BAMDUA BAKUP News

Bay Area Micro Decision Users Association • Bay Area Kaypro Users and Programmers
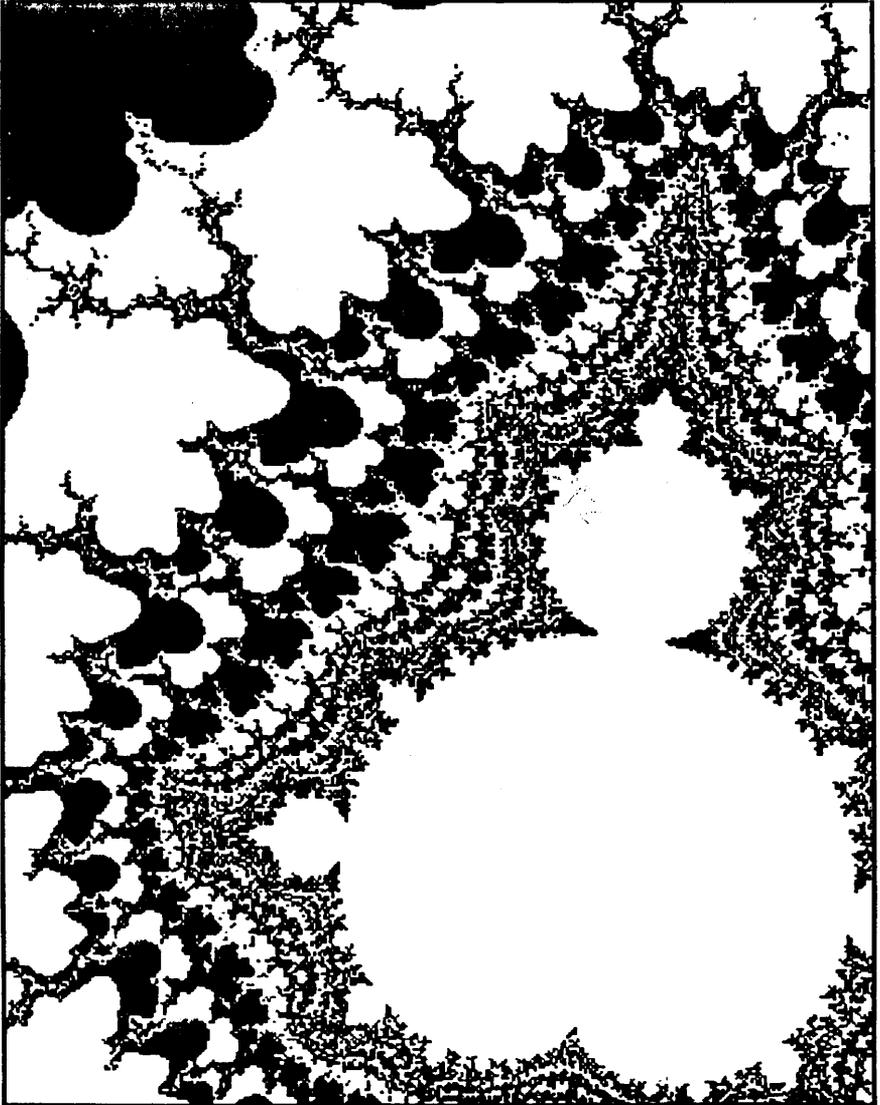
INSIDE:

BAMDUA-BAKUP NEWS is published bimonthly by **Bay Area Micro Decision Users Assn.** in cooperation with **Bay Area Kaypro Users & Programmers,** both Cal. non-profit corps., for their members. Membership fee to join, renew, or extend is $20/yr-BAMDUA, $20/yr-BAKUP. Both organizations founded in early 1980's to support users of Morrow MD & Kaypro CP/M computers, respectively. Both now have many users of other systems including MS-DOS. Both maintain libraries of CP/M-compatible public domain software & 24 hr. remote bulletin board systems. For information, send self-addressed stamped envelope to mail address. For BBS registration see online bulletin. Since ceasing publication, **Morrow Owners Review (MOR)** provides some material for publication, & to fulfill outstanding subscriptions, it purchases & separately mails copies of each issue, also continuing its own BBS.

<table>
<tr><td colspan="2">**USER GROUP MAIL ADDRESSES**</td><td>**PUBLIC MEETINGS**</td></tr>
<tr><td>BAMDUA</td><td>BAKUP</td><td>Albany Senior Center</td></tr>
<tr><td>P.O. Box 5152</td><td>P.O. Box 8537</td><td>846 Masonic Avenue</td></tr>
<tr><td>Berkeley, CA 94705</td><td>Berkeley CA 94620</td><td>Albany, CA</td></tr>
<tr><td>415-654-3882 BBS</td><td>415-849-9389 BBS</td><td>**3d Tues. each month**</td></tr>
<tr><td>534-4257 voice</td><td></td><td>**7:30 pm – near**</td></tr>
<tr><td>answer machine</td><td></td><td>**corner Solano Av.**</td></tr>
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BAMDUA OFFICERS

President	Peter Campbell
Treasurer	Robert Dupuy
Secretary	George Borys
Programs	Rick Charnes
Newsletter	Ilbert Butler
Library	Gene Korte
At Large	Sypko Andreae, Georgia Babladelis, Ron Jacobs, Wesley Johnson

BAKUP OFFICERS

President	Robert D. Athey, Jr.
Treasurer	Robert Dupuy
Secretary & Programs	Dave Bortin
Newsletter	Frederick Winyard
At Large	Dwight Chew, James Ullrey

BAMDUA PBBS/RCPM (& similar MOR PBBS/RCPM)

Phones:	(415) 654-3882 **BAMDUA**	Sysops:	Steven Wartofsky
	654-3798 **MOR**		Sypko Andreae
Baud:	300/1200/2400	Free:	BAMDUA & BAKUP
Hardware:	Morrow MD Hard Disk – CP/M 3.0 – 2 X 22 Mg		
Software:	PBBS, BYE, KMD, ZFILE, LUX, MAP, also PRACSA Member		

Current Circulation: 550

"Where Do I Get The Help I Need For This Electronic Idiot?"
As you well know, I don't know much about computers. I've
learned a few things simply because I've been around them a long
time. I also know my limitations - know what I don't know, and
am willing to admit it freely. So, I need help frequently -
partly because I try something I think should be do-able and
find I can't do it. Most of the time, I find some way to get it
done, and since you may run into a similar need, you might like
my list of where I get help.
    There are two reasons for a list of this kind. First of
all, I recently had a virus attack that soaked up RAM in my
three MUSH.DOS computers. I had to reach the whole network for
that one, and it's been isolated in one computer and eliminated
on two others. The second reason to think of the list is the
raft of BAKUP related phone calls waiting for me as I recently
returned from a foreign trip. Each wanted a different sort of
help, and they soaked up the range of my references.
    When I run into a problem, I run through a list of several
help aids that will usually give me what I need to solve the
problem. I only run into problems of three kinds - hardware,
software and operating system. Each calls for a similar (but
different) list of aid givers. Now, I must admit that lots of
times, I'll think up a way to work around a problem. That's
simply a matter of coming at the problem from a different direc-
tion. Using a spread sheet for a data base sort of problem, for
instance, because I've never taught myself how to use Perfect
Filer, File Express or dBase. Laziness calls for invention, on
occasion. Eventually, though, I have to get a solution to the
problem. In that instance, I pursue the solution to the problem
aggressively.
    In each instance, my first step is to check the documenta-
tion. If that's lucid enough for me to understand, I can solve
the problem. BUT ... it's not common that the MS.DOS or CP/M
operating system manuals give me that much benefit. The newer
manuals from the software companies are really good on programs,
and I've let that be known in my reviews. I also have a set of
files from Computer Currents and MicroTimes for specific appli-
cations (modems, etc.) as references.
    If the manual is no help, I then go into my library for
books, magazines and user group newsletters. I frequently re-
member vaguely having seen some item dealing with my problem in
MicroCornucopia, FogHorn, Profiles or Bakup/Bamdua. Looking
through them is entertaining, too. The books I go to are from
the MS.DOS world, as I've been sent about a dozen or more to re-
view for various publications. Books from Sybex, Osborne-McGraw-
Hill or others may be in your local library. There are several
Sybex books that reduce the complexities of MS.DOS to people
language, and they are in varying grades of difficulty, from
rank beginner to "power-user" (a piece of jargon I don't like).
Some of those books are:
    1. **Operating systems:** The ABC's of the PC and Compatibles
by Joan Lasselle and Carol Ramsay, Sybex (fairly elementary).
DOS Users' Desktop Companion by Judd Robbins, Sybex (intermedi-
ate).

2. **Spread Sheets:** Guide to Spreadsheets Using VP-Planner by Normar Sondak, HoldenDay (elementary to intermediate).

3. **Word Processing:** WordStar Instant Reference by David Clark, Sybex (elementary to intermediate).

I really don't think the power users need any listing from me.

If that literature search doesn't work, I start making phone calls, first to my friends who are only slightly more techy than I am. From them I can I often get a little program to examine or eliminate my problem. For instance, Nancy Mulvany gave me a public domain program called PCMAP.COM that confirmed something was eating my RAM. The MS.DOS program called CHKDSK.COM tells you how much RAM is there, and how much is available, but not what's taking up the unavailable space. PCMAP tells you that COMMAND.COM has 30K, the disk parking program has 2K, and lists all the "TSR" programs with their RAM need. BUT... if it shows you an "unknown" taking up the RAM, you may have a problem like mine! Since I did the back-up, clean-up by reformat and reload two weeks ago, the PCMAP has me showing no unknown RAM assignments.

My youngest daughter, a Univ. of Pittsburgh computer room supervisor, sent me VIRUS GUARD, and the El Cerrito Plaza Security Chief (my office is in El Cerrito Plaza) gave me FLU SHOT, both of which were installed two weeks ago. The former has a "RAM WATCH" feature which also monitors modification of the boot tracks. Reboots have let me know the boot tracks are still being modified, but FLU SHOT doesn't show any attacks on *.exe, *.com, *.bat or *.sys programs -- yet. Although all the MS.DOS computers are 640K RAM, some had RAM consumption to the point that less than half was available in the worst cases. That meant I couldn't use WordStar 2000, Publish It, or some other items.

All of those calls are absolutely unofficial - just to friends. For more sophisticated help, I call Ted De Castro, Stew Pugh or some other more techy type. The most official calls are to the local computer seller on a hardware problem, and the software purveyor on a software problem. Indeed, I've even sent a print-out of the problem to several software companies where their program screwed up. In one case, the WordStar problem print-out showed two problems and they only saw one which happened to show I didn't use their documentation thoroughly. As soon as it was corrected, I saw the other problem immediately. For hardware problems, I call Roger Laurel at El Cerrito Heath-Zenith or the Berkeley Computer people.

A lot of problems are really dumb. I had difficulties with Perfect Writer and Perfect Calc once, getting them to call or save a file from within another file. It turned out that one needed to specify the disk drive along with the file name: "B:filename.doc" instead of "filename". The Perfect software people in Berkeley gave me the solution in 1983, and someone at a user group meeting reminded me of it in 1985 for Perfect Calc. In both cases, the solution was so simple I could only say "Argh, why didn't I think of that?"

A good portion of the difficulty is bound up in the ever increasing complexity of these beasts. I still have the KayPro in my office hooked up to the dot matrix printer (via a switch) so I can bat out a quick letter on VDO, if I want it fast. It

can be doing that while the MS.DOS computer is occupied reading a page of text with my Saba PageReader. I never had problems with bad programs, viruses, Trojan horses and so on with the KayPro. All this is new and not pleasing since I got the "bigger, faster, color, ..." computer. I think there's a message in that.

In any case, when someone calls me, I quite commonly don't have an answer. I will refer the caller to someone else who I think may be able to handle it. Many are referred to the phone list in the back of the BAKUP/BAMDUA Newsletter, but some are referred to Berkeley Computer, Silicon Valley Surplus or El Cerrito Heath-Zenith. Some are referred to Computer Currents or MicroTimes columns or classifieds, and some to the local library where they'll find a book or two.

In summary, I run into trouble now and again. My approach to finding the solution of the problem by:
1. Looking in the manual;
2. Looking in other literature (books, files, magazines);
3. Calling friends or asking the user group meeting; and,
4. Calling the supplier of the hardware or software.

In most cases, it works out nicely, and I can get on with my life of writing, playing games and doing some real work. A happy combination.

"Your Call Cannot Be Completed. . ."

Yes, we really did give you the wrong number for the MOR BBS in the last issue. But look at it this way: we were only off by one little itty bitty number. All the other numbers were dead right. Pretty close, huh? It's not like we got **all** the numbers wrong.

Anyway, this time we got all the numbers right, and if you don't believe it, give it a try.

654-3798

The MOR BBS (Sypko Andreae, Sysop) has invited all former BAKUP BBSers to join at no charge, and soon the BAMDUA BBS will also merge with MOR. It's the same old gang at a new number.

P.O. Box 782, Ithaca, NY 14851; (607) 273-2132

Gordon Northrup, who was looking for a way to access a "Rolodex" while in NewWord, writes, "I solved the problem by using VDE, which gives room for LBRDSK and a file of at least 150 addresses." I love it when people solve their own problems!

Dr. Northrup also asks if he could use his MP-100 and PCjr printers and his MDT-60 terminal with an IBM compatible computer. The printers will work, perhaps with some patching of software to insert the right printer codes (most software should have Silver Reed printers as an installation option, and that should work with the MP-100; see previous columns). The terminal is something else again. A PC or clone generates a video signal, similar to the video output of a VCR, to drive the monitor; Morrows generate a digital signal that is sent through an RS-232 cable to the terminal, which translates the digital signal into video for display. Our terminals don't have inputs that would accept the video signal from a PC, though I suppose one could be modified by a technician. Anyone out there have experience doing that? Even if you did that, our terminal keyboards don't put out all the codes a PC needs, and I don't think the keyboard cables are compatible.

With appropriate software it's possible to operate a PC from a remote terminal, just as we can operate a BBS or a mainframe over the phone; of course the "remote" could just as well be in the same room, connected by a cable. Seems like the long way around, since monitors are cheap, and most clones come with them anyway. On the other hand you might want to connect a terminal to a PC (preferably an AT with lots of memory) so that two people can work on different tasks at the same time, time-sharing the microprocessor — perhaps a solution when a computer intrudes upon a marriage. (You can also do this with a CP/M computer and the MP/M operating system, but be prepared for a slowdown.)

No other mail this month, so I have space to fulfill a promise I made a few months ago to explain how to use submit files for patching. You'll find submit files for lots of useful patches on bulletin boards. The best application I've found is patching function key sequences into NewWord or WordStar 4.0 (see previous column). You can do this with the WS/NW patcher or with DDT, but it's a tedious process of typing in well over a hundred two-digit hex numbers; if you make a mistake or if you change your mind about something, you have to do it all over. With a submit file all you have to do is make changes in the file, then repatch.

SUBMIT.COM, which comes with CP/M, reads a file of commands and executes them just as if you had typed them in from the keyboard at the A> prompt. XSUB.COM goes a step further, letting the contents of a file serve as input **inside** a program. It doesn't, unfortunately, work with WordStar or most other common software. It does work with DDT. Here's how you would use these programs to enter function key sequences in NW. (As always, work with a **copy** of the program you want to patch.)

You must have SUBMIT.COM, XSUB.COM and DDT.COM on your

working disk. Use your word processor in the non-document mode to create a "submit file." Each command or hex byte that you would ordinarily type in at the keyboard goes on one line of the file, followed by a <RETURN>. My file for patching function keys starts like this:

```
XSUB
DDT B:NW.COM
S0238
03
01
40
0D
etc....
```

The first line calls XSUB.COM into memory. The second loads and executes DDT. DDT will read the file NW.COM (which I'm assuming here is on the B drive) and display on the screen the hex numbers representing its code. The third line of the file is a command telling DDT to go to the starting address of the function key table (check your manual for the correct address in your version) and begin inserting new code. After that come the hex bytes to be inserted, one after another. At the very end of the file you put

```
.                 [that's a period]
G0                [that's G-zero]
SAVE xx B:NW.COM
```

There's a <RETURN> after the last line. The period tells DDT you're through entering new code, and the G0 exits to CP/M. The SAVE command writes the patched version of the program back to disk. The number shown as xx is very important. It's the number of 256-byte blocks the program will occupy on the disk; use too small a number and not all of the program will be saved; use too large a number and you'll waste disk space. To find the number, go to the A> prompt and type STAT B:NW.COM (or whatever program you're about to patch). STAT.COM must of course be on the disk. You'll see a display like this:

Recs	Bytes	Ext	Acc	
54	8k	1	R/W	B:NW.COM

The number under "Recs" is the number of 128-byte blocks the program occupies; divide by two and you'll have the number to use in the SAVE command. Don't ask me why they use 256K blocks in one place and 128K blocks in another; I wasn't around when they wrote this stuff.

The file of commands must have a name with the extension A> prompt and type

SUBMIT KEYPATCH <cr>

Then sit back and watch commands and numbers flow across your screen as if entered by an invisible typist.

One caveat: there's a maximum size for a submit file. This

fact is very well hidden somewhere in the documentation; I re-
member reading it once and haven't been able to find it since,
so I don't know exactly what the limit is. I've found in prac-
tice, though, that it's somewhere around 90 lines, which is
enough for many common patches but not enough for a function key
table. I broke mine into three parts, running them one after
another. Each file has to begin by calling XSUB and DDT, then
have an "S" command with a starting address right after the end
of the previous patch. (My third file is the part of the table
that goes in MORPAT, and begins with the address of that area.)
Each file must end with the same SAVE command.

When I made up my function key file I included the names of
the keys and a description of the keystrokes I was patching into
each one. When I was ready to patch I made a copy of this file
and deleted all the descriptions. When making changes, it's much
easier to figure out where you are in the annotated file.

[Ahem. The earnest but absentminded production crew acci-
dentally cut a couple of sentences from the last edition of
"From the Mailbox." We abjectly apologize to Bill Steele and his
readers. Luckily, however, the two sentences omitted were of an
editorial nature not vital to the sense of the article. We've
all been put on water and biscuits for two weeks and we'll never
do it again.]

A Perfect Filer Patch

Kaypro users of the old Perfect Filer have run out of of
time. The original PF had a maximum date of 1988. A patch to
extend this to 1999 was published in a letter to Profiles
back in October 1985, and I have had several calls from
folks wanting the fix. It should probably be stuck in the
next newsletter:

1. Put your CP/M disk in the A: drive and your Perfect
   Filer disk in B:
2. Type "DDT B:SETUP"
3. At the dot prompt type "S0715" and hit return.
4. DDT will display "58" (88 in hexadecimal). Type "63"
   and hit return.
5. Type "." and hit return.
6. Enter a Control-C to exit DDT.
7. IMMEDIATELY type "SAVE 16 B:SETUP" and hit return.

The Perfect Filer disk will now allow dates up to 1999 -- at
which point you may have to buy a new computer! You can
extend this to other Perfect Filer program disks by copying
the SETUP file from your modified disk to the other Filer
disk. The SETUP file lives on the program disk, not the data
disk, so you should only have to do this to your working
program disk. Good luck.

— **Steve Willett**
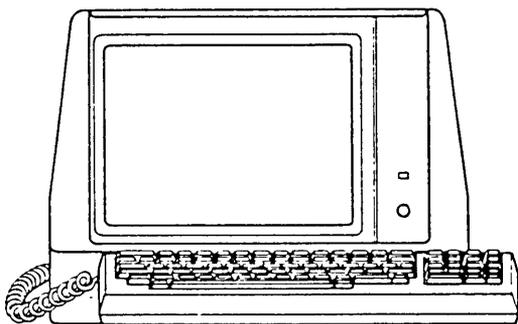
What kind of computer do you have? If you have an old Morrow or
Kaypro or other CP/M computer, you may be feeling as if you are
missing out on the continuing computer revolution. Read this
article, substituting your computer brand each time you read
"Morrow."

I noticed that I have heard "Is it worth repairing?" sev-
eral times recently. I answer the phone and hear a sentence or
two about what has gone wrong with a Morrow computer, and then
I'm asked if the caller should repair it. The fact is that I
don't believe I can answer that. I might feel that we could dis-
cuss it over a period of a few weeks and then I might feel con-
fident in giving a recommendation. Consider the questions that
go through my mind when I'm asked "Is it worth repairing?"

1. What kind of person are you? That is, what would be your
motivation for junking your Morrow equipment and getting some-
thing else? Do you feel out of place with your old computer be-
cause nobody to whom you mention the Morrow name recognizes it?
Are you ashamed because you mention "CP/M" to software salesmen
and repair shops and they encourage you to leave their premises?
Do you want to have a new computer because it is your style to
buy what is new?

2. Is your Morrow doing what you want it to do? For
example, are you using it just for word processing (Wordstar or
New Word, etc.) and does it do that job adequately? Or do you
want to do desk top publishing (if you do, you need a new com-
puter). Maybe there is something that makes your Morrow incon-
venient and you don't know that there is an easy solution.
Another example: your associates have IBM clone computers. You
want to be able to do word processing on your computer and have
disks that you can exchange with your associates. You don't know
that you could use DOSDISK to be able to read and change their
disks in your Morrow and that they could then use those disks in
their computers.

3. Are you concerned that your Morrow is going to breakdown
too frequently and/or cost too much to repair now that it is
older? How important is it to you to have a reliable computer?
Can you do without your computer while it is being repaired?
Have you considered that a new computer may also have problems
with the hardware or in getting the software set up for your
needs? Do you want to learn the intricacies of a new computer?
Is it worth while to you to get a spare Morrow?

4. Have you developed a network of friends and supporters
through your use of and interest in your current computer? Do
you want to change your relationship with that network or aban-
don it? Since you are reading this article, you do have some
friends in the Morrow community. Some Morrow users just don't
have any support.

5. Do you have an investment in customized software? Did
somebody write a special program for you four years ago? Did you
spend 18 months getting ZCPR running on your computer and are
you having too much fun with it now to change?

Everybody is unique. What is acceptable to me may not be
acceptable to you. I can't easily answer the question, "Is it
worth repairing?" You'll have to decide for yourself.

301 North Roadrunner Parkway, #109, Las Cruces, NM 88001
(505) 521-1567

Here it is Friday the 13th and Sypko has been gently reminding
me that the deadline is tomorrow. To be honest, there isn't much
new in the CP/M world. Maybe I'll just let my mind (such as it
is) wander.

About the only thing I've seen new in the Public Domain
world of software is another modem program called QTERM. It has
some nice features such as the Kermit file transfer protocol,
VT100 terminal emulation and split screen operation. However, it
seems to have some bugs. I haven't been able to get the XModem
or YModem protocols to work reliably. Both Jerry Maloney and I
had it lock up for a while for no known reason. The documenta-
tion seems to be pretty good but the patch instructions for
matching your terminal and computer are sketchy at best and in
some cases flat wrong. Some of the information is also missing.
I've got it working (kind of) on my MD3 with the MDT-60 term-
inal, but it needs some more work.

I've been modeming to down-under (boy, Ma Bell loves me)
with Ron Murray, the author of ZMP, and Lindsay Allen, a big
Morrow fan. It seems a shame, but it looks like most of the new
CP/M work (exclusive of the Z world) is being done in Australia
and Europe. We in the Morrow community are lucky to have a few
active contributors like George Borys. We still see some neat
new stuff, like George's SmartWatch, once in a while.

I've been checking into the CP/M conference on GEnie
(Wednesdays at 10 p.m. Eastern) to see if anything is happening.
The only people I meet there are C128 users. I did get a chance
to play with a C128 the other day and I'm beginning to see why
CP/M isn't too popular among the C128ers. The biggest problem is
their disk drives. They are awfully slow. And they don't hold
much - about the same as a SSDD Morrow disk. CP/M is a pretty
disk intensive operating system and the time spent waiting for
that C128 disk drive would drive one nuts. Trying to use a pro-
gram with overlays (like WordStar) would really be frustrating.
Couple that with the fact that most C128ers only have one disk
drive and you can see what kind of problems they're facing. For
some reason Commodore decided not to distribute all the CP/M+
utilities, like SHOW. I hate to sound like a stuck record, but
these C128 guys could use some help from the more experienced
CP/Mers. There is an opportunity here.

It looks like PC Pursuit was too good to last, at least in
its present form. As of the 1st of February the rates went up to
$30/month and that is only good for 30 hours. After 30 hours
it's $4.50 an hour. If you do a lot of modeming you can buy ad-
ditional 30 hour blocks at $30 each. It's still a pretty good
deal.

A couple of people have expressed interest in hard drives
and RAMDisks for their Morrows. There were two outfits making
hard disk systems for the floppy Morrows: Advanced Concepts,
8926 S.W. 17th St., Boca Raton, FL 33433 and WestWind Computer,
33447 Western Avenue, Union City, CA 94587. I don't know if

either of these outfits are still supplying but I suspect that
the Minni-Winnie from Advanced Concepts might be procurable.
[WestWind is not in the Morrow hard-disk business anymore. -Ed.]

As far as RAMDisks go, the only one I know of is the SWP
Co-Power-88 which also had an 8088 co-processor on the board. It
would run a very limited set of IBM software but the biggest use
seemed to be as a RAMDisk. Again, I doubt if they are still
available.

I had toyed with the idea of making a Morrow RAMDisk and
writing it up ala the MACK, but when the 256K DRAM chips tripled
in price that project went on the far back burner. Maybe if they
get back under $5 each I'll dig my notes back out.

My first technological hobby was ham radio. As I mentioned
in my last column, my dad has been licensed since 1939. I picked
up my first license in 1955. Ham radio went through an inter-
esting evolution. Before WWII it was all "build it yourself" and
see what happens. Not all that many hams were electrical engi-
neers and as a result they went and did things that weren't sup-
posed to be possible because they didn't know any better.

The years following WWII were the real boom years. Army
surplus electronics could be had for a song. True, most of the
stuff couldn't be used just as it was, but modifying the stuff
to see what it could be made to do was exciting. I remember hit-
ting "Surplus Row" in Chicago as a kid and being able to afford
the stuff that was there. If you could get the license you could
get on the air for fifteen or twenty bucks. That was a lot of
allowance in those days but it was do-able.

Then technology progressed. The stuff you could build your-
self or get as surplus just wasn't adequate any more. You could
still buy kits at a reasonable price from Heath and Allied but
it was more than a few months allowance. Ma and Pa had to help
out. But exciting things were still happening. I remember in the
late 50s being one of the few on the air with Single Side Band.
There weren't too many other SSBers to talk to but those who
were there (like Irv Hoff of IMP fame) were innovators.

Things progressed even further and the cry was that the
hobby was being taken over by "appliance operators" who just
turned the knobs and talked. Some truth in that. Then the Jap-
anese entered the market. In those days the exchange rate was
Y360 to the dollar. Names like Kenwood, Yaesu and Icom replaced
Collins, National and E. F. Johnson. Soon the American manufac-
turers no longer could make money in the ham radio field. Of
course, now with the exchange rate what it is, the Japanese
equipment is expensive.

But what really drained ham radio was the advent of the
home computer. Those bright teen-agers who would have been modi-
fying an ARC5 surplus radio in the 50s were building an ELF from
Popular Electronics or playing with a TRS80 Model I or a KIM-1.
There was a newness that had gone from ham radio. While ham
radio isn't dead (it's even growing some), it is a little mori-
bund.

Now what has this to do with computers? Well, maybe I'm
imagining things but I think I see the same thing happening in
the computer world. When I first started playing with computers,
new PD software was flying left and right. You could hardly keep
up with the latest revisions. The hobbiests were implementing

compression schemes and inventing file transfer protocols. Build-it-yourself articles abounded in magazines like Byte and Dr. Dobbs' Journal. Ditto with programs. When was the last time you saw a program listing in Byte? Do you even read Byte? I don't and I still have a Volume 1, Number 1 gathering dust that was more interesting than any of the recent issues I've read.

So where do we go from here? Does the average age of the computer hobbiest continue to climb 'til it reaches the late 40s like ham radio? Is the spirit of adventure gone? Most importantly where are those bright, technologically minded teen-agers going?

I'm not comforted by what I see. Someone tell me what the technological hobby of the future is. I want to get in on it.

Hints and Kinks from the BBS

The following excerpts are from the MOR and the BAMDUA BBS (Bulletin Board Systems) in Berkeley, CA. They are reprinted here because the three subjects dealt with are of particular interest and most of the readership doesn't have a modem, or live too far away from the BBSs to call in and follow the messages. The first section is about ARK the latest way to compress/decompress files; the second section is a treatise about the modem program MITE; the last one deals with CLOCKS for Morrows.   -- Sypko Andreae.

FILE CRUNCHING WITH ARK

To: Ilbert Butler
From: Mike Allen

I agree with most of what you say. I was just trying to point out that there are pitfalls with ARK and that if it is used precautions should be taken.

I'm surprised that you've had "trashing" problems with NULU. The only time I've had problems in that way has been when the actions are taking place between two drives with different formats and then only in the case of different block sizes on the drives. Happens frequently when unsqueezing a file from an LBR on an HD to a floppy. I have found that the easiest way to avoid the problem is to call NULU from the drive you wish to be the destination drive and then open the file on another drive using the du: prefix. I NEVER change logged drives/users from within NULU since that seems to up the chances of scrambling a file. (I'm using NULU151 by the way).

I'm afraid that I assume that everyone knows the idiosyncracies of relatively stable software and forget to pass on what I find. I do remember to pass on what I find wrong in the newer stuff. I never mean to imply that the newer stuff is not as good as the older stuff. If I think it's worse I'll say so!

To: Mike Allen
From: Ilbert Butler

One thing about ARKs -- It is true that the CRUNCH algorithm is
about 10% better at compression. But I appreciate it if, when
ARKs are made, ALL the member files have their original names,
and are also compressed using the ARK algorithm, i.e., com-
pressed into the ARK by ARKx.COM, not previously crunched and
then put in the ARK. The reason is that UNARC is available on
most BBSs, and can type a DOC, FOR, or ASM file to screen
online, but only if it is made a member of the ARK by the first
method. When made by the second method, there is no opportunity
to preview. You have to download and extract it to find out what
it says.

TIPS AND TRAPS WITH MITE

To: All MITE Users
From: Ilbert Butler

Mycroft Labs, publishers of MITE, is out of business, and there
is no referral number. Any help you get from now on will be from
users. Here are three tips:

   1) **MITE Demands an Exact Modem Cable & Exact Modem Dip
Switch Settings.** The MITE manual declares only one specific null
modem cable to be correct for all Morrow MDs. This cable swaps
pins 2-3, 4-5, and 7 is straight through. But instead of swap-
ping 6-20, MITE wants you to connect Morrow pin 6 to modem pin
20, BUT modem pin 8 to Morrow pin 20.

   Why is this? The Intel 8251A USART serial controller on
MD-2s & -3s has no carrier detect input on the chip, and there
is no carrier detect input pin in the factory default serial
port configuration, since this is a physical impossibility. MD-
HD factory default serial ports are compatibly configured, even
though the Zilog Z80 SIO/9 serial controller does have a carrier
detect input. SO, for ALL MDs, MITE does a custom I/O routine
that interprets an incoming signal on Morrow pin 20 NOT as data
set ready (which only means the modem is turned on & working),
BUT INSTEAD as carrier detect (which means the modem is receiv-
ing a carrier from a remote modem).

   Under this custom I/O, MITE also determines that, if there
is a carrier detect signal, you cannot dial a call, because you
are already connected.

   This means that to run MITE, you must use their cable pin-
out, and you must not force carrier detect on with a dipswitch
at the modem. Or else you must dial all calls manually.

   Likewise, since a modem hangs up when the computer drops
either request to send or data terminal ready, or both, you can-
not hang up the phone, unless these lines are not forced by dip
switches at the modem, and you use the MITE cable pinout.

   The dip switch settings demanded by MITE (no handshake sig-
nals forced) are the opposite of what most modem manuals rec-
ommend (all handshake signals forced). The modem manuals tell
you to force lines, so you will be able to communicate with only
pins 2, 3 & 7, with no hardware handshake at all, and perhaps no
software other than homemade BASIC program routines. MITE only

hardware handshakes with the modem. It does not use Xon/Xoff as a serial protocol, even though it sends ^S & ^Q to a remote modem in communication. This is all poorly documented in the manual.

2) MITE 2.7 Does Not Recognize 1K Block Transfers.—Don't Know About Later Versions. This program preceded 1K block transfers, and the code requesting them confuses the program. You have to suppress the 1K request at the remote BBS end with the appropriate KMD command. From the prompt in the file transfer area, type: KMD<cr> for a menu of KMD commands.

3) Although the Modem Code Is All Inside MITE, and the Computer Code Is All Inside the Installation Overlay, the Overlay Must Have the Right Name To Install a Specific Modem.

What does this mean? It means that if the only overlay you have for an MD-3 is named CTSMCD.HEX, it won't install for a Hayes modem, until you rename it MICROD.HEX. You don't have to change it or reassemble an ASM file. You just have to rename it. Once renamed, it won't install for a CTS modem. Likewise, if you have CTSMD2A.HEX for an MD-2, it won't install for a Hayes modem until you rename it MICROD.HEX, and once renamed it won't install for a CTS modem. Likewise, if you have CTSM11.HEX for an MD-HD, it won't install for a Hayes modem until you rename it MORROW11.HEX, and once renamed won't install for a CTS modem.

In case you are wondering what MITE did, they made all programs sold specific to one make & model of computer and modem, and didn't publish the instructions. You had to be a registered user and call them to know how to change modems. Cheap trick. Thanks to George Borys for figuring it out.

Mycroft Labs deserved to go out of business.

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For **Kaypro-related** articles, advertisements, or memberships in BAKUP ($20/yr), write to P.O. Box 8537, Berkeley, CA 94707-8537; or call Bob Athey at 415-526-3541.

For **Morrow-related** articles, ads, or memberships ($20/yr) in BAMDUA, write to P.O. Box 5152, Berkeley, CA 94705, or I. Butler at 415-526-8655.

Helpful Utilities?

This time I'm going to tell you something about my adventures
(mis-adventures?) with several public domain utilities in the
process of trying to clean up my hard disks. You'll hear about
BU20, FIRE12, SAPP20, ZAP35, and DU89. They are all available on
the MOR BBS, which will absorb the BAMDUA BBS as of the February
1, 1989.

My MD222 is a converted MD11 with two 22 MB hard-disks and
one floppy. I use it every day for modem communication, book-
keeping, letters and other writing, database work, etc. Apart
from frequent incremental back-ups, every half year I empty each
disk out on some 30 floppies, reformat the hard-disk and reload
all the files again, using BU20 to back the files up, and NSweep
to restore them. Why do I do this? When you use a disk a lot
(erasing files, creating new ones) the files will become "frag-
mented" and we say then that the disk has become "scattered."
After a while that really slows things down. In addition I
simply believe that it is a good idea to reformat my hard-disks
at least once a year.

To take care of a fragmented disk this is what you have to
do: First, **back up** the entire hard-disk. I use BU20 for full
back-ups, and again BU20 for incremental back-ups thereafter.
During a full back-up you copy all the files (BU20 command: BU20
A B -A). Every file that is backed up will get its Archive file
attribute set. During an incremental back-up only files that do
not have the Archive attribute set are copied: Only those files
are backed up on floppy that have been changed or which were
created since the last full back-up. Saves a lot of time.

Re-organizing Your Disk

You can use SAPP20 and FIRE12 to re-organize your disk. But read
this article first and then decide if you really want to do
this. If you're still game, this is what you do: After the full
back-up, run SAPP20. SAPP Sorts And Packs the disk directory.
You have to do this before you run FIRE12, the File Restore pro-
gram. FIRE12 picks up all the scattered file pieces, then re-
writes each file in one contiguous piece. Thus all files in all
user areas of the current disk are treated. A disk reorganized
in this fashion makes your programs run much faster, at least
the ones that use large files (especially database programs). It
also makes it less likely that the system will pick up a wrong
piece of file. This has actually happened to me a few times.
Very disconcerting!

Now let's step back a moment to explore how files are
stored on disk in more detail. By way of introduction I'll let
Steve Dirickson, sysop of Seattle's "Downspout" BBS, explain it
to you because he does it so nicely:

"Compatible operating systems store files on disk in what

are called "allocation groups." The size of an allocation group is determined by the system's BIOS, and is typically 1K or 2K bytes for floppy disks, and 2K, 4K, or 8K for hard disks. The allocation group (4K for MD11) is the smallest unit of storage on the disk; if you write a one-byte file to the disk, it will take up just as much space (in the sense of making that space unavailable for storing other files) as would a file the size of one entire allocation group.

"When a disk is formatted, all allocation groups are free, and the first file written to the disk occupies the allocation groups immediately after the directory, in sequence. The next file written to the disk occupies the groups after the first, and so on. When a file is deleted, its allocation groups are freed up, and may be reused by the system.

"As files are written and erased, later files start to become "fragmented"; i.e., they are written with some allocation groups in one location and other groups in other locations. Thus, when these "fragmented" files are read or written, the system must position the read/write head over one track for part of the file, then move the head to another track for more of the file. This starts to degrade disk performance, because more and more time is spent moving the head around to find the various parts of the file, causing access times for the files to get longer and longer. This problem affects both floppy and hard disks. The effect this has on the system response is dependent on how the system buffers the disk data in memory. A system that uses a "track buffer" system, where an entire track is saved in memory each time the disk is read, will be VERY much slower when accessing severely fragmented files than when the files are stored in sequential allocation groups, and thus several related groups are kept in memory together.

"The only way to recover from this situation has been to copy all files on the disk to back-up disks, reformat the disk (or simply erase all the files), and then recopy the files from the back-up disk(s) to the working disk. This takes a significant amount of time to do, and it is even more inconvenient if files are assigned to several user areas on the disk, since each user area on the back-up disk must be individually entered and the files in that area copied to the corresponding area on the work disk.

"FIRE12 (RESTORE) is designed to make this process easier by eliminating the copy to and from the back-up disks. RESTORE works only on the disk being restored, and thus may be used even in a single-disk system."

Thank you, Steve. By the way, this copying from hard-disk to floppies has been made much easier with NSweep. Still easier is using BU20, my back-up program of choice. It does a file oriented back-up just as you would do with NSweep, only automatically. It only asks you to feed it floppies. All hard-disk user areas are faithfully recorded in the corresponding user areas of the floppies.

First a Full Backup

Sounds good so far, doesn't it? But there are some pit-

falls. Let me tell you what happened to me. First I backed up my
C: hard-disk. I figured that if something went wrong I could
still run from the A: hard-disk. Sure enough, I was in for some
surprises.

After I opened up the FIRE.LBR (I used LT27, real slick)
there was no SAPP20.COM file among the SAPP files. I tried to
assemble and link the SAPP20.Z80 source file, but the LINKer
would not do the job right. Finally I gave up on the assembly
and found SAP20.ARK on Werners's CO-ED BBS and this time there
was a SAPP20.COM file within. I read the SAP20.DOC file care-
fully, then patched SAPP20.COM as I was told. That is how I
found the first bug in the documentation.

I used ZAP35 to patch and noticed the byte values did not
match the documentation. The documentation was one byte off,
probably because the sign-on message at the beginning of the
file had been changed from "SAPP Version 2.0" to "SAPP Version
20", which caused all the bytes to move over one place. So where
it says "Byte 0124h should be 00 for Morrows," make that "Byte
0123h should be 00 for Morrows" and you will be okay. Yes, you
have to pay attention **all** the time.

Next I patched one byte in FIRE12.COM to make the report it
produces scroll rather than overwrite. This allows you to print
the whole FIRE report by hitting CTRL/P before you start FIRE.
In FIRE12 the bytes were in their promised spots as my very
suspicious checking revealed. Can't believe that documentation!

In the FIRE.LBR there is also a program DMAP.COM which
shows you how bad your files are fragmented. **Do not run DMAP.COM
under CP/M+ (hard-disk Morrows): it will destroy your directory
in one swift sweep.** I know, I tried it. But I was ready for it.
Risking everything to write an educational article...

Both SAPP and FIRE have limitations in the number of direc-
tory entries they can handle. In my machine SAPP could handle
1871, and FIRE could handle 1536 directory entries. How do you
know how many directory entries you have used? Run SHOW, a CP/M+
utility:

```
             C> SHOW [DRIVE]
             C> SHOW [DIR]
```

The first call displays 10 lines of interesting data about
your particular hard-disk among which you'll find the maximum
number of directory entries: 2048 for Morrow hard-disk machines.
The second call tells you how many directory entries are still
free. I had 1050 free, which means that I had 2048-1050 = 998
directory entries used. Because 998 is less than what SAPP
(1871) and FIRE (1536) can handle I had nothing to worry about.
Onward!

To check on how well SAPP would do its job, I peeked first
at the directory with ZAP35: After bringing it up, ask for S(ec-
tor); you wind up at Track=0008, Sector=0000, Block=0000 which
is right at the beginning of the directory. The directory uses
tracks 8 through half-way 15 (000F hex). ZAP is peculiar in that
it can only look at the first 8 MB on the disk; I wish someone
would fix that. In addition I have not yet found a way to print
sectors with ZAP, so after browsing around in the directory for
a while I used DU89 to print the first 20 sectors of the direc-

tory on paper. By the way, DU89 can "see" as far as 13 MB into
the disk.
    Then I took a deep breath and ran SAPP20. It said: "Read,
Sort, Write, Done," and was done in about 30 seconds. With ZAP I
took a peek at the directory tracks again and indeed! The direc-
tory was neatly sorted, first by user area, then by filename.
Then I looked at the whole disk with NSweep. Fantastic! Then I
ran the directory utility SD:

        C> SD $ANS [means: Show me the whole disk]

    Everything looked really pretty until I discovered an eerie
looking file, the last entry in C15. It was of monstrous size:

            C15:eeeeeeee.eee 6456 k

    As huge as SD wanted me to believe it was, it did not take
any real space on the disk. That means trouble! A bug in SAPP?
Or an undocumented feature perhaps? Strange as this was, I
figured FIRE wouldn't mind this file since, after all, it was in
its properly sorted place in the directory. I decided to leave
the file alone and ran FIRE:

                C> FIRE12

    FIRE asks you to be sure you have less than 1536 directory
entries and invites you to respond with "Y" if that is the case.
If not: Directory Death! Next, it takes its time calculating. Be
patient; in my case it calculated for 7 minutes. Then it starts
moving the files around, picks up all the little pieces, re-
writes them in clean, long, contiguous files. This process is
quite slow, something like half a minute per file, depending on
the length of the file and where it is. My 998 directory entries
representing 837 files took 7.5 hours to be rewritten. So I
started FIRE just before I went to bed. When I woke up in the
morning FIRE was still working away. I watched it finish while
having breakfast.
    Looking at the result with ZAP I was at first impressed.
Beautiful! To really enjoy it I ran SD $ANS. What was that? A
closer look revealed that the mysterious eeeeeeee.eee file now
resided in C0:. NSweep could not see it, but SD could, showing
its enormous (fake) size.

Eeeeerie Files Appear

    I was curious to see what SAPP would do with this eeeerie
looking file, so I decided to run SAPP and FIRE again (what the
hell, I have a back-up!). SAPP didn't have much to do this time
and, maybe out of boredom, created another strange (and seem-
ingly huge) file, calling it eDU89LOG. I remembered I had re-
cently deleted a file called DU89LOG. Here it was again,
slightly renamed. Why would SAPP resurrect deleted files?
    Brashly I went ahead anyway and gave FIRE. But FIRE would
not run, complaining that the directory had not been properly
sorted. What about that, SAPP? I ran SAPP again. FIRE quit once
more protesting about an unsorted directory. Then I ran SAPP one

more time. FIRE didn't accept. Back to SD again. Now there were four mysterious huge files with strange names: eDU89LOG had become eeDU89LO.G, a few more deleted files had reappeared (slightly renamed), and eeeeeeee.eee was there as huge as before, but now in C10.

An inspection with ZAP showed the eeeeeeee.eee file to be a directory entry nearly entirely consisting of E5 bytes. E5 bytes mean "free, unused space"; it was not a real file at all, it only looked like one. However, SAPP must not have been able to see the filenames with "e" in them and thus was unable to sort all these eeerie files to the end ("e" should have sorted after "Z"). FIRE was correct to complain about an unsorted directory. Conclusion: SAPP doesn't do a very complete job.

I felt compelled to go in manually with ZAP and I searched for any E5 byte in the directory space, which ZAP35 does very well. I found the four "e" files quickly and renamed them ZZZZZZZZ.001, etc., while placing them in area C15. Now SAPP was forced to sort them properly; positioned at the end I didn't think FIRE would be bothered by the ghost files. At bedtime I started FIRE again. It calculated for 7 minutes, gave a report of its plan of action. All looked fine; FIRE went about its 7 hour file-moving chore.

The next morning FIRE finished and I looked at the results with ZAP and SD. All was fine. Or was it? Something made me look inside the ZZZZZZZZ files. To my horror they had bits and pieces of real files inside them! I was able to recognize those bits and pieces as belonging to my PCFILE report files. What would have happened to those files? A quick look: Sure enough, they were corrupted! But I didn't break out in a cold sweat yet: I had made a **back-up!** Onward!

The corrupted PCFILE report files in turn had pieces of my bookkeeping SupeCalc files in it. That was not right either! After a little sleuthing I found out which .CAL files they were and ran SC2 on them: They were fine! Inside one of the ZZZZZZZZ files I had found pieces of a particular .CAL file that was nowhere to be found. Then I realized that that .CAL file had been safely archived away and deleted from the hard-disk last year; I had forgotten about it.

What if these ghost files only ate deleted files? Carion eaters! But if they ate other, healthy files as well, how would I ever find out which files they were? I made a quick survey of my most precious files and projects, and could not find anything wrong. Of course I only checked a small part of those 837 files. Who knows what other damage I'll find months from now? I may never know, but at least I have a **back-up.**

Not for the Faint of Heart

Here I am, using my MD222 after a rigorous cleanup, with only six files devastated. Was it worth it? Well, I learned a lot and got a nice "war-story" article out of it. But, I'm sorry, I can't honestly recommend a SAPP/FIRE procedure to anyone anymore. I am going back to full back-up, reformat, and restore every half year or so, with numerous incremental backups in between.

George F. Reding was the last author/modifier of SAPP and

FIRE, dateline August 2, 1987. Where are you George? I want to talk to you. Public domain software, I should have known. In the documentation of FIRE it talks about all the terrible bugs of the past and how they were fixed. George Reding proudly pronounced that FIRE had passed extensive testing on his converted MD11: another MD222! But he did not test on a disk with a half-year load of actively used and fragmented real-life files. Maybe he missed something. RESTORE is the forerunner of FIRE; this is what it says in the RESTORE documentation, and it applies to FIRE equally well:

"***WARNING***

Since RESTORE does in-place restoration of the disk, it has simply INCREDIBLE potential for wreaking havoc with your disk if something goes wrong while it is working, like a loss of power or a controller fault. Therefore, you should ALWAYS back up the disk to be RESTOREd shortly before running the program. This shouldn't be much of a problem, since you do a full back up of your hard disk at least every weekend, right? RIGHT? NO?!! Well, if you don't, you should. It only takes one occurrence of having to rebuild a disk's directory one group at a time to make you a believer. Just after a full back-up is the optimum time to run RESTORE.

DISCLAIMER:

This is a very useful utility, and I have tested it extensively. However, as noted above, it is also very capable of lunching your disks completely if the system has a problem. Use it in good health and happiness, but MAKE BACKUPS BEFORE YOU USE IT!! Papa Wallenda ran his system without a back-up. He's not around any more. 'Nuff said. (Steve Dirickson, Aug 1987.)"

I repeat: It has simply INCREDIBLE potential for wreaking havoc with your disk. No kidding! But if you have to make a full back-up anyway, then why go through all the SAPP/FIRE trouble? BU20 does a good back-up job which is easily restored with NSweep. If you reformat in between, all files will be contiguous and nearly alphabetically sorted as well. What more do you want? And whatever George Reding may have tried, FIRE is so slow that a BU20/NSweep procedure looks fast by comparison! I guess at this point you can draw your own conclusions. In any case, think twice before you play with:

**** F I R E ****

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