

# OS-9 Newsletter®

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Bellingham OS-9 Users Forum

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## Amiga

### Discontinued?



Actually, it looks like two companies, Samsung and another "Asian" company may try to purchase the rights to the Amiga.

The Amiga has gained quite a following in the AV industry, just go to any video production facility and look at how much the amiga has boomed among the under \$100K systems.

Unfortunately there is only one supplier of Amiga computers, namely C= (Commodore) Now nobody would mourn the loss of a PC-Clone manufacturer. Hell nobody would mourn if IBM/ Ambra passed on :) BUT there is no second source for the Amiga line and I feel there is a legitament manufacturing demand for the very low end and very high end systems. Ergo someone or several someone's are going to pick C= clean and buy the Amiga manufacturing and technology rights (especially the CD32 and A4000).

I estimate that 1.3 million A2000/A3000 systems sold to endusers. I don't even know what the A500/A1200/ A4000 numbers are, except that during first half of '93 approximately 20,000 A1200s had been sold and manufacturing couldn't keep up with the demand. Close to 3 million units sold since the A2000 was introduced in late '86. Of course who knows how many are in use; 650,000 may be a good estimate for a user base...

I guess these kind of numbers vary depending on who you ask :) Ask a PC/Mac Maven and get a ridiculously low number. Ask a frothing Amiga fanatic (who me?) and get a ridiculously high number...

== Charles C. Bundy IV ==  
ccb8m@virginia.edu

## Setting up a Serial Mouse

If your mouse is switchable, make sure it is set to what the drivers want (MS 2 button vs Logitech 3). If that doesn't help, boot up OS9 without the new drivers, fire a terminal program up on /Tx (where your mouse is) at 1200 baud and move the mouse. Do you get anything? If you use another RS-232 pak, do you get anything? The mouse is powered off of the DTR line (usually). If you aren't getting anything, make sure it is sitting at or below -5 volts. The mouse driver should set DTR, if you test this from a terminal program, you may have to turn hardware handshaking on. If there is a handshake problem, try tying RTS(pin 4) and CTS(pin 5) together, and tying DSR(pin 6), DCD(pin 8), and DTR(pin 20) together. If you want to test the buttons in MultiView with the patch installed, you should be able to turn on the keyboard mouse (CTRL-CLEAR), place the mouse above a button, turn off the keyboard mouse, and if the mouse doesn't pop back to the corner, <click>!

I should say that I've never owned an RS RS-232 pak and I've never used a serial mouse on my CoCo, but I did hack a Modpak into an RS-232 pak, and now my CoCo III has an ACIA built in :).

== Jesse Obcrieter ==

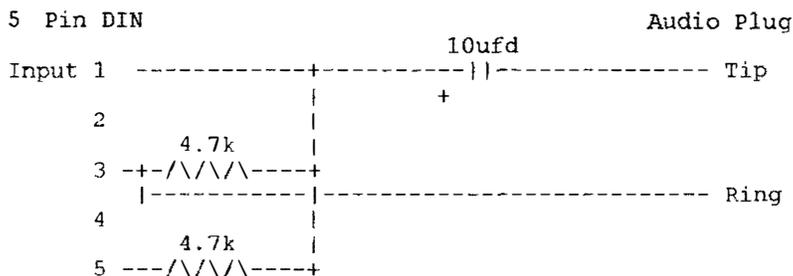
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**Q:** How do you make a cable to input sound OK,  
= David Hazelton =

**A:** I've seen a couple of requests for this info lately. This is the best design for a capture cable I've seen so far...



The capacitor should be a 10 microfarad tantalum. The resistors should be 1/8 watt or 1/4 watt 4.7k ohm. If you wish, I can make one of these cable for you for \$15, including shipping.

= Colin McKay =  
FidoNET; OS-9 Echo

**Q:** What is the Fix to make Microware's Pascal (v2.00.00) to access the file "pascal\_compiler" from the current execution directory.  
= Damian Trybus =

**A:** Create this modpatch script file (name it pascalfix) and then run `modpatch <pascalfix` or simply type `modpatch` and then enter the following lines from the keyboard. (Don't type in comments)

```

l pascal
c 1692 21 25
2EED B6 51 "CRC bytes"
2EEE B9 1E "retained for"
2EEF 23 52 "verification only"
v
  
```

= Erik Jan Tromp =

## OCN NETNEWS

OS-9 COMMUNITY NETWORK  
ON-LINE MONTHLY  
NEWSLETTER

FIDONET OS-9 ECHO  
A SUBSIDIARY OF THE OS-9 NEWSLETTER

## 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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# Disto 2Meg Upgrade

After seeing several posts from confused people about Tony DiStefano's new 2MB upgrade, I've decided to post the following clarifications:

Q. Does the 2MB upgrade require 1 Meg, 512K, or 128K CoCo 3?

A. Absolutely NOT. In fact, you need to take out ANY memory boards and chips in your CoCo 3 before installing the 2MB upgrade.

Q. What kind of memory chips does the 2MB upgrade require?

A. The upgrade requires two (2) These are 1x9 SIMMS, either the 9 or 3 chip (preferable) design. (They aren't included with the kit.)

Q. What does the upgrade comprise of?

A. The 2MB upgrade consists of two hardware components: (1) the DAT board which plugs into the CPU socket (must be installed if not already), and the memory board which plugs into the three (3) plastic connectors intended for the 512K memory board. The microprocessor plugs into a socket which is premounted onto the DAT board.

Q. Can I run a 6309 with the 2MB upgrade?

A. Absolutely. There is no problem using 6309 microprocessor with the 2MB upgrade.

Q. How hard is it to install the 2MB upgrade?

A. Easy to fairly hard, depending on what work you've done to your CoCo 3 before-hand. If your CPU is not socketed, you will need to install one. (The most tedious part of the upgrade). Once that is done, plug your microprocessor into the DAT board socket, mount the DAT board on top of the CPU socket on the motherboard, clip C65 and C66, short out R22 by soldering a piece of wire over the resistor's end-points, make two more solder points, then plug in the populated memory board.

Q. How will this affect my CoCo 3's capabilities?

A. Under OS-9 Level Two, you will enjoy a full 2 megabytes of RAM. Included with the upgrade is the MEGA2 command, as well as a patched MMAP utility, and software patches for a couple of system modules.

Q. Where can I get this upgrade?

A. Tony is NOT selling these boards through CRC. You need to contact him directly at the following address:

DISTO, 1710 Depatie, St. Laurent, QUEBEC  
Canada H4L 4A8. (514) 744-7777

I hope this has shed some light. Latest price is \$99.95, plus \$4.50 S&H. Do call first, though.

— Colin McKay —  
Northern Xposure

## SMALL GRAFX ECT.



"Y" & "TRI" cables,	Special 40 pin	
MALE/FEMALE end connectors EA. .		\$6.50
Rainbow 40 wire ribbon cable per/ft. . .		\$1.00
Hitachi HD63C09E CPU & Socket. . . . .		\$13.00
512K Upgrades. . . . .		\$72.00
MPI Pal upgarde. #26-3024 (chip),		
#26-3124 (Satellite Board). . . . .		\$10.00
Serial to Parallel w/64k Buffer		
Interface w/cables/ps . . . . .		\$50.00
2400 Baud Hayes comb. Extl. Modems		\$40.00

S&H EACH ORDER \$2.00

SERVICE, PARTS, & HARD TO FIND SOFTWARE, COMPLETE DOCUMENTATION AVAILABLE. INKS & REFILL KITS FOR CGP-220, CANNON & HP INKJET PRINTERS, RIBBONS, & Ver.6 EPROM FOR CGP-220 PRINTER(BOLD MODE). COLOR PRINTING.

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**BREMERTON, WA 98310**  
**206-692-5374**

## 68K Products

from

### Bob van der Poel Software

Ved/68xxx Text Editor	\$59.95
Update to current version	\$19.95
Vprint/68xxx Text Formatter	\$59.95
Update to current version	\$19.95
Vmail/68xxx Mailing List	\$49.95
Update to current version	\$15.95
Cribbage for Kwindows	\$19.95
Magazine Index System	\$19.95
Disk Catalogue System	FREE with any order

Add \$3.00 for shipping in Canada and USA

P.O. Box 355  
Porthill, ID  
USA 83853-0355  
(604) 866-5772

P.O. Box 57  
Wynndel, B.C.  
Canada V0B 2N0  
CIS 76510,2203

# Booting OS-9

I have noticed lately some talk about various booting up problems. I hope this explanation will help to clear things up a little.

The first thing that must happen is you type "DOS<enter>". This RS-DOS command will look on track 34 of your bootdisk for the bootstrap. It contains three files. *REL*, *BOOT*, and *OS9P1*. These files are loaded into memory and then executed. They cause the computer to read Logical Sector Zero of the bootdisk to find the pointer to the location of the file "OS9Boot". This file, containing several OS-9 Modules, is loaded into memory. At this point, we need several things to get OS-9 to run. We need to find and execute a module called *CC3Go*. This module, in the original Radio Shack furnished configuration, is part of the OS9Boot file. It is loaded into memory as part of OS9Boot, but, since it is used only once, many people remove it from OS9Boot and place it on their hard drive. From here, it is loaded, executed, and then unlinked, saving memory space. We also need to find and execute a module called *Shell*, and a module called *Grfdrv*. *Init* is really the key to this. It is the table that tells OS-9 where the other modules are located. Failure to boot up is very often caused by modules not being where *Init* said they were. If you can control the *Init* module, you can control the booting up process.

First lets look at the *Init* module found in the original Radio Shack OS9 Level II os9boot file. `Ident -ms init` will give " 67 \$C0 \$0B2322 . Init ", just to be sure we are all talking about the same version. In Appendix A, page A-3 of the OS9 Technical Reference section of the OS9 Level II manual, you will see the *Init* Module format. Looking at the following "dump" of the *init* module, and reading the chart on A-3, you can examine it byte by byte.

Addr	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	0	2	4	6	8	A	C	E
0000	87CD	002E	0016	C081	CC0F	E000	0F27	001A	.M....@.L.'...'															
0010	001F	0022	0027	496E	69F4	4343	3347	EF2F	...'InitCC3Go/															
0020	44B0	2F54	6572	ED42	6F6F	F40B	2322	D0/TermBoot.#"																

Notice on the first row, address \$00 and \$01 contain \$87,\$CD, shown in the chart as being the Sync Bytes. You will see this for all OS9 modules. Address \$02 and \$03 contain \$00, \$2E, shown in the chart as Module Size. Look now at the last address in the module. It is \$2D, which is one less than the module size. It happens to contain \$22 but that is not important right now. The reason that the size seems to be one byte larger is that addresses start at \$00 but size is the actual number of bytes. This module contains \$2E ( hex ) or 46 (decimal) bytes. Count them, you'll see.

Address \$04 and \$05 contain \$00,\$16, shown as Module Name Offset. If you look now at address \$16, you will see it contains \$49, the ASCII value for the capital letter I. Also note that this is the first letter in the name of this module, *Init*, and you can see it in the ASCII part of the dump also. Lets stay with the ASCII part for now. Continuing, we see *nit*. Notice that the *t* is at address \$19. On the hex side we see that address \$19 contains \$F4, certainly not the ASCII value for the letter *t*. The ASCII value for the letter *t* is \$74. Since this is the last letter of the name of the module, \$80 has been added to \$74, making it \$F4. This is how OS9 knows that this is the last letter in the name of the module. You can get more information about what is contained in address \$06 to \$08 in Chapter 3, Memory Modules, and \$0C to \$0D in Chapter 2, page 2-17.

Lets look at the contents of address \$0E and \$0F, containing \$00, \$1A, Offset to Startup Module Name String. Looking at address \$1A we see that it contains \$43, the ASCII value for capital C, the first letter in *CC3Go*. Note also that the *o* is \$EF. This, again, is the ASCII value of the letter *o*, \$6F, plus \$80, equals \$EF, signifying the last letter in this Name String. Here is where it is decided where you can put *CC3Go*. I happen to have mine in the commands directory of my hard drive. My Name String starts in the same place but is says "/dd/CMDS/CC3Go" and the letter *o* is \$EF, signifying the end of this Name String.

Lets look at the contents of address \$10 and \$11, containing \$00, \$1F, Offset to Default Mass Storage Device Name String. Looking at address \$1F, we see that the first character in this Name String, /D0 is the /. The last one is 0. Again the 0 is \$30 plus \$80 equals \$B0. Now we come to a mistake in the chart on page A-3. Notice that it claims that address \$12 and \$13 contain the Offset to Bootstrap Module Name String. Address \$12 and \$13 contain \$00, \$22, clearly sending us to the / in the Name String /Term. Notice carefully that the *m* is \$ED, clearly indicating the end of this Name String. The next string, *Boot*, cannot be part of this. This is clearly what I would call Offset to Default Window Module Name String. Yes, some will argue that *Term* is not a window. Either way, it is the screen you boot up in because *Init* points to it. One final address to look at, \$14 and \$15, containing \$00, \$27, clearly, this is the real Offset to Bootstrap Module Name String, *Boot*. The last three bytes are the CRC Value check.

(Continued on page 5)

I include a dump of my *Init* module, showing the path to CC3go and the fact that my Default Mass Storage Device Name String is */DD*. Note also that even though */DD* appears in a different location, address \$10 and \$11 clearly point to it correctly. On my system, this is my hard drive. When I finish the booting process, my "pwd" is */dd*, and my "pxd" is */dd/cmds*. I hope this helps to clear up some of the confusion.

```

Addr  0 1  2 3  4 5  6 7  8 9  A B  C D  E F  0 2 4 6 8 A C E
-----
0000  87CD 0037 0016 C081 D50F E000 0C27 001A .M.7..@.U.`..'...'
0010  0028 002B 0030 496E 69F4 2F64 642F 434D .{.+0Init/dd/CM
0020  4453 2F43 4333 47EF 2F44 C42F 5465 72ED DS/CC3Go/DD/Term
0030  426F 6FF4 6413 EF          Bootd.o
    
```

== David Wordell ==

DFW Amateur Radio BBS (214) 226-1181 (1:124/7009)

## AR 2.0

I am pleased to announce the availability of AR2 for OSK.

Features:

9-14 bits of compression (or no compression of executables, or no compression at all)

100% compatability with older official versions of AR

100% compatability of file format with OS9L2 & OSK systems

AND most important of all - Carl Krieder's blessing!

== Tomas Kocourek ==

## THE DRAGON

If anyone is interested, there is now a mailing list for the *Dragon computer*. If you want to be included on it, then please e-mail direct (there are about 11 users already).

*What is a Dragon? It's a 6809 computer that was manufactured in England and could run RSDOS software and OS-9. It had both a serial and parallel port built on the motherboard. WOW!*

==David Linsley - Dept Electronics ==

Ham Radio: G7RAW@GB7NCL

Internet : djl102@unix.york.ac.uk

# OS-9 Future

Recently there has been a lot of postings on the OS-9 forums and echos regarding "our senseless efforts to maintain and support a useless operating system (OS-9)". What really hurts is that some of these comments have come from some of our previously strongest leaders.

The OS9 community needs voices of dissension, frustration, etc. to put the entire matter in perspective and I do recognize the truths in what has been presented. But as I see it, the situation boils down to this:

- 1) MicroWare had a product out years before IBM even considered the home market. Had they chosen to do so, they could have gotten a hold of IBM before BG did. But they stuck to the industrial market, thus our present situation! [SIDE NOTE] Believe it or not, BG had considered making MSDOS multi-tasking & re-entrant just like UNIX. But the home market concept at that point in time was heavily influenced by APPLE2, TANDY home-brewed, and CPM computers (as well as others that haven't been mentioned) - ALL single-tasking/ single-user systems. Thus MS's dilemma with getting MSDOS & WINDOWS out of the 1970's and into the 1990s
- 2) The "home market usage" of computers has been evolving at a faster pace than the "one man development" teams have been able to crank out software. People's expectations are different now than back in 1975. Even Lotus and MS are having a tough time trying to get the coveted "market share". If you step back and take a good look at what applications are available in the IBM compatible world, you will notice the basic 5 apps: word processing, spread sheet, database, telecommunications (modem/LAN/etc.), games. 90% of the programs, sold today, fall into one of these 5 categories.
- 3) Because of the limited segment of home market use of OS9,one, realistically should not expect to make \$\$\$\$. The rest of the community needs to support the vendors who have taken the time/energy to market programs. The rest of us, "one man development teams", need to look at the deficiencies for using OS9/OSK/OS9000 and fill the empty spots as time permits.

==Thomas Kocourek KD4CK==

**F**requently **A**sked **Q**uestions  
*about the Color Computer and OS-9*

**How to connect a serial printer to the CoCo serial port?**

*NOTE: In this explanation I will use the Apple ImageWriter I printer as the serial printer in question since it is the printer I have. :)*

**List of Materials:**

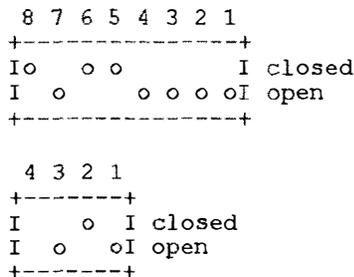
- 1 DIN-4 male (CoCo)
- 1 DB-25 male (Printer connector)

**Connections:**

```
RxD 2 ----- 20 DTR (Data term ready)
GND 3 -----+ 7 GND (Signal ground)
I 1 -----+ 1 (Frame round)
TxD 4 ----- 3 TxD (Receive data)
```

Once you have the cable built, you need to set the printer's baud rate, serial interface protocol, and number of bits to match that of the CoCo. For the Imageriter I, that is done by setting 2 banks of DIP switches found in a slot under the ribbon's path.

**Back of Printer**



Once you have set the dip switches in the printer, configure your program to use the same settings baud/parity/CRLF/etc) as the printer. (copy down the settings you used when printing from TW-80 as an example)

**What are the languages available to the CoCo?**

Where can I get them?

**Without disk drive:**

- Assembler (tape)
- Basic (built-in, old CoCo 1s)
- Extended Basic (built-in, newer CoCo 1 and newer models)

**RSDOS:**

- Assembler
- Disk BASIC (built-in)
- Compiled BASIC
- C

- FORTH
- DAC-FORTH
- DEFT Pascal

**OS-9:**

- Assembler
- BASIC-09
- C
- Forth
- Pascal

**What sources (hardware, software) are available for the CoCo and OS-9?**

• **COMPANIES:**

**CoNect**  
 449 South 90th Street  
 Milwaukee, WI 53214  
 (414) 258-2989 evenings and weekends  
 Email  
 Delphi: RICKULAND  
 Internet: rickuland@delphi.com

**Microware**  
 1900 NW 114th St  
 Des Moines, IA 50325  
 (515) 224-1929  
 Email: info@microware.com

**Small GrafX Ect.**  
 N.W. 41 Doncee Drive  
 Bremerton, WA 98310  
 (206) 692-5374

- **FTP SITES: (Internet)**  
 chestnut.cs.wisc.edu  
 wuarchive.wustl.edu  
 lucy.ifi.unibas.ch

- **MAIL SERVERS:**  
 listserv@pucc.bitnet (Internet)  
 FidoNET

- **BBS:**  
 See local listing on page 12  
 Delphi  
 CIS (Compuserv)  
 Genie  
 OnLine America

**What literature is available for the CoCo and OS-9?**

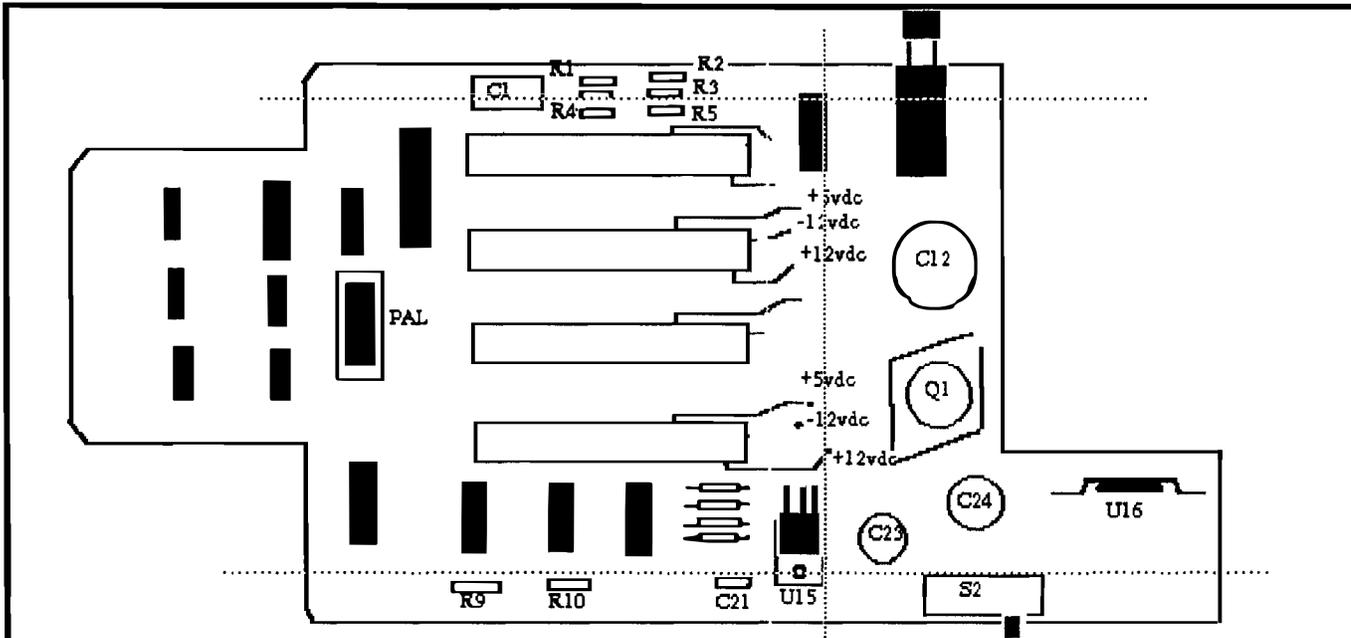
- Dale L. Puckett, 'The Official Basic09 Tour Guide,' Microware, 1985 ISBN 0-918035-00-7, Radio Shack cat. no. 26-3189.

(Continued on page 7)



## 'Hacking' the OLD Multipak

The problem with using the older/larger Multipak in the PC Case Installation is its width is greater than that of the Color Computer-3. Since most PC Cases are rarely wider or higher than 6 inches, it makes it very difficult to fit the OLD Multipak anywhere in the case without using an excessive length of 'S Cable' (Y-Cable). Fortunately, a great deal of space is used on the Multipak for power supply support, and is not needed electrically or physically since we will be getting our power from the PC Power Supply (See Pages 6 & 7). The following diagrams will show you where you can cut away the excessive circuit board:



Notice the dotted "CUT" lines and how close they are to R9, R10, C21, R4 and R5. The Integrated Circuit located in the upper right corner next to the ON/OFF Switch is a SALT chip, similar to the one near the heat sink on the CoCo. Resistors R1 - R5 are simply part of a voltage divider network for the SALT chip. None of these components are necessary for our new installation. However, there are some logic lines running just below the + side of C1. These lines must remain intact, even if you have to solder some jumper wires to replace what you may have sawed off.

Remove the shielded backing from the circuit board as well as the SALT chip (U5) and the voltage regulator (U15) before carefully sawing the circuit board as marked above. After cutting the top portion of the circuit board, check both sides to see that the logic traces are still intact. If a trace was damaged, simply replace the trace with a length of small gauge wire wrap wire. Solder from the beginning of the trace to the end where the small solder pads are provided on the board. Don't try to scratch off the protective insulation and solder across the damaged area, you will only end up doing more damage.

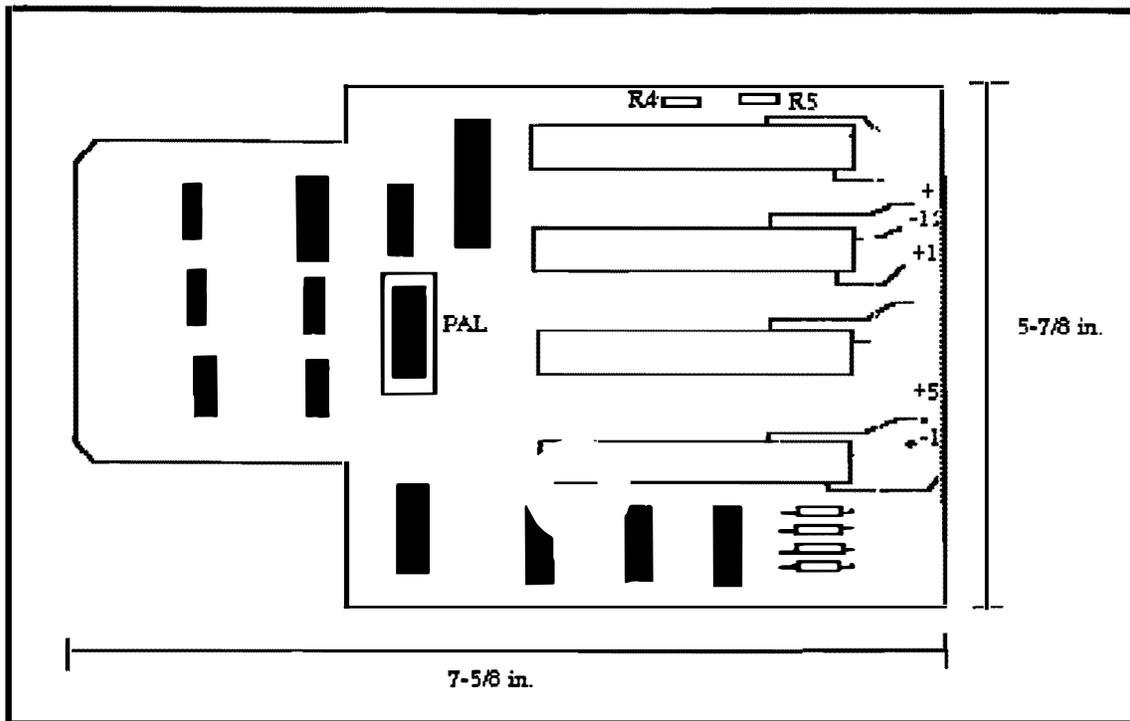
Make the vertical cut along the ends of the 4 rom pak slots. Keep the cut just to the right of the voltage pads coming from the rom pak slots.

**BEWARE:** Before making the bottom horizontal cut, you need to be aware that the ROM SLOT SELECT SWITCH (S2) in position 4 (for disk controller access in slot 4) places a ground potential to both R9 and R10. Since the resistors are in effect connected in parallel, the two 4700 ohm resistors result in a 2350 ohm resistor between ground and pin 16 of U12. After you make this final horizontal cut, you will have to remove the two resistors from the discarded cut off section and solder them electrically in parallel from any ground potential to pin 16 of U12. **ALSO** the SLOT SELECT SWITCH places a ground potential on pins 2, 4, 6 & 10 of U12. Use small gauge wire wrap wire to provide the ground connection to these pins. That's it!

(Continued on page 9)

**NOW LOOK AT WHAT YOU'VE DONE!**

*Very Important:* The bottom horizontal cut will also destroy two or more trace lines which you must replace with small gauge (wire wrap type) insulated wire. The traces go from just below U11 to pins 8 on 2 or more of the I/O slots.

**NEXT MONTH:**

As you can see, I've run out of room again so we will have to include the reprint of T. Warren's hi-resolution interface switch in next month's issue.

==Rodger Alexander==

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## The three most used OS9 Internet sites

[lucy.ifi.unibas.ch](http://lucy.ifi.unibas.ch)

[chestnut.cs.wisc.edu](http://chestnut.cs.wisc.edu)

[wuarchive.wustl.edu](http://wuarchive.wustl.edu)

You can access all three via Internet FTP. Also you may be able to access them through mail servers. With a mail server, you send mail to the server, requesting things like DIR or a program. You then get back a series of UUENCODED mail packets. Then you decode them using a decode utility, merge the packets together and you have a program. It's kinda slow since it all has to be done as email. FTP on the other hand allows you to connect with the host computer as a guest and download the program directly. FTP has a help mode, thus will help you execute the right way to download a program. If my memory serves me right, you can not upload via FTP only download. To upload a program, you will need to use TELNET. TELNET allows you to connect with the host, but requires that you have a login and password. Some sites have a guest login/password for you to telnet. These are limited access, for uploading programs into a special directory only.

O'Reilly & Associates, Inc have books out explaining in great detail about Internet, FTP, TEET, & EMAIL.

==John A. Donaldson==

*Editor's Note:* FTP sites will request a user name when you first access them. Type in "Anonymous" and simply hit <ENTER> when you are prompted for a password..

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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*

## Port O'CoCo

The May meeting of the Port O' CoCo SIG of Kitsap Computing Seniors focused on the upcoming FEST IV. And we have a great line up of topics and speakers. First, let's review the confirmed topics related to the CoCo.

**Rodger Alexander** is going to discuss the upgrades we may consider to make our CoCo as contemporary as possible. This is a must attend session for those interested in increasing memory, speed and sophistication.

Speaking of sophistication, **Jesse Oberreuter** started working with the CoCo fifteen years ago. Now he works with his MM/1. The startling fact is that Jesse is now 21. So he started working with computers and programs when he was just about to turn 6 years of age! He illustrated at the last Seattle meeting that he is not only knowledgeable, but also very articulate. His presentation will be fascinating, to say the least.

While we are still up there with the big boys, we might as well mention that **Bob van der Poel** planned all along to be at this year's FEST IV, so getting him to speak was a snap. His seminar will cover programming in C language. Since he is a programmer by profession, his presentation will be very practical for those who are trying to break into the marketplace.

**John Schliep** of Tacoma is going to talk about his experience of setting up a BBS and working with FidoNet. John's new BBS is (206) 472-6805. The Tacoma group now is electronically meeting through the month instead of getting together in person. There may be an occasional face to face meeting during the year. John's presentation will compliment a couple of the other

speakers at the FEST IV who will be discussing BBSs in general and Internet. On our not confirmed yet list is **Dennis Mott** to discuss the FidoNet and the *OS-9 Community Network* (OCN).

**Terry Laraway**, who is recovering from two recent surgeries, (ask, and he will show you some of the stitches!) will talk about printers and his magic inks and papers for getting the most vivid and colorful product out of your CoCo.

One of the unstructured benefits of the whole event is the human networking and swapping that goes on for the two days of the event. Of course, there will be the usual swap meet time, but the truth is that the exchange of ideas, software and hardware goes on all the time.

Get your registration in early to help us with the cash flow and to save yourself a few dollars. Although the mug is a secret until the day of the event, the T-shirt is "the three musketeers" who are hidden in the warm boot of our CoCo. We have screen dumped the file onto this year's T-shirt. If you can't make it to the FEST IV you can order them for only \$14 (including shipping and tax). Just let us know your size. The T-shirts will be available at the FEST IV for those who pre-order for only \$11 (including tax). They will not be available after July 15th when the silk screen will be destroyed. Definitely a collector's item! There will be more details coming to light in the couple weeks to come. But just forget the details and sign up for a fun time, as usual!

==Donald Zimmerman==

## Seattle 68xxxMug

The May 3rd meeting of the Seattle

68xxxMicro Users Group began with announcements by **Donald Zimmerman** regarding the upcoming Pacific Northwest CoCoFEST. (See Port O'CoCo report for detailed information.)

**Rodger Alexander** began the second portion of the program with the continued installation of a CoCo into a PC tower case. This presentation focused on "hacking" the older, larger multipak using a dremil tool. Rodger cut the power supply and part of the bottom and top off so that it would fit within the confines of the tower case. The computer belongs to **Donald Zongker** who want to be able to switch between slots 3 and 4 to accommodate his Burke & Burke XT-ROM and the standard floppy boot disk.

Rodger will finish his demonstration at the May meeting with the appropriate wiring for the key-lock switch on the tower front panel to control the slot switching on the multipak.

**Bob Bielka's** presentation of stepper motor control boards was the third presentation. Bob had purchased the boards from VETCO for \$1.95. The boards sell complete with instructions and parts list. The component parts (resistors, capacitors, etc.) totaled less than \$10 and stepper motors are available for under \$5. Poking specific addresses operate the stepper motor through the control card. **Gene Elliot** was especially interested in the presentation since he has been working on a CoCo controlled lathe and is looking for a way to more accurately control the mechanism.

Next month's meeting will deal with the completion of the PC tower installation and serial port access of the OS-9 operating system. Hide your CoCo and plug a sexy looking terminal into the RS-232 port.

==Barbara Alexander==

# PNW Community Computer Festival IV

Originated by Port O' CoCo Club

## June 24 & 25



- Famous Swap Meet!
- Beginners Welcomed!
- Internet Explained!
- What's Coming?
- Hands-on Demos
- Computer Puzzle Mug  
with Cash Prize!
- Breakfast & Lunch

**Marcus Whitman  
Jr. High**

**Port Orchard**

Directions: Go up Mile Hill Dr past the South Kitsap Mall, KMart Plaza and turn right on Harris Ave. Go one block take a slight right onto Madrona Dr. Marcus is on the left beyond the baseball field.

Sponsored by  
Kitsap Computing  
Seniors

**\$20**

**Deadline June 16th**

**Questions**

**871-6535 Messages**

PNW Community Computer FEST IV  
3046 Banner Rd SE  
Port Orchard 98366-8810

**Name:** \_\_\_\_\_

**\$20 Per Person**

**Address:** \_\_\_\_\_

**T-shirts only**

**City/St/ZIP:** \_\_\_\_\_

**\$11 including  
tax.**

**Computer Type:** \_\_\_\_\_

I am a Beginner ( ) In Between ( ) Advanced ( ) User.

## Washington State BBS List

### **COLUMBIA HTS. BBS**

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

### **DATA WAREHOUSE BBS**

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

### **BARBEQUED RIBBS**

Bellingham  
EVERETT 98203 06/14/9

PC-Board (PC-Net) - CoCo Conference #5  
(206) 676-5787

### **OS-9 TACOMA BBS**

-- Tacoma --  
RiBBS (FidoNET)  
(206) 566-8857

### **ULTIMATE EXPERIENCE BBS**

-- Anacortes --  
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***OS-9 Newsletter***  
***3404 Illinois Lane***  
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