OS-9 Newsletter ©

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Bug Fixes

Here's another article in the continuing 'bug fix' saga. This first one fixes Kevin Darling's *RAMMER* to work properly, and corrects a previously unknown bug in *PRINTER*.

RAMMER

I'm sure everyone has heard of problems with *RAMMER* working with 2-meg systems. The cause of this is a section of code which goes: LDB >$FFA0 [...] STB >$FFA0. This saves/restores a block in the system map.

As Kevin Darling. himself should know, the MMU registers are not really readable. They are (sort of) on a 512k system, but definitely not on a 1 or 2-meg system. The solution is simple, just change the STB to a CLR. Since the system always has block 0 mapped into $FFA0, there's no need for saving a copy of the MMU register. If Kevin had wanted to be "legal" rather than "semi-legal", he would have used the system DAT map. (BAD Kevin!)

offset	old	new
$00D4	$F7	$7F

If you have a 2-meg system, and want to use RAMMER to 'mimic' an external drive, use the patches below to change the maximum number of blocks that it will use.

offset	old	new
$000C	$68	$36+NB
$0074	$32	NB

where NB is the number of blocks (rounded up) required to mimic an external drive. i.e. for a 80-track double sided disk, NB=(80*2*18)/32=90 ($5A) blocks.

PRINTER

This is a little-known, and mostly useless bug fix. The problem can be seen by doing a **"list /p"**. Since the printer is a write-only device, attempting to read from it should produce a 'bad mode' error. Instead, I get Error #056 - (basic09 error code). The cause of this is simply that someone left a '#' off a LDB #E$BMode, and the error you see is whatever is at <E$BMode in the system DP page.

BUG Fix Continued on Page 2

ROM BOOT

Putting OS-9 in ROM is fairly simple. Basically, there are two changes that need to be made. The first change fixes a bug in the *REL* module. That change can be made by simply running modpatch with the included script ('rel.pat.') Before you make the change, though, type **"ident -m rel"** at the shell prompt. The output should look like this:

Header for: REL
Module size: $012A #298
Module CRC: $6FD34C (good)
Header parity: $D3
Edition: $05 #5
Ty/La At/Rv: $C1 $81
System mod, 6809 obj, re-en, R/O

If the output doesn't match this, DON'T TRY TO PATCH *REL*! Boot-up with another disk (you'll have to reset twice to start from RS-DOS again), and try ***ident*** again. If all else fails, boot-up with your backup of the original OS-9 system disk. That definitely should match. Once you have patched *REL*, cobbler to a new disk.

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offset	old	new
$0170	$D6	$C6

This modification should solve the problem in a satisfactory manner. The reason no-one has seen this before is that no one was dumb enough to try reading from the printer. (What does that say about me, eh? :-)

GRFDRV

Here is a patch for fixing a bug in Kevin Darling's "'Xmas grfdrv" (***FSTGRF.AR***). The problem here can be seen by using *VIEW* to look at a series of GIF pictures. Count the number of times you can *view* a picture before getting an error, and add in the number of windows you already have open. They should add up to 32.

What's happening is that *grfdrv* is saving a wrong flag, and *CC3IO* can't match it. So rather than having a maximum of 32 windows at one time, you're limittted to 32 windows totally in one session. This bug is NOT in the stock *grfdrv*, but was introduced by Kevin in his enhancements. Luckily, it's easy to fix, just patch one byte:

offset	old	new
$03D0	$FE	$FF

Re-verify and save out to your CMDS directory. This fix has made the difference between forced reboots every time I couldn't open a new window, and having my CoCo running continually for longer periods of time.

CLOCK

IF you have installed a higher frequency crystal in your CoCo to optain faster clock speed then you have noticed that your time display is no longer accurate. Here's the solution:

Using *dEd*, look in the Clock module for a byte sequence **$86 $3C $97 $2E**. This sets up the number of 'ticks' per seconds. With faster crystals, there are more ticks, so the $3C must be changed according to the following formula:

NEW = 60 * (crystal speed [MHz])/(28.63636)

So for a 41 MHz clock, 'NEW'=85.9, or rounded up, 86 ($56). Simply replace the $3C above with $56,

==Alan DeKok==
FidoNET;OS-9 Echo

SHELL

This patch changes the default number of pages for processes forked from SHELL. Any process forked HAS to have at least one page, but many do not need as many as the original value was/is set for. It was set so high because any process forked ends up with an entire 8K for its data space. $1F pages is almost one whole block (8K).

Offset	Old	New
$130F	$1F	$01
$1313	$1F	$01

==Wes Gale;KZIN BBS==

OS-9 Newsletter

Editor: Rodger Alexander

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BOOT ROM *Continued from Page 1*

Now, reset twice to return to RS-DOS and type in the following program:

```
 10 CLEAR 500,&H3FFF
 20 INPUT "INSERT OS-9 DISKETTE IN DRIVE 0 AND PRESS <ENTER>";A$
 30 FOR A = 1 TO 18
 40 DSKI$ 0 , 34 , A , A$ , B$
 50 FOR M = 1 TO 128:POKE &H3EFF+A*256+M,ASC(MID$(A$,M,1))
 60 POKE &H3F7F+A*256+M,ASC(MID$(B$,M,1))
 70 NEXT M , A
 80 POKE &H4000,68:POKE &H4001,75
 90 INPUT "INSERT RS-DOS DISKETTE INTO DRIVE 0 AND PRESS <ENTER>";A$
100 SAVEM "OS9BOOT/BIN",&H4000,&H51FF,&H4002
```

REL.pat

```
i rel
c 00dd 30 33
c 00e0 fc 19
c 00e1 8c 11
c 00e2 ed 83
c 00e3 00 ed
c 00e4 24 00
c 00e5 1b 24
c 00e6 ce 1a
c 00e7 26 12
c 00e8 00 12
v
```

Double check your typing, and then run the program. When done you will have an ML file on your diskette that can be loaded and burned onto an EPROM. In case you couldn't figure it out from the listing, the code resides in memory locations $4000 to $51FF (or &H4000 to &H51FF in BASIC.)

With the resulting EPROM installed in your disk controller, OS-9 will automatically boot from drive 0. If you want to boot directly from your hard drive, you will have to replace the floppy BOOT module with one that will read from your hard drive.

==Mike Sweet==
Delphi; OS-9 Sig Database

Function Calls in C

C Tutorial by Randy Kirschenmann

We've had a look at how data is defined in a C program and now we'll see how that data can be acted on. The function call is the equivalent to Basic09's PROCEDURE statement, but since there are relatively few executable commands in C, you'll find many more function calls in C than in Basic09. In fact, the standard C library is a collection of functions, compiled into executable code and merged together as a library of functions. A function hides the mechanics of data manipulation in a "black box" and gives the programmer a chance to forget about how things are done, instead allowing us to concentrate on what is being done. Showing several examples will be the best way of describing this mechanism.

Let's start with a simple problem; how can we display the bit pattern of data items in a program? Looking at the standard C library we see ***printf(), putchar(), putc()*** and a few related functions available. However, trying all of these will show you that none will display the individual bits inside of a *char* or *int* data item. So it looks like we need to develop our own routine to do this. To test whether a bit is on or off we can use the bitwise ***AND*** instruction. We can build a mask of each bit position and *AND* this mask byte with the data item. Then we would check the result of this operation to determine if the tested bit were on or off. The code would look something like:

```
unsigned mask;
unsigned test_data;
mask = 0x8000;
if(test_data & mask)
    putchar('1');
else
    putchar('0');
```

This piece of code will only test the high order bit of an integer data item. when the bit is on the if statement will be true and a '1' will be displayed. If the bit is off a '0' is displayed. Remember that when we *AND* a bit position that is set on ('1') with another '1' bit the result is a '1' bit, non-zero, or true, but when we AND a '0' bit with a '1' bit the result is a '0', or false. Also when we AND the '1' or '0' bit with a '0' bit the result is a '0', which is interpreted as false in the C language. Thus, our conditional statement is true only when the high order bit is on in *test_data*. In order to test the rest of the bit positions we write a loop such as:

```
mask = 0x8000;
while(mask) {
    if(test_data & mask)
        putchar('1');
    else
        putchar('0');
    mask >>= 1;
}
```

The expression "**mask >>= 1;**" looks a bit strange at first. Remember that this is equivalent to the more easily read statement:

```
mask = mask >> 1;
```

which assigns a new value to mask obtained by shifting the bits to the right one position. This will take 0x8000 and give

Calls in C *Continued on next page*

us 0x4000, then 0x2000, etc. until we get (0x0001 >>) which results in zero. This will end our loop since while(mask) is true only when the value of mask is non-zero.

This bit of code will display a string of eight 1's and 0's for the unsigned integer value stored in test_data. To make the display a bit more readable we can add some formatting, such as:

```
int i = 0;
if(!(++i % 4))
    putchar(' ');
if(!(i % 8)
    putchar(' ');
```

this snippet should follow the *if - else* block. This code also looks strange at first. The expression (mask % 4) gives us the remainder of mask divided by 4. There are 16 bits in an int data item when compiled on the Coco 3, using Microware's C compiler. Of course, this remainder will be zero when the bit count is 4, 8, 12 or 16. When we code ***if(!(expression))*** we are asking for true when (expression) is zero. Therefore *if(!(mask % 4))* is true when our bit count is 4, 8, 12 or 16; and *if(!(mask % 8))* is true when the bit count is 8 or 16. This causes our display to have the format: xxxx xxxx xxxx xxxx. The complete function would be written as:

```
#include <stdio.h>  /* needed for putchar()  */
printbits(test_data)
unsigned test_data;
{
    int i=0;
    unsigned mask = 0x8000;
    while(mask) {
        if(test_data & mask)
          putchar('1');
        else
          putchar('0');
        if(!(++i % 4))
          putchar(' ');
        if(!(i % 8))
          putchar(' ');
        mask >>= 1;
    }
}
```

Here we have the complete function, named printbits. This code can reside in a separate source file, or can be coded directly into the primary source file of a program. To test this function we could write:

```
#include <stdio.h)
main() {
    int c;
    for(c = 0; c < 256; c++) {
        printbits(c);
        putchar('\n');
    }
}
```

If you code this and place the code for *printbits()* following the closing } you can compile and run this to show how *printbits()* will look on your screen.

The heart of the demonstration is the call to ***printbits()***. This function takes an unsigned int data item as its argument. What we have defined in *main()* is a signed int data item. C will convert this data to an unsigned int when the call is made. It should be noted that the function we have created here will return an undefined integer value. This is C's default return type. To utilize a function's return value you must code a return statement as in:

```
f() {
    /* some statements */
    .
    .
    .
    return(value);
}
```

and then in the call to the function you assign this value to a variable or test its value as in:

```
int i;
.
.
.
i = f();
/* more... */
```

Returning to our printbits() example, try changing the for statement to:

```
for(c = -1; c < 0; c--)
```

running this takes longer so unless you want to see every possible negative value that can be represented by an int data type, go get yourself a cup of coffee (and a sandwich). But notice where the display ends. This shows us how two's complement data is represented by our Cocos. Oh, and don't forget to **tmode -pause** before running this!

What we have seen in this example is that once the function is developed and tested we can sort of put it out of our minds forever. We no longer have to think about what is going on internally to produce our display of bits all we need to do is call *printbits()* to see what our data item looks like in binary. We still need the source code to *printbits* to accomplish this, however. I've moved the source into a separate file, called *fbits.c* and compiled this with the *main()* function residing in another file, called *test.c* using the cmd line:

```
cc2 test.c fbits.c
```

and then running the test by typing: **"test"** at the OS9: prompt. Useful functions can find their place in many programs. When you finally develop that special routine that you find yourself using over and over again, you can move it into a library from where it can be called directly by the linker without the need of recompiling. This is done by compiling with the **-r** switch as in:

```
cc2 -r fbits.c
```

and then merging the output of this compile into a library by typing:

```
merge fbits.r mylib > mynewlib
```

Be aware, though, that the C compiler we are using utilizes a

Call in C *Continued on next page*

forward referencing linker. What this implies is that new routines being added into a library which make calls to other functions in the same library must be placed ahead of the older functions. That is to say if we were to place *printbits()* into the standard C library (clib.l) we need to code the merge statement as:

merge fbits.r clib.l > newlib

and not:

merge clib.l fbits.r > newlib

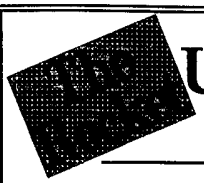
which would place *printbits()* at the end of clib.l. In the second case when *printbits()* attempts to call *putchar()* it would fail to locate the function *putc()* which resides in clib.l.

There are a few special functions I've coded in the course of my work on the Coco, that I have considered important enough to the programs I play with, that I have merged them into clib.l. Usually I wouldn't reccomend altering the standard C library and instead build a new one for your developing collection of useful routines. To signal the compiler that you want additional libraries to be scanned at link time use the **-l** switch such as:

cc2 test.c -l=<path>/mylib

This short article is hardly adequate to the task of explaining what function calls mean to the C language, but in future articles we will be returning to this subject. In time the broader picture of programming in the C language will begin to emerge.

==Randy Kirschenmann==
Mt. Rainier CoCo Club
FidoNET;OS-9 Echo



Update Report

by *Chris Burke*

A number of people have asked recently about the status of ***The Rocket***. For those not familiar with this topic, ***The Rocket*** is a circuit board with 68306 CPU, 2 SIMM sockets, a bus synchronizer, 32K byte on-board ROM, 6X09 CPU socket, mode switch, and alimited (no bus) I/O expansion counnecto. It plugs into the CoCo 3 CPU socket. The CPU runs at 14 MHz (16.7 MHz with fast memory). The on-board SIMM sockets allow 512K, 2MB, or 8MB of on-board memory.

Beginning in May, Burke & Burke offered to sell The Rocket at $195, including OS9 disk and boot ROM, but no memory; 2MB of memory was offered for an additional $100. Both offers were valid only if 100 orders were received by 31 July, 1993. It is now nearly the end of August, and fewer than 100 orders were received.

Since May, the per-unit cost of the Microware OS9 modules has essentially quadruppled over initial estimates; a license originally listing at $50 per unit now lists at roughly $170 per unit (for a run of 100 units). Burke & Burke was able to negotiate an arrangement which only doubles, rather than quadrupples, license costs for *The Rocket*, but the arrangement changes the fundamental cost structure of *The Rocket* in two ways: 50% more software development required from Burke & Burke, and higher per-unit costs. Another blow: a recent semiconductor factory fire in Japan is driving up the price of SIMM memory, to the point where $100 for 2MB will soon be below cost. While Burke & Burke could return everybody's downpayments and cancel orders, I really believe in *The Rocket* and would like to see the project completed.

Burke & Burke is open to suggestions from the community. Here are a few that have already been made:

1) Raise the zero-K price (say, from $195 to $249) and discontinue the 2MB model. If only 15% of the existing orders cancel, there will still be enough orders to go into production and ship by Christmas.

2) Cancel the project, return everybody's downpayments, and release the design to either the public domain or another vendor.

3) Offer The Rocket, but only with 512K memory and no OS9 software (say, for $149). The design would be modified to allow the 6X09 to use the 68306 as an I/O coprocessor, and would include a light weight realtime kernel for the 68306, software to download code from the 6X09 to the 68306, and inter-CPU communication routines.

I hope that this status report answers your questions about current status of The Rocket. If you reply to this post, please use private email on internet to this address:

Chris Burke <burke@mdd.comm.mot.com>

Bellingham OS-9 Users Forum

Public Domain Library

Applications Public Domain Disk

AR	: Archive/UnArchive file Utility
JERRYBENCH	: 10 x 10 matrix multiply benchmark
SIEVE	: Self-timeing benchmark
SAVAGE	: Bench mark
PILOT	: Pilot language processor
FILER	: Miscellaneous Scratch Pad and DataBase
ADRLABEL	: Simple Address Label Maker program in Basic09
SPEEDISK	: Floppy disk compression/repak ulility
INVENTORY	: Home inventory program
EXAM	: Basic09 Multiple Choice Quiz Program
Catalog	: Catalogs disk files for easy reference
Clyde_v2	: Annimated graphics for use as a screen saver

Graphics Public Domain Disk

GROUP1-20	: Clip Art graphic files for Tandy's Home Publisher
GROUPTXT	: Documentation file for Group1-20 clip-art files
VEFPRT	: VEF graphic format print-out program
VIEW	: VEF, MGE, CM3, 64D format viewer utility with window
MANDEL	: Mandelbrot Graphic generator (BasicO9)
COCD31BM	: 4 VEF files re: mounting CoCo-3 into IBM type case
VIEWGIF2	: GIF format viewer with color "flickering"
VIEWVEF2	: Displays "flicker" VEF files as well as normal VEF
AIF_MGR	: Basic09 utility to create AIF files for Multivue
SUPERIKE	: Icon editor. Mouse control & drag palette colors
PSHELL	: Mouse controlled Graphics User Interface for those who don't like Multivue
PUBFONTS	: Fonts for Tandy's Home Publisher

Graphics Public Domain Disk 2

CLICK1	: Graphics clock time display
ICON EDIT	: Creates icon graphics for Multivue
PAK	: File management Archive utility. Pak/unPak into/from
PRTPIX	: Prints DESKMATE pictures to Gemini NX-IO printer
ICONS	: Library of Multivue AIF and Icon files.
PIXLOADER	: Laods and displays VEF format graphic files
OTHEL	: Packed basicO9 othello game
PIX	: VEF pix viewer, Atari ST>VEF converter and docs file
FLTBRG	: VEF pix from Flight. Simulator II
MGEPIX	: View MGE format pics like VEF files
GIF0S9	: View GIF format. pictures
PGCHARTS	: VEF pix of charts
VEFNUDES	: 3 VEF pix of nudes
WATERFALL	: VEF pix of a waterfa11
SHUTTLE	: VEF pix of NASA Space Shuttle
BITBUCKET	: VEF pix of bits running around circuit board
BALLS	: VEF pix of Universal Balls
MAXPIX	: VEF pix of CoCo Max screen
OLIVER	: MGE pix of Bloom County's Oliver viewing compuler
GOOFY	: MGE pix of Walt Disney's Goofy

Graphics Public Domain Disk 3

Pubfonts	: More Home Publisher fonts converted from "Graphicom-Part III". Basic font converter included in package.
Screen	: 3 screen savers "motion", "circle", "lines"
DJ500BW	: Graphics screen dump to a Hewlet Packard Ink Jet Printer
ANSIFONT	: Ansi fonts data file. Used like Stdfonts in graphic windows.
DEFINITIONS	: Description of commonly used graphic picture formats used on OS-9 (CoCo), i.e., GIF, VEF, CM3, CLP

Miscellaneous Public Domain Disk:

WIND	: Basic09 program thal pronipts for window parameters
FUNDOW	: BasicO9 windows demonstration program
CLOCK	: Basic09 script file t.o init.ialize a clock/dat.e
FUNOV	: BasicO9 window overlay demonstration/'utilit55 program
WINDOWS	: 7 window script files for use with ahove programs.
INTFIX	: IRQ fix required when using the RS-232 PAK. Hack is done to the CoCo not the Multipak. VEF picture included
X10Contrl	: OS9 Software to control the PC version X10 Appliance Controller (req. RS-232 Pak)
LPRINT	: Directions for constructing a parallel PIA printer port. Includes to printer descriptors.

Multivue Public Domain Disk 1

Tetris	: UNIX version (non graphics) with color and sound added
GradeMaster	: Cmdgen Creates module that executes other module(s)
GIndex	: Grade tracking program for students
GsortV9	: Rolodex application for MultiVue
GCal1.1	: Latest version with all bugs removed
Gsortc	: New, fancier replacement for MultiVue Calendar
GShell32	: This replaces Gsort ver.9 with version 12 to correct bugs
NEWPOINT	: Includes all of patches to update your original GShell. Includes a ***MakeShell*** Installation program
	: 4 color replacement pointers for the STDPTRS in the SYS directory for use with Multivue

Patches and Memory Modules Public Domain Disk: 1

CC3DISK,VI I	: Allows disk 1/0 under' different, formats (PC, At.ari)
CC3GO.SSYS	: Required when using Speech Systems Real lime clock
CLOCK,SSYS	: Required to access Speech Systems Real Time clock
FSTGRF	: Kevin Darling's High speed patch for Level-II GRFDRV
UTRAACIA	: Creates larger huffer area for faster RS-232 access
TSEDIT	: Pat.ch to enable TSEdit, t.o disp1ay 80 column Level-II
ACIA.PAT	: AnotherpatchliyPeterLyalltoenlargehufferarea
DYNAPAT	: Patches Dynacalc to permit IO0 column display
BOOT80COL	: Permit blue/white 8O column text screen on boat-up.
GRFDRV2	: PatchesKevenDarlingspatchedGRFDRV for251ines,
GSHELL24A	: Patches Gshell+ version 24a for faster operation
GSHELL	: This is the GSHELL+ upgrade patches package.
GSHELLPA	: Enhancement patches for GSNELL+ vers. 1.24 or 1.24a
GRFPATCH	: Patches GRFDRV for 25, 27 or 28 line screens
SSPAK	: OS9LevelTwoDriver&DescriptorforSpeechSoundPak Includes instructions modify the PAK for Level 11.
GFX2PAT	: Patch to correct misalignmenl of the "Fill" name in the enhanced gfx2 (GFX2.AR) file on Utilit.y Disk 3.
KRNL	: Patch to Kernal to give it OsK (OS9-68000) compatble filenames. "A" "Z" "a" "z" "O" "9" "-" "$"
DEDPLUS	: Patch forDED to auto-recongize bit Allocation map sect.
WINDFIY	: Patch to prevenl Mullivue menu-bar "rollover"
MV2PAT	: 4 IPatch files: Windlnt; CC31O; CC310.org; Gport.ipc
PARTGEN	: Patches Burek&Burke BBFHDisk and provides new /H0 & /H1 descriptors to allow partitioning of the hard drive.
CACHE	: IPatch to CC3Disk to permit cache capability to 1000 sect.
CC3DIS	: Ipatch to CC3Disk to permit high density (1.2/1.4Meg) floppies when using the older 12vdc disk controller.
REPAKFIX	: Corrects bug in OS9p1 modules that have been patched for 1/2Meg ram systems or modified to read 68K kernel names
DMHELP	: Text file explaining improvements of DeskMate3 over Desk Mate2. Includes patches to add linefeeds to Xmodem and to make DESK module to read the /DD drive instead of /D0. Patch to change DESK to default to any window instead of term. Also standard 6msec step rate/40 tracks and dbl side
MULTID	: Source code to modify each Deskmate application and supply ICONS for use with Multivue
SERMIDI	: Semi device driver module to provide midi output from the "bit-banger" port
SMARTWATCH	: Updated replacement for Spectro-Systems Smart Watch Clock modules

Patches and Memroy Modules Public Domain Disk 2

DRIVEDOOR	: This is an Ipatch that modifies the CC3Disk.irq (version 2&3) for the Disto SC II No halt floppy controller. This patch will allow the controller to wait until the door is closed rather than timing out too quickly to get the disk in. Also contains other patch information to improve drive performance by modifying the motoron and motoroff timing.
DESK3.SCR	: Modpatch Script file to Patch Deskmate's DESK module to use hi-resolution joystick
SIMON PATCH	: One byte patch to enable Level One *Simon* utility to operate correclty under Level-2
RENAME	: IPatch to permit full path names in second descriptor. Word-processors will be able to properly save temp files with patch.
VEMAC	: Patch to improve operation of help options in VED editor
SCFED2	: Kevin Darlings Patch to SCF system module to enhance the keyboard buffer
OS9P3	: Boot module that will PRINTERR message when and error occurs
CLOCK_UPDATE: Clock modules that solve the IRQ problems	
SHELLPLUS.PATCH: Text including patches to correct bugs in Shell2.1	
HI_SPEED	: Archive with instructions and IPatch files to Bruce Isted's XACIA driver to permit the CoCo to telecommunicate at speeds up to 9600 baud.
DYNCAL	: Patches dynacalc to eliminate the double space line feed problem, also patch to cause Tandy DMP Printers to recognize 'Top of Page', plus several other similar patches to Dynacalc, Dynastar, Plug N Power, etc.
BITBANG5	: Patch to OS9p1 to change FIRQ's to IRQ's. Includes in archive, a textfile describing a modification to the 4 pin serial plug and new serial I/O driver and new T1 & T2 descriptors.

Programming Public Domain Disk 1:

CC2	: Lev-2 C Compiler double pass execution module
AUB	: RMA(RelocatableMacroAssemhiler)Libraryfiles
CTUTORIAL	: 14 Chapter text with example source codes for learning "C".
DEVPAKCUPDATE: Insiructional text on how to apply updales to lhe "C" Library from from the 0S9 Development. System disk.	
CC2RAM	: C Compiler execuition module for compiling 'C' files in RAM

Programming Public Domain Disk 2:

CUBT.I	: Kreider "C" Library
CLIB.I	: Kreider "C" Library
CGFX.I	: "C" Graphics Library

STDLIB2.C : Kreider's standard "C" Labrary files
PASCALDEFS : Pascal Library files for Level Two
AUZIE_SCULPTOR : Sculptor source codes for creating/demonstrating Sculptor datahuase system
DEVSYS : User friendly interface for C, Pascat, ASM & RMA Assemhlers,
CSTART : Direct replacement for Microware's cslart.r LIBrary File.
MINILINT : Utilil.y to precheck C souirce files for construct/syntax errors
SIGMON : OS-9 Level-ll Debugger (belter lhaiu Microware's DEBUG).
BLIST : Prints basic09 programs with pagination and breaks long lines.

Programming Public Domain Disk 3

Guilib10 : Graphical User Interface C library by J.Delaney & D.Hauck
C_ENV : Mouse driven front end for the microware® C-Compiler
GFX3 : Enhanced graphics module for Basic09 written in C
CARRAY : Corrects C-Compiler bug in which multidimension arrays are partitioned
CPREP : ANSI standard C preprocessor. Replaces Microware's **c.prep**
CC5 : Replaces stock CC executive for the C Compiler. Makes running JMLSOFT's "c_prep" easier for ansi compiling. Seeks RAM disk for faster operation but will use disk if R or R0 are not found.
FINDSTR : Replacement for the 'findstr' C standard library call. It is functionally identical to the Kreider version but 63% faster.
CNTX : Monitors C source code, reporting line by line like LINT. However, CNTX detects punctuations errors.

Sound-Music Public Domain Disk 1:

PLAY5 : Newest PLAY module
ULTIMUSE : Let's you write and edit sheet music on a graphics screen, and play on any MIDI-equipped synethesizer.
LYRA : OS9 Demonstration of Lyra (Similar to UltiMusE)
SERMIDI : New /T1 descriptor that outputs bytes at the MIDI rate of 31,250 baud

Sound-Music Pulilic Domain Disk 2:

"PLAY" FILES:

jfk.mac	aye.mac	hack.mac	beame.mac	bimbos.mac
damnit.mac	davel.mac	door.mac	genqtrs.pla	mrscott,mac
power.mac	jvulcan.mac	landing,pla	Liftoff.pla	disrupt.pla

Telecom PulilicDomainDiskI:

ACIAMapin : Filter to change control strings from a terminal into corresponding ansi strings.
ACIAMap0ut : Appendage from the ACIA Driver; gets control of Init, Read, and Write and passes them thru ACIA to the physical device.
DNLOAD : Copies input from specified device to Stdout.
UPLOAD : Capies Stdin to specified device.
BBS : BasicO9 Bulletin Board Modules
BIGT : Smart Terminal with xmodem, ascii protacols
TUBE,C : Copies charact.ers to/from device.
DTERM : Dumb terminal with xmodem protacal.
KERMIT : Download/Upload protacol between t.ermuinal syst.ems
USER : BBS Sysop utility to view user files,
TELSTAR2.3 : Excellent smart terminal program (40k) for level-II.
XCOM9 : Another excellent full function terminal program.
AUTOBAUD_TSMON : Detects incoming baud rate.
SUPERCOM : Level-II full function terminal program with xmodem

Telecom Public Domain Disk 2:

WIZPRO : Basic09 - OS-9 Level 2 Terminal program

Telecom Public Domain Disk 3:

OSTERM208 : Telecommunications package. Version 2.08 Requires RS-232PAK
NEWXCOM9 : Telecommunications package. Bells and Whistles added to orig.
SCRIBE23 : Offline message reader and auto posting
BITBANGv.5 : A device driver for the internal serial port permitting 1200 baud
MAXQWIK10 : Off line message reader
ADQWK30 : Offline message reader
SUPERCOM22 : Newest version of Supercom terminal program
TAGEDIT : Used with SCRIBE (vers.4) off line reader, provides automatic end of message tag lines.
HI_SPEED : Text and IPatch files for SACIA to improve RS-232 performance
BITBANG5 : Patch to OS9p1 to change FIRQ's to IRQ's. Includes in archive, a textfile describing a modification to the 4 pin serial plug and new serial I/O driver and new T1 & T2 descriptors.

Utility Public Domain Disk 1:

ARCHIVE : Creates destination directory and copies files to new dir.
MODUTIL : Collection of enhanced standard OS9 utilities: mbackup, mdate, mdump, mformat, mmakdir, mmfree, pmode, rep, split, unuse, verm, mxmode
RSDOS : File transfer utility from Radio shack Dos format to OS9
SDIR : Super Directory to enhance/replace standard DIR utility
AMPUTATE : Forces the term call of the cache device driver returning memory to the system and delete all files on the device.
PALETTE : Change scree/window palette (color) on the fly
AR : OS9 Archiving utility (version 1.3)
DLS : Directory utility
PCDOS : File transfer utility from PC format to OS9
WCONFIG : Window configuration utility
BCOLOR : Change background color: Bcolor <color>
FCOLOR : Change foreground color: Fcolor <color>
BORDER : Change border color: Border <color>
EATLF : Deletes Line Feeds from downloaded files
PRINTHELP : Prints SYS/helpmsg to screen/printer
QTIP : Disk zap utility (self prompting) Text or Graphics screen
RESET : Keyboard "cold start"
CALL : Calls commands repeatedly. Command list with lines on stdin.
IPATCH : Creates a new file from an Original_file and a Patch_file
SORTDIR : Sorts directory entries in ASCII order
WMODE : Returns status of current window
CLEARD : Deletes all files from directory
LABEL : Renames the Disk Name/Label (self prompting)
STRIP : Strip or Add Character (line feed, carriage returns)
ZAP : Disk zap utility. Must be in 80 column mode
LSH : Unix type Directory Utility
SYSINFO : Complete status report of current window/terminal including current palette colors.
CONVERT : Converts decimal to hexidecimal equivalent numbers(visa versa)
MAKPATCH : Created patch file for use with IPATCH
TREE : Directory utility. List hierchical listing of all directories, files, subdirectories, files.
PAK : File Archive utility
UTIL3 : Merged utilities file:
  PROC : Enhanced "PROCS" utility showing I/O of each process
  PMAP : Memory map of each process location
  PATHS : I/O path of each process
  DDIR : Device Directory
  IDIR : IRQ Directory
  DIRM : Dir-e equivalent of MDIR... displays correct memory blocks
  MMAP : Memory map of used and unused 8K blocks
  SMAP : Memory of pages in RAM
  DMEM : Memory dump by location instead of file name
COPY : Updated PD version of standard Copy utility
DIR : Updated PD version of standard Dir utility
PURGE : Deletes file(s) from a directory
DASM : Disassembler for Level-I ASM and Level-II RMA files
DISKOPT : Graphics DCHECK Utility (Self Prompting)
CUTS : Coder/Decoder for transferring binary or ascii files on systems that do not support error checking protacols.
DAM : Gives a graphic display of disk sector allocation map
NEWCRC : Replaces the VERIFY command. Doesn't require new filename.
DPOKE : "Poke" hex code to the offset address of a file
DUPEFILE : Duplicates any file on the same disk.

Utility Public Domain Disk 2:

MORSE : Reads data from std-in and converts to Morse Code audio tones.
SDIR : Unix "LS" type 'Super Directory' utility
SHELL21 : OS9User Group's expanded "shell+" module for OS9
SCRIPT : Script files for use with Shell+
ULDIR : Converts files and directory names to proper case(Upper/Lower)
CRC : Turns off the CRC check routine in OS9p1
HDKIT : Peter Lyall's Hard Drive Backup/Restore Utility
BOOTSPLIT : Separates merged modules into individual files
CC2 : Executive routine for microware C.Compiler on CoCo3
D : Single column (non-alphabetized) directory utility
DEMODE : DEviceMODE utility to change disk drive parameters
DMODE : DeviceMODE utility to change disk drive parameters
DIRCOPY : Copies files from one directory to another
PRINT : Formated I/O listing to printer device
PRINTERR : Level-II version of miciroware's PRINTERR.
PRINTHELP : Utility to print help message file to screen/printer
SEPARATE : Separates merged modules into individual files
DIR : Enhanced Directory Utility with Sort and Search options.
DISKCAT : Directory cataloging utility with graphics overlays.
DISASM : Disassembler of machine code files (ASM and RMA)
DED : Disk ZAP utility. Must be in 80 column mode.
ULDIR : Converts Directory names and files to proper Upper/Lower Case (Directories=UPPERCASE, Files=Lowercase)
COMPARE : CMP utility that compares 2 files (one in memory, other in ram
RSFORMAT : "DSKINI" standard 35 track RS-Dos format
RSRENAME : Renames a file on a standard 35 track RS-Dos format
REBACK : Basic09 enhancements for Peter Lyall's HDKit Utility
MAIL : Multiuser login MAIL (scan/read/post) program/utility
DIRUTIL : Graphics enhanced Directory utility with overlay windows
SBACK : Re-write of REBACK for use with a mouse and Multivue.

Utility Public Domain Disk 3:

DOALL : Utility that supplies a directory listing in pipe format, designed to take advantage of shell+ wildcard features
EASYEDIT : Change device descriptors in your OS-9 Bootfile.
GFX2 : Updated GFX2 for OS9 Level-II by Kevin Darling and Kent Meyers
INDEX : Contains three programs that create, maintain and read an index of disk files
KUTIL : To extract/modify/install the OS-9 Kernal
SDUMP : Screen dump in background task.
SMOUSE : Permits standard PC serial mouse usage from an RS-232 port
SUMMARY : Utility to summarize spreadsheet data.
SWISE : Utility to produce side wise printouts from dynacalc
SPEEDISK : Disk repack/compression utility by Brian White. version 2.1a
VDG : Generates VDG type screen for Level-I applications.
SCOPY : Single drive copy util. for copying to dissimilar formats
PARTGEN : Hard Drive Partitioning utility for Burke & Burke systems.
PS : This is a "Point & Shoot" Menuing utility/application
KFORMAT : Disk Format utility that is self prompting.
SMENU : GShell graphics menuing environment/application.
MENU : Text windows menu utility/application

Utility Public Domain Disk 4:

CCUNZIP : MS-DOS de-archiving utility (PKUNZIP) for use on OS-9
VU : Text viewing utility---THIS IS THE BEST!
BRU1N : A UNIX type backup/restore utility
SCOPY : Single disk drive copy utility between disk of non-similar format (35 track to 40 track, etc.)
FREE : Replacement for original. Faster, outpus in kilobytes and percentage. By Tim Kientzle '90
BOB VAN DER POEL UTILITIES:
INTLEAVE : Checks disk drive to find optimum interleave.
DSETIME : Causes system clock to be reset by DISTO hardware clock.
DIR : A more complete version of Super LS by Conejo Computer
FFIX : Listing utility that eliminates TABS and CR/LF
PHONE : Phone dialer and "auto login" to BBS's
BLIST : Display a BASIC09 program that has been listed to a file with pagination and properly formats the break up of too long lines.
HDIR : A TREE Directory.
VEFSAVE : Save an existing grphics screen to disk
VEFPRINT : Print a VEF file to an Epson printer with a 640 dot mode.
VEFPRINT.23 : VEFPRINT for printers that print 23/216 inch line spacing
MAKEFILE : Assembles VEFSAVE and VEFPRINT listed above.
CCHDISK : Replacement for DISTO's hard drive adapter driver.
DUALDOS : Puts an RS-DOS section on an OS-9 Disk
DATES : Calculates the day of the year given the year, month, date
MDUMP : Dumps memory to the screen or printer

Utility Public Domain Disk 5:

CACHE : IPatch that sets the cache size and prints the cache status for each drive
DEARC : Dearchives files that have been archived by MS-Dos/Unix ARC utility
DIFFY : Creates multiple windows (with shells) on the same screen (OVERLAYS)
MAKDIR : Replacement for original Microware MAKDIR utility
OS9ARC : OS9 version 1.0 of MS-Dos/Unix ARC utility
REBOOT : Archive contains "cold" and "warm" reset
TCU : LF & CR stripper and TAB to SPACE convert
VIRUS : Maintains a file of specified files and their current CRC for comparison
WC : Counts characters, words and lines in a specified input file
WHEREIS : File finder utilities: *FF* and *WHEREIS*
ALIAS : Creates a file-name that will chain to a specified execution module
STEST : Test sectors of either floppy or hard drive
ZACK SESSIONS UTILITIES:
BANNER : Banner printing program
SDIR : Super Directory utility to replace the stock version
LABEL : Change disk label volume name
CVTPIC : Converts HSCREEN2 images in DECB to VEF format in OS9
PRT : Printer utility to print several files, one after the other.
ATTR : Replacement for stock ATTR. Accepts wildcard patterns
GRDEMO : Creates a VEF demo boot disk for a continuous demonstration
RSSAVE : Functions like DSAVE except from RSDos disk to /d0 in OS9
LABELS : Address Labels and Free Format Labels print program
FLBACKUP : Backup utility that uses a RAM Disk for faster copying
PRSET : Sets Tandy's DMP-106 printer font characteristics
SETUP : Sets up values for monitor and hi-res/right port during startup

Utility Public Domain Disk 6:

DISKCOPY : Copies files from one directory to another or from one media to another regardless of the format.
DSCAN2 : Scans Hard or Floppy drives to locate bad sectors
SCAND : Scans Hard or Floppy drives to locate bad sectors (Faster then DSCAN)
POP_V44 : Creates windows on the fly
FSEDIT : Disk Editor
COMPRESS : UNIX/VMS data compression utility
AR14 : Another non-authorized version of the AR Archiving utility
CMPFIX : Changes a CMP command output to an IPatch format file
SETBIT : Used to set bits in allocation table representing bad sectors on disk
HEXDEC : Hexidicimal/Decimal Conversion program that goes beyond 65000
MD : Color Graphics Display of *MDIR*
MERGEMODS : Provides user with a selection of files for merging that will fit into an 8K memory block.

Utility Public Domain Disk 7:

CRONC : Background task manager that wakes up every minute to check data file to see if it should execut a specified process/application (CRON v.10).
CRONTOOL : Utilities for CRON
SCULPT_SCRN.PAINT: Self prompting utility to create custom input screen for Sculptor database
SS_MENU : Shell+ script file that allows you to run various OS-9 Level-2 screen savers
EASYEDIT : OS9 Boot editor. Re-writes changes to your boot disk
WIDTH : Select 40 or 80 column screen
JTFM : File manager. Graphic display of directories and available commands. Mark file(s) for processing. All standard command proccesses available on screen
MELT : Cute screen dissolve routine then returns screen to original state
MORE : Text viewing utility
VU : Better text viewing utility
SDUMP : Dumps screen to printer by holding down ALT-CTRL and SHIFT
TAR : UNIX file compression utility
STREAM : Fast Hard Drive Backup Utility. 20 Meg Drive in 2 hours.
AR1.5b : Newest version of AR Archive utility
JUNK : Saves deleted files to a "JUNK" directory. (Smart Erase)
TRXMON : *TSMon, Password, Login, NewUser* improved replacements
MDIR4 : OSK type *mdir* with search and type options
DIRECT : Simple Directory Copy utility.
AR1.5B : Newest **AR**chive utility (unauthorized)
CLRMEM : Contains newer and better UNLINK and DEINIZ utilities. Reports status Formats. Performs multiple formats and auto increments filename-number
UNLZH7 : Latest version (bugs fixed) de-archiving utility
CRON (vers.10) : Task scheduler

Utility Public Domaind Disk 8:

UNLZH_7 : LHArchive Utility. This version corrects bugs found in earlier versions. Archives and de-archives.
LZH10 : LHArchive Utility. This version written by Matt Thompson. Not ported in C from other sources but written in ASM specifically for the 6809.
WEDGE_16 : This is similar to MODBUSTER. Removes merged modules from a file.
MBACKUP : Backup utility that can use more memory then the standard 64K block without interferring with system operation.
VFY9 : Verify, Ident and Header/CRC fixit program
UNARJ09 : ARJ un-archive utility.
HELP : Replacement for original HELP command. Searches individual help text files in /DD/HELP directory. Can seek help files by topic and subtopics in subdirectories within /DD/HELP.
HELPCMDS : Archived collection of individual help files (75Kbytes) that are accessed by the above HELP executable program
COLORC : File transfer utility between OS-9 (CoCo format) and MS-DOS. To be used on an MS-DOS machine.
BOOTROM : Archive contains patch to the REL module (fixes bug) and a DECBasic program to save the kernal to DECB formatted disk which then is burned into an EPROM to cause OS-9 to boot from your floppy directly on power up.
FILES : Menu driven collection of useful utilities: CHD, DIR, VIEW, HEX DUMP, LOCATE STRING, WORD COUNT, COUNT CONTROL CHRS., FIX FILE, STRIP CHRS., DELETE, COPY, FSTAT, ASCII CHRS. DISPLAY, ASCII CONTROL CHRS. DISPLAY.
SCF14 : Adds Kevin Darling's enhanced editing capability on keyboard input. BUT also adds the ability for a device to be NON Sharable
SOUND2 : A command to replace 'DISPLAY 7 7 7 7 7 7 7' to cause a longer sounding tone on the terminal.
MKDIR : Makdir utility that permits user to allocate number of sectors to use or the number of filenames. Also permits attributes to be set by hexidicmal numbers (7b = sewrewr), and force lower case name instead of uppercase for directories.
MCRON11 : Multi user CRON utility. Used as a background task to execute commands, functions or activities at specified times.
UUENCODE : Decoder/Encoder of binary files to/from ASCII text format.
RCOPY_2 : Front end interface for RSDOS file transfer utility to make for easier operation. DMODE must be available in the CMDS dir.
PCMENU12 : Front end menuing interface for PCDOS file transfer utility

Word Processor Public Domain Disk:

UEMACS : "Micro E-Macs" Unix Text Editor. Most powerful line editor.
ED31 : Graphics full screen text editor (version 31) for Level-II.
MROFF : Text formatter using Word Star DOT "." formatting commands.
SLED : Text processor with on screen help windows.
PF23 : Print formatter. Reads imbedded control condes in text file to printer I/O. Includes specific printer cap files.
TED : Simple text editor with auto word wrap set at 72 characters.
VEMAC : Patch to improve operation of help options in VED editor

Corrections . . . .

In the 1993 February issue of the *Newsletter* in which I described a hardware project using a 68B21 PIA chip "piggy-backed" on top of the original 68B21 on the CoCo-3's motherboard to provide for a **Parallel Printer Port**. Much to my embarrasement, it didn't work properly on a CoCo-3. In fact it caused some computers to lock up. Other reports included false characters printing to the screen in response to the keyboard, etc. The solution to the problem began when **Gerry McCleary** mentioned in passing at the PNW CoCoFEST that the CoCo-3 PIA should be toggled on pin 22 instead of pin 24. After pouring over the CoCo-3 and CoCo-1 & 2 schematics for comparison, the light bulb finally flickered. Turns out that Tandy, in it's infinite wisdom, chose to do things quite differently when it came to "enabling" the PIA chips. There was also some problems with the software which had not been tested out on a CoCo-3 by the author.

I drafted the help of **Mike Pleas** from the Bellingham OS-9 Users Forum to assist me in altering both the hardware and the software to make this project work. It turned out to be very simple, and I learned a great deal more about assembly code.

The corrected schematic and cable connection table are shown below and to the right. The software patch turned out to be very simple. Use *dEd, modpatch* or *debug* to correct the "extended address" as follows:

Offset	Old	New
$000E	$00	$07
$0010	$24	$28

Review the wiring diagram carefully as it will result in a different set of instructions then what was printed in the February article since pin 22 of both PIA's are used instead of pin 24. Note especially that pin 22 on the original PIA is pulled up from the motherboard and that the output of the 7404 chip is now applied to the original PIA instead of the new one. *Hopefully an upgrade to this project will be coming from Mike Pleas to completely eliminate the need for the 7404 chip.*

A complete set of proper instructions along with a disk containing the assembled software is available for $1. Mail your order to the *OS-9 Newsletter*, 3404 Illinois Lane, Bellingham, WA 98226

DB25 or Centronics Pin #		Function	IC Pin #
1	1	Data Strobe	19
2	2	Data Bit 1	10
3	3	Data Bit 2	11
4	4	Data Bit 3	12
5	5	Data Bit 4	13
6	6	Data Bit 5	14
7	7	Data Bit 6	15
8	8	Data Bit 7	16
9	9	Data Bit 8	17
11	11	Busy	2
12	12	Page End	3
18	16	Signal Ground	1
16	31	Prime	8
15	32	Error	9

***SPECIAL NOTE:** A correction to the Hard Drive interface posted in the '92 May issue will be included in next months newsletter.*

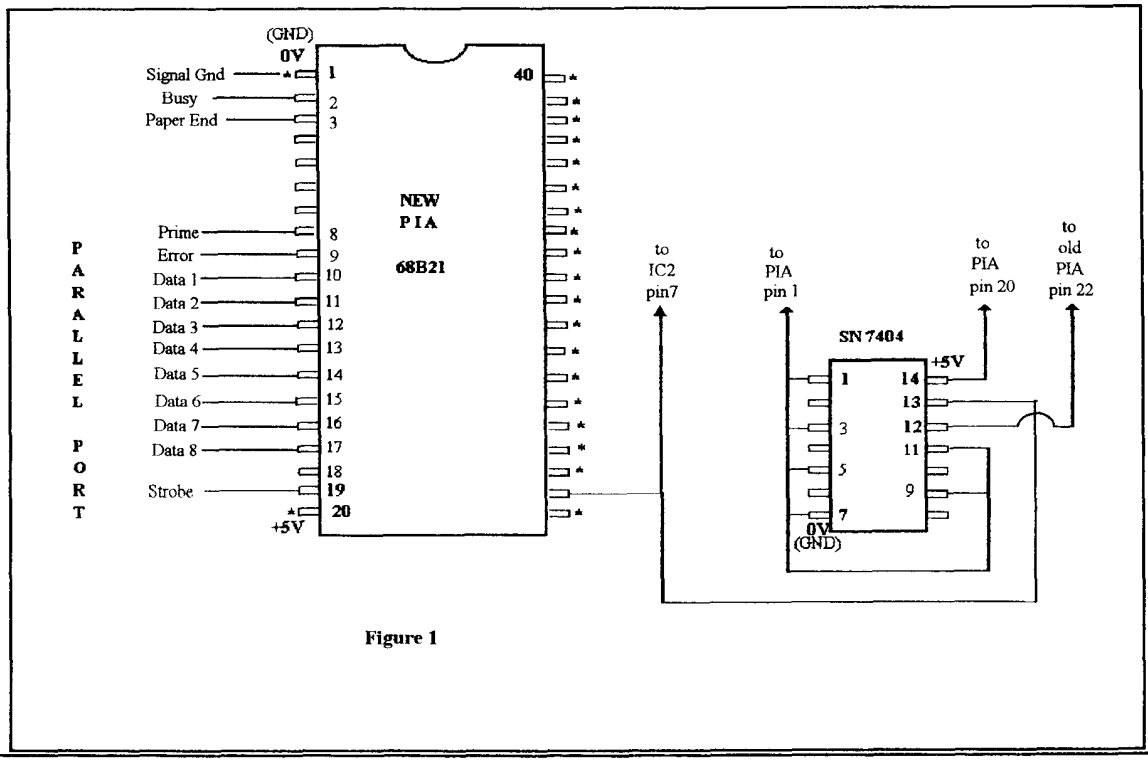


Figure 1

Club Activities Report

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

THE WORLD'S FIRST SOLDERFEST

What happens when you put a bunch of grown children together with their favorite buildable toy in a location of endless junk food with construction experts? Well, you have a ***SolderFest***, of course! The first event of its kind was in Port Orchard August 19th. Port O' CoCo underwrote the event by covering the expenses of break open, cut & solder and rewire expert **Rodger Alexander**. He was flanked by **Terry Laraway** and **Gene Elliott**, both of whom have extensive experience in upgrading and adaptations of the CoCo in one form or another.

The word went out quickly, actually the whole thing was arranged just in a matter of days. Even with that, the response was all positive and strong. Rodger arrived from Bellingham early afternoon and others showed up as their interest and project demands required. Each person was doing something different. One was building a tower from scratch. Another was integrating a modem and printer buffer into his tower. Some were their for just a few hours and others took full advantage of Stock Market Foods being open 24 hours. The one to finally hang the dog was **Buzz Jones** who left after 1 a.m! As one person said there was more accomplished in this one event than most of our meetings. I don't disagree and hope that the experience helps the monthly meetings as well as suggests that we have another SolderFest in a few months. What about January, folks?

==Donald Zimmerman==

Bellingham Users Forum

Our August meeting dealt with the successful completion of the Parallel Port. **Rodger** found more complete references on the Centrex Parallel Pin-Outs. This resulted in several changes on the port wiring to the 68B21 chip. **Mike Pleas** was working on the software end discovered with some comparative examinations of other SCF descriptors that the accepted memory blocks were set for block 7 while our source code was set up for block one. We also confirmed that it was necessary to toggle pin 22 instead of pin 24 on the PIA chip to enable it properly so we used Address line 3 accomplish this and changed the extended address in the descriptor to FF28 (Hex).

We ran several test and even the new error code #199 - "Out of Paper" responded correctly. What was kind of fun was to run two printers at once. One printer on the serial port (/P) and the other printer on the new parallel port (/P1). Very cool! We'll be demonstrating it at the Seattle 68xxxMUG meeting in September.

We also had a second meeting on Saturday, August 28, to address the problems with the hard drive interface. Apparently we were terribly at fault in the correction posted in August'92 issue to the original interface article. We had thought that Pat Plueard set up his interface to the wrong address. Turns out we were wrong because we were using the PC-AT (Intel's 68286/68386/68486) hard drive address: 3F0 (Hex). Pleuard's circuit was addressed to 320 (Hex), which was correct, BUT..... there were several "little" things omitted such as the physical tie downs of the higher PC Addresses 16-19. We have also discovered that Pat was not taking advantage of the built in ROM address and the data buffers on the PC controller cards. AND when comparing with Burke & Burke's XT interface we found that Chris Burke was addressing to CBF20 (Hex), not the hard drive I/O address. Hmmmmmm???????? More to follow.

==Rodger Alexander==

Port O-CoCo Club

The August meeting of Port O'CoCo was a split event. It took place over two days -- almost three. But we are getting ahead of our story.....

First there was the honoring of those who had birthdays in August. **Mark King**, **Mark Kulien**, **Bob Vail** and **Terry Laraway** all received a pass to the theater and a sample of Gold-Wipes (for cleaning, lubricating & protecting Gold & other metal contacts on printed circuit boards).

On the down side we have two people on the sick list. **Phyllis Armstrong** is coping with back difficulties. **Jim Coleman** was our speaker a couple months ago. He's the sysop of NASA MLP BBS (206-871-3965). He is a strong supporter of BBS' as a place of education and information. As the name reveals, his BBS is heavy into science information. He recently was in a very serious auto/bike accident. There were a couple days in which his life was in question. Now he is slowly recouping and will be able to walk again in 6-9 month. In the meantime, use and support of his BBS is appreciated.

A recent development for PNW CoCoFEST is a vote taken by the board of the Computer Bank Charity. The board voted

to be a co-sponsor of PNW CoCoFEST IV, June 25, 1994. We are in the process of discussing further co-sponsorship with a large computer organization in Kitsap County, the Kitsap Computing Seniors with a well established membership of about 400. Corporate sponsorship is also part of the goal of the next couple months.

The group at tonight's meeting voted to underwrite the travel expenses of bring **Rodger Alexander** to Port Orchard on August 19th for a "Solder Fest." This is a hands-on event at which those building their system bring in all the pieces, chips, components and Rodger and those in attendance assist you in getting your system enhanced and running

A second authorization of funds was to ask AM Computer Swap Meets if they would accept a fee of $100 for both the September 11th (Kent) and November 13th (Kitsap) Swap Meets. The normal price is $125 each. [We just received word 8/24 that they accepted our offer.] Our goal is to continue to provide exposure and support for those using the CoCo system as well as letting those wanting to sell their systems where they can get a better price.

Our last financial discussion concerned the value of a newsletter for the group. Terry discussed, showed recent copies and handed out some samples of the various publications related to CoCo/OS-9. In case you aren't aware of them, they are: ***Uptime, CoCo - 1, 2, 3, Australian OS-9 Newsletter, The "International" OS-9 Underground, 68' Micros (just started this month), No Name, Adventure Survivor, and our area's own great publication OS-9 Newsletter.*** The latter devotes a great deal of space each month to club activities. So there didn't seem to be much need in another publication. But there was support for a reminder post card and request for equipment for sale for those no longer interested in the CoCo. That process will begin with the September meeting.

Bill Barker brought some details about moving the meeting to another location. His suggestion is the Salvation Army building in Bremerton. The Army's only request is that someone from the club produce graphics material and maybe a simple newsletter when the organization needs it in exchange for use of the space. Whatever the outcome of this discussion we just need to plan well in advance to alert everyone of the new location. We lost of lot of our momentum a few years back when we had to leave Kitsap Bank for our current meeting location at Stock Market Foods.

The next meeting is September 20th, 7 p.m.

==Donald Zimmerman==

Seattle 68xxx MUG

The August meeting began with "commercial" presentations given by **Rodger Alexander** and **Donald Zimmerman**. Rodger passed out a flyer describing all of the current products available from the ***Bellingham OS-9 Users Forum***. These included the *"HOW TO Video Tape Library"*, the *PDS Database* (which was actually written by members of the 68xxxMUG group last year), and the *OS-9 Level Two and the Color Computer Tutorial*. Donald had a few more *"CoCo FEST III T-Shirts"* and *"CoCo FEST Mugs"* left and was letting them go at a special club discount. **Jeff Brittain** bought both a Mug and T-shirt for $15.

The official portion of the meeting started off with a presentation by Rodger on *"The Final Fix"* which was also the feature article in the July *Newsletter*. This was a hardware project that used a 7402 NOR gate to correct a probable error by Tandy in the construction of the CoCo-3. (See page 1 of the *OS-9 Newsletter, "Correct All Fix for the CoCo-3"*. Everyone at the meeting came up with schematics in hand and looked at how simple the project actually is to do. According to the article by **Charles Bundy IV**, the fix corrected "sparklies, the boot order bug problem, and a particular problem the author was having with his Disto No-Halt Controller and the Burke & Burke XT-RTC Hard Drive Interface.

While Rodger was cleaning up, **Scott Honaker** entertained us with ASCII smilies. These are typed characters placed on the screen to create happy faces :-) , winks ;-) , or frowns. :-(. You can also use a combination of characters to "draw" animals or fancy banners. Besides the cute ASCII smilies, there are also some accepted abbreviations that are used on E-Mail and Bulletin Boards. Several examples are:

BTW = By the Way,
IMHO = In My Humble Opinion,
TTYL = Talk To You Later

It was very humorous and entertaining. Keep it up Scott! We all need to laugh more.

Randy Kirschenmann gave a presentation on C assembly pointers and address characters. It was way over my head but I'm sure some of those in attendance got a great deal from Randy's presentation.

Randy and **John Schliep** gave a short presentation on the features of the latest version of ***Shell+***. This is version number 2.2 and has an added "history" feature similar to UNIX systems. This is an expanded keyboard buffer, similar to what we have on the CoCo when we type **CTRL-A** (or **Shift-Right Arrow** with K. Darling's *SCF.ed*), except not only can you recall the last typed in entry, you can now select from the last page of entries. WOW! Unfortunately we did not have time to actually see a demo of ***ShellHist.AR***. However, this is a public domain program and is posted on Chris Johnson's *Tacoma BBS* and Dennis Mott's *Data Warehouse*.

==Barbara Alexander==

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