# THE RESOURCE FILE

Atari Developers' Resource

BETTER DELIVERY, This
MORE ARTICLES month
there is a
new look to the newsletter. This is a
result of our DTP wiz, Rosemary. Let
us know how you like it. You'll also
notice that we've been able to tighten
up the delivery of the newsletter, a
schedule to which we plan to adhere.

On a similar note, this month you
will begin to see the first articles
coming from the United States
marketing staff regarding their
plans for the Portfolio. (Hope-
fully, just the first, with many
more to follow.) Also, there is
an article about how we can
help you find business with
major corporations looking for
people who can program the
Portfolio. If you have a program
that you wish to have us market,
please communicate your ideas to
John Skruch at (408) 745-2457 to
find out if we have any interest.

Switching to the TOS platform, we
have another article by Leonard
Tramiel about the TT. Just in time
too, since, as some of you know by
now, developers have TT's. Those
who don't have them yet, please bear
with us. The allocation system was
random; we picked a number from
the zip code and a letter from the first
name of the individual ordering the
TT.

CONFERENCE On another
IDEAS TT item, we
are consider-
ing having a small room at the SC
Atari Computer Faire (in Glendale,

CA September 15-16) so that
developers may test their soft-
ware for compliance with TOS.
Let us know what you think.
Similarly, since we'll then have
had two events for our West Coast
supporters, it's time to visit with
our friends from the "Right
Coast". Therefore, we are con-

Perspective...

Antonio Salerno
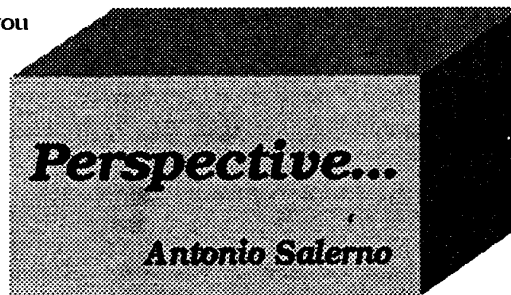
sidering having a developer event
at the WAACE Atarifest
(Reston,Va. October 6-7.) We'll
have some evangelical as well as
technical discussion. And a new
twist (thank you Bob Brodie); a
SOFTWARE DEBUG session.
We'll have TT's and technical
staff. You'll have your software
(object and source) with you.
Let's see if we can help you solve
some problems. Again, let us
know if this is a good idea.

FALL COMDEX Lastly, it's
CONFERENCE time to start
thinking
about Comdex! (Lost Wages,
oops, I mean Las Vegas, NV
November 12-16.) This fall's
show will mark the premiere
opening of the Sands Convention

Center, a new facility built by the
Comdex organization who pur-
chased the hotel early last year.
Atari will be exhibiting in this
modern showplace. We should be
announcing our plans then, and
we are looking forward to seeing
those of you who would like to join
us in our booth. You should have
no difficulty in locating the
booth, number N3222; it is
one of the first exhibits you
see as you enter the new
building. The Sands Con-
vention Center is adjacent
to the Sands Hotel on the
strip. Please direct your
inquiries and requests for
participation to Art Morgan
at (408) 745-2073. Until
next month....

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Atari SoftSource™

Dan McNamee

There are now approximately 160 entries into Atari Softsource™ on GEnie. This is an improvement, but it is still not as good as it should be. By the time you read this the database on GEnie should be open to the public. Knowing how interested the Atari user community is in just about everything that happens in the Atari world, many of them may be shocked or dismayed by the lack of entries. Especially by the lack of entries by MAJOR Atari software companies. If you work for a company, large or small, and you have not made an entry yet, DO SO NOW! If you are not in a position to make an entry, PASS ALONG ALL THE ARTICLES FROM THE NEWSLETTERS THAT CONCERN SOFTSOURCE™ TO SOMEONE THAT IS IN SUCH A POSITION! The time to "wait and see" has long passed, it is now TIME FOR ACTION!'

I have been told by TPTB (The Powers that Be) that we will not release a CD version until there are more entries. The main argument for not producing a CD right now is the age old cost/benefit ratio. The cost of mastering and producing the number of CDs that we are looking at is not astronomical, but it is high enough that I wouldn't want to (and couldn't) pay for it out of my pocket. At this time, there aren't enough developers that would benefit from the CD to justify its cost. This is a shame too, because most of the developers that have made their entries would benefit greatly from it. Many of the titles that are currently in the database even I have never heard of, and all of them are very useful programs. You are not only hurting yourselves by not getting in your entries, you are hurting all developers.

Another reason for not producing a CD at this time is that, with the present number of entries, Softsource™ would use only a small portion of the space available on a CD. Currently all of the demos and the database program for Softsource™ fit comfortably on a 30 Meg hard disk. On a standard CD, you can store 500 Megs, and if necessary you can boost it to almost 700 Megs. As you can see, there would be a lot of wasted space. So it is now up to you! MAKE YOUR ENTRY NOW! It really is not all that difficult, and it does not take much time. PLEASE, EVERYONE, if you have not done your entries yet, DO THEM NOW! Make your entries for the benefit of all developers, but most of all MAKE YOUR ENTRIES FOR YOUR OWN BENEFIT! ♦
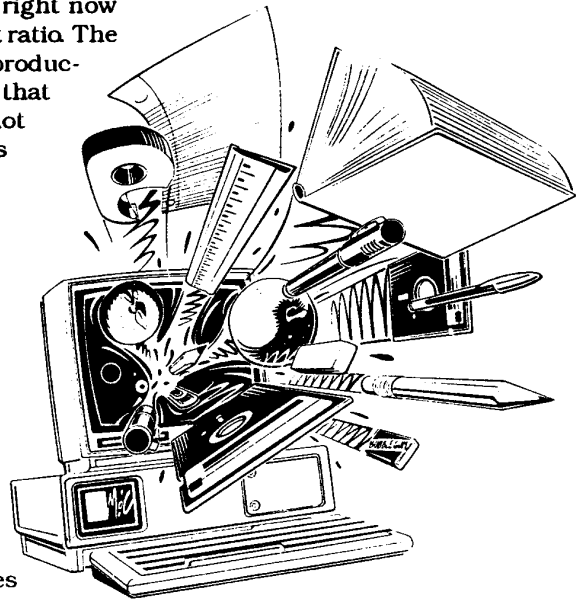
TT Compatibility Results

Leonard Tramiel

Well, we finished it—the worst task involved in the release of a new version of TOS. As I mentioned in a previous article we actually debug each program's incompatibilities to see what's going on.

Here are the results:

A bunch of software (17 titles) were accesing full 32 bit addresses. The strange thing is that the accesses were VERY similar—maybe something in a run time library. Five of these programs accessed the ST I/O space as 0x0FFF8XXX. The hardware will map 0x00 or 0xFF to be 0xFF and therefore will work. This is the only case of incompatibility due to typo.

As near as we can tell ALL programs written in compiled GFA Basic do not work on the TT. This is because GFA Basic uses the high byte of address in its internals.

Another really silly problem has to do with the way some programs look for the top of memory. Since a MEGA 2 will not give a bus-error when you write past memory but a MEGA 4 will, some software only checks for bus-error if it is already sure that there is at least 2 megabytes. On the TT this will not work. Any RAM that is not there will bus-error.

We fixed a bug in Malloc(). Before when you Malloc() 0 bytes you got back a pointer. The pointer didn't really mean much but it was a valid address. We found 4 programs that did a Malloc(0). In one case it simply checked against zero, if equal it quit. As you probably guessed, we now return a zero (error) for Malloc(0).

We still have some software that assumes that the ROMs start at 0XFC0000. This stuff doesn't work on the STE either. Where are our upgrades, guys??????

We did find some (13) programs that simply could not handle the long stack frame of the 68030.

Some people still assume that more registers are preserved. To repeat it here A0,A1,A2,D0,D1,D2 are not preserved through a trap. I know, sometimes they are; don't count on it!!!!!

An interesting class of bug that I didn't think of before came up. The TT uses the 68030 MMU. Well the page tables are in RAM. Some software just assumes that since it isn't going to use any of the OS it can use all of RAM. You can't. If you want memory, Malloc it. In fact, those of you that program only in high level languages, or just never looked at the startup code that you use may be interested to know that when a TOS program starts up it owns most of memory (the largest contiguous chunk in the kind of memory you requested.) The start and end addresses of this block are in your base page.

As I mentioned before there is an instruction that is now available from supervisor mode only. That instruction is Move from SR. We trap the privilege violation and fix it if we can. The TDI Modula 2 run-time intercepts that trap so we can't fix it—sorry.

A bunch of programs make some mighty strange assumptions about what will and what won't work. One says that if the end of BSS plus 12048 bytes is past $70000 then quit. We sometimes use a bunch of low memory (to prevent fragmenta-

tion) so it fails—sometimes. Some programs insist that they load below a certain address or they say insufficient memory.

Some programs (well, one) makes an AES call from supervisor mode and therefore dies. This is a matter of luck, the USP is trashed but it might not matter, if you are lucky.

Some software page flips by only changing the high byte and this is not always possible.

Here is another 68030 thing that I didn't think of. The status register has more bits that are meaningful than in a 68000. As a result any manipulation of the SR can cause problems. Some programs (well, only one) do a OR.W #$7000,SR. This is a no-op on a 68000. I think they meant to do OR.W #$0700,SR which sets the IPL to 7. On a 68030, OR.W #$7000,SR does unspeakably horrible things. (Those readers with strong stomachs can look up the details in an '030 manual.)

We fixed the stuff we could, like the screen once again starts on an even page boundary. Some things we couldn't.

I haven't gotten any feedback on my last article so I assume that there are no questions out there. Great. See you later. If you have a topic you want me to cover, please write. ◆
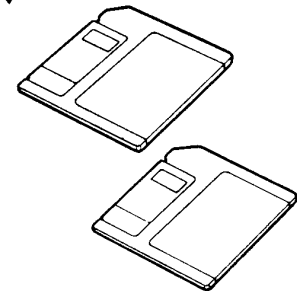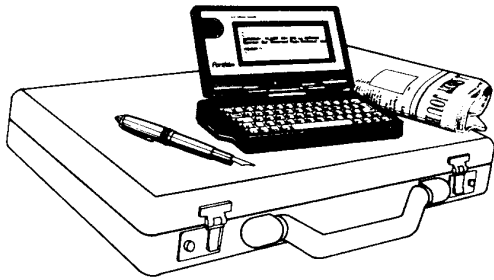
Questionnaire | Portfolio Case

Mike Pooler

Thanks to those who returned the questionnaire from last month's newsletter. With your help, the developers program can evolve into something even better. Finally, although many of you described your projects to either me or J. Patton by phone, we would still appreciate a completed questionnaire too. ◆

There is a new black leather case for the Portfolio available from Atari. The case has a main pouch where the Portfolio fits snugly, and an outer pocket that holds an interface or extra batteries. The case will not be offered through the developers program, but you may wish to order one anyway. Call Atari Sales at 1 (800) 443-8020. The price is $39.99 + $8.50 shipping. If you are a Portfolio VAR, you can speak with Gerald Lillpop about including the case with your product. ◆

Maximize Your Portfolio Investment

Gerald Lillpop

As a Portfolio developer you've made a financial commitment in the Portfolio. We at Atari Sales have found a way to help you optimize your investment. We've received many inquires from various companies interested in using the Portfolio in a wide variety of applications that require specialized software. Due to the particular nature of the applications, many of these companies are not in a position to dedicate their MIS staffs to such projects. This poses a problem for them, and an opportunity for you.

Although Atari is not a software developer per se, we do want companies who use our hardware to be able to obtain the necessary software for their unique projects. How can we support the special needs of these Portfolio users? The answer is YOU, our developers. We are calling on you and offering you the chance to work on the custom software we have been asked to provide. Those of you interested in this kind of arrangement need to let us know.

In last month's issue of The Resource File, Mike Pooler included a questionnaire which provided a space for you to indicate your interest in writing software on contract. Mike is compiling a list of those who respond. This list will be made available to Atari Portfolio Sales. Thus, when a corporation has need of custom software, we will use this list to refer them to developers in their area. I know that several of you have already signed contracts to do development work for corporations. So please, if you're interested, send us your completed questionnaire. By doing this, you are helping us maximize our ability to support you, and helping yourself maximize the return on your investment.

If you have any questions, please call me, Gerald Lillpop, at (408)745-5070. ◆

An Interrupt 60 Example

J. Patton

Since there were some requests for additional explanation of the Interrupt 60 calls, I am providing the following example code. There were some peculiarities between 1.052 and 1.072 which are documented within the program. It would be wise to test programs on both versions unless you are guaranteed the currently distributed 1.072 machines or a later version.

I will have a followup program which shows the editor call (fn 1h). The following code will be uploaded to the Compuserve and GEnie developers areas.

```
;
; Assembly version of I60 tests (Turbo assembler)
;
        .model  small
        .stack  100h
        .data

temp        dw  0
day         dw  0
week        db  'Arrow to scroll',0
            db  'Sunday',0
            db  'Monday',0
            db  'Tuesday',0
            db  'Wednesday',0
            db  'Thursday',0
            db  'Friday',0
            db  'Saturday',0,0
buffer      db  4000 dup (0)     ;array of 4k for 80x25
                                 ;screen
mesg        db  'Halt',0
            db  'Press a key to continue',0,0
menutxt     db  'Choices <ESC to quit>',0
            db  'draw box',0
            db  'check ROM version',0
            db  'Mesg. window',0
            db  'day',0
            db  'nothing',0,0
default     db  'Description',0
            db  'Press esc',0
            db  'Extra',0
            db  ' ',0
            db  'nothing',0,0
esctxt      db  'ESC pressed, leaving...',0,0
osver       db  7 dup(0)

    .code

;save characters + attributes - inclusive
        mov     al,1
        mov     si, OFFSET buffer
        mov     temp, @data
        mov     ds, temp
        mov     cx, 184fh        ;bottom right of screen
        mov     dx, 0000h        ;top left of screen
        mov     ah,8
        int     60h
```

```
;Menu Time
;110001b == 31h == 49 => 6 as max depth in bits 3..7
;of AL and double line.  Use a double line box.
        mov     cx,0103h             ;last top line,
domenu:                              ;selected item
        mov     al,31h
        mov     dx,0000h             ;position of menu
        mov     temp, @data
        mov     es, temp             ;1.052 is sensitive to
                                     ;this order, set es
                                     ;then ds

;If you make each menutxt selection begin with a
;unique letter, then the system will select it
;automatically when pressed. If your menu items
;begin with the same letter the system will
;automatically scroll between them to a limit.
;Its best to use as few of these as possible.
        mov     si, OFFSET menutxt
        mov     ds, temp
        mov     di, OFFSET default   ;defaults text appears
        mov     ah, 0fh              ;to the right of menu
        int     60h                  ;text (as in the
        cmp     ax,0ffffh            ;printer setup).
        jz      do_esc               ;ESC key pressed
        cmp     al,0h
        jz      dobox
        cmp     al,2h
        jz      windo
        cmp     al,3h
        jz      wkmenu
        cmp     al,1h
        jz      oschek
        mov     cx,ax                ;remember the menu pos.
        jmp     domenu

;Draw box
dobox:
        mov     al,0                 ;single line
        mov     cx,0624h             ;bottom right of box
        mov     dx,010ah
        mov     ah,09h
        int     60h
        mov     ah,8
        int     21h                  ;Pause... Getkey()
        mov     cx,0100h
        jmp     domenu

;error box - saves area underneath automatically
do_esc:
        mov     cx,1                 ;non zero value
        mov     dx,0308h
        mov     temp,@data
        mov     ds,temp
        mov     si, OFFSET esctxt
        mov     ah,14h
        int     60h
        jmp     exit

;message window
windo:
        mov     temp, @data
        mov     ds, temp
        mov     si, OFFSET mesg
        mov     ah,12h
```

SHOW ME!

Bob Brodie

One of the main things I enjoy about my role as Manager of User Group Services for Atari Corporation is the shows. They are almost always a lot of fun. It gives me a chance to see my many friends (i.e., developers like you), and a chance to touch base on the happenings in the World of Atari (pun intended.)

Shows like the upcoming Southern California Atari Faire and the W.A.A.C.E. AtariFest also afford developers an opportunity to make additional money, through both direct sales and promotion of their products at the shows. However, one of my greatest concerns in dealing with the shows is how many is enough, and when are the shows too much? I bring this up because my calendar for 1990 is complete. Already inquiries are coming in for user group sponsored shows in 1991. My question to you as developers is simple, what shall we do? How often should the shows be scheduled? How far apart geographically should they be? Is a west coast, east coast, midwest format the best? How many can we realistically do in a year? This year we have had three shows in California. One small "swapfest" was held in the Chicago area, and they have plans for another one just before Comdex. Is there a good market for a show somewhere in the midwest? What about the east coast? We had one in Pittsburgh, and W.A.A.C.E. is coming up. How about the southeast? This is your chance to tell me where to go! I want to know! Please send your comments to me via one of the following ways:

1) GEnie (You could do it after you make your Softsource™ entry!) My GEnie address is BOB-BRODIE.

2) Call me direct at (408) 745-2052. You'll either get me, some other human, or my answering machine. All three take messages equally well!

3) Send by US Mail:

AtariCorp.
1196 Borregas Ave.
Sunnyvale, CA   94089

Attention: Bob Brodie

Thanks for your input! ♦

➤ An Interrupt 60 Example

```
        mov     dx, 0000h
        int     60h
        mov     ah,8                    ;Pause... Getkey()
        int     21h
        mov     cx,0102h
        jmp     domenu

;display another menu
;11001b = 19h = 25   == AL
wkmenu:
        mov     cx, day                 ;previous item
        mov     al, 19h
        mov     dx, 0210h               ;position of menu
        mov     temp, @data
        mov     ds, temp
        mov     si, OFFSET week
        mov     di, 0ffffh              ;no defaults text
        mov     ah, 0fh
        int     60h
        mov     day, ax
        jmp     domenu

;find the OS we're on ... 1.051 is returned for
;1.052 use first three numbers (ie. x.xx) for
;country independence
oschek:
        mov     ah,0                    ;DS:DX is returned
        int     60h
        mov     si, offset dx           ;copy string to variable
        mov     cx,@data
```

```
        mov     es,cx
        mov     di, offset osver
        mov     cx,6
        cld
        rep     movsb

        mov     dx, 0101h               ;use error
        mov     cx,@data
        mov     ds,cx
        mov     cx,1                    ;any non zero value
        mov     si, OFFSET osver
        mov     ah,14h
        int     60h
        jmp     domenu

;restore characters + attributes - inclusive
exit:
        mov     al,3
        mov     cx,@data
        mov     ds,cx
        mov     si,OFFSET buffer
        mov     cx,184fh                ;bottom right of screen
        mov     dx,0000h                ;top left of screen
        mov     ah,8
        int     60h

;terminate
        mov     ah,4ch
        int     21h

end                                                     ♦
```

Calendar Of Events

SEPTEMBER

September 6-10, Nevada

Cinetex '90, International Film and Television Festival. The show will be held at Bally's Casino Resort, Las Vegas, Nevada. It will be the new showcase for the entertainment industry—displaying everything from computer/video-disc software to CD-ROM, from digital image manipulation systems to user friendly PCs. For more information contact:

The Interface Group
(617) 449-6600

September 15-16, California

So. California Atari Computer Faire, Version 4.0b. The show will be held at the Glendale Civic Auditorium in Glendale, California. General admission is $5.00. If you are unable to attend, you are invited to give copies of your product as promotional items. Registration needs to be completed by August 15th. For exhibiting information or any questions, please contact:

John Tarpinian
(818) 246-7286

September 21-25, California

The 89th Audio Engineering Society Convension will be held at the Los Angeles Convention Center. This is the most important showcase for professional studio audio applications including MIDI, SMPTE and Digital Audio. For additional information contact:

Audio Engineering Society
(800)541-7299 if in NY
call (212) 661-8528

OCTOBER

October 3-5, California

The Fifth annual Seybold Computer Publishing Conference and Exposition will held at the San Jose Convention Center in the heart of Silicon Valley. This show will once again provide the world stage for the display, discussion and debate of innovative information delivery technology. For more information please call:

(213) 457-5850

October 6-7, Virginia

WAACE AtariFest'90. The Fest will be held at the Sheraton Reston featuring shopping bargains from dozens of vendors. Demonstration rooms (both days!). Seminars, door prizes and a banquet on Saturday evening at 8 pm. For more information contact:

Russell Brown
(703) 680-2698

October 10-12, New York

INFO '90 Show will be held at the Javits Convention Center in New York. INFO'90 is the only exhibition and conference to address the rapidly evolving integrated computer market. For more information contact:

Marilyn Harrington
(203) 352-8477

October 25-27, Massachusetts

Northeast Computer Show will be held at the Bayside Expo Center in Boston. The focus of this year's show is to address the specific needs of the buyer, finding customized solutions for their every computing requirement. For more information contact:

The Interface Group
(617) 449-6600

October 27, Massachusetts

The New England AtariFest '90 will be held at the Harbor Campus of the University of Massachusetts at Boston. All of the local dealers and user groups will be attending the show. Projected attendance for the show is 1,000. For more information call:

(617) 527-4952

NOVEMBER

November 12-16, Nevada

COMDEX/Fall'90, the 12th international fall conference and exposition for independent sales organizations, will be held at the Sands Expo and Convention Center in Las Vegas. The exposition is expected to be bigger than ever with a projected audience of 120,000+ coming to see more than 1800 exhibitors. For more information contact:

The Interface Group
(617) 449-6600

UPCOMING EVENTS

If you hear of any upcoming events, please submit them in writing to:

Atari Corporation
Post Office Box 3427
Sunnyvale, CA 94088-3427
Attn: Applications Department
Marketing Assistant