## Editoriall

Happy New Year! I usually find myself writing something about the "new products in the new year" and "hownew developments will continue throughout the new year," so I decided that we could probably all take that for granted in the new year, but I can't resist highlighting some of the more significant advances. One is more development in the OSK machine arena. Although the MM1's production rights have been transferred to Blackhawk Enterprises, I have heard of no new developments on their end. Delmar's System V is continuing production as far as we know, and Frank Hogg has some new developments on the horizon for his 68 K line.

Another new advance for the computer industry in general is the introduction of the IBM/Motorola PowerPC 601 chip, which is shipping in some new IBM computers and will appear in the newest line of Macintoshes sometime this spring. This chip is completely different from the $80 \times 86$ and $680 \times 0$ chips that drive their respective computers- it is a RISC architecture which should enable the chip manufacturer to get more speed out of the chip than previous designs

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Tothepointof your[last] letter, I'd like to re-express what must by now be either a ho-hum for many or just a niggling point that everybody else already figured out. In part, I'm rebounding from a thoughtprovoking letter to the editor by Ed Gresick printed in The World of $68^{\prime}$ Micros, Vol 1 \#2, which you may have already seen.

The heart of my argument is not so much whether Tandy is or is not a small company or even a company capable of good engineering. I remain favorably impressed by the tidiness of the 1000 family's engineering and their successors, regardless of the mediocre speedratings Tandy almost always seems to garner in the establishmentpress. Atthecore, what I feel goes a lot deeper and concerns the subjective relationship that the

## OpTine

Editor: Jordan Tsvetkoff
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hapless consumer enters into with his or her "computer company".

There's little doubt that the Tandy holiday ads have gone a long way to correcting the "Trash-80" image. Indeed, despite the national magazines, Tandy could reasonable claim there is "no better value in smallcomputers,"if bythat we mean a mass marketed commodity for which one can be reasonable assured of readily accessible service. Could Packard Bell, or even Apple, make such a claim stick? I'mreally talking to an idea akin to the social compact we know from Government 101. If you can't trust Tandy, who can you trust?

Personally, l've never bought a Tandy MS-DOS machine, though I'll admit to being tempted. I have, however, bought three CoCos and peripherals. I suppose I always felt that someday the bullyboys with their pinstriped suits in \#1 Tandy Tower might just decide to pull the plug on MS-DOS altogether- and then where would yoube? Ineverdreamed they would decidetodump computer production completely (especially since their deal with DEC has been touted by virtually every store manager I know in this area). If by "main production unit" you mean that Tandy's electronic toys or gadgets produce more revenue per floor space than computers or peripherals, I suspect you would be right. Surprisingly, I recall a fairly recent statistic (about 1985) that Tandy led all other retailers in software sales, since Radio Shack books and publications were also lumped into this category. Times are clearly a-changin'.

Icertainly think that Dell Corp has built a lasting reputation for quality and competitiveness. To a lesser extent, so has Gateway 2000, and perhaps Zeos. As you point out, increasing R\&D demands may well marginalize many of the small clone builders- and one gets a sense of this from some of the reviews of off the shelf boxes which are not really optimized systems, built by poorly capitalized companies. The failure out here of Fast Micro is a good example of both problems. I do not know if IMS suffered similar problems.

I figure Tandy decided that if the company was to survive the next shake-out, its strategy should better be to focus its energies on what it doesbest-merchandising; moving boxes out the front door, be they boxes of amplifiers, antennas, or anything that ameliorates accountants' anxieties. If anybody, even those who had bonded with their local Radio Shack for their computer needs- if anybody felt dissatisfied with this arrangement, well let themeat dust. Of course, this approach totally undercuts the poor schlemiels on the floor selling the latest pastel CD-ROM sensation. All we know for sure is that AST will make, and Tandy may continue to sell, the same computers. Score another hit for commoditization.

At the very least, I feel confirmed in my wariness of buying any vanilla (or pastel) Tandy MSDOS compatible (games programmers dispute just how compatible Tandy graphics really are). Does this tell us how fickie any manufacturer may be or become, in order to survive?

Looking to the future, I find it hard to believe that OS-9, OSK, or OS 9000 may actually get ported over to the emerging PowerPC family, primarily because of a closing window ofopportunity, alludedto by Mr. Gresick. But miracles happen- and there are some genuine talents in the extended $\mathrm{CoCo} / \mathrm{OS}-9$ community.Obviously I would love to see it happen- and I would find a way to pay for both machine and software. Perhaps the System V anticipates tomorrow's Machine.

## Henry Harwell, Phoenix, AZ

IEd: At the basis of the Tandy debate, I think that we must realize that Tandy is a business like any other, and they try to do what is in the best interest of the companyprofit-wise. Whethertheirmotivesfordropping any line is due to slacking sales or inter-line competition remains uncertain to us- we can only form an opinion. 1 too hope that OS-9 and OSK enthusiasts will continue to work with the operating systems, althoughI alsofeel that at least at this time, both OS-9 and OSK are leaning toward hacker oriented systems, as the average user who knows nothing about computers would probably nor choose OS-9 and OSK as their first operating system However, as with just about any application these days the easier the system is to use, the less powerful it is. Anc a new user may not need much power- just open my file edit it, print it, and quit the application. Although this i. easy to do in OS-9 and OSK, the installation requiredfo. the system itself may seem daunting to new users. I summary, these systems are incrediblypowerful, butyo must be willing to put in the time to learn how to manag that power. More applications in the OS-9/OSK aren will help immeasurably.]

I enjoyed Sheldon Parson's review of CoCc Accountant III from Federal Hill Software. I am ready I buy this program-just what I need! But I could not fin an address anywhere, even in my own papers, for thi company. Can you furnish it or get that company to sen me a catalog please?

Thanks. I love your two magazines, UpTime an NineTimes-I shall renew when the timecomes. Thank for all your effort!
L. Boult, Ottawa, Ontario, Canada

[Ed: Our address for Federal Hillbegan to bounce mail about two months ago. I have not received any word of a new address-perhaps one of our readersmay have a lead.]

I enjoyed reading your report on the Atlanta Fest, especially the part about Ken-Ton and Joe Scinta. I have one of Mr. Scinta's hard drive systems. Although I had difficulty with the first drive Mr. Scinta sent me, he replaced it with no cost tome, except for a few telephone calls and some shipping charges. It has more than enough space for RSDOS files, containing the equivalent of 255 single sided floppy drives and considerable space for OS-9 files to boot. The enthusiasm of Mr. Huffman for the Ken-Ton hard drive system is well justified.

On another note, is The Rocket CPU replacement project by Burke \& Burke really dead? It seems a shame that such a worthy project could not be completed for lack of support. It's too bad it wasn't started earlier when there could have been more support for it.

RobertL.Sullivan,Sr,Branch, MI

[Ed: Burke \& Burke has announced that therewasnotenough advance orders to go ahead with the project. We'll print any contrary information that we receive.]

## Basic09 in ?? Easy Steps

Since it seems to be very hard for today's editors to get good Basic09 articles for their magazines, I have been asked to fill some of the gap. Among the issues that popped up were conversion of DECB and MSDOS basic programs into Basic09. This is a wide field that could cover a number of articles by itself. However, I didn't think it is wise to jump into the subject without providing at least some background information on the differences between the languages. Starting up Basic09 from scratch will also be discussed.

I will start with DECB as most people are at least somewhat familiar with it. If you want to do a program conversion, you have to understand that DECB is not just a Basic language. The code alsofunctions as editor, operating system, and graphics interface.

Basic09, on the other hand, is just a programming language. Commands that are part of the operating system's functions are dealt with by OS-9. Since it also had to be portable to computers with different graphic capabilities, the graphics interface is contained inseparate modules. On the CoCo , these modules are called $g f x$ (for low/medium resolution screens) and $g f x 2$ (for high resolution screens).

If you run into a function that you cannot perform under Basic09 because it is part of OS9 's territory, you can issue a request to OS-9 using a utility called SysCall. This utility, along with the $g f x$ modules, can be accessed from Basic09 by simple RUN statements.

If you think there is more to it than that- you are right. You will have to contend with parameter passing, program optimization, etc. We will get to those things later on. For now, all you have to keep in mind is that this is the basic triangle from which you build your Basic09 programs.

As for the structure of MSDOS basic- it looks a lot like DECB. Presumably this is because both were developed by Microsoft. The reason they got away with this is that at a certain level, the hardware of all PC compatibles looks very much alike. This allows for across the board use of the same graphics modes, etc. Unfortunately for PC users, this backward (in more ways than one) compatibility comes at a price: the computer's performance.

I have a PC compatible with a 25 MHz 486 SX processor in it. By all accounts, this machine should run circles around the CoCo. In fact, it will do so but not under the QBasic included in my version of MS-DOS. Programs that are mostly calculating jobs run about ten times as fast as in


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Basic09, but for graphics programs, this slows down to a factor of five.

For all practical purposes, if you convert an MS-DOS basic program to Basic09, you can expect it to run about as fast as it would on an AT-class machine. There are a number of reasons for that, most of which I won't go into here. They deal with the specifics of the microprocessors themselves, the way the machines address their memory, etc.

There is one important software reason that I will go through in depth. MS-DOS basic, like DECB , is an interpreter type language while Basic09 is a compiler type language. What it boils down to is that interpreters translate a given program line by line. They translate the first line and execute it, translate the next line, execute it, etc.

A compiler like Basic09, on the other hand, first compiles the entire program into what is called intermediate code (l-code). Once it is done with that, it can start executing the program with much less overhead so the program executes faster. Another advantage of I-code is that is uses relatively little space in memory which means you can get a lot done even with limited memory available.

One disadvantage in that compiled programs can not be altered or alter themselves. If you want to make changes, you will have to do that in the source code and recompile it.

Fortunately Basic09 implements the various functions of a compiler in a user friendly way. All the user really has to do is remember the difference between SAVE and PACK.

For the more curious among us, here is roughly how Basic09 works. If you decide toenter some source code into Basic09, you must do so through its editor, the one part which could be more user friendly. You can enter the editor by typing 'e' or 'edit' plus a program name at the B: prompt. When you type in a line of code, Basic09 checks it for typing errors, misplaced operators, etc., and translates it into I-code.

When you are doneentering program code, you type ' $q$ ' at the editor's E: prompt. At this point Basic09 starts checking various aspects of the program. If there are problems with loop structures, complex data structures, or
variable typing, Basic09 will report those problems using a code number telling you what problem to look for as well as the address of the offending code.

Note that these addresses are the numbers shown in the leftmost column of Basic09 program listings. An explanation of the code numbers can be found in the Basic09 section of the OS9 manual in appendix $A$.

Assuming you have resolved all the problems in your program, you can now run your program. You do this by typing RUN plus the name of the program. If you didn't get all errors out, Basic09 will display an error 51 message. This is labeled as a compiler line error and means there are still one or more lines in your program that have not passed the preliminary tests.

Of course, the fact that your


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program runs doesn't mean that the code is bug free. The computer for one is happy if it can just run the code and couldn't care less whether its results make sense or not. It is also possible that there are array pointers that end up pointing outside the intended array (error 55), etc. Unfortunately, Basic09 cannot check for these things in advance, so you will have to test your program for such errors yourself.

Since Basic09 is what we call a multipass compiler, it is not quite finished with your program yet. At this point in the development stage, Basic09 holds all line numbers and comment
lines in memory as part of the program code. To save this code to disk, you must use the SAVE command. If you need the code to make changes to it later, you can load it back into Basic09 using the load command and edit it with the edit command.

However, if you are convinced your program is ready to run by itself, all the comments and line numbers become obsolete. You can purge them using the PACK command.PACK saves the program to disk in a form that cannot be disassembled by Basic09 and consequently can no longer be changed. On the upside, your program now runs
faster and takes up less space.
Just keep in mind that you must always keep a SAVEd version of your program around in case you want to make changes to the code. You don't have to worry that PACK will overwrite the source code file. Basic09 uses the file attributes to prevent that. The other thing I want to mention here is that Basic09 looks for source code files in the data directory (CHD) and places PACKed files in the execution (CHX) directory. Next time, I will show you how to get Basic09 to run.

## - Crab Sodter

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## Word Processing in Brief

Fred Wilson (FL) wrote raving reviews about MAX-10, which prompted me to do a brief review on MAX-10and other Word Processors.

I said long ago, if you don't find something real todo with your CoCo, you'll soon tire of it. Well, many have (grin) proved me wrong. It is a fun machine. But using practical application-type software like word processing will enhance the value as well as the fun of a Coco in your home.

MAX-10: produced by the COCO MAX III people is the one true WYSIWYG word processorthat is, what you see on the screen is what you get and how you'll see it printed out. Very user friendly, with little need to read the documentation, although as always a glance at the documentation will enhance use. The one downside is that it gives you WYSIWYG by actually doing a screen dump. While this allows a nice variety of text and graphics if you like, it is very slow compared to a regular ASCII printout. That option is available without charactervariety. On the upside, you can do underline, bold, italic, and various character varieties only possible on more expensive printers.

The MAX- 10 spell checker I rate as the best on the CoCo. With a 35,000 word dictionary, it uses a routine that checks with a speed not found in the others. Note that this spell checker can be easily used with any word processor. Just read in the file as ASCII, spell check it, and save with the ASCII
option. And you have your file spelled right and ready for your regular word processor.

VIP: Evidently has a format similar to Radio Shack's Scriptsit, so it is preferred by users who started with Scriptsit.

Telewriter 128: Is the preferred word processor on the CoCo for two reasons. One, it was the first good processor (aside from Scriptsit) available. Understand that being good and first has little to do with best in this perspective. That is, being first and being good gave Cognetec a foothold hard to overcome by other programs as good or better that came later. Having said that, it is a full featured word processor preferred by many CoCo users. It is available in the MI\&CC Library on disk A-6.

Word Power: a late comer containing a few features not found in TW-128, and 1 feel at the same time lacks many of the TW-128 features. It uses a format similar to a popular IBM compatible processor, and thus is preferred by some for that reason. Its producer has long since disappeared. Thus MI\&CC offers Word Power 3.2 in the library on disk A-17. (If you have a later version, such as 3.3, please send it in.)

Important comment: Many have said "this or that word-
processor is better" then the rest. More often they are unknowingly expressing strong prejudice. More simply, once you've grown used to the command structure of one word-processor, another will naturally seem awkward to you'. I would rate all word processors in this review as "very good" except for Scriptsit, which was sold only as a "Text Editor".

The last,SimplyBetter, sold by Dave Myers (COCOPRO), has received rave reviews by many. My own review would have the prejudice of the above paragraph. I do know one user who, after using TW-128 for quite awhile, tried several OS-9 word processors but stays with "Simply Better". It is to be considered very good as well. And I'll say this for Simply Better- it is the only word processor presently supported with upgrades!

For those interested in a more full length word processor review, UPGRADE's \#10 \& \#11 have a fairly complete word processor review.

## - Terry Simana

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