

# CoCo~123



## WELCOME TO CoCoFEST! 2001 MAY 5 & 6!

Glenside Color Computer Club  
Volume 20, Number 1

Glendale Heights, Illinois  
March April 2001

### *CoCo ~123 HighLights*

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#### **G.C.C.C. Inc. OFFICERS:** -----

Here is the list of 1999 club officers and how to contact them.If you have questions about our club, call one of the officers for the answers.

<b>POSITION</b> -----	<b>NAME</b> -----	<b>PHONE</b> -----	<b>PRIMARY FUNCTION</b> -----
President	Brian Goers	708-754 4921	Meeting, Planning, etc
Vice President	Tony Podraza	847-428-3576	Meeting, Planning,etc
Secretary	Robert Swoger	630-837-7957	Records and Reporting
Treasurer	George Schneeweiss	815-832-5571	Dues and Purchasing

## CoCo ~ 123 INFORMATION

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The CoCo ~123 is the newsletter of the Glenside Color Computer Club. Your annual contribution of \$15.00 keeps our club going. Send your check to Glenside Treasurer:

**George L Schneeweiss**  
**13450 N 2700 E Road**  
**Forrest IL 61741-9629**

Our treasury provides newsletters, local meeting room and good times with fellow CoCo users at our annual Chicago CoCoFEST.

## CoCo~123 CONTRIBUTIONS

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If you have any suggestions for the newsletter or would like to submit an article, please contact the CoCo ~123 Editor:

**Howard Luckey**  
**4 Gibson Rd**  
**Park Forest IL 60466-1723**

## CONTRIBUTORS TO THIS ISSUE

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**Brian Goers**  
**Tony Podraza**  
**George Schneeweiss**  
**Willard Goosey**  
**Lee Veal**  
**Montana Quiring**  
**Bob "Gator" Swoger**  
**Robert Gault**

## G. C. C. C. MEETINGS

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The Glenside Color Computer Club meets the second Thursday of each month at the Schaumburg Heights Public Library at 7:30 PM. See our WWW Glenside Homepage at:

<http://members.aol.com/clubbbs/glenside>

if you need a map. A social get-together always occurs at the nearby Sante Restaurant or Barneby's.

## FROM THE PRESIDENT'S DISK

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**Brian Goers, President**  
**Glenside Color Computer Club**

Well here we are at the Tenth Annual "LAST" Chicago CoCoFEST!. Who would have thought we could have a run of ten years. But it won't end. Because I plan to organize next year's show. It is a new location and I will inform everybody of the details when I've finalized them. I will have them in the next couple months.

But we have this show to enjoy. A few people have stopped using the CoCo and a few others have started again. So I for one will stop thinking about, how it was in the past and think of what can I do with it now. This is a good time to put in a plug for articles for the newsletter. Would someone write one on which disk, SD or DD, is the correct one for the CoCo drives? An article on putting a 3 1/2 inch drive on the computer, maybe. Is there information that you can't remember but you would like to? Ask! Someone is likely to know and help you out. Above I stated I was organizing the show for next year. I would like to congratulate the new President Howard Luckey in his position. It was a close race and I am glad he won. (grin). He knows what I mean.

One last thing before I go. I hope to have information on replacement CPU chip at this show. So stop by and order your replacement. The cost is reasonable for 63B09EP CPU's about \$10.00 to \$12.00 the way it looks now.

See you in the show,  
**Brian Goers**  
**President Glenside Color Computer Club.**

## TREASURY NOTES

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As of February 8, 2001, the balance in our checking account is \$2767.75.

**George Schneeweiss, Treasurer**  
**Glenside Color Computer Club**

## THE SECRETARY'S NOTEBOOK

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As it was missing from our last released newsletter, we present here the August 200 minutes:

**August 10, 2000**

Brian called the meeting to order at 7:52 PM at the Schaumburg Township District Library. Present were Brian Goers, Bob Swoger, Richard Bair, George Schneeweiss, Justin Wagner, Howard Luckey and Tony Podraza.

The picnic was the first order of business. George is ready to have the picnic on September 9 at his home in Forrest, Illinois. He plans on having grilled chicken. Bob Swoger will be unable to attend as he has another picnic to attend on that date in Sycamore. Justin, Tony, Rich and Brother Jeremy plan to be there. We hope that after reading this newsletter that more will make the trip.

Carl Boll will be at PennFEST with Scott G, they will pay for a booth. Carl reports that he now has enough finished IDE Interface boards to fulfil all paid customers. Brian reported that he now has 21 boards to analyze and 25 more to finish building.

Brian was asked to bring in for the next meeting the QUIET DRIVES set that he bought at the CoCoFEST. It is hoped that he can demo them after the meeting.

We all welcome our latest new member Leon Howell of Oregon.

In lieu of our October meeting, we plan to have a meeting at the home of Tony Podraza for the purpose of cataloging the items stored there for the club. We will also better organize the items for easy recovery using our newly created catalog.

George reported our treasury stands at \$15 higher than last month.

The meeting adjourned at 9:00 PM.

**November 9, 2000**

Present were Brian Goers, Rich Ekstrom, Bob Swoger, Justin Wagner, Scott Montgomery, George Schneeweiss, Howard Luckey, Tony Podraza and Brother Jeremy.

The newsletters were brought in to stuff into and label Envelopes. Brother Jeremy was praised for the work he had done to improve the contents of the September minutes.

This issue was dedicated to all the years of work that Phyllis Chasteen providing buttons for our annual CoCoFEST.

Brother Jeremy updated us on how the CoCoFEST Speaker possibilities were coming along.

Brian Goers reported that 23 IDE boards were built and did not work. Bob Swoger asked Brian to bring these boards to the December meeting that the membership might try to analyze what the problem was with these boards. Members will bring VOMs and VTVMs and their best reading glasses to the December meeting

Bob Swoger made a motion that all present at the fests for the last 5 years and any visitors for the last 5 years receive newsletters to show our continued presence in the CoCo Community. After some discussion this motion was retracted due to the high cost of publishing these extra newsletters.

The group decided that instead a special newsletter would come out before the CoCoFEST that would provide this targeted group with a "best of" past newsletters of the past year.

Scott Montgomery made a motion that the member database be updated to show meeting visitors of the last 5 years.

Tony reported that George Bethea from New York was coming into town and several members asked to join in a restaurant get together with him. Tony will provide the information as to when and where.

The meeting adjourned at 9:22 P.M.

## **December 14, 2000**

Present were Tony Podraza, Dave Keil and John Chasteen.

FUN NIGHT as Dave Keil came to visit from Wisconsin and showed the club his CoCo2 emulator.

The meeting adjourned at 9:55 PM.

## **January 11, 2001**

Brian called the meeting to order at 7:52 PM at the Schaumburg Township District Library. Present were Brian Goers, Bob Swoger, Scott Montgomery, Dave Keil, John Chasteen, Brother Jeremy, George Schneeweiss, Justin Wagner, Howard Luckey and Tony Podraza.

Tony Podraza introduced Dave Keil, KC4YJC, from Wisconsin, author of a CoCo2 Emulator. The emulator was first introduced to a few members last month, but only two were there to see it as our December meeting was poorly attended due to other Christmas time commitments.

Scott read a letter that he proposed would go out to all active CoCo users we had snail-mail addresses for.

George announced those Dues for 2001 were due.

Dave Keil needs to emulate a CoCo hard drive. We requested that he contact either Eddie Kuns or Carl Boll.

Brother Jeremy needs to get Dave Keil in touch with Rick Uland (Brother Jeremy, please explain here. THANKS)

Tony is ready with the vender applications and has sent some out already. He also gave the room rates for the Ramada Inn for the evenings of the Fest, May 5 and 6. They will be \$68 for a single, \$75 for two. These rates can be seen on the Ramada Inn web site. Bob is to get the information on the web page updated for the fest. Brian Schubring will get the tickets for the fest printed. Bob will try to get a vender list by contacting venders on the phone. Justin Wagner will contact Nuts and Volts to get our fest dates printed there, Thanks Justin!

Tony reported that we have signed up for the meeting room at the Schaumburg Public Library for the next 6 months, through June and that the Glenside Public Library where we used to meet is looking for a Computer System Administrator. Tony also reported that the Sams Card renewal needed to be continued. This was put to vote and passed.

The meeting adjourned at 8:45 PM to demo Dave Keil's emulator after which we retired to the Sante Restaurant just west of Roselle Road on Higgins Road to finish another good meeting.

## **February 8, 2001**

Present were Bob Swoger, Scott Montgomery, Tony Podraza, Brother Jeremy, George Schneeweiss, Richard Bair and Justin Wagner.

This night the fog over the south side of Chicago was real bad keeping Howard Luckey and President Brian Goers from coming out. In Brian's absence, Secretary Robert Swoger called the meeting to order at 8:04 p.m.

The day after our last meeting was the wedding anniversary of Tony and Linda. Regretfully, Linda fell on the icy steps in front of their home and suffered a hairline fracture of her leg just above the ankle. She will be in a partial cast for over 6 weeks. This complicated his life in such a way as he got behind in keeping up with his e-mail.

Tony updated us on the coming CoCoFEST progress. To date Brother Jeremy of Monkoware and Frank Davis of FWD computing is sure he will be at the fest. Frank has the desire to again provide shirts this year if we can come up with the artwork. Due to other commitments, Ken Backer will not be attending.

Marlette has been contacted and has not committed. We are still hoping for the presence of Paul LaBlanc Kevin Darling, Mark Hawkins, Ray Watts, Alan Huffman, Scott Griepentrog, and as a speaker Dave Keil updating us on his CoCo3 emulator work on an IBM platform.

A motion was made and passed to pay fully for the show room at the Ramada Inn of Elgin.

The meeting adjourned at 8:49 p.m.

**March 8, 2001**

The evening started in the coffee shop just inside the Schaumburg Public Library. With all those present we required 2 tables! We discussed many things CoCo and MM/1 related. Also shown was what we had so far for the 10<sup>th</sup> Annual "Last" Chicago CoCoFEST. This Logo was the idea of Tony Podraza! Tony received from Brian Goers a copy of the old cult B movie "Plan 9 from Outer Space" which is said to be behind the naming of the OS-9 operating system.

Once up in the meeting room Justin and George joined us.

President Brian Goers called the meeting to order at 7:55 PM. Present were Brian Goers, Bob Swoger, Scott Montgomery, Dave Keil, Brother Jeremy, George Schneeweiss, Justin Wagner, Howard Luckey and Tony Podraza.

The first order of business was the 10<sup>th</sup> Annual "Last" Chicago CoCoFEST logo. Bob asked for the words to put around the logo and the members collectively agreed what they were to be. Brother Jeremy said he'd try to get a picture that Bob needed to complete the logo to Tony's concept of what the final was to look like.

Next, George wrote a check to pay for our fest room at the Elgin Ramada Inn. Tony informed us the Scott Montgomery conceived card was completed and mailed to all state side CoCo users known by us.

Tony informed us as to the known vendors, which have committed to be at the fest. Paid vendors are Monkware, Hawksoft, Luckey Corner and Bargeman Research Labs. Verbal conformations include Frank and Carol Davis's FWD Computing, Mark Marlette, Music Men, Yulland and Dave Keil to show his CoCo emulator.

This evening Dave Keil became our latest new member. Dave travels the furthest of all our members, 3 ½ hours from Wisconsin! That puts to shame others that think the trip is too far to make!

We decided to change our April meeting to Friday, April 20, 2001. By the request of regulars that could not make our regular scheduled meeting. This date is also closer to the fest date which help clean up last minute situations. Officer nominations will begin on that date and close at the following May meeting with elections of officers that same night.

The meeting adjourned at 8:54 PM and we all met again at Sante's Restaurant after Dave Keil showed a few more of us his CoCo emulator updates.

Robert Swoger, Secretary  
Glenside Color Computer Club

**Glenside Color Computer Club We Have A Web Page!**  
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The Glenside Color Computer Club now has a web site. Look for us at:

<http://members.aol.com/clubbbs/glenside/>

Bob Swoger, Webmaster  
Glenside Color Computer Club

## **WEB COMMUNICATIONS:**

-----

Some (edited) old news about a new product. (hl)

> Subject: new product?  
Date: Tue, 3 Oct 2000 15:37:18 -0500  
From: Mark Marlette <mmarlett@ISD.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Well it is that time again..... Time to roll out another never been done before design for the CoCo. I have been gather information for quite some time and I'm almost ready to start the work.

I think it will be the largest board ever for the CoCo and will defiantly have more horsepower on board than twenty CoCos! The problem is cost. With these super chips in low volume come super prices. Am I TOTAL nuts for even thinking about a project like this these days? Please let me know if and how many people would be willing to have such a board or what they would like to see if it isn't already on it.



Major Items:

- \* 2megs DRAM
- \* FLASH memory for OS9
- \* Ethernet
- \*
- PPP, LCP, IPCP, IP, TCP, UDP, DNS, SMTP, POP3, H  
TTP and PAP, CHAP or Script  
authentication, Binary Base64  
encoding and MIME. Did I miss anything?
- \* Dual Port 16c550 FIFOs
- \* Bidirectional Parallel Port
- \* RTC
- \* AT Keyboard Interface
- \* Dual Boot IC2 ROM
- \* SCSI
- \* IDE
- \* MIDI
- \* ADC true hardware solution, not sure  
about these
- \* DAC true hardware solution, "" ""  
"" ""

As you can see this is an incredible device and it has been it the works for awhile. I didn't want to release my 2meg card till I was set on what would be on it. Some of the add ons will be options to be added to the base 2 meg board as plug in modules. These plug in modules WILL also plug into the Glenside IDE card. Not sure what the breakdown is of that until I get all of the logic design done.

As far as the Ethernet and the super communications chip goes this is where the cost lies. The PPP chips is pretty much a done deal. It is expensive but what a treat. ANYONE will be able to program it and with seven setup commands you are connected to the Internet that will allow you to send and retrieve Email from the CoCo! :) We all know that there will be some graphical restrictions but there will be almost no work for the coco to do. It will all be processed on the super chips. Retrieve/Send an Email is six commands/responses. UNBELIEVABLE! What is even better is that the drivers are all ready done for this! Only the applications will need to be written. Cloud-9 will not be writing the applications due to the "workload" here. I'm sure that if there is enough

interest that someone or a group of people will be able to develop this app. Please contact me if you would be interested in the task. Only serious people apply.

The Ethernet controller I need to research a bit more but it will need some drivers to be written.

Demand will drive this product only.

Please response to both the list and to me personally. I want everyone to know what is going on \*\*if\*\* anything.

Thanks,

Mark  
Cloud-9  
email: mmallett@isd.net  
<http://www.isd.net/mmallett/cloud9.html>

> Subject: Re: new product?

Date: Tue, 3 Oct 2000 17:39:18 -0400  
From: Louis Schulman <louiss@GATE.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Hi Mark,

I am in favor of a product with the hard drive support, serial and parallel ports, RTC, and other basic stuff, but I would skip the fancy stuff if it is going to double or triple the price and cause time delays, software problems, etc.

Frankly, your SCSI controller is already a little expensive for me, even though I want one. Sounds like the price here would just be too astronomical.

I'd love to have this thing, but this is only an inexpensive hobby for me, sorry. I do love your stuff, though.

Louis

> Subject: Re: new product?

□

Date: Tue, 3 Oct 2000 17:48:19 -0400  
From: Ken Carlin <carlin@NAUTICOM.NET>  
To: COCO@pucc.Princeton.EDU

Newsgroups: bit.listserv.coco

Well Mark, I'm interested. The 2meg board is the single feature I'd like to have the most, but the Ethernet options would be really nice too.

> Subject: Re: new product?

Date: Tue, 3 Oct 2000 17:02:32 -0500  
From: Mark Marlette <mmarlett@ISD.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

At 05:39 PM 10/03/2000 -0400, Louis Schulman wrote:

Noted. This board will be \$\$\$\$\$. I too could lower the price if the volume was there. Let's use a real case here. A "chip" that costs \$50 in single quantity, drops to \$13 with a 100,000 quantity. PC boards the same thing occurs. As you can see the domino effect is in place.

I love to make it do things that it could never do. Cost? After twenty years..... :)

Thanks for the feedback

Mark

Oops. I goofed on the header. (hl)

>Hi Mark,

>

>I am in favor of a product with the hard drive support, >serial and parallel ports, RTC, and other basic stuff, but >I would skip the fancy stuff if it is going to double or >triple the price and cause time delays, software problems, >etc.

>

>Frankly, your SCSI controller is already a little expensive >for me, even though I want one. Sounds like the price here >would just be too astronomical.

>

>I'd love to have this thing, but this is only an inexpensive hobby for me, sorry. I do love your stuff, though.

>

>Louis

> Subject: Re: new product?

ate: Tue, 3 Oct 2000 15:05:15 -0700  
From: Jim Cox <jimc@AMC.COM>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Mark:

I would be interested in your board, but I really don't have a need for the ethernet. Could that be an option? The rest of the stuff, particularly your 2M RAM, SCSI, and additional ports would be great. I just think the ethernet is overkill for my needs.

Jim Cox

PS: Just to clarify my point, this is all I need.

- \* 2megs DRAM
- \* FLASH memory for OS9
- \* Dual Port 16c550 FIFOs
- \* Bidirectional Parallel Port
- \* RTC
- \* AT Keyboard Interface
- \* Dual Boot IC2 ROM
- \* SCSI
- \* IDE
- \* MIDI
- \* ADC true hardware solution, not sure about these
- \* DAC true hardware solution, "" ""
- "" ""

> Subject: Re: New Product

Date: Tue, 3 Oct 2000 17:32:00 -0500  
From: Dave Gacke <dgacke@LND.COM>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

I know this may sound like heresy, but.... Has anyone considered building a full fledged CoCo to ISA bus bridge board?

You know, get a cheap passive ISA backplane board, and insert the appropriate boards for you. :)

There are LOADS of cheap HD controllers, sound, serial, ethernet, video, etc. cards out there...

I've been toying with the idea, but haven't yet taken the time to sit down and look at it closely.

This might be the more cost efficient approach to fully embedding everything. Plus, most PC stuff is well documented, so hopefully CoCo drivers wouldn't be too horrific.

Dave Gacke

> Subject: Re: new product?

Date: Tue, 3 Oct 2000 17:33:51 -0500  
From: Roger Taylor  
<CoCoTower@WEBTV.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Well, Mark... all the true CoCoNuts will definitely want such a board to make their CoCo do all those modern things. CoCo users who already have PC's that do that stuff might not care for it. And some CoCo users might even think that for the price tag they can pick up a used PC out of the local classifieds.

Even though I realize that at 2mhz, graphical web pages would never load quick enough to really do much there... but I am sure that resizable fonts and colors would do us well enough to get by.

Anyway, I am all for this board. With it, the CoCo community will do GREAT things, my friend.

Why don't you just build a whole new CoCo and give us a CoCo 4? :) The actual CoCo itself can be put on one chip nowadays.

'course Paul Barton's 8-meg board is extremely tempting but unless everyone has one the whole idea goes to waste. I hope you get enough response on this project.

I will be glad to write drivers and support software for your board, for OS-9 and/or DECB. Please put me at the top of your consideration list and let

me know as soon as you are ready for some software to show that baby off.

Roger Taylor - P.O. Box 847 - Magnolia, AR - 71754-0847

> Subject: Re: New Product

Date: Tue, 3 Oct 2000 18:25:02 -0500  
From: Mark Marlette <mmarlett@ISD.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

At 05:32 PM 10/03/2000 -0500, you wrote:

This is really not that hard. B&B did it years ago. I differ with you on the PC being well documented. It is documented but to find the low level detailed information that you will need to talk to these devices and to the specific cards will not be that easy. A slightly different rev comes out or they use a different card and it is broken. By the time you are done with this you will end up with a version of windows on your Coco from a drivers standpoint. I hate the multipack as it is. It makes the coco look sloppy, IMHO. I have done the ISA interface already for the AT306 and the CoCo would not be that hard either. Software is where you will spend your time. Don't get me wrong, I'm not knocking this idea. I think it would be a great item. Just not doable in my future.

What is fun with the coco is that a lot of people have been proven wrong. I would like to be shown otherwise. I'm going the route of added costs to get the product to market faster. I have so much design work to do and the coco doesn't support the family. This is probably my last board for the coco so that is why it is so large and complex. I want everything on it and cost really isn't an issue. It is for most. This board will probably cost me around \$10,000 to produce. Not too many people throwing that kind of money at the coco these days. The end result will be most cool. A coco without any boards plugged in to the CART port and full connectivity. If not I will have the prototypes and have the coco working



hard as it does everyday. It is never off except to change a board or fiddle with something. Uptime 99.99% on my development system. :)

Mark  
Cloud-9  
<http://www.isd.net/mmarlett/cloud9.html>

> Subject: Re: new product?

Date: Tue, 3 Oct 2000 19:33:28 -0400  
From: Dave Poitras  
<dpoitras@MEDIAONE.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Hi Mark,

One word comes to mind...

WOW!

Ok, (drooling stops) Let me know when to send the PayPal payment :-). Oops, here comes Susan & she's just shaking her head and rolling her eyes at me. Please put me down for one. When I figure the first floppy drive cost me \$399.00 this is a bargain.

I am not sure I would ever use all the features, but I'd love to try. I like the idea of Ethernet built since my house is networked now.

Dave

> Subject: Re: new product?

Date: Tue, 3 Oct 2000 18:37:59 -0500  
From: Mark Marlette <mmarlett@ISD.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Dave,

After about six years my wife gave up. She knows I hopeless! Sick, maybe but it is fun. :) Thanks!

Mark  
Cloud-9

> Subject: Re: New Product

Date: Tue, 3 Oct 2000 20:12:39 -0500

From: Mark Marlette <mmarlett@ISD.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Deposits **\*\*might\*\*** be required, not sure yet. I don't like to do that but the turn will be VERY fast. Last board I did from concept to having the PC board in my hand was 3 days. It took me a FULL winter to learn the software packages not a small task. This board will not be turned in three days. I need to research some more and ask what people would like. Floppy controller to support 3 1/2" media and 5 1/4" media. I already have that but it is a MAJOR hack to the old style WD1793 controller. Robert Brose did the original hack, most excellent work Robert! I can stick a 3 1/2" HD floppy in my PC, copy files and go over to the coco and read that same disk. Next best thing.....Ethernet. :)

Mark

> Subject: Re: new product?

Date: Tue, 3 Oct 2000 22:20:38 -0500  
From: Mark Marlette <mmarlett@ISD.NET>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

At 10:16 PM 10/03/2000 -0500, Brian E. Goers wrote: (about having an USB port)

Brian,

I have looked at USB but the layers and the drivers that would have to be written would be a large task.

Someone will step up and write the drivers I will produce the hardware.

Thanks,

> Subject: Re: new product?

Date: Fri, 6 Oct 2000 03:45:41 -0500  
From: "Carl J. Boll"  
<carlboll@CHICOCO.CHI.IL.US>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

On a foggy, gloomy day, Mark Marlette's fingers typed:

See Mark's description above

This sounds like a great project. I'm in for one. I especially am interested in the ethernet. It'd be nice to have that for my own network. How much will they cost?

Carl

--

**The last I've seen about a new product.  
(hl)**

Carl Boll: root@chicoco.chi.il.us

**Some old IDE news. (hl)**

Subject: IDE update  
Date: Fri, 29 Sep 2000 03:22:41 -0500  
From: "Carl J. Boll"  
<carlboll@CHICOCO.CHI.IL.US>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

At this point I want to let everybody know that well over half of all orders, that includes fully paid, deposit and paid and just reservation orders are now shipped or handed out at the various Fests.

To date we have probably distributed more boards than any other recent project, I don't know the numbers for those projects.

This has been a tremendous effort on everybody's part and now that the end is in sight I look forward to again having spare time to >play< with my CoCo and begin a new project.

I don't want to do a project as hard as this one, I think my next project will be a simple add-on board that I can do alone or with the help of one or two local friends.

Here is my proposed project:

A boot ROM for the interface that boots to the hard drive when a switch is in the on position and boots to the floppy drive when it is off. The board will be a daughterboard for the IDE interface and have a 40 position card edge connector for the floppy

controller as well as a set of pads to accept another daughtercard.

Installing it on the IDE card will be a simple soldering job which you can do yourself, have done at any electronics shop or which I can do.

I have already done some testing and am in the process of looking at parts that I'll need as well as costs. Let me know if you are interested in this project. I can't give an estimated cost yet, I need to price parts first. It is a very basic project and it shouldn't be too expensive.

Carl --

Carl Boll: root@chicoco.chi.il.us  
Subject: ide update  
Date: Thu, 2 Nov 2000 08:26:25 -0600  
From: "Carl J. Boll"  
<carlboll@CHICOCO.CHI.IL.US>  
□  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

Here is a quick message on what you need to do if you are having trouble getting your IDE setup functioning. I will post a fuller description later this week describing how to make a boot disk as well.

First, unplug all devices except your floppy controller and your IDE interface.

Now, we are going to need your original OS9 boot disk. Boot up to stock OS9. Now load the IDE driver and the descriptor. Do an INIZ to initialize them (see your manual for the correct command syntax) and Dmode the descriptor to match your hard drive specs. Now run Lformat (do not use verify as it may be broken). After running Lformat you should be able to read and write files to the drive.

At this point you should start working on making a working boot disk that includes your other hardware. One note, you must be aware of the fact that it is very easy to run out of system RAM if you do not merge your modules. Loading your hard drive

driver and descriptor in the aforementioned manner may be impossible if you have already made a boot dosk that has additional windows and other drivers. This is why we recommend that you use the original boot disk.

Carl --

Carl Boll: root@chicoco.chi.il.us

Subject: IDE problems

Date: Fri, 29 Sep 2000 06:02:59 -0500

From: "Carl J. Boll"

<carlboll@CHICOCO.CHI.IL.US>

To: COCO@pucc.Princeton.EDU

Newsgroups: bit.listserv.coco

At this point I can't really say what the definitive casue of Dave's problems are. There is a chance that it is Lformat that is the problem, there is a chance that his hard drives are all older drives that do not report correctly their size or it may be something altogether different.

I do know that we've had these interfaces working in a wide variety of systems including those that use multi-paks and those that use Y-cables. To date I've never heard of this problem before his running into it.

It is possible that the floppy ghosting can be fixed in the driver by using the method suggested by Art Flexser. I'll ask L. Curtis Boyle to look into it. There is also the chance that the floppy controllers will need a hack in order to work with board correctly. If that is the proven case I am willing to undertake doing those mods for people on a slight commission although it won't be for a couple of weeks. I'm pretty sure we can work out something, even if it mean the use of a daughterboard...just something that comes to mind immediately.

Let's see what happens.

Carl

--

Carl Boll: root@chicoco.chi.il.us

**News about the CoCo. (hl)**

Subject: CoCo mentioned in Government Computer News, Nov 2000

Date: Wed, 6 Dec 2000 11:16:05 -0800

From: Allen Huffman

<allenh@MICROWARE.COM>

Organization: Microware Systems Corporation

□

To: COCO@PUCC.PRINCETON.EDU

Newsgroups: bit.listserv.coco

There is a publication called "Government Computer News/State & Local". In the "Enterprise Computing" section of the November 2000 issue is a sidebar column called "Power User". In it, John McCormick takes a look at eight of the last millennium's best computer ideas.

They were: Operating systems and compilers, the PC, THE TANDY COLOR COMPUTER AND OS-9, MS-DOS 2.11, CAD software, GPS, Word Processors, and Word Perfect 4.1 specifically.

"The Tandy Color Computer. I drove 80 miles to see the first Macintosh but discovered it was twice as expensive as my 16K Tandy Color Computer with a Motorola 6809 chip, and the Mac's tiny screen was black and white."

"As a writer I wasn't about to work with that screen, and I wasn't impressed by the Mac mouse, either. Plus, the box was totally sealed. But my CoCo was designed for color display and could connect to any TV."

"Then and there I wondered about the Mac's future. Many of its innovations such as what-you-see-is-what-you-get editing, the graphical interface and the mouse aren't high on my list of bets, either."

"The CoCo had build in Basic, it was easy to interface with various devices and it was reliable."

"I was one of the users who forced the CoCo to multitask under OS-9, the Unix-like OS that proved so great for embedded applications."

"Although the TRS-80 got a lot of people started with computers, for my

money the CoCo was the one that raised up a generation of computer users. It was relatively easy to modify and cheap enough to play with as a toy. I still have six, and they all run."

Neat, huh?

Al

Subject: Re: CoCo mentioned in  
Government Computer News, Nov 2000  
Date: Wed, 6 Dec 2000 22:30:24 -0500  
From: Gene Heskett  
<gene\_heskett@IOLINC.NET>

Organization: Organization? Whats that?  
To: COCO@PUCC.PRINCETON.EDU  
Newsgroups: bit.listserv.coco

Gene Heskett sends Greetings to Allen  
Huffman;

>Neat, huh?

Yes, Neat. And to that I'll add a hearty Amen! If it hadn't been for the coco, and its ease of use made possible under os9 by the very well written, clear and concise manuals, I think I may have lost interest in computer things many years ago.

To be fair, had \*any\* of the other dos offerings been accompanied by the quality of docs we've come to expect from our years with the coco/os9, the story might have been different. But it wasn't, and the rest as they say, is history.

OTOH, when the lawyers start writing the docs, making sure that none of \*their\* precious IP is disclosed, then the 'handwriting on the wall' isn't too hard to decipher. IMO such is the case with M\$ since about dos-6.2 with its windows 3.0 wrappers that few ever figured out how to program because the only way to get the docs was to sign an NDA.

To bring a bigger bat to the plate when the horsepower in the coco wasn't up to the network job, to me the next most logical step was something like this amiga, which has now served me for

almost a decade now. Nowhere near as stable as the coco was, but lots faster. And if thats not fast enough, there's a 400 mhz linux box now serving as a router for this amiga.

Thanks for posting this Alan. Somebody there must have an honest thought from time to time, but I hope he didn't sign it, the PC enforcement people will have his job.

Cheers, Gene

--

Gene Heskett, CET, UHK |Amiga  
A2k Zeus040, Linux @ 400mhz email  
gene underscore heskett at iolinc dot  
net #Amiga based X10 home automation  
program EZHome, see at:#

#  
<<http://www.thirdwave.net/~jimlucia/amigahomeauto>> # ISP's please take note:  
My spam control policy is explicit!  
#Any Class C address# involved in  
spamming me is added to my killfile  
never to be seen again. Message will  
be summarily deleted without dl. This  
messages reply content, but not any  
previously quoted material, is © 2000  
by Gene Heskett, all rights reserved.

--

Subject: Re: CoCo mentioned in  
Government Computer News, Nov 2000

□

Date: Thu, 7 Dec 2000 18:35:12 -0800  
From: Allen Huffman  
<allenh@MICROWARE.COM>  
Organization: Microware Systems  
Corporation

□

To: COCO@PUCC.PRINCETON.EDU  
Newsgroups: bit.listserv.coco

Gene,

The author replied to me, and he said  
Rainbow was the first magazine he wrote  
for. Anyone remember seeing his name?

Allen

Subject: Re: CoCo mentioned in  
Government Computer News, Nov 2000  
Date: Thu, 7 Dec 2000 23:13:57 EST  
From: Mike Knudsen <KnudsenMJ@AOL.COM>  
To: COCO@PUCC.PRINCETON.EDU

Newsgroups: bit.listserv.coco

In a message dated 12/06/2000 12:28:49 PM EST, allenh@MICROWARE.COM writes:

> "The Tandy Color Computer. I drove 80 miles to see the first Macintosh > but discovered it was twice as expensive as my 16K Tandy Color Computer

Twice? More like 10 times the price! ISTR the Mac was \$2000 and the first Coco was \$400 (OK, so 5 times), but the Coco III was \$200 for a long time before dropping to \$130. But the point is well taken!

Anyway, I'm glad some professional computer writer recognized the value of OS-9 and the 6809. I'd feel even better if this guy had not been a Coco Nut himself, but had run across the Coco and OS-9 much later and exalted it on a purely objective basis. Well, when was the last time anyone said anything in computing was objective :-)

I'm also glad that \*our\* version of OS-9 did adopt graphics and the mouse, just as Mr. Gates' outfit did. BTW, have you seen the newspaper article where the next version of Windows, still in concept stage, will be driven from a small window with a -- are you watching? -- COMMAND LINE that you type in! What goes around ...  
--Mike K.

#### **PennFest CD**

Subject: PennFest 2000 Souvenir CD - AVAILABLE NOW!  
Date: Mon, 11 Dec 2000 20:48:32 +1000  
From: Nickolas Marentes <nickm@launch.net.au>  
To: COCO@PUCC.PRINCETON.EDU  
Newsgroups: bit.listserv.coco

Sorry to keep drumming the news about this CD but it is surprising how many people still don't realize that it exists!

I promise that this will be the last "promo blast"...at least until next year. :)

Ron Bull has recieved 40 copies of my PennFest 2000 Souvenir CD. Apparently 1/3rd is sold so if you want to get one before they dissappear, get in touch with Ron soon.

Ron's details are...

Postal Address for orders: Ron Bull, 115 Ann Street, Duncannon, PA 17020-1204.

E-mail Address: ronbull@aol.com

Phone: (717) 834-4314

Price of CD: US \$12 (includes postage and handling)

Also, someone asked for more information of what the video footage contains.

There is over 1 hours worth of video footage consisting of 11 separate mpeg format video files. The files are called up by clicking on icons that appear in the appropriate parts of the PennFest 2000 report text. Of course, these files can be played individually using any standard mpeg compatible player on both Mac or PC.

The video footage consists of...

Auction.mpg - A portion of the No-Minimum-Bid Auction where Dave Poitras and Allen Huffman "do battle" to win ownership of a rare Digiscan Video Digitizer unit for the CoCo3.

Cake.mpg - Allen Huffman acts as MC as Mark Hawkins, Kevin Darling and Jeremy Spiller officially cut the CoCo cake.

Curtis Seminar.mpg - A short piece of L. Curtis Boyle's seminar talk on Nitros9 and his TC-9.

Forum.mpg - Just over 30 minutes of the Open Forum Discussion. This part has a very interesting discussion with Mark Hawkins who tells us all about how that image of "The Three Mugateers" got into the Basic Rom.

Hawkins.mpg - The Arrival of Mark Hawkins catches him by surprise!



Hello Darling.mpg - Finally! Actualy video footage of Brother Jeremy's famous "Hello Darling" song actually played and sung to a blushing Kevin Darling himself! This is a historic piece of footage!

Kangaroo.mpg - Brother Jeremy plays an excellent rendition of the Rolf Harris classic, "Tie Me Kangaroo Down Sport", complete with simulated Aussie accent and backing support vocals from James Jones and Allen Huffman.

Service - Again Brother Jeremy (Maybe I should rename this CD to the "Brother Jeremy Show?) with a short segment from his spiritually uplifting and sometimes humourous morning service.

Setup.mpg - Final setup of the main showroom on the Saturday morning, just before the main doors open.

Showroom.mpg - Roaming camera footage as we wander around the showroom floor.

Speech.mpg - Nickolas Marentes (that's me!) officially opening the Fest with a short format speech with the hope that one day he be elected to be president of the United States thus restoring credibility and real choice in future election campaigns! :)

I've "gas bagged" enough. For more info about the CD, check out my web page at <http://www.launch.net.au/~nickm/coco>

Nickolas Marentes

#### **PennFest Pics**

Subject: /) PennFest 2000 pics! (\  
Date: Tue, 26 Sep 2000 12:08:08 -0400  
From: Allen Huffman <OS9AL@DELPHI.COM>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

I forgot to mention...

<http://www.disneyfans.com> now has tons of pics from the CoCoFest. Just click on "CoCoFests" on the left side of the page and check 'em out!

Al

(Report? What report? Oh, THAT report...yeah, I still plan to do one!)

Subject: PennFest 2000 Report is up!  
Date: Thu, 28 Sep 2000 06:06:54 +1000  
From: Nickolas Marentes  
<nickm@LAUNCH.NET.AU>  
To: COCO@pucc.Princeton.EDU  
Newsgroups: bit.listserv.coco

The PennFest 2000 report is up at <http://pennfest2000.launch.net.au>

Let me know if anyone finds any errors or ommisions and I will correct it.

Nickolas Marentes

#### **Some more IDE info. (hl)**

Subject: Re: some IDE comments  
Date: Fri, 16 Mar 2001 02:50:53 -0600  
□  
From: "Carl J. Boll"  
<carlboll@CHICOCO.CHI.IL.US>  
To: COCO@PUCC.PRINCETON.EDU  
Newsgroups: bit.listserv.coco

On a foggy, gloomy day, Willard Goosey's fingers typed:

>  
> >Date: Sun, 11 Mar 2001 22:31:35 -0600 (CST)  
> >From: "L. Curtis Boyle"  
> ><af960@sfn.saskatoon.sk.ca>  
> >>cc: COCO@PUCC.PRINCETON.EDU  
>  
> > ATAPI shares the same addresses as ATA, although it redefines most of the registers (hence why even my newer driver doesn't do any ATAPI stuff... yet).

□  
> >The drives use the same addresses you mentioned above irregardless of ATA, ATAPI, or what drive(s) you have hooked up.  
>  
> >Ah, so. I'm not real big on the PClone hardware. Seems like I'd seen a

lot of contradictory stuff about ATA and its brethren.

□

There is a lot of misinformation out there on the original IDE and its descendants. I've had to do a lot of research on the subject and this is a short history as I remember it (it should be fairly accurate but I don't claim that it is perfect).

## IDE

### Intelligent Drive Electronics

A hard disk interface standard for 80286 and later computers that offers high performance at low cost. The IDE standards transfer the controller electronics off of a controller card and onto hard drive allowing easier interfacing to the computer (low chip count, etc.) and the ability to eliminate the need to use an expansion slot by putting the interface directly on the motherboard.

This is a definition from a very good book on the subject although I've shortened it and paraphrased it, this is the gist of the definition.

It is also outdated and inaccurate since there is also an 8 bit IDE specification (Tandy used it in some of their computers, remember the Tandy "Smart drive"?). This definition addresses only the 16 bit drives and not the 8 bit drives.

Now, I'll explain this as briefly as possible. The IDE specifications are not and never were designed around the PC's AT bus. This is a myth that has been much repeated and is totally untrue. The IDE specs are rather designed to be either an 8 bit or 16 bit interface on any bus that allows 8 bit or 16 bit data transfers.

>IF< the older 8 bit drives were readily available we could have designed an interface for them with only three or four chips and no real driver issues. Unfortunately these

drives are rare, they are small (the biggest one I've seen is 80 Megs) and they are old. Speed isn't a real issue since the CoCo will not support the newer ATA specs of DMA and other newer processor and bus specific means of transferring data at higher speeds.

The improperly named IDE interface is actually more properly an ATA-1 interface. It provides a 16 bit data path that is in compliance with the ATA-1 specifications. The first drivers worked but only allowed 8 bits to be written and read with the other 8 bits being tossed into the bit bucket. This wasn't a real problem except that by tossing away those 8 bits you could only use 1/2 of the drive's capacity. A second driver was written that allowed the CoCo to use the latching hardware on the interface to read and write those additional 8 bits. Unfortunately the people that worked on these drivers got it wrong and it took literally years to get a working 16 bit driver. If I only knew then what I know now.

Just like SCSI, ATA demands that newer specs be backwards compatible, in other words an ATA-2, an ATA-3, an ATA-33 or ATA-66 drive should be able to work fine on an ATA-1 interface but it will not be as fast as it would be on a newer interface. This means that using the CoCo IDE interface with an ATA-3 drive will result in ATA-1 performance from said drive with slight increases due to seek and other tweaks in the hardware.

All of the current ATA specifications are extensions of the original 16 bit IDE specs.

ATAPI is a set of specifications that use different commands and different registers but use the same identical interface to communicate with the ATAPI device. This means that the CoCo IDE interface is capable of communicating with an ATAPI device >IF< proper drivers are written. This is also true of AARM devices (yet another set of registers and commands).

Gene Brooks did a very good job of redesigning Jim Hathaway III's original interface so that it is properly terminated and so that we have the ability to use two different addresses. With a small hack the card can also be addressed at other addresses as well.

I would suggest that if there are conflicts that one of the hardware hackers out there come up with a usable address and make the mods to the interface card and post the hack. I'll put it on the web page and add it to the documentation as well.

Now one thing that I didn't address yet in the original IDE specs.

Both the 8 bit and the 16 bit interfaces use a 40 pin header but they are not electrically the same. You can >NOT< use an 8 bit drive on the CoCo IDE interface. These are rare but if you are not sure that the drive is 16 bit get a different one.

I suggest that nobody use drives that are older than 1995. These drives are not always built to specs. Suspect drives include a bunch of Conner drives as well as drives that come out of Compaq computers and a few Seagate drives. Everybody was trying to make their own specs at one time which has caused us some headaches.

> > You may want to try my newer drivers, available at:  
>  
><http://www.sfn.saskatoon.sk.ca/~af960/OS9.html>  
>  
> Good stuff there. I'll have to get it all onto the CoCo so I can play > with it.  
>

Yes, by all means, get L. Curtis Boyle's latest drivers and utilities.

He is the official driver developer for the project now. I am going to buy an LS-120 drive and ship it to him. He has promised to try to have a working driver for this upcoming CoCoFest if I send him a drive to play with. He may

also get CD-ROM support done as well. That would be cool. If we can read supported CD-ROM formats with the IDE controller we could put together a CD-ROM with all of the CoCo stuff on it! Just imagine having all the shareware, PD and freeware all on one disk.

Again, L. Curtis Boyle is doing this as a volunteer so don't bug him. He has a real job and a life and he will get this done when he can.

> Anyway, what I did afterwards:

>

> Finally gave up on the Samsung 250M drive. It seems to have problems. I could not get it to successfully write (and read back) an accurate LSN0. It insisted on claiming it had 127 sector clusters.

> Very strange. And I tried both lformat and the Microware/Tandy

> format. They both gave about the same results.

>

Do not use the Tandy/Microware format. Lformat is the proper utility to use for formatting your drive. If it fails you may have a drive that doesn't work with the older drivers. The new drivers from L. Curtis Boyle may work for you, he has done a lot towards supporting all drives. He has done even more research on the specs than me.

> After that I played with a Conner 40 Meg drive. Actually had it formatted and verified. Then I bumped the power connector and made it crash. Now it seems to have about three good sectors on the entire drive. Oops. :-( This year has not been a good one for hard drives.

See the above comments on Conner drives. I've had so many headaches due to these drives that I won't buy a used one and would consider it an insult to be given one anymore. ARGH!

> I certainly seem to have a black thumb when it comes to hard drives.

> Willard Goosey

We are still looking for BETA testers for the new drivers as L. Curtis Boyle develops them. You should always use a different drive to test BETA drivers, never use your main drive for testing. Anybody out there want to volunteer? We have well over 100 boards in hands now, there should be somebody that has a working system that can do some testing.

I'll make it more interesting. If you are willing to BETA test I'll find a drive to ship you to test with.

I'll test it on our system first and then ship it.

Carl

--

Carl Boll: root@chicoco.chi.il.us

#### From. The listserv.coco

Subj: GAMES  
Date: 2/12/01 12:32:02 PM Central Standard Time  
From: ED DAUBERT  
To: CENG108@email.mot.com, SPDCommish

TRYING TO FIND GAME PITFALL 2 FOR COCO 3, ONLY HAVE 3  
1/2 DISC DRIVE, CAN YOU HELP ME FIND??

#### The Friday Night Joke

Various artists...

Montana Quiring started it all with

So a CoCo3, and a CoCo2 walk into a bar.  
The bartender says, "Hey, are you two twins?"  
The CoCo3 exclaims, "No! There is something very  
different about us. Can you guess what it is?"  
The bartender quickly retorts, "No, but GIME a minute."

AND THEN>>>>>>>>>>

From: Jim Cox <jimc@AMC.COM>

I expected something from you that would have a little  
more humor Pak'd into it.

From: Montana Quiring  
<quirmgm@Ms.UManitoba.CA>

Hey!

I don't remember asking you for your INPUT\$  
:o)

From: Lee Veal <leeveal@BIGPLANET.COM>

I hate to get into the MID\$st of this, but you guys need to  
get a life. Or somebody's gonna put a HEX\$ on your  
head.

From: Gene Heskett  
<gene\_heskett@IOLINC.NET>

And that would be an INPUT\$ they wouldn't want, hitting  
them in the MID\$, between the LEFT\$ and the RIGHT\$.

From: Lee Veal <leeveal@BIGPLANET.COM>

I've had with this. I'm going out to have GOSUB  
sandwich, but I'll RETURN.

From: Dave Poitras  
<dpoitras@MEDIAONE.NET>

Hey now folks, we have to keep this a non violent  
group!

No one should get a POKE in their ASCII, we should just  
keep it at PEEKS instead. After all we do not want any  
systems to crash...

From: Lee Veal <leeveal@BIGPLANET.COM>

Now, I know it's really TIMER\$ to go.

CRC ya' later,

From: Dave Poitras  
<dpoitras@MEDIAONE.NET>

Lee, too bad I'm not in Mexico with you. That GOSUB  
sandwich sounds good.

I'd love to have you save BIT of it sound I could NIBBLE  
a BYTE or 16.

From: Paul Hanke <PaulH96636@AOL.COM>

Take it easy on those subs lest they make you FAT...  
unless you're DSKINI one to begin with...

From: William Astle <lost@L-W.NET>

TIMER was numeric, not string.

From: Lee Veal

You are right, sir. Please cut me some slack, it's been over  
3 years since I've even looked at a reference card or even  
used a CoCo. I'm working without the benefit of any  
handy-dandy DECB/ECB/CB reference material.

From: Chris Spry <bugster@FIDALGO.NET>

Well, finally someone broke this chain!

I was afraid that it'd go on forever and I'd have to shoot  
myself.

From: Montana Quiring  
<quirmgm@Ms.UManitoba.CA>

Don't NEW yourself!

You may never get CLOAD'ed again!

Just use REM... it's much safer.

(Just use REM.... hmmm...I should sell that to Nike)

Sorry Chris..

I couldn't resist.

From: "A. Banerjee"  
<spam\_proof@WORLDNET.ATT.NET>

I like joining chains after things have SET'led down and  
the dust has CLEARed.... ok, ok, I'll shut up...

From: Lee Veal <leeveal@BIGPLANET.COM>

We're just trying to STRING\$ it out as long as we could.  
Didn't mean to offend.

Lee

p.s. If that's not a valid keyword, I'm sure someone will tell me.

From: Lee Veal <leeveal@BIGPLANET.COM>

All this witty repartee is about as useful as PCLEARing into the wind.

From: Dave Poitras  
<dpoitras@MEDIAONE.NET>

I guess someone is trying to BREAK up our friendly LLISTing. Hope everyone doesn't RUN away at 2Mhz, We may have to RENUMber the group.  
Sorry for the NEXT LETting loose this REMark might lead to...

From: John Galt <galt@INCONNU.ISU.EDU>

The CIRCLE remains un-BREAK-ed...

From: Mike Knudsen  
<KnudsenMJ@AOL.COM>

Enough of the BASICS. Looks like everyone on this List needs to get a SEX life.—Mike K. (Some Assembly Required)

From: "Carl J. Boll"  
<carlboll@CHICOCO.CHI.IL.US>

I'll jump into the MID\$ here. The LIST is DEFINately the place to find humor. I could HGET the HPOINT but at this TIMER I'll need to LOCATE my PCOPY of 6809 Assembly to INPUT any more DATA ON GOTO this thread. The MEM just aint what it used to be.  
Hm, SEX, is that worth SKIPFing dinner for?  
I seem to remember making out, getting to the BRA but being told that blo was out of the question (take that any CWA! you like)  
Carl

## LET'S ADD A LITTLE COLOR TO THIS THING...

From: Robert Gault  
Make sure to run this on a real Coco3 not an emulator if you want it to work.

```
10 ' MODIFIED RAINBOW PROGRAM TO DISPLAY
64 COLORS AT ONE TIME
20 'JAN. 1987, P.20
30 GOSUB400:WIDTH80
40 POKE&HFFD9,0
50
RGB:CLS5:CLER:ONBRKGOTO320:DIMMC(64):M=
&HF00:GOSUB200
60 FORI=2TO15:PALETTE1,0:NEXT
70 HSCREEN2:HCLS2:HCOLOR1,2
80 HPRINT(4,1),"Color Computer3 - Color Chart"
```

```
90 HPRINT(8,24),"any KEY exits color chart"
100 IFA<3 THENHPRINT(18,2),"RGB" ELSE
HPRINT(18,2),"CMP"
110 FORX=0TO3
120 HLINE(X*80+10,32)-(X*80+40,160),PSET,B
130 I=0:FORY=0TO15
140 HPRINT(X*10+5,Y+4),MC(X+I):I=I+4
150 HLINE(X*80+10,Y*8+40)-(X*80+40,Y*8+40),PSET
160 HPAINT(X*80+20,Y*8+36),8+X,1
170 NEXTY,X
180 EXEC
190 RGB:CLS:HSCREEN0:GOTO50
200 CLS:PRINT"SELECT MONITOR TYPE (R)GB OR
(C)MP :";POKE&H87,0
210 A=PEEK(&H87):IFA=0THEN210
220 A=INSTR("RrCc",CHR$(A)):ONA+1
GOTO200,230,230,310,310
230 PRINT"RGB":FOR R=0 TO 3
240 RM = (R AND 1)*4 +(R AND 2)*16
250 FOR G=0 TO 3
260 GM = (G AND 1)*2 +(G AND 2)*8
270 FOR B=0 TO 3
280 BM = (B AND 1) +(B AND 2)*4
290 MC(Q)=RM + GM + BM:POKEM+Q,MC(Q):Q=Q+1
300 NEXTB,G,R:PALETTE1,63:RETURN
310
PRINT"CMP":FORY=0TO15:FORX=0TO3:B=X*16+Y:
MC(Q)=B:POKEM+Q,B:Q=Q+1:NEXTX,Y:
PALETTE
1,48:RETURN
320 RGB:END
400 REM PAL
410 LI=460
420 FOR M=&HE00 TO &HE43 STEP10:SUM=0
430 FOR
I=0TO9:READA$:VA=VAL("&H"+A$):SUM=SUM+VA
:POKE
M+I,VA:NEXT:READ CHK:IFSUM<>CHK THEN
PRINT"ERROR IN LINE"LI:END
440 LI=LI+10:NEXT
450 RETURN
460 DATA 34, 9 , 1A, 50, 7F, FF, 2 , CC, FF, 36, 1064
470 DATA 1F, 8B, D7, 3 , CC, 10, 46, 33, 8D, 0 , 870
480 DATA EB, 37, 30, D , 2 , D , 3 , 2A, FC, D , 676
490 DATA 0 , D , 1 , 2A, FC, 5A, 26, F7, D6, 0 , 897
500 DATA D6, 1 , 2A, FC, 9F, B8, 10, 9F, BA, 37, 1268
510 DATA 30, C6, 7 , 4A, 26, E5, 96, 0 , 43, 48, 883
520 DATA 27, D0, 86, 35, 97, 3 , 35, 89, 00, 00, 778
```

**Ever want to add a 3.5 inch floppy drive to your system? Willard Goosey has some pointers.**

Step -1: Realize that most people hook up a 80-track drive to the CoCo for use under OS-9. If you're a BASIC sort, unpatched DECB can only use the drive as a 35-track,



single-sided, 18 (256byte) sector drive. That's right, Disk BASIC think's it's a 5.25" 160K drive. Sock Master has an 80-track patch for DECB, and I think some of the fancier aftermarket disk ROMS (like ADOS?) can deal.

Step 0: For proven results, find a 720K 3.5" drive. The 1.44M drives might or might not work, I've never tried one. Note that the CoCo drive controller CANNOT do high-density. (OK, the original, 12 volt, CoCo 1 floppy controller can be hacked to support high-density.)

Step 1: Make sure it's a standard 3.5" drive. No PS/2 junk, probably no Mac hardware, etc.

Step 1.5: Open up your drive box and see what you've got. The FD-502 used strange power connectors --- you'll have to wire on a standard power connector, either with quick connects or by chopping off one of the old connectors and soldering on a standard one.

Also, do you have an unused drive connector on the ribbon cable? If not you'll have to add one or get another cable. If you get a different cable, beware that most PC floppy cables have twists in them and can't really be used on the CoCo.

Step 2: If needed, March over to Radio shack and buy 1) 5.25" to 3.5" power cable adapter and 2) Floppy drive pin to card-edge adapter.

Step 3: Set the drive # jumper on the 3.5" drive. Make sure it doesn't conflict with any other drives on your CoCo. Drive numbers go from 0 - 3. If you already have three drives then things get strange because Tandy tried to be smart with wiring the floppy controller.

Step 4: Hook everything up. If you put the ribbon cable on backwards all the drives drive lights will come on when you power it up. Turn everything back off and reverse the cable.

Step 5: test the drive by formatting and copying some 3.5" disks. If it works, put everything back together. Apply whatever patches or build a new OS-9 boot disk or whatever.

Step 6: Post your success story to the coco list. ;-)

## Time Out Of Mind

Tony Podraza

I have no idea just what the title of this article means. It just sounded cool. I suppose that you could insert a comma between "time" and the rest of the line, and interpret it as "I call time out, I'm out of my mind." And you'd be pretty close to the truth. For the last 11 years, I

have been honored to have been either the President of the Glenside Color Computer Club or the Vice President in charge of Special Events, meaning that I have co-ordinated the arrangements for the Annual "LAST" CoCoFEST!s. This is the Tenth such event, and the 9<sup>th</sup> that Glenside has sponsored...meaning that we pay the bills. I wish to thank all of the people who have assisted me in setting up these FEST!s. Hundreds of man-hours have gone into these events, all non-paid, volunteer man-hours. Meals have been planned, guest speakers invited, airport shuttles run, point of sale programs written and re-written, and re-written, police called on not-nice people, ambulances called for diabetes-induced comas, musicFEST!s arranged, logos designed and printed on T-shirts, tickets printed, show guides designed and printed, promotion arranged, signage hung, tables arranged and rearranged, and rearranged, again.

The experiences have been exciting, harrowing, fun, filled with sorrow (when you know that you will not see a fellow CoCo-ist, again in this life, and there have been more than just a few of those over the years), but mostly, they have been satisfying. Satisfying in the knowledge that those that have been able to attend have had gone home after finding what they came for, a place where they can learn, teach, enjoy the fellowship of kindred spirits, and just have a plain, old, good time. Satisfying in seeing an energetic 15 year-old teenager buzz around the showroom with a gleam in his eye, filled with wonder and excitement in imagining what he can do with this 20 year old computer, and not being able to wait till he got back home in Indiana to start.

For all of these experiences, I thank you, for you have given them to me by your attendance and support to the CoCoFEST!s.

Next year, Brian Goers will be donning the mantle of CoCoFEST! Co-ordinator. I trust that you will give him the same support. I'll still be around to help, I trust you will, too.

Till the next newsletter, I bid you, Peace.

tp