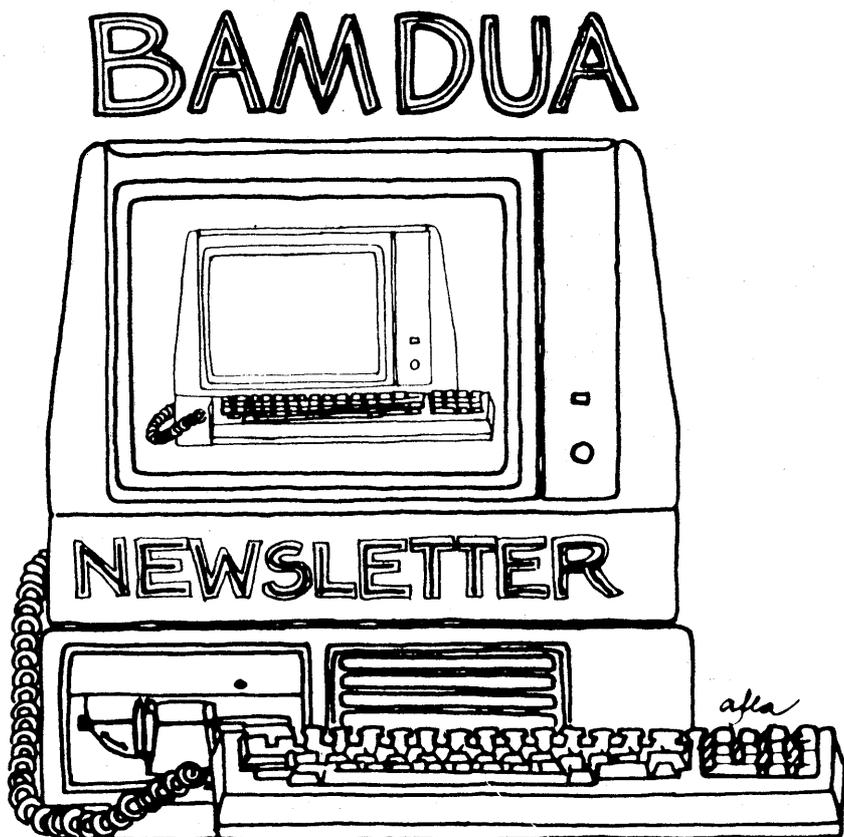


Jan. 10, 1987

Volume 5

Issue #1

BAY AREA MICRO DECISION USERS ASSOCIATION



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

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.

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. We cannot guarantee the accuracy of information printed here, but we do assume that all authors take an interest in providing responsible information to the best of their ability.

=====

BAMDUA MBBS

Micro Bulletin Board System (tm)
Phone: (415) 654-3882

Sysop: Steven Wartofsky

Baud rates: 300, 1200
Hardware: Morrow MD-5 running CPM+ (CP/M 3.0)
1 Floppy Drive (B), 2 Hard Disks: (A-5 meg; C-16 meg)
Software: MBBS, BYE504, KMD14, SFILE26, LD, MAP
Hours: 24 hrs.
Access: Registration. See Bulletin
Interests: A system of the Bay Area Micro Decision Users' Association (BAMDUA)

=====

RENEW BAMDUA MEMBERSHIP! RENEW MBBS REGISTRATION! RENEW YOURSELF!

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

Monthly newsletter, Vol. 5, Issue 1, January 1987

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, January 27, 1987, 7:30 p.m. +
+ **WHERE:** West Branch, Berkeley Library +
+ 1125 University Avenue, Berkeley +
+ **TOPIC:** General discussion. Bring all your questions +
+ and comments. Exchange information. +
+ +
+++++

The January meeting promises to be fun and informative. It is the kind of meeting many members have asked for -- a chance to ask questions and to exchange information. Don't be bashful.

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: Polya 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 Branciforte Branch of the Public Library, 230 Gault St., Santa Cruz. Our meeting place is wheelchair accessible and some of us are CPR knowledgeable. We can make arrangements for special problems, including transportation. This group is open to all users of Morrow, Kaypro, Osborne, Televideo and other CP/M computers. There will be an openforum for questions, a software demonstration, and public domain software for sale. Diskettes will also be sold. Members may bring their computers to the meeting. Written inquiries should be sent to 376 Lucinda St., Scotts Valley, CA 95066. For information call 408/438-0662 or 408/423-1462.

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: We will schedule special classes (e.g., on public domain software, using modems, Pascal, etc.) for interested members if enough people want them. Call BAMDUA (415) 644-2805.

COMING EVENTS: The COMPUTER SUPERMARKET show and sale will run for two days at the Santa Clara Convention Center in Santa Clara on Saturday and Sunday, Feb. 7 & 8, 1987. The show will be open from 10 a.m. to 5 p.m. Saturday, and 10 a.m. to 4 p.m. Sunday. Admission is \$6; children under 12 are free. For exhibitor and show information, call or write MICROSHOWS, 1209 Donnelly Avenue, Suite 203, Burlingame, CA 94010. Tele.:(415)340-9113.

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From the President's Disk by Rick Charnes

After a long and sunny Indian summer the warmth of which surprised everyone, winter is finally upon us. The cold season in San Francisco never feels quite like it did in Philadelphia while I was growing up; after 8 years here I still have a hard time getting used to Christmas without snow. But the cold comes nevertheless. Of course we all have our Morrows to keep us warm through these long nights. There's something about computing that seems special when it is chilly outside -- a more philosophical frame of mind, appropriate for serious computing.

All who attended the Thanksgiving meeting (MD2 to MD3 "Conversion Night") had a rip-roaring time. It was the kind of meeting I like best, where people wander around the room, flitting from one group of folks to another working hard on some project, meeting someone who a minute before was a complete stranger, sharing the latest chit-chat about the most esoteric subjects imaginable. I was especially pleased at the large number of new members; apparently there still is quite a market for used CP/M machines. One gentleman I met at the Thanksgiving meeting had been given a Morrow by his father. It's nice that our trustworthy machines are now family heirlooms! The large number of writers in our Morrow community continues to grow and be nourished by this market. A previously-owned Morrow computer remains one of the most inexpensive tools a writer can own.

The special long-awaited Morrow Z-System/ZCPR3 disk is released. Those desirous of the most extraordinary operating system possible on their Morrow can direct their orders to the Morrow Owners Review. The number of public domain programs written for this operating system is still growing at an amazing pace. Z-System truly opens up the universe to us.

I continue to be amazed at the high quality software released by Echelon, Inc. at 885 N. San Antonio Rd, Los Altos, CA 94022 (948-3820). Now they're distributing the version created by Borland International of Modula-2 by Prof. Nicolas Wirth of Pascal Fame, called Turbo Modula-2, available for about \$70. Echelon's continued devotion to extremely high-quality and affordable CP/M-compatible software is without equal.

For those looking for an inexpensive and easy enhancement to their computing I would like to recommend the 64k MicroStuffer print buffer available from Central Computing Products at 800-624-5628 which I just purchased this week. My only regret is that I didn't do it sooner. For \$70 it turns out to be one of the most productive peripherals a computing writer could own. Print one file and go about doing something else; don't waste your precious time waiting for your printer while you have better things to do. Installs in about 30 seconds and forget about it.

See you all at the next meeting, January 27, 1987.

Library News

by Gene Korte

-BAMDUA.042

This disk, coupled with -BAMDUA.043, contains a high resolution graphics package that enables the creation of impressive graphical output using a dot-matrix printer such as the Epson or Oki machines. The system is fully described in the manual (PLOT33.DOC). Also contained on this disk are several useful utility programs.

The PLOT33 and GRAF ROUTINES, which comprise the High Resolution Graphics Printing System from the US Air Force Institute of Technology, has been obtained from the Sig/M library disk no. 194. As distributed by Sig/M the Fortran package was apparently corrupt: a comment line in the AXIS subroutine was garbled. The code itself appeared intact, so these lines have been tidied up, and the routine now compiles smoothly.

The creation of graphics is a two-stage process. In the first stage your program (in MBASIC, Turbo Pascal, or Fortran-80) uses the supplied subroutines to create a plotfile, which by default is given a filename extension of "VEC". In the second stage the plotfile is read and interpreted by the version of PLOT33 appropriate to your printer, and the image is printed out on paper. The plotfile may be re-used to make as many copies as you wish.

The files which comprise the majority of the High Resolution Graphics Printing System are listed below and are located on the -BAMDUA.042 disk volume:

PLOTEP.COM	4K	Assembled PLOT files for EPSON,
PLOTOKI.COM	4K	OKIDATA,
PLOTCITO.COM	4K	and CITH printers. (For others modify .ASM file as necessary, and re-assemble)
PLOT33.DOC	74K	Documentation (READ ME First!!!)
FILLS.BAS	2K	MBASIC demo of stipple patterns
GRAPH.BAS	10K	MBASIC plot package
HANDPLOT.BAS	22K	Demonstration program
TEST.BAS	2K	MBASIC example program
TEST.PAS	4K	Turbo Pascal example program
UPLOAD.BAS	10K	MBASIC demo - stipple pattern redefinition

The following files and utility programs are also contained on this library volume:

-BAMDUA	.042	4K	<-- You're reading it now.
BASUTIL	.DOC	4K	Describes the following utilities:

BLOKPRNT	.BAS	10K	Offers a way of printing large chunky characters about one inch high using a full-function daisywheel printer.
DCOMP	.BAS	4K	Reformats BASIC programs to improve legibility.
EXAMFILE	.BAS	10K	Allows the contents of disc files to be examined and modified.
TYPIT	.BAS	2K	Allows you to use an Osborne and printer as a typewriter.
DISK7P	.COM	6K	File Manipulation Program (like SWEEP) with PUBLIC File enhancements.
DISK7P	.DOC	2K	<-- READ ME!!! (Contains patch addresses only)
SD	.COM	4K	SuperDirectory v8.0P - 4/3/84
SD	.DOC	2K	<-- READ ME!!! (Contains patch addresses only)

-BAMDUA.043

This disk, coupled with the -BAMDUA.042 disk volume, contains a high resolution graphics package that enables the creation of impressive graphical output using a dot-matrix printer such as the Epson or Oki machines. The system is fully described in the manual (PLOT33.DOC) which is located on the -BAMDUA.040 disk volume. Also contained on this disk are several useful utility programs.

The following files, comprising a portion of the High Resolution Graphics Printing System, are located on this (-BAMDUA.043) disk volume:

PLOT33.ASM	74K	Dot matrix graphics driver (Modify as necessary, and re-assemble to work with your printer).
GRAF.FOR	42K	FORTRAN-80 plot package
GRAF1.PAS	18K	Turbo Pascal low level routines
GRAF2.PAS	20K	Turbo Pascal graph drawing routines

The routines in the Fortran package correspond very closely to the Pascal routines, so that the documentation for the Pascal version is also applicable, in most respects, to the Fortran. Similar routines are available in the MBASIC version (GRAPH.BAS), but obviously they are invoked differently. Several specimen BASIC programs provide practical examples.

The following files and utilities are also contained on this disk volume:

-BAMDUA .043 4K <-- You're reading it now.

ASD .COM	2K	Is an extended directory command, less elaborate, but more compact than XDIR. It is used in the same way as DIR or XDIR.
----------	----	--

CBASMENU .COM 2K} Scan your disk for executable files of particular
 COMMENU .COM 2K} kinds (respectively: CBASIC programs, .COM files,
 MBASMENU .COM 2K} and MBASIC programs) and display a menu allowing
 you to select the program to be executed. This
 could be useful if you're putting together a
 system to be run by an inexperienced user.

FINDVAR .BAS 4K} Is a program which enables you to scan another
 MBASIC program file (saved in ASCII format by
 means of the ",A" switch) to create a list of
 variable names used. Useful when extending or
 modifying an old program, or when hunting the
 kind of nasty bug that results from a mistyped
 variable name.

OZCOUNT .COM 4K} Is another goodie for writers: it counts the
 lines, words, and bytes in a text file. Just type:
 OZCOUNT filename.ext <RETURN>

SETP2 .BAS 4K} can be built into your own programs when you
 SETP3 .BAS 6K} need to control an Epson MX80 printer (type
 2 or type 3). These well-commented subroutines
 allow you to select type style, spacing, and
 character set, so you can fully exploit the
 printer's versatility.

Help is Available

In addition to the friendly help you can get from Greg Smith at the BAMDUA office (644-2805), the following people have kindly offered their help to BAMDUA members:

George Borys: CP/M operating system; hardware-related problems. Call between 7-11 p.m., 415-582-7615.

Peter Campbell: General questions, including NewWord and dBase. Call during day or after 7 (up to 10) p.m., 415-527-3387.

Rick Charness: General questions, also specific ones about modem communications, ZCPR, Word Processing. Call in the mornings up to 11 a.m., or evenings and weekends, 415-826-9448.

Gene Korte: General questions, and ZCPR. Call 7-10 p.m. or weekends, 415-525-8944.

Lee McKusick: Turbo Pascal. Call a.m. only, 415-849-9053.

Frank Oechsli: General questions. Call evenings, 415-527-6089.

Reinventing Your Morrow Micro Decision

by Phil Hess

Part VI — BIOS screen dump for the MDT-20 terminal

In parts I and II we discussed how the Morrow MDT-20 terminal could be improved. One simple improvement is to increase the baud rate to 19,200 to speed screen activity. Another big improvement is Software Techniques' ADM-20 upgrade kit, which finally awakens the terminal's function keys. Using a special cable and a BIOS patch supplied with the kit also adds a keyboard type-ahead buffer.

The upgraded terminal also features a whole list of new escape codes. One of these, ESC S, transmits the screen character under the cursor to the computer. In other words, there's a way of retrieving the contents of the screen.

In part II, I presented programs which dumped the screen. However, those programs could only be run from CP/M. If you're in WordStar or some other program, there's no way to dump the screen since you'd have to return to CP/M first, losing some if not all of what was on the screen.

On some systems such as the IBM PC, there's a special key labeled PrtSc. When you hold down the SHIFT key and press PrtSc, whatever is on the screen is dumped to the printer by the PC-DOS BIOS. This is a nifty feature to have. Anytime you'd like a printed copy of something on the screen, just press PrtSc.

Of course, if what's on the screen is from an ASCII file, you could print this without a screen dump. But what if it's a menu or the results of a program which only displays to the screen? This is where PrtSc comes in handy.

Most CP/M systems with serial terminals such as the Micro Decision don't have a print screen feature and for one very good reason: Once a character is sent to the terminal there's no way to read it back. With the IBM PC, the contents of the screen are always in video memory, so the BIOS simply copies whatever is there to the printer.

The MDT-20 does have a PRINT key. Without the upgrade kit, pressing PRINT does transmit the contents of the screen, but only to the terminal's auxiliary port. This doesn't do us much good since the printer is normally connected to the computer's port, not the terminal's. The upgraded terminal isn't much better. PRINT can now be programmed, but there's still no simple way to get the screen contents from the terminal to the printer except with programs like those included with part II.

With the IBM PC, pressing PrtSc generates a BIOS interrupt. When this interrupt occurs, the BIOS drops whatever it's doing to service the interrupt. That is, it copies the video memory to the printer. Then it resumes where it left off when PrtSc was pressed.

The Micro Decision, with its serial terminal, isn't interrupt driven. All keyboard input goes through a routine in the BIOS called CONIN (Console Input). Whenever a program needs a character from the keyboard, it calls CONIN. CONIN is an unsophisticated routine and simply waits until a character is ready at the terminal port, then reads it and returns to the calling program.

What I present with this article, then, is a replacement patch for CONIN. Actually, the patch doesn't replace CONIN. Instead, all requests for keyboard input go through the patch first, which calls CONIN and checks each character to see if the special screen dump character has been entered. If not, it returns the character as usual. However, if the special character has been entered, the patch code reads each screen character using ESC S and sends it to the printer.

The beauty of this approach is that the screen can be dumped not only from CP/M, but from within any program, including WordStar, NewWord, NWINSTAL (to print a record of your installation, for example), Turbo Pascal, Uniform, MBASIC, and so on. Anytime you want to dump the screen, just press Ctrl-Shift-. This enters ASCII 31, which the patch is looking for. The only time this doesn't work is when a program isn't waiting for keyboard input, for example while doing disk I/O or a lot of computations. However, once the program has completed these tasks it will respond to the dump screen key pressed earlier.

I selected Ctrl-Shift- over PRINT as the screen dump key because it's not easy to enter. That way I won't be dumping the screen when my fingers go fumbling for the arrow keys and accidentally press PRINT. Plus, I wanted a character that isn't used by other programs. Most control characters are already used. Ctrl-A through Ctrl-Z are used by WordStar and NewWord. Ctrl-[is ESCAPE. NewWord also uses Ctrl-] and Ctrl-^. SmartKey often is configured to use Ctrl-@ and Ctrl-\. This pretty much leaves only Ctrl- .

The source code for the patch is in file SCRNDUMP.ASM, which can be assembled using ASM, generating file SCRNDUMP.PRN. The resulting code can then be patched into the BIOS using DDT if you know how to do this. The source given is for the revision 1.6 BIOS and will need to be modified for other revisions.

I have also included both the source and a compiled version of a Turbo Pascal program (SCRNDUMP.PAS and SCRNDUMP.COM) which modifies the patch code for any revision and pokes it into memory so that you can test it out. If the patch works properly, you can then decide if you want to install it permanently in the system tracks. You may choose simply to load it into memory whenever you need it.

The Turbo program needs to be run each time you reset your system since it doesn't permanently alter the BIOS. It can also be run to define a different screen dump key by including the key's ASCII code in the command line. For example, to use Ctrl-[, run the program like this: A>SCRNDUMP 28

Application notes

The screen-dump patch requires 150 bytes in the BIOS, so I used the allocation vectors for virtual drives D and E and eliminated these little-used "drives". This still leaves C for virtual drive needs. Also, since only 73 bytes are available at each allocation vector, for a total of 146, the patch extends 4 bytes into the next part of the BIOS. But this part is only the virtual drive swap message, so no code is affected. However, once you have dumped the screen, subsequent uses of virtual drive C will produce a slightly garbled message. Don't let this alarm you. No harm is done. (With revision 1.6, only the first 4 characters of the message will be garbled. With earlier revisions, more of the message may be garbled.)

The solution to this little quirk is to rewrite the patch so it takes up less space or find another 150-byte hole in the BIOS. Good luck.

This patch can easily be modified for other terminals as long as they can transmit their screen contents to the computer. Many terminals such as the MT-70 cannot do this.

If you permanently patch the BIOS, you may want to change the log-on message to remind you of what BIOS version you're using. Since I've made so many changes to my operating system, I changed the log-on message to read like this:

Double-sided Type-ahead QP/M Clock ^ _

Don't try running the enclosed Turbo Pascal program on CP/M 3.0 systems.

Also, when you dump the screen, make sure the printer is on or your system will hang up just the way it does if you try to print with the printer off. Unlike the IBM PC's PrtSc, which eventually recovers if the printer is off or off-line, this patch won't.

The screen-dump patch works much like SmartKey in that it modifies certain BIOS addresses and intercepts all keyboard input. As a result, load the screen-dump patch before loading SmartKey or similar memory-resident programs to prevent conflicts. Or make the patch permanent to ensure that it's always loaded first as part of CP/M.

One other quirk you might watch out for is if you press the screen-dump key in the middle of a screen listing. If the program doing the listing is checking the keyboard (DIR does), it will

attempt to read in the character typed, therefore triggering the screen dump if it's the dump key. This is as you might expect. However, when the dump is finished, you will need to press another key before the program will proceed since it's still waiting for the character that it detected. One solution is to pause the listing first with Ctrl-S, then dump the screen.

Other patches and extensions suggest themselves. One modification might be to add a check for other special keys. One I would like to have (and may add someday if interest warrants) is a way to send the escape sequence which locks the top few lines of the MDT-20 screen. These lines won't scroll until unlocked with the proper escape sequence. This would be useful when working in CP/M or a scrolling-type program. You could clear the screen and display a directory, for example, then run the program. The directory information would stay put until you're done with it. This sort of feature would facilitate managing your files.

Other enhancements might be keyboard redefining similar to SmartKey, or a simple calculator program. These programs belong in the BIOS, where they take up less memory and don't cause the conflicts which memory-resident programs are so notorious for. Also, by having these features in the BIOS you don't have to worry about loading programs from the disk in order to use them. They're always available. MOVCPM can be used to move the system down in 1K increments to provide space for these additional BIOS patches.

Part V concluded: QP/M and the Z-Time I

by Phil Hess

Miscellaneous application notes

The TIMDAT.QPM file created by QSTAMPX is stored in user 31 and takes up 2K on single-sided disks and 4K on double-sided disks. User areas 16-31 are normally not supported by CP/M and should not be used for normal files (most software won't let you, although NewWord will).

When you use QSTAT or D to display a disk's directory, keep in mind the space taken up by TIMDAT.QPM. Otherwise you might be confused when you see that the free space total and file total don't add up to the disk's capacity. The missing 2K or 4K is taken up by TIMDAT.QPM. Some programs may not return the correct amount of free space on the disk because of this hidden file. This includes some catalog programs, although my EC Catalog program (version 3.0c) comes up with the correct value. EC also automatically reads the QP/M system date and uses this date to stamp all catalogs and listings, one of the few programs to do so.

To see the TIMDAT.QPM file, use the "all user areas" option with D: A>D TIMDAT.QPM \$A

Note that TIMDAT.QPM and D.COM both show a file size of 4r rather than 4k in the directory listing. This is because they are read-only files. Other files set to read-only with QSTAT will also be displayed this way, as well as files marked "protected" by NewWord. This is a useful way of easily determining which files are read-only and should prevent a lot of confusion.

One little quirk with the built-in TIME command is that it doesn't seem to be able to display the time correctly if the minutes or seconds is 53. It always leaves out the 5 and makes you think the clock just lost 50 minutes. Don't let this disturb you. The correct time will be displayed as soon as the second or minute advances to 54. This is not a problem with the clock, the clock routine, or the QDOS function call, as the Turbo Pascal program given above will quickly demonstrate. The correct time is being returned but TIME slips once in a while in displaying it. Perhaps this has been corrected by now.

If you find QP/M's automatic search feature confusing, you may want to disable it either through re-installing QP/M or by turning it off temporarily using the DFD and DFU commands. Unlike CP/M enhancement products which replace only the CCP and only search other drives and user areas when running programs, QP/M's search feature works at the BDOS level too. Thus it's possible to confuse some programs by attempting to access a file on the logged-in drive or user area which is actually on the default search drive or user area. Since the program was able to find (open) the file okay, it thinks the file is on the logged drive or user area. Later, when the program attempts to delete or modify this file, it can get confused. This does not occur with WordStar, NewWord, or Turbo Pascal and the default drive search, as these programs always add an explicit drive letter to a file name if one isn't specified. However, it can happen with any of these programs with the default user area search. This is similar to a situation that can occur with CP/M 3.0's default search of system files in user 0.

This problem really isn't as serious as it may sound since QP/M has so many customizable features. For example, if you only want to use the default search feature to run programs from whatever user area or drive you're logged into, you might put all your programs into one of the higher user areas and leave your other files and documents in user 0. That is, you might put your programs and the QP/M utilities in user 1 of drive A and make A1 the default search "path". This serves a dual purpose. For one, it eliminates any search confusion while allowing you to run the programs without worrying about where they are. Secondly, this sort of approach gets the programs out of the way, making for less cluttered directory listings of user 0.

If for some reason you can't find a place in the BIOS to put the clock routine, you can use MOVCPM to move the entire BIOS down 1K. This reduces your system's transient program area (TPA) by 1K, but provides plenty of space for all sorts of BIOS patches without any fear of conflicts. You won't notice the loss of 1K except with

Turbo Pascal programs which were carelessly compiled without reducing the end address. These programs will have to be recompiled. MOVCPM is described (sort of) in the CP/M manual.

Note that it's also possible to use DDT to patch your BIOS permanently with the 108-byte clock routine. Then it won't be necessary to have SETCLK on each system disk. Plus, you can install QP/M to execute some other program each time your system is reset. This is what I did and QP/M now greets me with the time whenever the system is turned on.

[Ed.'s Note: Programs referred to in the above articles will be available on a forthcoming BAMDUA library disk].

NewWord Tips

(Reprinted from Boston MUG Newsletter, V.2, #7, August 1986, with permission of author)

Programming the function keys on the MDT-60 for use with Newword.

by Al Butler

The function keys on the MDT-60 send out a sequence of three characters: 1) a control character, 2) a character, 3) a carriage return (e.g., ^AA<cr>). This is why it is difficult to use these function keys. However, NewWord allows you to program any function key to one or more keystrokes.

In this article I will program only the arrow keys.

Up Arrow	= ^AJ<cr>	Shift Up Arrow	= ^Aj<cr>
Down Arrow	= ^AK<cr>	Shift Down Arrow	= ^Ak<cr>
Left Arrow	= ^AL<cr>	Shift Left Arrow	= ^Al<cr>
Right Arrow	= ^AM<cr>	Shift Right Arrow	= ^Am<cr>

Put your Newword disk in drive A. Make sure that the file NWINSTALL.COM is on the disk.

At the A prompt type NWINSTALL NW

NW will display the Main Menu. Select "H" special patches.

NW will display Patch Menu #1. Look for FUNDLY - Function key delay. If it is not on Menu #1 select Menu #2. When you find FUNDLY, type the letter to select it.

NW will now display location 0237 thru 0246 with the present hex values in those locations. The cursor will be at location 0237, type in 03; the cursor will now be in location 0238. NW has allocated location 0237 thru 02E5 to program the function keys. The 03

in location 0237 is a time delay between characters of function key burst (if zero, no function keys are implemented). Starting at location 0238 we will enter the function key to be used followed by what it is to be changed to.

At location 0238 enter the following: 03 01 4A 0D 01 05. Now what does all this mean?

0238 = 03 number of characters in function key burst
0239 = 01 ^A character
023A = 4A J character
023B = 0D carriage return
023C = 01 number of characters in new sequence
023D = 05 ^E scroll up one line

All numbers are in hex, NW does provide the option of inserting ASCII characters if you do not know hex. All ASCII entries are preceded by the character "".

At location 023E enter 03 01 6A 0D 01 12 (this converts
shift up arrow to ^R)
At location 0244 enter 03 01 4B 0D 01 18 (down arrow to ^X)
At location 024A enter 03 01 6B 0D 01 03 (shift down arrow to ^C)
At location 0250 enter 03 01 4C 0D 01 01 (left arrow to ^A)
At location 0256 enter 03 01 6C 0D 02 11 53 (shift left arrow to ^QS)
At location 025D enter 03 01 4D 0D 01 06 (right arrow to ^F)
At location 0263 enter 03 01 6D 0D 02 11 44 00 (shift right arrow to ^QD)

The 00 at the end of the last string indicates that there are no more function keys to be used.

When finished type X, this returns you to the patch menu. Type X, this returns you to the main menu. Type X, this ends the installation.

The final test now is to enter NW and try the function keys to see if they work.

If you do not have enough room to install all the function keys, there is additional space at location 0431 through 04AD. This area is called MORPAT. Check your NewWord User Area Listing to verify the MORPAT locations. The above locations are for NewWord version 2.16.

Leave enough room at the end of FUNTBL to insert a jump to the MORPAT area. After the last entry enter 00 in the next location, followed by 31 04 (note the jump location is reversed).

For example: the last entry is at 02E0.
enter 00 in location 02E1
then enter 31 in location 02E2
and 04 in location 02E3

I have done only a few function keys, but all the functions keys can be programmed. Also much more complicated commands can be

used. You may not need SMARTKEY anymore. This can also be done on the Freedom 50 and 100 terminals if they send out a sequence of characters.

MERGE-PRINTING is combining data files and documents while they are being printed.

Here is a simple example.

When writing letters there is no need to constantly type in your letterhead. Create a file called **HEADING**, type in your letterhead information. You can also use the dot command ".av", which means "Ask for Variable". Type in .av DATE<cr>, then where you want to place the date type this in its place "&DATE&". During the merge-printing, NewWord will display the name followed by a question mark. Enter the date then press RETURN.

You can also create a file called **CLOSING**, if your sign-off message is always the same.

Now create a file for your letter. On the first line type in
.fi heading Then write your letter and at the end type in
.fi closing Now exit to the menu, select option M

When prompted for filename, enter the name of your letter. NewWord will combine the three files HEADING, your letter filename and CLOSING to produce your complete letter. If you used the ".av" command in your HEADING, NewWord will stop and allow you to enter the date, then continue to print the rest of the letter.

ESTING & CHAINING- With the .fi dot command, you can link files together when you print them. You can chain them one after the other, or nest them, putting one inside the other.

For example, to chain three files together (files A, B, and C).
End file A with .fi B<cr>
End file B with .fi C<cr>

Select option M (merge-printing), enter file A when prompted for filename. Newword will print all three files.

If one of the files is on another disk (file C).
End file A with .fi B<cr>
End file B with .fi C change<cr>

Now when NewWord prints these files, it will stop after file B and allow you to change disks and then print file C.

Software Review: **PsychoStat-3** by Georgia Babladelis

Product: **PSYCHOSTAT-3**
Company: StatSoft, Inc.
2832 E. 10th St., #4
Tulsa, OK 74104
(918) 583-4149
System: CP/M, IBM, APPLE, etc.
Requirements: BASIC (MBASIC for CP/M).
Min. 48K RAM (CP/M); 120K disk space + MBASIC)
Price: \$99 (Special half price offer for BAMDUA group orders)

For doing simple and advanced analyses of data and a plethora of descriptive statistics, this program is a gem! Here is what it can do: Descriptive statistics (e.g., means and standard deviations; Scattergrams and Bargraphs; Crosstabulations), T-Tests (for independent or correlated samples), Correlation (Pearson r), one - to - four-way ANOVA/ANCOVA (i.e., Analysis of Variance or Analysis of Covariance) or Repeated Measures ANOVA, Chi-Square and V-Square, and Multiple Regression.

PsychoStat is menu driven, making it easy for the user to perform a chosen analysis. In fact, there are two menus. When the main menu for PsychoStat-3 appears, one of the choices available is to run the DATA EDITOR. The DATA EDITOR provides a menu of choices which allows you to perform many needed tasks, such as: create a data file, display a data file or directory of files, modify the data file by adding or deleting cases or variables, sort the data file, transpose data files (e.g., change row values to column values and vice versa), and to transform non-StatSoft files into StatSoft files (e.g., spreadsheet data) and vice versa. When the data editor is called up from the main menu, a new menu of all these choices is available to the user. These functions are relatively easy to perform.

In addition to those choices, there is the capability to transform variables or compute new variables. For example, if you wish to add an additional variable to your data set, you can do it easily by calling up the option to add variables; however, if you wish to compute new variables by transformation of the existing ones, the option to transform the variables is selected. There are a variety of times when one wishes to transform data. A common example may be when you have "before" and "after" measurements and you wish to create a new variable which transforms those measures into one measure of the difference between the two conditions.

You are instructed to create the formula which will transpose the data and create the new variable. The procedure for entering the transformation formulae requires careful attention (those of you who have tried simple BASIC formulations know how easy it is to make a mistake, such as leaving out a comma or a parentheses!). Usually only one or two equations are required, but if your needs are

complex, you should feel reassured that 100 equations may be entered. If there is an error in the format of the equation, you are informed of a "syntax error" and permitted to re-do it. The rub is that like so many of such messages, it can become frustrating figuring out where the "syntax error" is! Persons experienced with programming in BASIC have a head start in mastering the correct format. A nice touch is that after you have completed the transformation of the data, you can examine the new (transformed) data file. An even nicer touch is that you can save your equations in a file for later uses; this file can be loaded and run with BASIC. Once you have such a file, you may LIST it so that you may examine your transformation equations.

I used some old data and also made up some new data and ran all the options from descriptive statistics to simple and advanced analyses. Everything ran quickly and well. The display is clear and in proper format (e.g., for ANOVA: a table of main effects and interactions, with sums of squares, F values, and P values) and printing it out is easy to do. After each analysis, you may run another one (or more) or return to the main menu, or exit the program. Depending on your disk space, you may have several data files on the same disk with the program or on a separate disk, say in Drive B. If you wish to do a second or third (etc.) ANOVA, you select the option to do so and simply enter the name of the data file you wish to analyze. In some of the procedures (e.g, in most descriptive statistics) you have an option to clear the memory for a new data file.

On the whole, the program works very speedily in all of its statistical functions. The results of a 2-way ANOVA can appear on your screen very fast; after you have examined them, you are asked if you would like to examine the specific group means and standard deviations, which also are produced quite quickly. The only thing that takes some time is, of course, a complex procedure. A 4-way ANOVA using 48 cases and 5 variables (a dependent variable and 4 independent variables) was produced in 38 minutes! Lest you think that is too long, let me review for you how it proceeds (all of these steps produce results which you can view on the screen and/or in a printout): First, it takes about 3 minutes to code the data. Second, it takes about 3 minutes to calculate the Sums of Squares for all the effects. Third, it takes about 2 minutes to compute the Sums of Squares for each of the 4 main effects. Fourth, it takes about 2 minutes to compute the Sums of Squares for each of the 6 simple (2 variables) interactions. Fifth, it takes about 2 minutes to compute the Sums of Squares for each of the 4 complex (3 variables) interactions and the 1 other complex (4 variables) interaction. To summarize, we have 4 main effects, 6 simple interactions, and 5 complex interactions plus the Sum of Squares for all effects; these have been computed in 38 minutes. In a matter of a few more seconds you are presented with a table of Mean Squares, Fs, and Ps for all the variables. After that, you may opt to examine the particular group means and standard deviations; those findings are displayed in less than another minute.

Not bad, huh? Depending on the complexity of your analysis, you may opt to have lunch.

By the way, I tried running the whole thing on my RAM disk but it didn't make any difference. That is because the file is accessed only once; each analysis is discreet, and so there is no great amount of disk-accessing involved in the first place. The example of the time involved was given for a complex ANOVA so that you may get a feel for the time. A Multiple Regression analysis of the very same data set (5 variables, 48 cases) took less than a minute to do and produce a table of Beta's, t's, P's, and the ANOVA information for the Regression, Residual, and Total Sum of Squares.

There is a problem with the manual. On the surface, it seems to be well organized and clearly written. When one actually tries to do some of the more complex tasks, it is not at all clear how to proceed, what different choices mean, and the role of such endeavors in future analyses. Too often, the reader is referred to a statistics book. Well, if you have not used a software package for a small computer before, reading statistics texts does not help! I have read and used many statistics books and even have the temerity to consult on research design and statistical analysis, but I could not figure out what I was supposed to do to run a 3-way analysis of variance with this program. It wasn't until I called on the help of friends familiar with such packages that the haze lifted! What I would suggest to StatSoft is that they provide a tutorial for each procedure, using the sample data base they provide. It would make a fatter manual, but it would significantly reduce frustration.

Minor complaints include what I call poor error trapping and poor user interface. Some errors bounce you out of the program and you must start all over again due to the lack of a restart procedure. There is no information given about what is happening when you are performing a Cross-tabulation; since this takes a while, it is easy to think something has gone wrong. At places where you are called upon to answer YES or NO the choices are entered with 0 or 1, making for some unnecessary confusion and increasing the likelihood of an erroneous entry. Saying NO when you mean YES lets you start over again! Saying YES when you mean NO is tough luck because whatever you said yes to goes ahead and runs. That, of course, is not unusual for any program. However, it would be more "user-friendly" to be able to enter Y or N. The company describes these problems as inconveniences due to the age of the program. PsychoStat was the first program written by StatSoft and has changed very little since its creation.

>>>>FLASH!<<<<

As a result of my comments about some of the drawbacks in the manual and in the program, Tom Peterson, Technical Support, is making the changes! In fact, he provided me with a quick tutorial to run a 4-way ANOVA, which greatly enlightened me about how to use the program. Now I am more convinced than ever that the idea of tutorials throughout will help even those who have performed many

statistical analyses in the past, but have not done so on a small personal computer. He not only is making those changes in the manual, but also is making changes in the running of the programs so that it will be more "user-friendly." The new manual will be available by the time our BAMDUA orders are ready. Throughout the long time it has taken to provide you with a review of **PsychoStat-3**, my contacts with the company in general and the technical support person in particular have been very good. They have been responsive, helpful, and quick to respond.

In summary, this is an excellent program for many descriptive purposes and for simple and advanced statistical analyses. I can foresee using it frequently to get a quick look at my data or to check on the significance of some observed difference, etc. For most of the Social Science uses that occur in the course of everyday work, this program will do what you need. You already know if you have needs for statistical analyses that are not addressed by this program (e.g., persons who require tools to perform factor analyses, path analyses, etc. will want to look for another program). It lacks some of the nicer "user friendly" touches most of us have come to demand and expect from our software, but those are on the way. Review your needs for statistical analyses. This may be the right program for you. For a group order of 5 or more, StatSoft offers the program for \$50. Write me if you are interested and enclose a SASE or postcard so I can let you know the status of our group.

ACKNOWLEDGMENT: Special thanks to Chrys and George Borys for their invaluable help in unraveling the mysteries of multiple level analyses with a personal computer, and to Tom Peterson for providing a tutorial for a 4-way ANOVA so speedily.

REVIEW UPDATE: EFFORTLESS INTEREST

by Georgia Babladelis

In the last issue of the Newsletter (V.4, #11, Dec. 1986) I reviewed a neat and inexpensive program for amortizing loans, etc. Check that review for complete details. Some recent improvements have been added:

1. The user may input and display such things as dollar signs, commas, etc. without interfering with computation.

2. A new program, SOLVE.EXE is included which can solve for payment given a starting balance, interest rate, and number of payments to go to zero balance.

3. As before, if no number of pay periods is entered, the chart is run until the loan is paid up. Unlike before, the program now runs the chart until a balance of zero is achieved. For example, on reaching the end of an amortization, EFFORTLESS automatically adjusts the last payment to the amount of remaining principal to avoid a negative ending balance, thus "zeroing it out."

(continued on page 23)

Special Deals

***If you are interested in any of the following, contact me directly and include SASE (GB, Editor, 1064 Sterling Ave., Berkeley, CA 94708). Do not combine your order with member renewal or with any items listed as available from Bamdua, p. 23 or 24. ***

1. DATA PLOTTER - 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%.

2. PSYCHOSTAT-3 - a statistical program for CP/M (also other formats available). For a brief description of the program see the May 1986 issue of the Newsletter. A review of the program appears in this issue, January, 1987, V.5, #1. Retail for \$99; a group order of 5 or more brings the cost to \$50 per copy!

3. EFFORTLESS INTEREST - very handy for amortizing loans, etc. See review, Newsletter, v.4, # 11, Dec. 1986 and update review in this issue, January, 1987 for details of half price offer to Bamdua members.

All the special deals which follow this note include information about the appropriate person and/or address to contact and/or the date and place of the review giving such information.

4. OUT-THINK - outline processing program by KamaSoft. It is available at a special introductory price of \$49.95 directly from KamaSoft. See review in the Newsletter, V.4, #4, April 1986, p. 10.

5. 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.

6. **EC-CATALOG** - a fast, easy to use, powerful catalog program It is available to BAMDUA members directly from its creator for \$10 (includes manual). See the review in the May 1986 issue of the Newsletter. To order, write Phil Hess, 917 N. 10th St., Lafayette, Indiana, 47904.

7. **CHECKS & BALANCES** - a multi-faceted way to keep track of your accounts. Program was reviewed in the Newsletter, V.4, #8, September 1986 and was demonstrated at our May 27 meeting. You may order it by mail from the company. The program retails for \$74.95 and is available to BAMDUA members for \$59.95 plus tax and shipping charges: \$59.95 + \$3.60 + \$1.75 = \$65.30.

8. **FONTSTAR** - reviewed in the June 1986 issue of the Newsletter. This program allows you to choose from 16 fonts plus an equal number of additional fonts, mostly international characters. It can be ordered directly from the company for only \$45. Tell them you are a BAMDUA member.

9. **BRADFORD** - a public domain program which permits you to print in a choice of several fonts on the same page or line in near letter quality print. The author of the program will send you the manual for only \$15. It is well worth the price for facilitating your use of this program. It was reviewed in the June 1986 issue of the Newsletter.

10. **INFOSTAR** - Now InfoStar by MicroPro is available in Morrow format, to BAMDUA members and MOR subscribers only, at the bargain rate of \$99 (list price: \$250), with an RSX patch enabling it to run under CP/M 3.0 as well as 2.2. InfoStar CP/M v.1.0 is a menu-driven full relational database program. See discussion in Newsletter, V.4, #9, October 1986 for complete details for ordering it.

11. **ALIST PLUS** - has been upgraded to version 3.2, still at a price of \$49.95. See discussion in Newsletter, October 1986. Contact: Irata - Alist, Honor System Software, Gordon Jennings, 2562 E. Glade, Mesa, AZ 85204; tel. 602/892-0015.

12. **INEXPENSIVE, LEGAL SOFTWARE** - From time to time, users have been able to obtain inexpensive, legal software from a CompuPro dealer, who unbundles bundled software and resells it, drastically discounted from software dealer prices, with prices too low and quantities too small to advertise. These have included dBASE II, Friday, and SuperCalc2. Contact:

Mentzer Computer Systems
Ed Mentzer
1441 Rollins Rd.
Burlingame, CA 94010
tel. 415/340-9363

This announcement is a service to users, who are advised to bargain vigorously. Good luck.

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=====

FOR SALE: MD3, Televideo 925 terminal, and MD3 Portable. \$800 for total package. Contact Steve Brown, 408/758-3615 (days).
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FOR SALE: MD2, dual drives, excellent condition, plus software: WordStar, MBasic, Correct-It, Notebook, Footnote, Personal Pearl, CP/M, Bibliography, SmartKey. Must Sell. \$450. Call Kurt Jackson, 707/762-0962 (msg.).
=====

FOR SALE: MD2, dual drive, monitor, dot matrix printer, lots of software, all documentation, and computer desk included: \$700 or b/o. Call 415/932-0231.
=====

FOR SALE: MD3, with Freedom 100 Terminal; complete with all bundled software, plus MicroKeys. Like new. \$695. Call Fred Friedberg, 415/924-9124.
=====

What's Available

The public domain software library contains 43 volumes. They are available at meetings for \$5.00 each, or through the mail for \$8.00 each. Write a check to BAMDUA, Box 5152, Berkeley, CA 94705. Allow up to one month for delivery.

Back issues of BAMDUA Newsletter cost \$1.00 for issues 1-3, and \$2.00 for each issue after that. They are also available at BAMDUA meetings or through the mail. The price is the same either way. Make your check out to BAMDUA. Allow up to one month for delivery. A special price is available for back issues of the BAMDUA Newsletter if you order a complete set of volumes; thus, volumes 3 & 4 (1984 & 1985) can be had for half price (i.e., for \$22 rather than the \$44 it would cost to purchase each issue separately).

All back issues of MORROW OWNERS REVIEW are available for \$4.00 each. They start with April 1984 and are published bimonthly.

A directory of approximately 300 BAMDUA members is available for \$1.50. Get your copy now so you will be able to know who to call when you need help or want to exchange information. Make your check out to BAMDUA.

REVIEW UPDATE: EFFORTLESS INTEREST (continued from page 19)

4. As before, for monthly payments and interest compounding, there is an option to have annual summaries of principal, payments and interest paid displayed, saved or printed. Now, all charts end with an extra line giving a total for the whole chart of all payments made, interest paid, and principal reduction.

The main program uses 46K disk space; the new SOLVE program uses an additional 32K. For a total of 78K, this is a handy, powerful, and easy-to-use program.

These are all nice additions and I am glad to see them. You will have the new version with these changes when you order EFFORTLESS INTEREST. This inexpensive (\$25) program is available to BAMDUA members at half price if we have a group purchase order of 10 or more. If you are interested in purchasing EFFORTLESS INTEREST, send me a check made out to MICRO-COST SOFTWARE for \$15 (\$12.50 + \$2.50 for handling). Include an SASE so that I can return your check if we do not have enough orders to qualify for the group purchase price.

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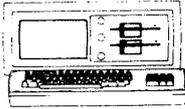
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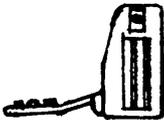
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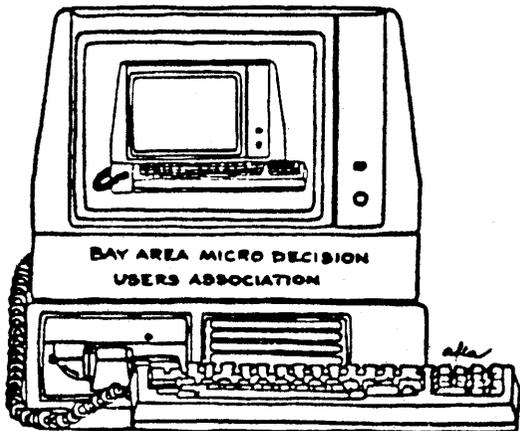
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