

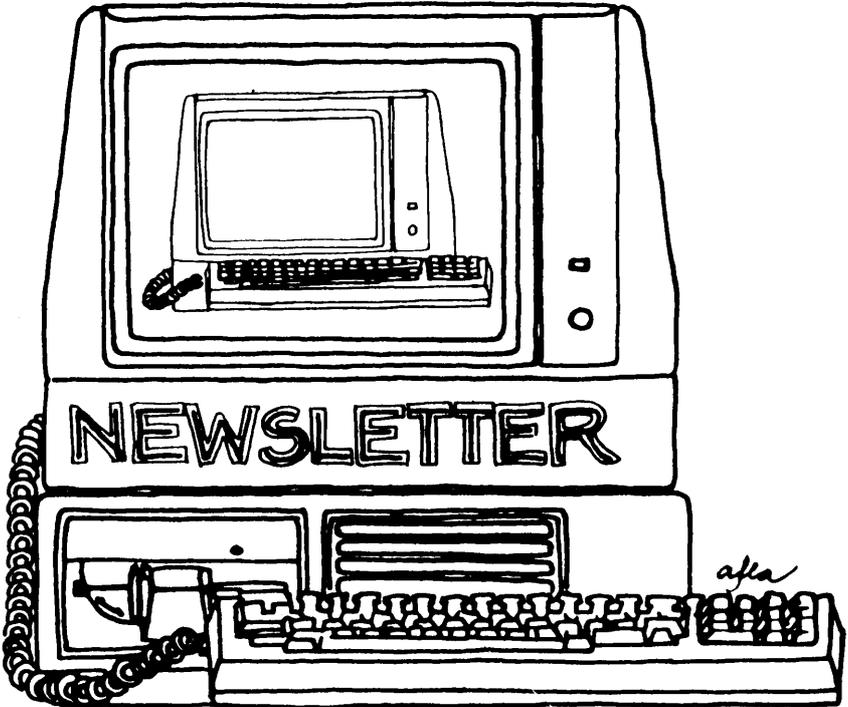
December 12, 1986

Volume 4

Issue #10

**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



**HAPPY**

**HOLIDAYS**

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**Resolve to Renew**

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[Editor's Note: Some modifications were made in regularly appearing informational items (e.g., announcements of meetings of other Morrow users' groups) to accommodate an unusually long article we think is of interest to many of our readers. That article is Part V of the series by Hess: Reinventing your Morrow Micro Decision].

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

Monthly newsletter, Vol. 4, Issue 11 December 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.  
**HOWEVER, THERE IS NO MEETING THIS DECEMBER!**

+++ 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. +  
+

\*\*\*\*\*  
\*\*PLEASE NOTE THERE IS NO MEETING IN DECEMBER!\*\*  
\*\*\*\*\*

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**BAMDUA OFFICERS**

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At large	Frank Oechsli
At large	Lee McKusick
Staff	----- Greg Smith

# 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)                      Sysop: Steven Wartofsky  
Phone: (415) 654-3882

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!\***

# Library News

## BAMDUA LIBRARY DISK 40

This disk contains the Bradford program plus miscellaneous public domain.

### BAMDUA.040

The Bradford program contains the following files:

AD-A&D.WS	}	Be sure to read the Bradford information and
AD-B&C.WS	}	the article describing and reviewing Bradford
BRADFORD.COM	}	in the BAMDUA Newsletter, V.4, #6, June 1986.
BRADFOD.INF	}	Bradford enables your dot matrix printer to
BRADREAD.ME	}	produce near letter quality print; 8 fonts are
BRAD-2.INS	}	available; character width can be changed; font
FONT1.BIN	}	styles can be mixed within the same page or line
FONT2.BIN	}	Proportional spacing can be turned on or off.
FONT3.BIN	}	Produces very attractive products.
FONT4.BIN	}	
FONT5.BIN	}	
FONT6.BIN	}	
FONT7.BIN	}	
FONT8.BIN	}	

### Miscellaneous Public Domain

ALPHA.COM		Alphabetizes a list of words.
BIGWRD.COM		Prints in very large print.
CREATLBR.COM		Simple, menu driven program to create libraries.
D.COM	}	A splendid collection of directory listing and
D1.COM	}	displaying programs, some of which combine
D1/NOUSQ.COM	}	features found in Newsweep. Be sure to read
DA-.COM	}	the notes and documentations to get the full
DA-.NOT	}	range of possibilities with these directory
DIRFIRST.DOC	}	programs.
DIRR4.DOC	}	
EPSNPRTR.COM		Program to initialize the Epson printer for most
		of its basic functions.
GEM.COM		Program to initialize the Gemini 10X for a variety
		of prints.
FIND54.COM		Program to find a string of characters; especially
		useful with Mast.Cat.
FIND54.DOC		Documentation for the program.
HCAT.COM	}	Program finds unduplicated files in Mast.Cat.
HCAT2.DOC	}	Be sure to read this documentation.
CAT1.COM	}	Used with the above
UNICAT.COM	}	Used with the above

HEADER.DOC	Documentation for Header programs.
HEADER4.BAS	Various Header programs generate large block
HEADER6.BAS	letters for headings.
TWOCOL.BAS	Program to write WordStar file in two column format.
TWOCOL.DOC	Documentation for program.
TWOCOL.INF	Information and example.
TWOFILT.COM	Used with above to filter high bits in WS file.

### **BAMDUAL LIBRARY DISK 41**

This disk contains miscellaneous public domain programs.

#### **BAMDUA.041**

BASCOM1.NOT	Optimizes storage of compiled program. Useful for
BASCOM2.NOT	Programmers using BASIC.
BASCOM3.NOT	
BSET.ASM	Assembly language code
BSET.CRC	and check
BSET.DOC	Documentation for the program. Be sure to read it.
BSET.OBJ	A single purpose printer setup program. Used in it's
	distribution version for Star Micronics printers to
	set up for banner printing.
D-100.COM	Directory program shortened to D in many cases. Nice
	alphabetized columns and disk information. Try it.
DBL4.ASM	
DBL4.COM	Uses compressed mode of most printers to print files
	two pages at a time on a single sheet of paper. Ends
	up making the two pages appear as two columns.
DBL4.DOC	Documentation for program. Be sure to read it.
DBLEPSON.ASM	} Assembly language code for overlay files
DBLGEN.ASM	} for three printers: Epson RX-80 & MX-80, Gemini
DBLOKI.ASM	} (as a generalized printer) and Okidata Microline
EZLABEL.BAS	A simple BASIC program for making labels.
FT.COM	A quick way to type READ.ME files or any non-document
FT.DOC	files without going into WordStar. Read the doc.
FXLABEL.COM	Program to do labels.
LABEL.BAS	MBasic program to do labels.
LABEL.TXT	Brief information for above BAS program.
NW-CMDS.DOC	Complete (and then some) set of NewWord dot commands
	and control codes in handy reference format compiled
	by Edward E. Combs and donated to the public domain.
NW7PGS.TXT	An attempt to reduce the NewWord manual to 7pages!
VDE.DOC	Documentation for editor, below.
VDE27.COM	A small, fast editor; edits files in memory.



1. A Morrow CP/M computer in good working order.
2. A modem that is a Hayes or Hayes compatible. The modem is labeled as having the Hayes or AT command set. If you are about to purchase a modem, do not purchase a 300 baud modem. Check with our advertisers in the Newsletter if you need a reliable store. Make sure you have the moem instructions.
3. You will need a cable that works. If in doubt, check with a knowledgeable Morrow dealer. One end of your modem cable must fit the modem; he other end fits the Morrow and probably must be a DB-25 type. The "male" end (visible brass pins) plugs into the Morrow. Your Morrow serial port probably has 25 holes because it is female type. Make sure your cable fits correctly. Test it. If it does not fit, please tell me a several days before the home visit.
6. Make sure you have a spare electrical outlet close to your computer and that the modem's power supply will plug into the electrical outlet.
7. Make sure you have a telephone extension cord that reaches to your computer.
8. Make sure you have modem software. The BAMDUA public domain library is an excellent source of such programs. (See below).
9. Have several freshly formatted floppy disks on hand.
10. Call me to set up the date: Lee McKusick (415) 849-9053; if you reach my answering machine, repeat your name and phone number twice to make sure I get it right.
11. Save your energy and plan 2 to 6 hours for an exciting and interesting Saturday modem hookup project. There may be up to \$20 additional expense for a RS-232 adaptor.
12. Make sure you are a current BAMDUA member. It is recommended that you subscribe to the BAMDUA bulletin board so you will have a genuine bulletin board to call. Mail your check to BAMDUA, P.O.Box 5152, Berkeley, CA. 94705.

BAMDUA membership renewal: \$16.

BAMDUA Library disks(\$8/disk): # 15, 16, 17 (MDM740)  
or # 24, 25 (MEX)

BAMDUA Bulletin Board subscription: \$10

13. With your check to BAMDUA, be sure to give your logon name (first and last names spelled the way you wat them to appear) and a password (up to 6 letters or numbers). Probably Sysop Steve Wartofsky will have the bulletin board ready to welcome you on your first call!

-----  
(Ed.'s comment: Yes, Bamdua members, there is a Santa Claus!)

# Reinventing Your Morrow Micro Decision

by Phil Hess

## Part V — QP/M and the Z-Time I

One fairly inexpensive enhancement you can make to your system is to add a real-time clock. These tiny boards, while not widely advertised for CP/M computers, do exist and are not difficult to install. However, there isn't much you can do with a real-time clock by itself. Even with the software provided by the manufacturer, about all you can do with one is display the date and time. Or, if you're fairly adept at programming, you can write your own programs to get the date and time.

The ability to do this is not vital to most computer applications such as word processing. Where a real-time clock really becomes important, though, is as an aid in helping you keep track of files through date and time stamping of the disk directory and backing up of files based on when they were created or modified. But the ability to do this requires operating system support. The clock alone can't help you much here.

Unfortunately, CP/M 2.2 provides absolutely no clock support. And so we turn to the realm of CP/M replacement products for a solution.

In Part I, we discussed how ZCPR I and similar products replace a portion of CP/M called the Console Command Processor (CCP), which is the part of CP/M that does your bidding when you enter a command or the name of a program to run. These products usually provide enhanced features for finding and running programs not provided by the standard CP/M CCP.

However, there's no reason why a replacement product for CP/M should stop at the CCP. Another, even lower-level part of CP/M known as the Basic Disk Operating System (BDOS) can also be replaced or modified along with the CCP, and several products do just that. In general, these products continue to work with the third and lowest-level part of CP/M known as the Basic Input/Output System (BIOS) and should therefore be compatible with any standard CP/M system.

Among the enhancements provided by some of these CP/M replacement products is support for a clock in the form of functions for getting and setting both the system date and time and the files' date and time. But this does not necessarily mean that one of these products will work with a clock, only that the BDOS-level support is there for a BIOS which can handle a clock. Normally the BIOS is the only part of the operating system which communicates directly with the hardware.

The trick then is to find a replacement for all or part of CP/M which not only provides BDOS support for a clock, but can also tie in a specific make of clock. And of course this combination of operating system and clock must also be available for the Micro Decision and be compatible with existing software.

Well, after requesting literature for about a dozen products and making a few phone calls, I finally found the combination I wanted in the form of MICROcode's QP/M, a replacement for CP/M which also supports Kenmore Computer Technologies' Z-Time I clock.

QP/M is available for \$60 plus shipping and sales tax where applicable from the program's publisher: MICROcode Consulting  
P.O. Box 9001  
Torrance, CA 90508  
213-MICROCD

The Z-Time I is available assembled and tested for \$99 (or \$69 for a kit) plus shipping from its manufacturer:  
Kenmore Computer Technologies  
P.O. Box 635  
Kenmore, New York 14217  
716-877-0617

### Introduction to QP/M

On one level, QP/M is just like CP/M: it runs the same software, presents the same user interface (the familiar A> prompt), and provides the same built-in commands such as DIR and ERA. However, a number of new commands are also featured. If you are familiar with ZCPR, you will recognize many of these new commands. Noteworthy ones are as follows:

- DFD - Change default search drive
- DFU - Change default search user #
- DFLT - Display search defaults
- GO - Rerun last-executed program
- LIST - List an ASCII file to printer
- TIME - Display current date and time
- TOF - Advance printer to new page

Several disk-resident commands are also included in the QP/M package. These commands either augment the above built-in commands or replace similar CP/M transient commands. Some of the commands are the following:

<u>QP/M command</u>	<u>CP/M command</u>
D	SD (public domain)
QBACKUP	BACKUP
QPIP	PIP
QSTAT	STAT
QSUB	SUBMIT

In general, these programs take up less space on the disk than the comparable CP/M programs and provide numerous features lacking in the CP/M versions.

In addition, QP/M provides several enhanced features lacking in CP/M, including automatic drive and user area searching for programs and files (like ZCPR), support for a real-time clock, automatic date and time stamping of files, an installation program for changing the default system settings, and a program for changing the default settings of several of the above replacement commands so they'll perform exactly as you want.

### **Date and time stamping with QP/M**

Depending on operating system, file date and time stamping is done in different ways. Usually, the differences are due to the type and quantity of information to be saved in the stamps for each file. For example, with CP/M 3.0 (CP/M Plus) on hard-disk Micro Decisions, the operating system can automatically save any two of the following stamps for each file on a disk: file creation, file update, and file access. What this means is that the date and time a file was created, last modified, or accessed is stored for each file. This information can be displayed by CP/M 3.0's enhanced DIR command along with the file's name and size.

In addition to the obvious benefits of knowing when a file was last modified or used, this information can be vital for keeping track of a large number of files because it helps you identify different versions of documents as well as providing a clue about a file's contents.

With CP/M 3.0, this information is kept in the disk directory itself, and is limited to two stamps per file.

With QP/M, the date and time stamps are kept in a special file on each disk which is hidden away from all but the most curious user. One advantage to putting date and time information in a file rather than in the directory is that it doesn't alter the CP/M file directory structure or use up any directory space. Another advantage is that more than two stamps are possible for each file. This is the way MS-DOS handles subdirectories, although still providing only one stamp per file.

QP/M provides three different stamps for each file on a disk: file creation, file modification, and file backup. The first two are the same as CP/M 3.0's stamps. The third stamp is unique to QP/M and is simply the date and time the file was last backed up.

Like CP/M 3.0, QP/M is still quite useful even without a hardware clock. This is because it can be installed to prompt for the date and time whenever you reset your system (actually this only needs to be entered when the system is first turned on). QP/M then uses this date and time to stamp any file changes.

This "static" date and time only changes when you enter a new date or time. With the date, this is no problem: simply enter the date when you first turn on your system. You can also enter the time, although the time stays static until you change it. All files stamped between changes will have the same time. However, the date alone can still be quite useful.

File date and time stamps can be displayed by QP/M's sorted directory program D.COM. D can also be used to display files within a specified period of time. For example, you could display only those files which were created today.

When you copy files using QPIP, the source file's stamp is used with the file created. This is the way the MS-DOS COPY command stamps new files too. However, unlike MS-DOS, QP/M provides an option (\$C) which forces QPIP to use the current date and time for the stamp. Also, note that QPIP is a little slower than PIP in copying files. This is because QPIP always verifies the copy. However, QPIP is faster than PIP used with the verify option ([V]).

### **Other QP/M features**

Another nifty feature of QP/M is automatic disk-relogging. Now you can swap disks at will without pressing Ctrl-C to log in each new disk. Even D.COM can be installed to reset a disk before displaying the directory to make sure the amount of free space it displays is always correct.

Other features of QP/M are like ZCPR: TYPE pauses after displaying each screen; the DELETE key now works like the BACKSPACE key; a drive can be specified with either the colon (:) as normal, or with a semicolon (;) for your convenience; a user number can be included with the drive letter (e.g., A1); common drive and user areas allows you to run programs on disk A as though they are on B, and so on.

QP/M is advertised as performing disk operations 10% faster than CP/M, but I have not noticed any marked improvement. However, it is certainly no slower than CP/M.

### **Installing QP/M**

Although QP/M installs almost automatically, there are a couple of places where you need to know what you're doing. Hence, I'll go through the installation step-by-step.

First, create a blank system disk and place the QP/M files on it along with your normal CP/M SYSGEN.COM program. Place this disk in drive A and another formatted disk in B.

Run QINSTALL. With the version of QINSTALL that I used (2.1), you will then be prompted as follows:

Do you wish to examine and/or modify the  
default QCP settings? (Y/N):

Answer with Y. QINSTALL will display a menu of settings which can be changed. Consult the QP/M documentation for what the dozen or so settings mean. Most will not need to be changed unless you want to customize QP/M for your personal preferences. However, at least two of the settings should be changed.

Change the "word to hold default drive and user" from address 0008 (the default) to 0030 (all addresses given are in hexadecimal). If you leave this set to the default, QP/M will interfere with the Micro Decision's virtual drive operation. Apparently the Morrow BIOS uses address 0008 in accessing virtual drives C, D, and E. MICROCode was not aware of any software which uses 0030 and I have not experienced any problems with using this location in "page zero".

Also, if you intend to do date and time stamping of your files, enter SETCLK as the "initial program/command to execute" whenever your system is reset.

Once you have exited this first installation menu, QINSTALL prompts: Do you wish to examine or modify the default QDOS setting? (Y/N):

Answer Y again. QINSTALL will display another menu. Make sure "automatic disk re-log" and the "drive/user search feature" are enabled and change "BIOS supports BDOS error code table" to YES. Then enter an address for the "time/date jump vector" as follows: If you do not have a clock, but would still like QP/M to do static date and time stamping, enter 0040 as the address. If you have the Z-Time clock installed, enter the address of a "hole" in your system's BIOS where the clock routine can go. We enter the address here so that QP/M will know where to put the clock routine when booting and where to jump to get the current date and time whenever it's needed.

The Z-Time clock routine requires 108 bytes not used for anything by the BIOS. With the revision 1.5 and 1.6 BIOS, address FB00 works fine. This is in the terminal translation section of the BIOS. Unless you have a very unusual terminal, this area will be unused. Also, if you have a Morrow MDT-20 terminal which has been upgraded with Software Techniques' upgrade kit and you have installed the type-ahead patch, using FB00 will ensure that the clock routine won't write over the type-ahead patch, which is placed 128 bytes further on at FB80.

For other BIOS revisions, you'll need to list the CBIOS.ASM file and look for a similar place, then find the address either by reassembling the CBIOS or by using DDT to look for this section in the system image. This is easier said than done. However, it only needs to be done once, by one knowledgeable person, who can publicize the address for others to use.

After exiting the QDOS installation menu, you will be asked:  
Enter name of your SYSGEN program:

Enter SYSGEN. Now QINSTALL executes SYSGEN, returning control briefly to you. The pertinent dialog should go like this:

```
SYSGEN
SOURCE DRIVE NAME [Press A]
SOURCE ON A, THEN TYPE RETURN
[Press RETURN]
FUNCTION COMPLETE
DESTINATION DRIVE NAME
[Press RETURN]
```

QINSTALL now resumes, searching for the system image SYSGEN has read into memory:

```
System image found starting at 0M00H
Installing QP/M
```

QINSTALL replaces CP/M's CCP and BDOS at this point with QP/M's QCP and QDOS, then resumes SYSGEN execution so you can save the system to disk:

```
SOURCE DRIVE NAME [Press RETURN to skip and use the system in
memory]
DESTINATION DRIVE NAME [Press B]
DESTINATION ON B, THEN TYPE RETURN [Press RETURN to confirm]
```

SYSGEN now writes the patched system image to drive B and exits to the familiar and reassuring A> prompt. Put the disk from drive B into A and reset your system. If everything went well above, QP/M should boot and attempt to execute the SETCLK program, which we haven't created yet.

### **Creating SETCLK**

Run program TDCNFG that was included on the QP/M distribution disk. Actually, you can run TDCNFG before running QINSTALL. TDCNFG will display a list of clocks. Select the "other" choice. Then select whether or not you have a clock and enter the address used above in QINSTALL. That is, enter 0040 if you don't have a clock, or FB00 (or whatever the address is for your BIOS revision) if you have the Z-Time clock.

TDCNFG will create the tiny SETCLK program (2K) that needs to be present on your bootable disks. If you don't have a clock, SETCLK will prompt you for the time whenever you reset your system. However, the time only needs to be entered once, or to change the time. The previously entered date and time stays in memory for as long as your system is turned on. To skip over entering the date and time again, simply press Ctrl-C.

If you have the Z-Time clock, SETCLK will simply poke the clock routine into memory and return control to QP/M each time the system is reset. This happens so quickly you'll hardly notice it.

## **Two things to watch out for with QP/M**

To create other system (bootable) disks with QP/M, use SYSGEN as usual. Also, copy SETCLK.COM to each system disk. Plus, if you want to do date and time stamping of files, run QSTAMPX on all disks to create the hidden file (TIMDAT.QPM) which contains the file date and time information.

While QSTAMPX is supposed to work with disks which already contain files, it occasionally will corrupt one of the files on the disk. Hence, I would recommend that you use QSTAMPX only on newly-formatted disks. The reason goes something like this:

In addition to creating the date and time stamp file, QSTAMPX also places QP/M's D.COM sorted directory program (4K) on each disk. Furthermore, QSTAMPX places D.COM in the very first file sectors on the disk to ensure quick access to D.COM. In doing so, though, QSTAMPX has to move part of whatever file is currently occupying those sectors to some other place on the disk. Sometimes it doesn't get all this shuffling around quite right, even if there's plenty of space on the disk. Perhaps this problem has been corrected in subsequent versions of QSTAMPX (mine is version 2.3). In any case, there's a way to work around this by using QSTAMPX only with blank disks.

Another thing to watch out for with QP/M is when using QP/M-stamped disks on CP/M 3.0 systems. Reading these disks works okay, but writing to them on a system like the Morrow MD5 will not only wipe out the hidden date-time file, but corrupt the first new file written as well. This is because CP/M 3.0 does not "see" this hidden file and goes ahead and uses the block allocated to it.

This problem occurs only with disks which have been stamped with QSTAMPX. Disks which have not been stamped can be freely interchanged with CP/M 3.0 systems. Also, since CP/M 3.0 stores its date-time stamps in the file directory, CP/M 3.0-stamped disks can be read and written without problems under QP/M, as can normal CP/M 2.2 disks.

I alerted MICROCode to this problem. Reportedly they are at work on a special Morrow version of QSTAMPX, though I have not heard anything from them since December. Perhaps if other users inquire about this, a solution can be worked out.

The numerous other QP/M features are nicely documented in the loose-leaf manual. There's a lot here for only \$60.

## **The Z-Time I clock**

Thinking I would save \$30, I recruited a friend with soldering experience and ordered the Z-Time kit from Kenmore Computer Technologies. This was on July 22, 1985.

The kit arrived within a few weeks and we set to assembling it. There really aren't very many parts involved and the total assembly time for this tiny board wasn't more than an hour. However, there was a one-day delay as we researched which resistors were which. The relatively thorough manual included with the kit apparently assumes that you can read the color-coded bands on the resistors to determine which is 220 ohms, which is 1k ohms, and which is 10k ohms. Well, I can't, and neither could my friend. Hence the trip to the library.

The resistors can be identified as follows by looking at the narrow bands of color on each one:

RED RED BROWN GOLD = 220 ohms  
BROWN BLACK RED GOLD = 1000 ohms  
BROWN BLACK ORANGE GOLD = 10000 ohms

Once the Z-Time has been assembled, open up your Micro Decision, remove the drives, and carefully remove the Z-80 chip from its socket on the Micro Decision mother board. Don't bend its pins. If you're not comfortable doing this (I'm not), get some competent help or have a dealer do it for you.

The Z-80 plugs into the Z-Time board and then the Z-Time board plugs into the socket where the Z-80 was. This is called "piggybacking."

Plugging the Z-Time into a 40-pin socket before installing it elevates it a little from the mother board. However, make sure there's enough room beneath the drives.

Reinstall the drives and plug everything in. Then turn on your system and insert a system disk into drive A. Your system should boot normally.

### Getting nowhere

This is where everything came to a halt for me. The system refused to boot with the Z-Time inside. Nothing appeared on the screen. Pulling the Z-Time board and reinstalling the Z-80 worked fine, but the system was dead with the Z-Time inside.

We checked the soldering connections, even resoldered a few things, but to no avail. Then the Z-Time went back to Kenmore. It was now August, hot and sultry.

Time passed. I made phone calls. My Z-Time wouldn't come up on Kenmore's test system. They were passing it along to the designer of the board. It was now September 27.

In mid-October the board was returned to me, unspecified fixes having been made, but it still wouldn't work. I was busy. Time passed.

Finally, on December 4th, I got the word that Kenmore was no longer recommending the Z-Time for Micro Decisions with the revision 1 board. However, I was offered a full refund. Or I could send them the revision 1 board's schematics and they'd try to work out a solution.

I wasn't about to give up after all the work I'd put in on QP/M and the Z-Time, so I ran down the schematics and mailed them off. Time passed, days turned to weeks, weeks to months, etc.

On May 5, 1986, I decided to try out the Z-Time on a friend's system, with a possible sale in mind. However, an extender cable was needed because of the odd placement of the Z-80 in his system, so I was back on the phone to Kenmore again, only to learn that a fix had been worked out for the Micro Decision.

That evening we made the changes to the Z-Time board, plugged it into the Micro Decision, and away it went, just the way it should have back in August. The changes were simple, involving three tiny trace cuts and then soldering jumper wires as follows:

- Change the base port address from E0 to A0.
- Change configuration jumpers from B and D to A and C.

That's all that was necessary. Perhaps if you order the assembled Z-Time, you can request that these changes be made for you. Otherwise, it's a simple modification if you know what you're doing.

### **Using the Z-Time with QP/M**

Together, QP/M and the Z-Time clock function flawlessly, which is more than can be said about the MORE-CLOCK for the hard-disk Micro Decisions. At any time you can enter QP/M's TIME command to get the date and time down to the second. Plus, file stamping automatically uses the current date and time. QP/M and the Z-Time clock routine use up no more memory than ordinary CP/M, yet add a lot to the Micro Decision.

Several programs are supplied on the Z-Time distribution disk for reading the clock. Included are programs written in Turbo Pascal, BDS C, and M-BASIC. These programs need to be configured for the different base port address we're using. This can be done with program CFGDATE. Or, since the source code is included, the programs can be edited and recompiled. The clock may need to be set too. Once configured, program SETDATE can be used to do this.

These programs are not simple, and tend to a couple-three pages. Fortunately, since QP/M adds additional operating system calls, there's an easier way of getting the date and time in the programs you might write. For example, here's a program to do that in Turbo Pascal:

```

PROCEDURE GetDate(VAR Day, Month, Year,
                  Hour, Min, Sec :
                  INTEGER);

VAR
  DMA : ARRAY [1..6] OF BYTE;
BEGIN
  BDOS(26, ADDR(DMA)); {Set DMA address}
  BDOS(38, 0); {Copy date-time to DMA}
  Day := DMA[1];
  Month := DMA[2];
  Year := DMA[3];
  Hour := DMA[4];
  Min := DMA[5];
  Sec := DMA[6];
END; {End of GetDate procedure}

```

```

VAR
  CurDay, CurMonth, CurYear,
  CurHour, CurMin, CurSec : INTEGER;
BEGIN {Beginning of main program}
  GetDate(CurDay, CurMonth, CurYear,
          CurHour, CurMin, CurSec);
  WRITELN(CurMonth, '-', CurDay, '-',
          CurYear, ' ',
          CurHour, ':', CurMin, ':',
          CurSec);
END. {End of main program}

```

### Conclusion

Once you have used a system with a real-time clock and file stamping, you probably won't want to give up this feature. QP/M and the Z-Time are an excellent complement of software and hardware. If the QSTAMPX problems can be worked out, the match will be nearly perfect, which is more than can be said of many add-on products.

### Acknowledgements

Thanks to Paul Furbacher for his soldering skills and confidence and to Mitch Mlinar of MICROCode Consulting for much useful information. Also, thanks to the people at Kenmore Computer Technologies. Although I had to call Kenmore 13 times over the months (according to my phone bills), they did finally work out a solution for the Micro Decision and that's all that counts.

\*\*\*\*\*

(EDITOR'S NOTE: Phil Hess provided some miscellaneous notes about applications which will be printed in the next issue (January) of the Newsletter due to lack of sufficient space in this issue).

# Software Review: EFFORTLESS INTEREST

by Georgia Babladelis

Program: **Effortless Interest**  
System: CP/M-80 or MS-DOS 2.0+  
Company: MicroCost  
22015 Marine View Dr. So.  
Seattle, WA 98198  
Price: \$25 (special discount available to BAMDUA members!)

If you are looking for a program that does amortization and does it well, then you will be interested in **EFFORTLESS INTEREST**. The creator of the program, Don Slaughter, seems to be a master of zeroing in on specific needs and creating top notch programs to address those needs specifically. Those of you who benefited from our special deal on his **TYPEWRITER** program know what I am talking about.

**EFFORTLESS INTEREST** loads without basic, takes up 45K on your disk (although Don is working on shrinking this), and requires no more memory than Morrow owners already have available (64K or less). The program does compounding and payments on a daily, weekly, bi-weekly, monthly, quarterly, semi-annually or annual basis. The program is a fully compiled C program and boasts 64 bit accuracy up to 14 significant digits.

**EFFORTLESS INTEREST** is easy to use. A small, 4-page "manual" takes you through all its tasks. The program is operated from a task selection menu which is where you select the assumptions your amortization chart will use. The task selection menu is arranged in three columns, making it simple for you to make your own choices.

In column "A" are different assumptions you can select for how often interest is compounded when doing an amortization chart (e.g., interest can be compounded daily, monthly, quarterly, etc.). You select the one that fits your task. The default choice is monthly, but it is easily changed and remains changed as long as you keep the program in memory and keep using it or until you change that choice again in the menu.

In column "B" are different assumptions for how often payments are made when doing an amortization chart. Again, payments can be compounded daily, weekly, etc. And again, the default choice is monthly, which can be changed and remains changed until you make another choice or exit from the program.

In the last column "C" are three choices which allow you to select between two amortization charts and annuity valuations. The default is amortization. To let an amortization run until the principal goes to zero, simply enter zero for the number of time periods and it will automatically compute until the principal is zero. Of course, if the principal never reaches zero, the program

could run indefinitely or until disk space is gone, so be careful when you make such a selection. I tried it out with a principal that I knew had an end to it, although sometimes one wonders (my own auto loan), and it ran just fine. The accounting mode for doing amortization provides you with annual summaries if the payments and interest are on a monthly basis.

Moreover, this program allows you to do an annuity valuation instead of amortization. The annuity valuations are limited to only the monthly payment and monthly discounting options. It takes a regular monthly payment and discounts it at a selected interest rate monthly into the future and adds all future payments for the number of time periods selected.

The chart is automatically generated by the program once you select to enter data for chart making. You may choose to save the chart to disk or print it out or display it on the screen. At the end of any of these options, The program loops back to the task selection menu where you can redo the chart with different options. With such a capability, it is usually helpful to do the chart to screen until you have what you want, then remake your chart opting to save it or print it. I could not find a way to first view the chart and then print it without redoing the chart for printing.

Data is entered only as numbers (e.g., no commas, dollar signs, percentage signs); for example, an interest rate of 10% is entered as 10. When doing calculations in memory, the rate is divided by 100; the interest rate is assumed to be an annual figure. To skip a math input, enter zero. Depending on the compounding period selected, the rate is divided by the number representing the appropriate time (e.g., 365 for daily; 52 for weekly, etc.). Every computation is assumed as closely as possible to be an exact dividend of a year. The amortization schedule does not account for differences in the lengths of months, etc., so you should be aware of this if it is important in some arrangement you are planning.

It is easy to correct errors and it is easy to redo a chart using other assumptions. It is easy to run **EFFORTLESS INTEREST** and it is easy to view or print or save your resulting chart. In addition to accomplishing its purpose with clarity and ease, the program also allows you to compute simple interest on a monetary investment and to take into account differing payments (run one chart for each payment assumption).

Lately I have been noticing other amortization programs appearing in ads. Some of them can do less than **EFFORTLESS INTEREST** and some of them do the same, as far as I can tell. All of them cost more! True to its frugal tradition, MicroCost offers this easy and powerful program for only \$25; it is available at half that cost to BAMDUA members if we have a group purchase order of 10 or more programs. If you are interested in ordering this program, send me a check made out to MICROCOST SOFTWARE for \$15 (\$12.50 + \$2.50 for handling). Include an SASE so that I can return your check if enough group orders do not come through.

# Special Deals

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\*\*\*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. 31. \*\*\*  
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1. **DATAPLOTTER** - 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 versions available). See description of the program in the May 1986 issue of the Newsletter. Retails for \$99; a group order of 5 or more brings the cost to \$50 per copy!

STATUS REPORT: Have run into some snags; will get the review to you as soon as possible.

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

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

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# What's Available

The public domain software library contains 41 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.

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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).

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

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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.

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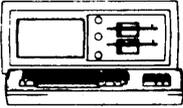
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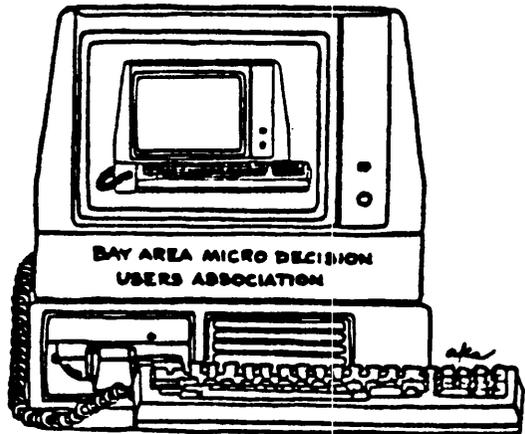


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