

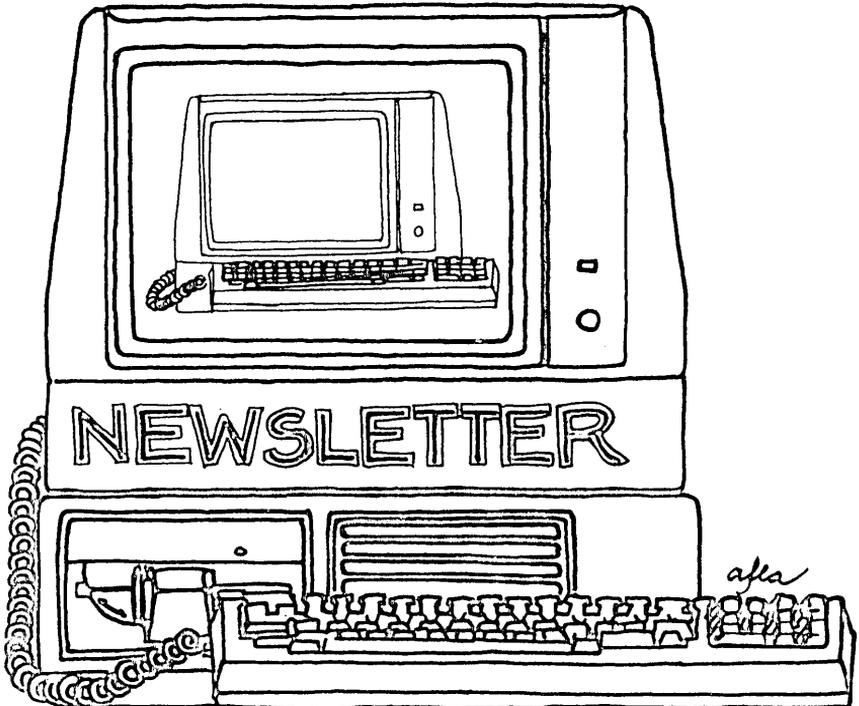
April 12, 1986

Volume 4

Issue #4

BAY AREA MICRO DECISION USERS ASSOCIATION

BAM DUA



A MUTUAL SUPPORT NETWORK FOR USERS OF
MORROWS' MICRO DECISION COMPUTERS -
P.O. BOX 5152, BERKELEY, CA. 94705
415: 644-2805

marinace resources group

Robert C. Marinace
President

Technical • Financial • Production • Marketing

ATTENTION

MD-3P's FOR SALE

Dear Morrow User,

We need your help. We have several of the Morrow Portables surplus to our needs for sale and don't know what to ask for them. Several dealers in the Bay area are selling them for \$895 and \$995.

We thought \$695 for one and a discount for two or more would be fair. They come all sealed as from Morrow, complete with all software, such as NewWord with Correct-It, Smartkey, Personal Pearl and Super Calc, and all manuals.

Please call in your offers as soon as possible due to the limited quantities.

Cordially,



Bob Marinace

(415) 490-4100

787 lippert avenue • fremont, ca 94539 • (408) 262-9722

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World Business Center	inside back cover

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Berkeley, CA. 94703, (415)843-8130.

NEWSLETTER

If you wish to submit material to the newsletter, please follow these guidelines:

- o Submit material before the 23 of each month
- o Submit hard copy along with a WordStar file on a SSDD or DSDD diskette; left margin, default; right margin, 68 and right justified. (NewWord files are acceptable).
- o Include your name, address and telephone number
Your disk will be returned to you.
- o Send newsletter materials to: Newsletter Editor
BAMDUA
P.O Box 5152
Berkeley, CA 94705

If you have questions about newsletter submissions, call me afternoons only on Wednesday or Friday (415-843-8167). If you have other questions about BAMDUA, call the BAMDUA Office, 415-644-2805. If you need technical help, use your DIRECTORY.

IMPORTANT: If you have something you especially want in the next Newsletter but are unsure you can get it in before the deadline, be sure to call me so that we can make special arrangements. If it doesn't matter to you when it is published, then you do not need to be concerned about the deadline; just send it in when you have it ready!

Please remember that the deadline is important in order to enable me to plan and produce the Newsletter.

If you have tried one (or more) of the utilities available on the library disks, write a review and send it in! If you know the answer (or think you do) to new or recurrent questions in the Notepad or Mailbox departments, write me so that I can make the information available to all.

We reserve the right to edit articles submitted for publication. In keeping with the spirit of "public domain" we grant permission for articles appearing in this Newsletter to be reprinted by other users' groups for the purpose of free dissemination of information as long as proper identification is made of author and source.

Thanks. --Georgia Babladelis, Ed.

BAY AREA MICRO DECISION USERS ASSOCIATION
A Morrow computer users' group

Monthly newsletter, Vol. 4, Issue 4 April 1986

BAMDUA, P.O. Box 5152, Berkeley, Ca 94705
(415) 644- 2805

BAMDUA, the Bay Area Micro Decision Users Association, is open to all who are interested in Morrow's Micro Decision computers. Membership fee is currently \$16 per year and includes a subscription to our monthly newsletter. For information, membership application forms, etc., please send a self-addressed stamped envelope to the BAMDUA P.O. Box.

The BAMDUA office is open 8:30-4:30 weekdays; the answering machine or a call-forwarding BAMDUA volunteer will take your messages from 12:30 on. When Greg is in the office, he will answer the phone in the morning.

The main BAMDUA meeting is held the last Tuesday of each month.

+++ Next main BAMDUA meeting: ++++++
+
+ WHEN: Tuesday, April 29, 1986, 7:30 p.m. +
+ WHERE: West Branch, Berkeley Library +
+ 1125 University Avenue, Berkeley +
+ TOPIC: Demonstration: "Special Deals" Software and +
+ hardware !!! .+
+++++

PLANNING AHEAD: Information about future meetings.

When: Tuesday, May 27, 1986, 7:30 p.m.
Where: West Branch, Berkeley Library
1125 University Avenue, Berkeley
Topic: More software demonstrations, including special deals

LOCAL MORROW USER'S MEETINGS:

MUG/MARIN (Marin Users' Group) meets on the fourth Thursday of each month at 7:30 p.m. The address is P.O. Box 925, Mill Valley, Ca. 94942. For information, contact Susan Miller (415)383-6276 or Jim Kelly (415)472-1499. The group describes itself as a small but stimulating group which tries to diversify information for both novices and pros alike.

Stanford Morrow Users' Group, (S.M.U.G.) meets on the 2nd Wednesday of the month at 7:30 PM on the Stanford campus: Poly Hall (also known as Turing Auditorium), room 111.
Info: Ed Gallaher (408) 749-9285 (H)

The CP/M Users of Santa Cruz County (formerly SCMDUG) will meet on the second Tuesday of the month at 7 p.m. at the Santa Cruz Public Library 224 Church St., Santa Cruz. This group is open to all users of Morrow, Kaypro, Osbourne, Televideo and other CP/M computers. There will be an open forum for questions, a public domain software demonstration, and public domain software for sale. Written inquiries should be sent to 376 Lucinda St., Scotts Valley, CA 95066. Since meeting places sometimes vary, for information call Marianne Russell, Sect., 408/438-0662 or Dave Kirk, 408/423-1462. (Note: The Morrow and Kaypro groups are joining forces and expanding)

PETMUG (Petaluma Users' Group) meets on the 4th Thursday of each month at Advanced Information Management, 245 North McDowell Blvd. (in Petaluma Plaza), Petaluma, CA. For info. contact: Don Waite, 707/763-6891 or Dick Hoffman, 707/762-8286 or mailing address: P.O. Box 948, Petaluma, CA. 94953.

CLASSES:

Until now, we have offered classes on MODEM7, INTERMEDIATE CP/M, a NOVICE EMERGENCY CLINIC for beginners, PERSONAL PEARL for beginners, PUBLIC DOMAIN SOFTWARE, QUEST ACCOUNTANT PROGRAM, and an ADVANCED CP/M and SYSTEMS class. Now it appears that there is not enough interest in them to continue offering these classes. However, if interest grows in the future, these classes will be made available again. Classes will then be scheduled when enough participants sign up for them. For information, call BAMDUA (415) 644-2805.

BAMDUA OFFICERS

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At large	Frank Oechsli

FROM THE PRESIDENT'S DISK

by Sytko Andreae

BAMDUA's remodeled meetings.

We have been overhauling our idea about what a BAMDUA meeting should be like, with apparent great success. We now try to design meetings so that attendees can participate more, sometimes with hands-on computer work, other times by dividing the meeting in small groups. It has turned out to be much more educational and much more fun.

The last meeting was a good example of that. It was Public Domain demonstration night. Peter Campbell introduced the evening with his usual witty remarks and then all participants spread out among the seven Micro Decisions and one printer for the various demonstrations.

Greg Smith, our new BAMDUA staff person, thoughtfully dismantled the guts of the computer system in the MOR/BAMDUA office, just to be sure we had enough extension cords and surge suppressor boxes to hook everybody up, much to the dismay of MOR's Margo Demello the next morning, when, due to unforeseen circumstances, not all the gear made it back in time. But that's life. By the way, Greg has a great story to tell about those unforeseen events. Thanks, Greg, for making sure all those computers actually had power to plug into. It seems so obvious, but that facility has been missing in more than one meeting...

Several people had been asked to be "demonstrators" of certain programs and they came, well prepared or not, drawing various sizes of attentive groups. One thing we learned was that people pay more attention to the basic utilities, like NSWEEP, and less to more esoteric stuff as is being offered under "special deals" software in this BAMDUA newsletter. That just shows you what people need most: Introduction into the most common utilities. Over and over again, it seems.

We learned also that the tiny screens of the MD3-P's (the majority of attending computers) do not make it easy for all those eager eyes to see what is going on. Yes, it would be better to get some more MD3's and some hard-disk machines to an evening like this. It is just that those machines are a whole lot less portable. Thanks for all who brought in their equipment and an extra hand to those who carried in their non-portables.

The star of the evening was Rick Charnes, who held more people's attention for a longer time than anyone else, maybe just by the power of his vibrant enthusiasm and willingness to share what he knows in a way that turns people on. Bravo Rick, a lot of thanks, and may you do this again someday.

In planning these evenings it appears that the BAMDUA board sometimes misjudges the sophistication of parts of the membership. As I indicated before, many people are not exactly beginners, but still have never been exposed to utilities and tricks of the trade that the more experienced among us rate old hat. There is still a great need for meetings like this and we'll surely do it again. And wasn't it fun?

PASS THE NOTEPAD

Q: I have an MD3. I want to hook up a modem. Can I do this without any alterations to my machine? Also is there a recommended modem and software? Does anyone have a used modem for sale? Hector Chinchilla, 415/648-4863.

A: Get a 1200 baud modem. If you buy the common Anchor, even though it has a plug, you will still need an adaptor cable. Morrows have pins 2 and 3 reversed (Morrows are wired so the serial port is correct for talking to a printer).

Q: Who wants to do an evening of Turbo Pascal? I'm deep into it and excited! Also, aybody know a good T-Pascal BBS? Lee Kusick.

Q: Has anyone installed a clock in an MD3? If so, what kind? how much? and any comments? Wesley Johnson, 415/444-0568.

Q: How dump screen only to printer?

A: Use ^P to send all that is on screen to printer; ^P again turns it off (CP/M command).

Q: (Especially to Sypko)- I got an MD3 board - Japanese - from SVS with 3.1 ROM and DSDD CP/M. It will come up DS (or with a friend's SS BIOS) but it will not verify its own format, trashes disks when writing is attempted (reads okay). When a formatted disk is put in after a failed verify, it will verify that disk as o.k. once, but also trashes it. Help! Woody McPheeters, 415/548-3126.

Q: Is there public domain software for bookkeeping or accounting? Dorothy Jenkin, 415/436-0757.

Join Bamdua Today



SPECIAL DEALS

1. TYPEWRITER

TYPEWRITER: Produced by MicroCost, this software allows you to use your computer and printer system as though you had a typewriter, plus many more features. It was reviewed in the BAMDUA NEWSLETTER, V. 3, # 9. Check that issue for details of offer also.

STATUS REPORT: We qualify for the 50% discount!

2. DATAPLOTTER

DATAPLOTTER: this unique program allows you to plot and print your data in a variety of ways without screen graphics. A review and cost information can be found in the BAMDUA NEWSLETTER, V.3, #6, JUNE 1985, p. 12-18. See also highly favorable review by Bruce Gale in Profiles, April 1985, p. 72.

STATUS REPORT: We qualify for the group discount of 20%.

3. WRITE-HAND-MAN

WRITE-HAND-MAN, made by Poor Person Software, can be considered the "sidekick" for CP/M. You can make notes, look up telephone numbers or files on disk, and perform calculator functions by opening up a "window" while you are running your program; when you leave Write-Hand-Man, you return to your application program. See the Newsletter, V.3, #9, Oct. 1985 for a review of the program and details of the special group purchase rates.

STATUS REPORT: We qualify for the 20% group discount! Three group orders have gone in; will hold on a while for possible fourth group order. If interested, send me a check for \$42.56 made to Poor Person Software.

4. FREE-FILER

FREE-FILER is a powerful and speedy free form information retrieval system. It allows you to retrieve information much the same as does a data base system but without the need for preliminary formats. It also has a sort program. See the review and specific information about group rates in the December 1985 Newsletter, V.3, #11. (See also the review in MOR, V.2, #5, Oct/Nov 1985).

STATUS REPORT: Two group orders at 30% discount sent in; will stand by for a bit for a third group order. If interested, send SASE.

5. MAGIC SERIES

MAGIC SERIES combines 3 programs: MAGIC PRINT, MAGIC BIND and MAGIC INDEX. This amazing program permits you to achieve true proportionally spaced print in camera ready type set appearance, plus providing simple dot commands for printing multiple columns. Also included is the ability to do footnotes, indices, and automatic renumber of chapters, etc. See the review in the NEWSLETTER, V. 3, #11, Dec. 1985. Also see that issue for information about group discount rates.

STATUS REPORT: Still open to qualify for group discount. This is the last time this offer will be announced.

6. WORD FINDER

WORD FINDER, formerly called Synonym Finder, was created by Writing Consultants. It is a very handy adjunct to your word processing program. See review in February issue. Discounts are: a minimum of 4 orders, 10%; of 10 orders, 20%; of 20 orders, 25%, etc. Contact me if interested. Include SASE.

STATUS REPORT: Currently qualify for 10% discount; will hold on a couple of weeks in case a few more orders come in, which will get to the 20% discount level.

7. PRINT MASTER

PRINT MASTER, a product of Unison World Incorporated, makes it possible for CP/M users to print cards, banners, etc. using a choice of several designs, frames, and fonts. A 10% discount is available to us on group orders; we need a minimum of 4 orders to qualify for the 10% discount. See review of Print Master in the February issue. I have arranged for Art Gallery I and the book offering guidelines to be available at the same discount. Let me know if you are interested; include SASE.

STATUS REPORT: We made the discount level and a group order is being prepared. Will stand by for a possible second group order.

8. OUT-THINK

OUT-THINK is a "compleat" outline processing program made by KamaSoft specifically for outlining. It allows you to see the "forest" and/or the "trees." See review in this issue.

PLEASE FOLLOW THE INSTRUCTIONS WHICH APPEAR NEXT IN "IMPORTANT NOTE"
PLEASE NOTE THE IMPORTANCE OF A SASE.

IMPORTANT NOTE

****THESE ARE YOUR INSTRUCTIONS FOR ORDERING SPECIAL DEAL ITEMS****

All the special deals listed above this note can be acquired by contacting me and including information about your system, printer, etc. Give your name and address and telephone number; enclose a SASE. Contact: Georgia Babladelis, Editor, 1064 Sterling Avenue, Berkeley, CA. 94708. Do not contact Sypko, Greg, or "Bamdua office" and do not combine your request for a special item with your renewal of membership or other inquiries. If you are interested in one or more SPECIALS you must contact me! Otherwise, your inquiry can take a long time in reaching me, thus you run the risk of not getting included in a group discount. In most cases where we have already qualified for a group discount and the order has been submitted, another group must be formed. That means that if you send your inquiry hither and yon, you run the risk of (1) depriving the group of an even better discount because your order would have put us in a new category! (2) deprive yourself of getting any discount at all because the order has gone in without you and a new group is not forthcoming!

All the special deals which follow this note include information about the appropriate person and/or address to contact.

9. PROPORTIONAL STAR

PROPORTIONAL STAR, created by Writing Consultants, is the software version of their popular book detailing how to patch WS in order to accomplish proportional printing. The patches are now available on disk with simple instructions for installing for your system and version of WS. See review, last issue of the Newsletter. A 20% discount on the \$75 price is available to persons who mention they are BAMDUA members and ask for the discount when ordering directly from the company.

10. REACHOUT

REACHOUT, a menu-driven telecommunications program that works with any modem, including the CTS MM-300 Modem System. A special version of ReachOut is available for all Micro-Decision computers. The price is \$125.00 (\$65.00 for the MM-300 version), plus 6% tax in California, shipping by UPS to a day time address included. Full end-user telephone support is provided by the manufacturer. Send \$132.50 (includes tax and shipping) to Applied Computer Techniques, 21 Cottonwood Drive, San Rafael, CA 94901; 415/459-3212. ReachOut is reviewed in Morrow Owners' Review #2 & #3.

SOFTWARE REVIEW: OUT-THINK

by Georgia Babladelis

Program: Out-think
Company: KAMASOFT, Inc.
P.O. Box 5549
Aloha, OR 97007
(503) 649-3765
System: CP/M 2.2 or above
Requirements: Uses 48K RAM
Minimum -Maximum disk space: 48K-84K
Price: \$49.95 (see Special Deals for members)

As most of you know, Kamasoft, Inc. introduced KAMAS two years ago and it contained the first outline processor for CP/M. The program was aimed at sophisticated users who need to program custom outlines for their applications. In response to many user questions and requests, the company developed OUT-THINK, which does not require programming and is aimed at a wider audience of users. OUT-THINK is a complete outline processor. It is compatible with KAMAS and current owners of KAMAS can purchase OUT-THINK by sending in their KAMAS master disk and \$25.00.

Perhaps it would have been more informative if I had referred to OUT-THINK as the "compleat" (rather than complete) outline processor! That old spelling provokes images of a person who has everything - or, rather, in this case, of an outline processor that has everything.

There are three important parts to the program: The topics addressed, the outline itself, and any text that may accompany some part of the outline. Each part can be edited independently, thus each part has an editor. As a consequence, the commands required by each of the three editors tend to be confusing insofar as there tends to be some overlap with slight differences among the various commands. After one has practised with the commands, however, they begin to sort themselves out and to make sense. Let us look at each part.

First, there is an aspect of the program called the topic manager. Here the user can designate one or more topics for which an outline is planned or list those that exist already. The disk comes with a "demo" topic on it, which serves as the basis of several practice sessions through which the manual guides the user. It is in this part of the program that the user specifies the topic to be outlined and allocates disk space to that topic. Also, you are informed about how much of the allocated space has been used. It is simple to move about the topic manager and to prepare new topics, kill old ones, or to change the amount of disk space allocated for a topic. When you are ready to work on the outline of that topic, you enter a command to edit it, which takes you to the outline editor.

Second, then, is the outline processor itself. You are presented with your topic and a blank screen. Simply start jotting down the items you want included, the way you would make an outline on paper. If you decide you want to rearrange the order of some items, it is easily done with the outline editor. Again, a bit of practice is necessary to learn the commands and the idiosyncrasies of the program, such as remembering to "mark" what will get moved to somewhere else. If you already have some material in other files, such as instructions, office staff, organizational charts, etc., it is possible to "input" them into the appropriate place in your outline. Thus, you do not have to re-enter or re-create information you need if it already exists in an ASCII file. Similarly, you can "output" information from your outline in ASCII or WordStar format. You may want to do that in order to have a file of such information for use in another outline.

Easy to learn commands allow you to organize your outline so that certain items are subsidiary to others, etc. Thus, you may have several subsidiary but equivalent to each other items under one title, then a second (or more) title with its own subsidiary items. The subsidiary items, themselves, can contain further elaboration or breakdown into sub-categories. An indenting structure makes the relationship of items to each other immediately clear. You can change the placement and relationship of items at any time. Special cursor movements allow you to move easily from level to level; familiar WordStar cursor movements also apply. Once you learn that an item which is subsidiary to another is "down" from it, and an item which is of equal status is "next", etc, you will find the special cursor movements easy and fast to use.

The third, and special, aspect of the program is that it offers a full screen text editor for inserting and editing text in the outline. Suppose you want to "flesh" out some portion of your outline with explanatory (or whatever) text. Conceivably, you may want to add several pages of text. These are called "leaves" (as in leaves of a tree?? or pages of a book??). Wherever in your outline you want to add text, simply enter the command to edit that item and you are taken into the "leaf editor" and a blank "page" to write on. A bit intimidating! At any rate, familiar WordStar editing commands work just fine here. There are special commands for marking the text to move it to where it should go in your outline, but they are simple to master. You can edit, expand, delete, move, etc. the text and indicate where in the outline it goes. The user may copy within and between outlines.

Groups of titles in the outline can be marked for copying, printing or deleting. We haven't discussed printing yet. You can print the outline with over 20 different formatting parameters, including headers and footers, page numbers, section numbers, and an automatic table of contents. A menu of parameters appears for you to enter your choices. Moreover, you can ask to view what it will look like prior to printing!

That gives you a pretty good idea of the basic structure and operation of OUT-THINK. There are additional features: At any time, the user can opt to collapse the outline, revealing only its bare structure without the subsidiary elements. Conversely, at any time the user can opt to expand the outline, revealing the relational organization and all its elements. So far so good. In addition, the user can opt to expand only one part of the outline! Suppose you want to examine part 3, but not parts 1, 2, 4, and 5. You can expand just that section and work on those details. The user can pull out a section to work on by a process called "hoisting" which allows you to focus on that part of the outline only. Every entry in the outline is automatically marked to reveal whether or not additional information is contained, such as: are there subsidiary parts? is there any text connected to this section? etc.

Still other features include a built-in file manager, information retrieval by keyword, date and time stamping, and password security on outline files. There are several "alias" commands that make it quicker to "go to" information. There are two configurations available: for use with WordStar and for use with Perfect Writer. AND there are several commands for "showing" you different views of the outline, the focus of what you are currently working on, what is the general structure compared to where you are, or what the text is in a particular branch of the outline.

OUT-THINK is the "compleat" outline processor. I am not widely familiar with outline programs; the only other one for CP/M that I know about (public domain software) does not have the powerful features for searching, showing various views of where you are working in relationship to the total outline, multiple levels of collapsing and expanding information, of inputting and outputting files, multiple print formatting, and full screen editor for text entry. OUT-THINK uses 84K disk space (40K for the command file and 44K for the help file) which can be reduced to 48K after you have mastered the information on the help file and can afford to reduce its size.

Does it have any problems? I did not encounter any problems, per se. I did have some difficulties and irritations, however. I got confused remembering which commands applied to outline editing and which to topics and which to the leaf. I was able to do the exercises provided in the manual very easily, but was left with the feeling of having slavishly followed instructions and not having the faintest idea what it was for. It wasn't that the words didn't make sense, it was that "context" or "explanation" was missing. You can easily follow when you are told to get the memo from x and put it in the outline in place y, enter the command, etc. etc. It was a larger picture that was missing. I kept wondering "why" I was doing this. In my opinion, the manual requires an overhaul. The manual reads as if it had been written in outline first, the outline elaborated, then some "leaves" added. All the essentials are there, but it just isn't very informative. Another aspect of the confusion created is the mixed analogies that are used to discuss outlines.

The idea of giving an overview of outlines and their structures is a good one, but it doesn't help to leap about from ancestors and descendents to stems and branches and then to keys and titles. I did get dizzy!

Confession: I was ready to call it quits when I decided to skip all the terminology, use my own words for different parts of an outline, make an outline of something other than a business reorganization plan, and LOOK UP THE COMMANDS to do whatever I needed to do. The light dawned. I understood what led to what. I understood the commands. I could do an outline! (I outlined several volumes of the Newsletter; that gave me volumes, issues, and tables of contents to play around with. I used some text from shorter articles to be the "leaves" for various stems (contents), and then tried out moving things, rearranging things, collapsing, expanding, hoisting, etc. At last, I could understand what I was doing.

It was after that exercise that I could appreciate the power and flexibility of OUT-THINK. For people who rely heavily on outlines and want powerful outline processing capabilities, this program is for you.

BRIEF REVIEW

(From MUGW Newsletter, May 1985, with permission)

Writing Tools

reviewed by Herman Holtz

I recently bought WRITING TOOLS, a three-program disk from RC Throckmorton, advertised in the February 1985 Morrow Owners Review. Since he asks only \$12 for the disk, I assume that it is public domain stuff, although I have not seen the programs listed elsewhere. One program adds 8,000 words to Correct-It. I had no trouble whatsoever installing it. Another is a somewhat more sophisticated and (in my opinion) better word-counter than the other two word counters I have used. The third program lets you run Correct-It from the WordStar No-File menu. As far as I am concerned, the 8,000 words added to my dictionary was alone well worth the price, and the new word counter was a bonus. (I don't use the third program.)

NONSTANDARD TELECOM PARAMETERS FOR HARD DISK MORROWS USING MODEM7

by Dick Baker

Most of you telecommunicators using Modem 7 (or most other telecom programs) to have probably been only vaguely aware that you were using data word parameters of 8 data bits, no parity, and 1 stop bit (often written 8N1), a near-universal standard in the CP/M world. Modem 7 offers no other options; some fancy MEX overlays--but not the one for Morrow, so far--incorporate an extended SET command that selects other options. And some commercial programs allow the user to select other word parameters.

I recently needed to communicate with an office computer using 7 data bits, no parity, and 2 stop bits. Even though I'm blissfully ignorant of assembly-language programming (and hope to remain so), by comparing a very sophisticated MEX overlay for Kaypro with the Modem 7 overlay I've been using on my MD-5, I was able to come up with a special overlay incorporating the 7N2 protocol, which I used to create a working version of Modem 7 for use with the office computer.

The following information applies to the Zilog Z-80 serial I/O (SIO) chip used at the AUX ports of all hard-disk Morrows--and should in fact apply to any machine using that chip as a port driver.

Setting Parity: Transmit/receive parity is controlled by bits 0 and 1 of the byte sent to SIO register 4, as follows:

Parity	Bit 1	Bit 0
Off	-	0
Odd	0	1
Even	1	1

Setting Stop Bits: The number of stop bits is controlled by bits 2 and 3 of the byte sent to SIO register 4, as follows:

Stop Bits	Bit 3	Bit 2
1	0	1
1.5	1	0
2	1	1

Setting Length: The number of bits per character is controlled for the receiver circuit by bits 6 and 7 of the byte sent to SIO register 3 and for the transmitter circuit by bits 5 and 6 of the byte sent to SIO register 5. The assumption here is that both transmission and reception will be carried on at the same number of bits per character. The bit configurations are shown below for register 3, but the pattern is the same for bits 5 and 6 of register 5:

BPC	Bit 7	Bit 6
5	0	0
6	1	0
7	0	1
8	1	1

(Remember, of course, that the bits in binary notation are numbered from right to left, i.e., from the least-significant bit to the most-significant bit.)

The routines and registers above are found in the SIO chip initialization routine of M7MD11.ASM, the hard-disk Morrow overlay for Modem 7. [brackets added]:

```

;.....
;      init sio chip for 8 bit 1 stop x16 clock no parity
INITMOD MVI    A,0          ;SELECT REGISTER
        OUT    MODCTL1
        MVI    A,18H        ;THROW OUT OF MODE
        OUT    MODCTL1
[      MVI    A,04H        ;SELECT REGISTER
        OUT    MODCTL1
        MVI    A,44H        ;SET ASCII PARAMETERS
        OUT    MODCTL1
[      MVI    A,03H        ;SELECT REG.
        OUT    MODCTL1
        MVI    A,0C1H      ;ENABLE RECEIVE
        OUT    MODCTL1
[      MVI    A,05H        ;SELECT REG.
        OUT    MODCTL1
        MVI    A,0EAH      ;ENABLE SEND, 'DTR,' 'RTS'
        OUT    MODCTL1
;
;-----

```

* This routine sends 44H (01000100) to register 4. Bits 0 and 1 set the parity off, and bits 2 and 3 set stop bits to 1 (bits 4-7 constitute the baud rate multiplier). By changing this byte to 4CH (01001100), I switched to 2 stop bits, still with no parity.

** This routine sends C1H (11000001) to register 3. The 11 at bits 6-7 sets the receive word length to 8 bits. By changing this byte to 81H (01000001), I enabled receive at 7 bits per character.

*** This routine sends EAH (11101010) to register 5. The 11 at bits 5-6 sets transmit word length to 8 bits per character. By changing it to AAH (10101010), I enabled transmit at 7 bits per character. Now, just one more byte to change. For some reason, the disconnect routine sends a byte to reset register 5 to 8 bits. This routine is found in just above the initialization routine:

```
GOODBYE1:OUT  MODCTL1
             MVI   B,3                ;WAIT FOR 300 MS.
             CALL  JMP$TIMER
             MVI   A,5
             OUT   MODCTL1
             MVI   A,0E8H             ;RESTORE TO NORMAL,
                                     8 BITS, DTR ON, ETC.
             OUT   MODCTL1
             RET
```

As noted above, bits 5-6 of (underscored) byte E8 (111010000) set the send word length to 8. Change it to A8 to make it restore to 7 bits.

The preceding instructions show specifically how to reconfigure Modem 7 fro 8N1 to 7N2 protocol, but it should be quite clear from the discussion how to set up any possible combination of word length, parity and stop bits.

Reprinted from MUGW Newsletter, June 1985, with permission

MODIFYING MODEM7 COMMUNICATIONS SETTINGS ON FLOPPY DISK MORROWS

By Bill Boyd

MODEM7, the popular public domain telecommunications program family, was written with CP/M systems in mind, but what if you communicate with other computers, especially mainframes? They may use different communications parameters, or settings, than this program provides. How can you change the settings in MODEM7? Dick Baker's article in last month's Newsletter challenged me to solve this problem for floppy-disk Morrows.

Communications parameters for computers are expressed in terms of (1) the number of bits per character, (2) type of parity, and (3) the number of stop bits. I use the National Institutes of Health (NIH) IBM mainframe computer at work, which uses the settings 7 bits per character, even parity, and one stop bit. MODEM7 sets 8 bits per character, no parity, and one stop bit. I needed to change the settings of the MODEM7 program.

How do you do this? First, find out what settings are used by the other computer. Get a fresh, formatted disk, and put the following files on it:

- o From the CP/M disk: `ASM.COM`, `DDT.COM`
- o From your (public domain) communications disk: `MDM712MD.COM`, `M712MD.ASM`, or whatever version you may have.
- o `NewWord`, or `WordStar`

Most people use the following method to describe the settings:

- o The first digit is the number of bits per character.
- o The middle letter is the type of parity, "E" for even, "O" for odd, and "N" for no parity.
- o The last digit is the number of stop bits.

Examples:

- 8N1: 8 bits per character, no parity, 1 stop bit
- 7E1: 7 bits per character, even parity, 1 stop bit
- 7N2: 7 bits per character, no parity, 2 stop bits

The floppy-disk Morrows use an Intel 8251 UART [Universal Asynchronous Receiver/Transmitter] chip to control communications. This chip sets the communications parameters based on numbers it receives from MODEM7, a code called the "Mode Word." We can change the settings by changing the mode word in MODEM7. I found the mode word codes in the October 1984 Morrow Owners Review article by Ed Berne "How to Modify Output Ports".

Mode Word Format

Bit Number	Values			
=====	=====			
		<u>Baud Rate</u>		
	<u>Sync Mode</u>	<u>19,200 baud</u>	<u>1200 baud</u>	<u>300 baud</u>
0	0	1	0	1
1	0	0	1	1
		<u>Bits per Character</u>		
	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
2	0	1	0	1
3	0	0	1	1
		<u>Parity</u>		
	<u>None</u>	<u>Odd</u>	<u>Even</u>	
4	0	1	1	
5	0	0	1	
		<u>Stop Bits</u>		
	<u>(Invalid)</u>	<u>1</u>	<u>1-1/2</u>	<u>2</u>
6	0	1	0	1
7	0	0	1	1

The 8251 UART's eight bits are numbered 7 to 0 from left to right. Each of the bits in the 8251 UART has a value, as follows:

Bit #:	7	6	5	4	3	2	1	0
Decimal Value:	128	64	32	16	8	4	2	1

Select the proper combination of "0" and "1" for each bit from the "Mode Word Format" table above. For each "1" you use, add up the the value of the bit, for each "0" add zero, and get a grand total. Finally, you will have to convert this decimal value to an equivalent in Hexadecimal (Hex). To do this, you (1) divide the decimal value by 16, (2) look up the Hex equivalent below of both the quotient and the remainder.

Here is what decimal numbers 0-16 look like in Hex:

Decimal Value:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hex Value:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	10

Remember: If a Hex number says "15", it means one 16 plus 5, or 21. It is not 15. Hex numbers can be identified by the "H" following the number. In this instance, I should have said "15H" is 21.

Examples:

Bit #:	7	6	5	4	3	2	1	0
--------	---	---	---	---	---	---	---	---

8N1(300 baud, CP/M

standard setting): 0 1 0 0 1 1 1 1

Decimal Value: $0+64+ 0+ 0+ 8+ 4+ 2+ 1 = 79$

Hex Value: $79/16=4$, remainder of 15
 4 in Hex is "4", and 15 is "F",
 therefore 79 is "4F" in Hex, or 4FH.
 1200 baud is one less: 4EH.

7E1(300 Baud,

Used at NIH): 0 1 1 1 1 0 1 1

Decimal Value: $0+64+32+16+ 8+ 0+ 2+ 1 = 123$

Hex Value: $123/16=7$, remainder of 11
 7 is "7" in Hex, and 11 is "B",
 therefore 123 is "7B" in Hex, or 7BH.
 1200 baud is one less: 7AH.

7N2(300 Baud, used

by Dick Baker): 1 1 0 0 1 0 1 1

Decimal Value: $128+64+ 0+ 0+ 8+ 0+ 2+ 1 = 203$

Hex Value: $203/16=12$, remainder of 11
 12 is "C" in Hex, and 11 is "B",
 therefore 203 is "CB" in Hex, or CBH.
 1200 baud is one less: CAH.

Once you have the correct Hex value for the computer you want to log onto, you need to edit the MODEM7 assembly program to change the values for both 300 and 1200 baud. Get into NewWord/WordStar and type N, for Non-document. We will be editing a program, not a document, so do not use D. The non-document you will edit is M712MD.ASM. The sections you are looking for are toward the end of the listing, and look like this:

```
INITMOD1: MVI  A,4FH           ;DEFAULT TO 300 BAUD
           OUT  MODCTL1
           MVI  A,17H
(listing continues on next page)
           OUT  MODCTL1
           IN   PORT
           RET
```

There is some more programming, then the section below:

```
OK300:    MVI  A,1
           MVI  B,4FH           ;300 BAUD
           JMP  LOADED
;
OK1200:   MVI  A,5
           MVI  B,4EH           ;1200 BAUD
;
```

Note that the values in MODEM7 are for 8N1. Your goal is to change the 4FH to the correct 300 baud value, and the 4EH to the correct 1200 baud value in these sections. Then resave the non-document and exit WordStar or NewWord (~KX).

Next, the altered program must be compiled. Type the following shown underlined in bold:

A>>ASM M712MD.AAZ

The Assembler program will create a file called M712MD.HEX. This must be joined with the original copy of your MDM712MD.COM file to make the changes. This is done with the program called DDT.COM. Type the following:

```
A>>DDT MDM712.COM           (Or whatever your MODEM7 program
DDT VERS 2.2                is called)
NEXT PC
4300 0100
-IM712MD.HEX             (Or whatever it's called. Note the
-R                            I and R are commands)
NEXT PC
4300 0000
-G0                           (That's a zero, not an "O")
A>>SAVE 66 WHATEVER.COM   (Name the new MODEM7 program
                           whatever you wish)
```

Your program is now ready to run. Don't erase your original MODEM7 version because you will need that to reach CP/M bulletin boards.

When you run it you may find that whatever you type is not displayed on your terminal, but the other computer understands you, and what it sends you shows up just fine. If this happens, dig out the manual on your terminal, and find out how to change the DUPLEX setting from FULL to HALF. On my terminal (a WYSE-60) this is easy: the settings are changed by pressing a "SetUp" key, and going through a menu on the bottom of my screen. Some Morrow terminals work similarly, others may take more work.

Now that I have answered Dick Baker's challenge, I have one of my own: One of you Assembler fanatics should write a subroutine of MODEM7 to replace all this rigamarole.

From MUGW Newsletter, Aug. 1985 (update on previous article)

MODEM7 UPDATE

by Bill Boyd

MODEM7 Update As to my MODEM7 modifications article, I noted at the end that I couldn't get what I typed to appear on my screen, and that I changed the Local Echo setting on my terminal. The documentation for MODEM7 clearly states that if I want terminal mode with local echo I should use the "L" command instead of the more usual "T" command. So I do not have to change my terminal's settings to get what I type to appear. Moral: When all else fails, read the instructions.

Useful tidbit for MODEM7 from the Sacramento Microcomputer User Group's (SMUG) "Push & Pop" for making voice contact first, then using a modem with dialing capability and number storage:

Plug your phone into the modem (if possible, otherwise dial your phone from another phone jack). Start up MODEM7. Make one of the phone number entries it stores a dummy--no number used. Make a voice phone call to your partner. When you are ready to use your modem, use the dummy entry to "dial" (remember: you are already connected by voice, the computer will really dial nothing). Your modem will start its carrier signal, and be ready for communication.

FIX KEYS?

by Lee McKusick

It is possible to repair inoperative MD3-P keys. Here are notes from my recent keyboard restoration.

Many months ago I spilled coffee on my numeric keypad and some keys stopped working. More recently, my "P" key stopped working so I reluctantly committed a Saturday morning to repairing the MDT-60 (or NSR-70) keyboard.

First I'll describe how to clean a keyswitch. Where pressing one key just does not result in a letter on the screen, and especially if you remember spilling something on the keyboard, you may need to clean a keyswitch.

The Zenith key design is ingenious and a bit tricky to get into. If you travel through Oakland, I recommend you visit Silicon Valley Surplus and buy a couple switches for \$1.16 plus tax for a pack of four, -- surplus, no guarantee. Disassemble one just to savor the design--the switch snaps together.

Preparation: You will need some spray electronic contact cleaner and degreaser. You will need cleaning swabs like Q-Tips. Test the degreaser and swabs. Make sure the degreaser does not dissolve the swabs or deposit a residue. Clean your work space and set up a good light because the switches are small. Turn off the computer.

Remove the key cap first. Use two butter knives on opposite sides of the key cap to lift the cap straight up. Under the cap, the keyswitch is a black square 5/8" x 5/8". Push it and see the center part slide up and down on three legs.

Look down around the center part and see the gray rubber donut. The gray rubber donut is the key return spring. The underside of the gray rubber donut is coated with black conductive rubber. This conductive rubber is the electrical contact element of the switch. The rubber makes an electrical bridge across two brass strips in the base of the switch. With a voltmeter, good keyswitches show 80-200 ohms when pressed.

There are two ways to open the keyswitch. One way, the obvious way, is to slide three sewing needles between the three legs of the sliding center part. There is a catch at the tip of each leg. If you depress all three catches at once, the center part can slide up and out. Tweezers, or tiny pliers or toothpicks can help you grasp and pry the center part out.

Another way to open the switch is by un-snapping the square upper body. This is hard to see. Look at the edges of the switch, the 5/8" edges. These are the 4 edges you are looking down along. Notice that two opposite edges have a dark crack. Those two cracks are latches.

Slide a small knife blade down on the latch and spread it. About 1/32" is enough spread for rocking the upper switch body. Spread the opposite edge for a balanced liftoff. How to describe it? The square upper half of the keyswitch is being unhooked from the base. The best way to see this is to buy a surplus switch and take it apart.

The most important part of cleaning the switch is to rub the brass connectors with the swab and degreaser. Pulling the center section exposes a .225" part of the brass. If you popped the edge latches, the whole length of both brass connectors is exposed.

I believe rubbing the brass connectors with a swab is essential to fixing the switch. Observe, the switch has no wiping action. I believe the keyswitch fails because the brass connectors develop an oxide or grease layer.

Another kind of trouble: If your keys seem to repeat odd symbols. For instance, all the keys in one part of the keyboard may do something weird. This is a situation where you don't simply have one bad key switch.

Try this to help diagnose the problem: Grab the keyboard at the ends and gently twist it. Try the keys while twisting. Does the problem go away or get worse? If yes then there is a fine break in the printed circuit.

I had this problem a few months ago and I determined that the 7805 three terminal voltage regulator inside the keyboard had developed a bad connection with the keyboard printed circuit. Poking the bad connection caused the keyboard's 5 volt line to drop to 3 volts. Momentary key confusion was the effect.

The three terminal regulator is the black gadget under the keypad area that gets warm. You can feel its heat by touching the underside of the keyboard. If you look at the design you will see that there is physical and thermal stress between the regulator and the printed circuit.

Repair of this problem requires electronics soldering equipment or an electronics hobbyist friend.

AUTOMATIC BACKUP DISKS

By Clarence Heier

None of our readers must be reminded about the importance of making backup copies of their disks. Occasionally, we are all guilty of not making these backups as frequently as we'd like. After a particularly long work session the temptation of not making a backup is particularly strong. It is during these moments, when fatigue has set in, that we are most prone to making an error. All too often these errors cause the dreaded ... DATA LOSS.

There are many ways that a backup copy can be made. I have long searched for a way that would be easy and completely foolproof. The ideal way would involve no disk changing and require that very few (if any) keys be pressed to complete the process. It is only in this way that we can be fairly certain that the right disk is on the right drive and that the right commands are given in the correct sequence, regardless of our level of consciousness.

Another matter that must be addressed with any backup scheme is the deletion of obsolete files. During any editing session, files are created, file names are changed, and files are deleted. Any backup scheme must eliminate obsolete files on the backup disk. If they are not deleted the old, obsolete files will accumulate on the backup disk and soon there will be no space left for the material that you want to back up.

The method that I use makes use of these files:

SUBMIT.COM - A CP/M utility that allows batch processing of files. Supplied with your CP/M disks.

PIP.COM - Another CP/M utility that copies files. Like other CP/M utilities, this one is not particularly "user friendly". It is also supplied with CP/M.

AUTO.COM - A Morrow supplied program that allows automatic execution of a file on cold booting. Osborne users can use AUTOST.COM, but are on their own as I know very little about this program.

DELETE.COM - A selective erase utility. Allows erasing all files except those specified. This program is Public Domain and available from me. I searched a long time to locate this one. Of the virtually hundreds of erase utilities available, this is the only one that I found that will perform erase all except's.

BACKUP.SUB - A file that you have to create using the N

(non document) mode of WordStar. This file contains the instructions for SUBMIT.

The first thing to do is to format and sysgen a blank disk. This disk will become your backup disk. Label it as such. Place the files AUTO.COM, DELETE.COM, PIP.COM, and SUBMIT.COM on this disk. Create the file BACKUP.SUB on this disk using the N mode of WordStar. The file will simply consist of the three lines listed below.

```
; SUBMIT FILE FOR AUTOMATIC DISK BACKUP
DELETE *.* /COM,SUB
PIP A:=B:*.*[V]
```

The first line is a comment line. It is ignored by CP/M and SUBMIT. The second line will erase all files on the A: drive except for those files with COM or SUB file extensions. The third line will copy all files from the B: drive to the A: drive and will verify that they have been copied correctly.

Place the newly created disk with all 5 files listed above on it in drive A:. Make sure that only these files are on it, as everything else will be erased.

For Morrow users enter AUTO SUBMIT BACKUP from the A>. This will set up CPM so that every time this disk is cold booted (the reset button is pushed or the computer is powered up), SUBMIT will run the commands listed in BACKUP.SUB. Since the entire backup procedure is listed in the SUB file, the process is completely automatic from this point.

Most of us place the program disk in the A: drive and the data disk into the B: drive. When we are done using the program (Spread Sheet, Word Processor, etc.) exit the program normally. When you get to the A>, take the program disk from drive A: and replace it with the newly created backup disk. Then simply hit the reset button. SUBMIT will then take over and automatically make a backup of whatever disk is in the B: drive.

VERY IMPORTANT: Everytime this disk is cold booted AUTO and SUBMIT will attempt to back up the disk in the B: drive. Make sure that you intend this to happen whenever placing this disk into the A: drive. SUBMIT will not realize that you only wanted to check a directory and will erase the backup and attempt to make a copy of the disk in the b: drive. **WHEN DOING ANYTHING OTHER THAN MAKING A BACKUP COPY PUT THIS DISK IN THE B: DRIVE.**

Please don't hesitate to contact me if you have any questions or need the program DELETE.COM. I may be reached via the Quad City NET or by phone (319/391-0745).

(EDITOR'S NOTE: Clarence Heier writes regularly for "Q Bits," published by the Quad City Osborne Group. He has kindly given his permission for this and other articles to be reprinted here).

ENABLING THE PRINT SCREEN KEY FOR THE MDT20 TERMINAL

By Michael J. Kelly

The MDT20 terminal has a special key labelled "PRINT" (the screen) but it doesn't seem to do anything. The reason is simple: the printer output from this function is sent to the auxiliary port on the terminal, not to the port on the computer to which the printer is connected. Thus none of the screen data reaches the printer. This arrangement may apply to other terminals so read on to see if you too can gain a most useful feature.

The solution is simple, though not cost-free: provide an alternative connection to the printer from the terminal's printer port. This requires two things: the ports must be compatible and a special kind of switch must be obtained. These are described in more detail below.

In my case, port compatibility was not a problem. Both the MD2 (mine is an early "revision 1") and the MDT20 have serial printer ports, so all I had to do was to set their parameters the same. Anyone who needs information about that can call me for it. Suffice to say that my printer, an Anderson-Jacobson 831 (as was demonstrated at the November meeting), runs at 300 baud so I had to set the terminal's port to match that--a few seconds' job.

The special switch is where time and money come in (rather go out!). The easy way is to buy one. They are commonly called AB switches and their function is to connect either of two inputs to one output (or vice versa: if you had both letter quality and dot-matrix printers driven by the same computer, for example). An AB switch typically costs about \$85, but some are available for as little as \$45. They cost even this much because they have to switch at least 8 of the 25 RS-232C interface's lines; some switch all 25. A parallel interface may require more lines to be switched. Other switches are available to switch 3, 4, or 5 to/from one and to connect 2 to 2, etc.

I have grand ideas for the future so I decided to build my own switch. I envisage the possibility of obtaining a dot-matrix printer, a modem, and (dream) an audio-response unit. While not all combinations are meaningful, my requirement is for 2 inputs and 4 outputs. If available, such a switch would cost around \$200--out of my reach. To make it from readily obtainable parts, I designed the switch actually to be two switches operating in unison. Each switches the minimum 8 lines. The first connects the computer and the terminal to two of the outputs in either order (so either source can be printed on either printer) or to one printer output and the second switch. Then that switch connects to either of the other two outputs. Thus various combinations of two printers or one printer and another output device can be selected.

The necessary hardware consists of: a metal cabinet to house the switches and mount the sockets for the six cables, the two switches (both are 16-pole, 3-position) and suitable knobs, six RS-232C cable sockets (of the right sex), and finally, a lot of wire to make the internal connections between the switches and the sockets. Approximate costs are: switches, \$19 each; sockets, \$4 each; cabinet, \$8; wire, \$2; knobs, \$2; terminal strips, \$2. In addition are needed nuts and bolts to mount the sockets, and solder for the internal wiring - say another \$2. Total cost \$78 plus tax (and X amount of time!).

So far I have one switch and two output sockets connected and they work perfectly. I'll add the others as needed. For further details contact me directly.

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WORDSTAR/NEWWORD: HINTS AND TIPS

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Continuous Underlining NewWord and WordStar handle continuous underlining (i.e., underlining both words and spaces) two different ways: it's the default for NewWord, and WordStar just never heard of it.

NewWord users can turn continuous underlining off by patching or by using a toggle dot command: .UL 0 turns it off; .UL 1 turns it back on. Remember whether it's on or off on the copy you're using, though, because even NewWord versions with on-screen underlining do not underline the spaces on the screen.

Here's how to get continuous underlining with WordStar. Type your text, complete with opening and closing CTRL-PS, format the paragraph, then put the cursor at the first CTRL-PS. Type CTRL-QA, search for [space] and replace it with _ [the underline character]. For options, pick a number higher than the number of spaces (especially if you'll be underlining other pieces of text) and hit RETURN. WordStar will stop at each space and ask you (Y/N?) whether to replace it. Type Y if you want it replaced and any other character to skip to the next space. At the last space, type CTRL-U, then ESC, and replacement will stop. (If you miss this last one, type CTRL-QV and you'll return to your underlined text.) Two other things: 1. format before using this scheme, or WordStar will assume

your underlined text is a single word too long for the margins, and 2. If the text to be underlined is the last section of the file, you can use the N (replace without asking) option. You can also underline by replacing _ with [space] and following these same steps.

Fast Find and Replace: If you're doing a find and replace (CTRL-QA) with WordStar or NewWord, try this hint first reported by Andy Boots in the May, 1984 Newsletter. Find and replace seems to take forever because the program displays each hit. To find and replace globally, without asking, and several times faster, choose the GN options, hit RETURN, then immediately type 1. Before you know it, you'll be at the bottom of the file, with all the changes made. You'll never see a single change. Amazing. You'll also have a 1 at the end of the file (you'll need to delete it), so CTRL-QP will not return you to your starting point. To avoid this problem, mark your beginning point with a flag by typing CTRL-Kn (where n is any number from 0 to 9), and CTRL-Qn will return you there after your find and replace. Delete the marker by typing CTRL-Kn when you return--or ignore it, since WordStar will save markers only with the CTRL-KS (save and resume) command.

Deleting Soft Hyphens: You know perfectly well that WordStar and NewWord ignore soft hyphens unless they're at the end of the line, but let's face it, your text looks perfectly tacky with those half-intensity hyphens scattered about. Here's how to delete 'em (assuming you've finished revising and formatting your text). Pay attention, since we're doing things the programs don't want us to do.

1. Type CTRL-OE to turn soft hyphens on (the default is off).
2. Type CTRL-QA, tell the program you want to replace - [hyphen]; the character will appear at full intensity--but fear not.
3. Here's the tricky part: immediately, abandon by typing CTRL-U, then ESC.
4. Now, type CTRL-OE again, to toggle the soft hyphens back off.
5. Type CTRL-QA again, type CTRL-R at the FIND? prompt, and you'll get the full-intensity hyphen back. Type RETURN, then type RETURN again at the REPLACE WITH? prompt (this step replaces the hyphen with null, or nothing).
6. Choose the GN options to replace without asking, type RETURN (and quickly hit 1, per the suggestion above) and all those ugly little soft hyphens will disappear. Note: as with so many WordStar/NewWord tricks, this one takes longer to explain than to do.

Quick and Dirty Notepad Revisited You can use my block-move notepad suggestion (Bamdva members, see July, 1985 Newsletter) to create footnotes. Type the footnotes as you go along in your text, block move them out (CTRL-KB, KK, KW, name the file FN.n, then KY to delete it from the screen) to separate files called FN.1, FN.2, etc. Move them back to the proper place in the final text with CTRL-KR or combine them in a separate endnotes file. You'll have to play around with proper formatting and page breaks, but this procedure works fine if you have only a small number of footnotes.

(from Dec. 1985 MUGW Newsletter)

More on Fast Find and Replace (CTRL-QA): In last month's Newsletter, I suggested typing the number 1 immediately after hitting RETURN when using the global, replace without asking options for find and replace. Turns out that ESC works just as well--and it doesn't place a character at the end of the file (meaning that, with WordStar, you can type CTRL-QP and return to your starting position). To return to your position with NewWord, you'll still need to leave a flag there (with CTRL-K (number)) before starting your find and replace.

Making Boxes: I used to make typed boxes (for tables, etc. in documents) by using underlines and the vertical line character (|), but it gets messy because you have to use CTRL-PS to underscore that vertical line. Silly me. All you need to do is type all the vertical lines you need, end that line with CTRL-P RETURN, and you'll overprint the next line--which you make all underline characters. Try it.

Centering Text Centering text is easy with CTRL-OC, but only if you're using a character size (or pitch) appropriate to your margins. I've patched my WordStar and NewWord so that 12 pitch--not the usual 10 pitch--type is normal (and 10 the alternate); my margin is usually 78 or 80. Sometimes I use 10 pitch for extra emphasis, especially for boldfaced all upper-case subheads. I used to center these headings through trial and error (i.e., several draft printings) until I realized it makes more sense to temporarily set the appropriate default margins for the new type size before centering (that is: right margin 79 for 12 pitch; 66 for 10 pitch; 99 for 15 pitch). See page 8-6 in your WordStar 3.0 manual for other margin settings. Sorry NewWord fans, there's a fascinating discussion of pitch in chapter 10 and in the Encyclopedia section of your manual, but no similar table (though NewWord's ability to imbed ruler lines makes the process neat and tidy once you determine the correct margin settings). Remember, in the wacky world of word processing, 12 pitch translates to character width 10 (.CW 10) and 10 pitch to character width 12 (.CW 12)--the program counts by 1/120ths of an inch. Also remember to go back to your old margins when you've finished.

(Editor's note: I plan to continue with this series of articles by Richard Danca in future Bamdua Newsletters).

Many thanks to all who contributed ideas and articles to the Newsletter and thanks also to the growing number of newsletter editors who have joined in a cooperative exchange of information.

-- Georgia Babladelis

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(Classifieds continued bottom of page 31)

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CLASSIFIEDS (continued from page 29)

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FOR SALE: TANDY 1000HD (hard disk MS-DOS system), 256K expandable to 640 by just adding chips. Mono & color graphics, 10MB hard disk, spreadsheet, database, communications, WP, 12" amber display, all new in box, must sacrifice \$1475. H. Whitaker, 9639 Dorothy Ave., South Gate, CA 90280, 213/566-3556.

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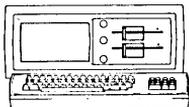
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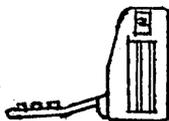
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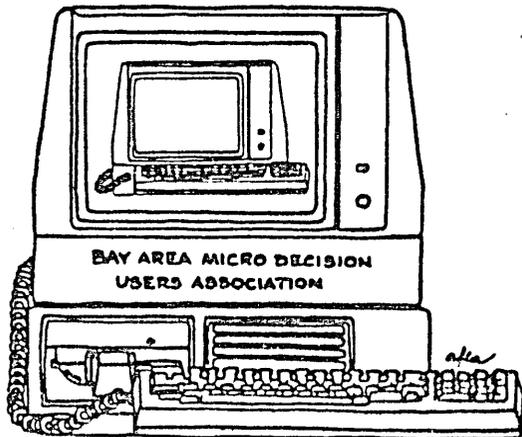
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