M.O.T.D.

The OS-9 Users Group Newsletter

Issue #2, 1995

Inside:

From the President

First, let me say hello to any industrial users seeing the MOTD for the first time. Complimentary copies of this issue are being send out to you as an introduction to the Users Group. We support OS-9 in all its forms, including OS-9/6809, OS-9/68000, and OS-9000.

Thank you to the members for your comments about the last issue! Please do keep the feedback coming. The contact information is inside the front cover. In general, the comments were favorable. Only major complaint was about the small fonts in some articles (guess I'm not the only one getting grey hair!) Articles will be done in the same font as this column, while repeat information, such as the BBS and Vendor listings, will be done in a smaller font to save space.

On the topic of feedback, here's some food for thought (received as feedback) from Paul Zibaila II:

*"You really don't **BELONG** to a group unless you can and do contribute and receive something with your fellow members. If you only take you're just a user and not a member. If you are a contributor and don't receive at least personal satisfaction that you are respected and appreciated for your efforts, most people usually lose interest fade away also. Although I expect that there are some who truly are philanthropists."*

MOTD Information

The OS-9 Users Group, Inc. is a not-for-profit organization, registered and incorporated in the state of Iowa, whose members share an interest in the OS-9 operating system in all of its various forms.

MOTD is the official newsletter of the *OS-9 Users Group, Inc.*

The OS-9 Users Group, Inc. has no affiliation with *Microware* or any other organization.
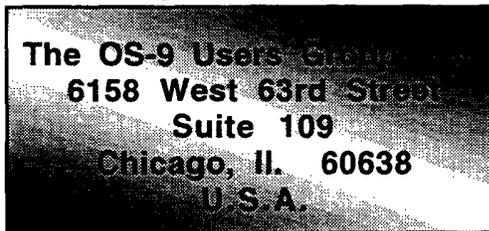
The opinions expressed by the authors of any articles or columns are not necessarily the opinions of the Editor, Publisher, columnist, nor do they reflect the policies of *The OS-9 Users Group, Inc.*

The **MOTD** will be printed a minimum of four times per year.

To receive **MOTD** you must be a member in good standing of *The OS-9 Users Group, Inc.* in accordance to the bylaws.

To become a member in good standing you must pay the yearly dues of $25.00 US funds ($30.00 US funds if you live outside the US and Canada) and obey all of the membership rules set forth in the Constitution of The Users Group and the bylaws.

Dues may be made payable to:

The OS-9 Users Group
6158 West 63rd Street
Suite 109
Chicago, Il. 60638
U.S.A.

Memberships run for one year from the date received by the Users Group. Send a SASE for a membership kit which will include a membership form and information about the Users Group.

Please remember that this is a self help organization, and also a non-profit organization incorporated in the state of Iowa and as such it is directly governed by the laws of that state as well as all federal laws. Accordingly, dues are non-refundable in accordance with both state and federal law.

Reprints or back issues of the **MOTD** are available to members in good standing at the cost of $1.50 each plus $0.50 shipping (US funds). Please send a SASE and a list of the issues you wish sent to you.

Here is a short list of current officers:

Position	Name
President	Colin McKay
Executive Vice Pres.	* vacant *
Director	Ed Gresick
Director	Eddie Kuns
Director	Ken Scales
Vice Pres. (Comm.)	Paul Jerkatis
Vice Pres. (OS-9)	Brian Goers
Vice Pres. (OS-9/6809)	Mike Rowen
Secretary	Howard Luckey
Librarian	Zack Sessions
M.O.T.D. Editor	Joel Mathew Hegberg

MOTD Contributions

Articles, editorials, "letters to the Editor/Board of Directors", personal ads, graphics, or columns may be submitted by using the following means:

E-mail to JoelHegberg@delphi.com, E-mail to 'Sysop' of SandV BBS [(708) 352-0948], E-mail to the OS-9 Users Group os9ug@sandv.chi.il.us or by mail to *The OS-9 Users Group* address in Chicago. All submissions should be in pure ASCII format.

The submission of material does not guarantee publication. All publication of material is subject to review by the Board of Directors and the MOTD Editor, and must not be in conflict with the stated purposes of the Users Group as defined by the constitution and bylaws of the Users Group. The Board of Directors may also establish additional guidelines for acceptance to publication. Submission deadlines are four weeks before actual printing of the **MOTD** issue. *All printed material is subject to nominal editing by the MOTD Editor for clarity.*

Criticism towards making **MOTD** a better publication is welcome. Letters may be addressed to the MOTD Editor and mailed to the Users Group address or sent directly to JoelHegberg@delphi.com. E-Mail can also be sent to the following Delphi members: MITHELEN, CBJ, LUCKYONE, BRIANGOERS, EDDIEKUNS, and COLORSYSTEMS. You may also sent E-mail to os9ug@sandv.chi.il.us.

MOTD Advertising

Commercial advertising is available in **MOTD**. Please send a SASE for current rates. All ads should be submitted as a camera ready copy. We reserve the right to limit the size and quantity of ads.

SandV BBS (708) 352-0948

The SandV BBS is a BBS being maintained by Paul Jerkatis to provide Internet access.

So please do let us know what you think -- your letters and messages are read, appreciated, Grokked in all their fullness (I recently re-read <u>Stranger in a Strange Land</u> by Heinlein), and passed on to the appropriate people.

We also have two new columns this month which we hope you'll find enjoyable. The first column, *The Toolbox*, contains handy little utilities and should also serve as programming examples to those of you learning to program. The second column is from Jim Vestal, called *Entry Level C.*

Anyone with news, programming hints/tips or pretty much anything else related to OS-9 is welcome to submit it to the MOTD. Remember, this is *YOUR NEWSLETTER!* The next issue is due out around the end of May, and will include a report on the Chicago Fest.

Membership Renewals
Just a quick reminder to check your membership expiry date on the mailing label!

Elections
Elections will be held in Chicago at the Annual General Meeting on April 29, 1994, to be held at the Chicago Fest. The following positions are open for nominations:

Position	Incumbent	Term
President	Colin McKay	2 years
Executive VP	Vacant	1 year
Director	Ken Scales	3 years

Anyone interested in running for these positions should submit their nomination in writing. Full details on elections are covered in Article IV. of the Bylaws. In summary:

- Individual members in good standing 21 years of age or older may run.
- Nominations must be submitted in writing to the Secretary prior to the meeting.
- Nominations must be signed by the candidate and two nominators who are also members in good standing.

Chicago Fest
The Fourth Annual "Last" Chicago CoCoFest is scheduled for the weekend of April 29-30, 1994 in Elgin, Illinois. Though officially a fest for users of the Tandy Color Computer 3 (both Disk basic and OS-9 Level II), there is also a growing number of OS-9/68000 personal users at the fest.

The Users Group is pleased to announce that Mr. Kurt Johnson, President of KD Consulting, Inc. will be at the Fest to give a presentation on Sculptor for OS-9 Level II and OS-9/68000, as well as discussing the use of Sculptor at NASA/Kennedy Space Center. A short Q&A session will follow.

Look for the Glenside Color Computer Club ad in this issue for more information. Make your reservations now, because the Fest is sneaking up quickly!

Colin McKay,
President

Editor's Log

Once again, we are at the door of another annual Chicago Fest, and the excitement is starting to build. As Colin mentioned, this fest will be very exciting for OS-9'ers, so do try to make arrangements to be there if at all possible. You won't want to miss the Sculptor presentation! If you can make it, please try and stop by our booth and chat with us. We'd love to hear any comments or concerns you may have.

Over the next few months, I have quite a few changes occuring in my life. Foremost is a 270 mile move west to Des Moines, Iowa, where I will be accepting a job at Microware working on the D.A.V.I.D. project. During this transition, Ken Scales will be taking over as Editor-in-Chief of the MOTD until I am able to return to this capacity. I would like to thank Ken in advance for volunteering. Few people have the dedication that he demonstrates (and which I would contend is necessary in editing/publishing a newsletter). I've been aquainted with him for a few years and he's going to do a great job.

Best Wishes,

Joel Mathew Hegberg
MOTD Editor-in-Chief

Straight from the Horse's Mouth

Been to a professional sports event lately? Check your ticket, it may have been printed on an OS-9 System! This time we're off to Saskatoon, Saskatchewan, where an OS-9 Level II system is used to help produce the tickets for many professional sports events. This article was written by Curtis Boyle, Data Processing Manager at Mercury Graphics.

Mercury Graphics Corp.
Sports Ticket Printing

Mercury Graphics Corp. is a specialty printing plant, with it's core concentration on *Automated Ticket Boarding* (ATB) passes for international airlines (using a magnetic strip technology that it has sole rights to in North America) and sports ticket manufacturing, including *NHL, NBA, AL, NL, NFL, CFL* & many college teams. We still have a commercial division as well that deals with the more traditional manufacture of business forms, including some government work. Mercury Graphics has been in business for almost 42 years, and has always been located in Saskatoon.

As well as printing tickets under our own name, we also do a lot of sub-contract work for Globe Ticket & Label Co. in the U.S.A. If the back of a Globe ticket says Lithographed in Canada, it was printed in our plant. As well, Mercury does a lot of stock printing for *Ticketmaster*. We currently have two sheet fed presses, a couple of smaller presses, a 4 colour web press, two 8 color web presses, and a seven color flexographic press, as well as equipment for ATB passes, a full bindery department, and a network of Quadra & 8100/80 PowerMacs complete with hi-res scanners & film processors in our Pre-Press department.

When I joined, the original ticket printing system at McKenzie Ray was using some custom software by a company called *Softix* out of Vancouver, and ran on the *RSTS* operating system on a PDP 11/34. After working with this software for about 4-5 months, I decided that it wasn't flexible enough, nor that easy to use, so I started re-writing it in the PDP's BASIC language. In mid-1989, after programming & running the new system, the PDP had a hardware failure, and it would take 2-3 weeks to get in the replacement boards (we had some spare boards for serial & parallel ports, but this time the Disk controller board blew). I had just gotten into OS-9 at home, with a 512k Tandy Color Computer 3 (CoCo) and a 720K 3.5" disk drive. I also had the Disto 3-in-1 installed on the Super Controller II, giving me a serial port & a parallel port, as well as no-halt floppy drives. I also had an old PBH serial-to-parallel converter left over from my old CoCo 1 days. I brought in this system from home, and it ended up staying for several months. We did get the PDP up & running again, but when my bosses discovered how much cheaper it was to get parts for a CoCo, and how much more we could do with it to drive two printers (without requiring a separate terminal for each printer, by using windows), they decided to get a CoCo system for work itself, and shut the PDP down. They did this in late 1989/early 1990 in several steps.

What we have ended up with is a 1 Meg CoCo 3, with 8 serial ports (4 from a Comm4 board, 2 from the Eliminator by Frank Hogg/Bruce Isted, and 2 based on the Eliminator design built by Bill Nobel), 3 parallel ports (1 from the Eliminator, 2 from Bill), MPI (bus extender), Real time clock, 40 & 65 Meg hard drives, and 360K (5.25") and 720K (3.5") floppies. It also sports a 6309 chip, and one of the latest versions of *NitrOS-9*, as it is one of the main machines it was developed on, especially in it's early stages. Mercury graphics had been using an old HP-3000 16 bit/stack based mini computer for accounting, production & ticket printing, but the machine was pushed to it's limits & responding very slowly to users because of it's workload. To help alleviate this we switched the ticket printing to the CoCo (now running 3 parallel line printers, and a 20 page per minute laser on either serial or parallel, depending on how busy the line printers are). Two of them are 300 line per minute *Printronix P300* printers, and the 3rd is a *Mannesmann Tally MT661*, which is rated at 600 lines per minute in Data Processing mode, and 800 lines per minute in

draft mode. Since the accounting & production is still done on the HP-3000, we retired the Comm4 board, and use the 4 remaining serial ports to hook up the laser, a terminal (used for seating manifest entry), a 386DX PC (for manifest transfers from Hi-density disks, or as a 2nd terminal on the CoCo), and a link to a piece of hardware from the phone company that tracks all phone calls going in or out of our building. This is all logged by the CoCo as a constantly running background task.

OS-9 Level II is used because of it's multi-tasking/multi-user power, as seating manifests can be entered from terminals by other users, while the user at the CoCo itself can keep track of the phone logger, and run up to 4 printers at once, as well as do other work, thanks to OS-9's windowing system. We routinely run 11-15 processes at once between windows & terminals, and sometimes more than 20.

Most of the software is custom written, or PD software that has been modified by ourselves. Some of it we have released to the public, if it was considered to be useful to others (examples include *MSTMON*, for saving memory while keeping track of multiple users on multiple serial ports, the new *PROC* command that keeps track of RUNB & BASIC09 programs as well as the normal C/ML programs, and the new *ShellPlus V2.2a*, with command history. The actual manifest checking & ticket printing programs are written in BASIC09, because of the speed with which they can be entered, with some machine language subroutine modules for doing some calculations for the laser printer. There are plans to add more laser printers (32 page per minute versions), and possibly a new 6682 model of the Mannesmann Tally, which is capable of up to 1400 lines per minute in draft mode, 800-900 lines per minute in Data processing mode. We will be adding more parallel ports to run these. Sometime in the future we may also upgrade to an OSK or OS-9000 system, but that probably won't be for at least 6 months, if not longer.

> *"OS-9 Level II is used because of it's multi-tasking/multi-user power... We routinely run 11-15 processes at once between windows & terminals, and sometimes more than 20."*

We use quite a few PD programs regularly in our work. We use *LHA 2.11C* to archive up our manifests after we are done with them (they are kept around in case printed tickets get damaged in transit, or a customer loses them), and both *LHA* and *UNZIP v4.5C* to extract manifests that are customer supplied. Bruce Isted's *STREAM* backup program is used to backup up the hard drives. Plus many of the little utilities like *DED, MMAP*, and others that most CoCo OS-9'ers use.

We haven't hit too many limitations in CoCo OS-9, except for running out of system map space when running too many processes (alleviated somewhat by NitrOS-9 & removing VDGINT from the boot file), and for speed when the system is really bogged down (running 3 or 4 printers while doing an UNZIP extract or LHA create, or 9600 baud manifest download from the PC at the same time). NitrOS-9 has helped a lot with the speed deficiencies, as has upgrading the clock crystal on the CoCo motherboard so that the 6309 runs at a true 2 MHz instead of the 1.78 MHz speed that it originally was designed for. If one is just entering in manifests, while running two parallel line printers, it would appear to be running about the same speed as normal OS-9 with just an editor running.

The worst problem we have had is expandability (with just 4 slots in the Multipak Interface, a limited number of pre-made I/O boards to choose from amongst vendors), and Tandy's discontinuation of the CoCo itself. It is getting harder to get parts for it, though it is still fairly easy to find things like floppy drives. Hard drives, since they are of the MFM type, are a little harder to find for the Eliminator as well. Software support is better, as there are vendors still out there, and a lot of PD stuff is still coming out.

SAMPLES OF TICKETS THAT HAVE BEEN PRINTED ON THE COCO:

National Hockey League
Vancouver Canucks
Edmonton Oilers
Calgary Flames
Ottawa Senators
San Jose Sharks
Los Angeles Kings
Florida Panthers
Anaheim Mighty Ducks (mostly
 setup, a little of the lasering.
 Most lasering was sub-contracted
 out due to time restraints.)
Dallas Stars
Boston Bruins
Buffalo Sabres
Hartford Whalers

National Basketball Association
Atlanta Hawks
Phoenix Suns (1994 playoffs)
Los Angeles Lakers
Golden State Warriors
Charlotte Hornets
Orlando Magic
New Jersey Nets
Utah Jazz
Portland Trailblazers
(Portland, Golden State & Charlotte had
 over 1/2 of the lasering done by sub-
 contract, manifests supplied pre-
 formatted from the CoCo, due to time
 restraints)

American & National League Baseball
Atlanta Braves
Pittsburgh Pirates
Cincinatti Reds
Some of Minnesota Twins

Canadian Football League
Several Grey Cups
Saskatchewan Roughriders
Ottawa Roughriders
Some of Edmonton Eskimos

Professional Boxing
Tyson/Ruddock

NASCAR
Charlotte Motor Speedway
Atlanta International Raceway
Watkins Glen

Also a lot of semi-pro, minor league (*including **Michael Jordan's** baseball team*) and college teams. We also print the ticket stock for more teams than listed above... I have only listed those which had computerization of the forms done by the CoCo.

Aside from sports, we also do a lot of tickets for theater companies in the US and Canada as well.

About the Author
 Curtis Boyle is the Data Processing Manager at Mercury Graphics Corp. in Saskatoon, SK, Canada. He has been in the ticket printing business since May of 1988, first at McKenzie Ray Tickets, and then at Mercury since they bought out McKenzie Ray in late 1992. He has been using OS-9 since about 1988 on a CoCo 3 (and later, TC-9) at home, and is one of the authors of NitrOS-9.

 Curtis Boyle, Data Processing Manager, Mercury Graphics Corp., 1438 Fletcher Road, SASKATOON SK S7M 5T2, Canada.

Correction
 In last issue's column, the label numbering on the OS-9000 based *ImmunoAssay System* diagram was inadvertently cut off during printing:

1. Width 39", Height 18.5", Depth 24"
2. 24 Resident Assays

3. Integrated Reagent Packs
4. Primary Tube Sampling
5. Unique Sample Trays
6. Ultrasonic Primary Pipette
7. Dual Resolution Diluter Pump
8. Probe Wash Station
9. Reaction Vessel Loader
A. Incubation Module
B. Wash/Read Module Magnetic particle separator & chemiluminescent Detector
C. Automatic Waste Disposal Self-sealing on-board waste container

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Entry Level C
by Jim Vestal

Welcome to the new column, *Entry Level C*. This series of articles is targeted for the programmer who is relatively new to the C language, though you don't have to be a beginner to learn from this series. This first installment will focus on keyboard input in C using OS-9.

Standard C only includes the following functions for input:

getc()	- input characters from file path
getchar()	- a macro of the standard getc() for stdin
gets()	- reads a line of text from stdin
fgets()	- similar to gets() but allows input from any file path and has provisions to protect the string array from being overflowed
fscanf()	- reads from file path formatted numerical data or series of characters into address passed to it
scanf()	- similar to fscanf() but for stdin

Due to their nature, all input and output are buffered using these standard C routines. One can use *fflush()* to flush (or clear) the buffer. One side effect of buffered I/O is a return keypress is needed even for single character inputs, this makes it hard to program a routine that asks for a single key to be pressed. OS-9 (and Unix) has a provision to overcome this limitation, a system call function called *read()* that can be used to read from a path without being buffered.

I created a function using read() called *getche()* that returns the value of the single character input from stdin. My getche() is compatible with Borland's Turbo C's "conio.h" function by the same name. Because *scanf()* isn't the most friendly function to use for inputing numerical data I wrote 2 other functions called *input_d()* and *input_i()*. Both accept a string that is used to prompt the user to enter a value and both use *fgets()* to input the character information which is converted to either an *interger* or a *double* using *atoi()* or *atof()*, respectively.

The final function I wrote is called *prompt_c()* which is used to prompt the user for a single key input. The single key is returned after being converted to a lowercase letter. This can be used in a menu function or any function where a single key needs to be checked.

If you any comments, questions, or suggestions for topics for future articles let me know. You can reach me via email at jevestal@calweb.com or jevestal@delphi.com.

```
getche()
{
    char keyin;

    fflush(stdout);
    read(0,&keyin,1);
    return(keyin);
} /* end getche */


double input_d(string)
char *string;
{
    char instring[20];

    printf("%s",string);
    fgets(instring,20,stdin);
    return (atof(instring));
} /* end input_d */
```

```
int input_i(string)
char *string;
{
    char instring[20];

    printf("%s",string);
    fgets(instring,20,stdin);
    return (atoi(instring));
} /* end input_i */


char prompt_c(string)
char *string;
{
    char key=0;

    printf("%s",string);
    key=getche();
    key=tolower(key);
    return (key);
} /* end prompt_c */
```

The Toolbox

Welcome to The Toolbox! This column will contain short utilities and programs that you might find handy in your day-to-day use of OS-9. Submissions in C, Basic, or Assembler are welcome!

DataMod will convert a file to a data module in memory. This version is for OS-9/68000. An OS-9/6809 version of datamod (by a different author) is available from most OS-9 BBS's.

```
/* DataMod
Creates data modules from files.
DataMod  (C) 1994 Northern Xposure v1.1
Function: Copies a file to a data module.
Syntax : datamod [-?] | [filename modulename]
Released by Northern Xposure for no-charge distribution.
To compile: cc datamod.c -i -x -t=/r0
v1.1 20 March 1995 - cleaned-up version for MOTD
v1.0 4 May 1994 - first release
*/

#include <stdio.h>
#include <modes.h>
#include <module.h>

extern char *_mkdata_module();
extern char *modlink();

main(argc,argv)
int argc;
char *argv[];
{
    if(argc != 3)
        usage();
    else
        make_data(argv[1], argv[2]);
}

make_data(file, module)
char *file;
char *module;
{
    int fpath;
    int fsize;

    char *modstart;

    modstart = modlink(module, 0x0400);
    if (modstart != (char *)-1) {
        munlink(module);
        exit(_errmsg(0, "Data module '%s' already exists.\n", module));
    }
}
```

```
    if((fpath=open(file, S_IREAD)) == -1)
        exit(_errmsg(0, "Couldn't open '%s'.\n", file));

    fsize = _gs_size(fpath);
    if(fsize == -1)
        exit(_errmsg(0, "'%s' is invalid or not RBF.\n", file));
    else if(fsize == 0)
        exit(_errmsg(0, "'%s' is a zero-length file.\n", file));

    if ((char *)-1 == _mkdata_module(module, fsize, 0x8080, 0x777))
        exit(_errmsg(0, "Couldn't make data module '%s'.\n", module));

    modstart = modlink(module, 0x0400);

    if (modstart == (char *)-1)
        exit(_errmsg(0, "modlink() failed.\n"));

    if (fsize != read(fpath, modstart+0x34, fsize))
        exit(_errmsg(0, "Error reading '%s' to data module.\n", file));

    if (-1 == _setcrc(modstart))
        exit(_errmsg(0, "Error updating data module CRC.\n"));

    munlink(modstart);

    printf("\n'%s' copied to data module '%s'.\n", file, module);
    printf("Use 'save %s [-f=filename]' to save the module.\n", module);
}

usage()
{
fprintf(stderr, "\nDataMod  (C) 1995 Northern Xposure v1.1\n\n");
fprintf(stderr, "Function: Copies a file to a data module.\n");
fprintf(stderr, "Syntax : datamod [-?] | [filename modulename]\n\n");
fprintf(stderr, "Released by Northern Xposure for no-charge
distribution.");
}
```

The *Simplicity* of Basic...
The STRUCTURE of Pascal...
The POWER of C...
The UTILITY of Assembler...

Introducing... **CDL BASIC**™ for OS9/68000*

Check these features!

* Macro Capability

* Pointer Variables

* Conditional Compilation

* C Compatible Functions

* Dynamic Memory Buffers

* Named Constants

* Named Variables

* Named Labels

* User Defined Functions

* Intermixed Assembler

* Alias Variables

* Command Line Interface

* USE (include) Function

* User Defined Data Types

* Global and Local Labels and Variables

* 48 Built-in Functions

* 47 Statements

* 13 Compiler Directives

* Compiles to Native Code

* English Language Error Messages

* 7 Data Types

* Pascal Style Control Structures

Full Spectrum Usage!

CDL Basic is well suited for the full spectrum of applications ranging from simple applications to complex applications to systems software and even I/O drivers. The CDL Compiler itself was written in CDL Basic! The compiler features ease of use and compiles very quickly. No more cryptic error messages... all compile errors are reported in plain English. The level of complexity is controlled by the user I.E. a person familiar only with basic Basic can write useful programs right away and move into the more advanced features as desired when more familiar with the compiler's features. The advantage is that one does not need to make use of all the advanced features to get started. The programmer can write programs that are very structured ala Pascal or may opt for the more traditional Basic or assembler style using GOTO's and labels or may choose to mix the two styles.

Macros and Functions

The user may write macros or use macros from a library. The macros may be written in assembler or Basic or any combination for maximum utility and efficiency. The same applies to user written functions. The calling sequence and return sequence of the functions are compatible with C. This means you can use C functions or even write functions for C.

Pointers and Buffers

These are two of the more advanced and powerful features of the language and are similar in function to C pointers and the MALLOC functions in C but are simpler to use. There is also a set of I/O operations for reading and writing data to/from memory buffers.

Embedded Systems

CDL Basic is especially well suited for embedded systems use. Traditionally, embedded systems programmers have preferred Basic over C and assembler and now have available to them a Basic with the speed, power, and utility of assembler and C.

Pascal Style Control Structures

For the ultimate in structured programming tools, CDL Basic provides a complete set of control structures:
```
    IF/THEN/ELSE/ENDIF
    WHILE/DO/ENDWHILE
      REPEAT/UNTIL
  LOOP/EXITIF/ENDLOOP
      FOR/TO/NEXT
```

Wow! Is it fast!

CDL Basic compiles to native assembler code providing for lightning speed and efficiency.

Intermixed Assembler

The programmer may include assembler code at any point in the program without need for any declaration of any kind.

Alias Variables

The Programmer can treat the same physical memory as two or more different data types. For example, a long integer variable can also be referenced as an array of 4 bytes.

For more information call or write:

**Computer Design Lab
RR 1 Box 36
Rhineland, MO 65069
(314) 236-4373**

Computer Design Lab

The OS-9 Users Group Sourcebook
by Chris Perrault

The Users Group is undertaking a project to establish a long-overdue centralized OS-9 information source. The purpose of this project is to keep the OS-9 community together by establishing a number of databases holding information ranging from OS-9 Users to Bulletin Board Systems to Vendors. This information will be made available to both individual and corporate Users Group members for a nominal charge. The coordinator for this project is Chris Perrault.

Project Overview
We want to help keep people up to date on what is happening in the OS-9 world. They will benefit by receiving mailings, catalogues and other information which they would otherwise miss out on. This especially applies to those users who don't have the benefit of a modem and online services! If you know any OS-9 users, perhaps local, who may be interested, please feel free to pass on a copy of the information form below. You do not have to join the Users Group, volunteer, or buy anything to be included! This is being done as a service, not only to the users, but to anyone involved in the OS-9 world.

Sourcebook Information
Over the next few months, information will be collected in the following areas:

Individuals: This will be a listing of any and all individuals interested in OS-9. Please fill out and return the form at the end of this article.

Businesses: Let us know who you are, and what you carry! We often get enquiries about the existence of specific hardware and software packages. Listing is available to all businesses that support OS-9. Please include a copy of your catalogue.

Local Clubs and User Groups: Where are you located, how often do you meet, and how can you be contacted?

Publications: Any other sources of information on OS-9.

Bulletin Board Systems and Internet Sites: Any sites that have OS-9 programs or information can be listed here. A general outline of what is carried on the board should be included.

Live Conference Support
If you are a subscriber to the Delphi Internet Service, you will also be able to get LIVE online information in an upcoming edition of the 'OS-9 Late Night' conference. This conference will take place on Monday April 17th at 10:00 PM Eastern time. The conference will be a discussion of many of the topics covered in this article, and it will dig a little deeper into the project through a question and answer session. This will be a great oppurtunity to ask any questions you may have or perhaps offer some suggestions of your own regarding this or other projects. HOWEVER, even if you don't have the benefit of a modem or online service, you can still recieve the same help through the OS-9 Users Group US Mail address below.

Coming Next Issue
Stay tuned for the next edition of the OS-9 Users Group MOTD. This series will continue with the entry form requesting the information needed for the bulletin board system database. If you are a SYSOP or a user who knows of any OS-9 related BBS, you will want to keep your eyes open for the next edition of the MOTD.

Contacting the Sourcebook
You can send all your information *PLUS* any suggestions, comments, or questions regarding the OS-9 User's Group Sourcebook to any of the following addresses:

Internet/Delphi: Thetaurus@Delphi.com

Mail: **OS-9 UG Sourcebook**
        c/o The OS-9 User's Group, Inc.
        6158 West 63rd Street Suite 109
        Chicago, IL 60638 - USA

OS-9 Sourcebook Information Form

Name: _____
Business: _____
Address: _____
City: _____ State: _____ ZIP: _____
Country: _____ Telephone: (____) -_____
EMail Address: _____

Signature: _____ Date: ___/___/___

Would you like information on joining the OS-9 Users Group?   ❑ Already a Member! ❑ Yes ❑ No

Can this information be passed to OS-9 vendors?   ❑ Yes ❑ No

Are you available to act as a volunteer for OS-9 projects from time to time? (This isn't a commitment.)
        ❑ Yes ❑ No

Please indicate your area(s) of interest:
        ❑ OS-9/6809   ❑ OS-9/68000   ❑ OS-9000
        ❑ Programming   ❑ Hardware   ❑ Other: _____

You use OS-9 primarily for what purpose:
        ❑ Personal use   ❑ Industrial use   ❑ Both

Please describe briefly your OS-9 computer system(s):

Please describe briefly your computer and OS-9 experience:

Please describe your OS-9 interests (things you would like to see the UG do, or see in the MOTD), or list any other questions or comments:

Vendor Listings

The **MOTD** carries vendor names, addresses, and phone numbers as a service to both our readers and OS-9 vendors. If you are a vendor of OS-9 related hardware or software, you may request to be listed by simply sending a letter to the editor at the Users Group address. There is no charge for being listed in this area. (Vendors who are members are underlined.)

Vendor Name	Address	Phone Number
AniMajik Productions-Software	4650 Cahuengo Blvd; Ste #7; Toluca Lake, CA 91602	(818) 761-4135
Ark Systems USA	P.O. Box 23; Santa Clara, CA 95052	(408) 244-5358
Blackhawk Enterprises	P.O. Box 10552; Enid, OK 73706-0552	(405) 234-2347
Bob van der Poel Software	P.O. Box 355; Porthill, ID 83853 or	
	P.O. Box 57; Wynndel, BC, Canada V0B 2N0	(604) 866-5772
Burke & Burke	P.O. Box 733; Maple Valley, WA 98038	(206) 432-1814
ColorSystems	P.O. Box 540; Castle Hayne, NC 28249	(919) 675-1706
Computer Design Services	2550 Sandy Plains Road; Marietta, GA 30066	(404) 973-2170
CoNect	449 South 90th Street; Milwaukee, WI 53214	(414) 258-2989
Delmar	P.O. Box 78; 5238 Summit Bridge Road; Middleton, DE 19709	(302) 378-2555
Disto	1710 Depatie; St. Laurent, Quebec, Canada H4L 4A8	(514) 747-4851
Farna Systems PB	P.O. Box 321; Warner Robins, GA 31099-0321	(912) 328-7859
Frank Hogg Laboratories	204 Windemere Road; Syracuse, NY 13205	(315) 469-7364
Hawksoft	244 S. Randall Road; Elgin, IL 60123	(708) 742-3084
The KD Consulting Group, Inc.	3880 Citation Drive; Indian Springs, OH 45014	(800) 837-1619
Ken-Ton	CONTACT FARNA SYSTEMS	
Microware Systems Corporation	1900 N.W. 114th Street; Des Moines, IA 50322	(515) 224-1929
Northern Xposure	7 Greenboro Cres.; Ottawa, Ontario, Canada K1T 1W6	(613) 736-0329
'09 Online	221 E. 17th #31; Marysville, CA 95901	(916) 734-4264
Peripheral Technologies	1480 Terrell Mill Road #870; Marietta, GA 30067	(404) 973-2156
StrongWare	P.O. Box 361; Matthews, IN 42957	
Sub-Etha Software	P.O. Box 152442; Lufkin TX 75915 or	
	936 North Twelfth Street; DeKalb, IL 60115-2516	(815) 748-6638
Windsor Consulting Group	2014 Cherokee Pkwy, Suite J; Louisville, KY 40204	(502) 454-0054

BBS Listings

BBS Name	Location	Baud Rates	Phone Number
Applied OS-9 BBS	Florida	300-2400	(407) 327-6346
Atlanta Computer Society BBS	Atlanta, GA.	300-2400	(404) 636-2991
ChiCoCo	Chicago, Il.	300-2400	(312) 735-3355
Citadel BBS	Pennsylvania	300-9600	(717) 871-9543
Color Galaxy Milky Way	California	300-14,400	(415) 883-0696
Crystal Palace	Michigan	300-14,400	(616) 979-1858
Cup of CoCo	Carpentersville, Il.	300-2400	(708) 428-0436
Erie County CoCo Club	Buffalo, NY	300-2400	(716) 649-1368
Golden CoCo BBS	Houston, TX	300-2400	(713) 941-1542

KZIN BBS	Surrey, BC, Canada	300-2400	(604) 589-5545
Ocean Beach BBS	San Diego, CA	300-14,400	(619) 224-4878
Rainbow Connection	New Jersey	300-14,400	(201) 967-1061
SandV	LaGrange Park, II.	300-9600	(708) 352-0948
Southern Alberta Bulletin	Alberta, Canada	300-2400	(403) 329-6438

OCN (OS-9 Community Network) BBS sites:

Dave Spicer	Ft. Rucker, Al.	300-9600	(205) 598-2100
Mark Johnson	Long View, WA.	300-2400	(206) 425-5804
Newton White	Atlanta, GA.	300-14,400	(404) 636-2991
Chas Stokes	Coraopolis, PA.	300-9600	(412) 264-9787
Brian Steward	Jacksonville, FL.	1200-16,800	(904) 771-4779
Kerry Kowalski	Whitelaw, WI.	300-2400	(414) 684-4115
Ken Patience	Toronto, ON, Canada	300-9600	(416) 469-0611
Harold Kistner	Springfield, MO.	300-14,400	(417) 887-6048
Dennis Mott	Spokane, WA.	300-2400	(509) 325-6787
Tim Jones	Austin, TX.	300-9600	(512) 280-6578
Ken Flanagan	Prince George, BC, Canada	300-9600	(604) 564-8869
Jim Sartain	Minneapolis, MN.	300-2400	(612) 869-7795
John Reece	San Diego, CA.	300-2400	(619) 272-3643
Terry Goode	Huston, TX.	300-2400	(713) 941-1542
Doug James	Midlothian, VA.	300-2400	(804) 744-9260
John Wight	Honolulu, HI.	300-9600	(808) 735-3776
Ed Jones	Mobile, AL.	300-2400	(205) 341-1616
Norman Rheaume	Mobile, AL.	300-2400	(205) 661-5298

OS-9 Periodicals
by *Ed Jones*

PUBLICATION	PUBLISHER	PRICE	ADDRESS
The International OS-9 Underground	Alan Sheltra	$18 for 12 issues $23 Canada	Fat Cat Publications, 4650 Cahuenga Blvd. Suite #7, Toluca Lake, CA, 91602
The World of 68' Micros	Farna Systems	$23 for 8 issues $30 Canada	Farna Systems, P.O. Box 321, Warner Robins, GA, 31099-0321
OS-9 International	European Forum for OS-9 (EFFO)		EFFO, P.O. Box CH-8606 Greifensee, Switzerland (email: os9int@effo.ch)
The Upgrade Diskletter	MI&CC	$16 for 6-8 issues $19 Canada	The Upgrade, 1328 48th Street, Des Moines, IA, 50311
MicroDisk	Farna Systems	$40 for 8 issues $44 Canada	Farna Systems, P.O. Box 321, Warner Robins, GA, 31099-0321
MOTD	OS-9 Users Group	$25 USA & Canda $30 all others	OS-9 Users Group, Inc., 6158 W. 63rd Street, Suite 109, Chicago, IL, 60638
OS-9 Newsletter	Bellingham OS9UG	$10 for 12 issues	OS-9 Newsletter, 3404 Illinois Lane, Bellingham, WA, 98226-4238
CoCo 1-2-3	Glenside CoCo	$15 for 6 issues	Glenside CoCo Club, RR#2, Box 67, Forrest, IL, 61741-9629

Glenside to Sponsor Fourth Annual "Last" Chicago CoCoFest!

Here are the 5 "W's":

WHO?	The Glenside Color Computer Club of Illinois presents
WHAT?	The Fourth Annual "Last" Chicago CoCoFEST!
WHEN?	April 29th & 30th, 1995 (Sat. 10am-6pm; Sun 10am-4pm)
WHERE?	HOLIDAY INN ELGIN (A Holidome Indoor Recreation Center)
	345 W. River Road (A city block from I-90 & IL-31S)
	Elgin, Illinois (Same great location as last year!)
	Overnight room rate: $55.00 (plus 10% tax)
	Call 1-708-695-5000 for reservations.
	Be sure to ask for the "Glenside" or "CoCoFEST!" rate.

>>>>> YOU MUST REGISTER UNDER COCOFEST TO GET THIS RATE <<<<<

WHY?	A. To provide Vendor support to the CoCo Community
	B. To provide Community support to the CoCo Vendors
	C. To provide educational support to new users
	D. TO HAVE AN OUTRAGEOUSLY GOOD TIME!!!!!

Ana now, the "H" word:

HOW MUCH?	Admission:
	$8.00 at the door, 2-day pass
	$5.00 at the door, 1-day pass
Advance ticket sales:	
	$5.00 + SASE for the whole show, or
	$5.00 + $0.50 postage & handling
	Children 8 and under are FREE

Contact: George Schneeweiss, Treasurer
Glenside Color Computer Club
RR#2 Box 67
Forrest, IL. 61741-9629

For furthur information, general or exhibitor, contact:
Tony Podraza, Fest Chairman
708-428-3576, Voice
708-428-0436, BBS