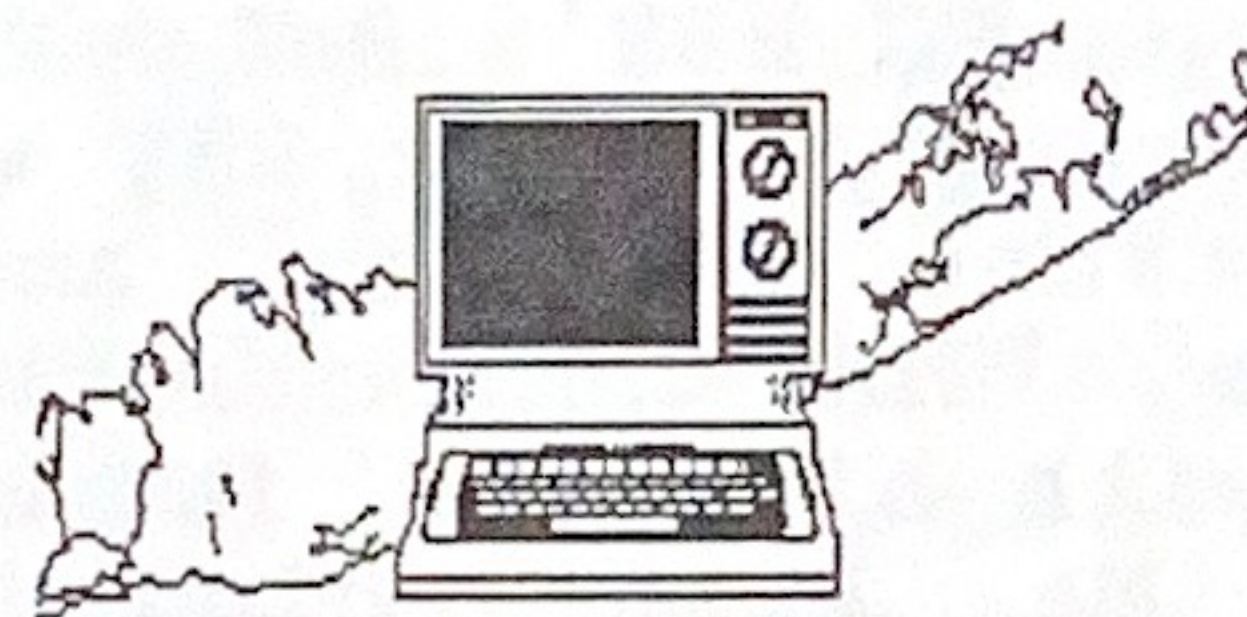
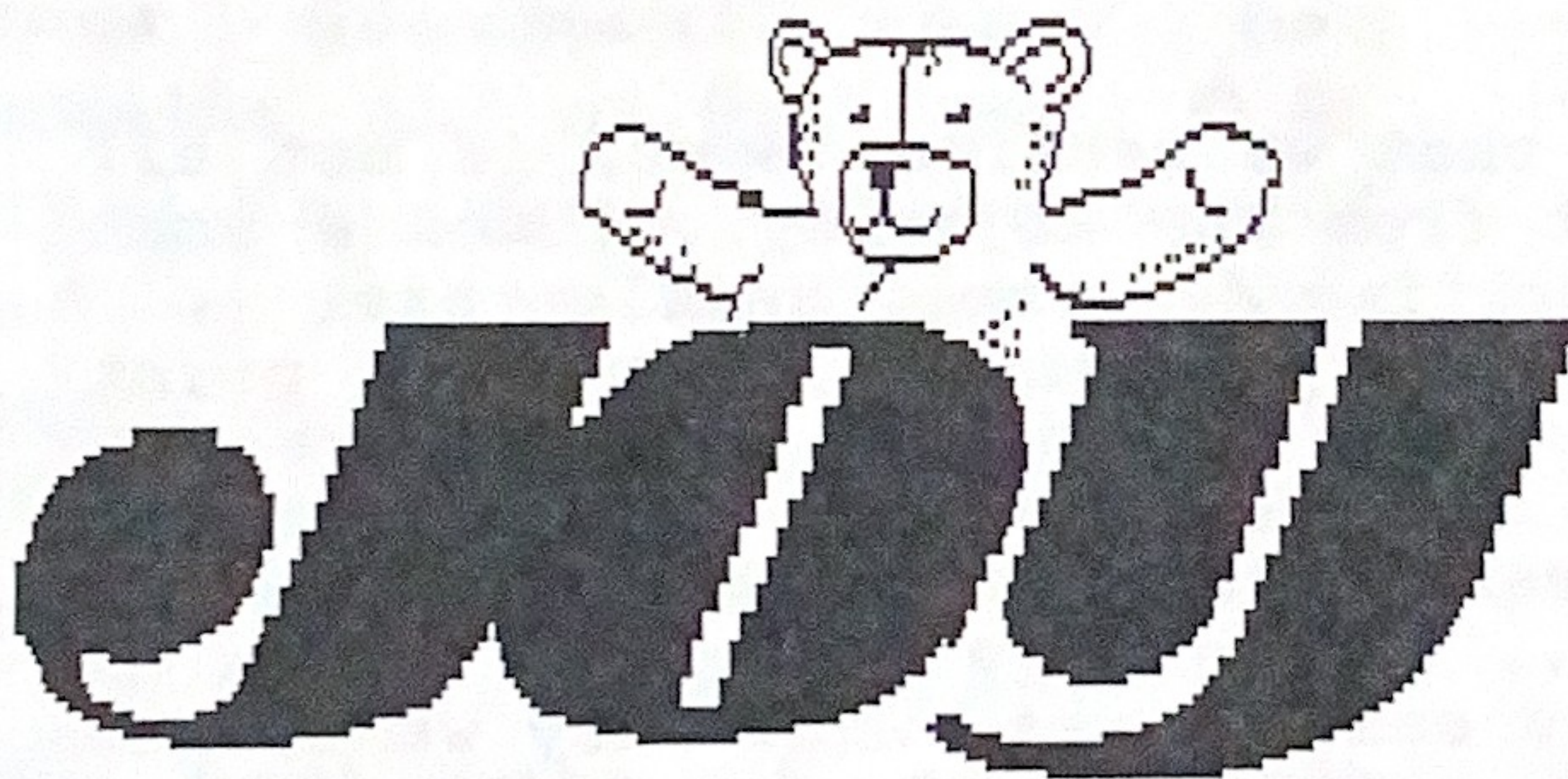


Island CoCo News

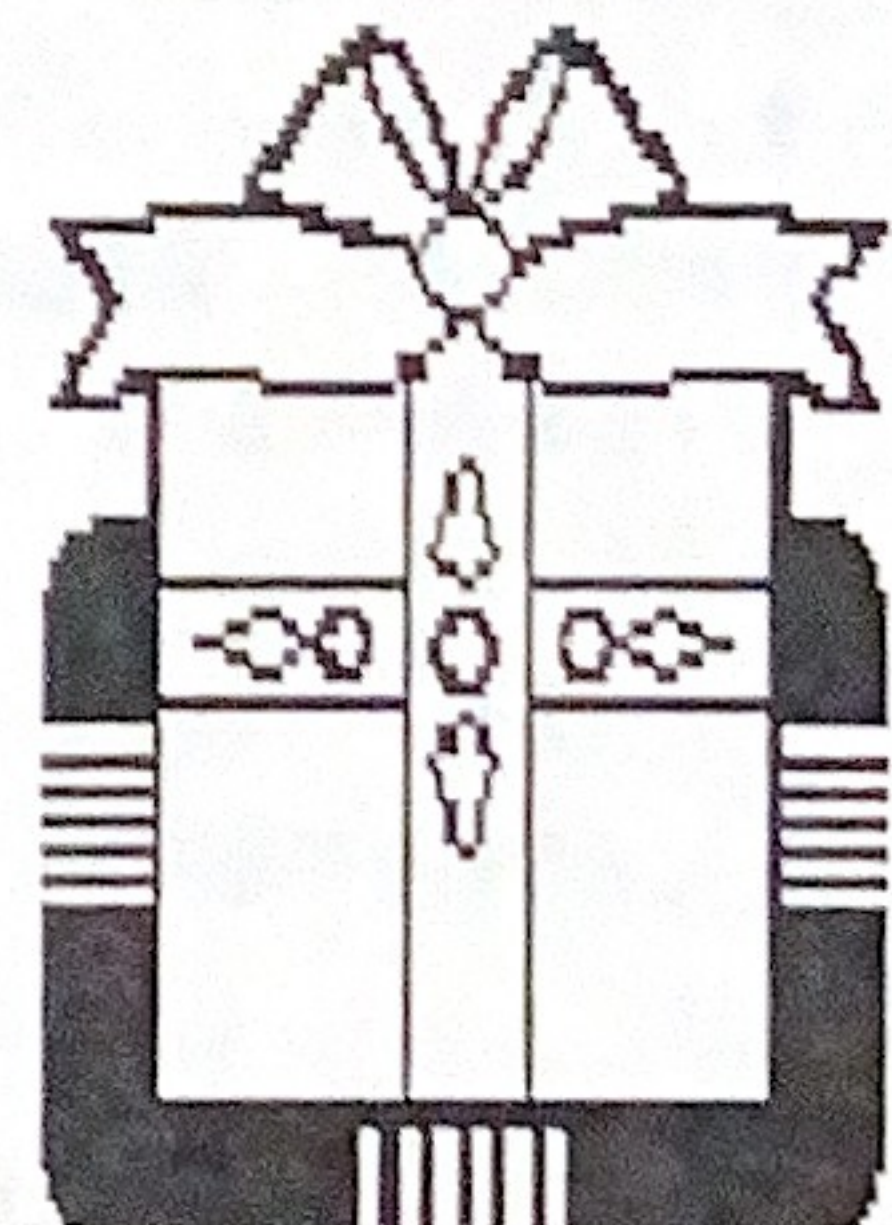
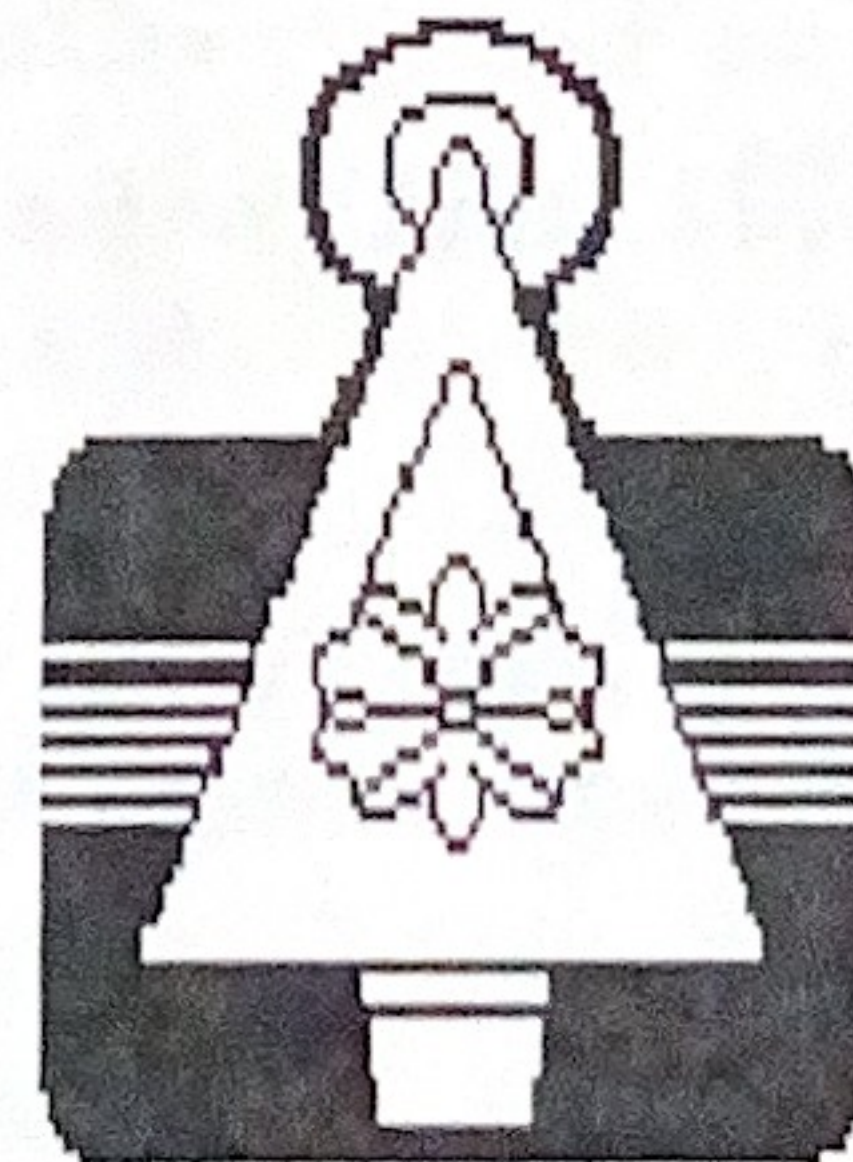
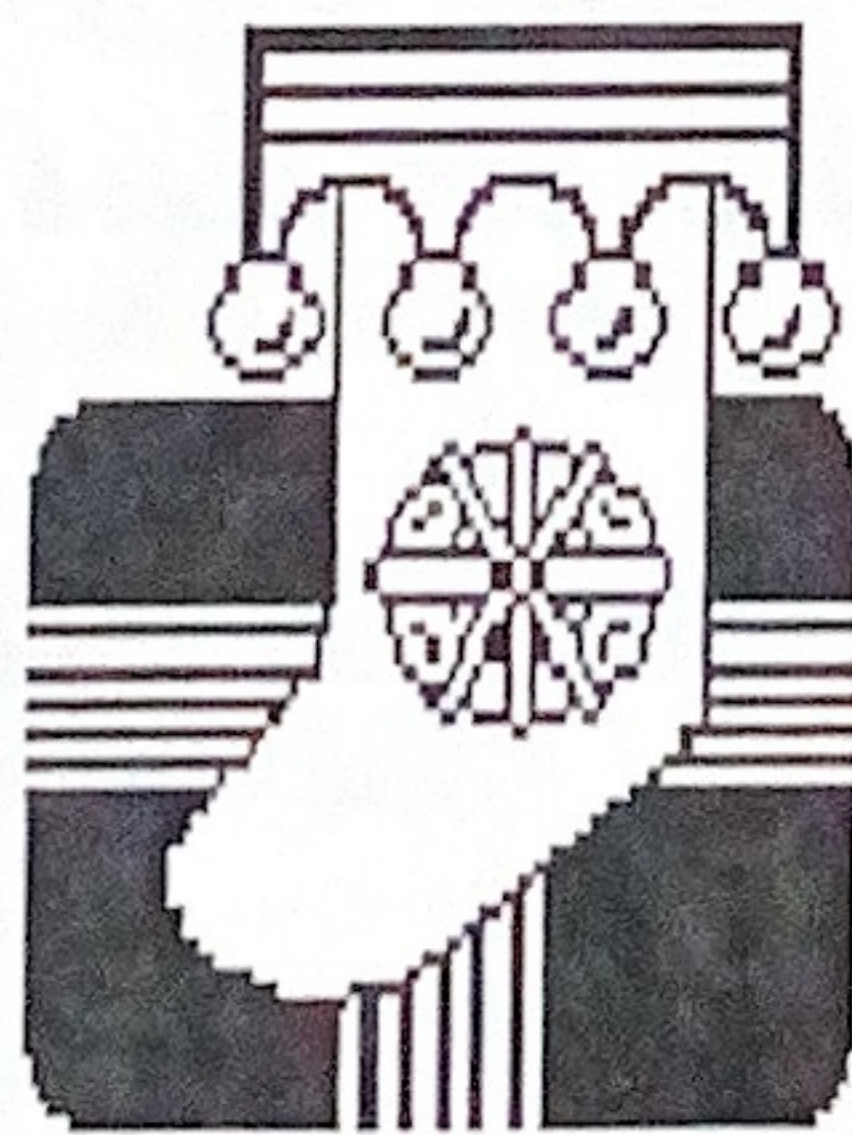
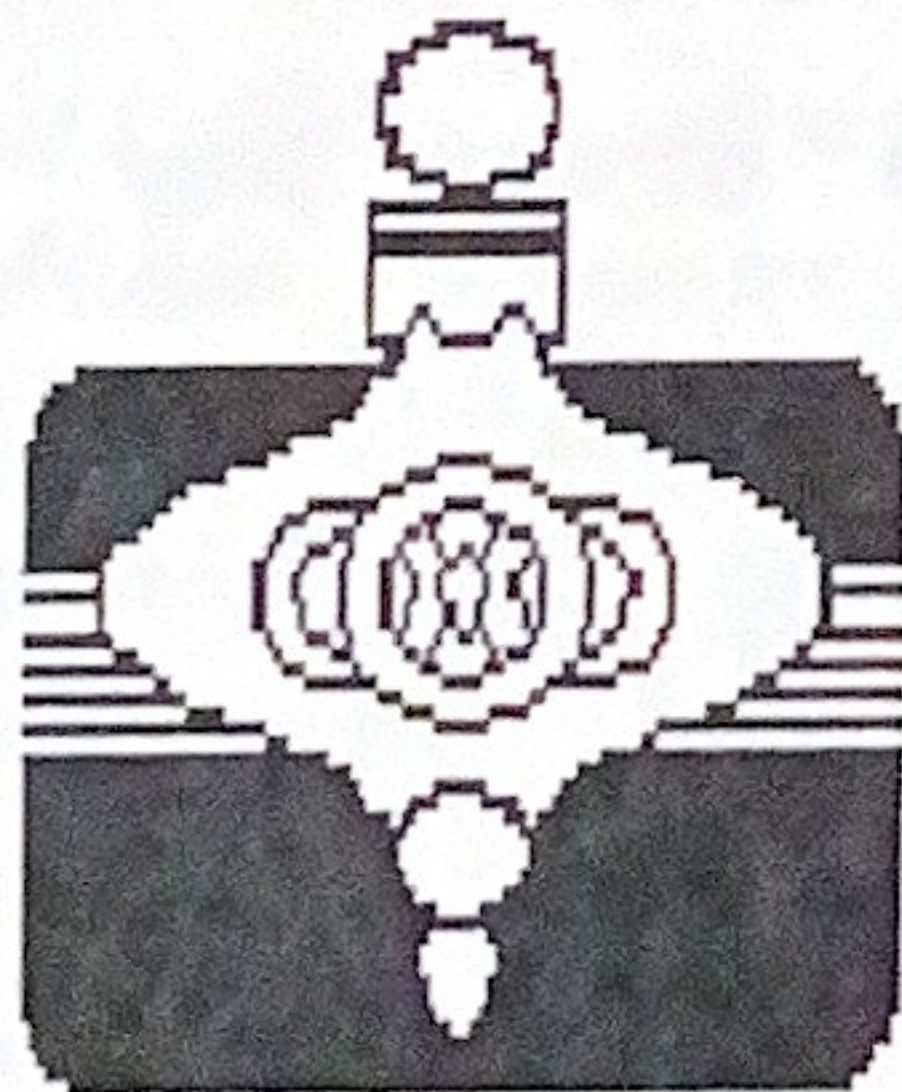
Volume: 5 Number: 6



Dec. '90 / Jan. '91



MERRY
CHRISTMAS



The Island CoCo Club

PC BBS

(516) 795-5874

Long Island, New York

* For the Tandy Color Computer *

Winter Edition

Published Bi-Monthly

300/1200/2400/9600/19200 HST

8/N/1

24 hours 7 Days/Week

RelayNet Conferences

From the Editor.....

Hi! and WELCOME to the last edition for 1990....as well as the final one for me. It has been great being Editor, President for the Club for these many years. Met many good users, plus saw many new activities started while I was in these positions. I wish the new Editor well.

We have a few nice articles from our "regular" contributors to the Newsletter (as always). Gerald Angus, with his message "From the President". Irving Pereira with some symbols for face expressions being used on PC BBS's RelayNet, and from what I see, it's pretty standard throughout the BBS world now. Dennis Zobel, with a "Data Communications Glossary" and the Map for Rainbow's Graphics Adventure Game, "The Controllers". Of course, the great Bill Rosenfeld (along with his wife, Murel) wrote on "The Computer Museum", in Boston, MA. Also included are articles Reprinted from C.C.O.G. (Color Computer Owners Group) in Wyandotte, Michigan, and LLIST (Calgary Colour Computer Club, Canada).

From all the Newsletters that we receive, most, if not all, is like ours with little input from the majority.....and a small percentage of each club , is writing for their newsletters. Everybody has alot to say.....but not enough to put in print? Speaking of print.....I see a dozen or more of Newsletters (IBM types and others) that are in disk form, which, in my opinion, I think it STINKS. It's really very impersonal to scroll thru many screens of words and pictures....while in a hard copy form, one can read it anywhere, scan thru easily, read what they want, when they want, and not being stuck next to the computer, as well as there is a 2 and 3 with their graphics formats.

Wish everyone well.....and hope you all have a great New Year!

Anyone can contact me easily on PC BBS, by leaving a message, in the General, Color Computer, or Club sections.

Editor,
D.K. Lee

From the president
The Island CoCo Club November 1990

- - - - -

As we approach 1991, the club faces new challenges and requirements. A new cabinet of club officers must be voted in and a new club newsletter editor must be provided for. Understandably, no-one has volunteered to be the new club newsletter editor as it seems like a vast under-taking. Deciding what to put into a 15 to 20 page document every two months is a big job. D.K. Lee has done a wonderful job of it for the last 3 or 4 years and its time for someone else to do the taskany takers ???

As I recall the events over the past year, I can't help saying this has been a year of big changes in the CoCo world. Having the usual New Jersey Rainbow Fest **CANCELLED** was the biggest shocker of them all. It seemed like a knife in the back to me. I would literally count the days, weeks, months each year for this event to happen. As it turned out, This, along with Radio Shack's continued decrease in support of the CoCo made for some very depressed club members.

Actually we have already seen the loss of some old club members to "IBM" and "MsDos" (bite my tongue). These events were yet compounded by the introduction of three new computers, being produced by independent companies, under the name of "The CoCo-4". It's enough to make the knees tremble a bit, and confuse the people in the CoCo world as well.

We have been dealing with it the best we can. In the more positive sense, perhaps it's all for the best. One of the Frank Hogg machines claims to be able to operate exactly like a CoCo-3 and run 30% faster at that. No, it's not that simple and it will cost a few more dollars to get there, but the extra speed will perk up the CoCo-3 a bit and make those graphics programs and games a lot more useful and fun to use if you are so inclined.

Anyway, not to digress, the CoCo world is changing and is growing and we all are right in the middle of it. The release of the new machines has been promised for a while now and the

From the president
The Island CoCo Club November 1990

- - - - -

most skeptical could ask, "well, where are they?", or are they really waiting for more response until they actually start mass producing them ??? Hmmmmmmmm.

As I recall the meetings over the past year, we had some fun and and the club has grown too. Some of the highlights were; A separate OS-9, public-domain library and (SIG) was created for the members, new raffles were created to generate more club funds, a club charter was created, with the By-Laws all spelled out, Steve Gilbert brought his whole OS-9 system down and gave us a great demo of what the CoCo can REALLY DO under OS-9, Dennis Zobel continued his on-going proficiency at providing the club with demos of many new programs and games available, Ronnie Pereira did a nice demo of "Lyra" with her new keyboard synthesizer, Steve Goldberg (in person) did a nice OS9 demo, Joe Ross gave a good demo concerning how to set up your own RS-232 cable for use with various modems, and in general, the club

seemed to be surviving pretty nicely.

We look forward to 1991 with anticipation. Where will the club go from here. Will someone bring their new CoCo-4 down for a demo?? Will we end up with an even better Newsletter?? Will we elect some new officers that will do even more for the club?? Will the club members increase their support of the Newsletter?? Will club members find, or write some articles to be entered into the Newsletter? Will we come up with some new ways of generating additional club funds?

..... Be sure to attend more meetings as often as possible and allow these things to happen.

The CoCo world IS alive and well !!!! But never forget that WE ARE the CoCo world and if it survives is a direct result of OUR actions.

Gerald Angus

ATLANTA COCOFEST 90
as seen by Gerry McCleary

Editor's Note: Reprinted from LLIST, Newsletter of the Calgary Colour Computer Club

My first thoughts about the fest were very favorable, attendance - 800 plus, with 23 exhibitors and 12 seminars of which I was able to attend 6 over the two day fest.

The first seminar that I attended was "Programming the 68070" by Phil Anzalone. I found this to be an interesting talk even though it was greatly condensed and much too fast (it was originally a 90 min seminar reduced to 30 mins). I taped this lecture and have played it back and I still have many questions in my mind about many of the topics covered in such a short time. Maybe when I get the 68070 or 68030 board, I will have had some time to digest many of the things that were said and will be available in the future.
Attendance - approximately 50 plus

The next seminar I attended "What the Future Holds in the Pages of Rainbow" by Cray Augsbury (managing editor) and Greg Law (technical editor) of the Rainbow magazine. I have mixed feelings about this seminar, firstly, why did Lonnie send these two out to this Cocofest without the answers to common questions that one would expect to hear ie, "What is Rainbows present circulation?" When this question was asked the response was "I'm" or "We are not privy to this information". I can't swear to US law but doesn't US publications have to make this type of information public at least once each year? At any rate I would not have wanted to be in Cray's or Greg's shoes for many of the questions that were asked. To bad Lonnie wasn't there to face the music!
Attendance - approximately 40 plus

"Programming in C" by Chris Burke was the next one I attended. As I have taken C, I didn't get much from this one BUT for those who are just starting or thinking about taking C, I'm quit sure that they would have found it helpful and informative.
Attendance - approximately 45 plus

On Sunday I was at Ed Hathaway's seminar about "Desktop Publishing and the CoCo". Ed had the misfortune of loosing his presentation and decks (they were stolen on his trip to Atlanta), but still gave an interesting talk about three desktop programs, OS-9's Home Publisher, Max-10 and Newspaper Plus FE. He had good things to say about all the programs and also pointed out many of their bad points as well. I must admit that I'm not favorably impressed with HP or Max-10 for a variety of reasons, but I haven't worked with HP for more than a few weeks and Max-10 for about 4-months, so I would really like to see someone give a GOOD demo on each of these programs.
Attendance - approximately 65 plus

Dan Robins spoke about "Writing for Publication". This seemed to be focused around the Rainbow magazine's requirements.
Attendance - approximately 25 plus

The last seminar on Saturday was by Kevin Darling about "OS-9/OSK". It was more of a forum rather than a lecture, as there was participation from everyone asking questions and also many of the questions were answered by members of the audience. Kevin answered a great deal of questions put to him and also initiated many thought provoking questions which kept participating for just under 3 hours. One subject that Kevin expounded on was the OS-9 Lev2.ver2 package that he and about 12 other top rate computer programmers have worked on for the past two years. This looked like it was going to die about a year ago when Tandy canceled the Coco, but in the past month or two things are looking much better now. Maybe we could see ver 3 by Christmas (as some modules have to be completed and the documentation has to be finalized). So lets all keep our fingers crossed.
Attendance - approximately 175 plus

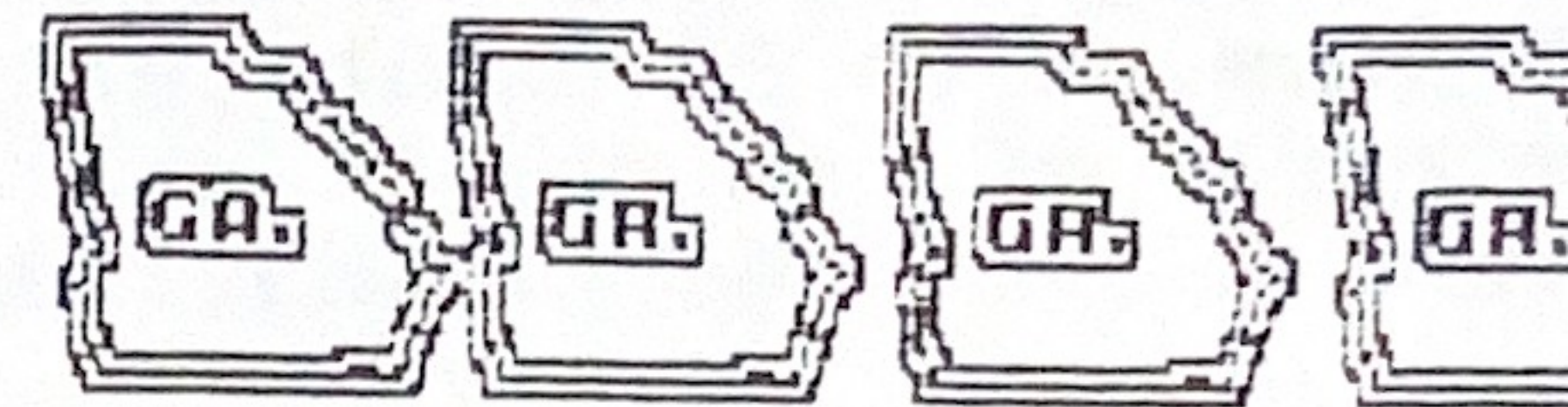
The Host City was something else! Beautiful weather (80+ F%), fine food and many new found friendships for me and renewed friendships for many others. CoCoPRO are to be congratulated for there part in sponsoring the fest and Newton White (host club fest Liaison) is to be congratulated for tireless work through out the Fest. The Atlanta Computer Society have done themselves proud. If I had one thing that would have improved my stay there, it would have been some sort of a organized tour of Atlanta.

For many of us, this was our first CoCoFest and I'm sure, (from what I heard from many) were quite pleased with what they saw. My only negative thoughts were the lack of demos by SOME vendors (not all), and the lack of time to meet and talk with fellow computeriest to compare notes, pick up pointers, tips and of course, pass information to others. This has always been the key to any successful seminar.

Transportation to the Fest wasn't too bad (only two hours late), but going home was #%\$#&*#@\$@#\$ (for the birds). Due to bad weather we got split up, with Bruce heading to Dallas for an overnight stay and Percy and I trying to get back via Chicago - Spokane - Calgary, waiting in a holding pattern over Chicago for about 55 minutes and then just making out connection (as they were above us in the holding pattern. I must admit that from Chicago to home was as good as you can get as we got the last two seats on that flight (first class). We ended up about six hours late.

All in all. Was it worth it?

YES.....YES.....YES



R/S DOS AT ATLANTA

The only new Programme I was "MINNIBANNERS". It let's create single or multiple line Banners, using different fonts heights and widths. It supports all printers including Daisy'

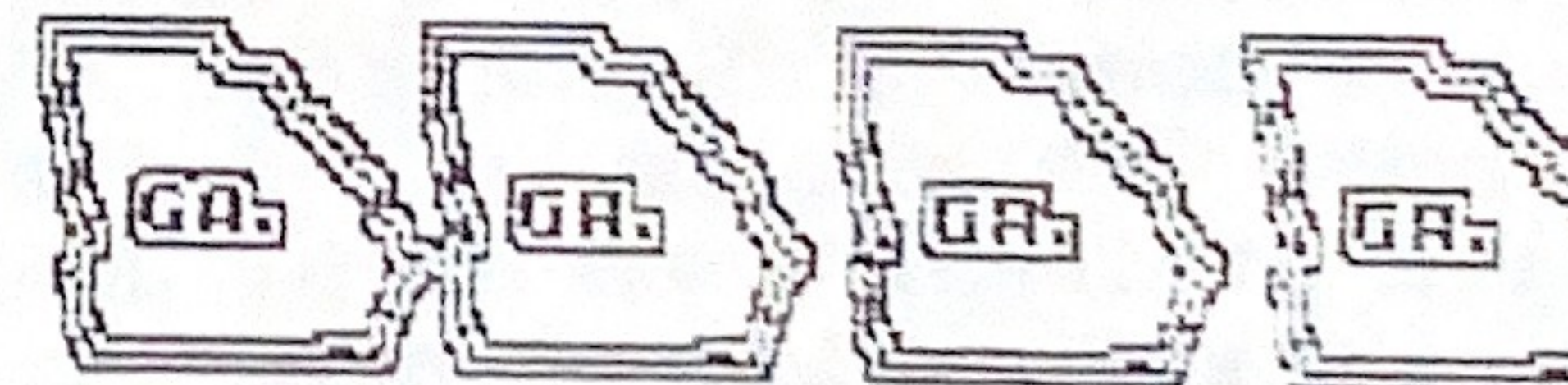
"WINDOWS", was Demo'd but does not handle M/L very well

"WORDPOWER3.3" was on show but was not Demo'd. Same complaint about "NEWSPAPER PLUS"

"ZEBRA" are out with 3 new disks of Clipart for C.G. Design

It was evident that Vendors require increased sales to stay in business

Percy McQuinn



RILEY'S REPRODUCTIONS & PRINTING LTD. CAL
621-8TH AVENUE SOUTH WEST CALGARY, ALBERTA T2P 0W9 EDM

CANADA'S LEADING REPRODUCTION COMPANY

OUR PEOPLE MAKE THE DIFFERENCE

PICK UP & DELIVERY

266-6000



Hold with arrow up
to view faces

==== Irv

MESSAGE: 15915
FROM : PAUL WRIGHT
TO : ALL
SUBJECT: Emoticons List...
FOLDER : E, "CoCo Conference(Echo)"

DATE/TIME: 07-19-90 5:55am
RECEIVED : NO
PRIVATE : NO
THREAD : NO

BELL Well well:

:~)	Humor
:~) (-:	Masking theatrical comments
:~<)	For those with hairy lips
:~<)=	For those with beards too
:~/)	Not funny
:~)	Wink
P~)	Pirate
:~)	Wink II
()	You're kidding!
:~"	Pursing lips
:~v	Just another face (speaking) profiled from the side
:~V	Shouting
:~w	Speak with forked tongue
:~W	Shout with forked tongue
:~r , :~f , :~p	Bleahhhh (sticking tongue out) (3 ways)
:~l :~,	Smirks (2 ways)
<:~0	Eeek!
:~*	Oops! (Covering mouth with hand)
:~T	Keeping a straight face (tight-lipped)
:~D , :~P , :~y	Said with a smile
:~o , :~0	More shouting
:~(Count Dracula
=! :~)=	Uncle Sam
7:~)	Reagan
:~#	Censored
:~i	Smoking
:~j	(and smiling)
:~/i	no Smoking
:~I	It's something, but I don't know what...
:~x	Kiss kiss
:~>	Alternate happy face
:~(Unhappy
:~c	Real unhappy
:~C	Unbelieving (jaw dropped)
:~<	Forlorn
:~B	Drooling (or overbite)
:~l	Disgusted
:~?	Licking your lips
<:~>==	A turkey
:~) :~) :~)	Loud guffaw
:~J	Tongue-in-cheek comments
:~*)	Clowning around
:~B	Talking out both sides of your mouth
(:~)	Messages dealing with bicycle helmets
=	Warning about nuclear war

← Hold with arrow up
to view faces

(#-) For dumb questions
O= A burning candle to start a flame
-# A doused candle to end a flame
OO Headlights on a message
:_ I used to be a boxer, but it really got my nose out of
Joint
B-) Batman
B-! Michael Keaton Batman
#:-) Someone with matted hair
:-o "Oh, noooooo!" (a la Mr. Bill)
#:-o Same as previous
)-(- Late night messages
:-) Messages teasing people about their noses
:-(# Messages teasing people about their braces
:-\$ Message indicating person is ill
:-& Message indicating person is angry
:-(- Message indicating person is very sad
:- Message concerning people with broken noses
:-(<) Message concerning blabber mouths
:-(=) Message about people with big teeth
@:-) Message from a person with curly hair
:-) Message from a person with wavy hair
?-(Message about people with a black eye
#!* Message about fuzzy things
#!*** Message about fuzzy things with mustaches
%-) Message about people with broken glasses
+<:-! Message from a monk/nun...
(0-) Message from cyclops...
(:-!K- Formal message.
.t.---... S.O.S.
%&\$%& You know what that means...
!!*(Handshake offered
!!*) Handshake accepted
<@&> Message concerning rubber chickens
<< >> Message about/to someone wearing argyle socks
2B!B Message about Shakespeare
(-_-) Secret smile
<(:-)) Message in a bottle...
<:-)<<| Message from a space rocket...
(:-... Heart-breaking message...
<<<<(:-)) Message from a hat sales-man...
(O--< A fishy message...
(:)-< Message from a thief: hands up!
<I==I) A message on four wheels
:-) For those with mustaches
(- Alfred Hitchcock
>--->--- A rose.

Exit (OS9er)===>

PCRelay:MAINENET -> #327 RelayNet(tm)

4:1015

MaineNET/Cape Elizabeth, ME/207-767-1273 HST

Printed from PC-BBS

Map for the RAINBOW (Feb. '88) Graphics Adventure Game THE CONTROLLERS

Most of it. Even with this map there is plenty to figure out before The Controllers can be destroyed.

Map by Dennis Zobel

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH DR		CTY	CTY	CTY	CTY	CTY	CTY	CTY	CTY	MC
2	CMP	CMP	CMP	HP LT	HE	HP	S	S GAS	S	S	S	S exit	S	S	S	S	S	CTY	CTY	LS
3	CMP	CMP		HP	HP	BG	P BT/T	PHUT GAS		S	S	S	S	S	S	S BT	S	CTY	CTY	GS
4	P GAS	P	P	P	BG	BG		P	P	P	P	P	P	S	S	S	CTY	CTY	CTY	CTY GAS
5	P	P	P	PL	FS	PL BT	F	F	F	F	B	B	B	B	O	O	G	G	G	G
6	P BT	P	P	PL	PL	PL		CR	CR SD	CR	CR BT	B	B	B	O	O	G	G	G	G GC
7	IF	IF	IF	IF	IF	IG	CR	CR	CR	CR	CR	B SHV	B	B	O	O	O	O	O	O
8	P T	P	P	P	P	GY	SG		TN BT	TN	TN	B	B	B	O	O	O	O	O	O
9	GY BN	GY	GY	GY	GY	GY	TN	TN	TN	TN	TN GAS	B	B	B	B	B	B	B	B	B
10	GY GAS	GY	GY	GY	GY	GY	TN	TN	TN	TN CRD	TN	B GAS	B	B	B	B	B	B	B	B GAS

CTY = City Street

S = Subway

LS = Locksmith

G = Golf Course

O = Ocean

B = Beach

P = Pasture

SG = Shooting Gallery

MC = McDonalds

BG = Battle Ground

GS = Gun Shop

GY = Grave Yard

HH = Hospital Hall

HE = Hospital Entrance

HP = Hospital Parking

CMP = Computer Room

IG = Iron Gate

IF = Iron Fence

F = Fence

CR = Carnival

TN = Tunnel

PHUT = Pizza Hut

PL = Parking Lot

ST = Shark tooth

SK = Shark

BT = Battery

GC = Golf Club

SHV = Shovel

WC = Wire cutter

SD = Silver Dollar

CRD = Card

BN = Bone

T = Treasure

LT = Letter

DR = Drill

THE COMPUTER MUSEUM - BOSTON, MA.

The Only Exhibit of Its Kind in the World

Reported by Muriel and Bill Rosenfeld

We made a special car trip to Boston to visit the Computer Museum and luckily hit a beautiful spell of early November New England weather. When you go by car on Route I-84 from Hartford to Boston, we suggest that you stop at the Massachusetts Tourist Information Center at Natick right on the expressway and check on overnight lodging at a hotel as near as to downtown Boston as possible and nearby a MARTA subway station. As a passing remark, the subway system in Boston is easy to use, sparkling clean and safe. We booked a nice, reasonably priced hotel in the Kenmore Square - Boston University area which was about a fifteen minute subway ride to South Street and ten minute walk to the Museum which was just past the Boston Tea Party historical site.

The Computer Museum is near the Boston Harbor waterfront and occupies two spacious areas on the 4th, 5th and 6th floors of the building. Its exhibits involved the collaboration of over 100 people and 25 corporations and institutions. It has established itself as a living classroom for peoples of all ages since its 1982 founding as a public non-profit organization. Admission is \$6 for adults and less for students and groups. Information about group visits may be obtained by calling 617-426-2800 ext.310. All Museum exhibits are accessible to physically challenged visitors.

The museum's collection started in 1974 when Ken Olsen, president of Digital Equipment Corporation and Robert Everett, then president of the MITRE Corporation, rescued the Whirlwind computer of the Massachusetts Institute of Technology, an early vacuum-tube device and the first computer designed for manufacture, from a truck that was carrying it to the dump.

Mr. Olsen and Digital began collecting and saving early computers. The Computer Museum now has some of these rare examples of vintage computers among its collection of 1,500 artifacts.

The most exciting of the museum's 60 interactive exhibits is the \$1.2 million two-story working model of a desktop computer enlarged to 50 times its normal size. This latest exhibit was just opened on June 23, 1990.

As you approach this exhibit, you see a giant MONITOR displaying a nine by twelve foot image of the map of the world. This WTC (Walk Thru Computer) WORLD TRAVELER software program lets you try out the giant computer by finding the shortest driving routes between any two cities in eight regions of the world. Going downstairs from the sixth floor to the main floor of the two-story WTC, there is a huge 25 foot KEYBOARD. One of ten function keys can be pressed to select a continent which appears on the giant monitor. A cutaway view shows the key making contact, with wires underneath, completing an electrical connection that tells the computer which key has been pressed. Then a 40inch trackball, or mouse (it's too large to be called a mouse), is used to mark the cities of departure and destination. Pressing a giant button starts both graphic and audio response showing and voicing the shortest routes. Lights are also seen flashing down a cable connecting the trackball to the computers CPU.

Then one walks thru the MOTHERBOARD, VIDEOBOARD, CPU, CLOCK, 15 FOOT HARDDISK and 4 FOOT MEMORY (RAM) DISK. A SOFTWARE THEATRE houses a video show explaining how software drives the hardware. Six learning stations across from the theatre lets you explore topics of special interest

robotics and their practical applications.

About sixty computer terminals are available for hands-on use by visitors. Each one is loaded with specific software programs, e.g. one will have an advanced chess game with the computer as the adversary, then one with food recipes, another with graphics, and so on.

It is a fascinating experience to be in this museum. Allow at least a full day to explore and at that you will have to skim through many of the exhibits and to study the informational charts posted on the walls. It would even be worthwhile to plan on a two day stayover to take in all the interesting exhibits.

Since it is a non-profit deal, you can dispel any idea that the writers of the article have been paid off to give such a glowing report.

--==Dennis Zobel

DATA COMMUNICATIONS GLOSSARY

ASCII	A Chinese question
Automatic Calling Unit	Teenager with a telephone
BAUD	Lady of the evening
Bit	12 1/2 cents
Bit Rate	How often you're bitten
Broad Band	An all girl orchestra
Byte Rate	How often you bite
Carrier	Good looking girl at the end of the bar
Data	Whatta you taka an Italiana girila ona
Dual Floppies	Dolly Parton without a bra
Envelope Delay	The U.S. Mail system
Frequency Modulation	The Rhythm System
Full Duplex	No Vacancies
High Speed Line	Romeo in a hurry
Kilocycle	A 1,000 wheeled vehicle
Microwave	A signal from a friendly micro
Modem	Southern for "more of them"
Parity Check	Agricultural subsidy
Poisson Distribution	Serving line at a fish fry
Semiconductor	Part-time railroad employee
Synch Code	S.O.S. from the Titanic

I have been asked to write a series of short articles that will deal with a few issues in the programming world, particularly as they pertain to OS9.

This initial article will deal with questions that have been asked by local people. However, for future articles, if an issue concerns you, or you would like some help, please contact me thru the LLIST editor, or directly at (403) 295-3254. If I believe that I can address your questions, then I will do so in this column.

This month's topic will deal with helping the beginning C programmers. This question was asked many times this past year, ["with all the books in the market-place being ANSI-C, "How can the samples be converted to COCO (or K&R C)"]?

First, I have to make a general comment ... there are a few statements that will require a lot of work, because the ANSI C standard is partly broken ... some C macros will need to be completely analyzed, and recoded as functions. Also, there is at least one area where the Microware C compiler is broken, and care is needed to replace the 'typedef', which Microware's (McCosh) compiler does not work correctly. These bugs will cause head-aches when you come across them, but they are not (at least not yet) common coding techniques.

It is important that you understand the purpose of a lot of the new features of ANSI C ... they generally do not add functionality to the language itself, but rather exist so that more logic and syntax errors can be detected during the compilation. Instead, ANSI C

attempts to provide more fail-safe mechanisms, so that many more errors are detected during the compilation, so that the link-edit doesn't even start-up. Some specific methods the ANSI committee used to aid in this were the function prototypes, and the 'void', 'volatile' and 'constant' data-types.

Another category within the ANSI report was accepting some of the statements that have become a common part of most C compilers in recent years. A typical example of this is the 'enum' data type, which was probably lifted from PASCAL, as being a pretty good idea.

Now, on to some of the areas that cause problems:

1. 'void' functions: i.e. a declaration like

```
void main()  
{  
    exit();  
}
```

I have found that this structure is one of the easiest to get around. As most people always have '#include <stdio.h>' in their programs, simply append the following statement to the existing stdio.h file:

```
#define void unsigned int
```

2. 'enum'erated variables ... i.e. typedef enum weekend {saturday, sunday};
enum weekend variable;

Just replace the structure with #defines, and the declarations with type int or char, as follows:

```
#define saturday 6  
/* last day of the week */  
#define sunday 0
```

Three ingredients of success:
aspiration, inspiration and
perspiration.


```
/* First day of the week */  
char variable;
```

```
3. in-line function declarations;  
void main (int argc, char  
**argv)  
{  
}
```

can easily be replaced with explicit definitions like:

```
void main (argc, argv)  
int argc;  
char **argv;  
{  
}
```

```
4. function prototypes like  
int strcmp (char **s1, char  
**s2);
```

As these are in ANSI C to help the compiler find more coding bugs, you can simple replace them with simple function declarations:

```
char *strcmp();
```

5. Some include files, that seem logical, but don't exist in many compilers, like string.h and memory.h:

These files have been added in ANSI to provide function prototypes for some of the commonly used functions. Generally, when you see one of these, you can either totally remove it, and then put the function prototype explicitly in your code, or else you can explicitly create in in your library directory:

```
/* string.h function prototype  
file */ int strlen(); int  
strcmp(); char *strcat(); char  
*strcmp(); /* and so on, until all  
the functions are named as in the  
C manual */
```

The problem with actually using your own include file (as above)

is that the OS9 link-editor is not terribly sophisticated, and will include every named function in your final program, thus possibly using up a lot of memory that you need for data.

There are, of course, many other tricks and traps that can catch you, but I hope I've addressed at least a few of the commonest. Work-arounds are, in the real world, a fact of life. Even mature compilers generally have a few bugs (or as a certain Big Blue computer company prefers, 'undocumented features'), yet we generally can find more than one approach to solve any computing problem.

In my next article, if anyone wants me to continue, I intend to write about binary fields in C, as well as a brief discussion of structures in both C and BASIC09.

--- ### ---

* Ed.note
Bill Beaton has been a professional programmer for the past 25 years. He has programmed in a wide variety of languages and on a varied assortment computers ranging from our coco, to the large mainframes. Bill's main interests are UNIX and OS-9. He used to use RS-DOS, but totally deserted it for FLEX, and later for OS9 when it became available for the COCO.



BEGINNER'S CORNER VOL.17 by Robert Gault

Part II

Perhaps this should be in the Expert's Corner as we will be looking at some assembly language. But we all have to begin somewhere and the code will be simple.

You should remember that we were looking at a compression / decompression routine to store graphics screens. Basic09 was somewhat slow which is no reflection on Basic09 as Disk Basic would be slower still. In any case, acceptable speed is going to require assembly language programming.

There is one advantage in working with Disk Basic. The high resolution graphic screens are always in the same place in memory. OS-9 moves the screens at random anywhere in memory.

ROM Basic always has the high res. screens at \$60000 to \$68000 and the PMODE screens (in a disk system) at \$E00 to \$3E00. Since we used high res. screens last time we'll continue to do so.

We'll start by assuming that a completed graphic exists in memory. The first thing necessary is to OPEN a disk file in which to save the data. This can most easily be done from Disk Basic.

```
10 LOADM"HSAVE"  
20 OPEN"0",#1,"GRAPHIC/PIC"  
30 EXEC:CLOSE
```

First the ml. routine HSAVE was loaded into memory, then our data file GRAPHIC/PIC, for example, was opened, the routine was executed, and last the data file was closed.

What is the HSAVE routine? We'll use the same technique used in the Basic09 article. First get the graphic into the user space, then send the data to the data file with compression.

HSAVE

```
01          ORG          $E00  
10 HSAVE    LDA          #1          path # to disk opened by Basic  
20          STA          $6F        path variable  
30          LDX          #$FFB0     start of palette regs  
40          LDB          #16        number of palettes  
50 A1      LDA          ,X+         get palette and increase  
                                         pointer
```


BEGINNER'S CORNER VOL.17 by Robert Gault continued

60	JSR	\$A282	use ROM to write to disk
70	DECB		decrease count .
80	BNE	A1	loop if not complete
90	LDD	#\$3004	reg A = block # of picture
			reg B = # of blocks needed
100 A2	PSHS	D	save D on stack
110	ORCC	#\$50	turn off interrupts so we
			won't be interrupted
120	STA	\$FFA1	tell MMU to get first block
			and put it at \$2000
130	ANDCC	#\$AF	turn on interrupts
140	LDX	#\$2000	start of data block
150 A3	BSR	COMPRES	do subroutine compress
160	CMPX	#\$4000	finished with block?
170	BNE	A3	if not then loop
180	PULS	D	retrieve reg. D
190	INCA		increase the block #
200	DECB		decrease the block count
210	BNE	A2	if not finished then loop
220	LDA	#\$39	normal block number
230	STA	\$FFA1	restore normal block
240	RTS		go back to Basic
250 COMPRES	LDB	#1	starting run length
260	LDA	,X	get byte of data
270	TFR	X,Y	copy pointer into reg Y
280 B1	LEAY	1,Y	point to next byte
290	CMPY	#\$4000	end of data?
300	BHS	B2	yes then process run
310	CMPA	,Y	compare two bytes
320	BNE	B2	if not equal then run ends
330	CMPB	#64	max run length
340	BEQ	B2	quit if equal
350	INCB		increase count
360	BRA	B1	loop if still counting
370 B2	TFR	Y,X	update pointer passed run
380	DECB		decrease counter
390	BNE	B3	go if run > 1
400	PSHS	A	save data value
410	ANDA	#192	mask of code for run length
420	CMPA	#192	does data look like code?
430	PULS	A	recover A
440	BNE	B5	go if not code lookalike
450	LDB	#192	run length of 1

BEGINNER'S CORNER VOL.17 by Robert Gault continued

460	BRA	B4	go to send RL code + data
462 B3	ORB	#192	convert to RL code
470 B4	EXG	A,B	swap regs A & B
480	JSR	\$A282	send RL =1 code to file
490	TFR	B,A	recover data
500 B5	JSR	\$A282	send data
510	RTS		return from subroutine
520	END	HSAVE	indicate start of ml routine

Decompressing the graphics data is the inverse of the above operation. First open the data file, decompress it, and send the data to user memory, then map the block into the graphic space.

```
10 LOADM"HLOAD"
20 OPEN"I",#1,"GRAPHIC/PIC"
30 EXEC:CLOSE
```

HLOAD

```
10 HLOAD      LDA      #1
20           STA      $6F
30           LDX      #$FFB0
40           LDB      #16
50 A1        JSR      $A176      ROM read data from disk
60           STA      ,X+      store palette data at pointer
70           DECB
80           BNE      A1
90           LDD      #$3004
100 A2       PSHS      D
110          ORCC      #$50
120          STA      $FFA1
130          ANDCC     #$AF
140          LDX      #$2000
150 A3       BSR      DECOMPRS
160          CMPX     #$4000
170          BNE      A3
180          PULS     D
190          INCA
200          DECB
210          BNE      A2
220          LDA      #$39
230          STA      $FFA1
240          RTS
```


BEGINNER'S CORNER VOL.17 by Robert Gault continued

250	DECOMPRS	JSR	\$A176	read data
260		TST	\$70	check end of file flag
270		LBNE	ERROR	if end of file go to error
280		PSHS	A	save data
290		ANDA	#192	mask for RL code
300		CMPA	#192	is data RL code?
310		PULS	A	recover data
320		BEQ	B2	branch if RL code
330	B1	STA	,X+	write to memory block
340		RTS		return from subroutine
350	B2	ANDA	#63	mask for RL value
360		INCA		RL can't be 0 so add 1
370		TFR	A,B	copy reg A to B
380		JSR	\$A176	get data byte
390		TST	\$70	test EOF flag
400		LBNE	ERROR	if end go to error
410	B3	STA	,X+	store run in memory
420		DECB		decrease RL count
430		BNE	B3	loop if not done
440		RTS		return from subroutine
450		END	HLOAD	

There you have it. The only problem is to take care in choosing the code used to indicate run length. You don't want to choose a code which is frequently found as data and you also want to be able to count the longest possible run. Think about it!



238 Catawba Avenue
Davidson, North Carolina 28036
704/892-6233
Mr. Bernie Patton
Color Computer Owners Group
388 Emmons
Wyandotte MI 48192

Dear Mr. Patton:

We would like to thank your club for sending to IMS the July 1990 and October 1990 issues of your club newsletter. Outstanding! Congratulations on an active club -- it was great to see some of your members in Atlanta, too.

There are a few points in your newsletter that require some clarification. First, although the MM/1 was showing demos, it was not really in a "demo" mode: we had production design boards up and running. Plus, note that FCC Class B approval is legally required before a computer can be sold. A computer that is sold without Class B approval puts the purchaser at legal peril. Non FCC approved computers can be confiscated.

Also, the MM/1 is as easily expandable as any other bus-based computer. The MM/1 32-bit design also permits upgrade CPUs such as the 68030 and 68040 to run at full speed, without waiting.

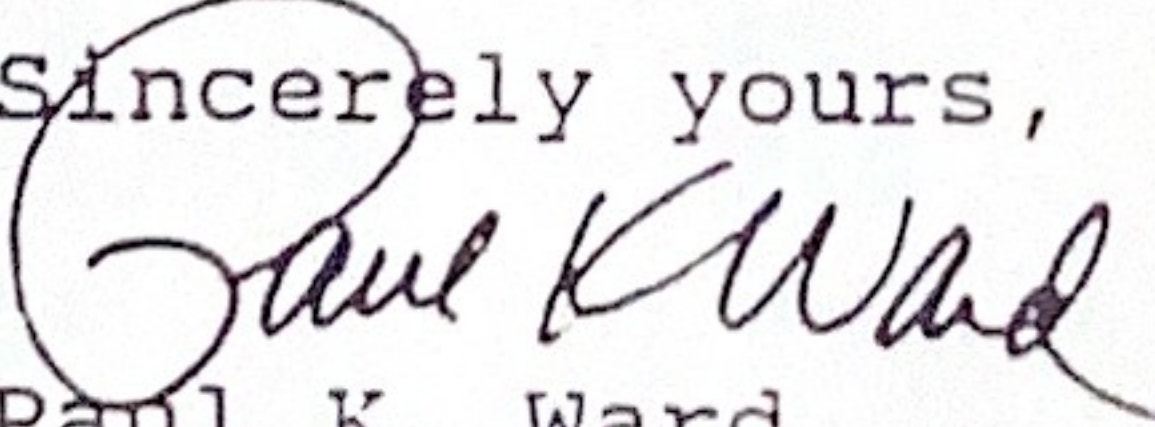
IMS is also currently designing its portable version of the MM/1. Details will be available around late Spring. Also, the MM/1 can handle up to four floppy devices and any number of SCSI devices that include hard drives, tape drives, and CD-ROM. We are planning a board for the MM/1 for high resolution graphics.

You commented that many of your members are staying with Basic and not moving to OS-9. They may be interested to know that our soon-to-be-released QuickBASIC will later be modified by IMS to run your favorite BASIC programs hundreds of times faster than before! QuickBASIC will initially be available on the MM/1.

Last, we have detailed plans for an MM/1 model that will change the way everyone thinks about computing. It will result in more of your family members becoming involved in your favorite hobby!

Enclosed are some press releases of other activity at IMS. Our staff is working around the clock to get the MM/1 ready to ship to all of our patient and wonderful preorder folks.

Sincerely yours,


Paul K. Ward
President

Editor's Note: Reprinted from
Color Computer Owners Group
Wyandotte, Michigan

BEGINNER'S CORNER VOL. 18 by Robert Gault

It pays, every so often, to go back and look at some of your old code. You will be amazed how just a short period of time can completely change your approach to writing programs. Rereading code can be a real learning experience.

I just revisited some code I wrote for the Aug. 1989 newsletter. The program was TEXTLIST, which was designed to list to screen or printer any type of disk file; /BAS, /BIN, /TXT. The only practical use of the program was to list text files.

TEXTLIST solved the problem of listing files created by word processing programs. These files can have very few carriage returns which causes string overflows with the typical type of file-list program.

When I looked at the code, I thought, "Wow, that sure was a complex way to do it!" At the time, I had tried several different approaches none of which worked. Now, however, I thought I knew a simpler way. Look at the code below and reread the Aug. issue.

```
1 WIDTH80
2 LINEINPUT"File name? Include extension and drive. ";F$
3 INPUT"Print to SCREEN (0), PRINTER (1) ";DV
4 IF DV=1 THEN DV=-2
5 OPEN"D",1,F$,1: FIELD #1,1 AS DT$
6 FOR I=1 TO LOF(2): GET#2,1:P$=DT$:IF P$(<>CHR$(13) AND
  P$ <" " THEN P$=" "
7 PRINT#DV,P$;POKE&H985,0:NEXT
8 POKE&HFF40,0:CLOSE
9 REM POKE&H985,0 keeps the drive from turning off.
10 REM POKE&HFF40,0 turns off the drive.
```

The above is much shorter and easier to follow but I am not saying it is better, just different. You might think since it is so much shorter that it would also be much faster; not so! The code runs considerably slower.

Why does it work, and why the speed difference?

I had tried the above approach for the original article without success. I kept getting "end of record" errors. The critical code is the second half of line 5: FIELD #1,1 AS DT\$. The command field tells your Coco information about the size and location of characters within the block of data being read or written to disk. On the other hand, so does the number 1 in the OPEN"D",1,F\$,1.

The 1 in the OPEN command says that the data blocks are one byte long. Try running the program without the FIELD command and change in line 5, P\$=DT\$ to INPUT#2,P\$. The program will stop with an ER end of record error. This bizarre result (both versions should work) messed me up the first time, resulting in the original TEXTLIST.

For some reason, GET/INPUT does not like spaces which are used to mark the ends of records. FIELD does not suffer from this problem. The speed difference is easier to explain. The original program read data from the disk in sector blocks of 256 characters. The extra overhead of reading a single character at a time is very noticeable.

This isn't Aesop's Fables, but there are several morals to this story. There's more than one way to skin a cat. The operational speed of a program is much more dependant on efficient code than hardware. The efficiency of code is easier to test and measure than to predict. YOU ARE NEVER TOO OLD OR TOO GOOD TO LEARN.

* Island CoCo Club - Phone Roster: Dec.'90 /Jan. '91 *

(Area code is 516 unless otherwise noted)

NAME	PHONE	LOCATION	INTERESTS
Gerald Angus	935-3511	Levittown	Club Pres., CoCo3, OS9II
Chuck Adams		Ellenville	OFA Member
Roy Arnold Jr.	203-633-6662	Connecticut	OFA Member
Larry Bigel	795-3035	Massapequa	ML, Sounds, Graphics
Vince Buccellato	242-5240	Deer Park	Ham Radio
Joe Castelli	783-7506	Bellmore	Founder, J&R Micro Computer
Patrick Dwyer	282-2575	Upton	CoCo3, Pen Pal East
Mrs. Susan Eckers	368-0836	E. Northport	VIP, Graphics
Steve Gilbert	867-6096	Freeport	OS9II HD, OS9 CoSysop
Ira Goldwyn	482-3049	Great Neck	Graphics, BBS'n
Joel Greene	692-5242	Huntington	WP, Graphics, Adv
George Hand	271-1268	Huntington	Utilities
Ronald Hand	271-1268	Huntington	Utilities
Ryan Hushion	798-7119	Massapequa	Games, Adventures
Chris Kenna	654-8626	Patchogue	Games, Adventures
Helene LaBonville	603-472-3369	Bedford, NH	OFA Member
D.K. Lee	795-5874	Massapequa	PC BBS Sysop, Editor
Sandy Leibstein	536-0617	Oceanside	Programming, Games
Gabe Licciardello	289-6212	Patchogue	CoCo3
Richard Mazzoni	718-373-1627	Brooklyn	OFA Member, CoCo2
Thomas McArthur	225-9309	Lindenhurst	OS9 Lib'n, CoCo 3
James McDaniel	718-493-0950	Brooklyn	Club Sec, OS9II HD
Dave Myers	313-481-3283	Michigan	CoCoPRO! Pres
Dennis Neary	326-9021	Elmont	Games, Adventure
Bob Olsen	546-8288	Merrick	CoCo 3, Symphony
Irving Pereira	868-4696	Baldwin	Librarian, CoSysop
Pat Pereira	868-4696	Baldwin	Club Treasurer
Gian Polizzi	794-4906	E. Meadow	V. Pres. Music, Graphics
John Gordon Reid		Woodside	Utils, ADOS3
William Rosenfeld	621-2292	Roslyn Hts.	Graphics, CoCo3
Joe Scalia	694-2219	Farmingdale	CoCo 3
Leo Serber	586-1718	Deer Park	CoCo 3, Utilities
Dean Serpico	794-2156	East Meadow	Pascal
Terry Simons	515-279-2576	Des Moines	Mid-Iowa CoCo, PC BBS west
Richard Spreen	334-2273	Westbury	Utils
Ray Steger	488-7272	Floral Park	Programs
Robert Terrano	358-7525	New Hyde Park	Adventures, Games
Eric Tilenius	271-8456	Huntington	Color Venture Pres, CoCo3
Michael Trammell		N.Y.C.	CoCo 3, Graphics, Co-Sysop
Jim Woods	623-5696	N. Merrick	CoCo 3
Dennis Zobel	698-6197	Centereach	CoCo 3, RAT Viewer, Gms

What are your interests?? Tell us at: Club Roster/Island CoCo Club
P.O. Box 426, Massapequa Park, New York 11762, and we'll put your
interests next to your name.