

SPACE

NEWSLETTER for June, 2007



President's Corner by Michael Current June, 2007

Nice to see everyone last month! Attendance was rather low, but I always appreciate the opportunity to get together for some Atari talk. And to catch up on my DOM collection!

This month's Newsletter is looking long, so I'll keep this short. I would just put a little extra emphasis on the SIO2USB announcement from the German ABBUC RAF group, which should be elsewhere in this Newsletter. Anyway, this is the coolest-sounding product I can remember. We'll be able to use any USB flash drive directly with our 8-bit Atari computers. Boot from any ATR disk image on that drive. Run a disk-based Atari without a floppy drive, and without a hard drive. Move files and disk images between the Atari and the Internet with ease! And do it just as easily with a Mac as with a PC! Well, you can tell I'm a little excited about this one. Should be available in the US later this year!

Thanks, keep using that Atari, and come to your next SPACE meeting, Friday June 8, 2007.



Treasurer's Report by Greg Leitner For May 2007

It wasn't shocking that just a few members turned out for the May SPACE meeting with gas prices hitting an all time high in the cities at around \$3.25 per gallon. With prices like these we will all have to re-think how much extra driving we are going to afford. I figured that with just my wife and I driving back and forth to work we will be spending around \$75.00 per week for gas. That wasn't the amount we had budgeted, not even close.

I was very surprised to see our President, Michael Current, at the May meeting. It was a beautiful Friday evening and a great night to be out driving if it wasn't for the gas prices. It was a shame that we couldn't have had a bigger turnout since it isn't very often that Michael can make the meetings.

Since there were no expenses again in May, and all we had for sales were a few dom's, thanks to Michael catching up on his dom collection, I won't list the bank activity this month. With

the \$15.00 in dom sales for the May meeting our Treasury increased to \$799.59.

I am a little worried about the future of SPACE and for that matter the whole economy. I hope we can all bear the higher costs that it looks like this summer is going to bring. Next month we need to talk about our July Birthday Party so it would be nice if everyone could try to make this meeting. I hope to see you all there.

Secretary's Report By Steven Peck For May 2007

No minutes were submitted for the May Meeting.



BBS Corner By Nolan Friedland For June 2007

If anyone has any comments, suggestions, ideas, or submissions for the BBS Corner column or the SPACE BBS web site, you may email them to me, Nolan Friedland, at the address shown on the back of this newsletter under the "CLUB OFFICIALS" section.

A-T-A-R-I
Answers-Tips-And-Relevant Information
Paul V. Alhart
1996.1

Programming Your Disk Drives

Although I will be using Assembly language programs to demonstrate some of the concepts in this column, don't be scared off. The programs will be available "ready to run" on the Atari Classics disk. The listings are commented and hopefully easy to follow. Besides, you just might learn something if you stick with me.

Over the years since I purchased my first Atari, I have invested a considerable number of hours of learning/programming time to save myself a few seconds here and there. If you understand that (even better if you can relate to it) we are ready to proceed. Several of those well spent hours will now be discussed.

It all started shortly after installing the US+ O/S upgrade in my 800XL. US+ automatically took care of setting up the RAMdisk handler at power up, but I still had to go to DOS to format it. With some software this was quite inconvenient if not impossible, not to mention being a waste of my time. Between the Atari Personal Computer System Operating System User's Manual and Compute's book Mapping the Atari, I was able to write the short AUTORUN program shown in listing 1, that would format my RAMdisk (disk #4) at boot-up.

I immediately added this program to my BobTerm disk so all of my downloads could be saved directly to my RAMdisk. It wasn't long till I ran into good old ERROR 162 (DISK FULL). OK I thought, I'll just rewrite the above program to Format my RAMdisk in double density. Here is where hours turned to days. I didn't know how to reconfigure a drive without going back to DOS and none of my books hinted at the answer. I did the only thing I could. I logged on to my favorite FIDO NET BBS, went straight to the Atari 8-bit Echo, and said "HELP". My FIDO friends came through with flying colors. I learned that the MyDos documentation had most of the information I needed. Also, Bill Wilkinson had written an Insight: Atari column on this topic in the October 1985 issue of Compute Magazine. One kind soul even mailed me a copy of Bill's article. With this information in hand it was back to my learn/try/learn some more method of programming. Here is what I learned.

The Percom Configuration Block

Back in the early days Percom Data Corp. wanted to market both single & double sided drives using both single & double density to the Atari market. They also wanted them to be compatible with the Atari 810 and (soon to be released) 815 disk drives. To do this they developed the Percom configuration block. This set the standard followed by all third party drive manufactures. The only exception being Atari's own 1050 drive which operated in single & enhanced density. Yech!
NOTE: A Happy 1050 or US Doubled 1050 does use the Percom configuration block.

This configuration block consists of 12 bytes of memory within the drives control microprocessor. You can read a drive's configuration block by passing an "N" to it as an SIO command. You can write a new configuration block with an "O" command. This is similar to the "R" "W" commands for sector input/output except the data length is always 12 bytes and no sector number is needed. Also note that all double byte values are in high byte/low byte order. The 12 bytes and their usage are:

Byte #	Use
0	Number of tracks (40 for a standard drive)
1	Head step rate (setting varies by manufacturer)
2-3	Sectors per track (0 & 18 for a standard drive)
4	Number of sides (0 = single sided 1 = double sided)
5	Density (0 = single density 1 = double density)
6-7	Bytes per sector (0 & 128 for single density)
8	Translation Control
	bit 7: 1 = 40 trk. disk I/O on an 80 trk. drive
	bit 6: Always 1 to indicates drive present
	bit 1: 1 = Handle sectors 1-3 as full size sectors
	bit 0: 1 = Sectors number 0-17 (for example), not 1-18
9	Serial rate control (setting varies by manufacturer)
10-11	Miscellaneous (setting varies by manufacturer)

Since some of the 12 bytes are not used or mean different things to different drives, it is best to first read the configuration block of the drive you want to configure. Then plug in new values to just the appropriate bytes to make the changes you need. After reconfiguring a drive, DOS needs to be updated with the changes. This is easily accomplished by doing a JSR to DINIT. One problem here is that DINIT is located in the File Management System portion of DOS, and not all DOS's use the same memory location for DINIT. My example program FORMAT4D, in listing 2, uses the DINIT location used by SmartDOS, DOS XL, & AtariDOS 2.0. To use this program with any other DOS you must first determine the location of DINIT and then change it in the EQUATES portion of the program.

PUTTING IT ALL TOGETHER

FORMAT4D (listing 2) uses all the information we have learned so far. It first reads the drives current configuration. If it is configured as single density (the default at power up) everything proceeds normally. If it is already configured to double density, the program terminates with no further action taken. This allows me to re-boot without wiping out any data that may be stored on the RAMdisk.

Next the screen border is set changed to red to indicate the drive will be reconfigured and formatted in double density.

The drive is then reconfigured for double density, DOS is informed via DINIT, and the drive is formatted.

With this information and some neat utilities like RAMcopy and Multi Autorun System you can have your RAMdisk configured, formatted, and loaded up with support files. All done automatically at power on. See what I mean? A few weeks of learning/programming can save you precious seconds down the line.

CREDITS

Atari Disk Drive Compatibility by: Bill Wilkinson Insight: Atari Compute Magazine October '85

RAMcopy by: Charles F. Johnson Analog July '86 Lets you automatically copy files to your RAMdisk at power up.

Multi-Autorun by: Bill Bodenstien Antic Magazine March '87 Modifies Atari DOS 2.0 or DOS 2.5 to allow up to 27 AUTORUN files to be executed during boot up.

Ultra Speed Plus O/S by: Robert Puff Computer Software Services Rochester, N.Y. (716) 429-5639 This is 3 switchable operating systems in one package. Sets up RAMdisk handlers, reads/writes/formats in Ultra Speed Skew on drives that support U/S, and much-much more.

BobTerm by: Robert Puff May be the best terminal program ever for the Atari.

MYDos by Robert Puff Excelent third party DOS for your Atari.
Includes support for hard drives, double density, RAM drives, sub-directories, and lots more

FIDO NET A world wide net of private run BBSs. A great free source of information, help, and used equipment. More on FIDO in the next A-T-A-R-I.

Listing 1

```
10 ;FORMAT4
20 ;
30 ;BY PAUL ALHART
40 ;
50 ;
60 ICCOM = $0342
70 ICBAL = $0344
80 ICBAH = $0345
90 CIOV = $E456
0100 ;
0110 *= $5000
0120 LDX #$20
0130 LDA #$FE ;FORMAT COMMAND
0140 STA ICCOM,X
0150 LDA # <DEVICE
0160 STA ICBAL,X
0170 LDA # >DEVICE
0180 STA ICBAH,X
0190 JSR CIOV ;DO IT
0200 RTS
0210 DEVICE .BYTE $44,$34,$3A,$9B ; D4:
0220 *= $02E0
0230 .WORD $5000
```

Listing 2

```
10 ;ALHART ENTERPRISES PRESENTS
20 ;
30 ; FORMAT4D
40 ; AEP 3/27/93
50 ;
60 ;FORMAT4D is an AUTORUN utility.
70 ;It reconfigures Drive #4 to Double Density,
80 ;informs DOS of the change, and then Formats Drive #4.
```

```
90 ;
0100 ;To use with any DOS other than
0110 ;ATARI DOS 2.0 -DOS XL -SMARTDOS
0120 ;DINIT may have to be changed.
0130 ;
0140 ;
0150 DDEVIC = $0300
0160 DUNIT = $0301
0170 DCOMND = $0302
0180 DSTATS = $0303
0190 DBUFLO = $0304
0200 DBUFHI = $0305
0210 DTIMLO = $0306
0220 DTIMHI = $0307
0230 DBYTLO = $0308
0240 DBYTHI = $0309
0250 ICCOM = $0342
0260 ICBAL = $0344
0270 ICBAH = $0345
0280 DINIT = $07E0
0290 DSKINV = $E453
0300 CIOV = $E456
0310 ;
0320 *= $5000
0330 ;
0340 ;CHECK IF DRIVE 4 IS ALREADY DOUBLE
DENSITY. IF YES THEN END.
0350 ;
0360 LDA #$31 ;DEVICE TYPE
0370 STA DDEVIC
0380 STA DTIMLO
0390 LDA #$04 ;DRIVE #
0400 STA DUNIT
0410 LDA #$4E ;GET CONFIGURATION
0420 STA DCOMND
0430 LDA #$40 ;READ CONFIGURATION BLOCK &
STORE IN TBLOCK
0440 STA DSTATS
0450 LDA # <TBLOCK
0460 STA DBUFLO
0470 LDA # >TBLOCK
0480 STA DBUFHI
0490 LDA #$00
0500 STA DTIMHI
0510 STA DBYTHI
0520 LDA #$0C ;12 BYTES
0530 STA DBYTLO
0540 JSR DSKINV
0550 LDA TBLOCK+5
0560 CMP #$04 ;SEE IF DRIVE IS CONFIGURED FOR
DOUBLE DENSITY
0570 BEQ RTS
0580 ;
0590 LDA #56 ;COLOR BORDER RED
0600 ;
0610 STA 53274
0620 ;
0630 ;SET D4: FOR DOUBLE DENSITY USING PERCOM
CONFIGURATION BLOCK.
0640 LDA #$31 ;DEVICE TYPE
0650 STA DDEVIC
```

```

0660 STA DTIMLO
0670 LDA #$04 ;DRIVE #
0680 STA DUNIT
0690 LDA #$4F ;$4F = RECONFIGURE
0700 STA DCOMND ;$4E = GET CONFIGURATION
0710 LDA #$80 ;$80 =WRITE NEW
CONFIGURATION THATS STORED IN CBLOCK
0720 STA DSTATS ;$40 = READ
0730 LDA # <CBLOCK ;CBLOCK ADDRESS
0740 STA DBUFLO
0750 LDA # >CBLOCK
0760 STA DBUFHI
0770 LDA #$00
0780 STA DTIMHI
0790 STA DBYTHI
0800 LDA #$0C ;12 BYTES
0810 STA DBYTLO ;IN CBLOCK
0820 JSR DSKINV
0830 ;
0840 ;LET DOS KNOW DRIVE CONFIGURATION
BEFORE FORMATTING.
0850 JSR DINIT
0860 ;
0870 ;FORMAT DRIVE #4
0880 LDX #$20
0890 LDA #$FE ;FORMAT
0900 STA ICCOM,X
0910 LDA # <DEVICE ;DEVICE ADDRESS
0920 STA ICBAL,X ;DEVICE
0930 LDA # >DEVICE
0940 STA ICBAH,X
0950 JSR CIOV
0960 RTS RTS
0970 ;
0980 CBLOCK
0990 ;TWO BYTE NUMBERS IN CBLOCK
1000 ;ARE IN HIGH BYTE-LOW BYTE FORMAT.
1010 .BYTE 40 ;# OF TRACKS
1020 .BYTE 1 ;STEP RATE
1030 .BYTE 0,18 ;SECTORS/TRACK
1040 .BYTE 0 ;# OF HEADS-1
1050 .BYTE 4 ;DENSITY 4=DD 0=SD
1060 .BYTE 1,0 ;BYTES/SECTOR
1070 .BYTE 255 ;DRIVE SELECTED? Y/N
1080 .BYTE 0 ;SERIAL RATE CONTROL
1090 .BYTE 0,0 ;NOT USED
1100 ;
1110 TBLOCK
1120 .BYTE 0,0,0,0,0,0,0,0,0,0
1130 ;
1140 DEVICE
1150 .BYTE $44,$34,$3A,$9B ;D4:
1160 ;
1170 *= $02E0 ;RUN AT $5000
1180 .WORD $5000
1190 .END

```

From: Michael Current [michael@mcurrent.name]
Sent: Saturday, May 19, 2007 11:45 AM

Subject: ST>CDLab 0.91 released

--Date: Fri, 18 May 2007 16:57:45 -0700

CDLab 0.91 is available.
<http://doyeuxyvan.free.fr/cdlab/v0.91/CDLAB091.ZIP>
A CD-R burning tool for Atari-compatible computers.

New features

-
- New audio formats for audio extraction. (AU/SND, AIFF, AIFF Cubase Audio).
- Filenames mask for audio extraction.
- Interface improvement in Monochrome.

Main features

-
- Audio track extraction.
- CD-RW blanking function.
- DAO (Disc-At-Once) copy for any single-session discs. (But it doesn't work with my MMC compliant drive)
- TAO (Track-At-Once) multisession mode.

You need the SCSIDRV interface. (already included in HDDriver)
You can also run this program before CDLab.
<http://doyeuxyvan.free.fr/scsidrv/SCSIDRV.PRG>

CDLab is now released under terms of the GNU General Public License.

The source code can be retrieved here:
<http://doyeuxyvan.free.fr/cdlab/v0.91/>

Original Francois GALEA website:
<http://fgalea.free.fr/cdlab/>

Yvan Doyeux
URL: <http://doyeuxyvan.free.fr/cdlab/v0.91/>

[This news item courtesy of Atari.org - <http://www.atari.org>]

From: Michael Current [michael@mcurrent.name]
Sent: Saturday, May 19, 2007 11:42 AM
Subject: EMU>Hatari 0.95 released

--Date: Fri, 18 May 2007 16:51:21 -0700

Hatari version 0.95 has been released. This release brings you basic Atari TT and Falcon emulation! Please note that both new emulation modes are still highly experimental,some few games and demos work, but most still have more or less big problems. Basic emulation of Falcon video shifter (Videl), NVRAM and DMA sound is in place. The biggest drawback:
There is no working Falcon DSP emulation yet.

Other things that have been added / fixed:

Screen/Shifter emulation timings have slightly been changed. Some things now work better, some others work worse...

- Some patches for compiling on RiscOS and AmigaOS have been included.

- Compiling Hatari for Windows now works better.

- Added Hatari icon (hatari-icon.bmp).

- Fixed "movec" bug in 68020 CPU mode.

- Keyboard shortcuts for loading & saving memory snapshots (AltGr+k & AltGr+l).
- The built-in debugger has been slightly improved to be more user-friendly.
- Added "hmsa" tool - a little program for converting .MSA files to .ST and vice versa.

URL: <http://sourceforge.net/projects/hatari>

[This news item courtesy of Atari.org - <http://www.atari.org>]

From: Michael Current [michael@mcurrent.name]
 Sent: Saturday, May 19, 2007 11:43 AM
 Subject: ST> EasyMiNT 1.63 released

--Date: Fri, 18 May 2007 16:56:45 -0700

Hi folks,

just a little EasyMiNT update.

- Bugfix: XaAES couldn't be choosed
- Bugfix: Error on installation of ghostscript
- Added newest kernel, XaAES and Teradesk (cvs) versions

Information: The error on the m4 package is not a fault of EasyMiNT, it seems there is a script missing in this package. The m4 package will be installed, despite of the error message!

Have fun!
 maanke

Business: <http://www.st-katharina-apotheke.de>
 Photography: <http://photo.st-katharina-apotheke.de>
 Atari: <http://atari.st-katharina-apotheke.de>

From: Michael Current [michael@mcurrent.name]
 Sent: Tuesday, May 15, 2007 8:12 PM
 Subject: SIO2USB Announcement
 Posted on Dienstag, Mai 15 @ 22:28:56 MEST by admin

The SIO2USB-Interface will be available (as announced at JHV Meeting 2006) for order (subscription only at this point of time) starting at the annual ABBUC Main-Meeting on 27th October 2007.

From now the ABBUC-RAF regionalgroup (www.abbuc-raf.de) accept (non-binding) subscription. The goal of the subscription is to lower the hardware costs for the first production batch by having a higher production item count.

Please take a look at the product specification send an E-mail to "sio2usb-reservation(at)abbuc-raf.de" or use the Web-form the website of the ABBUC-RAF at <http://www.abbuc-raf.de> to subscribe for your SIO2USB. Function Specification

- Can boot an ATARI 8-bit Computer without physical Floppy Drive
- Emulation of up to 3 (virtual) Disk drives simultaneously
- Simple device, attached to SIO-Port, no modification of computer necessary
- Mixed operation of real Floppy and SIO2USB possible
- Fully compatible with all ATARI DOS and OS and all ATARI compatible extensions
- Storage of ATARI-Imagefiles on standard USB FLASH Drives

- Configuration of the device by built-in keys and LC-Display or configuration program on the ATARI
- Built-in Real Time Clock (RTC)
- Power supply for the device and USB FLASH Drive from SIO-Bus
- Updated SIO2USB Firmware can be applied from within the ATARI (no additional device or computer required)
- Updates available via Internet (USB FLASH Drive) or direct from the ATARI (real Disk Drive)

Please visit for more details: <http://www.abbuc-raf.de>

From: Michael Current [michael@mcurrent.name]
 Sent: Saturday, May 12, 2007 9:05 PM
 Subject: Cassio 0.2.2 released (now for Windows, too)

--From: Urchlay
 Cassio 0.2.2 released (now for Windows, too)
 5/12/07

For those who missed the earlier releases:

Cassio is an emulator for the Atari 410/1010/XC11/XC12 cassette drives, for use with an Atari 400/800/XL/XE computer and an SIO2PC device. It allows the Atari to load cassette image (.cas) files directly from the user's Linux (or other UN*X) system.

Cassio is also a tool for creating, editing, analyzing, and repairing cassette images.

Download it from <http://www.urchlay.com/cassio/>

Version 0.2.2 has been ported to Windows (download the ZIP file and extract it), so it's not just for Linux-heads any more.

Version 0.2.2 also has been tested with varying degrees of success on FreeBSD, AIX, and Mint (on the Atari ST).

From: Michael Current [michael@mcurrent.name]
 Sent: Saturday, May 12, 2007 9:01 PM
 Subject: Lepix 0.2.0

--5/12/07
 --From: eru

Hi all,

I just released a new version of the Lepix drawing program, you can download it from here:

<http://lepix.sourceforge.net/>

Changelog:

CODE

Major changes:

- added TIP module
- added undo (U) and redo (R) options

Minor changes:

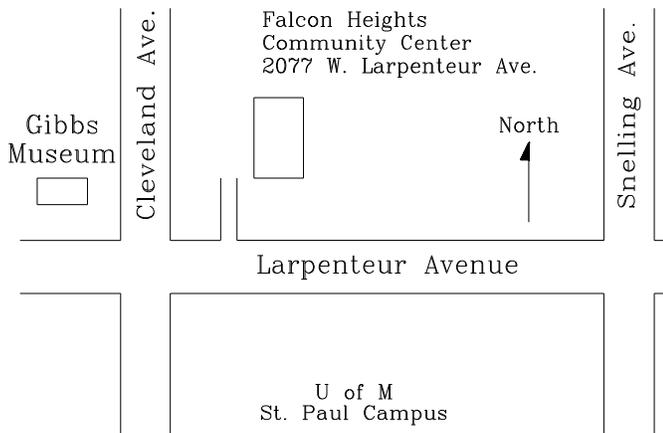
- fixed color picking in HIP
- fixed 'ghost cursor' and zoomed-cursor problems
- fixed the first line display in HIP and CIN
- experimental mouse support (both Amiga and AtariST), doesn't really work
- added new cursor shapes
- README Atari-readable in .atr

I know very few people are interested in actually drawing on a8, but you never know, perhaps this will help someone.

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Saint Paul Atari Computer Enthusiasts (SPACE) meets on the second Friday of each month at 7:30 PM in the Falcon Heights Community Center at 2077 West Larpenteur Ave. Doors open at 7:00 PM.



S.P.A.C.E.

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You can find the Club's home page at:
<http://Space.atari.org>

Articles for Publication must be received by the Newsletter Editor two weeks prior to the Club's next Scheduled meeting.

SPACE BBS

BBS:
telnet://spacebbs.no-ip.com/
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Supporting:

ATARI 8-Bit Computers

ATARI ST Computers
