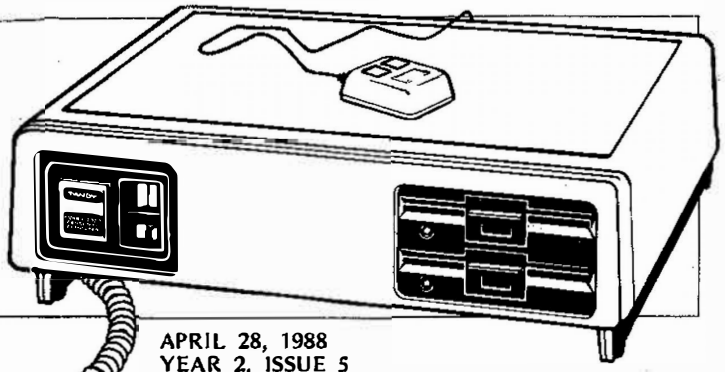
WE'VE GOT THE BEST COMPUTER AROUND, AND WE'RE GETTING BETTER OURSELVES — THAT'S WHY WE'RE THE BIGGEST ONE-MACHINE USER GROUP IN THE WORLD

The Tandy 2000 Orphans' WHIMPER



APRIL 28, 1988
YEAR 2, ISSUE 5

NICE LITTLE ENVISION HAS A LITTLE PRICE REVISION

Our little trade war with the Japanese is increasing upgrade prices at Envision Designs, the only place we can soup up the 2000. Dave Nechodom, as his chip-buying contract runs out, has made a third-quarter 1988 deal with higher prices, and has passed "exactly" that increase into memory upgrades.

You can send your Tandy memory tray to him, with or without its chips, and he will put in 18 new chips to boost it to 640K. This combines with the 256K in the basement to make 896K total RAM in your 2000. He includes software to convince the 2000 that it has the 896K. Today's price for this, including shipment to you cheapest way, is $255. If your check paying for the upgrade is not in his hands on or before June 1, the price becomes $435 as his new chip prices kick in. My advice: buy now.

If you don't have a Tandy memory board to send him, he has just 18 that he can remodel. The price for one with 640K is $304.50/$484.50.

Using the same old/new pairing, he'll replace the cellar shelf with your 256K memory, with 896 invisible K, for $645/$744. That way you get the 896K without using an expansion shelf. (An extra board beyond this won't work: Envision's fool-Tandy disk only gives the 2000 access to 896K total.)

For the cellar upgrade, you send Envision your big main logic board, if you can unscrew and unplug and softly pack it without getting a spark from a finger into a touched chip. If you feel klutzy, send the whole puter and expect to pay about $10 extra for packing and shipping.

Also for the cellar upgrade, if you have (or can get) a hard-drive controller board, send it along just as carefully; it must have a minor upgrade which Nechodom does free with the cellar 896.

In the cellar job, Nechodom can also add a math chip, which includes a Nechodom-created interboard that's "cleaner" than the Tandy version, an 8087 chip, and lots of cuts and traces. The total job, 896K underneath and a math chip, is $920/$1019. If you already have a math chip and just want your cellar 256K converted to 896K, the memory is cheaper: $486/$585.

Hard drives? Do-it-yourselfers have cut demand, but Nechodom still provides a complete route to change a double-floppy into a 3-drive. With Tandy board and Tandy 10meg drive, $400 complete. With Tandy board and Seagate 225 (20meg), $600 complete. The classier big packages with the "cleaner" Envision HD boards are still priced the same as ever.

Nechodom has three new products, and will be getting more if he can leave his other job and do Envision full time. He has a disk called FAZE IV which climbs into the BIOS instructions in our DOS .03, which makes a hard disk work about four times as fast overall. The result is a 10% to 30% increase in speed for a 2000 HD -- like bumping our clock speed from 8mhz to 10. Part of its work changes the hard drive interleave from 5 to 2. At $35, it seems to be a steal, and I think everyone ought to have it.

Do you find 3 1/2-inch drives attractive? Nechodom has created one for the 2000, fitting the B slot or A or both (one is best, to use all software). His mountable kit includes a disk "fixer" which, after you format the minidisk with DOS format, convinces the little devil that it's our usual floppy. It's $230, $235 if you want the wide-open black faceplate that will convert the front from single-floppy to double-floppy. Add $18 if you need the two-outlet ribbon cable. (All DF's and many HD's come with it.)

Envision is at 1539 W. Pearl St., Pasco, WA 99301, and 509-547-1139.

If you'd rather convert your double-floppy with an external drive, Envision now sells the modern Nechodom HD board with either a 20, 30 or 40meg drive in its own box, plus cable. Envision uses only Seagates. The access times are respectively 65, 28 and 40ms, the prices $545, $775 and $810. Size: 16" deep, 5" high and 7 1/2" wide. Cable included, but I don't know whether he includes the upgrades of power supply, etc. that are mentioned elsewhere in this issue.

Are tired of getting your Whimper late? IMB is: "You are sending my Whimper with that STUPID bulk mail permit and it is taking two months to get here. How about sending it first class and charge me. I am sending you an extra $8.00 for anything including extra postage for first class mail."

YOU CAN'T BUY HAPPINESS, BUT YOU CAN RESCHEDULE IT

Right on, IMB, and you get your money back. This issue goes out by first-class mail, your leader sponging on all the stamps. And we are applying for magazine rates, which are more than bulk rates (both rates having been increased April 4), but well under first-class. The application fee is $265, not refunded if they refuse us. For all these reasons, all renewals from now on are $18, which includes first-class postage on every issue that is not magazine rate (which is treated as first class by the postal service), even if the postal people refuse our magazine application. Okay? Foreign members all get first-class mail already. For them, renewal is $20 Canada, Mexico, APO's and FPO's. All other countries $30. Foreign payments in U.S. dollars, either personal checks on U.S.A. banks, or bank checks pre-printed "dollars(US)."

POSTMASTER: Send address changes to the WHIMPER, 387 Main St., Westport, CT 06880. The WHIMPER is published by the Tandy 2000 Orphans, address above, for $18 yearly. Second class postage paid at Westport,CT. Application to mail at second-class rates is pending at Westport, CT.

02/25/89

Renewal is your responsibility-- your only reminder is that date on your label. If you renew late and miss an issue, it will cost you $5 as a back issue.

SLAM-DUNKING FLOPPIES FOR FUN AND PROFIT

Check that picture of the headquarters 2000 on our logo. The edges of the disk drives look like reflections, but they're not. One big mistake in our machine was making the disk slots black-on-black. It's hard to find the opening when you're swapping floppies. So our staff put on coveralls one weekend and lipsticked all those beveled lips white. Now it's just a slide and a snap to redisk the lovely 2000. Use model paint, and care.

IT'S TIME TO GET PUT OUT WITH OUR OUTPUT

Check the print at left in column 1, and compare it to the IMB paragraph at upper right. The IMB stuff is set in laserjet, today's plain-vanilla "high-end" printing, and it's not good enough for the 2000. Neither is the dot or daisy printer you're using. Column 1 is hand-typed on a 1970 typewriter, as are this paragraph and the one above. The laser-jet stuff, lacking kerning and decent design, looks worse than even my 1947 IBM. HQ still is working on finding us a $3000 printer that deserves the 2000's company.

Our previous Whimpers have been in LaserWriter Bookman, but our laserladies (two in a row) ran off to bigger bucks. *This issue is set by laserjet.*

What's New at HQ

Thanks very much for the cash contributions, DAB, FJD, and GWF. Thanks, MC, for the donated software. Thanks, JEP, for the very large cash contribution. As a token of special appreciation, JEP, we have changed your expiration year to the model number of our machine. We'll all be scattered by then, but the gesture says it.

I hope this isn't too hard for you contributors, but you can't take it off your income tax: although we're non-profit, we're not federal/state Non-Profit, because it seems we're required to send photos of our campus, certificate of incorporation, all sorts of things that bar the small non-profit group.

THE BRAWN TRUST

Our membership has reached critical mass. We have enough assembly-language programmers, soldering-iron chefs, and blue-sky dreamers in our club to create an inner circle we will call "The Brawn Trust" for the mental muscle it will contain.

Now, also, our software tools are reaching critical mass. Critical mass, by the way, is just enough uranium in just small enough a space that, instead of getting hot like a stove, it commits flash fission and melts everything within miles.

Some of that software is A86/D86 2000 version, a program reviewed (PCROct87p.121) by ex-member John Harrell, who was dropped by us for non-return of his survey. A86 takes ordinary type-in commands and (A)ssembles them to high-speed hex code used by all the big commercial programs. D86 demonstrates (onscreen) and (D)ebugs the program you have created. The 86 probably reminds the authors of the year they made it work better than MASM, which Harrell says it does.

Another goodie on the horizon for you future Brawn Trusters is Sourcer, the first program I know of that UN-assembles the hex code. That means you can dig into a program that won't talk to our machine and, without the usual all-night slave labor, read the instructions in abrupt command-style English. From there, most BT members will be able to see the commands the 2000 is ignoring, and convert them to run.

I had a talk with the author of Sourcer, who says it gives the 2000 the familiar black screen, but with everything going on properly behind it. So you can run sourcer in batch mode, save a program in English, and then read it back to screen or print.

Each of you will have more good ideas than I have here, and can react with eachother and HQ to go for our dream: compatibility with the world of plain-vanilla IBM programs. Brain Trusters will be in touch with HQ more directly and more often than regular members, and with eachother as conveniently.

We can even try for the Holy Grail, a little 5" disk that converts a generic IBM program to 2000 form. The Crusaders never got the Grail, Jesus's Last Supper goblet, but we can do better.

As an early job for one of you, which BT member would like to borrow HQ copies of AD86 and Sourcer and grind out a review for the next Whimper? You'd have to send review and packages back to us 15 quick days after receiving them.

Most of you have already told me of your skills, but that does not make you members. To join the Brawn Trust, no fee involved, just drop HQ a note saying you want to join, and categorizing your knowledge. You'll each get a list of the Brawn Trust so you can be in touch with eachother on projects.

Some of your work will be "pro bono," but you'll get such profits as I can arrange. For software compatibility disks, hardware upgrades, and so on, headquarters will ask a fair price and divide it among the creators.

Here's proof that we're orphans. Tandy's 2000 MultiMate produces lovely blank white pages on the HP LaserJet. JLD has been spoiled by printers that print, so he wrote Tandy (Daddy) and HP (Mommy). Take a walk, said HP. Take a walk, said Tandy. Does anyone know a fix?

We have a complaint from WWW: "I hope the Orphans will be allowed to become a true users' group, and not one guy holding information over our heads saying, 'This doesn't measure up to my high standards, therefore it is unavailable to you.'"

Yes, I do withhold from you about half the information that flows into headquarters, simply because it seems likely to bore 90% of members. The stuff that survived filled 16 pages last time, costing me weeks and us a thousand dollars plus. I've got to draw the line somewhere.

"A true users' group"? I prefer our way for the most learning with the least effort. Your standard user group is local, meets monthly, and socializes for a full evening, with about enough hard information absorbed as one minute of the Whimper. A user group mainly exchanges comfort among the nerds who enjoy computing but miss people.

By WWW's definition, we're a "false" user group, but we're also a new kind of group with a new kind of power.

Here is a list of bulletin boards for the 2000, on which you and your modem can find hundreds of useful or fun programs. They are often free, and just as often are shareware, which means the author puts his address and price in the disk, asking you to pay if you accept his disk into your library. There is a further high price, however: your phone bill. Since it takes about an hour on your phone to download a diskful (720K) of these tools and toys, count on $10 to $20 extra cost per disk load, at 2400baud.

They can do 300 and 1200 also, but four of them can't do 2400: Kenoly, Anderson, Howard and Hawley. Juge can do 9600. They all accept uploads and messages 24 hours a day, using xmodem, log on with enter.

Oh yes, the list -- Micro Systems, 305-790-0774; Tom Smith, 603-888-7562; Melvin Kenoly 707557-1096; Bob Juge 713-980-9671; Daniel Schafer 916-872-2134; Robert Anderson912-267-0758; Jim Howard 816-331-5868; John Hawley 201-943-3172.

There are one or two 2000 BBS's, also, on the large modem services like CompuServe. Who can send us the complete list?

Whenever you guys log onto a bulletin board, please upload a note with the Orphan address on it, and tell them if you think our club is worth the price. Some day those guys will come in out of the cold and pay dues. Those that do will become proven non-freeloaders, and pound for pound, the modem crowd probably knows more about the 2000 than the rest of us.

INTERACTIVE DUTY, YOURS AND OURS

"I hope you are interested in my too-long letter. I have more to say if you would like to hear from me in the future." Yes, PDS and everyone, I would like to hear from you and that's what you paid for. We are a user group (the biggest) rather than a magazine only, because we interact through that magazine. You have a right to send me your questions, and please send me your answers. If you have pushed back the frontiers of 2000 knowledge, all members would like to hear your results, for which we thank you in advance.

I had a chat with the man who designed the 2000 in 1983. He's so disgusted by what Tandy did to his brain child and its desperate owners, that he says, "I'll never buy anything from Tandy."

We published last May (p.4) the total 2000s sold by Tandy up to then, 33,000-- a small number compared to Tandy's vague boasts. Now, after the blowout sale, the number has risen to 46,292 (as of early March). Many high-number and low-number machines had been stacked in Fort Worth, and in computer center basements. About a thousand 2000s are still doing store accounting in Shacks. Be alert for their selloff.

We said last issue Tandy has 300 computer centers. The right number is 490, says PCWorld (April88p.16).

EMPTOR NON CAVEBAT (a buyer wasn't careful)

Buried in the mail pile, an October-dated confession: A member, let's skip the initials, was among the victims of Compusystems, the vaporstore that swindled many last August. Take heart. Mail order in general is solid and dependable. As long as you follow the basic rules, you're 99.9% sure of getting the package, at around 40% below list. You can't beat those numbers.

The basic rules are two: Ask if the product is right there in their little building. All replies except YES are organic fertilizer. If it's not in stock, get off their phone. Another shipper has it. Second, pay by credit card. This gives you 120-day protection with no-shows and returns.

The one rule for shopping in Tandy stores: Don't. Shop in Tandy franchises. They are the 10 or 12 firms advertising in 80-Micro, plus yellow-page "Tandy" listings not called "computer centers" or "Shack." The franchises give you about 30% off.

PUTTING DOWN TANDY: MEMBERS REPLY

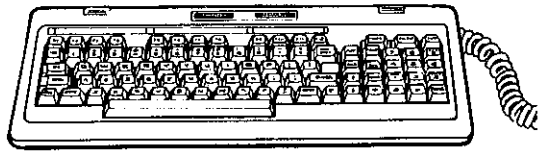
WWW objects to overuse of the Whimper as "a tool to put down Tandy ... There would be much more space for useful information if you would practice your 'brutal surgery' on some of your own work as well as others'. In the professional magazines, the editor limits his/her editorializing to the editor's page."

I hate to admit it, but WWW is perfectly right. Last issue was fairly heavy with anti-Tandy material, and we really don't need most of it, just a touch here and there to give us the feeling of unity in a shared problem.

We called for compliments of Tandy, and this one came from PDS: "Their repair service is adequate...timely and reasonable...Windows and...drivers... without charge...about three years later, after continual prodding...purchased MS Word 1.0 for $1 at the sale...and got 3.1 update offer two months later from Microsoft."

And yet another, from DAB: "I have been one of the lucky ones, and am happy to report that the computer center at 11960

See late flash on Tandy, centerfold.



Manchester, St. Louis, MO 63131 has been most helpful to me." (I skipped your last line, DAB, to protect the innocent from the guilty.)

Even more, from CLD: "I vote for the Toledo computer center as a group of very helpful people. They have continued to help although they 'know better.' However, the Detroit (Clawson) support center, by phone, is kind, serious, well-meaning, ignorant, dumb, blind and useless." You were on a roll, Tandy, but I can't cut the guy off in mid-paragraph.

We have several Shack managers among our members, bona fide 2000 owners, and one has this to say:

"I must admit that some of your comments about the company stung a bit, but my company loyalty does not blind me to the fact that some corporate decisions leave some of our customers out in the cold.

"But I think that to say we have to lie our heads off to make a living just isn't fair. While I can only speak for my own store, we work hard to provide good service to our customers. It's not always easy, especially when the customer comes in convinced we're out to screw him. Please give us the benefit of the doubt. For all the bad experience you've had with the corporate offices or our stores, there are some of us out there who are trying.

"But enough of that. I just want to find out what's happening with my 2000. I'm hooked on it. I'm waiting for the day when the company moves out all the machines we're running the stores on so I can get another one."

AN UNETHICAL TECHNICAL CHRONICLE

Member Bob Spencer dreamed up and sweated out a great way to let the 2000 mouse have a say in any piece of software. Would he like getting paid for his work? "I can live with that," he would say cheerfully. So he tacked his $200 idea to a computer bulletin board, Genie, with a $20 price tag.

Modem users have an honor system they call shareware: you download a program for free, but if you like it, you mail the price to the author. A few cheat, but most are honest. That's human nature, right?

Wrong.

601 Tandy 2000 phone phreaks grabbed Spencer's mouse in the first month; and how many paid? One. 600 freeloaders out of 601 guys? Statistics can lie, but they can't whistle Dixie. That crowd is shabby!

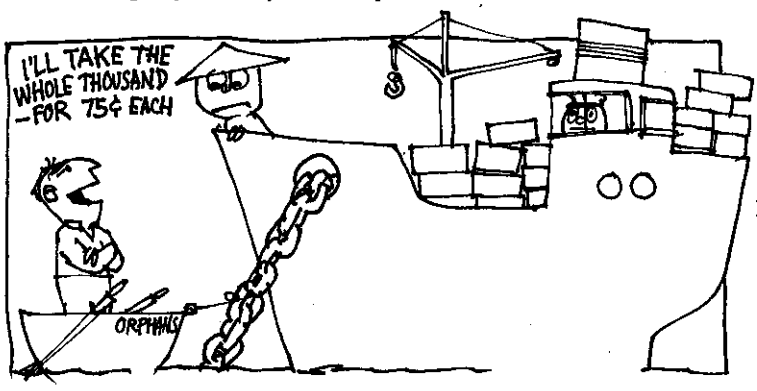
EVEN ORPHANS CAN GRADUATE

You all have an unspoken fear, a correct fear, that the Orphans will some day cease to be, leaving you with part of a year's fee in danger.

Yes, some day we will disband, or at least move on to another computer (see below). In either case, you'll have access to some of your money back: I'll take the Orphan bank account, minus close-down expenses like final letters to you, and distribute it all to you, pro-rated to your share of total member-months that are paid for but not provided yet. You might (with everyone else) get 20% of your unused renewal money, even 50%. I'll be trying to fatten our bank account, to make that percentage high.

You score, whatever the refund: what you don't get in the mail, I've already spent on you. And Orphan membership is worth hundreds of dollars a year. as a working club, and then

But there is more we can do. Why not wait a few years, locate a fantastic computer with up-to-date power but all the versatility we love in the 2000, at a disaster price? We leap to it as a cohesive, interactive group. We buy at fleet prices from some awed Taiwanese



who never thought this many people could buy at one time. We bring along the fancy peripherals we used to enhance our 2000, outputs and storage of top quality.

All this is on the horizon, but for now let's continue to make our 2000s the best computers around, supporting eachother and milking the market with group power.

PLEASE THE WIFE AND DELIGHT THE CLUB

Many of you have digested and piled years of the magazines that once supported the 2000: PCM Magazine, PC Resource, and 80Micro. Your leader only recently began subscribing to the computer press; I first touched a PC in 1986. We often hear references to articles on or for the 2000 in those three magazines (and one or two that died). Would anyone part with his pile for the general benefit of all? Please write your offer and inventory to HQ. Once we eliminate any duplication, we will pay your shipping and compile a Tandy 2000 central reference.

DO YOU HAVE A TWIN ORPHAN?

For thelatest initial twins (and triplets), here are your new numbered initials, alphabetically, followed by the total of your zip code digits.

DLL1-29,DLL2-13 DML1-14,DML2-23 JL1-16,JL2-16! (2nd letter of first name, JL1-O,JL2-E) JMS3-30 JWO1-18,JWO2-22 JWS4-12 KM1-23,KM2-16 LB1-35,LB2-14,LB3-21 LDD1-31,LDD2-13 LS3-18 MF1-19,MF2-24 RCS1-21,RCS2-17,RCS3-19 RS1-15 RWM1-14,RWM2-19 RWS1-15,RWS2-15! (2nd letter of first name, RWS1-I,RWS2-O)

That list includes expiration dates through 3-5-89; newer members may have duplicate initials. Earlier lists appeared in May and December of 1987.

Machine Mysteries

The 10meg Tandy disk in HD 2000s has a tendency to die suddenly, refusing to boot. (New members, booting is the automatic loading-up of operating instructions when you turn on your machine, leading to your first command.)

WHB reports finding this information in the Sep87 PCM on page 105. He has had it happen twice, once with DOS .02 (he reformatted) and once with .03. Could it be a hardware mod that hasn't been done? Mods 12 and 24 sound likely, and others seem possible.

Many of our members are capable of doing their own little solder jobs, and would rather. Who has some of the mod instructions, Tandy tech bulletins, and so forth? Also, those of you who have gotten the service manuals for various Tandy boards and internal upgrades, please let HQ know what treasures you have, so we can gather them and send them out to members. For instance, random re-booting of the 2000 is reported solvable by mod 42, but who has the paper? It's just three resistors, but what size and where to install?

The 200 dot printer refuses to print black on white with the "Graphics" of DOS .03, RCS says. Who can help?

Can anyone make a VCR accept video signals from the 2000?, asks SVC. It would open up a new bag of tricks.

Hardware Help

When you're sniffing around for ways to soup up your 2000, the three-drive system is almost a must. There's lots you can do with two floppies AND a hard drive (the regular 2000HD comes with just one floppy slot), that you can't do any other way. Of course that hard drive can be two hard drives, or a cartridge drive.

For instance, the trick for infinite reloads of DBIII in this issue calls for a three-drive machine. And if you're using a cartridge drive, the Tandy board is too dumb to boot from the cartridge, so you have to have booting files in A:. That means you need a B: floppy for data and program disks you are reading things from, unless you want to keep pulling a dog-eared boot disk out of A: Booting from C: is okay also, but mouse, graphics and Envision 640 leave no slot for a hard card.

However you slice your storage, a second floppy is a happy floppy. I bought two double-floppy sale machines, just to cannibalize them. Now the HQ machines are three-drives.

IT'S A BIRD, IT'S A PLANE, IT'S SUPERMOUSE

Your fascinated editor sits at the Framework screen, having found a little half-K program that has convinced Framework that it has a pet mouse. Yes, member Bob Spencer has built a better Mousetrap, and the Orphans of the world will beat a path to his door.

With Mousetrap, you can let your palm do the walking through all your software. I've used the headquarters mouse in Framework and WordPerfect. And in dBaseIII, the tedious rapping is over. No more sore shoulder from hitting ENTER ten times to get to your renewal dates. With one mouse drag, I'm there.

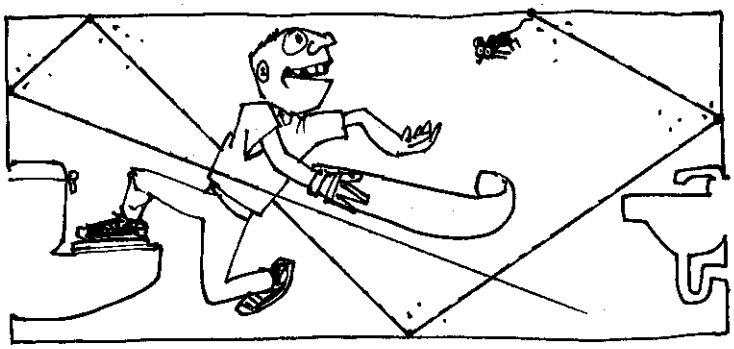
Microsoft Word still has the most mouse power, because it has more moves than the Spencer MouseTrap. MouseTrap can move you all over the page, and down or up to other pages. But Word can jump you across many pages if you slide the mouse along the left edge before poking both buttons. And best of all, the Word mouse lets you scurry into the control panel to give orders, something you can't do elsewhere.

MINISCRIBE 3650 (40 MB)

But when you are editing a page, the Spencerized mouse fits comfortably. It is a thrill to just mouse over without the ratta-tat of arrow keys that dBase, WordPerfect and Framework have demanded in the past.

Mousetrap is better than the Word mouse in one way: When you're there, you're there. Confusingly, Word has two cursors. The arrow is untrue until you hit a mouse ear to bring the rectangle over. You get into a thought and start typing, trusting the arrow but forgetting the mouse-ear. Then you notice a sentence growing in the middle of a word you were correcting. With Mousetrap, the cursor is the cursor. No nasty surprises.

The Spencerized mouse, unfortunately, gets freaky at margins and between paragraphs. You can avoid black space or cross it very vertically; you can also adjust the speed controls. But there seems to be no way, crossing black space, to keep the cursor from snapping to a margin fairly often, and once it's in a margin you're playing jai-alai in a bathroom.



In some programs, the mouse seems to push your cursor too fast or go too slowly. But the Spencer version of our mouse has both side-side and push-pull speed controls! A simple pair of numbers will make it faster or slower in any direction. You'll find that one software is more "nervous" than another, so you can put the mouse's most comfortable speeds in a batch file for calling each program.

Batch file? New guys, don't panic. As soon as you have used a software package a dozen times, you notice that you're typing certain keys every time you load it. Why bother doing it all every time? When you have made a little batch file like "f.bat," you just type "f" and hit ENTER to start everything happening. All the DOS books explain how. Every move in computing is a flower in the garden of laziness.

The Spencer mouse buttons are both active: the left button is F1 (usually a call for instructions), and the right is ENTER, very handy for throwing a control switch, or creating space around the passage you're editing. I reversed the buttons: all you do is write "swap" and it's done! This is an elegant program.

Now there's a mouse in every piece of software you own. You'll find Spencer's Mousetrap in the Orphanage Souvenir Shop. He gives great phone support from an 800 number listed in his instructions.

THE CAROLINA KID

Spencer seems to be able to do anything with a computer. Of course he's only one guy, unpaid by the Orphans, so there's only so much work he can grind out. He was the one considering DOS 3.2 for the 2000, but now he's too tied up to sacrifice a month.

His phone support is reported good. CD called about Spencer's formatter for big hard disks in the 2000, and he "for a very reasonable sum, sent a memory board and new proms for the mother board. He is an extremely helpful person."

That PROM set is another Spencer Specialty, push-in chips for the bottom board in our box, which make the machine confess at bootup time that it has (if it has) an Envision-supplied 896K of memory.

Listen Bob, as long as I said such nice things, how about trying a trick Dave Nechodom says he can't do: Can you rig up a 2000 with Nechodom's 896K downstairs and also Nechodom's 640K on the third floor, with the 640K entirely dedicated to one or two RAMdisks? With megaRAM plus two invisible 320K floppies with 1 millisecond access time, we would have one muscular computer here.

SLOWPOKE TO KING'S FOURTH

WHB wants chess for the 2000. HQ has one among the public programs I may get written up this month and put in the Souvenir Shop. It has a nice board picture, and works with arrow keys or the Spencer mouse. I'm a 1300 by USCF standards, meaning too good for living rooms and too bad for the motel tournaments, and I found level 1 accurate but stupid; I knight-forked it to death. The other levels could surely beat me, but they take longer to think than stand-alone chess levels. The top level takes a week, yes a week, for a hard move.

Two sources have told HQ that Tandy refuses to divulge the input and output addresses of its 80186, with which our programming members could modify IBM-style programs for the 2000. If anyone has access to this information, please send it in for publication. Is it hidden in the tech manual?

Programmers, DEW supplies a partial list of IBM-style input/output ports, which he asks someone to match (using the tech ref manual) to the equivalent 2000 ports: 000C=clears LSB/MSB flip-flop; 000D=master clear; 000E=clear mask register; 0020=8259 command port; 0021=interrupt mask register; 0040=8253 channel 0; 0041=8253 channel 1. Note also, you technicians, that the keyboard interrupt seems to be 78 in our machine, while IBM clones are using 9 which does nothing in the 2000.

In addition we have some video tips from SVC. In IBM-style programs, you change bytes that name the graphics RAM location as &HB800 to &HE000. And in BSAVE commands, you have to save twice as much file length because our screen holds more pixels. SVC still can't keep the color when using BSAVE and BLOAD; who can help him?

DOING THINGS THE HARD WAY

Installing a hard drive? If you're tempted by those over 30meg, you have a problem, but MicroLink Software, run by member RLS, has the solution. Our dumb DOS thinks no hard drive could ever be bigger than 32 megs, so when you ask it to format a 60meg drive, it formats the first 30 megs and quits. Like the navigators before Columbus, it thinks it will fall off the edge of the earth if it goes farther.

Spencer'sMLFormat and MLDrive have more skill. If you have a 60meg drive in there, use HFORMAT to format the lower 32 megs (or less with the /P option), as drive C:. Then MLF continues formatting the same disk and calls the rest drive D:. The 2000, silly goose, thinks there are two drives in there, or even more. ML will happily format drives D: through F: Any second hard disk is formatted the same way, its first "drive" with HFormat and any extra one with MLFormat, using the next higher letters. If you happen to be using RAMdisks (extra memory impersonating drives), they just grab the next letters.

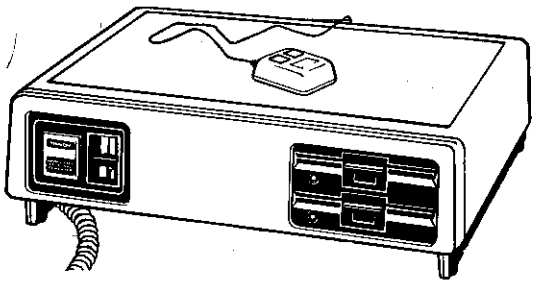
Nechodom of Envision bundles ML's with his drive packages. At $50, the ML system sounds like a good deal, and for a 2000 with really big storage, it's the only way to go. It includes blue-label UPS and toll-free support.

You can inquire or order through Spencer at 1005 N. Main Street, Sumter, SC 29150, or 1-800-334-9612 (ask for "Bob junior"). MicroLink.

Our October hard disk article should have mentioned, TK points out, that ordering the Tandy piggyback power supply gets you only a little circuit board with connectors, and that you need to order a metal cover for it separately. This was confirmed by exploration at HQ (see separate story with part numbers).

TK says the HD power supply comes with no power cables. That's a surprise to me, since the boards at HQ all have a wire ending in a plug, that slips onto the 10meg HD power prongs. How about a polaroid or drawing? Part number?

TK says Tandy "is dumping [HD] controller boards set to run external drives, requiring some delicate soldering." I can't imagine where that soldering might occur, having just inspected a loose HD board. The standard HD board is entirely surrounded by four long connectors: inside, the motherboard connector and the inboard signal connector to the C: drive, usually a Tandy 10meg; outside, a blue connector (really two) for an external D: drive, the cable from which we snake in the crack to any second internal drive. The other outside connector, a black mystery output, is rumored to have been intended to control a drive related to the Model 16, or a music synthesizer.



There are also some 2000 double-floppies, still kicking around the backs of stores for a hundred or two.

Only two years after the clock boards all went dead at once, red-faced Tandy has batteries for them. Ask for number ACS-0103 (AC5?) and OC-341673; one is probably a part number, the other a shelf location. After being so picky, the HQ mouse now uses a generic watch battery from Shack.

Envision has been prompt with callbacks, says TB. He advises callers to ask about used goodies they may have on the shelf, for good prices.

Do you want your CM-1 to show color when you're in DOS or in a monochrome word processor? WHB says use the DOSCLR.COM utility in Nov87 PCM p.65. He says it works fine and is fun.

KH, WHB envies you your ability to milk color from WPerfect via Windows. Please send HQ the required keystrokes and equipment.

Headquarters has several 2000 diagnostic disks sent by thoughtful members, but not the loose-leaf manual pages, or the separate alignment-testing disk. Who can send them? I hope to distribute this $175 item for $5 when I can get Tandy to accept the idea. A repairman told us skeptically, it doesn't repair anything; but it's nice to know things.

Here's a surprising item. We often get slippage with the HQ mouse, no cursor move when the mouse is moving-- even on its art-store cutting mat. So I press harder. Wrong, says XXX(initials lost), the ball tracks more reliably when you lift a little, making the mouse skid more lightly.

Ever have trouble peeling a disk label? The rapid way is a one-minute moistening with benzene or another powerful solvent, followed by an easy peel and a peel-clean with Moore tape (which has replaced Scotch tape as the best desk tape). The safest way is one minute of warmth from the palm of your hand, followed by peeling from corners with lots of continuing finger warmth on the label.

WHY BE A BOARD CLOCK WATCHER?

We continue to see ads for no-board clocks, which those of you without a digi-mouse will want if your backslots fill up. They all seem to cost $50.One sandwiches under a 28-pin removable ROM chip, of which the 2000 main board seems to have six. The other kind plugs into a floppy instead of the ribbon cable, and plug the ribbon cable into the little clock. A short ribbon extension could be needed and bought if the back of the floppy is too close to the motherboard wall.

Do floppies that lost their labels hide in their slots and refuse to snap out? A residue of sticky stuff is keeping them in there. Keep a small tweezers in your nearest drawer for pulling out stubborn disks.

We're still waiting for a member to try hooking a bus mouse or two to the Digi-Mouse port on the mouse board. Who'll try it? We've got a lot of anxious mouseless members.

LASERS ARE SWIFT; THEIR MANUFACTURERS ARE NOT

The laser printers have yet to arrive, with Texas Instruments holding us back with their invisible 2106. What we demand from any decent printer is 300x300 resolution, unlimited typeface downloads, size range at least to 36 points (half an inch), automatic kerning, justification, and all the above accessible from a word processors, Windowed PageMaker, and even DOS.

The alternatives would seem to be: cheap laser printers with PostScript clones built in; non-laser high-resolution printers with PostScript or clone cartridges; or any such printers which download multiple typefaces in multiple sizes. We know there would be penalties for passing up today's $4000 PostScript lasers, street price $3000 and rising with the RAM shortage. But a lower price could win us over.

THE ELUSIVE CGP-220 AND ITS LONG-LOST BROTHER

About twenty members have said they blundered into sale software that bombs without a CGP-220, so they want one. It is extinct, but there is some hope:

The ad in Dak was too fascinating to resist. The Quadram Quadjet they bundled with various junk software for an unfair $400 looks identical to the Tandy CGP-220. I ordered an evaluation machine, and it does print like the 220 in black and white, but with subtle differences in the letters. Based on the fonts, Tandy seems to have sold a later version than what Dak has. Although both are the cheapest dart board dot pattern, the lower-case letters are better in Tandy's version--their wider c, curve-bottom t, three-stroke l. WTB reported in the last issue (page 6) that he was having some difficulty emulating the 220 with a Q.Q. Before you blow four clams on Dak's package, check with him; his phone is in the article. HQ has returned its Q.Q. after only black-and-white testing.

When Dak sent HQ the Quadram evaluation unit, they stuck a sample sheet of paper in it. The QuadJet and our CGP-220 printed far more clearly with it than on the fanfold "bond" paper the 220 accepts. It's a clay-coated paper for inkjet printers, that you can buy in rolls from some suppliers. I don't know where to find it in fanfold, for those who use the 220 as a line printer.

NOW IT'S OFFICIAL: MULTISYNCHS SYNCH US

We have had some inquiries about substituting keyboards and a lot about monitors. So your leader tested some. The keyboards all rejected the 2000. Apparently there is a communications barrier.

The monitors offer more hope. Members have been saying a multisync works fine, and it seems they are right. I ran a side-by-side test of the 1987 NEC MultiSync, our CM-1, and an animal called the Taxan 770+. They were close to identical, but the NEC ran a slightly grayish third. The CM-1 was visibly better, and the Taxan gave the cleanest color of all. These multisync monitors are a good investment for 2000 owners who will some day jump to another machine (see our future discussed elsewhere in this issue), because they sense and adapt to all video outputs on the market.

The newer (possibly better) NEC is about $600 street, the Taxan $500. A possible best buy is the Thompson ultrasync, alley-priced at $389 on page 374 of the May Computer Shopper. I tried to hook up monochrome monitors, but lacked mating cords.

AS LONG AS THE CREAKING DOOR HAS ALREADY SHUT ITSELF, WE MIGHT AS WELL EXPLORE THE BIG, SCARY HAUNTED CASTLE

— exploratory surgery in the matchless Tandy 2000

We have run many tips on what to do inside your box, but your leader had never got the time and courage to climb in there until recently, when it became necessary to check out the "loaded" three-drive machines we were selling off. I found out a few things.

Before going into a box that has a hard drive, use "Suitcase" or "Shiptrak" if you have it, to move the drive heads to the last sector, where they'll do the least harm when bumped. I suppose you shiptrak two hard drives at once by having the file on both and doing them in order, d: before c:.

No need to flip the box over. Just back it two inches off the table, and the two recessed phillips screws can be both felt and turned. They drop out into your hand when you vibrate the top. Then you lift the rear of the lid three inches, pull back one inch, and lift it off.

When you touch drives, keep fingertips away from the black chips you see; chips hate fingers.

The next step in disassembly was a surprise. The power supply box at right and the floppies at left would not come out, because some of their screws were blocked by the hard drive in the middle. The hard drive has only two (barely) visible screws in the back, and for an hour I pondered how to remove the screws in front, totally out of sight. The surprise is that there are no front screws. It's gravity mounted! It's also nested as tightly as hand in glove.

By resting the 2000 on its front panel, shimmed up by a book at one end to protect the drive handles, you can slowly wiggle the 10 meg hard drive out and unplug it. After that, everything is open and easy.

HOW DID ALL THOSE CLOWNS FIT IN THAT TINY LITTLE CAR?

Swapping floppies is a bit confusing until you find the little jumper clip near the plug socket for the ribbon cable. An A drive, the bottom one, has to have the clip on two pins labeled 0; the B drive jumper goes on the 1 pins. If you do the jumper wrong, no big deal. The computer tells you the drive is not there.

Another confusing part is the screws. The course-thread screws are for attaching metal to the plastic box, the fattest two for the hard drive; if it's clearly metal-to-metal without plastic behind, use the fine-thread screws for reassembly. You'll often find that a repairman has used the wrong screws; if so, punt or pant (repeat the error or visit a hardware store).

Power plugs in drives are often very tight. Tease them out with strong fingers or gentle tools.

In a double-floppy, you'll notice that one cable inside the power supply compartment leads to a plug that's not plugged in. When your piggyback supply for hard drives arrives (Shack #ATA-1055 with cover plate ART-0130), you'll notice that it has a socket for the mystery cable, and another mystery cable leading nowhere. Snake the new cable out the same hole used by the power cables to the floppies. It will carry power to the first hard drive. If you buy a second hard drive, get a Y-cable extension for it (I don't know where).

If you add a second floppy to an HD machine, you'll need a double-floppy front bezel (window frame) without the black blank over drive B. You can order one, but I found it easy to neatly slice out the blank rectangle with the spatula head on my Weller soldering iron. If you ruin it, the drives will work fine without it while Shack sits on your order for a double-floppy bezel. As with a car radio, any drive unit, say a cartridge drive, will fit neatly behind the B: part of the double-floppy bezel. The 2000 is so quick, maybe a radar detector would be handy.

The Weller soldering iron, incidentally, is too big for work on a circuit board; use the pencil type on PC boards, and try for a three-prong plug, which helps avoid static accidents.

WHO WANTS A PEEK INTO THE THRONE ROOM?

If you're putting in a second floppy, you may need a daisy-chain ribbon cable, one with a second output halfway down the cable. When you mount it, you'll need to go into the mainboard compartment under the machine, to plug in the ribbon.

When going into the main board, be ultra careful to (a)be away from rugs and sweaters; (b)ground both hands on big metal; (c)never touch a black chip with a finger. I blundered that way, and the mainboard was sick for several days before its static trickled away. It could have been worse.

Despite the static risk, it's a joy to pull off the mainboard pan (you need a jeweler's screwdriver set for the two middle screws). You get to view the gigantic missile-control center of our wonderful machine. It's bigger and more crowded than I expected, worth every dollar of the original $4500 list price.

Reassembly is just as tight and trying as when you started, but a lot easier because you know the territory. You can handle easily the whole routine of going inside your 2000, if you have the three-digit I.Q. required for computer ownership. Old-fashioned ladies and klutzy men, have no fear. The 2000's guts forgive every blunder except sparky fingers on black chips.

WHO NEEDS THE 1988 386? WE CAN HAVE A 1995 986 --- NOW

REM has come up with a simple way to double your hard disk capacity and also quadruple your machine speed, using an Envision RAMdisk to cheat the system. Check this out:

He takes a large program, like Windows or WordStar, that has a reputation for moving slowly through its disk accesses even when it's on a hard disk. Instead of straight storage, he puts it on his hard disk as a half-length archived file. He puts other programs on there in the same compressed form, and a de-archiving file that can unpack any one of them to full size.

In his autoexec file for computer turn-on, he sets aside a fat RAMdisk on E:, something like 300K. In the same batch goes an order that copies his de-archiver to drive E:. His storage is already doubled by the compressing and now for his speed:

When he calls a program, such as Windows, he does it through a batch file like WW.BAT, typing WW. The batch file doesn't call Windows right away, but instead copies the archived version of Windows (in half the usual copy time) to drive E:. It then asks the de-archiver on E: to unpack Windows, which it does with blinding speed because it's all electricity, no real drive action. Then the batch file calls Windows, which goes like a smoking dragster with four motors, again because there's no disk grinding out the instructions.

YOU CAN GET THE 2000 A TAPE DRIVE

Tape backup inquiries have been coming in slowly, and until now HQ has ignored them. But member DAS has moved us forward on the headquarters chair. First he bought an Irwin and battled it for days. The problem is that our dear machine thinks interrupt 19 (that's 13 in hex) calls floppies, although any dumb compatible knows that 6 is correct. His further research showed that the tape drives unanimously refuse to run on the 2000. Then he got every manufacturer on the phone and asked why not. That's the kind of Orphan we need around here.

Five manufacturers replied the usual: Take it down the street. One manufacturer, speaking through its tech man "Mac," said it was planning a 2000 version. At this point DAS passed the ball to HQ, having done all this with instructions he wrote for his parents. They do his phone calls because he has cerebral palsy and doesn't speak. But he can use the 2000, on which he has produced a gigabyte of AutoCad devices for the handicapped. His reports to HQ, by the way, are in flawless corporate-class layout, no doubt daisy-wheeled from his 2000 with some difficulty.

HQ called Mac, who turned out to be a telephone front man reading from "this paper they gave me." A lengthy interview (he's not quick with questions) revealed that the paper has a list of 80 "leading" computers on it, and we're one of them, which the company may hope it may someday support. He said he had no further information and implied that he was forbidden to ask for any. He suggested we call at least once a year for him to read an updated version of his paper.

All right, let's show as much spunk as DAS. Every member who even suspects he might want an external or floppy-slot tape drive-- the things can back up forty megs with one command-- get on the phone. All you have to lose are those twenty-floppy afternoons of backup.

Call 1-800-237-4929, haggle with Mac for a while, and then hang up. Call back and ask the girl for a vice president, in marketing rather than development. My guess is that the company is two guys and a girl, so she'll give you the guy who isn't Mac. Tell him the 2000 is the most important computer around, and you want a compatible tape backup system this week, not next. If enough of you get on the phone, they'll letter us on the test bench chalkboard and give the 2000 their best shot. If you have stationery that makes executives ruin shirts, follow your call with a letter to Archive Corporation, 1650 Sunflower Ave., Costa Mesa, CA 92626.

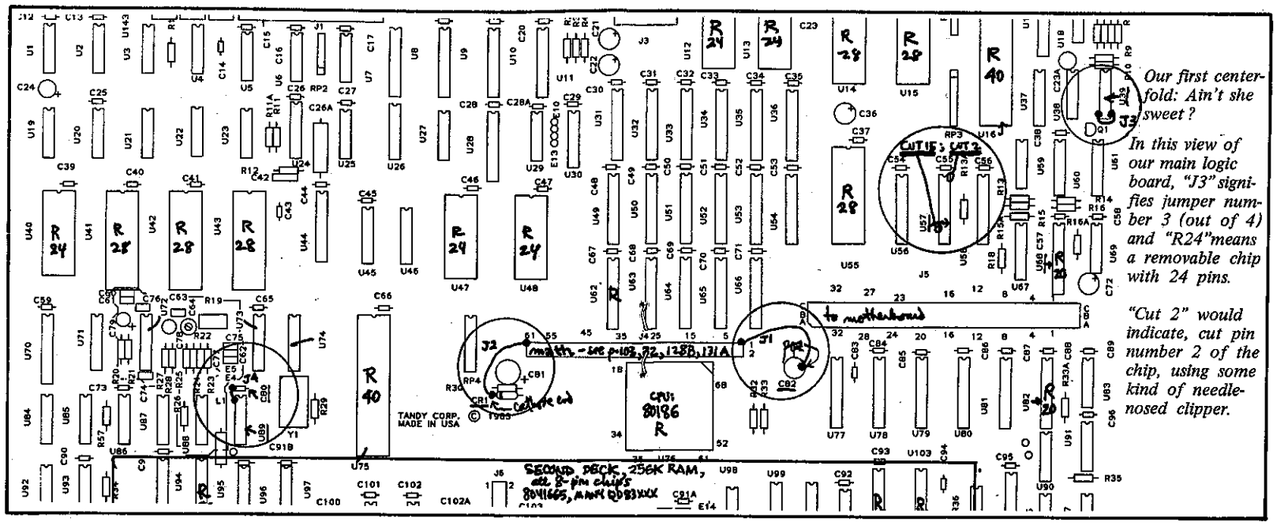
Are you interested in Vianet/Arcnet? A member has hooked up nine 2000s and another computer (we don't print bad words). Call Bob during reasonable EST hours at 513-474-4900 for networking advice. But skip the call unless you have a line on some of the vanishing Vianet boards that fit in the odd-shaped 2000 slots. There's no other way to do the job.

Our RS232 won't talk to a Hayesish modem until the following "fix," says DB, but he also reports having problems with all modem software after the fix. Who can supply the final solution? DB's fix: cut the trace from pin 13 on U6 to pin 4 on RP2; solder 8.2k ohm resistor between that pin 13 and pin 14 on U5.

ARE YOU LOSING YOUR MEMORY?

Memory boards for our machine, JE, SVC and others report, are now available from Tandy at $150. A super investment, since Nechodom has still not started manufacturing his own from scratch, and he needs yours to load it up (and reduce the price). Call the franchises before you commit to a store, although Tandy could be freezing the franchises out with reports of no stock. It should run about $105 at a franchise.

A late report: Dave Nechodom of Envision says this information is "two months out of date." He recently bought twenty of the last 100 boards Tandy had, so the first few members who buy now may be the lucky ones.



Our first center-fold: Ain't she sweet?

In this view of our main logic board, "J3" signifies jumper number 3 (out of 4) and "R24" means a removable chip with 24 pins.

"Cut 2" would indicate, cut pin number 2 of the chip, using some kind of needle-nosed clipper.

HOW HARD IS THE HARD WAY?

Can you, unlucky you, cope with putting big storage in your little 2000? Let member CAN tell it like it was:

"I had no problem installing a Miniscribe3650 40meg to replace the Tandy's Tandon502 10meg. The Miniscribe was very reasonable, $310 from Hard Drives International in Computer Shopper.

"Miniscribe said Tandy's ST412 interface was different from their ST506, but that the Tandy board would probably run either drive. It does, with no problem in the first month except that too many floppies are required to back it up!

"The installation was a snap. The connectors were all in the former locations and oriented in the same directions. I just unplugged one and plugged in the other, with no special cables or special anything. With some drives, the cables are oriented differently so you have to buy longer cables.

"The 6 heads have 809 cylinders. From DOS, I ordered HFORMAT/P/B/S/V, and specified 6 heads, 625 cylinders, default (5) interleave, and the error map copied from the list taped to the drive. Then the machine formatted a C: drive of 32meg, the maximum, which boots [takes charge when the 2000 is turned on, if no bootable disk is in the A: drive].

"Then I took MLFormat and MLDrive [from MicroLink, see elsewhere in this issue]. It finished by giving me a D: drive of 10 megs. His telephone support was good."

Here's a caution on the ML system for cartridge users: a non-member tipped a member that when you're backing up with a cartridge to or from one of the disks MLDrive pretends are there, D: or E:, the cartridge disk (which always rides in drive A) refuses to recognize them as destinations or sources. Perhaps a simple copy command would get through this, but backup and restore would probably eat up less disk space with the stored copy.

MAKING OUR MAGIC SLATE BEHAVE

Members have asked us to help them get our little Tandy magic pad to work -- it is handy with Lumena and AutoCad, required for VersaCad unless you use the keyboard only. Our digitizer is a Tandy-disguised Kurta 1 with eight switches at top rear, four at bottom rear. For AutoCad, the top switches are set 1-7 down, 8 up. For VersaCad it's 1 up, 2-4 down, 5-8 up. For Lumena the settings are 1-5 down, 6-8 up. The bottom four switches are set 1-3 down and 4 up for all three programs.

You have to tell the silly 2000 to listen for instructions at the RS-232 connector in back, which is called COM1 when you're talking to the 2000. Type MODE COM1;9600,E,7,2,P [ENTER], and then type your software call, such as ACAD; the code works with all three packages.

Always have peripherals (other boxes) plugged in and turned on before you send them instructions like the one above.

To the constantly-renewing 25% of you new to computing, capital letters in commands are not necessary; the 2000 can't tell whether you're capitalizing or not. But the Whimper uses them to clearly separate what you're supposed to type, from our lower-case Whimper instructions.

The CAD information is supplied by MEB, who adds that there is a neat trick of running IBM Windows from the CAD pad with a four-button $100 control (like a mouse) sold by Kurta and by Tandy as RS-90-2002, now being discontinued by Kurta. He asks if any member has patched this trickery into Tandy Windows.

LATE FLASH: Having just sold more than ten thousand dirt-priced 2000s on sale, mostly to people new to computing, Tandy has published new editions of the three excellent Lien books on DOS and Basic, from which they have carefully wiped out hundreds of specific instructions applying to the 2000. Is this the move of a company anxious to support what they sell? Gadzooks. Thank you, LER, for the stunning news, which would be delightfully funny if it weren't so vicious.

WE HAVE A DREAM

"About the screen drivers (our major compatibility problem), would it be feasible to go into assembly language and place a goto at the address that IBM software looks for the drivers and tell it to "goto" the correct 2000 address? It might work, if IBM doesn't address anything else there. You would need to put it on our DOS and load this special DOS along with any IBM software that normally wouldn't run on 2000s.

"I don't know enough about the 80186 microprocessor, stack configurations, etc. to be able to do it myself. If it doesn't work, it was a good thought anyway. I do have a degree in computer science, but my strong suit was the 6502 (used in Commodore and Apple). I'd be interested in whether anyone thought the idea had enough merit to try it, and whether if worked."

Great idea, CAD. I might add that, if the patch really won't work when slipped into our DOS, it might be an independent utility called make2000.com which runs a search through any IBM-style program for the IBM screen addresses (as well as other calls that the 2000 can't hear or call). On finding them, the .bat patcher would write in the equivalent 2000 addresses.

The user, having tried the program and found a blank screen with frozen keyboard, reboots. He puts the desqview.exe (or whatever) in drive a:, with his make2000.com file on a b: or c: drive ready to be called. He gets an a:prompt, types MK2\DESQ, and the miracle happens.

BACK UP AND RESTORE TEN MEGS -- IN TEN SECONDS

Our gigantic headquarters staff continues to stand in line for the joy of using the evaluation unit of the little Bernoulli 5-inch twin cartridge drive, which we reviewed in February (p.9).

The full 20 megs remain beyond our reach. I've been working with Iomega and Tandy toward a solution, but right now we're at a dead end while I hunt for vanished experts.

There's a lot to be said for these drives, but a disadvantage or two: They're smaller at 10+10 megs than today's 30meg hard drives, and five times as expensive ($1800 street for the twin-20 that's a twin-10 on the 2000). But after you're over that hump, they're much roomier than our floppies and just as quick to remove. The price is higher: at $60 street, the cartridges cost as much per meg as if our DSQD floppies cost $4, three times their street value.

But the convenience is stunning. Using the 2000 is a whole different game with cartridges. It's like being able to pull the Tandy 10meg drive out of a floppy slot and slipping another in. Imagine a 10 meg drive that would do that stunt and only cost $60!

One member points out in this issue that backing up a big Seagate, which you're a fool not to do daily, takes an afternoon and an armload of floppies. It's the ugly stone age, even if it's cheap. If you duck that daily chore, you pay an awful price when the inevitable crash comes. And once you end that torture by installing a middle-ages tape unit, you discover that you still have another huge pain: it takes an hour to pull one fact out of your backup with "restore." I thought computers were supposed to be fast! Your newest clerk can find a sheet of paper among the piled-up cardboard file boxes, faster than you can do a "restore."

With a cartridge, you get that fact from your bookshelf to your screen in fifteen seconds. And that bookshelf can hold the service records of the U.S. Army, with the Marines in a little pile by the phone. You can't beat that kind of convenience, until the gigafloppy reaches maturity (May87p.5).

ALL RIGHT, CLASS, LET'S CHECK OUR MATH HOMEWORK

We left you math chip installers with your machines open in December; now you can finish up and close the boxes. We were on the motherboard with all traces cut on its bottom side, which we reached by unscrewing it from its tray.

Read through the complete instructions before doing any of the work. You may find that you lack a needed part or the needed courage.

We have information from ACL, which he got from Tandy's service manual for the 8087 upgrade. There are additional parts necessary, the manual implies: "top cover for power supply, part number 8729533" and "chassis bottom pan, part number 8729514." ACL thinks these will have some vent holes to cool the 8087 section, and I agree. As sheet metal, they ought to cost $10 to $30 each. Presumably the 8087 will work safely for a few minutes if you're testing it, but if your test is successful, I suggest you keep the machine turned off until the new pans are in.

Having cut the traces (see December), we screw the main logic board back to its pan (the black bottom of our machine). We now work on top, adding wires here and there. Check the illustration. Our first added wire is jumper 1 (J1) at lower center. It goes from the corner (pin 1) of the long math chip socket (not the pin, the solder spot below it)-- to the farthest-away wire of the capacitor C82 in the picture, its + terminal. Use any insulated wire, but the tinier the better, because it encourages you to be gentle.

The soldering is delicate, but if you ever dug a sliver out of your finger you're more than qualified. See our Jonah story, this issue, for tips. Always pull away as soon as the solder gets shiny and the wire tip twitches in. These components dislike being baked. As ever, try not to touch the black chips, and try even harder not to be sparky. Touch big metal frequently.

On to jumper 2, at the other end of the long math-chip socket. Run it from pin 61, same side as pin 1, to the far side (again) of diode CR1. Pay attention: there are three components in a row there, the diode being the farthest from the math socket.

When you're reading chip pins, you look for the cast-in half circle at one end. Pretending you're Archie the Cockroach (my greatest stage role) standing by the chip, press the half-circle against your belly. Pin 1 is at your right hand, with 3-5-7-etc. sitting beyond him at the table. Pin 2 is at your immediate left.

Jumper 3 is an unwilling wire, a 4700-ohm resistor, soldered between the end pins of black chip U39, upper right in picture. Your last jumper, J4, is just a wire from pin 1 of chip U89, to the end of capacitor C80, its terminal farthest from the math socket and closest to said pin 1 of U89. It's at lower left in the diagram.

Having done the four jumpers, you cut two legs of chip U57, at lower right in the picture. Use a pointy-nose wire clipper. Cut pin 2 (the one farthest from the math socket), and pin 15. Count along the pin 2 side, 2,4,6 up to 16. Pin 15 is straight across the chip from 16. Count with care.

Now the heavy stuff. Watch your static! We will replace the 80186 chip, the square near math that I've labeled CPU. Look at it, and at the R-80186 you bought, to be sure of polarity. Delicately pry off the corner clips and ease the chip out; ease in its replacement. A small screw driver is a handy pry tool; the safest pry is rotation; a downward push can hurt nearby components.

Now take the new math chip itself and ease it into the top (component side, not solder side) of the little math chip board you got from Shack for $80. Next, ease the board onto the math chip pins of the math socket we've been working around. In all this, pay attention to polarity, using half-circle marks and/or pin number labels. A reversal may merely not work, or it may wreck hardware; I don't know.

Attach the logic tray to the 2000, turn it on, fire up a program that uses the 8087, and pray. If you haven't got religion, this moment may give it to you.

Here are a couple of late additions to Souvenir Shop:

12. Environment patch (p.11), $1 incl. postage.
13. Norton D1 patch (p.11 also), same pricing.

Disk sectors on floppies can be a problem. We asked about the 1.2meg floppies used on the AT: While they apparently fit, MEB says they come already divided into 15 sectors per track, while our machine formats 9 sectors per track. These and many commercial software disks are apparently "hard-sectored," sliced up by magnetic fences too strong for our formatting to knock down. Also, you can put a 360 format on a 720 disk using our PCMaker, for instance, but you can't get it back to 720 until you kick down all the fences with "WD" (WipeDisk)from Norton's Utilities.

HQ should print the instructions we have received from HEB and others for expanding the Tandy memory board to 512K, say ACL and others. In the last issue we said we weren't interested because Envision puts on 640K; but we underestimated member interest. Memory is remarkably cheap, about $100 for the whole chip set plus your labor. We will send these instructions at cost to anyone: see the Souvenir Shop listing.

Software Support

Tandy is no longer buying special 2000 versions of software, and hasn't done so for years. When you see a review, such as of Norton Advanced in the February Whimper, we are referring to an IBM-generic version that runs unchanged on our machines.

STUDENT DRIVER IN THE FAST LANE ---
POWER DATABASING FOR THE WEAKNESS USER

We promised a review of DBXL, and here it is, but it's from the point of view of an average user's skill with databasing. Many members will enjoy this amateur approach because they share it and therefore find it a useful guide to purchase decisions. Other members, knowing more, will think their leader's database evaluation is a joke.

It is true that the "weakness user" can get satisfaction from any old dumb databaser, but I feel it's like picking a college or buying a camera: you never know when top quality will become handy or even necessary. All the packages discussed have this top quality; the feel of DBXL is better than our old dBIII. And manuals? DBXL's is a bit slow, like the subject; dBIII's is a crime against humanity.

Compared to our Tandy dBIII, DBXL is the same thing--except that the waiting for grind-out jobs is shorter and the price is far, far below dBIII (although comparable to its recent Tandy sale prices). Your dBIII files run nicely on X (that's the letter I type to call it from a batch file).

The price is allegedly $150, but buy by mail; the best price I've seen is PC Connection, 1-800-243-8088, $89.

So, whatever you get from dBIII, you'll get from DBXL. Not much difference until you manipulate large databases such as Orphans, which we now cook on DBXL. If you have never used dBIII or dbII, what you get is a secretary and a filing cabinet plus lightning speed. After you laboriously type in all the information--or disk it in from an existing file with trial-and-error acrobatics--you do everything with astonishing ease.

When one of you writes in that he missed an issue or is buying a Souvenir Shop item, I type "find Smith" in DBXL, which gets opened every time I open a pile of mail. Then I hit F8 or F10 and your facts splash onto the screen. If I need more facts, I take the record number on the screen into the paper file and pull out everything you ever sent to HQ, which solves the mystery unless I blundered at the keyboard the last time I processed you.

Again if you never databased, there are little conveniences that make the work pleasant. Your record flashes up (on F10) in a pretty format that I created (with CREA FORM). If I want to look at the people before or after you, in any order such as alphabetical name, zip code, seniority of membership, I just turn on the required index and hit PGUP or PGDN. If I want 17 guys on the screen at once, I type BROWSE.

There are certain things you guys always want to do, such as become new members, or renew for another year. Those moves have gone into programs, don't let the word scare you, which I do by hitting F2 or F9. A program, I nervously discovered, is nothing but a lot of things you keep typing in yourself, but when you type "modi comm" and the same instructions, the disk memorizes your commands and lets them hide behind an F key. If your F keys are too busy, you can do a program called "Z" by typing DO Z and <enter>.

The convenience brings danger, which causes me to copy the Orphan files to another disk every day or so. A disk can die quite suddenly. And I also face the danger of fire, because I'm too lazy to hide a disk down cellar every day. If the house ever burns down, you won't hear diddly from HQ until you send a plaintive letter asking where your last two Whimpers are.

The main thing about databasing is that you can run a small organization like the Orphans without a secretary and without going to your paper files very often. It gives us all a power to do bigger things than we could do before 1980. I ran a 150-member chess club in the 70's, and it was a major hassle just to maintain a list of names.

SUPERCHARGING A SUPERCLONE

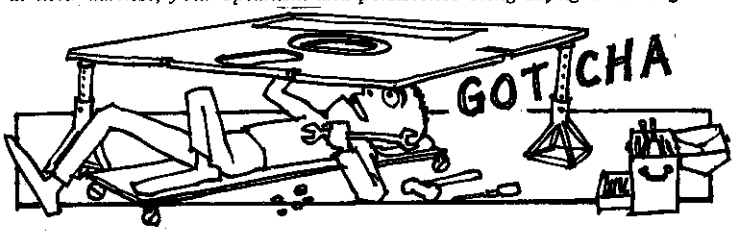
WordTech has provided a copy of its updated DBXL, the "Diamond" version, which retails for $200 and will probably street for $100. They call it a significant upgrade, so I'll check it out and report later.

PCWorld recently reviewed the database market, calling DBXL about the best dBIII+ clone (along with FoxBase), but they gave more points to a package which also runs on our machine, members report: R:base. The other favorites, Paradox and FoxBase, are not reported to run on the 2000.

Hearing your leader complain about dBIII, CLD sends in a pile of praise for FilePro16, which (like DBXL in this issue) outdoes dBIII at its own game for far less money. It is fast, he says, and now has SQL, the latest darling of the computer mags. It imports data effortlessly from 123, dBIII, and pfs, and exports easily to word processors. It looks up and alters records simply in closed or open-ended invoices, receivables, payables and payrolls. He has found a databasing home, FilePro16.

WHEN YOU FIX A DISK, YOU FIX YOURSELF

The Souvenir Shop this month offers unlocked disks of Lotus, dBIII, and Framework, but two members here show how you can do it yourself. You can duck the work with $5 to the Shop, but you'd miss $100 worth of training in the most important principle of computing: when things are at their darkest, your optimism and persistence bring daylight back again.



This dBIII fix is by WRH, and the Lotus fix is by CAN. Thanks and congratulations to both.

There are seven hidden files on the dBIII main disk, which are hidden so that you can't copy them. Four are there merely as copy protection, one is the giant engine that runs dBase, and the other two are copies of the hidden DOS files on your DOS disk (any version). The engine is the file we want to copy.

The DBIII system disk (either disk 1 or disk 2) has a secret "two" hidden in it, which automatically drops to "one"--meaning no more copies can be made--when you use it to put DBIII on your hard disk. Using his method, you produce a second floppy with the "two" in it. Every time you drop to "one" from installing on a hard disk, his method can move your home-made floppy copy back to "two." Your original disk stays on "two." Presumably, you can make a copy of a system disk that has only a "one," and then pump the copy up to "two." Here's how:

Format a floppy, and be sure there's a write-protect tab on your DBIII original system disk. A "system" disk is the one (of several) which has the main program on it. If the program is, say, SuperChess, the main program has a file name like CHES.COM or SC.EXE.

Put system in A: and the blank floppy in B:, and type COMPDUPE/D/S [ENTER]. About half way through copying, the 2000 will stop and say it feels ill. Ignore the complaint and pull out the half-copy from B:. Pinch on a write-tab.

Next, remove the write-protect tab from the original disk and use it in A: to install on a hard disk, the regular way. When you've got the hard disk installation done, your last step is to get that "two" back on the original disk. Surprisingly, the "two" is on that crippled floppy copy you made.

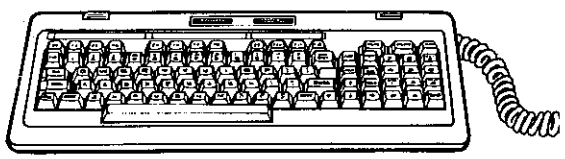
Now comes the reverse copying. Move the crippled original to drive B: and put the crippled copy in A:. Once again, type COMPDUPE/D/S [ENTER]. Presto, the original disk has its precious "two" back in place.

Save that "crippled" copy--it's your key to unlimited hard drive installations. Every time you use that original to install, you can do the reverse copying from the cripple to refresh it.

Make a copy of Lotus system disk (it will be booby-trapped, of course). Type REN 123.EXE 123.BIN [ENTER]. (The .EXE file can't be altered with DEBUG.)Type DEBUG 123.BIN [ENTER]. (This drives 123 into the repair shop and puts it up on a lift.) Type -F 4EF L 6 90 [ENTER]. (This writes six "letters" (bytes) called 90 (meaning blank) over the bytes E8,9A,A6, E8,61,FF, which are apparently instructions to Lotus to set its anti-copying booby-trap.) Type -W [ENTER]. (This writes the change onto your Lotus copy disk.) Type -Q [ENTER]. (This quits DEBUG and gives you a letter-prompt.) Type REN 123.BIN 123.EXE. (This gives Lotus back its runnable identification.)

CAN adds, type [ENTER] when you see a disk error message.

This patch also wipes out another of those annoying copyright screens (see our February fix for Framework). CAN says you can do his patch with a "3" instead of a "6" between the L and the 90, keeping the copyright screen.



If some program you're playing with flashes a message past you too fast to read, try freezing it with the HOLD button. If that fails, drop into debug and read the sneaky words right out of the machine language. Our debug and the utilities that debug show the hex code at left and the actual English equivalent (if it's displayable text) on the right.

Are you tempted by DesqView? Forget it. I borrowed one from our local Egghead, and it crashed no matter what road I drove down.

Watch out for Lightning if you use it with Envision's gigantic memory, says JDS1. Unless you create enough ramdisk space to reduce RAM to 768K, Lightning will slowly corrupt your files.

Many programs have a trapdoor in the menu, through which you can sneak out for a little fun with your DOS. DBase and DBXL baffled me for a while, but you can type a trapdoor DOS command in them any time, such as CHKDSK B:, just by saying "run" first. It probably works even inside a program. RUN CHKDSK B: is the form.

SCULPTURE AND PERSPECTIVE: ACAD AND VCAD OUTCLASSED

CAD fans for whom two dimensions aren't enough, this is for you. We mean when even three dimensions in the architectural sense aren't enough. You work with curved solids, like boat hulls as an example WJT used in an earlier Whimper. Somehow I understood that he was close to America's Cup designing, but he's not.

He works with a line of programs called Fairline/2B, a powerful and useful system that manipulates compound-curved design, whether it's for a new-version dustbuster, a sailplane, or a giant J-boat for the next Cup challenge.

Fairline generates, as it goes along, an immensely detailed number list (called a fairline) that describes and later de-bumps the shapes drawn. The system shows you orthographic and perspective views from any angle, any distance. Perspective is the lines you could trace on a window if you were looking through it at the object; it's "real."

[Editor's note: some perspectives are "realer" than others. After you draw on that window, from two feet away, it won't look really real from one foot or three feet away. This is the telephoto/wide angle syndrome photographers know, which editors only notice after a convincing 20"x30" rendering turns out looking fakey in its one-column cut. Architectural magazines and architects are seriously deficient in this respect. The key, as one architect in a thousand knows, is setting your "measuring points" 90 degrees apart in the eyes of the intended viewer--after any published reduction, wall-mounting, screen projection, age-modified reading distance, and so on. A savvy editor (there aren't any) will set pictures to different viewing distances for Seventeen (10") and Golf Digest (20"). The two measuring points in a picture are much like the two vanishing points. If you draw a floor of square tiles, their edges converge to two vanishing points on the horizon (ocean's edge if you see it out the window). The two measuring points, similarly, are the horizon ends of diagonal x's drawn in each square. Using Fairline, you should be able to reset distance to a "real" perspective for the final viewer.]

Orthographic, on the other hand, is the unconvincing but often useful rendering that ordinary AutoCad and VersaCad (and telephoto lenses) give you. Although poor as a picture, it is useful for accurate design-- tracing the pipes, locating the supports, that sort of thing. All lines that in eyeball reality converge to a vanishing point, are parallel in regular 3-D CAD drawings.

For those satisfied with orthographic renderings, WJT recommends DesignCad 3D, and the 2D version for flat work like plan view (that means top view), circuit boards, or freehand art. He finds it more versatile and powerful than AutoCad and VersaCad at a small fraction of their price. You can't argue with a description like that. WJT will review both in their latest versions when they arrive, and yes, WJT, we do want that review. Thanks!

WJT has a valuable tip for every software buyer (that's all of us) and especially the CAD buyer: "Having been through the mill, I feel qualified in saying that these programs will serve 95% of users' wants (the other 5% are gimmicks) and 100% of their needs. [He's talking about DesignCad, but his words apply to everything.]

Buying less than you need also is covered in WJT's advice, with equally universal meaning: "I was and still am misinformed on a startlingly regular basis as to what this particular thing will and won't do for me. When you innocently rely on the honchos that 'know' exactly what you need for the job, you get gross misinformation, gimmicks, and big payouts for filling half of the needs you expected to fill." (Sorry I had to compress that, WJT.)

THE LATEST AND LAST AUTOCAD

JDS has (for $375) upgraded from the AutoCad 2.18 he basically got from Tandy to 2.62, their last try for the 2000. In his architectural practice, he likes it a lot. He especially likes the new speed of the zoom and pan, "at redraw speed rather than regeneration speed." He also shares with most architects a deep desire to add special quickie routines for his own office. 2.62 has a rich variety of AutoLisp, the programming toolbox, and JDS loves it.

He has gotten himself a relatively cheap giant stylus pad, the 20"x22" GrafBar GP-7-II for $1315, and has set up an amazing chartful of controls around a small drawing area in the center. He sent me a blueline copy of it. There must be more than two hundred command boxes to hit. It is plainly a key to unprecedented speed in the design of commercial construction by the big office, and he's offering his entire customization package to members for $50. He's sending us a copy for review, but I feel poorly qualified to do it justice. Buzz him at 2960-A Manns Ranch Rd., Vail, CO 81657 if you're in the market. If you want a copy of his 4-page description sent to HQ, it's listed in the Souvenir Shop.

It seems likely that your $50, barely paying for disks, charts and postage, will buy $50,000 in extra productivity for a busy five-board office. Of course that office, by now, has four of its five boards folded against a storeroom wall, replaced by a big plotter and four deskside 2000s.

AutoCad, VersaCad, and the more highly praised but cheaper ProDesign, are (after much learning) only as fast as a good draftsman--but much more accurate.

The really huge benefit the cads offer you is corrections and cooperation. On slant boards, ten men on one job put out only about three times as much as one man; with a networked cad or borrow-your-disk office, they do the work of thirty. Even better, when the usual major and minor corrections come through, although it's still annoying, the corrected plans no longer take half as long as the first complete set: they take only another 1%.

We are planning to review AutoCad in the Whimper when we get it screwed into PageMaker and a laser printer, as part of our planned total output system, from a DOS directory to a megachip circuit diagram, in coffee-table-book quality, from the little keyboard of the 2000. But we're still not ready. The laser guys are still getting their act together, solidifying their vaporware. Check that situation under Hardware Help.

MORE WORDS ABOUT WORDMAKING

We have some responses to our word-processor reviews of February.

Word 3.1 is a giant pain, says PAE, rebutting our generally favorable February review. Possibly, but PAE reports several problems which seem to have solutions. His Tandy 220 (a Ricoh 2200 in drag) refuses to talk with 3.1 although it liked his Word 1. I repeat rule I for printers: they only work with a given software disk after you have wept a little, slept a little, thought a lot, and tried a lot of tricks.

Swapping disks, with programs that require it, can be made easier by the 2000. PAE finds it annoying to slide thesaurus and speller in and out, but since they are on 360K disks, he should try copying both to one disk and use just the one. If any files have the same names (like the swarming "read.me" files in BBS's), you can use the REN command to change names.

Finally, the slowness of Word 3.1 with floppies exasperates PAE, as it would anyone. Even though we're staying with a 1984 machine, the modern software we're feeding it brings us into an age when hard disks are almost required. Programs that used to twinkle with 200K and a floppy now rumble along with two megabytes in their latest incarnations. MS Word 1 was quick on a floppy, but in 3.1 "I find the program crawls," says PAE. He's right, and he epitomizes our general need for a hard disk. See the exploration report in this issue's Hardware Help.

EGG has a whole shelf of 2000 word processors. "I use MultiMate for correspondence and WP4.2 for short magazine articles ... I hate WordPerfect for just one reason: cursor movement causes splatter, splash, twinkle, flash all over the screen ... [which WP] has 'no intention' of correcting ... [but] it has superb newspaper column capability which I have use for when submitting the text."

Your Fearless Leader recently used that two-column mode for a newspaper submission, but it got rejected anyway. Luckily, the Whimper always accepts YFL's work.

EGG is not satisfied with the old Scripsit (no columns) or WordStar 4 (freezes Tandy printers).

Varsity Scripsit beats the big three, reports TB, either with floppies or HD. Its printer support is extensive and has an add-your-own option.

WordStar 5, due to ship in May, will run on the 2000, although you can expect problems with its tutorial and its thesaurus. Also, its flashy page thumbnails will surely not run, being graphics (tiny pictures of pages in your document). Williams reveals this in the quarterly WordStar news that arrived at HQ April 9. Orphans will buzz MicroPro for a review copy and (Leon willing) explore it for you.

The update cost is $89, whether from 4 or Tandy's old 3.3; they ask for your serial number. With it and a credit card number, call 1-800-227-5609; for a mail order, send $89 plus $5 shipping plus your current WordStar serial number, or the reference manual title page.

9 THE BASIC SITUATION: MUCH BETTER IS NOT PERFECT

There are problems with the new Basic that came with our DOS 2.11.03. Naturally, solutions to them are flowing into HQ, from our sharper members. WJT sends these comments:

In general, the new Basic "will do what it's supposed to do (most of the time)," while the one we had before was "half-assed ... 5% utility and 95% bugs. Anyone who has programmed (tried that is) with the old Basic has got to like the new one."

While CTRL-C and BREAK don't stop processing as DN told us earlier, try CTRL-BREAK; it does the job. If you are frozen in a stopped Basic program (which many public programs are) and want to get to DOS, type SYSTEM and hit ENTER even if the screen stays blank without showing your typing.

It is true that Basic Editor does not understand asky, the trick of creating symbols and box segments by, for instance, holding down

the ALT key while typing 155 on the right-side number pad, which makes a cent-sign when you then let go the alt key. However, you can still get those asky characters in by first saving your Basic Editor product in asky (type SAVE "QUICKIE.BAS",A [ENTER], and then editing your Basic program in a word processor, or simple Edlin from our DOS disk. Then the silly cent sign will type out whenever Basic asks it to.

BASIC MAY BE BLIND, BUT IT'S NOT DEAF

The VM-1 does (as JNW says) look like a coal mine at midnight after you load Basic, but trust it and type blindly, SCREEN 2 or SCREEN 4 followed by [ENTER]; it beats pounding the F12 button. RNB noted this earlier (Feb88p.8). After this even SCREEN 3 will work on the VM-1, although with a few "colors" hiding as blacks.

If you should want to use various keyboard keys during the execution of a Basic program, but don't know the code to type into your program listing, here is a program which you can call from DOS or Basic which, when you hit the mystery key, displays the secret code you can use:

```
10 CLS:KEY OFF
20 FOR J=1 TO 12:KEY J,"":NEXT
30 PRINT "Hit any key to find its ASKY decimal code, or CTRL/BREAK to quit."
40 A$=INKEY$:IF A$=""THEN 40
50 IF LEN(A$)=2 THEN PRINT ASC(A$);
60 PRINT ASC(RIGHT$(A$,1)):GOTO 30
```

We thank WJT for the best letter yet on our Basic.

THIS DISK INSPECTS BUILDINGS

Plan Analyst, $125, is a neat cross-checker of the building code to a set of plans. It is especially handy for commercial construction, where code presses in on plans in hundreds of ways.

After you type in building and floor areas and distance to property lines, Analyst sniffs around like a building inspector and spits out limits on what use you can make of each building and floor, number of occupants, fire protection, exit widths, you know the routine if you design or build. It is based on UBC, reports JDS in his review, which probably controls more state codes (the states mostly reprint) than BOCA does. (Orphan HQ was built under BOCA.)

If you ask, the program also prints out a "corrections" list, what parts of the information you typed in fails to meed code. It's by Ben Weese, inspector for Colorado Springs, available at 303-599-5622 and (evenings) 303-578-6157; 3875 Surrey Lane, Colorado Springs, CO 80918.

PrintMaster and its updates work fine on our machine, says CAN (we should call him CAN-DO), if you select "no compatible graphics card" during installation.

I have tried Disk Wiz, sent to us by Computer Creations, but it will not run. No matter what part I call, it gives us the traditional IBM finger we are so used to: black screen, blinking cursor, dead keyboard.

When your 2000 finishes some job you gave it in a .bat(ch) file, it often slaps two prompts on the screen, either A> with an A> below it, or two reps of the nice two-tone prompt with time and directory that I gave you in the March 87 Whimper. PAE reminds us that if a return to disk A is at the end of the batch file, it causes the doubling because the A> instruction prints, followed by the A> greeting from the drive saying it's ready for you. To eliminate the first A>, put "echo off" high in the batch file, and "echo on" as the last command.

When 360K software disks have directories or hidden files, they won't copy with diskcopy or copy*.*. You have to use compdupe/d/s, which quits halfway through and starts whining at you. Ignore the whines and exit, because the copy is done and done right, half-filling your 720K disk. Compdupe is upset about finding no 41st track on the source disk, when it was expecting the usual 80 tracks. Thanks for the tip, EGG.

In WordPerfect 4.2, the printer definitions need the "LPT1" changed to PRN to run prints from the 2000. I suggest that this fix can solve a lot of problems for us on a lot of software. If a program offers you only packaged printer drivers that you simply select, try to drop into assembly language with a debug, a Superzap, a Norton, etc. and read through the English in the right-hand column. Printer drivers are very short. If you spot an LPT1, try changing it to PRN(space) and see if it helps.

Apparently WS4 doesn't understand color, and that doesn't bother me much since I use the VM-1 for all letters and numbers, but WVL has found a way to break through into a full CM-1 rainbow: He uses DeskMate, backs out of it with an F12, and finds that the color remains when he drops into either WordStar (3.3 or 4.0). He doesn't clarify, but there is probably some multitasking going on: For instance, he may be loading DeskMate as an autoexec when he turns on his puter, then calling up WordStar, then pulling up DeskMate with a keycode (at which point both DeskMate and WordStar are in memory), and THEN dropping the DeskMate.

Those who like color might want to explore this possibility, even with other programs. Who knows? Maybe you can use some simple memory-resident color program to drop you into a Hawaiian version of dBaseIII!

THE BIGGER THEY ARE, THE HARDER THEY TYPE

PC magazine (March 29) has arithmetic you can put in a PC by typing hundreds of instructions just right. What can these people be thinking about when they blow ten pages (that's $150,000 in ad money) on such nonsense? Many of the more number-oriented big programs have their own calculator built in. But if you want to go ahead, JNW has done it and knows a pile of changes you must use to adapt it to the 2000. If more than one guy writes in for the patches, I'll buzz JNW for his work.

On the other hand, if you want numbers, try a $9 credit-card calculator stuck on your upper-right keyboard free space with foam tape. That leaves room for the flipchart over the F-keys from the December Whimper.

The June Whimper will be special in several ways. It will (I intend) jump back to a mid-month press date. It will be short, because few of you will get response letters to HQ between receiving this issue May 15, and our June 10 deadline (all dates approximate).

Best of all, it will be fattened by a new edition of our 2000 software list, plus a list of all the public programs from BBS's that we will distribute on fully-packed floppies.

WordPerfect 4.2 has a bug or two that they have corrected, reports WHB. He says, hit the help (F3) key and if the date shown is before 10-26-87, call them at 1-800-321-5906 or (my notes imply) 1-800-222-9409. They should send bona fide owners a free update, as they just promised me they'd send mine. The update solves DB's problem with LPT1 and PRN, and reactivates the PRINT key.

Among communications programs for or working on our machine, says LHC, no one should own Videotex Plus, which is a dog; Softerm PC 2.1, sold by Tandy as Softerm 2000 (apparently unmodified), is nice, and will soon be updated to version 3.0; he likes what he hears about Crosstalk XIV, but hasn't tried it.

Norton Advanced will lock your keyboard if you have an 8087 chip and turn on its SI (system info) section, reports OR. This is true of disks dated 5/87 and 12/87, but Norton will mail you a correct 2/88 replacement if you call them. I did, and gave up after ten minutes on hold.

If you're using "Flash" from Software Masters, OR says, you're in danger. He's 90% sure it erased his hidden hard disk system files.

For those still looking for a compiled Basic for the 2000--meaning a Basic that works much faster in big programs, JGS has a couple of candidates for you that run: Z-Basic 4.02, and (without graphics) QuickBasic 3.2 (maybe 4.0).

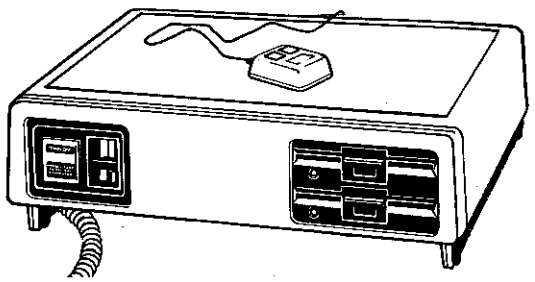
Basic on our .03 disk refuses to go into quick-moving black-and-white when you type the usual Basic command, SCREEN 0,0,0. RCP sends a patch from the February PCM that digs into the disk and finds the machine word "B401," replacing it with the more agreeable word "9090." 9090 tells the 2000, "Don't do anything." Making sure you're doing it on a losable copy which has the new Basic and the new Patch files in it, type this: PATCH BASIC.EXE, 64B1, B401, 9090 --and then try your SCREEN 0,0,0 (or F10). You will have escaped the slow-scrolling "colors" black and white, and things will be quick.

Interested in your roots? PDS has adapted a public genealogy program to run on the 2000 in both compiled (rapid) and regular forms. He also has some routines to control an Okidata 92 or 93 on the 2000. He's at

SVC asks about Lumena not printing with the shift-print dump command of our DOS. No, Lumena (and any program with its own printing routine) will not print with a shift-print press, which is for printing things you see on the screen while you're in DOS, the "shell" or "environment" you land in when the machine is turned on or you quit a program (such as Lumena). To print in Lumena, you mouse over to its own print command and flick it. Then it prints, but ONLY if you have a CGP-220; no other printer or plotter works, apparently. During the sale I asked my favorite salesman if he would kindly tell buyers of the on-sale Lumena that the CGP-220 was their only output. True to Shack tradition, he refused. If you got stung the same way, I suggest you give your store and Fort Worth major grief about it.

If you buy David Peterson's great Monopoly disk with its blazing roll-by of the world's flags (May87p.11), make your checks out to him personally; his company is kaput. Could be anything, but my guess is Parker Brothers wrote his company a nasty letter. If they did, nuts to them. As I mentioned in May, they are a mean, inconsiderate group.

For those with sixish kids, Wise Owl Workshop makes programs that both teach the basics and introduce the computer to them. A member bought them and, with the helpful maker, adapted



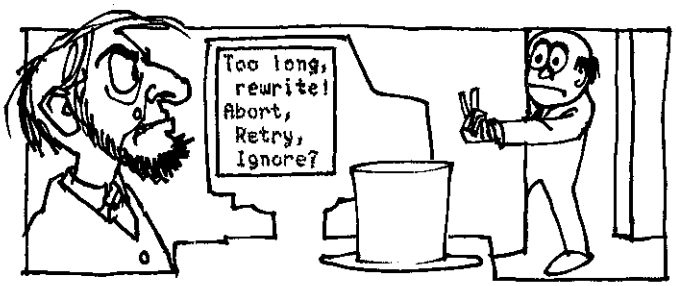
them to run on the 2000. For his fixes, call Steven at 313-987-7432. Wise Owl is at 1168 Avenida de las Palmas (that might mean avenue of the palms!), Livermore, CA 94550.

Public programs that would not run on the 2000, many of them, will now run using our .03 disk Basic. Many free programs dip into Basic for help, so it should always be invited to the party (be on the same disk and directory).

Two members, maybe three, have recently recommended Buttonware programs for our machine. I have just extended an invitation to them to have their programs reviewed.

Speaking of letters we wrote, we wrote Kroeker of Show/Edit (Feb88p.16), but he never replied. Probably kaput. Members recommending software or hardware, please buzz the makers to make sure it's what and where you think it is, before writing HQ about it.

Members who were satisfied with their QuickCode II from Fox Geller, don't bother ordering version III. It won't run any more.



Our DOS has a secret mailbox called the "Environment" which it grabs in a RAM chip, a space so tight that Lincoln's first sentence at Gettysburg, stored there, would have to end half way through "created." It is here that DOS sticks the little hints about where useful files can be found in a hurry-- such as COMSPEC and PATH. This tightness is unfortunate, because many programs use the same little space for their own little messages. So if you have ever run into the crash labeled "Out of Environment Space," check the souvenir shop for a half-page fix sent to us by CAN, which you can have me zerox and mail to you, and which you type into your DOS. It makes Environment a little bigger and prevents some crashes.

"Windows is a color program on my machine," says TL. It's a surprise to me. Does anyone need to get tips from TL?

Now that headquarters is using its Norton Advanced (egad, we paid for it!), we have a little warning that is hard to find in the manual: anything you do with the 2000, from DOS or from the bottom line of the menu, has to have /DI tucked right after the command intials. Otherwise you get that old familiar sinking feeling as the screen turns black and the keyboard dies. Only the 2000 fan tells you electricity is still flowing MF has sent a program which forever alters your NU to skip that extra typing. I'll put it in the souvenir shop public program list.

When using Norton, you should have a copy of command.com on the same disk or in the same directory. Norton likes to use it for some of its moves.

Ever have trouble re-formatting a 720K disk to 360 with PCMaker, or going from 360 to 720? Norton's WD (wipedisk) will make the change possible, unless the disk has the indelible "hard sectors" you get in factory-copied software.

THE WRITE STUFF

Most of us do some writing for pay, even if it's just memos around the office or an Orphan Whimper, using our 2000s. You could give the boss (or yourself) more valuable writing if a good college writing prof could read everything you write, and catch the booboos you let through.

Sure, you could be that prof, but you know that there are times that you let up on any job. I'm not talking about spelling (which your word processor can catch) or grammar (for which we don't have a compatible program yet). I'm talking about how difficult your stuff is to read, which is a function of what words you choose and how many you pack into each sentence.

I consider myself a world-class writer, but when I plugged in a new program called Readability, it gave me a sort of B grade. It then pulled out each offending sentence of my piece, labeling it wordy or pompous or whatever, and sure enough, each one was! From now on, all your Whimpers are going to be filtered through Readability, and they'll have higher quality.

There are almost fifty faults it looks for, and I have only nibbled at about half of them before writing this. But until I can give it some more attention, you should know this: If you write anything but grocery lists, this program is worth ten times the $59.95 you should now call in to Scandinavian PC Systems, 1-800-628-2828, extension 982. That extension is phony; it's just a code number for an 800 answering service that takes calls for a hundred companies. If you pay by check, it's 51 Monroe St., Suite 707A, Rockville, MD 20850. They may want some shipping money; $5 is more than enough if you're writing a check.

I spotted a writeup of PC writing profs in a recent mag, and even for plain-vanilla IBM's, this is the king of the hill.

IF YOU KNOW ALL FIVE, START WRITING FOR THE WHIMPER

I'm not ashamed to say I didn't know this two years ago, and I wish someone had told me as I'm now telling some of you: A spreadsheet is a program that takes a table of business facts, a lot of them numbers, which you want to do some group arithmetic on. It could be dollar amounts on customer bills, or rates of change of many stock market prices. When you need it, you need it bad.

A database, looking very similar, takes another table of business facts (or even the same one), and acts as both file cabinet and filing clerk, with typist for a bonus. It puts away the information, digs out any parts you want, and even changes those parts, all with the same lightning speed as a spreadsheet making numbers. It can work with one customer, or a thousand at one time. If you want selected printed information, it grinds out "reports" at the same high speed.

A utility doesn't care about all the facts you've stored, but it is your computer's capable janitor. It chases things you've lost, lists things you still have, and in general does things to your disks beautifully that DOS (your Disk Operating System) does poorly or not at all.

A shell is almost like a utility, but would rather be called "superintendent" than "janitor." It displays on the screen, often as soon as you turn on, a pretty list of all the things on the disk your computer is currently using. You take a mouse, or keyboard, and tell the shell what you want to do next. The shell does it, creating more pretty displays. The better shells try to do several things at once.

The only other thing most of us need is a word processor, which is a typewriter with extra powers that remind me of a database. It takes what you have written and displays it, changes it, inspects it, proofreads it, and even gives you advice about it. Best of all, it does the things we writers used to hate and avoid--cutting, crossing out, pasting, revising, retyping--with such speed and neatness that we now keep improving our work until it's a lot better than a typewriter would have made possible.

BAD NEWS BUILDS GOOD HABITS

All the magazines arriving almost daily at headquarters are buzzing, this spring, about viruses.

If you are one of the lucky ones not addicted to magazines, a virus, hidden inside a program called a Trojan horse, is something you get, usually from a friend or an electronic bulletin board, that turns into a terrorist inside your computer, scrambling or killing some of your programs (disks that tell the computer what to do) and data (disks that store information after the computer does what it's told).

The word is that viruses are all over, presumably started by jealous bulletin-board operators trying to hurt eachother, or by astonishingly hateful people who want to hurt everybody.

Using that logic, there could well be viruses in the public programs that members have sent to HQ, which we will be or are (deadline looms) offering in the Souvenir Shop. It is certainly a possibility, but viruses cannot hurt hardware. They only hurt the information stored on your disks. So if you store the original programs you've bought (or borrowed), and if you "back up" (copy) your data every time you do an hour's work on it, a virus can never steal more than an hour's work from you-- plus the two hours you spend putting things together, and don't forget to make quick copies of the "good" disks that will rescue you. No virus is reported to corrupt the copying process yet.

But frankly, I don't think there are even a hundredth of the viruses around that people are talking about. Specific viruses, never found, are alleged to erase themselves before getting found, but I think most of the problem may be our unwillingness to admit our blunders.

Just recently, I was destroyed by an other-worldly bug in my Microsoft Word 3.1, which scrambled file names and erased several hours' work. I ran all over locking disks and unplugging hardware, but the eventual solution was that I had pushed a write-protect button on a cartridge disk-- specifically to protect me against viruses from that public software I've been processing! It seems that Word wants to talk with all its disks with no barriers, and it gets vicious when it can't. So by fearing viruses, I caused what seemed to be one.

Sure, you can defend yourself against viruses, with the simple trick of physically write-protecting your disks, or marking them " read only" with a utility like Norton. But don't panic when your programs get freaky about write-protects that tie their shoestrings together.

Think of what you hear people say about their changing world: "You can't walk down the street without someone trying to kill you." I don't recommend that you carry an alligator purse through Needle Street in Drug City, but the average guy meeting the average criminal is not going to get hurt unless he takes risks like issuing a challenge, invading a territory or being unpleasant. I think our fears about viruses are in the same category: don't take needless risks-- keep all your disks backed up.

If you buy this strategy, viruses will do you a lot of good. We all have machine failures, disk crashes, and disks that die on us. If we have a second copy of everything because we fear viruses, we won't escape the fairy tale, but we'll escape the reality: our systems often fail us.

ON THIS HIKE, BRING A FULL PACK

It's getting almost too late to buy those last versions of popular software that will run on the 2000. Do some hard thinking about whether you will be needing them. Surprisingly few members are unloading major software packages in the Flee Market.

Consider especially, especially Windows 1. Also check Word 3.1, WordPerfect 3.2, AutoCad 2.62. Leon Williams reports in the spring issue of WordStar News that WS5 will run on the 2000, not because he loves us but because his program is getting more "well-behaved," a tech term meaning no short cuts to the screen. It was not always so; 3.3 IBM version bombed on the 2000 and Tandy bought a patched version. It now seems that WordStar, the first big word processor to run on the 2000, will also be the last.

But for my money, nothing on the market comes close to Framework I for non-fiction writing.

Program Problems

Who knows how to free Symphony from the slavery of a disk in drive A when it's used on a hard disk? Any member having an unprotected Symphony, please send a note to HQ. I will call the first person to offer and ask you to send a copy to us; then we will offer it to bona-fide owners in the Souvenir Shop.

One trouble with Basic is that it runs a bit slow on our machine. Is there a programmer out there willing to patch our Basic to call in the 8087-1 when things get slow? Coming from the other direction, which agile hacker can patch MS QuickBasic to the 2000? It is cheap and fast, says WJT.

WVL reports that WordStar 4 won't print "on any of my Tandy printers." Who has heard of this, and knows a solution? WVL pulls a file out of 4 and prints it using his old WordStar 3.3, but he wants an easier way.

We have a pile of public files, but we want more. WWH sends a BBS article from the Jan87 80Micro(p.103) that mentions these programs: Katalog, Double Directory*, Color, MacPix*, Filer, VFiler, Move, Search, PCUtil*,*Softwr.txt*. Anyone having these files (with emphasis on those with *) please send them to HQ for distribution among members. If you have these, you have others: check this month's list of public files we have in the Orphan Souvenir Shop, and send anything you like but we don't have, please. And thank you!

Scaven tells one where the bad spots on a hard disk are, says WHB. Who can tell him how to make it run on the 2000?

Also from WHB: How do you cancel MODE LPT1:=COM1: without rebooting the 2000?

Sidekick (IBM version) won't run on the 2000 for RCS. Who can help him? In my memory, the working versions have been made with a patch that is available on all the BBS boards.

Who can make PrintMaster draw on the 2000 screen(s)?, asks SVC.

Who can make Symphony run on a hard disk without that pesky Symphony floppy in the A drive? WRH wants to know.

Framework has a nasty habit of crashing when you delete a large file, insisting that it is "Clearing undo buffer." Who can help JDS stop this hooliganism?

DBIII (and DBXL and probably DBII) refuse to accept commands for the F11 and F12 keys. Does anyone have a patch to solve this?

THE ORPHANAGE SOUVENIR SHOP

This month we begin a transition to fairer pricing for disks. If you get several items and they all fit on one disk, you shouldn't be paying $5 for each item. So with the three items available this month, we'll charge $4 for the blank disk, plus $1 for item 2, $1 for item 3, and $16 for item 1, the Windows adapter – only charging for what you want. I will use any handy disk, new or used, cheap or premium; buzz me for a replacement if it fails when you get it. The mailing packet may also be a veteran.

Next month, I intend to offer dozens of public BBS programs, but to avoid becoming a supermarket cashier, I will package them into several big disks, such as "Compuserve's Greatest Hits for the 2000."

We could be more efficient with .arc files, which are almost half-compressed, but only about 10% of our members are set up with the archiving system. We could be safer from "viruses" by not buying disks from the Souvenir Shop, but we'll just have to do our best to cure any rotten file which attacks other disks. Before using the small shareware files you get, I suggest you back up any hard disk, and run the new stuff from its own floppy. Insert a system date of 1990 and time of 23:59:59, to trigger any time bombs, and call the thing half a dozen times.

Compare our price with a modem safari: it takes an hour and a half to fill one 720K floppy at 1200 baud, plus half an hour bouncing around menu delays and stubborn machinery. That two hours might cost you $20 to a wire service, plus $50 if it's a toll call; and the time stolen from your work or family is worth at least another $30. That's $50 to $100 for a floppy, so the Orphanage Souvenir Shop is offering a better deal.

Build your 700K disks from all numbered items that end with a K number. ***(Only three possibilities this month, but expect dozens in June.)***

1. Tandy-written Windows Driver disk, formerly their #7002611 and presently our #1, $20 postpaid continental US, others inquire. This disk slyly erases drivers for non-Tandy printers, but we'll add instructions for avoiding this trap. (198K)

2. "Creative Byting," a free-to-copy disk on how to write user-friendly well-selling software, put out by an apparently out-of-business disk publisher. (183K)

3. "Suitcase," a hard-disk packing-up utility which pulls the reading heads away from the disk surfaces to protect both when you bump your puter while trying to lower it into one of those open-pit car trunks. The disk unpacks itself next time you turn the machine on. (2K)

4. "Mastering the Tandy 2000," a compressed zerox of an out-of-print book mentioned in the February issue. Reprinted with paid permission. $6.50,postpaid conUS.

5. Unprotected Lotus123. Send your program disk from Tandy 26-5300 with $5 and I'll send it back with an unprotected 123.exe file that copies to any disk any time. No other goodies on this disk.

6. Unprotected Framework. Send disk 1 or 2 of Tandy 26-5320 with $5 and I'll send it back with an added, unprotected fw.exe file that copies to any disk any time. No other goodies on this disk.

7. Unprotected dBaseIII. Send disk 1 or 2 of Tandy 26-5353 and I'll send it back with an added, unprotected dbase.exe file that copies to any disk any time. No other goodies on this disk. $5.00.

8. Instructions for putting 512K (or more) on a Tandy 2000 memory board. 7 pages zeroxed, $1.00 including postage.

9. List of Tandy 2000 video ports. 3 pages zeroxed, $1.00 including postage.

10. Mousetrap, which lets our digi-mouse run the arrow keys, the ENTER key and the F1 key, in your starting DOS or any software that lacks its own mouse driver, which means that now our mouse goes everywhere. $20, of which $10 goes to the deserving inventor, $5 to actual costs of getting it to you, and $5 to the Orphan phone bill.

11. A member's description of his AutoCad custom 20x26 command template, 4pp. zeroxed. See AutoCad under reviews for description. You can call him (I'll write on his phone number and address) if it interests you. $1.00.

Two more items on page 7, lower right.

YOUR LEADER HAS GUTS

Still some guts and stands available from the headquarters collection, for the disaster prices I paid in November, plus $5 shipping for any group, plus an extra $5 shipping if floor stand is in your group. Four floor stands, all with cable for keyboard and color only; use your own VM-1 cable; $40. Six desk stands for VM-1, they change a 13x13 space hog to 4x4, $15. Two clock & mouse boards, $35. Six hard drive boards, $100. Five color chip sets, $35. Prices are for one, of course. When these are gone, no more stuff. These have no visible or known defects, but are untested by me.

Flee Market

Only 2000 software and 2000 hardware is offered here. All prices include all original accessories and manuals, and shipping to continental USA. Your phone will be used unless you specify an address (NO box numbers). Ads will not run (partially or fully) again unless you request it and its prices are 30% less than the previous run. You are welcome to dicker with the seller: some ads say "firm" and others say "negotiable," but I regard both words as misleading and don't print them.

Last time, this ad ran without a phone: double floppy in its box w/deskmate $250; double floppy with graphics board and color chips $350; graphics+chips alone $75; MMate $40, dBIII $80, dBII $30, SCal3 $40, MWord $40. Paul, 305-862-3438.

Tandy 2000 tech manual (26-5404) $5, dBIII $75, Framework $95. Mike, 802-763-8575.

$2150 is the awful price, but this system is awfully loaded: double floppy and double 20-meg hard drives with color and mouse and CM-1. He's bundling all the rich-man software you'd ever want, including PageMaker, Windows, FrameWork, Symphony, Word, WordPerfect, AutoCad, VersaCad 2d and 3d, and 23 more. That kind of comfort will warm a few winters for someone. Call Michael at 503-635-6984 after 5:30 Pacific time.

Full package software with UPS paid: Symphony $65, Home Accountant $25, MS Word 1* $25, MASM Assembler $25, Offix $25, Lotus 123 $65. (May be non-upgradable, he has 3.1 already.) Elton, 213-432-4039 (California, don't call at 9 Eastern!)

This is a repeater with a lower price: double-floppy with Envision 640 board for 896K total, color/mouse/clock, floor stand, CM-1 and Lotus, DR Draw, PFS Write + File, both tech manuals. $750, Tom at 205-347-5008.

Graphics board with color chips $80, mouse/clock board $10, Home Accountant $40, Lotus $50, OmniTerm 6.1 $40, BetterBasic for 2000 $60. Call Bob at 513-474-4900.

Double floppy with VM-1 $458, HD board $179, 256K memory board $179, color board $159, clock board $49, Framework $129, Home Accountant and Dac-Easy $37.50 each. Myron, 817-465-5736.