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quikTalk
the quikLoader
user's newsletter

quikTalk

This is the first newsletter to quikLoader owners. Its purpose is to notify you of new programs, bugs in the operating system, updates, hints, chatter, etc. For the time being, we will have an informal format.

NEW EPROMS

The first quikLoaders that were sent had three EPROMs, all 2764s. We recently started shipping them with two, a 2764 and a 27128. Our intention is to eventually ship all quikLoaders with only one chip, a 27256, or equivalent ROM. One problem with this idea is the cost. We expect the price of these chips to come down drastically in the near future. When this happens, we will upgrade existing quikLoaders at a nominal cost. The advantages to the user are two-fold. By reducing the number of chips needed for the operating system, more sockets are available for your own programs. Also, less power is required for fewer chips.

If you have one of the three-chip quikLoaders, you may upgrade to the two-chip type. There are several ways to do this, but first, we would like to discourage it. If the quikLoader is doing the job that you need, why mess with it? Also, since we expect to upgrade to one chip in the near future, we don't see any great advantage to taking that step at this time. However, it is possible that you can make use of the upgrade if you have your quikLoader full of chips. By upgrading at this time, you will open another socket for your use. And, don't forget, the two chips that you will be replacing can be reused. You may upgrade by ordering the new chip zero (labeled C0.128). The cost will be \$20.00. This is about the cost for a blank 27128. If you have access to blank 27128's, you can send us a disk, and we will return it with a file ready to "burn" into a 27128. If you include a return postage stamp (37 cents) there will be no charge for this service.

As we mentioned, the cost for the 27256 is rather high (about \$50.00), so we cannot afford to upgrade at what we consider a reasonable cost. You may be in a position where freeing-up two sockets can be useful. Also, you may have access to an inexpensive 27256. If you wish, we will send you a "ready to burn" file for this chip. However, we should point out that this version is considered experimental, and, although we are comfortable with it, it has not been around long enough to be considered de-bugged. Same deal as above, send us a disk and return postage and we will send you the file.

BLANK EPROMs.

A reasonable question has come up; what speed EPROMs do I need? You may have noticed that EPROMs are rated as to speed in nanoseconds (1 nanosecond = 1 billionth of a second.) The faster the EPROM, the more expensive. Take our advice, buy the least expensive. 450 n.s. is fast enough for the quikLoader. If you

pay a premium price for a faster EPROM, you have gained nothing.

It has come to our attention that some dealers are charging prices for EPROMs that may have been reasonable three months ago, but are now much too high. Although we are not in the business of selling components, we can make EPROMs available (in limited quantities) for quikLoader users. Our price for a 2764 is \$8.00, and for a 27128, \$18.00. FINE PRINT: At these prices, you don't have a choice of manufacturer or speed, and the parts may be used (but clean and erased). To cut down on our costs, please order at least \$30.00 worth at one time. We can make this offer because of a special purchase, so we don't know how long we can keep these prices. To be fair to everyone, we will place a limit of 6 EPROMs per quikLoader.

UPDATED DOCUMENTATION.

We plead guilty to failure to update the documentation as early as we had hoped. It is being re-written at this time, and should be ready at the time that the one-chip version of the quikLoader is ready.

URGENT UPDATE (FOR APPLE II & II+ ONLY)

We realize that this is too late for some of you, but we have had time to rethink our instructions concerning the USER I jumper. While it is true that the jumper must be made to get full normal use of the \$C000 through \$C800 range, this can be avoided by using this range for primary routines. We have made a policy that all chips sold by us will not require this modification, and we will strongly recommend that any chips sold by outside vendors will meet this specification. Since it is a hassle to make the jumper, we no longer recommend that this be done. Our apologies to those of you that did it, but now that you did it, don't un-do it, it won't hurt anything. You will still need this modification if you need the full range for standard files, but we suggest that you avoid it.

THE SCRG EPROM PROGRAMMER

We finally have an advanced prototype of an EPROM programmer. We hope to start shipping by the beginning of November. The trade name will be PROMGRAMER (clever, huh?). The price will be \$149.50, and it will be capable of programming all standard EPROMs from the 2716 to the 27512. There are advantages and disadvantages of the PROMGRAMER vs. the others. Our software will be disk-based, as opposed to resident on the card. This means that you will have to load the software, rather than just doing a PR#(whatever). This does allow you to easily customize the software for your own use. Naturally, we will include instructions on putting the software on the quikLoader.

SYSTEM BUGS

or

yes, we make mistakes too.

So far, several problems have cropped up. Some programs that need the use of a 128K memory card automatically find the card by (essentially) turning on each card in turn, and checking the response. Unfortunately, when it turns on the quikLoader, it runs off into never-never land, since it has not been instructed what to do. This hangs the system, and the only way out is to turn off the computer and re-boot. The main offender seems to be

LOCKSMITH 5.0. We hope to offer a software fix in the near future.

Another problem is that, on an APPLESOFT program, the first DOS command issued that must be in a program, rather than direct (such as "OPEN") bombs the program with a "NOT DIRECT COMMAND" response. There are two quick fixes available. First, you may load the program (by hitting the "Y" key before the index letter), then type "RUN". The other way is to add the line "POKE 51,6" prior to the DOS command. This bug will be fixed in the 27256 version.

While not a bug, another problem comes up occasionally, due to our failure to stress one point. When calling up a program through the QLOS, DOS is not re-initialized. Thus, if you have used a program which changes any DOS pointers, and then bring-up another program, DOS may not be correct for your current application. To avoid this problem, we suggest that you hit "Z-reset" after using any program. This will re-initialize DOS.

Naturally, other bugs may occur. We understand that many people may encounter a bug, and ignore it, or may just curse us under their breath. If that's all they do, we may never find out about it. We URGE you to let us know about any bugs or suspected bugs that you may find. All bugs that we can fix, we will!

A NOTE FROM THE DESIGNER

Enclosed with this newsletter is a note from Jim Sather, the designer of the quikloader. We will let him handle the more technical side, and trust that this information will be enlightening to you.

PROGRAMS AVAILABLE FOR THE quikLoader

When reading the following list, please keep in mind that when we sell a program, we include the original disk and documentation as you would buy it in a store. As of this writing, the following programs are available on EPROM ready to plug into the quikloader:

COPY] [PLUS by CENTRAL POINT SOFTWARE. This handy utility contains a bit-copier, sector read & edit routines, catalog with file lengths, un-delete, etc. All in all, we think that you will find this one of the most valuable programs to have available on the quikLoader. Available from us on two 27128 EPROMS @ \$65.00

DOUBLE-TAKE by BEAGLE BROS. Another handy utility, especially for programmers. Allows scrolling of programs in either direction, while listing in an easier-to-read format. Will also scroll bi-directionally for hex dumps, with an ASCII translation. Also provides a hex-ASCII/ASCII-hex converter, program parameter list, APPLESOFT variable cross-reference, renumber, etc. Available from us on a 27128 for \$45.00.

SINGLE STEP TRACE by BARKOVITCH ASSOCIATES. The 6502 Single Step Trace is a machine language manipulator for beginners, as

well as experts. It simplifies using machine language by allowing you to easily "pick-it-apart", map out subroutines, find data tables, and actually stop a program in its tracks. You can even run programs at your own speed. On a 2764 for \$50.00.

The I/O TRACER is a disk fixing & tracing utility. It allows you to read, write, and edit any standard DOS 3.3 diskette. The beginner will find that this program offers a helpful way to get started finding out how APPLE DOS works. Features include inputting track & sector information in hex or decimal. One whole sector fits on the screen, with a double cursor showing both hex and ASCII data. On the same ROM is the "WIZ-BANG PACK", showing disk space, ASCII/hex memory dump, fast memory search, and a hex-decimal calculator. On a 2764 for \$40.00.

Both are available directly from:

Dave Barkovitch Associates
2400 Whittier Street
Rahway, NJ 07065
(201) 499-0636

MICRO/TYPOGRAPHER by TID-BIT SOFTWARE.
If you would like to do type-setting on your computer, this program may be for you. This allows the use of several different fonts on the hi-res screen. This display can be printed on those printers that can "dump" the hi-res screen. Price of disk and quikLoader EPROM is \$49.95.
Available directly from:

TID-BIT Software.
Post Office Box 5579
Santa Barbara, CA 93150

Not available yet, but within a month, are:
MERLIN assembler by ROGER WAGNER PUBLISHING, and
ECHO speech synthesizer software, by STREET
ELECTRONICS. More to come soon.

INDEPENDENT CONSULTANTS

The following people and firms have let us know that they are available to do customized work on quikLoader compatible software:

Dave Barkovitch Associates
2400 Whittier Street
Rahway, NJ 07065
(201) 499 0636

Don Mochizuki
Post Office Box 809
Fresno, CA 93712

Resource Design
1929 Garden Lane
White Bear Lake, MN 55110

TID-BIT Software
Post Office Box 5579
Santa Barbara, CA 93150

These consultants are independent contractors. Southern California Research Group can make no guarantees concerning the quality of work. We make this list available as a service to quikLoader users.

If you feel that you are qualified to offer this service, please let us know. We will publish your name in the next issue of quikTalk.

BACKING-UP APPLICATIONS SOFTWARE (combined with an editorial)

By now, we're sure you noticed the convenience of loading software by pushing a button, instead of having to search for a disk, load it, and hoping that the disk is not damaged. We strongly feel that all business software should be available on EPROM. Unfortunately, not all software publishers agree. Many of them seem to over-react to their valid fear of unauthorized copies flooding the market. We certainly understand the concern of publishers that they receive a fair return on their investment (which can be considerable). On the other hand, after spending several hundred dollars for an important piece of software, we can understand the feeling of the user that the software be easy to load, as well as the integrity of the media. We all know how easy it is to destroy disk-based software. On the other hand, it is difficult to erase software on EPROM. Despite this, many software publishers do not want to make their software available on EPROM.

For those software publishers who are concerned that a program on EPROM can easily be transferred to disk, they should be made aware that software protection on quikLoader is a trivial matter. They should get in touch with us for further details.

We have a very flexible policy on commercial programs on EPROM. If the publisher wishes, we will be in charge of distribution under license. If the publisher wishes to have complete control over distribution, they may sell the EPROMS, with absolutely NO fees paid to us. The form of distribution is entirely up to the publisher. In short, we feel that we are very fair with software publishers.

Some publishers might be more receptive to an idea brought up by you, a customer, as opposed to us, a manufacturer. If you frequently use a piece of disk-based software, why not let the publisher know that you want it available on EPROM? If enough customers demand it, we might see some action.

Have you written any good programs lately? While we intend to continue to make a growing library of commercial quikLoader applications available to quikLoader owners, we realize that many owners are "brewing" their own. All of us have common interests in increasing the size of the available library. Let's all help build a directory with applications of interest, not just what you have done, what you would like to see done. We will be happy to act as a clearing house for this information.

As an inducement to let us know about the work that you have done, we will give a small token of thanks to the first person to give back-up directions for each major piece of software. This token will consist of any of the following products that we manufacture: The PADDLE-ADAPPLE, PADDLE-ADAPPLE 'D', PADDLE-ADAPPLE COMBO, or 9-16 adaptor. Or, if you wish, we will

send you a blank 2764 EPROM.

We certainly understand that the value of these products will not begin to repay you for the (possibly) hours of work that may be necessary. We feel that you should look upon this as a hobby-type diversion, and should not undertake this if you are short of time.

Please contact us prior to beginning the work. We would not like to see somebody re-invent the wheel (so-to-speak). When submitting back-up directions, be sure to include the version number (if any) of the software. Please let us know if you want your name and/or telephone number included. We will not print your name if we do have have explicit permission.

It is to be clearly understood that this is a service to quikLoader users, and that neither SCRG or the contributor can take any responsibility for the accuracy of any information given through this newsletter.

quikLoader USERS GROUP

We believe that by assisting each other, we can all benefit. Sharing knowledge that we gain does not diminish the knowledge that is left. We would like to publish a list of quikLoader users, with telephone numbers so that we can get in touch with each other. Naturally, we would have no control as to how this list would be used, and so we would not publish your name without permission. If you would like to be included, please let us know. We plan to print just first names and telephone numbers.

We would like to see an independent newsletter spring up, since it would be foolish of us to claim that we are disinterested in sales of quikLoaders. Until his happens, we plan to continue sending out this newsletter at irregular intervals. If you are interested in this possibility, please contact us.

YOUR COMMENTS WELCOME.

Please let us know what you think of the quikTalk concept. We welcome comments, questions, ideas, etc. We will print them in this newsletter as space permits. Again, we would need specific permission to include your name.

We plan to keep an informal format, as we think it is conducive to provide a means of keeping in touch. Think of this as your newsletter, providing a forum for ideas, helping us all to make the most of what computers can provide. Please address your letters to:

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Telephone (805) 685-1931

NOTE: In the beginning of November, we may be moving to larger quarters. Please watch for our new address and telephone number.

MEMO

From: Jim Sather

To: All quikLoader owners

Subject: quikLoader news and info; reference manual errata

There is good news and bad news concerning the growth of quikLoader. The good news is that we have an operating version of a 256K chip containing everything that the three 64K chips that currently come with quikLoader contain. In addition to the obvious benefit of freeing up two sockets of the quikLoader, this version has some improvements over the 64K version since there was room for some more code in the 256K chip. The improvements are:

The 256K QL0S handles 27512 (64 Kbyte EPROM while the 64K QL0S only handles up to 27256 (32 Kbyte EPROM. The huge 27512 should eventually become affordable.

With the 256K QL0S, it is not necessary for a chip to be installed in socket 6. However if there is a chip in socket 6 with an n-RESET routine, that n-RESET routine will be executed at power-up.

Due to a programming oversight of mine, the 64K QL0S katalog routine clobbers a few bytes at the beginning of RAM Page 3. The 256K QL0S katalog routine does not affect Page 3.

S-RESET vectors to the reset routine in the Apple //e with the 256K QL0S. This only works in the Apple][and Apple][Plus with the 64K QL0S.

The further good news is that the 256K QL0S will eventually become available to all quikLoader owners under very reasonable terms. This package will include a revised reference manual that will be improved in several areas. The bad news is that we can't distribute the 256K QL0S until SCRG can buy some 27256 EPROM at a reasonable price. SCRG is working on this, but much depends on 27256 supply and demand over the next few months. I'm not sure when we'll get the upgrade out, but we'll do it.

If you have a 27256 and mail it to SCRG, they will program it with the latest 256K QL0S. This version should be considered experimental until the official 256K QL0S becomes available, but the current version seems to work fine. Be sure to let SCRG know if you find any bugs in any version of QL0S. Your feedback will get results.

There are several weaknesses in the current quikLoader reference manual which will be corrected when the 256K QL0S package comes out. These consist primarily of areas of quikLoader programming information that were not sufficiently covered. There is also an outright error concerning 27256 applications. I would like to correct the error here and provide some information about areas of programming in which the quikLoader reference manual is weak.

The error occurs on pages 32, 34, and 36 where it is indicated that the even bank of a 27256 can be specified as a chip 0 subroutine transfer source via "DEC \$26, DEC \$27". The following quote from page 32 and the associated programming example are absolutely wrong:

"Note that only \$26 and \$27 were decremented before calling chip 0. The X-register should always contain slot number x \$10 when calling chip 0."

In fact, the X-register should be decremented, along with \$26 and \$27 when specifying the even 27256 bank as a transfer source. In place of the page 32 example, I recommend the following code:

```
DEC $26
DEC $27
LDX $26
JSR GOCHIPO
```


The 27512 bank switching protocol will be similar to that of 27256 except there will be four banks. Here is the 27512 protocol:

<u>27256 BANK</u>	<u>CHIP 0 SUBROUTINE CALLING SEQUENCE</u>
0	DEC \$26, DEC \$27, LDX \$26
1	(\$26, \$27, X-REG as is)
2	INC \$26, INC \$26, LDX \$26
3	INC \$26, INC \$26, INC \$27, INC \$27, LDX \$26

Something I neglected to mention in the yellow reference manual is the advisability of using EXEC files when putting quikLoader EPROM files together. Packing a quikLoader file consists of loading QLOS overhead with a number of data blocks, all of which must be loaded to specific addresses. Instead of doing this directly from the keyboard, use your word processor or assembler text editor to make a text file that will do the same thing when you EXEC it. This has many advantages. It shows you what you did when you need to debug a quikLoader EPROM. It documents the makeup of a quikLoader EPROM (you completely forget what you did after a couple of months). It makes it very easy to add to or modify a quikLoader EPROM source file.

As an example, here is a text file that, when EXECed, will pack the files of the FIDCOPY chip that comes with the quikLoader:

```
MOM C,I,0
CALL-151
2000:FF
2001<2000.3FFEM
BLOAD FID,A$2000
BLOAD COPY.OBJ,A$324E
BLOAD COPY.B,A$3379
BLOAD QLHELP.B,A$3ACA
BLOAD FIDCOPY OVRHD.OBJ,A$3F00
UNLOCK FIDCOPY
DELETE FIDCOPY
BSAVE FIDCOPY,A$2000,L$2000
LOCK FIDCOPY
NONOM C,I,0
```

All pertinent files must be on the disk with the EXEC file for this method to work. I recommend that you devote one disk (plus a back up disk) to every quikLoader chip you develop. In addition to all the data that goes on the chip, put your assembler and EPROM burner software on the disk too. If you've got any other good organizational tips, pass them along to me.

Something that isn't emphasized enough in the reference manual is the importance of the INVERT subroutine (lines 110-116 of Figure 11) to primary routines. This routine takes the input control word and "inverts" it to a control word with which chip 0 subroutines are called. If you follow the organizational scheme of Figure 11, you should call INVERT at the beginning of every primary routine on a quikLoader chip.

When you call the chip 0 GOMBRD subroutine (go to motherboard; y-index = 8), the motherboard execution address, minus one, should be on the stack. This is not mentioned anywhere in the reference manual and it is not in Table 2 on page 36 (sorry about that). There is an example of calling GOMBRD at lines 191-196 of Figure 11. In these lines, \$B73A is pushed onto the stack before a "JMP" call to GOMBRD, ultimately causing execution to begin at \$B73B after the quikLoader is turned off. For those of you who care and haven't guessed, address minus one must be on the stack because an RTS on the motherboard is used to vector to the address on the stack, plus one.

A final tip that I would like to pass along concerns a problem that I ran up against when I started to work with 27256 EPROMs. The problem is that the maximum file length parameter accepted by DOS 3.3 is \$7FFF, one less than the size of a 27256 file. This is a real nuisance when dealing with 27256s, and fortunately, it is easily overcome. Just change the value at \$A963/\$A964 from \$7FFF to anything you want. More specifically, store \$FF at \$A964 or POKE -22172 with 255 to change the maximum file length parameter to \$FFFF (65535). Thanks to Bob Sander-Cederlof of S-C Software for telling me about this easy fix.