

# OS-9 Newsletter®

Volume V Issue 1

Bellingham OS-9 Users Forum

January 31, 1994

## MICROWARE challenges MICROSOFT

**Tiny Des Moines software company hopes to do for multimedia systems what MICROSOFT has done for PCs.**

MICROSOFT came to dominate the personal-computer industry by designing the internal software, known as the operating system, that made millions of PCs run. Now little-known Microware Systems Corp. is trying to get the same hold in interactive software by designing the operating system for the TV set-top boxes expected to be in millions of homes.

Little-known Microware has just landed a coveted piece of business. Bell Atlantic Corp., the regional Bell company, expects to distribute an interactive service to 10 million households by the turn of the century. It has placed orders for set-top boxes from three suppliers. All the boxes, in turn, rely on microware's OS/9 software.

The company's software is already used in hundreds of critical systems worldwide. The California Department of Transportation has begun relying on OS/9 to run traffic lights, toll booths and even to help weigh trucks. Chrysler Corp. uses OS/9 in the computer systems that design and build braking systems. At the university of Cern in Switzerland, the particle accelerator couldn't smash atoms without thousands of Microware systems controlling its magnets.

The key feature at the heart of these myriad applications is OS/9's ability to handle multiple "real-time" tasks simultaneously, which can be traced to the software's robotic origins. Such "multitasking" powers are seen as a critical feature for interactive networks, letting "interactivists" shop on a network or respond instantly to the button-pressing of fellow game-players.

"Their software has a lot of the functions that everybody believes will be necessary for the future interactive services," says Lucy Fjeldstadt, former vice president of multimedia at INTERNATIONAL BUSINESS MACHINES Corp., who now runs a consulting firm in New Canaan, Conn.

Microware would seem to be a surprise contender in the highly competitive multimedia sweepstakes, in which MICROSOFT has invested \$100 million a year. It has founded 17 years ago by Kenneth Kaplan, a computer buff at Drake University in Des Moines, and two friends. They started out trying to build an educational robot for teaching handicapped children, a project that went nowhere.

Microware got its first big break in 1980, when Motorola Inc. approached Mr. Kaplan and his partners and asked them to design an operating system for a new microprocessor. "Today about 80% of our business is Motorola-based," Mr. Kaplan says. "We owe our existence to them."

By 1982, Tandy Corp. chose OS/9 for its TRS-80 color computer, an early entry in home computers. Soon after, Fujitsu Ltd. in Japan fitted its machines with OS/9. By 1986, when Philips and Sony Corp. began looking for a real-time operating system for their CD-Interactive player, they turned to Microware because OS/9 was proven in large commercial and scientific projects.

MICROSOFT last year allied with chip maker Intel Corp. and cable-box maker General Instrument Corp. in a bid to dominate the set-top market. But the trio hasn't announced a final product and seems to be running behind schedule. The effort also ran into resistance when cable companies balked at MICROSOFT's plan to charge a fee each time a consumer conducted a transaction using its set-top software.

Microware's founder, Mr. Kaplan, says MICROSOFT's efforts to control the market simply won't work this time. "Anybody in computers always talks about how they support open standards," he says. "But in the dark recesses of their greedy little hearts, they want things to be proprietary" and use that edge to their own advantage.

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# Q&A

Most of the Questions and Answers published in the OS-9 Newsletter are selected from postings on the FidoNET OS-9 echo. If you do not have access to FidoNET, mail your questions to OS-9 Newsletter, 3404 Illinois Lane, Bellingham, WA 98226. If I can't answer your question(s), your query(s) will be posted on the OS-9 echo. Your question(s) will be answered!

**Q:** I heard there is a patch to correct the keybounce problem associated with OS-9 Level Two on a Color Computer. Would anyone know what that patch is?

==David Perdue==

**A:** Use the *Build* utility to create the following patchfile:

```
L cc3io
C 7e 1e 3e

C 86 03 06
V
```

Run modpatch, and it should do the trick. Of course, this patch is for the stock cc3io, but I don't think there have been many changes if any other than this patch. You may want to look on pg 145 of the *Rainbow Guide to OS9 Level 2* for more

==Dave Burgett==

**Q:** I've seen 720K 3-1/2 inch drives for as cheap as \$15 in the *Nuts and Volts* magazine. How can they be adapted for the Color Computer Disk System?

==Serge Cyr==

**A:** Most 3-1/2 inch drives have a 34 pin dual in-line connector. You can purchase the required IDC type connector from Radio Shack Catalog # 276-1525. Use a vise and squeeze it onto your drive cable at the appropriate location.

Some 3-1/2 inch drives have a converter card that provides the standard 34 card edge connectors, the same as the 5-1/4 inch drives. If this is the case with the 3-1/2 inch drives you have then simply plug in your spare 34 card edge connector onto the drive.

Be sure to set the drive select jumper on your drive to D1 or D2, etc. You will also need to purchase a 5-1/4 to 3-1/2 disk drive power adapter. Radio Shack catalog # 278-765

Finally, you will have to add the 80 track disk drive descriptors from your config disk's modules directory. -OR- you could 'dmode' your drive 1 descriptor for 80 tracks, 2 sides and 96 tpi then clobber a new bootdisk to make the change permanent. That's it!

==Rodger Alexander==

## OS-9 Newsletter

Editor: Rodger Alexander

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Submissions are welcomed in any format and can be mailed to the above address or sent via electronic mail to the editor: Rodger Alexander, on Delphi (UserID: SALZARD) or FidoNET (1:301/3401@fidonet.org) or Internet (ralexander@nikita.bham.wednet.edu). Unfortunately, we do not have funds to reimburse authors of selected articles. However, a complimentary copy of the OS-9 Newsletter containing your article will be mailed to you, PLUS the satisfaction that you will have the admiration and appreciation of all of our readers.

The *Bellingham OS-9 Users Forum* is a hobbyist club, organized for the purpose of providing information, services, products and events that support the OS-9 operating system for 6809/68xxx based computers. Our efforts are not intended to earn or generate any profit for the club or any of its members.

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OS/9, by contrast, will work with myriad rival systems, Mr. Kaplan says, including gear from IBM, Philips N.V. and several other set-top vendors selected last week by Bell Atlantic. Nor does Microware intend to impose additional user fees beyond what it charges for licensing OS/9, the company says.

Microware's OS/9 went head-to-head with a prototype from MICROSOFT called modular Windows in a test by Bell Atlantic, says Arthur Orduna, a Microware marketing manager. He brags that OS/9 beat its rival.

A MICROSOFT spokeswoman doesn't dispute this account. However, she said MICROSOFT is interested in not only supplying real-time software for set-top boxes, but also graphical software that presents a picture on the television screen that could entice consumers to use the service. "{Chairman} Bill Gates has said that the early interactive services trials will be disappointing because we haven't made enough progress in user interfaces and the richness of services delivered." She added that MICROSOFT may be behind schedule because it is trying to deliver software for several segments of the market including table head-end systems, set-top boxes and the programs delivered over the networks.

Mr. Kaplan says MICROSOFT in March 1986 tried to buy Microware. MICROSOFT had begun trading publicly on the over-the-counter market. According to Mr. Kaplan, Mr. Gates saw that Microware was chosen as the operating system for the Philips-Sony CD-I machine and "he wanted into that market badly." Rather than design a new operating system, Mr. Gates figured it made more sense to buy Microware, Mr. Kaplan says. "I refused and wanted a joint venture instead and the talks fell apart." Mr. Gates, through a spokeswoman, confirmed the account.

Compared with MICROSOFT, Microware is truly micro. The closely held company doesn't give out numbers. Mr. Kaplan, its president, will say only that "we're one one-hundredth the size of MICROSOFT," which would indicate revenue of about 25 million or more. Tonight, Bell Atlantic's key partner in multimedia software, ORACLE Corp., is staging events in four cities to outline its interactive ambitions.

The Bell Atlantic effort is a much-watched affair because, while the phone company could change its suppliers, it intends to deliver new services to 50,000 homes by year's end, adding another million homes in 1995. Bell Atlantic's plan to acquire cable giant Tele-Communications Inc. could give it access to more than 20 million homes.

Today half of Microware's sales are overseas, as are half of Microware's 200 employees. "They have a nice, tight system that operates well," says Brian Smith, vice president of market development at Philips's Digital Video Communications Systems Division. "It's powerful enough to do real-time video functions, and you can still load applications software on top."

EDITORS NOTE: The above article was published in the "Wall Street Journal" and posted on Internet

# Great Stuff for your OS-9 System

We've been in the software business for over 10 years--and we've developed lots of excellent software over that time. We don't have room in this space to tell you everthing, but we'd love to send you our catalogue listing all of our products. Great stuff like our *Ved* text editor, *Vprint* text formatter, *Cribbage*, *Magazine Index System*, *Ultra Label Maker*, *Vmail*, amd more.

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### Special Announcement

Terry now has in stock the Burke & Burke CoCo XT Clock IC chip PLUS New 10 pin chassis socket for the CM-8 monitor plug for CoCo Tower installations

# Patch and Hack your CoCo

The below patches were found (located, arrived at, figured out, whatever!?) by Dave Philipsen in an effort to "CUSTOMIZE" (personalize, make-easier-to-look-at-and-hear!?) OS/9 in such a way that it would not impair his (mine, yours, your neighbor's!?) version of OS/9. This insures compatibility of future software. That is, if the software developers "...follow the OS/9 rules of programming...". Enjoy (have fun with, be happy, get benefit, attain advantage)!! (Portions of these patches and the last patch for CC3IO were included by myself...)

## GrDrv

Purpose: Create a text screen with 225 scan lines and 25 text lines per screen. Note: this is for use with RGB monitors that have that capacity. Most T.V.s and composite monitors will not scan over 200 lines. (The CM-8 will--I use that patch a lot!)

Problems: I have experienced NO problems with this patch to date. In order to get the full 25 lines of text, you must also adjust the terminal descriptor to work accordingly. (i.e. patch /term or whatever window you happen to use for your H/W hires text screen).

| <u>Relative Addr.</u> | <u>Old Value</u> | <u>New Value</u> |
|-----------------------|------------------|------------------|
| 08C8                  | 03               | 04               |
| 08C9                  | 15               | 75               |
| 08CA                  | 03               | 04               |
| 08CB                  | 05               | 65               |
| 01FA                  | 18               | 19               |
| 0200                  | 18               | 19               |

## GrDrv

Purpose: Have 200 scan-lines for graphics screen. Note: I have not been able to implement this patch for anything yet, but has not had any problems with existing software as of yet--perhaps someone will support such a thing as 200 scan lines in the near future?

Problems: No support for it other than your own--its general value is none.

| <u>Relative Addr.</u> | <u>Old Value</u> | <u>New Value</u> |
|-----------------------|------------------|------------------|
| 08C1                  | 14               | 34               |
| 08C3                  | 15               | 35               |
| 08C5                  | 1D               | 3D               |
| 08C7                  | 1E               | 3E               |

## CC3IO

Purpose: To change to tone and length of the "Bell" to something more pleasant to the ear. There is no problem to be fixed unless you don't happen to like to current tone and/or length of the BELL.

Problems: None.

**\*WARNING\*** You may find that when playing with the Bell's length, that it may take an unusual amount of time when it does "beep". I had one that lasted for 5-6 seconds at a very low tone (sounded like a fog-horn). Don't be alarmed at the versatility of tones this thing will generate.

| <u>Relative Addr.</u> | <u>Definition</u>   |
|-----------------------|---|
| 0BD3                  | Volume--Maximum at \$3C   |
| 0BD4                  | Length--Small values for short tones.<br>The ACTUAL length is relative to the tone that is generated. I use \$10                                |
| 0BD7+0BD8             | Tone/pitch. A numerically high value generates an audibly low pitch and a numerically low value generates an audibly (or inaudibly) high pitch. |

(Continued on next page)

*(Continued from page 4)***REL**

**Purpose:** Change the colors when OS/9 "boots". The colors that are changed are the \$0C and \$0D palette registers. Pick your favorite color combination to suit your ForeGnd/BackGnd tastes!

**Problems:** None.

| <u>Relative Addr.</u> | <u>Old Value</u> | <u>New Value</u> |
|-----------------------|------------------|------------------|
| 003B                  | 00               | ?? (Foreground)  |
| 003C                  | 12               | ?? (Background)  |

**CC3IO**

**Purpose:** Fix the SS.Montr get status system call. It seems that when the monitor status returned, it is returned incorrectly. The monitor's type is returned in the MSB of x\_register instead of the LSB. It's a simple fix however. On the original version of CC3IO (or any that has not been shortened or lengthened by any IPatch or similar fix) the patch is as follows:

| <u>Relative Addr.</u> | <u>Old Value</u> | <u>New Value</u> |
|-----------------------|------------------|------------------|
| 07D2                  | E7               | ED               |

...and on the version of CC3IO that has been fixed for Multi-View's mouse as a valid key-click for pausing and unpausing etc...

| <u>Relative Addr.</u> | <u>Old Value</u> | <u>New Value</u> |
|-----------------------|------------------|------------------|
| 0800                  | E7               | ED               |

==Daniel S. Haucke==

Maybe you've heard of the IRQ hack that you can perform to the Deluxe RS-232 pack, so that IRQ interrupts are not 'lost', but didn't know how to do it. Here's the information you need:

*Basically, you are connecting the IRQ pin of the 6551 to the IRQ pin of the 6809..*

**On the pak:**

Locate the little blue jumper wire near the edge connector. One of the solder pads it is connected to has the label '1' near it. Desolder both ends of this jumper, and solder one end of a long wire (1-2 feet - enough to comfortably reach the back of the coco) to the solder pad near the '1' label. Burn (with the tip of the soldering iron) or file a small hole in the side of the pak so that the wire can be passed through it without being pinched. Attach a miniature phone plug (male) to the end of the wire.

**On the Coco3:**

Locate the resistor that does the pullup of the IRQ line (CPU pin 3) to the 5vdc. It is R2, and I believe it is the second from the left in a cluster of resistors to the right-rear of the 6809 chip (as seen from the keyboard). Solder a wire to the end of that resistor that is closest to the keyboard (the side that also ties to CPU pin 3). Carefully route this wire to the back of the machine, and mount a miniature female phone jack there.

Poof. That's all there is to it. No software changes are required - the existing ACIAPAK driver will work (better!) as is. If you run multiple paks (or other interrupt devices that could benefit from the IRQ hack), just tie them all together at the male plug that will plug into the coco3.

**On the CoCo2:**

If you wish to perform this procedure for the coco2, the majority of the work is the same, except that the resistor that you should connect to inside the coco is RI4. As verification, ensure that one side of this resistor ties directly to pin 3 of the 6809, and tack the wire onto this side.

==Pete Lyall,CIS:76703,4230==

# Null Modem Part II

I ran out of space in last month's issue and was not able to complete this article. Unfortunately I failed to mention... "TO BE CONTINUED". This "second part" continues with the construction of a DB-25 Null Modem.

## From Last Month . . .

You could also modify your 25 conductor RS-232 Cable in the same manner. Reverse the wires that connect to pins 2 and 3. Pin 2 is the RS-232 OUT (Transmit) and Pin 3 is the RS-232 IN\_(Receive). By reversing these two connections you will convert your standard RS-232 cable into a *Null Modem*. However, you will have no handshaking lines and most serial ports (other then the 4-line "bit banger" port) will not operate without some additional modifications to achieve *handshaking*.

## Handshaking?

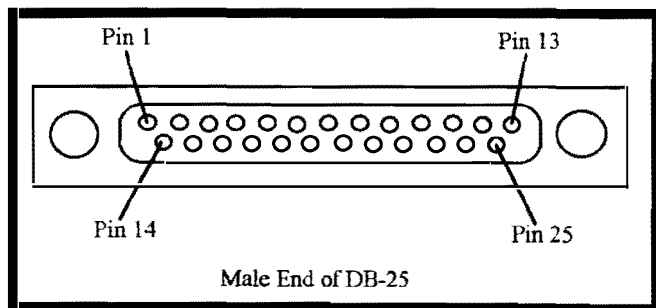
This refers to control signals between devices, such as between your computer and your modem. This should not be confused with the "data" or messages that your are transmitting or receiving between computers.

A VERY basic null modem that allows for only "software handshake" (sp = page; cr = line; q = quit; u = up; d = delete; f = forward; r = reply) requires only three lines: Pins 2 and 3 are crossed and pin 7 goes straight through. You can usually use this with moderate success on PC's but not on CoCo's.

The standard null modem cable crosses pins 2 and 3, pins 4 and 5, and pins 6 and 20. Pin 8 (DCD) needs to be jumpered to pin 20 with pin 7 going straight through.

## DB-25 RS-232 Pin-Out:

| Pin | Signal | Direction | Definition          |
|-----|--------|-----------|---------------------|
| 2   | TX     | Out       | Transmitted Data    |
| 3   | RX     | In        | Received Data       |
| 4   | RTS    | Out       | Request To Send     |
| 5   | CTS    | In        | Clear To Send       |
| 6   | DSR    | In        | Data Set Ready      |
| 7   | GND    | --        | Signal Ground       |
| 8   | DCD    | In        | Carrier Detect      |
| 20  | DTR    | Out       | Data Terminal Ready |
| 22  | RI     | In        | Ring Indicator      |



Male End of DB-25

==Rodger Alexander and Scott Honaker==

# Northern Xposure

'Quality Products from North of the Border'

Northern Xposure was originally conceived to gather commercial products to market at the Atlanta '93 CoCoFEST for those Canadian manufactures who could not attend the FEST. Northern Xposure set up a booth, demonstrated and sold the products on a commission basis. It was a great idea that has developed into a year round venture.

The listing below represents their current stock of OS-9 and Color Computer products:

## OS 9 Level II

|  |         |
|--|---------|
| Smash! CoCo3 Level II Arcade Game        | \$29.95 |
| Thexder: OS-9 CoCo3 Level II Arcade Game | \$29.95 |
| Matt Thompson's SCSI System              | \$25.00 |
| Rusty: Launch ECB Progs. From OS-9       | \$20.00 |

## Disk Basic

|                               |         |
|-------------------------------|---------|
| Color Schematic Designer      | \$30.00 |
| Oblique Triad Adventure Games |         |
| Overlord                      | \$25.00 |
| Seventh Link                  | \$32.00 |
| Caladuril I                   | \$15.00 |
| Caladuril II                  | \$27.00 |
| Caladuril I and II            | \$35.00 |
| Those Darn Marbles            | \$32.00 |
| Studio Works v2.0             | \$34.00 |

## OS-9 68000

|  |         |
|--|---------|
| OSTerm 68K v2.1 for the MM/1             | \$50.00 |
| Switch to OSTerm 68K from TasCOM         | \$30.00 |
| OS-9 68K Software: SC / ISpell / Rogue + | \$5.00  |

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## PARTY PARTY PARTY

When was the last time your club had a 'Solder Fest'? *What in the (\*&@!) Is a solderfest?* You ask. OK, let me explain.

If your OS-9 or CoCo Club is like ours, each meeting consist of demonstrations and discussions about our favorite machine or favorite operating system, but major hardware projects are limited to one of the members showing off what he/she has accomplished to their machine to improve it's performance. GREAT! *Great for them but not for me!*

How many CoCo/OS-9 users have envied those fellow club members who have their machines neatly installed in a PC tower case. It looks so cool! But unless you have a great deal of experience in electronics and electronic hardware construction, you don't dare attempt to install your machine in a 'tower'. You just know that something will go wrong and then you won't have a computer.

Solution.....A SOLDERFEST! A special day long meeting of hardware hackers and non hackers. The expertise is there. The confidence is there. And your computer will come out 'NEW and IMPROVED' and WORKING!

Can you imagine taking a Roto Tool and cutting your old multipak to one half of it's original size. NO WAY! How about installing a parallel port in your coco by soldering a 2nd PIA (68B21) chip on top of the original PIA. HUH? How about replacing the 6809 chip with the faster 6309 chip without destroying the CoCo's motherboard. OUCH! There are many hardware projects that most of us would like to have but will probably do without because we don't have the expertise. Regular club meetings simply are not long enough and not really the right environment to accomplish major hardware modifications to one or more computers.

Our SOLDERFEST usually begins at 10 or 11 in the morning and goes to about 8 in the evening. The number of participants is limited by the number of hardware hackers available to help out. We found it best to keep the numbers limited to two 'non-techs' for every 'tech'. Things progress at a good pace with everyone busy.

At the club meetings we determine what projects are going to be worked on and who is coming. It is the responsibility of the hardware hackers (techies) to provide a parts list to those individuals he/she will be working with at the 'FEST'.

Everyone brings a bag lunch to snack on at those convenient moments and a celebration feast follows the day long event at the local hamburger emporium.

Haven't smoked a CoCo yet! <Grin> And our SOLDERFESTS have ended up being a pretty neat solical event too.

—Rodger Alexander—

## Puppo Keyboard on Hold?

### What happened to the Puppo Keyboard Article?

*In November, the "68 Micros" Newsletter featured a full schematic print-out of the Puppo Keyboard. Parts and printed circuit layout were promised for the next issue. The December and January issue were void of any mention of the promised article. Below is a posting by the editor of the '68 Micros Newsletter'.*

The problem was that more pressing matters came up for the individual who was going to lay out a board. I will be mentioning that in the "letters" section of the next issue of *68 micros*. In the mean time, I will be more than happy to print anyone's circuit design.

I would like to have something I can print so that others may etch their own boards IF they so desire, and make a note that boards and possibly parts kits (at least the hard to find items) are available from whoever sends it in. Most people would rather buy a board than make their own, I'd imagine. The only problem is that I am not an electrical engineer, and do not understand what "if squared D = 4013" means. Look at the parts list and you'll see what I mean!

If someone comes up with a board and does not want it printed, but is willing to sell kits/boards to the public, I'll consider that. If they DO allow me to print their design, I will give them reprint rights to the schematic so they won't be dependent on people purchasing or having back issues from me. If they do not want to mess with selling a board, I will make some other arrangements with them!

— Frank Swygert —  
Delphi OS-9 Forum

## YOU CAN HELP!

### Editor's Note:

*One major hold up is a specific chip used in the Puppo PC Keyboard Interface. The chip is a Latched Decoder, 74LS238. The 238 chip is similar to the 74LS138 chip used in the CoCo-3 between the GIMME chip and PIA's, except for the latching feature. The chip (74LS238) was manufactured by Texas Instrument and discontinued several years ago. Finding a source for this chip is a major hold up. Any help in this area would be greatly appreciated.*

# OS-9 NEWSLETTER 1993 INDEX

## CORRECTIONS:

- "Correct All" Fix for the CoCo-3 (July '93) 10.4  
 OS-9 Parallel Port (February '93 - Aug '93) 9.8  
 OS-9 Parallel Port (February '93) 8.9

## HARDWARE:

- Hardware Analog to Digital Converter, Pt I  
*Eliminate CPU slow downs*  
 by Richard Kottke 4.1  
 Hardware Analog to Digital Converter, Pt II  
*Software Listing*  
 by Richard Kottke 5.1  
 Instructions to Install "Faster" Crystal  
*30% to 50% speed increase*  
 by Aron Hsiao 11.8  
 Model 4 Keyboard for your CoCo  
*Cut a few traces...Add a few traces*  
 by Larry Olson 12.1  
 Null Modem (Part I)  
*What is it? How to make your own*  
 by Rodger Alexander 12.8  
 OS-9 Parallel Printer Port  
*Piggyback PLA chips inside your CoCo*  
 by Rodger Alexander 2.1  
 Pin Outs for 512K Board Connectors  
*For your reference library. CoCo RAM pin-outs*  
 Anonymous 7.9  
 The "Correct All" Fix for the CoCo-3  
*Hardware modification to correct timing faults*  
 by Charles Bundy 7.1  
 Upgrade to 512K for about \$16  
*Piggyback 16 - 41256 chips*  
 by Marty Goodman 5.10

## MISCELLANEOUS:

- \$400 worth of software for \$34  
*Special on CoCoPRO Software*  
 by Rodger Alexander 1.7  
 68 Micro Magazine  
*Puppo PC Keyboard Schematics in next issue*  
 by Frank Swygert 9.7  
 68340 Upgrade to MM/1  
*Motorola upgrade of the 68070 cpu*  
 by Zack Sessions 10.5  
 Amiga's 4000DSP chip  
*Comparative report on Amiga and Atari*  
 by Dave Haynie 2.6  
 CD-I Questions answered  
*Everything you wanted to know about CD-i*  
 by Phillips 2.8  
 Chicago Fest Report  
*2nd Annual CoCo FEST*  
 by Allen Huffinan 5.12  
 CoCo Overheating?  
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 by Chris Burke 4.5  
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*Available again at SUPER prices*  
 EFO (Europeans Forum for OS-9)  
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**CLASSIFIEDS**

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**For Sale: CoCo Hardware**

~~65Mog RLL Hard Drive \$65~~ SOLD  
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# Club Activities Report

*Bellingham OS9 Users Group - Longview/Kelso CoCo Club  
Mt. Rainier CoCo Club - Port O'CoCo Club - Seattle 68xxx Mug*

## Bellingham

### OS-9 Users Forum

Our January meeting consisted completely on working with Radio Shack's Deluxe RS-232 PAKs. We wired together our own null modem cables according to all the spec sheets we could find (See *Null Modem Part II* on page 6 of this issue). We were able to communicate between OS-9 on one CoCo-3 running *OSTerm* and Extended basic on another CoCo-3 using the terminal program included in ROM in the Deluxe RS-232 PAK. We never did get both computers to communicate between each other in strictly OS-9. Later I discovered that we were shorting across pins rather than swapping the lines between pins. We were also hoping to have the GIMIX up on a modem but **Wes Payne**, our GIMIX SysOp didn't show.

A demonstration of INTERNET was also planned, but the continued frustration with our null modem efforts consumed the entire night. The Internet demonstration is tabled until next month.

**SPECIAL ANNOUNCEMENT:** The Bellingham OS-9 Users Group has put together many packages or products to support and encourage OS-9 users. These include our *How To Video Tape Library*, our *Public Domain Library* (23 5-1/4 inch 360K Disk or 11 3-1/2 Diskettes), and our *OS-9 Level Two and the Color Computer 3 "Tutorial and Hardware Modification Manual"*.

We are now very proud to add another service for the OS-9 Community. The Bellingham OS-9 Users Group has taken on the responsibility of editing and posting a monthly Newsletter on Fidonet

for the *OS-9 Community Network (OCN)*. The article on page 7 of this issue is one of the articles that is included in the January posting of the **OCN NETNEWS**.

OCN NETNEWS will be posted each month on the OS-9 Echo of Fidonet. This echo is available on any FIDO BBS (you may have to request it from your local FIDO BBS SysOp), and FidoNET is available all over the world. So three cheers for us! HIP, HIP HOORAY x 3!

==Barbara Alexander==

## Port Orchard

### Port O-CoCo Club

Over the years of reports about the Port O' CoCo club meetings many column inches have been consumed. The focus of the club is our Tandy Color Computer and the OS-9 operating system. We have had hands on, demonstrations, tutorials, lectures and even major rip out of cases and consolidate into one box workshops. Interest has allowed the creation of the Pacific Northwest CoCoFEST for the last three years. People have been drawn from across the country to our events.

This month we tried something new. We picked a topic of universal interest to anyone with a computer. Then we promoted the hell out of it. We had notices on the cable systems, listing on community calendars in the news papers, and individual invitations mailed to about 80 people around Puget Sound. And what was this break with tradition?

The Information Super Highway is

coming our way. **Michael Schuyler** of the Kitsap Regional Library system spoke to over 50 people about what is going to happen in our home town in a very short time. The Library system has received a \$58,000 grant to purchase equipment to open the first "ramp" of our highway. Within the next 90-120 days we will have access to a new computer system that will allow local groups to deposit or list a wealth of information on a broad scope of topics. Not only will it be a location for a "master listing" of any and everything going on in the community, it will also be the on-line resource for all local, regional, state and federal proposed and existing laws.

Communications it a key part of all of Michael's efforts. He says, one of his early goals is to get direct access to state and federal elected officials so ANY citizen can immediately voice his/her opinion, even right to the White House.

Further access will be made through Internet. Internet is a word that is now flooding the media on all fronts. Even **Rush Limbaugh** uses Internet! Internet will arrive in stages, but Michael's hope is before summer than anyone at home with a computer and modem or in any of the library branches can use it at no charge. Oh, to cybersurf around the world while in front of our CoCo!

Mr. Schuyler's presentation went into much further detail. A fair amount of the presentation was focused on our county. But if anyone wants to see his presentation, we video taped it for cablecast on our various cable systems. You can see the tape or, better yet, have the tape sent out over your community access channel on your own cable system by contacting us. We will make the tape available to anyone for the cost of tape and postage.

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One of the attendees, **Mark Willey** of the *Com64* group, provided us with some "side roads" of the super highway. The BBS services are:

Hayes Systems Support BBS  
1-800-874-2937  
USGS Earthquake Data BBS  
1-800-358-2663  
National Weatherbank BBS  
1-800-827-2727

The January presentation and the enthusiastic response brought such great results that we will be setting aside two or three months of this year for topics of universal computer appeal. How about 75-100 people showing up?

Our next meeting is February 21st. The topic will be back to just our own platform, our beloved CoCo. What the particular presentation will be has yet to be determined.

==Donald Zimmerman==

*What's Happening  
in Tacoma??*

## Seattle

### 68xxxMicroUsersGroup

**Rodger Alexander** and **Scott Honaker** prepared a demonstration of using a Null Modem to communicate between two different computers. However, Scott forgot to bring his computer. As a workable substitution, they tried to connect between two active windows using *Supercomm22* terminal software and a *COMM4*, multiple RS-232 board.

The first step involved copying *Supercomm22.AR* from the club's library files to the newly formatted hard drive on Rodger's newest "tower" machine that featured a 6-slot multipak manufactured by *PBJ*. Since *Supercomm22* was archived, it was necessary to un-ARchive the file to the Hard Drive CMDS directory.

Next step was to modify the T2 descriptor with the port address FF2A and then rename this newly addressed descriptor as "T3".

Next step was to plug in the *COMM4* board into the multipak and connect the 1st *COMM4* jack to the second *COMM4* jack with a Null Modem cable.

Scott diagrammed the wiring logic involved to modify a standard RS-232 cable to make it a Null Modem cable. Simply reversing several of the wire connections is all that is involved. See page 6 of this issue (*Null Modem Part II*).

With the two serial ports connected, the newly modified "T3" descriptor was loaded into memory along with the original "T2". Two copies of *Supercomm22* were loaded and run in separate windows. One copy of *Supercomm22* was initialized to use /T2 as its serial port and the other copy was initialized to use /T3 as its serial port. In this way we would be able to send data between the two windows. Unfortunately, it didn't work?????????

The remainder of the meeting was spent explaining 7 and 8 bit parity used in serial transmissions. January's meeting will feature a presentation on Internet.

==Barbara Alexander==

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# OCN NETNEWS

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OS-9 COMMUNITY NETWORK  
ON-LINE MONTHLY  
NEWSLETTER

FIDONET OS-9 ECHO

A SUBSIDIARY OF THE OS-9 NEWSLETTER

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## Washington State BBS List

### **COLUMBIA HTS. BBS**

-- Longview/Kelso --  
RiBBS (FidoNET)  
(206) 425-5804

### **DATA WAREHOUSE BBS**

-- Spokane --  
RiBBS (FidoNET)  
(509) 325-6787

### **OUTER LIMITS BBS**

-- Bellingham --  
Wild Cat (FidoNET)  
(206) 671-7427

### **ULTIMATE EXPERIENCE BBS**

-- Anacortes --  
RiBBS (MaxNET)  
(206) 299-0491

## **Bellingham OS-9 Users Forum**

### **OS-9 and the Color Computer \$7**

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