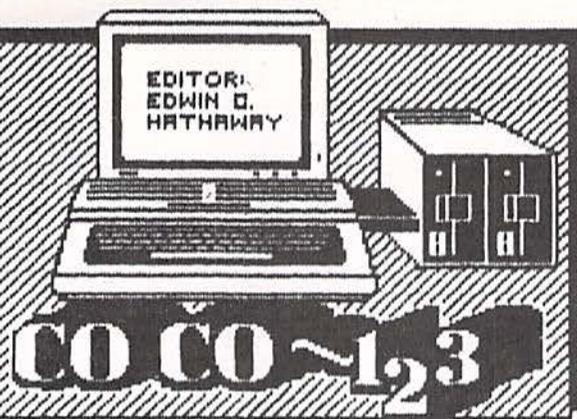


# Glenside Color Computer Club

A SUBSIDIARY OF 'GLENSTIDE U.'



## DECEMBER NEWSLETTER - MERRY CHRISTMAS -

On behalf of myself and your fellow members of the Glenside Color Computer Club, we wish you and your family a very Merry Christmas. In addition, to all of our friends in the CoCo Community, we wish you also a heartfelt Merry Christmas.

As we come close to yet another New Year, every company Bean Counter and corporate CEO is asking the same burning question, "How did we do this year?" Throughout my professional career I have yet to face the turn of the Julian calendar without hearing these hallowed words echoing from rooms where no mortal man dare to venture. These words have been known to make Satan give up his pitchfork and red suit for a job in the mail room. It's the time of the year when you have to unearth your annual projections and goals to see if reality has been a friend or foe. More often than not, the two twains rarely meet and you find yourself breaking into an old soft shoe routine trying to explain your position.

Going into this year, the Board of Directors of Glenside laid out some very aggressive goals and to some, set a few outrageous projections for the Club to reach in 1986. Back in the January '86 Newsletter we published a few of these goals and I'm pleased to say that as of this date we HIT them all! In summery, the following is a sampling of some of the Club objectives we put together and the outcome;

- 1) INCREASE MEMBERSHIP: During 1986, our membership rolls almost doubled in size! Great job!
- 2) BBS BOARD: This past year we have had three different boards up and running for Club information. Not all boards were up at the same time throughout the year. Yet, we did not miss a beat inbetween one closing down while the other was starting up.

3) PUBLISHED SOFTWARE: Even through three of my works showed up in Rainbow's CoCo Gallery, I believe we are on the edge of something big. In talking to a few of you, 1987 could be a big software year for us...

4) EXPANDED NEWSLETTER: Well, reading is believing! During this year we have changed the design layout and added more articles from more people.

5) COMMUNITY SERVICE: We are in the middle of helping the Glenside Public Library to obtain a \$20,000 State Grant. This Grant will allow the Library to buy additional books and add staffing.

6) RELATIONSHIPS: During this past year and for the years to come, we have embarked on establishing a better working relationships with selected software & hardware companies. This activity will benefit everyone connected with Glenside.

7) S.I.G.'s: Towards the middle of this year we started working on forming Special Interest Groups. We now have in place, THE GLENSIDE Z80 FORCE for TRS-80 MODEL 3 & 4 users. In addition, we are still working to put together the GLENSIDE MS-DOS GROUP for Tandy's MS-DOS systems.

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(c) Marty Goodman Oct 4, 1986

The two most striking differences between the CoCo 3 and its predecessors are its greater memory handling ability, and its support for higher resolution graphics and 80 column text screens. Of these two, it is likely that the support for true 80 column text screen will be the first to be taken advantage of by writers of 80 column word processors, communications programs, and data base software. In implementing this "feature", Tandy appears to have granted the wishes of loyal Color Computer owners and brought the Coco up to a par with its immediate competition among non MS DOS home computers. One would expect this capability to substantially contribute to the success of the machine.

I am sorry to observe that the cretinous chimpanzees in Fort Worth have shot themselves squarely in the foot on this matter. The only means of achieving the 80 column screen, as far as Tandy cares to let its sales people or the public know, is by adding a \$300 RGB monitor (Tandy's CM8) to the system. I can see it all now: In the local Radio Shack Computer Center, a customer says "Does the Color Computer 3 offer 80 column text capability" and the sales person says "Yes, but you have to buy this here lil' honey of a monitor. That'll only run you an additional three bills." Chalk up another sale for the Atari 520ST!!! If you look at the current 1987 Tandy Computer Catalog (RSC-17), on page 10 is a comprehensive table of the monitors Tandy sells and the computers they will work with. In the table is a listing of what display capabilities are achieved with a given combination of monitor and computer. This is a professional and sensible way to handle informing the public of this information. Yet, in a blaze of obtuseness, Tandy FAILS to list the \$129 VM3 monochrome monitor as compatible with the CoCo 3. In their literature to their sales people and in video-taped sales instructions, they also did not tell their retail store employees about the option to use a monochrome monitor with the Coco 3.

Not only will a monochrome monitor allow for 80 column text display and hi res graphics on the CoCo 3, but the display will be visibly sharper than that produced on an RGB monitor. Monochrome monitors produce sharp images for anywhere from half to a tenth the price of a similarly sharp color monitor because of the much simpler design of their picture tubes and circuitry.

In the case of buying such monitors from third party sources, the price difference between monochrome and color is even greater. An RGB analog monitor comparable to the CM8 costs \$300 to \$400 from third party vendors. But a monochrome monitor of quality can often be had for little as \$60, as many readers of Rainbow Magazine know.

If you question owners of IBM PC's or of Atari 520ST's you will find that the majority of them prefer using monochrome monitors to color monitors because of the clearer text display monochrome monitors offer. My experience with having had both monochrome and color monitors on my main CoCo 1 system has been that I use my monochrome monitor about 98% of the time for text processing, telecommunications, and most of my hi res graphics applications. I use my color composite monitor only for games and for the very few programs that absolutely REQUIRE the use of color.

Please understand: I have NOTHING \*against\* color. I \*like\* the idea of using different colors to enhance both text and graphics applications. My points here are: (1) RGB analog color monitors cost A LOT more than monochrome composite monitors. (2) \$60 to \$130 monochrome monitors will display hi res text and graphics more sharply and pleasingly than will \$300-\$400 CM8-like RGB analog monitors. (3) The CoCo 3 is a \$220 computer intended to be sold to first time users on a budget. It is unpardonable stupidity, in the light of the above sound and fury, that Tandy NOT make their sales people and the public aware of the option of using a monochrome monitor with the Color Computer 3.

Final note: I am told that OS-9 Level II has a command in it that specifically adjusts the composite video port on the CoCo 3 to support a monochrome monitor. For the sake of the success of the CoCo 3, I urge Tandy to acknowledge its mistake, and promptly correct it. ---marty

Here are a few new announcements concerning the Color Computer 3:

(1) RGB connector pin out:

Although the manual that comes with the CoCo 3 alleges that pin 10 of the connector is "NC" (not connected), this is not true. That pin is wired to the junction of 4.7K resistors. The other end of one of those two resistors is hooked to +5 volts ("tied high"). The second 4.7K leads to pin

13 of the non keyboard 6821 PIA chip. This pin (PB3) is used on previous color computers for the CSS line to the VDG. After enquiring around with some insiders, it seems as if Tandy tentatively planned to use that line as a means of having the computer signal to the RGB monitor that it was sending a signal oriented to RGB. It is very fortunate Tandy gave up that idiotic idea, for it would have resulted in a highly non standard arrangement for their monitor connection. In any case, hard core hackers now have a PIA line accessible via that 10 pin RGB connector.

(2) Don't Buy the CM8! As I noted earlier, the CM 8 sold by Tandy is a fine RGB analog monitor, but it lacks alternative forms of input of color signals. Among other things, this means that you will be unable to display artifact color images from your old CoCo 2 on the CoCo 3 if you use the CM8. That is one reason I strongly recommend AGAINST anyone wasting their money on a CM8 monitor. Instead, I recommend you buy one of several third party RGB monitors that offer the option of use as a color composite monitor (so that you can see proper artifact colors on your CoCo 2 and 3) AND the option of use as an RGB I TTL monitor (for compatibility with the IBM PC world of CGA color signals). Three monitors that will work admirably and provide the extra optional inputs are: Magnavox 8CM8505 (the resolution is a little on the low side, but it will adequately display an 80 column image), the Magnavox 8CM8515 (super high resolution tube with dot pitch of .42), and the Technika MJ305 (exceptionally fine dot pitch of .41). Those with unlimited budgets might consider the Magnavox 8CM643 (dot pitch = .39). The Magnavox monitors all use a 6 pin DIN connector for their RGB in, and this can be easily wired to a 10 pin DIP connector cable for use with the CoCo 3. Several places will be selling the Magnavox series of monitors. Rumor has it that Spectrum Projects will be among them. All of these monitors offer options of RGB A, RGB I (TTL) and composite color video inputs. The Magnavox also offers a "green screen mono" option via a front panel button.

(3) Use of monochrome monitors on the CoCo Currently we have posted some suggestions for using the Pallete controls to get an output from the composite video RCA jack that is compatible with monochrome monitors. Very soon the proper "POKES" for

manipulating the composite video output into a form suitable for use with Monochrome monitors will be made public in a help file here. Unfortunately, any software based generation of a monochrome signal under RS BASIC will have problems, for such a patch will have to be frequently reloaded after cold and maybe even after warm starts. Under OS 9 level 2 this will NOT be a problem, as that will support monochrome via a MODE command. But one other approach will be that of using HARDWARE plugged in to the RGB A jack that produces a true monochrome signal. Look for more on that soon.

—marty

CoCo 3 Hardware Problem Report Nov. 3, 1986

\* REPORTER: Martin H. Goodman MD  
Contributing Editor, Rainbow Magazine. Data Base Manager Delphi CoCo SIG

\* ATTENTION: Steve Bjork, Mark Seigal, and all else concerned with the CoCo 3 and possible hardware problems

The Problem: When hooking the CoCo 3 to an RGB A monitor, the picture rolls uncontrollably.

\* THE REPORT: A friend of mine just bought a CoCo 3 and proceeded to hook it up to a Magnavox 8CM8515 ("professional") RGB A monitor. (This is the same monitor Steve Bjork currently uses on one of his CoCo 3's). He found the picture rolled uncontrollably. We put the RGB output lines on an oscilloscope and found that the signals on the R, G, B and H-synch lines were in the 0 to 4.2 volt range, but the signal on the V synch line was in the 0 to .3 volt range. We traced the V synch line back to IC 15 (a 74LS04 hex inverting buffer chip). We desoldered IC 15, socketed that spot on the board, and replaced IC 15 with another 74LS04. After this procedure, the V synch line had voltages ranging in the 0 to 4.2 volt range, and on hooking up the monitor it functioned properly.

\* FURTHER ANECDOTES: At Rainbowfest and on Delphi several CoCo 3 owners told both me and Steve Bjork that their CoCo 3 produced a "jittery" display. This may or may not be a related problem.

\* CONCLUSIONS: My friend's CoCo 3 had a defective 74LS04 as IC 15. It is possible that there are other defective 74LS04's in other CoCo 3's (there may have been a bad batch of the chips used in one of the manufacturing runs).

Martin H. Goodman, M.D., a physician trained in anesthesiology, is the database manager of Rainbow's CoCo SIG on Delphi. Marty's article is published by permission (c).

## DRIVER EDUCATION

by Ron Steinberg

I have been approached several times over the last month about how to attach extra disk drives to the COCO. Sometimes the answers are as easy as selecting the proper defaults with dip switches inside the drive or making a new drive cable. Since visions of COCO 3's and disk drives are dancing in my head this may be a good newsletter to get started on this.

The older single sided Radio Shack drives use the cable and connectors to select which drive is to be accessed. Radio Shack sells the connector #276-1564 for \$4.95. You will select which drive you are adding by leaving certain pins out of the drive connectors. The connector that plugs into the drive controller must have all the pins. The following is a list of the pin removals for drive 0 thru drive 3.

Drive 0= Remove pins 12/14/32

Drive 1= Remove pins 10/14/32

Drive 2= Remove pins 10/12/32

Drive 3= Remove pins 10/12/14

The newer single sided drives and all of the double sided drives are selected by either jumpers or dip switches in the drives. The side select on the Cannon 2/3 height double sided drives are made on switch SW-1. The following is a list of the dip switch settings for double sided operation.

Dip setting for drive 0 and 2 is  
on-off-off-off

Dip setting for drive 1 and 3 is  
off-on-off-off

The MPI full height drives are usually supplied with a jumper "block" that is plugged into a dip socket. This block can be replaced with a 8 position dip switch #275-1301 from Radio Shack for \$1.69. The socket is made to receive a 14 pin dip but the 16 pin dip works nicely by cutting off the two legs for switch #8. The side selections are marked DS (for drive select) 0 thru 3. To select drive 0 and 2 turn on dip switch marked DS-0. To select drive 1 and 3 turn on dip switch marked DS-1.

The TEAC half high double and single sided drives use the same markings as the MPI. TEAC uses a slip on-off jumper that connects two side by side pins to select drives. By jumpering the proper two pins, marked the same way as the MPI, the correct drives will be selected.

There is a head select option that is available on all of the drives mentioned above except the Radio Shack. On the MPI and TEAC drives there are HS and HM jumper

positions. The HS position when selected will energize the read-write head only when that drive is selected. The HM position will allow the heads on all drives (set at HM) to energize no matter which drive is selected. Switch SW-2 sets this function on the Cannon drives. When SW-2 is off, the head will energize when called. When SW-2 is on, the head will energize when any drive is energized.

Several manufacturers are improving the design of their drives. TEAC and Tandon have new models out that are on the leading edge of technology. The latest version of the TEAC FD-55B (sold by Howard Medical) has almost half of the circuitry compared to its predecessor. Two large scale integrated circuits (LSIC) have replaced all but a few IC's on a much smaller PC board. A new (TEAC) disk seating feature has been included. Thanks to the cooperation of those at Howard Medical we will soon have a technical manual showing all of the options available for this new disk drive.

I have been asked again for information on a RS232 switcher and will be writing about this in future articles. How about a parallel switcher as well as a serial switcher? If you have any questions or suggestions for future articles feel free to contact me. Merry Christmas to all.

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Ron Steinberg is a Plant Manager for a manufacturing firm located in Chicago, IL. He has been a Club member for 3 years and Board of Director for 1 year.

## DECEMBER MEETING REVIEW

For the December meeting, we have three presentations lined up. First off we will hear from Illinois Bell Telephone regarding the change in local phone service coming in 1987. As was explained to me, modems can expect to see their phone bill go up. This discussion will be open for any and all questions you might have regarding LOCAL PHONE SERVICE. Remember guys, Illinois Bell is not connected with AT&T. Save your long distance question for another meeting.

In addition to Illinois Bell, club member John Keller will be giving us a demo on the RS Speech Pak Interface and club V.P., Joe Register will be discussing in detail the different monitors you will be able to use with the CoCo III. As you will hear, T is NOT the ONLY ticket in town when it comes to RGB!!!

See you all at the December 11th meeting

## MONITOR SHOPPING

by: Joe Register

Purchasing a good monitor will allow you to experience the maximum resolution capabilities of the new CoCo 3 computer. While all the conversations on BBS'S and various data services, it looks as though many of us have already been window shopping for new monitors. It doesn't take much research to get the feeling there are an infinite amount of choices and a very wide price spectrum. Perhaps you've found yourself asking some of these questions while perusing these ads.

1. How can you be sure the monitor you chose will be compatible with the CoCo?

2. What about upward compatibility, I might invest in a new system in the future that has even more graphics potential than the CoCo?

3. Can I really get all the features I want in one monitor?

All these new terms are confusing, are they really important.

These are tough questions. Rather than trying to sort through all the current choices and make a recommendation by second guessing your needs, it may be easier to explain all the relevant specs.

That way you're prepared to make your own decision. The following is a "High-Res Glossary" defining most of the terms you will find while reading various reviews and advertisements. The applicability to the CoCo, based on current information, is included in appropriate definitions.

**ANALOG:** signals allow varying degrees between an on and off state. In color monitors, this provides shades of color based on the intensity of the signal. This allows a larger color range than if the three colors (Red, Blue & Green) were only allowed on or off states. Analog monitors will display all 64 colors available in the CoCo's palette in their "true" form.

**BANDWIDTH:** refers to the rate which the video signal scans the screen. The greater the resolution of the CRT, the faster the bandwidth. However, don't grab the highest bandwidth monitor available as this spec should somewhat match the computer's video signal. Price will usually keep you out of trouble, as the super-high bandwidth monitors (PGA type around 30,000+) are very expensive. Bandwidth in monochrome monitors the CoCo should be between 15,000-20,000 for a clean 80 column text screen.

**COMPOSITE:** a composite monitor has only one connection to the computer. All the information for the color display is

combined into one signal, sent to the monitor and then converted back into three separate signals (Red, Green & Blue). The connection is usually a standard RCA connector, similar to those used to connect stereo components. This method produces a very satisfactory medium-res color or monochrome display. When used with the CoCo, it is possible to obtain a very acceptable 80 column text screen in monochrome, but color composite text is limited to 40 characters. A major consideration for CoCo II owners upgrading their displays; with the COMPOSITE monitor you can see ARTIFACT COLORS, with ANY RGB YOU CAN'T!

**CGA (Color Graphic Adapter):** refers to an IBM expansion card standard that produces a maximum resolution of 640X200 picture elements using two colors. This card supports RGBI type monitors.

**DIGITAL/TTL (Transistor - Transistor Logic):** signals can have only have two states, on or off. Thus, a digital monitor may have the same resolution as an analog, but there will be less total colors available. Standard digital color monitors can display 8 different colors, which are the maximum variations of Red, Green & Blue. Some digital monitors have added another signal which is used to vary intensity (see RGBI). These are not compatible with the CoCo unless they also include RGBA or Composite connections.

**DOT PITCH:** refers to the size of the hole in the color mask between a color gun inside the CRT and that particular color's dot on the screen. Generally speaking, the smaller the better. Anything under .31mm is considered high resolution.

**EGA (Enhanced Graphics Adapter):** refers to an IBM expansion card standard that produces a maximum resolution of 640X350 picture elements using 16 of the 64 available colors. This card supports digital (RGBI) type monitors

**INTERLACED:** refers to increasing the total number of scan lines on the CRT by tracing only half the screen on each cycle. Since the effective refresh rate (the number of times a picture element is illuminated) is cut in half, the screen may be more susceptible to flicker unless the CRT is expressly designed to support interlacing. Although this technique is used in all TVs sold in the United States, it is less desirable for monitor applications. It is however, the scanning technique used by the CoCo 3 RGBA monitor.

**PGA (Professional Graphics Adapter):** is the newest IBM expansion card standard producing

THE GLENSIDE COCORAMA BBS

by David Barnes - SYSOP

This month I will try to explain some of system commands of the BBS. From the diagram above you will notice the features of the BBS's main menu.

Under the BBS logo you will first see the time of day that the user is on. Next, the amount of on-line time is displayed. Finally, the amount of time that the user has left on the system

```

////////////////////////////////////
COCORAMA TOP LEVEL MENU ?=HELP
////////////////////////////////////
```

```

TIME:          ONLINE:
MIN LEFT
<A>DVERTISE    <D>HRT W/SYSOP
<D>EPARTMENTS  <E>XIT
<G>AMES       <I>NFO
<L>EAVE MESSAGE <N>AMES
<O>RDER       <P>ERAMETERS
<S>COREBOARD  <R>EAD MESSAGE
<T>ELL ME     <U>PLOAD
<X>PERT SPEED <Q>UIDK EXIT
<#>READ CLUB  <?>LOAD CLUB
```

ENTER CHOICE ->

Next the user is shown the options of the BBS. The following will be a summary of those commands:

? — this is a help screen to explain the BBS commands.

<A>dvertise — in this section the BBS will prompt you for an ad. You may have software for sale, or perhaps an old CoCoII that was replaced with a CoCoIII, if so this is where your information should be placed. You will have up to 10 lines of 63 characters only. NO SOFTWARE TRADING ADS!!!

<C>hat w/SysOp — here is where you will find me if you need any help on the system. The 'chat' mode will not 'ring' unless I am around to answer the page. This way the chat will not tie you up with the ringing only to find out that I am not available.

<D>epartments — this is where the action is! In the department sections you will find downloads, pictures, and the Glenside newsletter.

<E>xit — the way you had better exit the BBS.

<G>ames — there is currently one game which may be played on the BBS. The game does have a time-out feature built into it, this helps the system by not allowing the user to spend all of his/her time on game playing and utilizing the other aspects of a true BBS.

<I>nfo — this is the main information file for the BBS. It will explain the functions in a little more detail. I strongly suggest that any new user, or even novice BBS'ers, read this file. You may want to open your capture buffer and save print it out as one

user has.

<L>eave message — this is a section that a lot of people are not reading the prompts for. You are allowed only 63 characters per line, and only 10 lines per message. If your message should require more than the 10 lines provided, save the first part of message, you will be prompted after the save if you want to continue that message. If you answer yes, you will then have another 10 lines, and so on. If you do not hit enter after each 63 characters, the BBS will reformat the lines for you, however, after 255 characters the BBS cannot accept anymo input unless you hit enter.

<N>ames — here you can find out who was the BBS.

<O>rder — this is an order section. currently offers two products which may be purchased. In the future we hope to be able to take orders for disks, drives, and anything else that the club can swing a deal on.

<P>arameters — this will allow you to change your linefeed, characters per line, have the BBS slow down, turn the echo on/off, and change to or from the expert mode.

<S>coreboard — the on-line game will place your score here if you are in the top-20.

<R>ead messages — when you enter this options you will find several prompts. If you have not called in a while, I suggest that you use the scan option. This allows you to read the header of the messages and prompts you to read them, quit reading, or go to the next message. If you choose to read a message, after reading you may then reply to it if you like. The new header will be added for you automatically. You will also have the option of deleting a message if it to or from you. If you have read the message, please delete it so we can conserve disk space.

<T>ell me — here is where you may leave a comment or suggestion to me for everyone to read.

<U>pload — this is where some of the programs in the download section will come from. Follow the prompts for uploading, and when asked for a name for the file, no extension is necessary. Use <P>rompted upload for non-Xmodem uploading, <A>SCII for ASCII files, <B>inary for compressed basic (files not saved in ASCII) files, and <M>L for machine language or picture files.

<X>pert — in this mode of operation entire menus are condensed to just the first letter of the prompts. While in this mode, if you are not sure about any prompt,

## Z80 FORCE

by Joe Register

Starting with this month's Z80 Force, we're going to take a look at the BASIC programming language. The "dialects" we'll be discussing are all the various versions of Microsoft BASIC which Tandy has incorporated in its 8-bit home computers. But before we start byte busting, some quick BASIC history couldn't hurt.

The first Tandy computer to use the BASIC (Beginners All-purpose Symbolic Instruction Code) language was the Z80 based Model I, created back in 1977. The Model I used Level I BASIC installed in a ROM (Read Only Memory) chip inside the computer. Level I contained more than enough commands to program the limited 4K RAM (Random Access Memory) available on the first Model I.

These 4K wonders didn't last long, as Tandy and independent third party sources soon provided a string of upgrades. Cassette tapes were replaced with floppy disk drives, providing more efficient mass storage. The new expansion interface allowed a total memory of 64K, including a more powerful Level II BASIC Rom. In addition to this Level II ROM, disk based Model I (and the new Model III computers) sported an enhanced "Disk BASIC" which was loaded into protected RAM from a disk file. Utilizing these Disk BASIC commands, programmers could read and write disk files and even utilize parts of the disk operating system from within a BASIC program.

Now, of the 64K of total memory in a Z80 computer, how much RAM was actually available for programming? Well, right off the top, there was the 16K of ROM containing Level II BASIC and some other necessities. So, it was possible to have 48K of RAM in a cassette based system. But in the disk machines, Disk BASIC and the TRSDOS (Tandy Radio Shack Disk Operating System) system RAM overlays subtracted from available memory. And if you purchased the hi-res graphics board and loaded GBASIC (Graphics Basic) into high memory, that would have to be deducted too! It wound up that you were lucky to have 30K to 35K of actual programming space.

Compared with today's megabyte memories, these early programmers wrote some tremendous programs using very little code. And write them they did! For many years, it seemed to be no end to the steady stream of new programs or the public's demand for them. Through 1983, there were four monthly publications devoted to the Model I/III computer and compatibles (yes,

there were Tandy Z80 clones!).

Unfortunately for all Z80 machines, consumer emphasis was shifting to high-resolution screen graphics, not more powerful operating systems. Now let's face it, this is the one area where other microprocessor based computers had the Z80 machines hands down. As the competition introduced less and less expensive graphic based computers, Tandy knew they couldn't compete with a Z80. Why should they try, when they had the new Color Computer which would fill that niche very nicely. And so it did! The CoCo proved to be even more successful than the Z80 computers and new programs were churned out at break-neck speed. In no time, there were as many programs and dedicated magazines for the CoCo as there were for the older machines.

The CoCo BASIC's ROM incorporated nearly all Level II BASIC commands, adding the additional color graphics support which had been lacking in the Model I & III. On the other hand, the CoCo's disk BASIC commands were a little disappointing when compared to the more powerful Z80 versions. But the important thing was what they had in common, compatible Level II type BASIC ROMs. It's this similarity in these otherwise very different computers which brings us to the meat of this subject.

### THE MEAT:

With some compromises, you can have the best of all BASIC worlds. Almost all Microsoft BASIC programs, with a little work, will run on either the CoCo or Z80 machines (especially if the Z80 has a graphics adapter). With this software base at your disposal, you will be hard-pressed to find a reason to write your own BASIC application program from scratch.

The trick here is to trap the unrecognized code in each ported program and convert that to the equivalent instruction for the target machine. This can be a bear, not just because of the incompatibilities of the two BASICs involved, but due to undisciplined programming habits.

You see, most high-level languages demand a certain structure. In other words, each element of the program is clearly defined and does a particular job. Some of these procedures may define variables, write to the screen or printer, perform a math function or display a menu. The point is, structured programming makes it easy to determine each module's purpose. Most modules would be directly portable between the two machines. The balance could be easily identified and quickly adapted to

Continued on Page 11

## TID-BITS

\* As we have been saying all along, OS-9 is being ported for other computers. The newest one out is for the Atari ST. This operating system is being called ST-SHELL and offers most if not all the save commands as OS-9. The big difference, however, is that ST-SHELL will use icons, windows and drop-down menus to boot or get at disk files. When reading the review of ST-SHELL, I thought I was going back in time when Rainbow Magazine first embraced OS-9.

\* When thinking about what new software will be available for the CoCo III, we offer these few suggestions; MicroProse, Batteries Included, Avalon Hill\*, subLOGIC, Electronic Arts\*.

\* Did you know that the Chicago Health & Racket Clubs use a modified CoCo II with one of their exercise machines!

\* We thought you might like to know that the monitor Howard Medical Computers advertises in this Newsletter is compatible with the CoCo III in the RGB mode. The monitor in question is the one selling for \$149. The cable design will be found in an upcoming issue of CoCo-1 2 3.

\* To add to the above statement, if you are going to buy from Howard Medical, CALL ME (Ed Hathaway) FIRST! I'll give you some money saving tips.

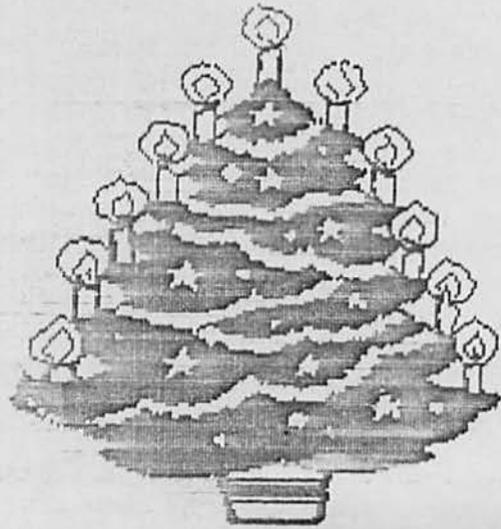
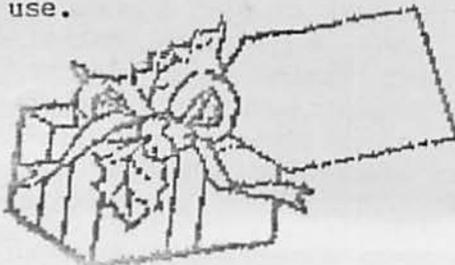
\* CompuServe Information Services has taken the bite out of download policy. You can receive the programs on file and put them on a non-commercial BBS without fear of copyright infringement.

\* Some new and exciting news has crossed this desk regarding OS-9 Level 2 for the CoCo 3. This new operating system will either include or make available the following;

- : Relocater Micro-Assembler & Linker
- : Hard Disk Driver
- : Ram Disk Driver
- : Programing Utilities
- : Supports for new Window Environment
- : Full Screen Editor

\* It seems that there will be two versions of Level 2. One for 128K systems and another for 512K systems.

\* Level 2 will also be using a 'GOS' (Graphic Operating System) type format. Where by you use a joystick or mouse for pull down menus & icons to get at Disk I/O's and program use.



## NOVEMBER MEETING REVIEW

Much like the October meeting where Randy Specter played a vital roll in pulling things together, Ken Johnson played much the same roll for our November meeting. For the November meeting a host of information about the new CoCo III was discussed. There were examples of converted Basic graph programs, the new Language calls of the III and the different monitors that the CoCo-III can and will drive (as an example, we have two composite monitors and a RGB monitor working off the one CoCo III and none of them were from Radio Shack). As was explained, there is so much to learn about this little computer wonder. On behalf of everyone connected with Glenside, we say thanks to Ken for letting us use and play with his Color Computer III.

After the CoCo III show, Ken gave a detailed look at his CoCo II hard drive system. As Ken explained, setting up a hard drive system on the CoCo (or any computer for that matter) is a luxury few people could afford! However, if you are able to put one together the benefits are great. Ken went through the different operations of using a hard drive and how the CoCo interfaces with data and program I/O's.

During this meeting we made the announcement about placing a group order on the CoCo III. When all the information about the special price and arrangements were discussed, the Club voted to except the deal from the RS Computer Center in Lombard. As we get to all the members that were not able to attend this meeting, we will place the order. At this point everyone who put their name on the sign up sheet will be called with a date of delivery...See you all on December 11th.

a maximum resolution of 640X480 picture elements using 256 of the 4096 available colors. This card supports analog (RGBA) type monitors.

**PIXEL:** is the term used to describe the pure elements that make up the display. Specs like 640X200 refer to the pixel density, or how many dots are on the screen. The 640X200 pixel format has 128,000 dots available for characters and graphics. As a rule, the higher the pixel density supported, the better the clarity. The CoCo is capable of 640X225 pixel format in it's highest resolution.

**RGB:** stands for the three separate color guns used in color TVs and monitors, Red, Green & Blue. The term "RGB-Monitor" refers to the fact that each of these electron guns receives separate information from the computer. In contrast, composite connections mix all three color signals in the computer. Keeping each color's signal separate allows a sharper image. The CoCo 3 supports RGB monitors that use analog color signals.

**RGBI:** is a digital RGB monitor that also supports an intensity signal used in the CGA standard. This allows 16 colors instead of the 8 normally available in TTL color displays. Two shades are available for each color by changing the intensity signal from high to low. This type of monitor is not compatible with the CoCo 3 unless the monitor also supports RGBA or Composite connections.

**RGBA:** is an analog version of the RGB monitor. Some of RGBA monitors can support 256 colors at one time out of the 4096 available (IBM PGA). This is the type of RGB color monitor, that when used with the new COCO 3, will allow you to see maximum color resolution.

While you're shopping, try and find as many features for the price as possible. A real find is a good RGBA that also supports composite color. This would allow you to see the artifact colors in COCO 2 programs. Some color monitors include a "monochrome" switch which will turn the screen amber or green for text applications. These combinations provide the versatility of several monitors, and are well worth considering even at a slightly higher price. As with most purchases, price may not be as important as the value you receive.



**ALFA-BYTES**

by the Tonkin Reader

Last month we passed on a few of the lesser known instructions found in all computers. This month we will address how some of these interfere with peripheral equipment, specifically the disk drives and printers. If you have any doubts about the validity of these instruction (destruction) sets, just ask any user who has three months experience with the peripheral. First, let's look at the disk drives;

**DED:** Destroy Encoded Data ("I don't understand! It worked this morning 1#\$@\*8?").

**GQS:** Go to Quarter Speed (Are you sure that the disk is spinning @ 300 RPM?)

**MWU:** Malfunction When Undetectable (The backup went without a hitch and directory says it's there)

**RWD:** Read Wrong Drive (Waddaya mean 'NF Error')

**DDT:** Destroy Directory Track (?>?<,./;+ @[-=:\*('&Z\$#!111111))

This is by no means complete, but they are the most common. Now let's check out the printers;

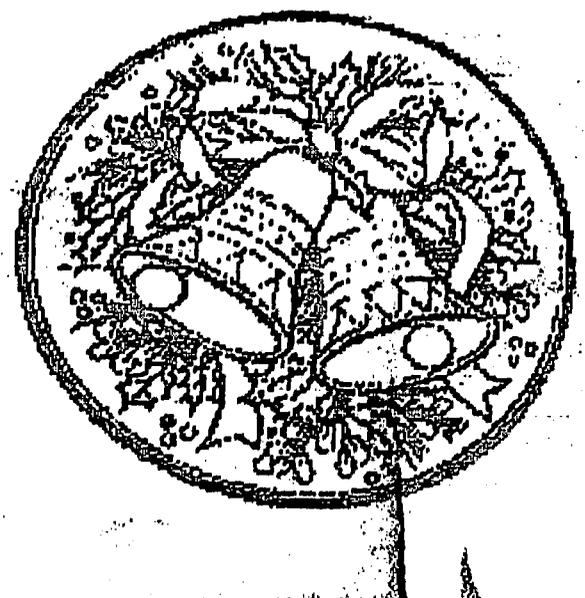
**JPF:** Jam - Paper Feed (Usually happens in the last three lines of the document and necessitates the reprint of the whole thing)

**KFP:** Kindle Fire in Printer (Dial 911) Repeat from last month.

**MAW:** Make Aggravating Whine (Dont stop it, maybe it'll quiet down, besides, it'll keep the cotton farmers in business.)

**ALF:** Add Line Feed (And you thought it meant 'Alien Life Form')

That's it for this month. Coming up, look for destruction sets to be used in programming and hardware hacking. Until then remember, a little byte'll do ya.



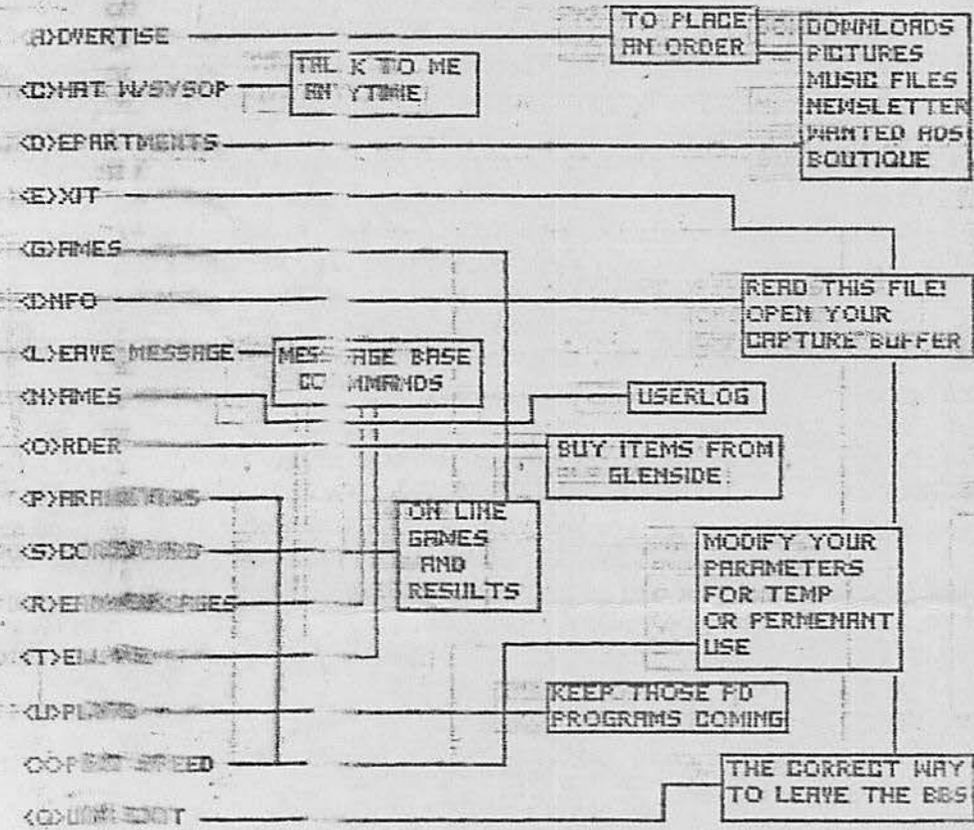
Continued from Page 6  
 press '?' and the full menu will be displayed.

<Q>quick exit -- see Exit  
 <#>Read Club -- only the members of Glenside will have access to this level. It contains various downloads which will not be in the normal download section.

<%>Load club -- this section is not used.  
 Next month we will discuss the department section and the features it has.

HINTS & TIPS: If you are already a user and have trouble logging in, do not respond to the new users prompts. Once entered into the userlog you will remain a member until the BBS is no more. A lot of users seem to be having this problem, sometime garbage characters are the problem. A call back later will solve this noisy phone line problem. Often though, a user is entering their login number wrong. Remember that your number will consist of a two or three digit number which the BBS supplied and the three

letters that you specified on your first login. If for any reason you cannot login under your password number and have to re-login, please leave me a PRIVATE message containing your old number so it may be deleted from the userlog. Your access level will be raised within 24 hours. New users, be sure to answer the questionnaire prompts with the correct information about yourself, i.e. your real name, address, etc. To give you an example, a user wanted to sell some software and hardware. I happened to be interested in what he had to offer. When I called the phone number he had left in the questionnaire section, I quickly found out just how honest some people are. The number was incorrect! The user lost a potential sale, and his access level. So make an effort to give the correct information. Who knows, maybe the BBS would crash and I need your phone number to verify a password.



This is a Colorama Board supported by, THE GLENSIDE COLOR COMPUTER CLUB  
 SYSOP: DAVID BARNES

**NEW MEMBERS**

Even if this month's new members do not add up to last month's, they are all intitles to receive the royal welcome. Please welcome with me our newest members of the growing family of Glenside.  
 \* Al Sarchini of Addison, IL. Al owns a 64K CoCo I disk system, printer and modem. He is also a big HAM operator (WB9PWM) and is a friend of Ray Grund

**MEETING ANNOUNCEMENT**

As a reminder, our next club meeting will be on December 11th. For visitors, we meet at the Glenside Public Library in Glendale Heights. The Library is located on W Fullerton Ave. and we start our meetings 7:30pm. Our meetings are open to all TRS-80 computer owners and users. For further information call either Ron Steinberg at 307-0466 or Ed Hathaway at 462-0694. See you in December.

Transcript of a conference mode dialog between Art Flexser (ARTFLEXSER) creator of ADOS and Randy Spector (SPEECHSYSTEMS) taking place on DELPHI; 11-24-86, regarding the prospects for a new ADOS version to operate the CoCo III.

As per Mr. Flexser it should be stated here that though this transcription is a only very slightly paraphrased account of the 'conversation', no specific ETA is planned on the product and the modifications or features mentioned are what is PLANNED for the final product. Not necessarily what WILL be there. No promises!

SPEECHSYSTEMS: HI ART. JUST WANTED TO ASK YOU ABOUT THE POSSIBILITY OF ADOS FOR THE COCO III. JUST ABOUT EVERYONE HERE USES ADOS AS THEIR DOS OF CHOICE, AND WE ARE REALLY INTERESTED IN WHAT YOU MAY BE PLANNING FOR THE III VERSION.

ARTFLEXSER: I'M WORKING ON IT. NO REAL ETA (ESTIMATED TIME OF ARRIVAL) YET. POSSIBLY BY 1ST OF YEAR, BUT CAN'T PROMISE.

SPEECHSYSTEMS: ANY INFO ON PROPOSED ENHANCEMENTS?

ARTFLEXSER: MAINLY JUST MAKING EXISTING COMMANDS COMPATIBLE, PLUS SOME CONFIGURING ABILITY; DEFAULT SCREEN WIDTH, PALETTE COLORS, MPU RATE, ETC. DISK I/O SUPPORTED AT FAST RATE. MAYBE FAST AND SLOW COMMANDS THAT ADJUST PRINTER BAUD RATE AS THE MPU RATE IS CHANGED.

POSSIBLY A MONO COMMAND THAT SHUTS OFF THE COLORBURST SIGNAL.

SPEECHSYSTEMS: WELL, I JUST WANTED TO BE AMONG THE MANY WHO HAVE ALREADY THANKED YOU FOR AN ABSOLUTELY TERRIFIC PRODUCT. I WON'T PART WITH MINE FOR ANYTHING!

ARTFLEXSER: THANKS, APPRECIATE THE KUDOS!

SPEECHSYSTEMS: WERE YOU AWARE THAT OUR 'E.A.R.S' PRODUCT WILL NOT RUN UNDER ADOS?

ARTFLEXSER: NO, THOUGH I'D IMAGINE THE 'DISABLE' COMMAND WOULD TAKE CARE OF THAT.

SPEECHSYSTEMS: IT WOULD, AND IT DID. I JUST THOUGHT YOU MIGHT WANT TO BE AWARE THAT IT DOESN'T RUN UNDER ADOS ITSELF.

ARTFLEXSER: YEAH, THAT'D BE A TOKEN NUMBER CONFLICT BETWEEN ITS ADDED COMMANDS AND THE ONES

THE E.A.R.S USES. MOST ANYTHING THAT ADDS COMMANDS TO BASIC REQUIRES A 'DISABLE'. YOU'D HAVE TO CHANGE TOKEN NUMBERS TO GET E.A.R.S. TO WORK ON THE COCO III ALSO (WITHOUT IT DISABLING SOME OF THE COCO III COMMANDS).

SPEECHSYSTEMS: ALL YOU NEED IS A PRE-EXEC TO GET E.A.R.S. TO WORK ON THE 3

ARTFLEXSER: OH, IT'S A ROMPAK?

SPEECHSYSTEMS: ROMPAK & SOFTWARE.

ARTFLEXSER: A PRE-EXEC TO DO WHAT?

SPEECHSYSTEMS: IF YOU DO AN 'EXEC &HE010 <ENTER>' BEFORE THE LOAD, THE E.A.R.S RUNS FINE ON THE 3.

ARTFLEXSER: YEAH, THAT EXEC SHUTS OFF ALL THE COCO III COMMANDS.

SPEECHSYSTEMS: OH, DIDN'T KNOW THAT!

ARTFLEXSER: YOU MIGHT BE BETTER OFF CHANGING THE TOKEN NUMBERS SO AS NOT TO CONFLICT WITH THE COCO III (THEN IT WOULDN'T REQUIRE A 'DISABLE' UNDER A DOS III EITHER).

SPEECHSYSTEMS: I'M SURE LESTER HANDS (PROGRAMMER OF E.A.R.S.) IS WORKING ON THAT EVEN AS WE SPEAK.

ARTFLEXSER: WELL, NICE CHATTING WITH YOU, RANDY.

SPEECHSYSTEMS: SO LONG ART, THANKS AGAIN... FOR EVERYTHING.

ARTFLEXSER: BYE

ARTFLEXSER: — SIGNED OFF —

Continued from Page 7

your machine's needs. Unfortunately, since the BASIC language doesn't force this structure, programs often end up as "spaghetti code". Indiscriminate use of GOTOs and GOSUBs can transport you to places that even the programmer didn't know existed. So, is there any hope to port your favorite BASIC program to another machine, even if it looks like last weeks pasta? Sure! We just have to enlist the help of our trusty computer, who's a lot better at code busting than we humans.

Next month, we will detail the differences between Level II and CoCo BASIC and port our first program. Later, we'll develop a few BASIC utilities which will be effective tools in transporting programs between machines. Finally, we'll learn some programming techniques which will help in writing more transportable code, making this job easier in the future.

Joe Register is a Tire Replenishment Buyer for a large Chicago based merchandiser. Joe owns a TRS-80 Model 3 & 4 and a Color Computer. He also uses a MS-DOS based mainframe at his place of business.

**\*\* FOR SALE \*\***

\* VIDEO PULS MONITOR DRIVER. Will drive a color or monochrome monitor using the CoCo I&II, asking \$15. CALL ED HATHAWAY AT 462-0694.

\* IBM SELECTRIC 2 - PRINT WHEEL TYPEWRITER. 5 years young, just cleaned and adjusted. This typewriter prints 132 characters and is in perfect condition. Asking \$225.

\* DMP 110 - RADIO SHACK DOT MATRIX PRINTER. 1 year young and in perfect condition. Uses 9.5 by 11 track paper. Asking \$200. CALL CAMILLE CHARLIER AT 893-0162 AFTER 4:30pm.

\* AVATEX 300 BAUD MODEM. This is a direct connect modem compatible with the Color Computer. There are a few left at \$28. so place your order today. CALL JOHN CHASTEEN AT 860-2580.

\* 64K TDP 100 (COCO "F" OR "NC" BOARD) HIGH PROFILE KEYBOARD, ALL CABLES, MANUALS, 1 ROMPAC GAME, \$ 75.00

\* RADIO SHACK DRIVE W/ CONTROLLER & CABLE, HORIZONTAL CASE & POWER SUPPLY. OWNER IS ASKING \$150.00 OR BEST OFFER

\* LOOKING FOR TRUE LOWERCASE IN YOUR GRAYCASE COCO? TRY THIS OUT!!! EASY INSTALLING BOARD BY COCO DEVICES only \$35.00 (WILL ACTULLY WORK IN ANY COCO THAT HAS A SOCKETED VDG CHIP)

\* 64K COCO 2: HIGH PROFILE KEYBOARD, W/ MANUALS & HOOK-UPS CALL CARL DIRECT @ (815)568-6746

\* CGP 115 W/ DUST COVER: CALL LARRY PANTYKA (312)837-4201 ASKING \$30.00

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\*\*\*\*\*



FOR SALE FROM SPEECH SYSTEMS  
512 CT - RAMCard  
\$119.95

This is an introductory price, 512K Memory Up-Grade for the Color Computer III. Price includes software and future software discounts. There is FREE installation if computer is 'postage paid' to and from Speech Systems of Batavia, IL.

FOR MORE INFORMATION, CALL  
Randy Spector at 879-6880



FOR SALE  
64K - CoCo II  
4 months old - \$80

CGP 220 Color Printer \$210  
Banana Gorilla Dot Matrix Printer  
w/Parallel Printer Cable \$70 (new)

300 Baud Modem w/CoCo Cable \$35  
CoCo Touch Pad \$20  
1 Kraft Delux Joystick \$20  
1 Wico Joystick \$20

J&M Disk Controller (DC-4) w/Parallel  
Printer Port; JDOS & RS-DOS; 1/2 Height  
Double Sided Drive w/case \$250  
1/2 Height Double Sided Bare Drive \$90  
Radio Shack Disk Controller \$50

Gold Star 13 inch Color Monitor \$110

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Dragon Fire Wildcatting Roman Checkers  
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Color Scripsit & MORE. All for \$60.

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Les Jones at 323-3280  
Richard Skrydlak at 968-0989

# MONITORS



## 123A 12"

**- SPECIAL -**  
**1/2 HEIGHT CASE & POWER SUPPLY \$39**  
**FULL HEIGHT CASE & POWER SUPPLY \$39.50**

This 12" green screen high resolution monitor offers 80 column capability, Zenith quality and a 30 day warranty valid at any of Zenith's 1200 locations.  
Retail \$149 **\$6750** (\$7 shipping) Our price

122A Zenith 12" Amber Screen offers the same 640 dots x 200 dots resolution at 15MHz as the 123A and a 90 day warranty valid at our 1200 locations.  
(\$7 shipping) **\$88**

131 Zenith 13" Color Monitor has medium resolution with speaker and RGB jack.  
(\$14 shipping) **\$168**

Closeout Specials - only 14 in stock. We have a limited number of lesser known color monitors that have been discontinued but are brand new in their original boxes.  
**\$149** (\$14 shipping)

All monitors require an amplifier circuit to drive the monitor and are mounted inside the color computer. They attach with spring connectors, with two wires extending out of the computer, one for audio and one for video.

141 Roland 13" Color Monitor with speaker, 270 dots x 200 dots resolution, 4 MHz band width.  
**\$217** (\$14 shipping)

VA-1 for monochrome monitors only, fits all color computers  
**\$2445** (\$2 shpg)  
VC-4 for monochrome or color, fits all color computers  
**\$3945** (\$2 shpg)

Howard Medical Computers  
(312) 278-1440

The above is but a few goals we put together and their results. The big HIT of the year was our expanded Software & Hardware meeting presentations. The following is a list of the different activities we had throughout the year.

THE COCO 3 - HARD DRIVE SYSTEMS - RS SPEECH PAK - C BASIC - TELEWRITER 64 w/TELEPATCH - COCO MAX II - OS 9 - GAMES REVIEW - DISTO CONTROLLER & RAM DISK - DYNASTAR - SPEECH SYSTEM PRESENTATION - TANDY MS-DOS PRESENTATION - COCO MADNESS NIGHTS - ILLINOIS TELEPHONE GUEST SPEAKER & RAINBOW FEST 1986.

This was just the tip of the iceberg. 1986 was without a doubt a very busy and productive year for Glenside. All of this activity could not have been possible without the help from all of people (I mean ALLOT of people). I would like to list everyone who lent a hand throughout this year, but then I would be posting our membership roster. EVERYONE pitched in to lend support when called upon, for that I am forever thankful. All of what we did in 1986 was a direct results of each members input and assistance. Without you, there is NO GLENSIDE! Thanks again for a great year and once again, MERRY CHRISTMAS!

Ed Hathaway

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GLENSIDE COLOR COMPUTER CLUB of ILLINOIS  
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CLOSING NOTES

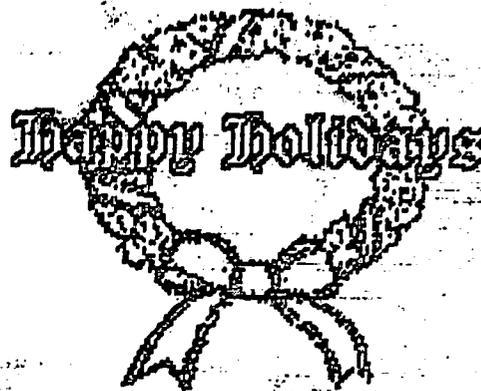
With 1986 coming to a close, there is some unfinished business we need to undertake. Membership Dues. The following are those members who just came due or are past due;

- |               |                  |
|---------------|------------------|
| Art Carvajal  | John Chaplin     |
| Paul Covello  | Karel Fandel     |
| John Keller   | Ronald Landwehr  |
| Bob Lorenz    | Edward Moskowitz |
| John Schroder | Joe Tully        |

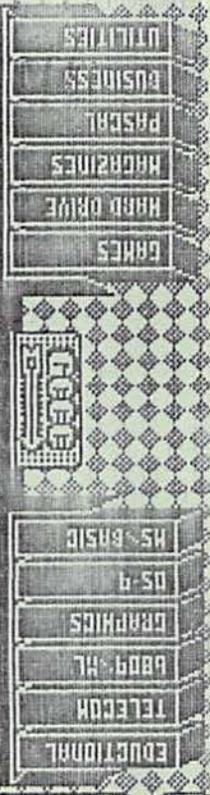
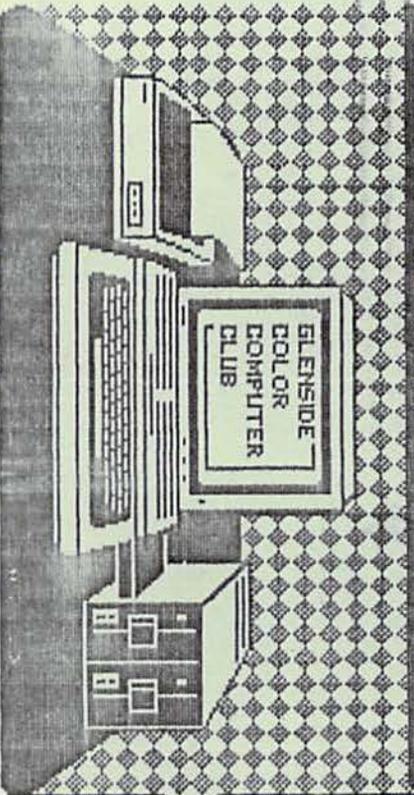
Those members listed above, if you will visit with Ed Hathaway during the December meeting we will put in a good word with Santa!

We all wish you and your family the very best during this holiday season. Please do us all a very special holiday favor, 'IF YOU DRINK, DON'T DRIVE - WE'VE COME TO LIKE YOU JUST THE WAY YOU ARE!'

See you all on December 11th.



Monthly meetings every **SECOND THURSDAY**

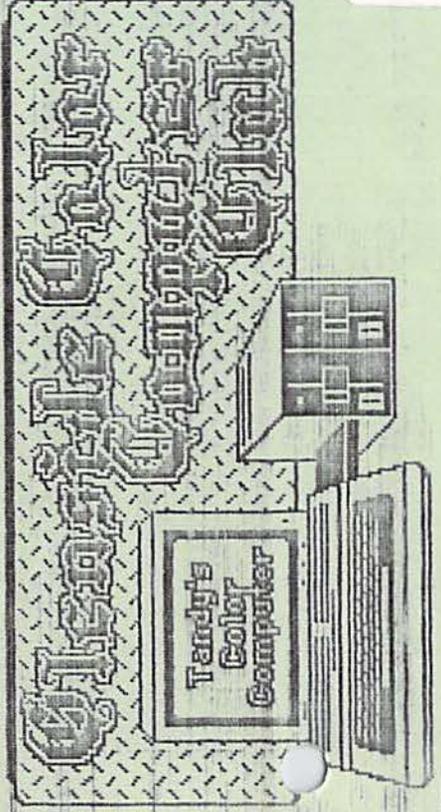


Location

Glenside Public Library

Fullerton Ave.  
Glendale Hts, IL  
7:30 to 9:30pm

call: 462-0694  
for more  
information



John (Tony) Podraza  
119 Adobe Circle  
Carpentersville IL 60110

