

UpTime

The newsletter for:
RS-DOS, OS9, OSK,
CoCos, and 68xxx's.

Volume 1, Issue 4

December 1992

Editorial

Well, this is the fourth issue of *UpTime* and things are looking up! We have a few new advertisers this month which filled out the magazine to twelve pages. In addition, David McNally is the author of a new series describing graphics programming on the Color Computers. If you have any ideas for an article or an article that you have written, please send it in at the regular mailing address. We would love to take a look at what you have to offer.

In addition, a number of subscribers have recently changed their mailing addresses. If you are moving or plan to move, please write to us with your change of address. If you do not notify us, it is possible that your mail will be delayed by a month or more

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Here's Looking at You!



because of the turn around time in forwarding the mail to you. To avoid these delays, drop us a line at least one month before you move with your new address.

As you can see, our advertiser base is expanding as more dealers jump onto the bandwagon. To a large extent, the size of *UpTime* is related to the number of advertisers. *Please* take the time to patronize these advertisers when ordering or asking for information, and mention that you saw the information in *UpTime*.

I am also happy to announce that the OS-9 User's Group, which disbanded a few years ago, is again going strong. The new president is

Boisy Pitre, a Microware OS-9 programmer. Carl Krieder is the vice president, and Alan Sheltra is the MOTD editor. Look for more information in the next issue of *UpTime*.

Things seem to be going well in the CoCo/OSK world. Many distributors are still selling and, most importantly, developing products. Many support groups, including the Mid-Iowa and Country CoCo and the OS-9 User's Group, still reassure us that there are other enthusiasts out there who still love their machines and love to see what new trick they can get their machine to perform. Until the next issue, enjoy yourself, your family, your computer, and have a happy holiday!

- Jordan Tsvetkoff

UpTime

Editor: Jordan Tsvetkoff

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Purpose: To provide information about products, services, and activities relating to the **Tandy Color Computer** and **OSK/68xxx-based machines**.

Submissions: Submissions of any form can be sent to *UpTime Submissions*, **JWT Enterprises**, 5755 Lockwood Blvd., Youngstown, OH, 44512. Please note that article/editorial submissions are preferred, although short program listings will also be considered. If reimbursement is requested, please indicate in writing with the initial submission.

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AND TOWARDS THE FUTURE...

OS-9 allows more than one program to work at a time, so each of these programs is termed a *process*. The interesting twist is that more than one *instance* of a program can be running at the same time. For example, you may be listing two files in two different windows, and the "list" program would be running as two independent processes. If at that point you executed the "procs" command, the "list" command would be listed twice.

OS-9 is also extremely memory efficient while running two programs at the same time. The actual code for the program exists only once in memory, but two separate data areas are reserved for each instance of the program. In doing so, OS-9 does not have to reserve memory twice for the program code, which is handy when a large program is being used. If a program consumed more than twice of the available memory, it would be able to be executing in two independent instances if the code had to be loaded twice. But under OS-9, the number of instances would be limited only to the size of the data area that the program used to store its variables and the total memory remaining after the program code itself is loaded for the first time.

This leads to

Future cont'd, page 3

UPCOMING EVENTS

Middle America's Fest
March 27-28, 1992 (tentative)
Des Moines, Iowa

Sponsored by:
Mid Iowa & Country CoCo

Contact:
Terry Simons (MI&CC Treas.)
1328 48th St.
Des Moines, IA 50311
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* * *

2nd Annual Last CoCoFest
May 1992 (tentative)
Chicago, IL

Details to be announced later

RETURN OF THE RASCAN DIGITIZER!!!

The BEST CoCo Video Digitizer is now again available! 320x200 to 640x200, color scans with 512K and filters! Plugs into joystick ports. See Rainbow review, Dec. 1990, pg. 83. **INTRO SPECIAL:** Send \$40 down and get a Rascan for **only \$140!** Shipped from Australia; allow 8-10 weeks. Full payment only \$135. Offer expires 30 Nov. 1990. **REGULAR PRICE: \$175**

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\$5.00 w/QRG, \$7.50 alone

Little Black Book- address/phone database- \$7.50

Video Tape Organizer- video library database- \$7.50

LBB & VTO- both only \$12.50!!

Keep-Trak- general accounting, CC 1,2,3- \$24.95

Accounts Receivable for K-T- \$10 (\$20 alone)

Omega File- menu driven database, CC 1,2,3- \$24.95

Programming the 6809- Assembly language book recommended by Motorola & Marty Goodman- \$22.95

FARNA Systems

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Future cont'd from page 2

two restrictions on OS-9 code: it must be *relocatable* and must not be *self-modifying*. Relocatability means that the code can be loaded into any portion of memory and still execute properly. For example, there is an instruction similar to a GOTO in Basic that jumps to a set point in memory. This is not allowable because the program will not know beforehand exactly where in memory that code will actually be. So instead it must use a relative jump command, known as a branch, which would be the equivalent of GOTO+20, which would mean "goto the line number 20 more than the current one".

Self-modifying code does just that: it changes the actual program code as the program progresses. There is no exact equivalent in Basic,

since by definition Basic code does not allow itself to be changed legally. The equivalent would only be POKEing weird values into the portion of memory that held the Basic code. This is rarely used in normal assembly-language and basically amounts to keeping data and program code separate, which is the most basic principal of OS-9 modularity (modules are "objects" that usually contain program code and basic attributes such as code type, but can also contain data, as in device descriptors).

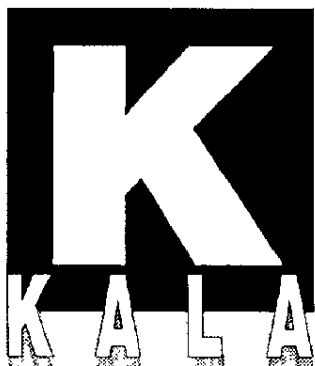
Now that you have a basic understanding of processes and execution under OS-9, I want to go over exactly how OS-9 "gets started" and some of the system level modules that take over when OS-9 first boots.

- Jordan Tsvetkoff

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the user to insert a disk with enough space. This feature can be used with most MS-DOS BBS systems, Delphi, Compuserve, and most other online systems. *Requires CoCo3 with 128K, a disk drive, and a monitor capable of displaying 80 columns of text, \$44.95 plus shipping, registered owners can receive an upgrade for \$10.00 fee. From Cer-Comp Ltd., 5566 Ricochet Ave., Las Vegas, NV, 89110, (702) 452-0632.*

If you would like information about your "soon-to-be" products to appear in Pipeline, send information about the product as well as mailing address and telephone number to UpTime Pipelines at the regular mailing address.



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CoCo Graphics

In this series I am going to cover one of the most fascinating aspects of the Color Computer: graphics. In the first few parts of this series we will discuss ways in which you can utilize the SET/RESET graphics screen. As the series progresses we will cover such things as animation using page switching and 3-D graphics.

As most of you know, many of the commands which make using hi-resolution graphics easy are not supported on the lower resolution screen; however, many of them can be simulated with short programs and some fancy math.

Lets look at how we would draw a straight line at any angle on the SET/RESET screen. We know it is pretty easy to draw horizontal and vertical lines with the use of FOR..NEXT loops but what if the line you want drawn is not horizontal or vertical? This is when all of the problems arise.

To explain how we can solve this problem, lets examine the program in *LISTING 1*. Lines 15 and 20 ask you to enter the starting and ending points of the line to be drawn. After the start and end points are entered the next step is to find the difference between the coordinates entered. Line 30 computes the difference in the X values by subtracting $X1$ from $X2$ and putting the result in a variable called LX . Line 32 computes the difference in the Y values by subtracting $Y1$ from $Y2$ and putting the result in the variable

LY . The difference with the greatest magnitude determines the number of steps to be taken. The number of steps to be taken is computed in line 40 and is put into the variable ST (this also determines the number of points in the line). By dividing both LX and LY by the number of steps we can get the value that must be added to the X and Y coordinates in order to maintain their ratio while plotting the line. This is done in lines 45 and 50 and the results are stored in $XINC$ and $YINC$. The values of the coordinates are rounded off (line 60) and the starting point of the line is plotted (line 65). Then a FOR..NEXT loop is used from 1 to ST (the number of points to plot in the line). The the X coordinate is incremented by the value of $XINC$ and the Y value is incremented by the value of $YINC$ (line 75). The results are rounded off and the point is plotted (lines 80 & 85). This step continues until the loop (or line if you will) is complete.

Even if you do not understand the theory, key in *LISTING 1* and try it. When prompted enter the $X1, Y1$ and $X2, Y2$ coordinates of the line (which can be from 0 to 63 for X and 0 to 31 for Y). The program then draws a straight line connecting the two points that you entered. All should become clear after following the program through a few times.

Next time we meet I will show you how you can draw circles, ellipses, and arcs on the SET/RESET screen. You will be amazed when you see what can actually be done on such a low resolution screen.

- David McNally

LISTING 1:

```
5 REM LINE DRAWING
   USING SET
10 REM BY DAVID MCNALLY
12 REM (C) 1992 COLOR
   COMPUTING
15 CLS:PRINT"ENTER
   START AND END
   POINTS."
20 INPUT X1,Y1,X2,Y2
25 CLS0
30 LX=X2-X1
32 LY=Y2-Y1
40 IF ABS(LX)>ABS(LY)
   THEN ST=ABS(LX) ELSE
   ST=ABS(LY)
45 XINC=LX/ST
50 YINC=LY/ST
55 X=X1:Y=Y1
60 A=INT(X+.5):
   B=INT(Y+.5)
65 SET(A,B,1)
70 FOR M=1 TO ST
75 X=X+XINC:Y=Y+YINC
80 A=INT(X+.5):
   B=INT(Y+.5)
85 SET(A,B,1)
90 NEXT M
95 GOTO 95
```



"It's infuriating. Twenty years ago, a computer this powerful would have rated a much larger office."

Pipeline cont'd from page 12

- Resolutions of: 640x200 (16 gray levels with dithering), 640x200 (4 gray levels without dithering), 320x200 (4096 colors)
- Color scans

That is right, it can do color scans. Although slightly more complicated, color scans require three separate shots with color filters. These images are then rapidly displayed in sequence sixty times per second. These scans require 512K. *\$140 until November 30, 1992, with non-refundable \$40 down payment, allow 8-10 weeks for delivery. \$175, please write to FARNA for discount information. See above address.*

Cer-Comp Ltd. has also announced an update (version 1.2)

to its **Deluxe Term** communications program for the Color Computer 3. Deluxe term contains a complete set of functions of the standard RS-DOS disk system. Disk functions allow you to archive, copy, rename, kill, and un-archive multiple disk files with simple file selection techniques and initialize a disk from within the program. Directories show the actual number of bytes used by all files as well as the number of used granules and free granules available on the disk.

The Phone Directory allows you to preprogram 26 communications settings and Autolog files. Other options include a full screen text editor, macro keys, automatic number dialing, and direct file transfers to or from disk using XModem or YModem file transfer

with support for Checksum and CRC error checking.

Deluxe Term also allows you to customize your configurations by specifying display colors, printer baud rate, drive step rate, and directory sorting preference to a setup file that automatically loads when Deluxe Term starts up.

The new update adds the ability for YModem Batch file transfers to or from a host system. This allows the user to transfer single or multiple files with a single function. The file names, extensions, and file sizes are transferred automatically. When receiving in batch mode it automatically checks to see if enough disk space is available before beginning the transfer, allowing for

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ColorSystems

Quality OS-9 Software for your Color Computer 3 and the MM/1 from IMS

Variations of Solitaire - A game pack which includes **FIVE** variations of the popular one-person card game Solitaire! Includes **Pyramid** one of the most habit-forming, **Klondike**, the standard version of Solitaire, **Poker** which gamblers would enjoy, **Spider** were a single hand can take hours of play, and the popular gambling variation **Canfield**.

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These two products come for both the **Color Computer 3** with **OS-9 Level 2** and at least 256K of memory or for the **MM/1** from **IMS**. Color Computer version is **\$34.95** and the **MM/1** version is **\$49.95**. (*Multi-View is NOT required for the Color Computer Version!*)

WPSHel - This is an impressive tool which allows those who do a lot of Word Processing on their Color Computer 3 to put all of their favorite tools under a single point and click environment. Requires OS-9 Level 2, system support from the *WindInt* module which comes with *Multi-View* and at least 256K of memory. Mouse and Printer are optional but desirable. Only **\$22.00!!**

To Order Send a Check or Money Order to:

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North Carolina residents please include 6% sales tax. Shipping is free to the Continental US. For Alaska, Hawaii, Canada and Mexico, add \$3 per item. For all other locations, add \$5 per item. All non-US orders MUST be an International Postal Money Order in US Funds! Call or write today to request a FREE catalog!

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**NINE
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CoCo Fixes

I sometimes think of the CoCo as a transistor radio. That is, it either works or it does not. If it works it will probably keep doing so for a long time. But every once in a while it happens... your CoCo starts acting weird. The inside of the case is an area I know the least about, but I can pass on the experience of others.

First let us talk about preventing problems. I cannot overemphasize *the CoCo 3 is ultra sensitive to Multi-Pak or ROM Pak Shorts!* (i.e. wiggling a PAK or Disk controller in a Multi-Pak or Rom Port) As reported by one user, "I noticed the Disk controller cocked slightly on the multi-pak. I reached down to straightened it and *poof* there goes the CoCo chips!" If you need to straighten something, save if need be and shut down your system. Then straighten or reconnect the PAK.

On the same subject, there are two styles of Multi-Paks. The one that says "Radio Shack" on the label is the older style. It allows an easy CC3 PAL chip conversion for the CoCo 3. But it also has shorter contacts that allow shorting or disconnection with just a little bump. After extended use the contacts will need cleaning. This can be done with an eraser but professional contact cleaner will give coating that has a longer lasting effect. Inside PAK contacts may need to be cleaned as well.

With the newer style Multi-Pak (the label now says *Tandy*) we recommend having Radio Shack doing the CC3 PAL conversion, due to the intricate solder trace work. On the upside it has longer contacts and requires little maintenance and is less subject to bumps and shorts. Multi-Pak conversions intended for

use with OS-9 Level II is a reason for concern. We have not experienced one report of need for the multi-pak PAL upgrade other than from OS-9 use! The primary symptom of PAK contact short damage is that the CoCo works fine until you try a disk function. Many times the fix is to replace the SAM or 6809 chip. If it is soldered in, a chip socket must be installed.

Your CoCo may develop weird character blocks scattered on the screen on start up. And they get worse. What should you do?

Courtesy of Dave Myers (CoCoPro!) comes a tip that is very easy and has been rated as the Number One problem solver with CoCo 3's! Glenn Frizell's CoCo began with a

few odd chars on the screen and quickly grew to be an inoperable computer.

Open the case and find the only square chip near the middle of the board. That is the GIME chip. Gently pry it out. Reinserting it restores contact without cleaning. For Glenn Frizell and many others; this simple fix quickly has the CoCo back to full operation.

Magnavox monitor screen fades for a period of time: May return after another period. The timing of these periods are approximately the same.

Likely cause: without the bottom leg extended, air is trapped, allowing excess heat to build up over

Fixes cont'd, page 8

UPGRADE National Diskletter! From: Mid Iowa & Country CoCo We are a national reachout!

Our "UPGRADE" newsletter mailed on Disk, has become a real hit with MAX III graphics accompanying articles. The articles from RSDOS Basic programming, and hardware, to OS-9 by James Jones of Microware; dump to screen (TV, Mono, or RGB) or printer. Sometimes with the news before the big mags, and editorials you will not see in the commercial magazine. With many user tips and ideas.

Our Power Packed Domain Library: is purposely small relative to thousands available; because the few hundred disks there are carefully selected as "The Best Available" Public Domain, Shareware, OS-9, & previously big named Orphanware programs.

We also have a "Christian Software Sub-chapter". Which simply offers Christian oriented software and listings for those interested.

Where can you buy? Or sell that equipment you've just upgraded from? Your free ads will be in the middle of the community.

Be in touch for Middle America's Fest '93 In Des Moines, IA.

Have you noticed the 3rd part market producers (i.e. support) dropping like flies in late fall? The shrinking Rainbow? The support of your CoCo is rapidly being left up to YOU! As third party decreases; belonging to a CoCo group is your only support. Radio Shack and a long list of magazines have folded it in. If one more magazine folds... where will you look next month?

Our eight year record speaks very well to reaching out and serving members. A strong treasury assures confidence of delivery. Most members are out of town or out of state! Presently we have paid memberships in 23+ states and 3 provinces of Canada. Plus five clubs, and some dealers. Our 90% renewal rate says most all feel M&CC is very worthwhile. Join up and see why: even user groups by vote; sign up with a paid membership!

Your membership will bring you all Newsletters, Library, Voting, and other privileges, for a year. (\$3 Sample disk)

Mid Iowa and Country CoCo (non-profit group)

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Terry Simons (M&CC Treas.),
Des Moines, IA. 50311

1328 48th St.
(515) 279-2576 after 8:00 PM

Fixes cont'd from page 7

time, causing cracked solder traces on the board. Heat from the board is expanding and contracting, opening and closing the crack. Warning: each has a "flybac" or high-voltage unit that can knock you for a loop! Cure appropriate solder traces, and/or use "Cooling grease" applied to the board.

Prevention: somehow elevate the monitor 1" to 1 & 1/2", so air can pass freely to the bottom ventilation slots. I use an old US ROM PA laid flat under the rear edge of the monitor.

* * *

Diskdrive I/O errors: The most common cause is simply that the drive has not been cleaned. Many

supporters go for months to years without it and thus forget it is occasionally necessary. Thankfully cleaning the drive solves 90% of the problems. If it is truly out of alignment, tuning will usually draw a few more month's use, though the expense of a computer technician usually makes buying a new drive at \$70-\$80 more practical.

* * *

Re-inking print ribbons: You are better to avoid actually adding ink to a printer ribbon. It requires a special slow drying ink not commonly available, and the wrong ink can gum the print head. Most ribbons dry out before they wear out; this you can easily (but carefully) remedy.

A. Pry the ribbon off the printer with a knife or thin screw driver, you see a foam wheel ribbon on a spool or crumple gathered, depending on you type.

B. Lightly and I emphasize *lightly* give a spray of WD-40 onto the sponge ribbon or both. Yes, it works for color ribbons too.

C. Let it sit overnight and it will uniformly saturate wetting the dry ink still present. Immediate use may result in blotchy printing or wide black-line splotches. The first time will be nearly new each time; afterwards you loose a little more.

- Terry Simons

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Announcing

Icon Basic09

The next programming language for OS-9!

Icon Basic09 is a graphical user interface (GUI) to Basic09, which will make programming easier than ever! Icon Basic09 takes an innovative approach by using graphic representations, or icons, to represent statements and keywords for writing Basic09 programs and procedures. Instead of constantly typing while writing a program, the user can simply **point & click** to choose the desired statement!

Icon Basic09 can also be very useful in studying procedures and programs written by others to learn how they operate. The package contains a full set of icons...or, you may edit or create icons using the included icon editor. Icon Basic09 requires a CoCo-3 with at least 256k, mouse or joystick, and OS-9 lv 2.

\$20

Dual hi-res joystick adapter (Tandy/Colorware/No-res)	\$40
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CoCo Classified Ads

HARDWARE

CoCo 3512K, Multipac (up-graded pal); Disto controller with RS232 port-parallel printer port-SCSI port-eprom burner; Burke & Burke hard drive interface; 10 meg MFM (IBM compatible) hard drive; composite monitor; 2 double sided (IBM compatible) floppy drive; deluxe joystick; and over 200 software packages including EDTASM; OS9II; PBBS6.0; OS9 BBS program setup and functioning on hard drive; games and more. Want to sell as package. Asking \$800.00. Call Robert at (608) 735-4847.

CoCo-3 (512k), DDD, CM-8, OS-9, MV and more. 1 yr. old. Moving, must sell, best offer. (305) 344-2814, leave message.

SOFTWARE

Quest for Thelda (coco 3), \$30.00; Micro-painter, Big Bird's special delivery, Cookie monster letter crunch, \$5.00 ea.; Sam Sleuth, Scipsit-2, Thexder, Pitfall-2 (disk), Synther 77, \$3.00 ea.; All include instructions. Call (717) 235-0887 or write to David Call, 7 Cardinal Dr., Glen Rock PA, 17327.

Help pregnant CoCowidow turn CoCoroom into bedroom! Numerous nearly new boxed popular titles nearing disposal! Send needs or for list: Charles Scanlon, 2 Eagle Lane, Simsbury CT 06070-1703 (203) 657-8373

WANTED TO BUY

Looking for Text adventure games, especially Infocom games: Planetfall; Enchanter & Ballyhoo. Willing to Buy or Trade. Write or call Doug Vaughan, Space 385 3015 E. Bayshore Rd., Redwood City CA 94063, (415) 365-1719

Looking for Barbairan Quest or a good graphic arcade adventure game. Also some info on Gauntlet I & II. Please call David Call at (717) 235-0887, or write to 7 Cardinal Dr., Glen Rock PA, 17327.

WTB Rainbow on Disk up to December 1988. Also, old CoCo magazines excluding Rainbow. Quote prices and write: James Kelly, P.O. Box 3244, Astoria, NY 11103

GENERAL

HOMEOWNERS: Save tens or hundreds of thousands of \$\$ on your mortgage, using techniques that banks will wish you didn't know! We'll prepare a customized report for you, outlining your current mortgage, along with five curtailment strategies and the resultant savings! Results from following our strategies are **guaranteed** or your money back. Fee is \$59. To apply, send \$10 application fee (credited toward purchase), to: DNMR Research, PO Box 763, Ypsilanti, MI 48197, or call (313) 481-3283.

We pay cash for personally held mortgages, land contracts, or trust deeds. Sell all or just part of payments. 1-800-926-9857

Singles! Call Distinctive Singles voicemail. the "no sleaze, please" dateline! 1-900-438-8197 \$1.49/min.

PLACING YOUR AD

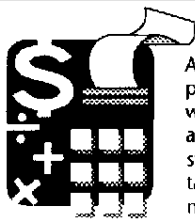
To place an ad, simply print out your ad copy, specify which classification you wish it placed under, and send it to **CoCoPRO!** Attn: Classifieds, PO Box 763, Ypsilanti, MI 48198 along with your name, address, phone number, & payment. We reserve the right to refuse any ad we deem inappropriate (such as offers to trade commercial software, vendor ads, etc.). Cost for an ad is \$5 for 1st 20 words, \$3 for each additional 20 or portion thereof. Ad deadline is the 25th of each month for publication in the following month's issue. Ad copy will not be taken by phone. Neither CoCoPress Classifieds, UpTime, nor their sponsors shall be held responsible for any transactions that take place in the Classified section.

Who says that there's nothing new for OS-9 Level 2? *Check these out!!*



CoCoPRO! Solitaire for OS-9! An all-new game package! Written in 100% ML, this is the fastest solitaire game around! Includes regular and Klondike variations, options for large or small cards, and source code! Requires OS9 lv 2, joystick or mouse. **Intro special only \$12.95!**

QuickLetter OS-9! No bells, few whistles...QuickLetter OS-9 is designed for quick and easy correspondence and small documents, without the hassles, steep learning curves, and the higher price of full-blown word-processors! Req. OS9 lv 2, printer. **Intro special only \$19.95!**



Accounting Level 2! A comprehensive personal/small biz package! Supports up to 100 accounts w/menu of most common payees, account & ledger printouts, cashflow statements (w/graphs), tracking of tax/GST paid, recurring payments, & more! Req. basic acct. knowledge, OS9 lv 2, joystick or mouse.

Special! only \$34.95!

Tools 3! An all-new set of 24 useful utils for OS-9! Includes filehandling utils (such as enhanced copy commands and filefinding), OS extensions (such as the ability to do "lightning"-fast backups in one pass, and password protection for any file), module generating utils (create modules without an assembler), point & click utils, and many more. As a special bonus, we include the OS9 Oscilloscope! Req. OS9 lv 2, some utils require \$12k.



24 useful utilities for only \$29.95!



Announcing **Pixel Blaster** - a high speed, versatile graphics and animation library for OS-9. Written in 100% efficient assembly-language, **Pixel Blaster** delivers lightning-fast action through incredible functions, designed for fast graphics manipulation. And, with the included BASIC09 interface and C library, you can now incorporate sophisticated animation techniques (even 3-D!) into your own programs easily, whether or not you program in ML!

Now, there's no need to view RSDOS assembly as the only option for creating high-speed action games. If you can program in BASIC09, C, or OS-9 assembly, you can use **Pixel Blaster** to get the action and speed you want, *under OS-9!* Requires OS-9 Level 2.

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New CoCoPRO! = Even Bigger Savings!

We've streamlined our operation, reduced our overhead, and are passing the savings along to you! We still have the widest selection of software and hardware for CoCo, OS9, and OSk at the best prices...but those prices just got even better!

Bonus thru Nov. 30: Buy any 4 software products below at the listed price, and choose another one FREE! The lowest-priced product of the four is our gift. You must mention this special *UpTime* offer when ordering to receive this special offer.

HARDWARE

Slotpak-3 w/12v adapter	\$99
Magnavox 1CM135 w/cable	\$299
Infotel 2400 modem w/cable	\$95
PowerBoost 6309 kit	\$30
512k upgrade (only 35 left!)	\$75
Ok upgrade (w/software, no chips)	\$49
Ken-Ton Serial port	\$79
Ken-Ton SCSI HD Interface	\$99
SmartWatch RTC	\$28
Burke & Burke CoCo/XT	\$67
Burke & Burke XT/RTC	\$97
Hard drive case w/60w supply	\$79
CoCo-2 Monitor Adapter	\$29
Multipak upgrade (3024 or 3124)	\$18

OS-9 SOFTWARE

Tools 3	\$29.95	CPro Solitaire	\$12.95
Inside Lv. 2	\$34.95	Lv 2 Accountant	\$34.95
VED	\$23.95	VPrint	\$26.95
Ultimate III	\$52.95	OS9 Ultra Label	\$16.95
Data Windows	\$54.95	Data Merger	\$10.95
Newspaper09	\$34.95	NewsART09	\$79.95
KBCom	\$39.95	Presto-Partner	\$24.95
Magazine Index	\$23.95	Checkbook+	\$24.95
Level II Tools	\$24.95	Disk Mgr. Tree	\$19.95
The Zapper	\$16.95	Multi-Menu	\$16.95
Tools II	\$29.95	OS9 Lv2 BBS	\$19.95
OS9 Cribbage	\$23.95	OS9 Subroutine	\$19.95
CharSet Editor	\$16.95	Game pak	\$29.95
Kyum-Gal OS9	\$26.95	PortASCII	\$17.95
File Recov. Sys	\$23.95	File Sys Repack	\$27.95
Wild a MV	\$18.95	R&B	\$34.95
WPShel	\$21.95	NVBanner	\$19.95
Stock Manager	\$23.95	OS9 Mailist	\$16.95
Quickletter	\$19.95	Dynastar	\$69.95
FBU	\$44.95	Wiz	\$44.95

ZEBRA

Label Designer	\$29
GGDP	\$10

SUNDOG

GrafXpress 2.0	\$34
Photon	\$34
Crystal City	\$34
Quest for Thelda	\$34
Sinistaar	\$34

EDTASH 6309	\$30
CC3Fax	\$30
MSDOS	\$20
Switch Drivers	\$15
Art Disk (1200) 900	\$39
Art Disk II (1200) 900	\$39
Art Disk Holiday	\$39
Art Disk Dishes	\$15
V-Tone	\$25
Simply Better	\$30
DBA	\$25
Comic Disk (512k)	\$15
Newspaper Plus	\$35
Zebra add-ons (9)	\$59
RGB-DOS	\$29
RGB-OS9 USB	\$24
Hyper IO (Disk)	\$15
Waco Joystick	\$12
Data Windows/OSk	\$69
Taco/OS/OSk	\$35
Zapper/OSk	\$35

SUB-ETHA

MiniBanners	\$15
Checkbook+	\$24

DANOSOFT

Big BASIC	\$39
Utilities Pak	\$18
Big RAMDisk	\$15
Memory Master	\$24
CoCo Archiver	\$16

The Contras

Once upon a time, Sundog Systems announced a new 512k game called *The Contras*. It took two years and three programmers to complete this, the most ambitious game ever created for the CoCo-3. Jeff Sterdl, accomplished author of *Photon* and *GrafExpress 2.0*, led the effort to produce this technological marvel. In doing so, he proved that the CoCo can match—or surpass—any home game system.

The Contras features a two-player cooperative mode, 512k filled with incredible graphics, super-smooth animation and scrolling, an outstanding background music score, sizzling sound effects, and lightning-fast arcade action.

This is paramilitary combat at its best. Play alone or with a friend as you take on the evil alien invaders. Blow away the enemy while travelling thru multiple levels and powering up with ever more destructive weapons. *The Contras* will keep you playing for hours; it is quite possibly the best CoCo game ever! Requires 512k CoCo-3, disk drive, & joystick. Shipping November 10!

Order now for fastest delivery!

\$34.95



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PIPELINE

FARNA Systems has announced two new products: the OS-9 Invoice/Inventory Manager and The Rascan Video Digitizer. The Invoice/Inventory Manager allows you to print invoices simply by typing in customer information and part numbers. Inventory can also be entered in computer listings, although the inventory is not reduced when an invoice is issued. It will also print a customer item list which includes the part number, a description, and the retail price, and an inventory report which prints the above plus your cost. Supports multiple users under OS-9 Level 1 and 2. The invoice/inventory manager requires Basic09 and comes with complete source code.

In addition, FARNA's agreement states that you *must* send

in any modifications that you make to the code for consideration for future upgrades. In return, you will receive one free upgrade if your modification is used. Otherwise, any future upgrades will only be \$5.00 each. \$24.95, from FARNA Systems, 904 2nd Avenue, Warner Robins, GA, 31098, (912)-328-7859.

The Rascan Video Digitizer will convert still video images to computer images. You must have a totally still image because the process takes approximately 15 seconds. You can either use a camcorder to record a subject for a half minute to a minute, or you can use a digital freeze frame if your camcorder/VCR supports it. Some newer VCR's freeze frames are a little fuzzy, and the fuzziness will be digitized along with the image. Other features of the digitizer include:

- Uses joystick ports for input- no Multi-Pack needed
- Separate brightness and contrast controls
- Color burst signal filter
- Images can be exported to Max-10, CoCoMax 3, and Color Max 3

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UpTime

JWT Enterprises
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Address correction requested