed to see that the Mission Disk for FALCON (the Mirrorsoft version) appeared on the bulletin boards before we even released it here in the United States, we are not going to let it distract us from servicing honest ST users. As long as there is a market, we will support it.

It has never been our intent to slander the ST market but rather to help educate the user base about some of the frustrations of being a publisher, programmer or developer. You have helped us better understand some of the frustrations users must go through. We have taken off the disk-based copy protection on the Mission Disk and upgrade for ST FALCON as a way of saying "thanks for being honest."

Thanks for all of the comments and letters. It has been an educational experience for all of us here at Sphere.

Sincerely,  
Gilman G. Louie CEO/Chairman Sphere, Inc.

# The Right Brain

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by Paul D. Stampfli (El Paso)

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I just hate it when I get let down. I just don't do well with disappointment. And I am seriously let down by Mr. Gilman (Chopstick) Louie and the folks over at Spectrum HoloByte, or Sphere, Inc. or whoever the heck it is that's responsible for Falcon.

I know all about the letter that good old "Chopstick" wrote about all of us pirates that happen to use Ataris. And I know that we stood up together and fired a few rounds back. And I know that Mr. Louie said that it was all a mistake and that he would apologize in writing. I'm still waiting.

Up until the 24th of August I was still waiting for my update and mission disk for Falcon, too. See, I BOUGHT (are you listening "Chopstick?") Falcon quite some time ago — one of the first six copies that Jenkins' (our local authorized Atari dealer) got originally. Although I spend most of my hours on the ST in productivity pursuits, I do like to play now and then, and this looked like something SERIOUS that you could play with. It was; I was thrilled. I still liked it when Tim (our User Group Prez and a fairly hot "pilot") found out about Control-X and started routinely kicking me out of the sky. (He will ripple fire four AIM 9L's at me and I just can't seem to get away from them all. Watch him when you're up there!)

So, back in July, I got a notice to upgrade and an option to purchase the mission disk along with the upgrade at a

fair price. At least, I thought it was fair (\$24.95). So, I sent my check out on the 18th of July and then I started to wait. My bank statement came in mid-August and the check hadn't been cashed so I thought, well, maybe it got delayed in the mail. Tim went to the Dallas World of Atari around the 19th of August and came back with the mission disk that he had purchased for \$10. Jenkins' got it in at the same time, give or take a couple of days. He was selling it for \$24.95.

Now that's retail, you have to figure that standard dealer mark-up is ABOUT forty percent. So, Spectrum gave it to the dealers AND the consumers in the shorts, hard and fast. Like I said, I got my copy on the 24th, and it wasn't delayed in the mail, either. (I checked the postmark date.) Now what did the advertisement say that got me to order from the company direct? It said that if you bought the mission disk, your upgrade to 1.1 was free. I got this flash for you Mr. Louie, that ain't free. Not for me and certainly not for Jenkins'.

My major gripe is simply this: Spectrum HoloByte told me they would give me something free if I bought something else, sight unseen. I think I have the right to expect a fair price and a timely shipment. Apparently, I do not. I also think the dealer has the right not to have the parent company undersell him "on the street;" apparently, he does not. Sounds just too, too cute if you happen to be Spectrum, doesn't it?

(I don't intend to review the game for you here, that's Tim's domain, but I would like to make a few comments about it. You have to understand that I've only played it a couple of times so I

could be mistaken about some of the features.)

The Spectrum HoloByte Falcon Mission Disk runs a CAMPAIGN, not just isolated missions. Try as I might I can't seem to find a SAVE feature so that I can return to a stopping point. This is a SERIOUS failing of the program in my opinion. If you have ever played this game, especially over the modem, you know how long it can be, and to have to start all over again every time you come up is just a waste of effort.

Spectrum HoloByte makes a lot of comments in their new documentation about copy protection. They even put a cute little pink slip in the package signed by Mr. Louie, CEO, and Mr. Phillip G. Adam, President, extolling the valor, fidelity, time, trouble, and money that it has cost them to bring this product to you poor little Atari users. They mention that the product is not copy protected in about six different places. It's enough to make me want to barf my socks. Cut me some slack guys! YES, you spent some money on the product, but you sure as the devil didn't GIVE it away, and certainly not to me. YES, there are pirates out there, and they hurt your pocket book, but the fact that I'm not 100% caucasian doesn't make me a commie, and the fact that I own an Atari doesn't make me a pirate.

You've got some serious lessons to learn in dealing with PEOPLE, guys. Let me try to help you a little. 1) Don't stereotype. If you don't believe that, just refresh your memories of the sixties. 2) Service your user base FIRST. These are the people that spent their hard-earned money on you in the first place, They are the reason for your success. I, for one,



# It Must've Been Something I Ate

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by Tim Sharpe (CACE)

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*It was one of those dreams you have right before you wake up, the kind that seem all too real. Ah, I remember it well (i.e., flashback now in progress)...*

It took place at the Summer Consumer Electronics Show. As I wandered through the myriad of booths, filled with all sorts of neat gadgets and gizmos, an immense awe filled my being. Here, in one place, were all the newest and latest products of every big name in the computer and electronics business. I gazed in wonder as I passed each booth.

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## The Right Brain (continued)

take it as a slap in the face to be serviced LAST because I had enough faith in your company to order a product sight unseen, delivery date unknown, just on the basis of what you did in the past. 3) Honor your word, I think you know you made a mistake when you called us all pirates, but you said you would do something (apologize) and didn't. What does that make you?

The Atari community needs software developers and vendors, especially the high end, quality product that Spectrum HoloByte has a reputation for producing. However, it does not need a condescending Big Brother overseeing its markets. The stuff you wrote in your documentation on copy protection made it sound like the entire Atari community was on probation with your company.

Let me take one of us off probation right now. I don't like your attitude; I don't like your support; and, I don't even like the new mission disk. I will NOT support your company, and therefore you, any more by purchasing your software. Oh, and by the way, did you even recognize the photo of the F16 on the mission disk folder is a configuration that CANNOT be achieved with your game? Now that's what I call attention to detail.

Till next time!

And then, at a dead-end section of the showroom, I found the Atari booth. It was filled entirely with calculators.

"Calculators!" shouted the man in the booth. "Getcher red-hot calculators!"

So this is what it had finally come down to, I thought. "Why?" I gurgled.

"Pardon me?" the man said.

I somehow managed to compose myself. "Why are there only calculators here? What happened to the Atari computers?"

"Well, we're trying to get rid of our games-machine image once and for all. No more computers or home video machines. Just good, practical calculators."

I considered this for a moment. It IS

rather difficult to label a company that only makes calculators a "games-machine" company. About the only fun a person can have with a calculator is turning it upside-down and trying to spell cuss words or "shelloil." Still, this action seemed to me a little extreme.

"No more XE's or STs?" I queried.

"Nope," he said. "But take a look at one of these babies." He handed me a calculator with a flat, wooden stick protruding from the bottom side.

"What's this?" I asked, fearing the reply.

"An ATARI popsilator: looks like a popsicle, works like a calculator. Oughta go over great with the kids."

"Does it come with a wrapper?" I asked sarcastically.

"Now don't get smart with me," he admonished. "I don't have to put up with this—look." He pointed at my chest.

I looked down at my shirt and found an I.D. tag pinned on it. The tag read "Dream Visitor."

He continued. "This is one of our more promising models. It can be linked together by modem with another of its type."

I stared at him blankly.

"Well don't ya get it? One student can do his math homework on his calculator, while another student miles away gets a copy of the answers."

After a moment I said, "Surely you can't be serious." We then launched into a brief comedy routine that began with "Yes, and don't call me Shirley" and ended with me shoving a pie in his face. You know how silly dreams can get.

The last thing I remember saying was "Does Jack know about this?" Then I woke up.

*As the real world imposed itself upon me, I suddenly became very thankful that Atari still made computers, and that they hadn't given up on us yet.*

*But you know what's stranger than fiction...*

# 32,768 Color Support for the Atari ST

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by Barry Orlando

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*For Public Domain, dated 9-9-89.  
Printed by permission of the author.*

Here's a hardware modification for the standard Atari ST that increases the color palette from 512 colors to 32,768 colors (32 shades of gray), while still maintaining compatibility with existing Atari ST software (including SPEC-TRUM 512). This upgrade is software compatible with JRI's 4096C color board and will also be compatible with the recently announced 4096 color STE (Enhanced ST).

It does this by adding increased bits of resolution so as to increase the ST's 16 read/write color palette hardware registers from their standard 9 bits each to 15 bits each. Each of the standard color palette registers have the following bit arrangement:

FEDCBA9876543210  
. . . . . RRR . GGG . BBB

where, R, G, and B are the red, green, and blue components.

The higher the value for any of these grouped bits, the more intense the resulting color component. The above bits marked '.' are ignored.

The JRI 4096C color board and the upcoming 4096 color STE add an extra bit of resolution at bit locations 3, 7, and B, however these new bits are least significant bits so as to maintain compatibility with existing software.

The 32,768 color modification goes a step further by adding a fifth (and less

significant) bit to each color component at locations C, D, and E. The new arrangement is then:

FEDCBA9876543210  
. RGBRRRRGGGGBBBB

As with the JRI 4096C color board, this modification adds an additional Shifter chip. However this modification is slightly more involved in that it uses three additional integrated circuits and bypasses nine 5% tolerance resistors used by the Shifter chip, in favor of using nine 1% tolerance resistors.

## Disclaimer of Liability

This modification should only be attempted by someone with experience repairing or building digital electronic circuits. Performing this modification will be done at your own risk and may void the warranty on your computer.

## Parts Used

- | Qty | Description/Source/Cost   |
|-----|---|
| 1   | Component Perfboard (3"x2.5") cut from Radio Shack #276-147 (\$2.99).                                     |
| 2   | 3M Board Mounting Interconnectors (straight single-row male). Digi-Key Part # 929834-08-36 (\$2.05 each). |

Digi-Key Corp. 701 Brooks Ave South, P.O. Box 677, Thief River Falls, MN 56701-0677. Phone 1-800-344-4539 for a free catalog.

- |   |  |
|---|--|
| 1 | Quad 2 input NAND Gate, High Speed CMOS (74HC00N). Digi-Key Corp., Part # MM74-HC00N (\$0.28). |
|---|--|

- |       |  |
|-------|--|
| 1     | Quad Tri-State Transceiver, High Speed CMOS (74HC243N). Digi-Key Corp., Part # MM74HC243N (\$0.78).  |
| 1     | Octal Tri-State Transceiver, High Speed CMOS (74HC245N). Digi-Key Corp., Part # MM74-HC245N (\$0.82).  |
| 5 ea: | 3.76K, 7.50K, 15.0K, 30.1K, 60.4K ohm metal film resistors, 1%, 1/4 watt. Digi-Key Corp., Part #s 3.76X, 7.50X, 15.0X, 30.1X, 60.4X (each value: 5 for \$0.50) |
| 2     | 3.0K ohm carbon resistors, 5%, 1/4 watt. Digi-Key Corp., Part # 3.0E (5 for \$0.25)  |
| 5     | 0.1uF Monolithic Ceramic capacitors, Radial, 50V, 10%, or equivalent substitution, Digi-Key Corp. Part # P4525 (\$0.19 each)                                   |
| 2     | Shifter Chips, Atari Part # CO25914-38A. One chip is obtained from your ST's motherboard, the other from your local Atari Authorized Service Center (\$30.00)  |

## Installation of the Board

Located on the ST's motherboard is mounted a sheet metal box which houses the Shifter Chip. This box has a hinged lid which can be opened. Inside this box you'll find the Shifter Chip mounted in a 40 pin socket.

The board simply plugs into this socket so that the board is elevated above the ST's motherboard with sufficient clearance to allow closing the hinged lid.

Three wires are installed from the color board to three vias (trace thru holes) located nearby on the motherboard.

Additionally, jumpers are installed across each of three 3.6K ohm resistors on the motherboard. These resistors are easily traced from the Shifter socket pins 21, 24, and 27.

### Board Assembly

Because the sheet metal box (discussed above) does not allow a lot of head clearance, all components are mounted directly to the perfboard. If you use chip sockets, the hinged lid will not fit back on without modification.

The diagram shows the orientation of components. I soldered all the components to the perfboard, then soldered all the connections using 30 gauge Kynar wire wrap solid conductor wire (Radio Shack 278-502).

There is a slight modification to the circuit if you have any RAM chips installed in your ST which are 150 nanosecond (i.e., slower than 120 nanosecond). Pin 1 (DIR) of the 74HC245N must be tied to ground instead of to the R/W line on the Shifter. This will only disable the read capability for bits C, D, and E of each color palette register mentioned above.

### Software

Included with this article is a program to display all gray levels and colors. This is a very crude program but was intended to only prove that the circuit works. The C source code provides the engine for converting basic color intensities to board compatible bit patterns.

```

/* 32,768 Color Board Tester for Palette Register at location $FF8240 */
/* by Barry Orlando in Mark Williams C */
/* This program displays the 32 grey levels and then */
/* the 32,768 colors in sequence using background palette 0 */
#include <stdio.h>
#include <osbind.h>
#include <aesbind.h>
#define peekw(wp) (*(int *)wp)
#define pokew(wp,w) (*(int *)wp) - w
/*****main*****/
main()
{
    int g, b;
    unsigned int c, r;
    long i;
    for (r = 0; r > 23; r++) printf("\n"); /* clears screen */
    for (r = 0; r < 32; r++) /* red, green, and blue values - r */
    { /* c format is .RRRRRGGGGGBBBBB */
        c = r < 10; /* red */
        c += r < 5; /* green */
        c += r; /* blue */
        c = cvrt_m(c); /* convert to machine code */
        printf("grey level: %d\n", r);
        clr_write(c); /* set grey level */
        for (i = 0; i < 65000L; i++); /* added delay */
    }
    for (r = 0; r < 32; r++)
    { for (g = 0; g < 32; g++)
      { for (b = 0; b < 32; b++)
        { c = r < 10;
          c += g < 5;
          c += b;
          c = cvrt_m(c);

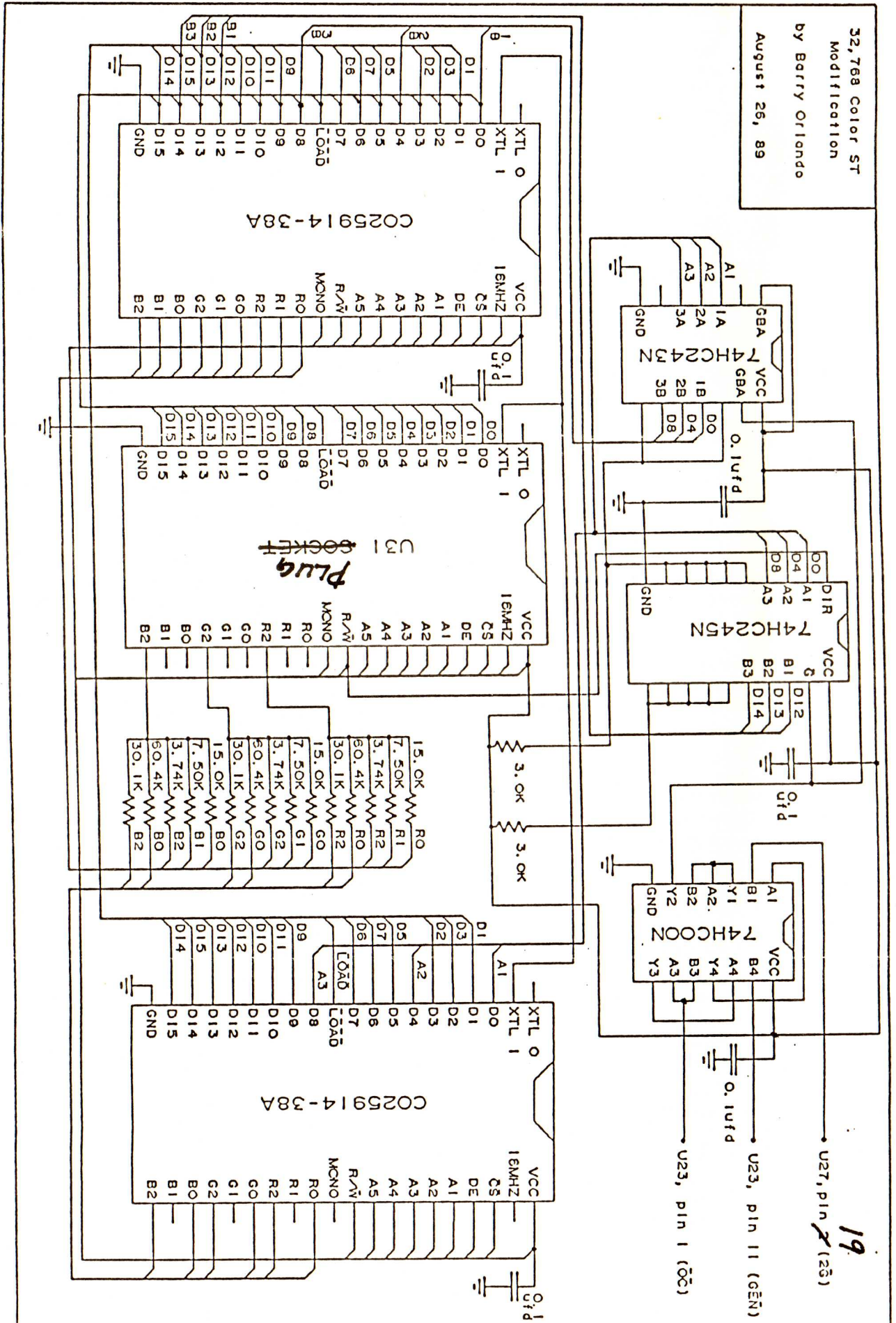
```

```

          clr_write(c); /* set palette color */
          printf("\nred: %d green: %d blue: %d", r, g, b);
          for (i = 0; i < 30000; i++); /* Added delay */
        }
      }
    }
    gemdos(0x01);
}
/***** clr_read *****/
clr_read() /* reads color palette register */
{
    long save_esp;
    int o;
    save_esp = Super(0L);
    o = peekw(0xFF8240L);
    Super(save_esp);
    return (o);
}
/***** clr_write() *****/
clr_write(o) /* writes to color palette register */
unsigned int o;
{
    long save_esp;
    save_esp = Super(0L);
    pokew(0xFF8240L, o);
    Super(save_esp);
}
/***** cvrt_m() *****/
cvrt_m(a) /* converts readable code to board compatible code */
unsigned int a; /* bit pattern in: .RRRRRGGGGGBBBBB */
/* bit order in: .M321LM321LM321L */
/* bit pattern out: .RGBRRRRGGGGBBBBB */
/* bit order out: .LLL1M321M321M32 */
/* bit: FEDCBA9876543210 */
{
    unsigned int f;
    f = (0x400 & a) < 4; /* red bit L */
    f += (0x20 & a) < 8; /* green bit L */
    f += (0x1 & a) < 12; /* blue bit L */
    f += 0x800 & a; /* red bit 1 */
    f += (0x40 & a) < 1; /* green bit 1 */
    f += (0x2 & a) < 2; /* blue bit 1 */
    f += (0x7000 & a) > 4; /* red bits M,3,2 */
    f += (0x380 & a) > 3; /* green bits M,3,2 */
    f += (0x1C & a) > 2; /* blue bits M,3,2 */
    return (f);
}
/***** cvrt_b() *****/
cvrt_b(b) /* converts back to readable code */
unsigned int b;
{
    int d;
    d = (0x4000 & b) > 4; /* red LSB */
    d += (0x2000 & b) > 8; /* green LSB */
    d += (0x1000 & b) > 12; /* blue LSB */
    d += (0x800 & b); /* red bit 1 */
    d += (0x80 & b) > 1; /* green bit 1 */
    d += (0x8 & b) > 2; /* blue bit 1 */
    d += (0x700 & b) < 4; /* red bits M,3,2 */
    d += (0x70 & b) < 3; /* green bits M,3,2 */
    d += (0x7 & b) < 2; /* blue bits M,3,2 */
    return (d);
}

```

32,768 Color ST  
Modification  
by Barry Orlando  
August 26, 89



19  
U27, pin 1 (25)  
U23, pin 11 (GEN)  
U23, pin 1 (OC)

# Turbo-Info # 4

## New 65C816 Registers

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by Chuck Steinman (DataQue)

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*This is the fourth part of a multi-part information article on the Turbo-816 from DataQue Software for the Atari XL/XE computers. The previous installments went over the basic system, memory and OS. This article will cover some of the new 65C816 addressing modes.*

The 65C816 is a 16bit processor, which also has the capability of executing 8bit 6502 instructions. To allow for this, there are two operating modes for the CPU, the EMULATION mode and the NATIVE mode. The emulation mode, as it implies, will fully simulate a 6502. The native mode opens up the full power of the new processor.

### The 65C816 Cpu

Even while in the emulation mode, many new instructions are available. Some are of little use because of being limited to the 64K addressing range of the 6502. Many of the new instructions allow for smaller, faster code. Other instructions offer power which was previously not feasible or practical.

Because of the limited 16bit addressing range of the 6502, the designers of the 65C816 realized that if their new processor was to survive, it must be able to address more than 64K while still maintaining 6502 compatibility. This was done by using multiplexing which adds another eight lines to the address bus. This new 24bit address bus allows for a full 16 megabyte range.

Obviously, there was no inherent

way to control these extra eight lines with the 6502 instruction set, so new instructions and addressing modes would have to be added.

To maintain 6502 compatibility, there would be certain limits to the functionality of those lines while in the 6502 emulation mode. There must also be the addition of several new registers to allow for dynamic control of the state of the new address lines.

### Features of the 65C816

There are two new registers in the 65C816 that control the eight new address lines. The B register controls the new lines during access to data memory. This would be any time that you would be loading, storing or doing manipulations to data external to the processor. This register is also known as the DATA BANK register.

The K register is used any time that program memory is being accessed. This would be when the CPU is fetching an instruction and its operands. This register is also known as the PROGRAM BANK register. Both of these registers are eight bits wide.

It should be emphasized that the B and K registers are not used in the emulation mode on the T816, so they could be used as general purpose registers. Because of this, while in the emulation mode, the CPU is limited to the base 64K of memory. This lowest 64K is where the stock XL/XE motherboard resides in the memory map. The CPU, and Turbo-816, power up in the emulation state, to maintain compatibility with the 6502.

In the native mode, the B and K registers are appended to the normal 16bit addresses. This allows for expanded ad-

ressing, even while still executing the standard 6502 instructions.

There are two other registers which should be mentioned at this time. In the 6502, the lowest 256 bytes of memory had special addressing modes. They were called "Zero Page Addressing."

There were several variations of zero page addressing depending on which, if any, index registers were used, and also if the data was loaded directly or indirectly. The 65C816 expands this addressing mode by allowing this same addressing mode throughout the base 64K. The register that allows this to be done is the D, or Direct, register.

The D register is 16bits wide. The contents of this register are added to the user supplied operand, to form the 16bit address. This register is active whether in native or emulation mode, which causes some programmers grief, as they assume it is always on page zero while in the emulation mode.

The last register is really just an extension to an existing register. With the 6502, there was the limitation of only having a small 256 byte stack range. This limited use in applications where heavy parameter passing and stack usage were required. The 65C816 allows the stack to be located anywhere in the base 64K, and in the native mode, the stack can be up to a full 64K in theory.

A common mistake made here is that programmers forget that the stack is always located on page one, and always 256 bytes in size while in the emulation mode. Also, people assume that in the native mode the stack wraps around within the current page.

Another feature of the 65C816 is that the index registers (X & Y) and accumu-

lator (A) may be either 8bits or 16bits in size while in the native mode. The index registers are always the same size, but the accumulator may be separately sized. Of course while in the emulation mode, all three registers are limited to eight bits.

Any time you switch between native and emulation mode the registers will be forced to eight bits. The upper byte of the index registers will also be lost. The upper byte of the accumulator will be retained while in the emulation mode but only accessible through the XBA instruction. Memory accesses will always take on the size of the accumulator. This is easily overlooked, especially with the shift and rotate instructions.

Another control function is the E bit in the status register.

This bit controls whether the Turbo-816 and CPU are in the emulation or native mode. This bit is changed by using the CLC or SEC instruction followed by the XCE instruction. This instruction exchanges the Carry flag with the emulation flag. In this way, you can switch modes easily, and also know which mode you were switching out of (by the returned carry).

There are several additional control pseudo-registers in the Turbo-816 that are controlled by the CPU and ANTIC. This allows access to the full 16Mb of address space with the CPU, while limiting ANTIC, GTIA, POKEY, and the PIA to the lowest 64K. These registers are not user accessible directly but are controlled via functions of the CPU and ANTIC hardware.

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Below is a table including technical information on the most popular Seagate hard drives. This table includes data on each drive's capacity, number of heads and cylinders, et cetera. This table accompanies the article by Ralph Mariano found on the following page.

#### ST 412 Drives with MFM Encoding (5.0 megabits/sec)

	ST125	ST138	ST225	ST251	ST251-1
Mb Formatted	21	32	21	42	42
# of Heads	4	6	4	6	6
Cylinders	615	615	615	820	820
Step Rate uS	3-200	3-200	5-200	3-200	3-200
Access mSEC	28	28	65	40	28
Write Precom	n/a	n/a	300/614	n/a	n/a
Power (watts)	10	10	14.8	11	12
	ST4038	ST4051	ST4053	ST4096	
Mb formatted	31	42	44	80	
# of Heads	5	5	5	9	
Cylinders	733	977	1024	1024	
Step Rate uS	10-70	10-70	3-70	3-70	
Access mSEC	40	40	28	28	
Write Precom	300-732	n/a	n/a	n/a	
Power (watts)	25.5	25.5	23	25.5	

#### ST 412 Interface Drives with RLL Encoding (7.5 megabits/sec)

	ST138R	ST157R	ST238R	ST251R	ST277R	ST4141R
Mb formatted	32	49	31	43	65	122
# of Heads	4	6	4	4	6	9
Cylinders	615	615	615	820	820	1024
Step Rate uS	3-200	3-200	5-200	3-200	3-200	3-70
Access mSEC	28	28	65	40	40	28
Write Precom	n/a	n/a	n/a	n/a	n/a	n/a
Power (watts)	10	10	14.8	11	11	25.5

#### SCSI Interface (Embedded Controller) Hard Disks

	ST138N	ST157N	ST225N	ST251N	ST227N
Mb formatted	32	48	21	43	64
Sectors	63,139	95,015	41,170	84,254	126,790
Access Time	28ms	28ms	65ms	40ms	40ms
Power (watts)	12	12	16.8	13	13

Note: All of the above are FCC and TUV/IUL/CSA certified.

# Hard Drive Myths and Mysteries

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by R.F. Mariano

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*[Continuing our series on the ins and outs of hard drives, this month we have a submission from Ralph Mariano of ABCO Computer Electronics, Inc. (and ST Report).]*

To begin, 99% of all hard disks are made to conform to IBM standards. With this thought in mind, we shall proceed... The most readily available, and in my opinion the most reliable and economical, hard disk mechanism is from Seagate... next in line is the Miniscribe. There are others, but you must make sure they conform to the IBM standard — ST-506/ST-412

MFM is the most commonly found format style in use, although recently, RLL has been becoming far more popular as it is a condensed, compact format allowing more data to be stored on an equivalent size hard disk. The major difference in RLL compatible drives is that the media itself in the hard disk is PLATED to insure accuracy and longevity.

Most commonly found hard drives do not have controllers built in. These are the most reliable and economical drives to use. Recently (in the past six months), great strides have been made in the technology and reliability of the embedded controller drives. In fact, it is easy to say that the embedded drive is the drive of the future. In the long run, the user is better off with the new embedded drives...if for no other reason than there are less individual component parts to fail and less of a load on the power supplies.

The actual chain of connection for a hard drive is: Hard Disk to Controller to

Interface (Host Adapter) and the DMA or SCSI (scuzzy) port on your computer or hard disk (embedded controller) to Host Adapter to Computer.

## Controllers

What is the Controller? This goodie is the custodian of your hard disk! It directs all I/O functions to the hard disk and it points to and accesses each cylinder.

The two most widely used, and I might add the most abundant and reliable, controllers are made by Adaptek. They are designed with the user in mind and provide for expansion in the future.

The Adaptek ACB-4000A is used to interface SCSI drive type ST506/412, while the ACB-4070 interfaces to ST506/412 RLL-Certified drives. NOTE: The 4070 does require shielding when mounted close to the drive.

The Adaptek 5500 type controller is MFM only and can handle four hard drive/SCSI devices. This type of controller is ideal where a BBS is concerned and interior cabinet space is at a premium. The other controllers available will handle only 2 devices.

OMTI offers the fast controller. That is, the 3500 series of controllers offer a speed increase on any hard disk of at least 15% and are RLL and MFM.

The following hard disk systems are special in that they have embedded controllers (all are SCSI drive types unless otherwise indicated):

## IOMEGA

ALPHA 10H, 10mb, Cartridge  
BETA XXX, XXmb Cartridge

## RODIME

RO650, 10mb  
RO652 interface, 20mb

## SEAGATE

ST138N interface, 30mb, 3.5 inch  
ST225N interface, 20mb, 5.25 inch

NOTE: Seagate has many more embedded drives... all Seagate embedded controller drives use the suffix "N".

## WESTERN DIGITAL

WD1002-SHD, SASI, ST506/412

## XEBEC

1410 and 1410A, SASI, ST506/412

These SASI devices are slowly fading into the sunset...

## Hard Disk Interface

In most cases, the Interface (Host Adapter) determines what type of computer system the hard disk will comply with. In reality, you can take a hard drive system made for an 8bit XL/XE, change the Interface to one for an ST and it will now work on the ST (after a format).

There are four types available for the ST: Atari, ICD, Supra, and Berkley. The most popular is the ICD Host Adapter.

The ICD Host Adapter is designed for the ST hard drive or for most anything you care to connect to it (i.e., tape backup, hard disk, laser printer, etc.). ICD uses the finest in noise limiting circuitry, thus allowing the use of longer DMA cables. Up to 6 ft has been tested and approved for use with ABCO Hard Disk Systems.

ICD also provides a fine hard disk utility program called "CleanUp" that recognizes the ICD Host Adapter and then proceeds about its duties. Users would also be well advised to periodically check the performance of their hard disk systems with ICD's RATEHD.PRG and SCSI\_ID.PRG.

Please note that I have not mentioned other Host Adapters...rather than "bad mouth," it's best that nothing be said.



Cascades Atari Computer Enthusiasts is the Atari Club in and around the Jackson County area. The main purpose of the club is to help inform new users, and to promote the use of the Atari Computer in the community.

President	Brent Fisher	(517) 764-4599
Vice-President	Tim Hotchkiss	522-8912
Secretary	Joe Cripps	782-0199
Treasurer	Craig Schaff	787-3970

The C.A.C.E. BBS, is run by the club and is open to anyone with a modem. The number to call is 1-517-787-4011. The current membership dues are \$14.80 per year, and are payable at any of the C.A.C.E. monthly meetings, or by mail to the P.O. Box. Club membership includes access to the entire club software and publication libraries, along with a monthly published newsletter.

Any written communication with C.A.C.E. should be sent to: P.O. Box 6161, Jackson, MI 49204. Our meetings are held on the second Sunday of the month, from 1 pm to approx. 4 pm. The meetings take place in the basement of the East Side Lounge at 2214 East Ganson, Jackson, Mi.

### Fishin' Around by Brent Fisher

Good day and welcome to the month of October. Well, ok maybe you will receive this after October. I am still looking for my September issue.

Our next meeting is to be held on Sunday October 8th at one p.m. over at the East Side Lounge, and for those of you who don't receive their magazine until November, that meeting will take place on the 12th. For the latest information on the meetings you can call me at home, or if you have a modem call the CACE BBS at 1-517-787-4011.

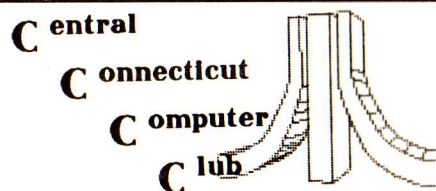
There is not too much to tell about last month's meeting, except that it was pretty much a gab session, with discussion of the (probably not) forthcoming GOE cartridge and what has been happening in the 8bit market.

I have to admit I was a bit impressed that ANALOG decided to do an article on Star Trek the Next Generation television series. I was also impressed that they had so much color in the magazine, especially since we haven't seen that much in a long time. Still it does not make up for content. Next month should be interesting since ANALOG is once more merging ST-LOG into it's pages again.

This also brings up an interesting subject, what is going on with Antic? I haven't received my October 1989 issue from them yet. Does anyone have anything to report on them? Are they still in business? I usually receive my issues a couple of weeks before I get ANALOG.

Last month I reported about Atari's upgrade offer on trading in your old disk drive and some money or a new one. According to customer service I should receive my new drive in three weeks. I sent in the old 1050 on September 11th. So I should have my new drive by the time you read this, but knowing Atari, you never know. I'll let you all know what is happening in my next column.

To put everyone's mind at ease, I have fully recovered from the Michigan-Notre Dame game. I should be myself again in time for the game next year. So I'll see all of you at the meeting.



The Central Connecticut Computer Club is the oldest, still operational Atari club in the state. Conceived in December of 1980, and operational in January of 1981, the CCCC continues to serve the Atari community. New blood is welcomed, and of course, old hands are always welcomed back.

Meetings of the CCCC are on the third Wednesday of each month. The meets kick off at 7:30 and usually include presentations or demos of various hardware or software items. The meetings are held at Eastern Computer Video, 1207 Meriden-Waterbury Turnpike, Milldale, Ct. 06467.

Prospective members may call Rich Scheidel (203)589-9035 or 589-3738. Failing that, call Tim Brandt, (203)283-0500, or write, CCCC, 127 Pinnacle Rd., Bristol, Ct. 06010.

Dues are \$25.00 per year, \$30.00 for family plan. Includes Voting membership, Newsletter, access to Club library (8-bit and ST), access to Club magazine library, discounts on computer and video supplies at Eastern Computer-Video, and access to the Club message base at Ultra Project BBS.

GREETINGS! September is here and hurricane Hugo is about to make history in a few hours as it whumps the mainland.

I write this on the last full day of a summer. Summers have traditionally been sparsely attended due to, of course, vacations and later hours for personal activities. However....I kind of wonder when I and one other faithful member of CCCC are the only ones that show up for a meeting....TWO months in a row.

Where has the club failed? Did we not try to entertain you to the best of our abilities? Were you bored with the content of the club or the activities that were presented? Did it ever occur to you that you could voice an opinion and change the direction of the club? Did you ever think that you could get involved and help the club?

Like I said, the end of summer is at hand. More and more of you are going to be blowing off the dust on your machines or are going to be sitting at them a little longer. Your interest in the old Atari is going to rise a bit. This is the way it's always been. You are probably going to go to a club meeting.

Lucky for you, we are still here. Due in no small way to the dedicated core of the club. If it was up to the general membership to have kept the ball rolling...., well enough of that. We ARE still here, and we have a new look. We have eliminated the MAJOR stumbling block of the club, that is, PLEADING for news articles and submissions for our newsletter. Now it's safe to come back. This new look is actually AIM. Your paid membership is going to get you a full year subscription! All that's required, is that I or one of the other officers send in club news and a monthly column and we're home free! They even accept articles from our membership (just in case it ever happens).

If you were EVER a member of CCCC, you will receive several issues of AIM. If you wish to come back, be my guest. We do wish the club to succeed and flourish. The Officers of CCCC are checking into the possibility of a Connecticut-wide club. Pay dues at ANY club, and belong to all. The possibility of attending any CCCC, STARR, STATUS, or FACE meeting. How does that sound? The ideas are just starting to be knocked around. Come on in....give us a hand.





GKAUG meets next on Saturday, October 14, 1989. Dues are \$25/yr and include a subscription to Atari Interface Magazine.

President	Frank Fellheimer	657-6106
Vice President	Dan Youngs	
Treasurer	Open	
Archiver	Dave Oldenburg	
Librarian	Bill Berner	
SysOp	Alex Stevens	
GKAUG BBS		(616) 657-2665

Attendance at the September meeting was five members. This is not too bad when you know that we have ten members total. We just seem to have difficulty keeping the club going. Some of the officers have held their positions for over two years, and cannot continue. There has been reluctance by most to holding an officers position. The meetings center around the 8Bit more than the ST because that's what most of our members have. I keep wondering what happened to the ST users out there?

Because of the loss of several people last year, the club discussed maybe merging with MACE and starting a chapter on this side of the state. We could attend their meetings by car pooling over there, or hold an informal meeting somewhere in Kalamazoo. By joining MACE we can obtain software from their library, the fees would be reduced from our \$25 charge, and you would know that there are a lot of other people with your type of computer (8 or ST) out there. More on this in the next newsletter.

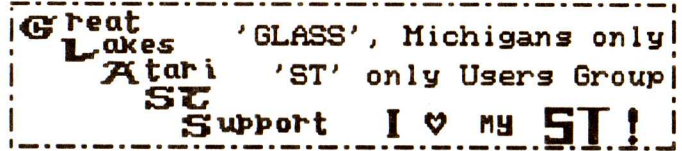
Treasurer reported \$69.88 in the club account. It is time to renew the clubs subscription to ANALOG. Our current subscription expires in Nov. We may not have enough funds to keep this if membership declines. The club has obtained several new public domain programs from members that attended the World of Atari show in Dearborn. These are now in the club library.

We have decided to have the next meeting at STAR-WORLD in Portage. The address is 6151 S. Westnedge Ave. Just think, after the meeting there are facilities for lunch, and an arcade room with REAL ATARI ARCADE GAMES!! Please note the time change to 11:30am.

Frank let us look at the 80 column, word processing program, "RICH MAN'S 80 COLUMN WORD PROCESSOR". It works very well, has search/replace, block delete/insertion, print to disk, and built in help functions. The display looked good on our color TV, so I think it would look even better on a monochrome monitor. It will even accept text files from Speedscript or TextPro. It is available from Computer Software Services. Phone them at (716) 467-9326.

Thats all for now. See you at the next meeting (probably in the Atari HARD DRIVING game) at STAR WORLD.

David Bryant  
Treasurer



Meetings - First Thrusday every month, 6 p.m. to 9:30 p.m., Athens High School, 4333 John R. Troy, Mi., 1/10 north of Wattles <17 Mile> - Room 1528 - Mailing Address - P.O. Box 99737, Troy, Mi. 48098 -- Steve Mileski, president  
Dues - \$1.00 per month, ie:join in April - pay \$9.00, all memberships expire on January 1, each year. Non-members welcome at no charge.



Next Meeting: Wednesday, November 1st, 6:30 p.m. Wyoming Public Library, 3350 Michael S.W.

Tim Feenstra	President	(616)784-6230
5625 Buthview NE, Comstock Park, MI 49321		
Greg Williams	Vice President	(616)698-7319
George Nosky	Treasuer	(616)942-1527
Bob Bulliment	Secretary	(616)457-1766
Chuck Baughman	Librarian	(616)795-7373
Terry Reine	Membership	(616)698-7244

**President's Monthly: 17 September 1989**

Greetings fellow Atarians; with club news still a little slow, I thought I would share a little information that I came across in a recent issue of OnLine Today, the monthly publication of CompuServe. In the September, 1989 table of contents, I came across an article entitled 'An Orphan Survives'. My first thought was for my trusty Atari, but I was mistaken, the article was about the TI-99/4A from Texas Instruments.

It seems that the user base of the TI is still very high and more exciting then when they were being produced between 1980 and 1983. The reason for this prolonged useage of a machine with little support by the manufacturer is described as a strong user group base and the support of a couple venders who still find it profitable to support the TI. The article describes several innovations that have been added to the available hardware lately. User innovation was also listed as one of the TI's strong points, with new younger users getting theirs at garage sales and flea markets for less than \$25.

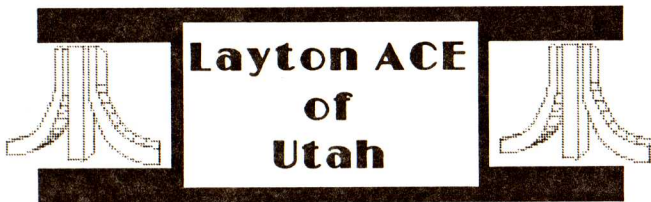
After reading the article, I had the feeling of reading a future article about the 8bit Atari. It does have a strong user group base, and many young people are still getting them new and used. I also think there are far more Atari 8bits then TI's, so as long as we users continue to support them, there will be third party distributors who will continue to provide service to us.

As much as I hate to repeat what has already been echoed to death, Atari Corp. seems to support the XL-XE lines only so far as games go. I am impressed with some of the newest XEGS games, but I do not want my Atari for games alone. I want to

learn with it, to use it well into the next decade beyond. To expand it as new technology becomes available, someone has to convert that technology to the Atari, and as long as they can make a buck doing it, someone will. The new 816 CPU chip is a good example, and if it sells really good, others companies will develop more uses for it.

I guess the moral to this story is not to give up on your Atari; use it; love it; learn with it; and, explore with it. If you develop a new idea or project, don't just sit on it without passing it around. These are the ideas that cause new products, new programs, new uses, and a continued appeal for the Atari as a productive, useful, and exciting computer. Pass your programs to the public domain, and above all, support the vendors who support you.

Now that I have rambled too much, let me say "COME TO YOUR USER GROUP MEETING." See you in November.



President:	Irwin Brooks	(801) 731-1516
Vice-President:	Richard Clark Jr.	825-5823
Sec'y/Treasurer:	Ken Karchner	776-8015
ST Librarian:	Jerry Kennedy	479-3635
8bit Librarian:	Dave Young	776-6273

Next LACE Club Meeting: Mark your calendar for Wednesday, 11 October 1989 at the Clearfield branch of the Davis County Library from 7 to 8:30 p.m.

### President's Column

I recently had an experience that I wish to relate to you. My 520 ST had been trying to quit on me. Whenever I had it on for more than 15 minutes it would randomly bomb out. Then I would have to let it sit for hours to cool down before I could use it again (or so I thought). And, as time went on it got progressively worse. My wife uses it on a weekly basis to do the church bulletin, and she was getting angry with it, and me, for not having it fixed. However, visions of having to box it up to withstand a deliberate drop of one foot to see if it was well packed, only to find the factory box didn't quite cut it, did not excite me. Nor did having to buy a new one just because the pieces, though enough to make a 520 ST, did not qualify for a trade-in exchange. So, I waited until the last minute.

Complete frustration was what I felt when right in the middle of a long distance download, the computer bombed. So, I'd call back and start the process over again as quickly as I could to minimize the computer on-time. Good idea, huh? Not good enough! I must have tried at least three times before I gave up after I decided that it must be cheaper to get it repaired than to pay for long distance calls that are cut short.

I took my computer in hand to a local repairman. I must have seemed like a father with a wife in labor, for all of the annoying phone calls and visits to the repairman. What I did find out was

that it failed for him just like it had failed for me. My conscience was slightly at ease knowing that it wasn't some evil in my powerline or some mysterious spirit out to get me. However, bad news came a few days later.

The prognosis was that a memory chip failed completely. Okay, I could handle that. But, that's not all. The 520 ST that I had was a REV B motherboard. That's nice, sooo...? The repairman explained that the design that Atari did on the 520 ST rev. B board was the worst (next to rev. A, luckily not many produced). The simple fact is that I can expect problems with it for the rest of its life. Aaaaarg!

In addition, that user installed one meg upgrade will have to be removed. Then to top it off, other memory expansion upgrades might not work either. So, I had a 520 rev B with 0.5 meg that was going to be sick its entire life. Not too promising in my eyes.

A little investigating revealed that a local computer store had some 520 STs for exchange IN STOCK. Computer Connection, on Washington Blvd. in Ogden, had a 520 rev H and rev C. Cost, you ask? My first question too. A mere ninety-five dollars plus tax was all. (The different bottom case was an additional \$10.) Is that for a rev H? Yes, was the reply. The fact is, the rev H has a few things that the rev B doesn't. It has the last and best board design that includes the RF output for TV connection and the circuit traces for an easy memory upgrade. I must confess here, the RF output was often considered for later addition to my present 520 ST at an expense in excess of \$50. What a deal! Now I'm starting to get excited.

Needless to say, I bought it. In fact, I was so anxious, that I took time off work to go get it and check it out.

I'm almost thrilled with my new child, a 520 ST rev H motherboard. If it had just another 1/2 Meg or more of RAM, I would be even more thrilled. Well, I guess that story will have to be told in another issue.

The MORAL of this story is: If you have a 520 ST rev A or B and it suddenly starts to act up, trade up with the Atari trade-in. Even if it means removing the extra memory, it will be worth it.

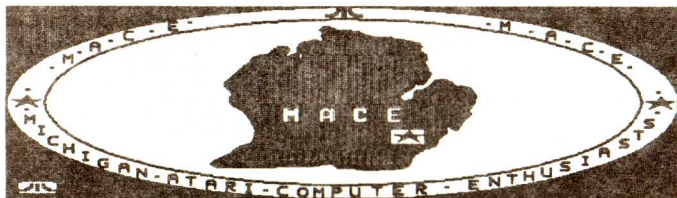
Irwin Brooks

### For Sale: ATARI MEGA ST2 W/50 MB INTERNAL HD

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Michigan Atari Computer Enthusiast members receive, as part of their dues, Atari Interface Magazine, a monthly magazine keeping them informed of what is new in MACE and the whole Atari community. Members are also entitled to purchase disks from the 8bit and ST public domain software libraries. 8bit disks are \$3 each and ST disks are \$4 each, and if you buy three disks from either library and you can choose a 4th disk absolutely FREE! Non-members may purchase disks at a slightly higher rate. Mail order is also available. For a catalog of current disks in our libraries, send \$2 for either an ST or 8bit catalog to the MACE address below. Please indicate ST or 8bit when sending in your order.

The most important benefit you receive is the help and support from (and interaction with) other Atari owners. If you're having a problem, need advice about a software package or whatever, your fellow MACE members can and will help. That's what a user group is all about -- helping each other get the most from our computing.

MACE meets on the third Tuesday of each month from 7:30 to 10 pm in Room 115 of the Southfield Civic Center at 10-1/2 Mile and Evergreen Roads.

MACE can be contacted at PO Box 2785, Southfield, MI, 48037 or by calling Ed Hanson at (313) 675-0044 or Bob Retelle at (313) 483-7358.

Any MACE member who contributes an article which appears in Atari Interface Magazine is entitled to a free disk from the library of his/her choice.

#### MACE BBS Numbers:

MACE WeST	(313)582-0657	(3/12/2400)
MACE East	(313)978-1685	(3/1200)
The College Board	(313)478-9647	(3/12/2400)
DownRiver Outpost	(313)675-4660	(3/12/2400)
Molin's Den	(313)420-0407	(3/1200)

The September meeting of the Michigan Atari Computer Enthusiasts was held on Tuesday, 9/19, in the Southfield Civic Center. President Bill Rayl called the meeting to order at 7:45pm. Bill announced that a special guest speaker from Michtron had contacted him earlier to send his last minute regrets that he could not attend the meeting. Michtron DID, however, send a copy of ProText and a stack of 30 ProText demo disks for free distribution. Raffle tickets were sold throughout the first half of the meeting for the drawing that would take place after intermission.

Bill also announced there were two new submissions to the ST disk library that evening, one of which was a new graphics/sound demo called "The Snowman," and the other a double sided disk full of new P.D./Shareware goodies including VanTerm v3.8, PinHead v1.4, DCopy v3.2a, and others.

Bill announced MACE officer elections would take place during this meeting, and read the "job descriptions" from the Constitution. The election was held immediately, with the following results: Ed Hanson, President; Ted Newkumet, Vice President; Brian Wilmoth, Recording Sec'y; Jim Nichols, Treasurer; Bill Boles, Editor and Membership; Anton Malje, 8Bit Librarian; Bob Retelle, ST Librarian; and Mark Tappen, Corresponding Sec'y.

The position of Meeting Coordinator was left unfilled, giving the new officers an immediate official challenge. *(Congratulations to all of you, with best wishes for a prosperous and successful term! -Mike)*

After intermission, Bill Rayl demonstrated several of the pro-

grams from the disk special, showing particular interest in the new version of VanTerm. Bill also demonstrated Bloodwych, a Dungeon-Master-like game for one or two players.

Bill Boles walked away the happy winner of the raffle for ProText, which he will hopefully put to good use in the coming year as the club's new editor!

Bill Rayl announced that the October meeting (10/17) would feature a Swap Night, so bring your unwanted Atari periphenalia to sell at the meeting! Bill adjourned the meeting at 9:30pm, thus officially turning over the reins to the new officers.



Mid-Ohio Atari User's Group, Post Office Box 134, Ontario, OH 44862

Well here we are people, in our first official AIM newsletter! In case you were not at the last meeting, the group has decided to take AIM up on their User Group magazine subscription plan. I hope that things work out as I feel this is a very good deal.

The members at the September 9th meeting, decided that we would pay for subscription fees to A.I.M. for the current membership, through the end of the year. When dues are collected in January, we will make a decision whether to continue with A.I.M. or to return to our own newsletter. The AIM subscription and MAUG dues together would amount to \$7.20 per user, per year. Make sure you either attend that meeting, or let me know if you want to participate.

The next meeting of the Mid-Ohio Atari User's Group will be on Saturday, October 14th, from 7:00pm until 9:00pm. The location is the same, being at A&B Computers, 1619 West Fourth Street, Mansfield OH 44906.

We are still in need of people to demonstrate new and interesting programs, so if you have something, please bring it along. Last month we had several program demos for the ST, but the 8bit was lacking any demos.

This coming month, I will be demonstrating Turbo-Calc for the 8-bit. This program is the first commercially available program which will run either with a stock Atari XL/XE, or a system which has been upgraded with the Turbo-816. It will use either Standard or Expanded memory.

Also, I will be presenting the shareware spreadsheet for the ST, OPUS. This is a very nice spreadsheet, which is especially nice if you have a monochrome system. Has full GEM and mouse support. Copies will be made available, and I am sure you all will agree it is a winner. Remember to support shareware programmers!! Well that's all for now, see ya in October!

Chuck



**ROCKFORD ATARI  
COMPUTER CLUB**

**Serving the Greater  
Blackhawk Area of  
Northern Illinois**

Rockford Atari Computer Club serves the North Central and Northwest area of Illinois. We invite anyone in the area to attend our meetings. We meet at Rock Valley College, Rockford, IL: usually on the third Saturday of each month. Meetings start at 10 AM and feature demos on both the Atari 8bit and ST. Our next meeting is the FOURTH Saturday, October 28, due to a college scheduling problem.

Our Address is RACC, 2379 Circle Dr., Belvidere, IL 61008.

Terry Frits	President/ST VP	(815) 547-7718
Thom Lofthouse	8bit VP	654-1683
Dave Solmierski	8bit Librarian	654-0247
Andy Learner	Treasurer/BBS SysOp	397-5316
Terry Frits	Editor	547-7718
Thelma Schafer	ST Librarian	633-1259
RACC BBS		397-5327

We are looking for someone with an Express Pro BBS from the Michigan area to network with. Our BBS is Camille 2000 ((815) 973-5327.



The ST Club of El Paso is the only Atari ST and Mega user group in the El Paso area. Founded in 1988, The ST Club has distinguished itself as great help to those that are new to Atari computing as well as helping those that are old "hacks" at computing.

Meetings of the ST Club are held on the second Saturday of each month at the Richard Burges Branch Library, 9300 Diana. Meeting time is 12:30pm. Each meeting features demonstrations of the latest in software, and help for those that are having problems with particular programs.

Membership in the ST Club of El Paso includes the following benefits: A one year subscription to Atari Interface Magazine, discounts on computer supplies and software at Jenkins' Computer Store, discounts on services at local merchants, access to a huge PD file area, access to the ST Club area on STEP BBS, technical assistance, regular club auctions and social events. Voting membership is only \$20 a year! (A great deal, when you consider that a subscription to AIM alone is \$18!) Sponsored memberships are \$15 a year, and newsletter only memberships are also \$15.

To become a member of the ST Club of El Paso, call 915-821-2048, or write to: The ST Club of El Paso 10953 Yogi Berra El Paso, Tx 79934.

President:	Tim Holt	(915) 821-2048
Vice President:	Morris Miller	594-1906
Sec't/Tres:	Joann Anderson	751-2710
Editor:	Paul Stampfli	821-4861
Librarian:	Norm Bates	593-6234

**From The Prez...**

I apologize for not making it to the last meeting until the very end. Thanks to Morris, Paul, Dave and everyone else for making things work.

If you missed the last meeting, ARCSHELL 2.00 was demonstrated, and we had the drawing for the \$50 gift certificate. Paul Stampfli won the gift certificate. (We more than paid for the

cost of the certificate, so look for more raffles in the future!) Kevin Spetter won Optical Race by Tangerine Dream. That album was composed entirely on the ST, and even says so on the cover. Kevin says it is a great album.

We gained four new members: James Blount (who has been coming to the meetings for a year and finally was convinced we are here to stay.), James Foote, Mark Munnings, and Joseph DiVito. Several members renewed for the next year. Thank you to all for showing support in our club.

Norm Bates, our librarian, gave out free library disks to all members at the meeting. You have to come to the meeting in order to get your disk. Tom Hodgson came over from Jenkins' and showed off the Portfolio handheld computer. It was nifty. Now all we need is a handheld ST... did you hear that SAM?

I want to mention we now have a SECOND monthly meeting, due to our incredible growth. It will be on the last Thursday of the month at Richard Burges Library. This is an evening meeting and will run from 7 to 8pm. We had to do this, because we are getting SO BIG! That is a great statement to make. I am proud to be president of such a viable club. The second meeting will be informal, with no scheduled demos and club business.

Some upcoming meetings: October: Phasar will be shown off by Morris Miller. November: Combining ST animations AND live action demo by Terry Hughes a local ST user and artist. December: PC Ditto II (we hope) by Paul Stampfli AND AUCTION! January: Spectre GCR Mac emulator demo by Tim Holt. February: Word Processing on the ST

As you can see, we are busy! Thanks again for making us the best darn User Group in El Paso! Until next month, Tim



TACE -- Tinker ACE of Oklahoma meets the first Saturday of each month at 1pm (12:30 set up time) in the Moore Public Library, 225 South Howard, just off of SW4th and I-35 in Moore. TACE can be contacted at Route 5, Box 539, Blanchard, OK 73010 or at the TACE BBS (405) 755-9561, 24hours., 3/12/2400 baud, running Oasis 4.3 software with over 60megs of online storage, ST & 8bit support. Dues: Full - \$20.00, Correspondence - \$15.00.

President	Michael Beard	(405) 793-7978
Vice President	Greg Ray	(405) 964-3765
Sec/Treasurer	Stephen Moffitt	(405) 732-8449
Librarian	Greg Yelle	(405) 390-9184
BBS SysOp	Rick Spencer	
Technical Advisor	Ron Hamilton	(405) 387-5649

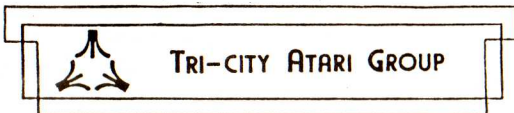
**Secretary/Treasurer Report — September**

Well, first of all....Hello! How are you all doing? We had a great time at this month's meeting...tell your friends about us and bring them along too.

There, now that is out of the way, I can tell all of you what happened at this month's meeting. The Treasurer report was given...we have a grand total of \$4.65 (plus a little that I have yet to deposit). We now owe Puget Sound Atari News around \$46 which will be paid off soon.

Special Note — Chuck Leazott was here. He is a sales representative for ICD and Orion Microsystems. He moved in just this month. He can be reached at 405-732-9993 (voice) 405-732-9995 (modem). He sold many leftovers from ICD's booth at the Dallas World of Atari show at a greatly reduced price (under retail). He even had an MIO (which ICD will still make under special order). If you wish to order, he will take orders and sell them to you for under retail prices (minimum order \$50, or plus \$3 if under \$50).

Also a short video of the WOA show was given. Mr. Leazott will be giving a demonstration of the Express cartridge at the next meeting. So come one, come all. Bring you friends. Bring you neighbors. Until next time.



The Tri-City Atari Users Group meets the last Saturday before the 18th of the month, at 2pm at the Rudy Zauel Memorial Library, on the corner of Center and Shattuck in Saginaw Township. Upcoming meetings are September 16th, and October 14th, 1989. Officers:

President	Steve Volker	(517) 793-2955
ST Librarian	LeRoy Valley	686-6796
Treasurer/Sec'y	Marty Schmidt	792-6029
8 Bit Librarian	Ted Beauchamp	686-8872

Club dues are still only \$20.00, which provides support for both the 8 Bit and ST, and full access to the club's PD library, along with a year's subscription to the Atari Interface Magazine. Check your mailing label, if you need to renew,(or haven't joined us yet!), DO IT NOW!

Beware!! There is a new Virus in town !! LeRoy Valley found it on some of the club disks and gave the warning. The new version of Virus Killer DOES identify and eliminate this one.

The meeting of Participating Users Groups at the headquarters of Atari Interface Magazine was held. The minutes of that meeting were presented by Steve, and here are some highlights.

There are now two distinct classes of clubs involved with AIM; participating clubs (us), and affiliated clubs. AIM is now only \$.50 an issue for Participating clubs and \$1.25 for Affiliated. The more a club participates in the content and formulation of the newsletter, the more representation they have.

There was also a proposal brought up at the meeting involving a monthly disk of PD software. Bill Rayl suggested that AIM might fill a disk each month with downloaded software from different sources and make it available to the clubs for a nominal \$1 per disk cost. If this was agreeable, then AIM will begin to send them automatically.

**What You Missed** — Though he broke an unspoken taboo by

running it on a color TV instead of a color monitor, Steve Volker gave a show of the mystic intricacies of Shadowgate. Though the game is essentially another hack and slash adventure, it has a few attractive traits. (We won't mention why the demo was cut short, but those of you who were there know...)

**What You Shouldn't Miss** — In October we are expecting Brant LeFreniere's demo of Touch Up and Migraph's new hand scanner. This is one of the most looked for demos, so show up!

The November meeting will have something special, with a FACE OFF between the abilities of WordPerfect 4.1 and the latest version of 1st Word Plus. Leroy Valley challenged Marty Schmidt to 'prove' his wordprocessor was better, and it's up to us to decide! BE THERE!! (..or be square?..)

Look for a demo of Fast Technologies new 16 mhz upgrade board soon, and see CMI's version, with a socket for the BLITTER chip, in person! (And For Sale?) The 8bit section is on hold temporarily, until some 8bitters, besides Ted Beauchamp, decide to SHOW UP!

We are compiling a list of volunteers for the next Consumer's Market show at Fashion Square Mall. So far we have five, one who is bringing a camera! COME JOIN US!!

Equipment Volunteers for October:

Bryant LeFreniere -ST System w/ Scanner

Leroy Valley -Desk Jet Plus, Multi-Sync Monitor

Remember, if your bringing equipment, please bring all necessary cables, (i.e. power cords, monitor cables, mouse, or whatever.)



**Washtenaw Atari Users Group Meeting: 9/12/89**

The September meeting of WAUG was held in the Wolverine Room of the Michigan Union. Craig Harvey called the meeting to order at 7:45pm and introduced Bill and Pattie Rayl.

Bill described some of the avenues they are pursuing in the publication of Atari Interface Magazine and predictions on how the "participating clubs" would be affected. The enthusiasm amongst the members clearly showed support for the new plans.

Craig announced there was little hope of seeing either the Spectre GCR or PC Ditto II before the October 10th Emulator Meeting, and explained the officers decided on Graphics and Animation instead. November 14th will feature DeskTop Publishing, December 12th will naturally be dedicated to Games and the Christmas Party, while January 9th will likely feature Telecommunications in the grand WAUG tradition.

Craig said the next meeting will be in the Anderson Room at the Union. As always, meetings start at 7:30pm with the doors opening at 7. Craig presented member Jim Shillington with an Appreciation Award for his contributions to the 8bit disk library, which now exceeds 250 disk selections! Many thanx Jim!

**October 1989**

**Events Calendar**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	GRASS	GLASS	6	TACE WAACE Show(DC)
CACE WAACE Show(DC) 8	9	WAUG 10	LACE 11	12	13	GKAUG MAUG El Paso 14
15	16	MACE 17	CCCC 18	19	20	TAG 21
22	23	24	25	El Paso 26	27	RACC 28
29	30	31				

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*"I'm afraid the doctor isn't very well just now. He has a headache from looking at the computer screen all day."*

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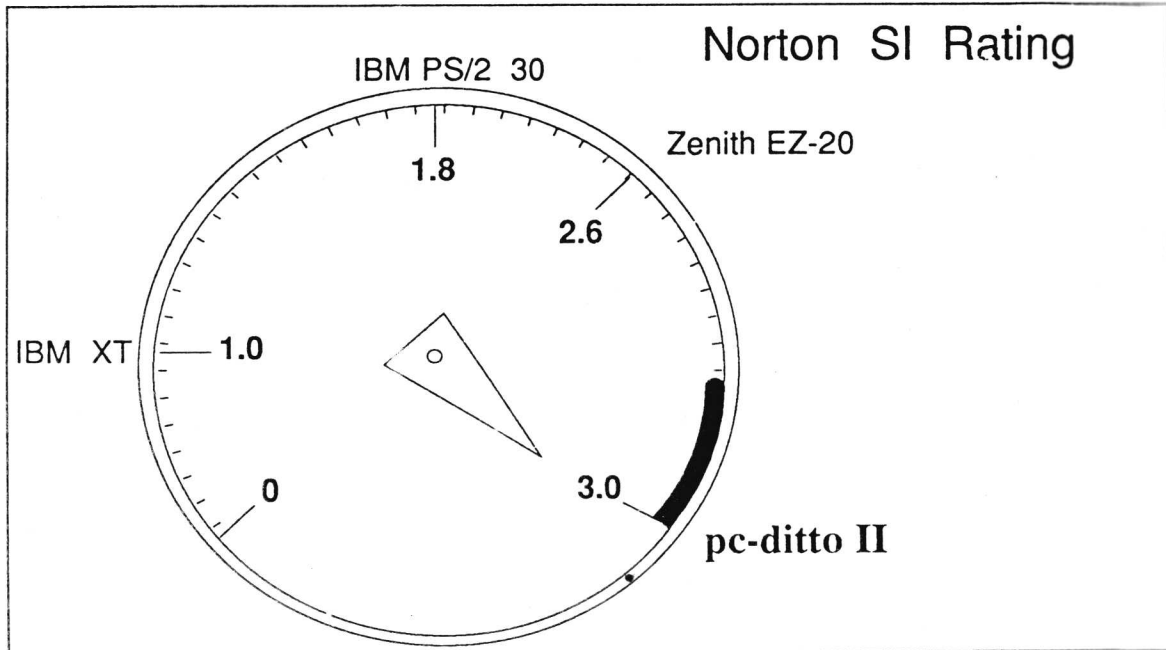
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