

S.L.C.C. JOURNAL

10/85

The Newsletter of the San Leandro Computer Club for Atari® Microcomputers

From The Editor's Desk

Ron Devine & Frank Hand

Here we go again! Ron & Frank present THE JOURNAL (ta da!). It's a great Journal this month with a really good (and really long) article on the 520ST. We also have a new contributor this month Richard Stiehl, and several of our semi-regulars.

For those of you who missed Ron Seymour and Tom Bennett, (I know we did!) they SHOULD be making their triumphant return next month. I'll never figure out what they wanted a vacation for. After all it's so easy (everyone who believes this please stand on your head).

Conspicuous by its absence is a review on the Home Computing Centers computer fair in Tanforan Park. This is due to the fact we didn't receive one in time. Oh well, maybe we can get one up by next issue. All told, we have heard some really good reports about the club booth and the 520ST display.

We would like to take this opportunity to speak about one of the more UNUSUAL guests the club has had, The AMIGA. While few things have arouse such 'interesting' comments it is important to remember that unless a sufficient number of club members have ask for something like this it doesn't happen. Those of us who are less than fanatical ATARI users should welcome this chance to see the new machine. And the more 'hardcore' among us should be glad to have this opportunity to prove the superiority of the ATARI line over Commodore's challenger.

So, who's side are we on? Ours, of course. The user community has a great chance to compare here, and should make the most of it. It may interest members to know that the anticipated attendance is higher than any meeting in recent times except the Lucasfilm meeting. If

nothing else everyone should show up early and get ringside seats.

And now it's time to say goodbye, etc. etc. It's been a lot of fun and not too much hard work bringing you the Journal these last 2 months. We really appreciated the support from Ron, Tom, all the contributors and all the members who had comments good or bad.

Really it was great and we hope the Journal continues going strong for a long, long time. While we won't be THE editors we will be helping out Ron and Tom as associate editors. So don't be suprised if MUG or some of the other minor bits of lunacy these past 2 months creep in from time to time.

Take care all, and enjoy the Journal.

Frank J. Hand Jr.
Ronald Devine

Our Next Meeting

Dick Scott

Mr. Don Reisinger, of COMMODORE-AMIGA CORP. will demonstrate the new "AMIGA" computer (I have heard that this was originally one of the "old" ATARI CORP. ideas) at our next meeting. So for those members who want to find out about the latest Computer that will hit the market place this year, (maybe?) be at our next meeting. It should prove to be very interesting. (no wps pls ed.)

There are those members in our club who think that the new Amiga computer is better than the ATARI 520 ST. You will get the chance to find out for yourself.

In November, we will be hearing from "ANTIC MAGAZINE" and possibly from "EPYX CORP." and what is new for the Christmas Shopping Season. There will be more information in the next news letter.

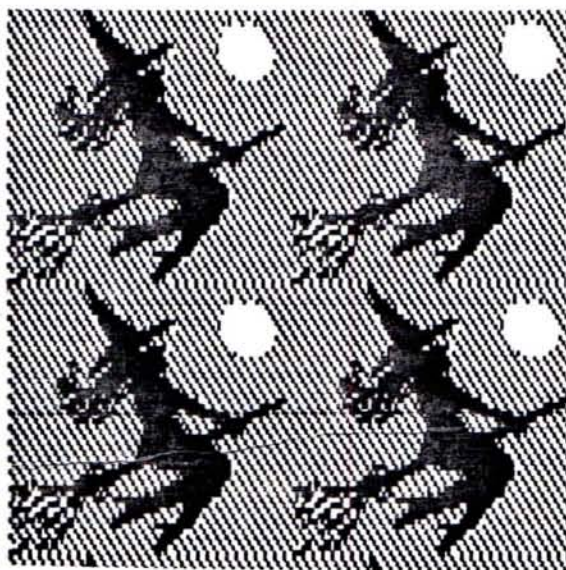
I called "SYNAPSE" the other day, and discovered that the number had been changed. I dialed the number the operator gave me, Lo and behold, I got ahold of BRODERBUND SOFTWARE. I had hoped to speak to Jon Loveless, concerning another visit to the club for December, but alas, he is no longer with the SYNAPSE DIVISION.

Anyhow, I was able to get my question answered about SYNALC. If you have purchased SYNALC in the past and have just purchased a new ATARI 130XE and would like to upgrade SYNALC, you can do it by calling BRODERBUND SOFTWARE, 415-479-1170, in San Rafael and inquiring about it. They will take your name and inform you when the upgrade is ready. It will cost you \$10.00 to take advantage of the additional memory.

I appreciate the last two guest speakers: The first, Mr. Lee Adams VP of "TELESYS" COMPUTER PERIPHERAL PRODUCTS CO. located at 43334 Bryant St. Fremont, Ca. 94539. (If you are interested in their products, 30% discount for club members.) It was interesting to note the printer commands were in the interface for the printer.

The second speaker, Mr. Josh Scholar, demonstrated his new game, "LODE RUNNER'S RESCUE", it was too bad that we didn't have a "joy stick" for him to use.

See you at the next meeting
Regards
Dick Scott



S.L.C.C. JOURNAL

The San Leandro Computer Club for Atari Microcomputers is an independent, non-profit organization and users' group with no connection to Atari Incorporated. Membership fees are \$20 per year. Membership includes access to the computer library, subscription to the Journal, and classes when held. Permission to reprint articles in any non-commercial publication is permitted without written authorization, provided proper credit is given to the San Leandro Computer Club and the author. Opinions expressed are those of the author and do not necessarily represent the views of the S.L.C.C.

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Official BBS of the SLCC - 24 hours

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HALF PAGE:	\$20.00
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JOURNAL SUBMISSIONS

The SLCC Journal will accept any articles written by members on any topic found pertinent to the club. We will accept articles in any form, although we would prefer articles be submitted on Atariwriter files. The following Atariwriter parameters are used:

B12 D1 G1 I5 J1 L10 R50 S2 T2 Y152

Assembly Line

Frank Daniel

NEW BEGINNINGS

This is the start of a new ASSEMBLY SIG. It's only fair, since now it has moved to Union City. I would like to thank Bob Barton for hosting the SIG these many years until I got a place of my own that was large enough.

Since this is a new start with new people, the first meeting was just for getting acquainted. We talked about what books and which assemblers we had and their attributes. We also discussed the differences in interpreted, compiled and assembled languages. What an assembler is and how it differs from a compiler.

All in all it was a very productive first meeting.

GLOSSARY

Interpretive Language:

High level language. Normally has an interactive monitor/editor system. The editor will restructure (replaces) the user's program into either tokens (offsets), to its set of machine code routines, or the addresses of the routines. Syntax errors are handled at the time of entry in most cases. Program and I/O errors handled during run. Includes such languages as BASIC, LOGO and some versions of FORTH.

Compiled Language:

High to medium level language. Separate editor, compiler and monitor systems are characteristic of these languages. The compiler will convert the user's source code directly into a machine code object file using a set of machine code routines. Some languages will compile to memory as an option. Syntax errors are handled during the compile. Program and I/O errors handled during run. Includes the languages COBOL, FORTRAN, PASCAL, C, ACTION! and some forms of BASIC.

Assembled language:

Low level language. Separate Editor and Assembler. Occasionally a Debugging program is included as part of the package. The Assembler does a direct one to one conversion of users source code in the form of "OP" codes to machine code. Syntax and some low level program errors are handled at time of assembly. I/O errors on the ATARI normally handled during run. Program errors and errors occurring during direct I/O calls normally produces disastrous results (system crashes, erased disks.. etc.). Language

is generally restricted to a particular processor. One option is a MACRO assembler which permits the writing of large sections of source in a relatively short time.

ATR-8000

Michael Sawley

If you have logged onto The Key System lately, you already know that I have been given the golden opportunity of taking over the club's ATR-8000 SIG from Bill George. I suppose this is a natural change over since I do have the club's ATR sitting here being a most important part of the club's BBS. I don't mind telling you that I am a bit uneasy about this. I really should be attending a ATR SIG rather than hosting one! I guess we can all learn together, eh?

This also brings up the BASIC SIG. I have been holding this SIG meeting for almost a year and a half now, even though little has been written up lately. What with taking over the ATR SIG, looking after the BBS and also hosting the BASIC SIG, it is getting to be a bit much as you can well imagine. I would like to give up the BASIC SIG to someone that can spend the time with it that it deserves. I would also like to combine the ATR SIG with a Telecommunications SIG. I have a feeling that there is enough interest in this since most that have been attending the BASIC SIG have been asking many questions about the BBS.

Now on to something really important! We have had quite a bizzare discussion on the Officers Club message zone. Too bad most of you cannot access this section. You would get a real kick out of it! I just hope things settle down soon. It could get out of hand real easy!

While on the subject of message zones, I hope you all know of my policy of deleting messages that are posted on an incorrect message zone. This applies to all callers. Before you post a message, please be sure that you are on the correct message zone for the subject of your message. I have stuck to this policy for several reasons. Mainly it boils down to this... If all manner of messages were posted on the first message base that came up, The I/O Cable, then you would have to wade through a bunch of messages that did not interest you to find the few that did. This is why we have several message bases. To divide up the messages into specific topics. Also, the other message zones would be absolutely dead. I logged onto Itsy Bitsy BBS the other night only to find this exact

situation. The first message zone had about 40 messages of all sorts. The second one had about 10 messages, again of all sorts. The third zone had exactly two messages, both months old. So, please make good use of ALL the message zones. If there is ever a question of exactly where you are at, use the Z command.

At exactly 6:45 PM on Tuesday evening, August 27, 1985, Mike Warren had the distinction of being the 10,000th caller! It is hard to believe that the BBS has been online for a year already (first open to the public on August 12th, 1984) and that it has fielded that many calls. I hope you have found it an interesting place to visit and that you will enjoy it for a long time to come.

Now That It's Plugged In...

by Richard Stiehl

The first meeting for the 'New' Beginners SIG was August 13th at the San Lorenzo Library. I took over the Beg. SIG when Denzil Tipps was no longer able to continue due to a job change. Denzil did a great job of getting this SIG off the ground and I want to publicly thank him for all of his preceeding work. Denzil has been instrumental in helping quite a few new Atarians get established in their understanding of Atari Computers (including me!) I look forward with enthusiasm to continuing in the direction he carved out for the S.L.C.C. and new Atari Computer users.

Our second meeting was Sept. 19th. Our next meeting will be October 10th from 7:00pm to 8:15pm at the San Lorenzo Library. The address of the library is: 395 Paseo Grande, San Lorenzo. The cross street is Hesperian. If you know where Mervyn's is on Hesperian then you are within a block of the library.

If you are interested in coming to the Beginner's SIG then call me or see me at the main S.L.C.C. meeting. Don't hesitate to call me in the meantime if you have questions and you consider yourself a beginner. My day and evening phone number is: 835-9857. If I'm not in please leave a message. I can also give and take messages on The Key System.

Thanks for your interest!

RICHARD STIEHL

(pronounced 'steel')

Disk of the Month

Tom Tisby & Ron Devine

Spooks! Witches! Vampires! Monsters! What else could this be but Halloween! The time when we(oops!) the children go out trick or treating (hopefully they won't be treating themselves to too many tricks this year!).

Halloween brings out the haunted houses down your street which haven't been bought in a long time; and the neighbor next door who ONLY comes out at NIGHT!!! And you, who are sitting by your telephone ready to call the Ghostbusters!

Have no fear! For we are here with a great Floppy-Of-The-Month! All you need to do is buy it and boot it up with BASIC! That's it! And all your spooks will vanish. For they know when they see an excellent Floppy, we mean business!!! Speaking of business... On side one of our Floppy, we have put an excellent BASIC business program for all you who have asked, and those of you that haven't. It will balance the old checkbook (the main reason why we got our computer in the first place!). It will also convert to metrics, work on your mortgage rates to name a few options. Also on the Floppy is a Video Text scroller. For all of us Video-Philes out there, this can come in very handy. You can make title screens for all your movies, family videos or whatever. And best of all you can save and load all your designs!

Now for side two!(That's me Ron). Well I am still on my Print Shop kick, yes I have more Print Shop UTILITIES and picture files!!

PSPIC.OBJ

This utility written in ACTION! and compiled allows you to take any Print Shop file and put it in a Micro Painter format file! In fact you can take several file and put them on one screen and position them anywhere on the screen plus overlap them! I also included the ACTION! Source Code file for the people who want to tinker with the program!

PSPIC.DOC

These are the documentation for PSPIC.OBJ & PSPIC.ACT

PACKTOOL.OBJ

This Print Shop Utility will allow you to pack all your print shop files or the ones you want into one large file. This saves time when you trade or send them to a BBS cause instead of sending, say 25 five sector files just send one large one and then the person to receive it can use PACKTOOL and unpack it into the original single files.

Plus some new Print Shop Graphics. And if there is enough room I might even throw in a game? Who knows??

Library/Floppy Update

Wanted: Users interested in trading their public-domain disks with the San Leandro Computer Club. Experience not required. All that is required is that you have some new public-domain software. Individuals, national user groups, and international user groups may donate. All others, can also donate. Reward: Free Floppy-Of-The-Month of your choice for each public-domain disk filled. If you would like to participate, write to for more information and/or send your disk(s) to:

Tom Tisby & Ron Devine C/O
San Leandro Computer Club
P.O. BOX 1525
San Leandro, Ca 94579

Secretary's Report

San Leandro Computer Club
General Meeting
September 2, 1985

8:05 VP Jim Hood welcomes everyone to the meeting. He mentions that we will have a booth at the Home Computing Fair at the Tanforan Park Mall in San Bruno. The days are Friday to Sunday. Time 8:00 Am to 9:00 Pm, Sept. 13th to Sept. 15th. We now have a new tape librarian. His name is Frank Hand. He is also Co-Editor of this month News Letter with Ron Devine.

8:10 Ron Devine and Tom Tisby describe the September Disk of the month. Side one 1st a Chess Game written by someone from England. A card file similar to SynFile. Side two Print Shop Utilities and Print Shop Pictures from all over the world. These two are doing a great job with the monthly disk. Some attendee just come to the meeting to purchase the disk and leave before the meeting is over.

8:20 Dick Scott, our Program Chairman introduces VP Lee Adams from Telesys. A firm that makes printer interfaces for the Atari and the Commodore Computers. Mr. Adams said that they have two interfaces that will work with all of Atari's eight bit machines including the 1200 XL computer. The interface without a printer buffer sells for \$59.95. The other interface with a 32k buffer sells for \$99.95. He mentions that his company will give us a discount of 30% on a group buy.

9:10 to 9:40 The usual break for Software, Hardware and Special Edition Disk and Journal. If you have a friend that might be interested in purchasing a special Edition Journal better buy it now. There are only about 30 left.

9:45 Dick Scott introduces Josh Scholar whom just finished writing a game for Synapse called "Lode Runner's Rescue". He demos the game and it was neat. It had taken him about Two years to write this game. The game had some great graphics and a lot of different screens.

10:00 Dick Scott introduces Edd who had designed a 256K Ram board for the Atari 800. His, designed board could be chained together so you can have 512K but the software is not available for the 512K version yet. The cost for the 256 version is \$120.00. The board will work with SynFile, SynCal and Visicalc. It uses the Axion style DOS configuration.

10:30 Meeting ends.



Hardware Ideas

ONE MEG UPGRADE

FOR YOUR 520ST!

(NOTE: The San Leandro Computer Club is NOT RESPONSIBLE for ANY Damages that may occur when making this modification to your 520ST.)

WARNING!!

This is a hardware modification that will void the warranty of your 520ST. If you do not have the appropriate tools or experience you have a substantial chance of ruining your 520ST. Proceed at your own risk! This modification has been in my 520ST without any problems for 6 days now. However, I have (of course) not checked with knowledgeable sources at Atari to verify if this modification endangers the long term machine reliability and/or software compatibility (I suspect it may endanger their software compatibility if enough of us do it!)

Tools & components needed :

16 256k * 1 RAM chips, 150 ns access time type, e. g. NEC 41256C-15 (available at e. g. Fry's Electronics, Sunnyvale, CA for \$2.77 each) A good quality, preferably temperature controlled soldering iron, with a miniature tip (tip should be narrow enough to avoid touching 2 I. C. pins at the same time). E. g. Weller type soldering station. Good quality resin core solder (thin). Approximately 4 foot of wire-wrap wire and a good stripper for it. (you will have to route 3 wires over a sequence of I.C. pins. The easiest way to do this is to have a stripper allowing you to shift the insulation forward over the wire, solder the next point, measure new length, shift over insulation, etc. until the endpoint). The "No Nik" 0.014 (dark green handle) wire wrap stripper is the best tool for this. Available e.g. at Jensen tools, Phoenix, AZ (602) 968-6231 catalog no. H4B305. Desoldering wick and solder suction tool. Philips type screwdriver (for opening your ST), tweezers, pliers, etc. A steady hand and self-confidence.

Explanation of the modification :

(Please read the rest of this document before starting. It may save you time and an 520ST!) The current memory inside the 520ST consists of 16 256K*1 RAM chips. Address (A0..A8) lines are common to all those chips. The WriteEnable line is also common to all chips. Data (in and out) lines are of course individual. The RAS (row-address strobe) line is common to all chips. The 8 chips forming the high order byte group have one common CAS line, and the 8 forming the low order byte group have one common CAS line (CAS is used as enable for write operations, such that WriteEnable can be common to both groups). The high order group from MSB to LSB consists of U45, 44, 43, 42, 38, 34, 33, 32. The low order group of U30, 29, 28, 25, 24, 28, 27, 26.

Note that all chips are adjacent, though the numbering has gaps. RAS0, CAS0H, and CAS0L are supplied from U1 pin 8, 6 and 7 respectively (The 0 indicates bank 0) Bank 1 that you are going to build in will be "piggy-backed" on top of the current chips, where all pins of the new chips EXCEPT RAS (pin 4) and CAS (pin 15) are soldered to the old chips equivalent pins. Thus they will end up sharing addresses, data, WriteEnable and power and ground with the existing chips. All RAS pins of the new chips are wired together and will be supplied with the "RAS1" signal generated on pin 18 of U15 (the memory controller, marked 3H-2119C or so). The CAS pins of the 8 new high order byte chips (on top of U45..U32) are wired together and supplied from the "CAS1H" signal generated on pin 22 of U15. Analogously, the CAS pins of the new U30 to U16 are wired together and supplied with "CAS1L" from pin 21 of U15.

How to go about it:

Step 1: Open up your 520ST, pull off the keyboard connector and remove the main circuit card from its top and bottom shielding. Make sure to remember which screws go where and note the keyboard connector orientation.

Step 2: Desolder all of the capacitors adjacent to the existing RAM chips. (DO NOT SKIP THIS STEP. You'll lose time if you do, and worse, the modification will not be reliable since you can't solder pins obstructed by the capacitors reliably (if at all)). To desolder them, I found it easiest to heat the island on the non component side, and bend the wires straight. After doing that on each capacitor, turn over to the component side and heat the islands while pulling the capacitor out with the tweezers.

Step 3: Open up the holes of all the desoldered capacitors, using a combination of de-soldering wick and suction tool. Do this from the non component side. If certain holes are difficult to open up, you may want to use a wood splinter. (push it through while heating). Be careful to remove all solder debris!! THE REASON for opening the holes NOW is that they will be less accessible once you've done the other steps! Patience is a virtue. (NOTE: Step 2 & 3 are the only ones that may damage your ST PC board. Be sure not to use excessive force while pulling out the capacitors. If you damage your PC board anyway, cure the problem now and not later).

Step 4: In this step we will piggyback the new RAM's on top of the old ones. Be sure to connect all pins except pin 4 (RAS) and 15 (CAS). The best way to go about this is to do chip by chip.

First, bend the pins of the new RAM's such that they are perpendicular to the package (instead of having slightly spread "cowboy legs"). Use pliers to bend pin 4 and 15 such that it comes out of the I.C. package horizontal, and cut off the excess length of pins 4 and 15 (I mean part of the pin, you still need to be able to solder to it!). Make sure that the new RAM fits snugly on top of the old one (in the same orientation!!!), without intervening space and with the new pins touching the old ones. Now solder each pin (except the non-touching 4 and 15) to the other RAM's. The best way to do this with the least chance of damage is to touch both the new RAM's pin and the old RAM's pin. Heat them both for a second and add A LITTLE solder then. Wait till the solder flows. After each I.C., check all pins carefully to assure a good connection. (use a magnifying glass) NOTE: This step is crucial for the long term reliability of the memory extension. A badly soldered joint may show up later as sporadic memory errors. TAKE YOUR TIME. (NOTE: until step 6 is finished, do no in any way apply power to your ST. This intermediate state of affairs will damage your memory chips!!)

Step 5: Remount all the desoldered capacitors. Bend the pins like they were before resoldering, such that they will not touch the lower shielding. Solder from the non component side.

Step 6: In this step you will route the 3 wires mentioned earlier. The first wire connects pin 4 (RAS) of all the new RAM's to pin 18 of U15. The second wire

connects pin 15 (CAS) of the new U45 to U32 to 22 (CAS1H) of U15. The third wire connects pin 15 (CAS) of the new U30 to U16 to pin 21 of U15. The best way to do this is to use the stripper to remove 5 inches of insulation. Solder the first IC pin to the end of the blank wire, measure the distance to the next pin in sequence and shift over that amount of insulation. Continue in this fashion until all the pins in sequence are done. Work from U45 to the left, soldering directly to the leftover pins on the new chips. Make sure that no wire or solder sticks out above the top plane of the new chips, since they will almost touch the top shielding! Route the wires through the PC board hole below and to the left of U15 to connect to U15 on the non component side.

Step 7: Sit back. Use Brain. Do you feel confident about the quality of your work? No mistakes? Check everything once again if you are but a little uncertain. Applying power with errors might make your ST into a decorative, nonfunctional piece of art. OK. Either rebuild your ST into its shielding and cabinet, or put it onto a surface clear of wires and solder remains and connect it to monitor, disk and supply. Boot it. If it boots, you're probably there.

Test if the new memory works by looking at the phystop variable (\$42E) with SID if you have the developer stuff. It should read \$100000 (1M hex). Also note that memcntl (r) (\$424) now holds 5 instead of 4, and that v_bas_ad (\$44E) now holds \$F80000 (screen bitmap origin). If you don't have the developer stuff, try a single drive copy and check that you get the whole disk in one buffer instead of two. If the new memory does not seem to exist, use SID to deposit and retrieve words on locations \$80000 and up (1/2 Meg hex). If bit errors occur, the ST bootROM did not detect the extension (it checks all bits of 512 locations by testing a pseudo random sequence, before accepting a memory bank). Try to pinpoint the faulty chip(s) and remove the error.

If it doesn't boot, you're in trouble. I'm sorry. It is difficult to give hints on what to do here. So many possibilities. Desoldering the new chips probably won't work (if the old ones were functional, the ST would still boot). Check for hidden short:circuit on the RAM pins. May also be that you have a flaky new pin connection.



**SLCC
NEWSLETTER
EXCHANGE**



\$5.00

**CONTACT
JIM RODRIGUES**



OCTOBER 1985

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 8 pm	2	3	4	5 8 pm
		MAIN MEETING				ATR8000 SIG
		S.L. Library				for info call
		300 Estudillo				Mike 482-5061
6	7	8 8 pm	9	10 7 pm	11	12
				BEGINNER SIG		
				for info call		
				Rick 835-9857	Newsletter	
		ASSEMBLY SIG			Deadline	
		for info call		EXEC. BOARD	for info call	
		Frank 632-7181			Ron 537-2749	
13	14 8 pm	15	16	17	18	19 8 pm
	ST SIG					SOFTWARE SIG
	for info call					for info call
	Bob 352-8118					John 276-2615
20	21	22 8 pm	23	24	25	26
		ACTION SIG				
		for info call				
		Jim 352-7744				
27	28	29	30	31		
				Spook day!!!		
				Halloween		



S.L.C.C. Interface

The SLOC INTERFACE is our monthly 'input-output' column in which you may make a short comment on club related issues, or buy-sell an item. This is not available to commercial outlets.

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NEXT MEETING:

TO:

COMMODORE - AMIGA

Get there early for good seats!!!!



86/04/30

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