

I am emphasizing this point for those of you out there, struggling with the lesser efficiency of a cassette recorder. If price was the major obstacle to purchasing a disk drive, I urge you to do so now. A drive really does make a world of difference if you are serious about your computing.

We are no longer carrying joysticks for the Plus 4 or C/16. We do, however, have a steady, reliable supplier of joystick adapters. These adapters allow you to work with any commercially available joystick -- just plug one end of the adapter into the joystick and one end into the Plus 4 or C/16. Only \$4.95.

True 1531 datasettes have just arrived. Because most of you expressed a desire for true 1531 datasettes rather than a non-Commodore drive with an adapter, we were finally able to track these down. By the time you receive this newsletter, the backorders will have been filled. In lieu of these, we had been offering Maxtron datasettes with adapters for the Plus 4 or C/16. These datasette adapters can also be used as printer adapters for those interfaces requiring a power supply. Only \$4.95. We are still looking for a good deal on printers and printer interfaces.

For full details on the hardware offerings, see the articles, DISCOUNTED DRIVES, DATASETIES, PRINTERS & INTERFACES

WHAT'S THIS MEMBERSHIP STUFF?

Some of you have expressed the feeling that you're not quite certain what you receive with your membership or that somehow what you are receiving is too little for the price of a membership. I understand from members of other "not to be mentioned by name" user groups, that you think that Iri Micro is a bit of a joke and that you laugh in your sleeve when Iri Micro's name is mentioned.



Technical Assistance (714) 549-1902

ORDERS ONLY 1-800-826-4859

9-5 P.S.T.

**CALIF & ALASKA RESIDENTS
CALL TECHNICAL ASSISTANCE NUMBER**

Beware the Ides of Extinction!

Seriously, what you receive for your membership is: Technical Support, TIME, Information, Discounts, this Newsletter. I can hear you saying to yourselves, "Technical support, no big deal, just someone talking to me on the phone." The someone talking to you on the phone may be someone who is also trying to process an order, look up a backorder, write a shipping manifest, or someone attempting to meet a deadline for bringing a program to market. Or someone who is trying to coordinate the manufacturing and shipping of our non-Plus 4 business, or someone trying to track down software for you, or negotiate a deal for software for you, or someone charting the course of this little company, etc. Those are the hidden costs of customer support most of us never think about.

To be quite honest, the questions range from "nuisance" type questions to very sophisticated questions from serious users. Perhaps a few examples will serve to illustrate the point. "How do I access the spreadsheet?" Most of you know that typing "tc" while in command mode will do the job. Admittedly, this question takes 5 seconds to answer. But the question must be answered, just as questions like "How do I save my file?", "How do I load my file?", etc., must be answered. Answering these types of questions repeatedly can frazzle the nerves and some compensation for frazzled nerves is due.

Then, there are the Type 2 questions about things which the user manual for the Plus 4 either left out or explained only partially or erroneously. Questions like, "How do I make mailing labels?", or "How does the linkfile work?", or "I have a non-Commodore printer and can't get any of the special printing features to work.", or "When I do a blockmap from my spreadsheet, it prints all funny. What's wrong?" These types of questions require a bit more time and more effort in explanation, depending on the knowledge level of the person asking the question.

Finally, there are the Type 3 questions about what works with what, and how do I make the software fit my small business, how should I set up the file manager to keep track of my breeding records, how can I set up a G.L. on the spreadsheet, I'm out of memory in the spreadsheet and I've only used 20 cells, can I get

NEWSBRIEFS / UPDATES Cont.

headers and footers to work on the word processor so I can prepare manuscripts, and on, and on. Some of you even call in wanting us to tell you how to solve a programming problem which requires programmer time. The hourly rates for programmers of the skill level we have means that each five minute call costs from \$5 to \$12. Due this fact, if the question or problem is too complex, we have to refer you to purchase the Programmer's Reference Guide, or one of our other book offerings.

Some non-members after having received 15 minutes to an hour's worth of help have said rather smugly, "Why should we pay for membership when we get the help for free?" In order to satisfy this question of all the non-members, we are instituting a new customer support policy.

NEW CUSTOMER SUPPORT POLICY:

If the question is a quickie or a question regarding peripherals and compatibility, non-members will receive support. If the question is a Type 2 or a Type 3 question, we will only answer them for non-members if you are a new user and unfamiliar with the system. It would be unfair to penalize these new users who have possibly not even heard of Plus Exchange by refusing to answer their questions. All others requesting information will be expected to provide membership numbers. No membership -- No support.

We are more than happy to help you and guide you in your computing. Typically, computer product documentation makes a lot of assumptions about knowledge level. Don't be intimidated by poor documentation. Keep hitting keys until something happens -- read the user manual -- try to get a feel for what is happening. If all else fails, or when you need a little nudge, or you've reached a stone wall, give us a call. We are here to help.

The time it takes to produce this newsletter, while answering all the customer support calls and tracking down software and hardware product for you, is really premium time. I realize that the newsletters have not been particularly timely to date, however, we do keep increasing the size of the newsletter and

the quality of information. With this newsletter, we kept discovering more and more things to put into it until one day, we finally said, "Enough -- this thing has got to go to press!"

As a result, this newsletter is a particularly fat issue. Do not expect anything more before Christmas, with the exception of product updates and a couple of 4-page information short issues. Keep this issue around -- it has loads of info and an updated product catalog.

Discounts on the software, hardware, and books are another valuable part of membership. There are some companies who would maintain high prices on items for which they were one of the few sources. Our approach has been to establish reasonable margins, and pass the savings on to members. Membership funds have enabled us to acquire new titles as well, and all of you have expressed dismay at the lack of software. To funnel part of your membership dues into an economic force meaningful enough to acquire software is to my mind one of the biggest advantages of being a member.

If you are not a Plus Exchange member, do not use Charter member prices when mailing your order and do not use the SPECIAL DISCOUNT COUPON. We will not be able to fill your order and time will be lost in communicating with you, so that we may not be able to fill your order in a timely manner. Non-members should use the prices from the column marked Retail Price. A frequently asked question is whether you are allowed to take the membership discount if you are paying for a membership with the same order. The answer is a resounding YES! YES!

OOPS! (Otherwise known as "sorry")

In the last question and answer column, INPUT / OUTPUT, the command to access the file manager in order to initialize a new disk was printed as "fm". The proper command is the Plus 4 file manager command, "tf". Since the 64 and 128 product uses the command "fm", and since I use all three products, I made this mistake. Use a "tf" always.

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AM I REALLY A MEMBER?

or what really does \$40.00 mean?

PLUS EXCHANGE membership means a newsletter, discounts on software and technical support (a.k.a. a shoulder to cry on). As most of our membership is aware, TRI MICRO is the company which gave birth to the 3 plus 1 software for the Commodore orphaned PLUS/4. This vested interest in the Plus/4 has meant that we too were left out in the cold BUT it also has put us into the position to be able to band together with a very diverse group of users who have a real interest in keeping their systems ALIVE!

A large number of our members have become acquainted with TRI MICRO and PLUS EXCHANGE via a magazine offer for a \$10.00 trial (quarterly) membership. These memberships have been automatically extended by our actually commencing them with the July issue. We felt this to be the only fair method of dealing with the erratic publishing schedule we've had for the newsletter.

Since our growth overwhelmed us both physically and financially, we have had to discontinue the previously offered quarterly memberships and the membership listed as a "regular" membership. Those of you who have paid \$10.00 will need to submit the additional \$30.00 to bring you up to full member status. Those of you who originally enrolled as "regular" members (either \$5.00 for a quarter or \$20.00 annual) will need to submit the additional \$35.00 or \$20.00 to bring you up to full "charter" membership status.

"Regular" memberships did not prove to be very popular and the additional bookkeeping along with quarterly billing requirements became a clerical nightmare. Office staff time was becoming scarce and needed to be dedicated to gathering information for the newsletter and technical support.


PEN PAL FOLLOW-UP

Our last newsletter had a small article concerning a PEN PAL program. These exchanges have been successful in other users groups, especially with members from as diverse areas of the world as Funafuti, Tuvalu, South Pacific and Eagle Creek, Oregon. Unfortunately, we have had a very small response to our offer to organize such an endeavor.

To those interested, we MUST have your permission to add your name to the list. Please drop a line soon. If we do not have sufficient interest within the next couple of months, unfortunately we'll have to discontinue the PEN PAL program. Our office staff time is limited and this could be either a great member benefit or a clerical boondoggle. We would like to continue to support it, if you folks are interested.

To those of you have signed up already, hang in there! We'll send our a brief listing of PEN PAL names soon.







LOTTERY +4


NOT WINNING WITH YOUR SYSTEM?
TRY OURS!

WE'VE ALREADY WON THOUSANDS
WITH IT AND WE'RE STILL WINNING!

LOTTERY has been assigned to use the
computer power of the MOORE
computer to let you play the following lottery
games: PICK 4, LOTTO, SUPER
LOTTO, 6/49 LOTTERY, etc. It can
be used with any game in which you
pick the numbers.



Superior Micro Systems, Inc.





XMAS DEADLINE -- DEC 15

DISCOUNTED DRIVES

!! SPECIAL PURCHASE !!

Through a special purchase arrangement, CARDCO (1541 compatible) disk drives are available at a special sale price of \$129.99 to PLUS EXCHANGE members. This reduced price includes two disk games, RAINY DAY GAMES I and DIAGON, to get you started. Our supply of these drives is limited, so we urge those of you who were thinking of upgrading your system for Christmas to place your orders early to be assured of receiving this special package offer.

CARDCO disk drives have been sold throughout the United States for sometime. They have averaged a low rate of defective returns (this cannot always be said for Commodore's 1541 drive). This Commodore compatible serial disk drive offers 174.8 Kbyte capacity, dual ports for "Daisy Chaining", obeys standard Commodore DOS commands and loads and runs most copy protected software (i.e. Electronic Arts, Sirius, Maxitrac). Compatible with your Plus 4, C16, C64 and C128, this solid state drive comes ready to plug in and has a full 90-day warranty.

We have been asked by some of you "How compatible is the drive?" When a drive is 1541 compatible, there must be some changes in its Disk Operating System (DOS) so as not to infringe on Commodore's DOS copyright for the 1541. Each compatible drive manufacturer changes its own section of the DOS. Some computer software protection schemes utilize parts of the 1541 DOS in their protection scheme. These schemes are a way of attempting to prevent unauthorized copying of software and can be found on various commercial pieces of software. Since the companies do not publish their protection schemes, it is impossible to tell you exactly which software works with the compatible drives and which software does not. Since most compatibility problems typically arise from a conflict between the protection scheme and the DOS variation, unprotected software will usually work on compatible drives.

In evaluating the compatibility of the CARDCO drives, we tested our own software, British software, and some 64 software with the drives. Of the various programs tested, only one C-64 program which utilized heavy protection schemes did not load. An independent technician tested the drive, putting it through various diagnostics. On the alignment test, no more than a 90% variance existed which he said was "excellent". Electronically and mechanically, he felt the drive was very reliable and easy to service. According to him, anyone who does service and repair work on 1541 drives should be able to service these drives as well (i.e., RCA Service Centers). In evaluating the compatibility of the drive, he stated that "In my evaluation I found that the DOS is not 100% compatible but very close. Therefore, my personal opinion of this drive is great!!"

DATASETTE

A datasette is a type of cassette recorder which is designed to be a storage unit for the computer. You can either store or load data and programs on the cassette tape utilizing a datasette. Any person who has worked with a computer probably knows that pushing the wrong button could send the whole record into oblivion. However, using a storage device such as a datasette can store information from the machine on the cassette tape.

Why do you need a particular type of cassette instead of just using a standard audio cassette recorder? The main reason is that there is a difference between the way data is transmitted over audio and over computer lines. The transmission is always sent as a wave, however, one type of wave is rounded and the other type of wave is squared. For this reason, transmission on a cassette recorder designed for computer use is more reliable.

There are many datasettes on the market and only one of them will work directly on the Plus 4 and C-16, the Commodore 1531. Other units require an adapter because the connecting plug to the Plus 4 and C-16 is a different pin design than the Commodore 64. The adapter has one end which connects to the datasette and one end which connects to the computer.

Continued next page



Continued from prior page

The built-in software does not save to tape. Commodore initially had no plans to market the 1531 datasette with the Plus 4 and specified that the built-in software not support a datasette. Compute's Gazette did publish a way to use the software:

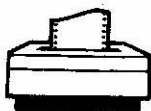
"Once you're in the spreadsheet or word processor and have something to save, hold down the RUN/STOP key and press the RESET button on the side; keep RUN/STOP depressed until you release RESET. You're now in the ML monitor. Type S "filename"1,4000,0000 and then press RECORD and PLAY on the datasette. The save takes about 18 minutes. To reload, go into the spreadsheet or word processor, press RUN/STOP and RESET, and enter L'filename',1. After the data is loaded type X and RETURN twice."

The built-in file manager does not save and cannot save to tape. A data base must be set up before a file manager can work. This is not capable on the datasette.

One thing that each and every person should know is that the datasette is very slow and can consume many hours. The datasette that we sell is only \$27.95 (non-member price \$39.95) and the disk drive is \$129.95 (non-member price \$149.95), but the time you save with the disk drive does not compare. If it takes 20 minutes to load a program on the datasette and 30 seconds to 1 1/2 minutes to load on the disk drive, that's 18 minutes saved per load. Only you know how valuable your time is.

In addition to the time savings, the efficiency and availability of programs on disks makes a disk drive even more desirable. All future programs for the Plus 4 and C-16 will be available only in disk format.

PRINTERS & INTERFACES



I have good news for all you PLUS 4 owners that want to use a printer, but don't know what works with your system. The good news is that PLENTY of printers work with the PLUS 4.

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In fact, all the printers that Commodore makes (1525, 1526, DPS-1101 and MPS 803) are plug-compatible with your PLUS 4. All the Commodore printer commands are available with the built-in software of the PLUS 4. Various aftermarket printers, such as Juki, Epson, Panasonic, etc., need a device known as an interface to allow the Commodore computer to talk with the non-Comodore printer. Some of the non-Comodore printers are advertised as "plug-compatible", meaning that the interface to the Commodore is included in the printer. Other printers require that you purchase the interface as a separate device.

Because of the variations in communication protocol between Commodore and non-Comodore computers, ASCII codes may have to be modified with various printers. ASCII codes are responsible for changing different printer formats. For example, if you send a Commodore dot-matrix printer an ASCII decimal number 14, the printer prints in expanded mode. This ASCII code is different on non-Comodore printers and may vary from printer to printer. The article on ASCII codes in this same issue discusses ASCII codes further.

Another problem that happens with nearly all Commodore printers is their unwillingness to stop receiving data. When a program first talks to a printer, a special "listen" command is sent to the printer telling it to print the data it is going to receive. When you close communication to the printer, the computer sends an "unlisten" command telling it to stop printing. Sometimes printers will not "unlisten" when they are supposed to and will continue printing information instead of displaying it to the screen. The unlisten problem can be solved by simply keeping the printer off when not in use. It is also a good idea to turn off the printer when loading a program.

Let me explain for a moment the main difference between a Commodore format printer and an IBM format printer. These two printer types (remember we are referring to types of printers NOT brand names) communicate differently. The Commodore printers use what is called a "serial" data line (also known as a "bus") while the IBM printers use a "parallel" data line ("bus").

Continued next page

PRINTERS / INTERFACES Cont.

Sending data down the serial line is done by taking the ASCII value for the character you wish to send and breaking it down into 8 pieces call bits, then sending these bits to the printer (or disk drive) through a single wire one bit at a time. The printer reassembles the 8 bits together to get the value of the character that it should print next.

IBM went a different route on communicating with its printers (or disk drives). Although IBM also breaks its characters down to an 8 bit number, it sends each bit down its own wire at the same time. There are different types of parallel data lines, the most common being the CENTRONICS type used by IBM. When I refer to an IBM type printer, I am actually talking about a CENTRONICS type parallel data line for receiving information.

Buying a printer that is Commodore-ready right from the package is the easiest way to go. But more times than not, the printer that you want is not plug-compatible with your PLUS 4. What you need is a device called an "interface" which will allow your Commodore serial data bus to talk with your printer's CENTRONICS data bus. The interface translates the data from your computer to the CENTRONICS format of a non-Commodore printer.

Printer interfaces come in three types; computer-mount, in-between cable, and printer mount. Computer-mount interfaces are designed to plug into the Commodore 64's cartridge slot in the back. Since the cartridge slots are different for the PLUS 4, this type of interface WILL NOT WORK.

The printer-mounted interfaces plug into the back of the printer instead of the computer, with a Commodore style printer cable running back to the computer. In-between interfaces have one cable which connects to the computer and one cable which connects to the printer.

These last two types work very well with the PLUS 4. They make your IBM format printer act like a Commodore printer without changing the PLUS 4 itself. The cables from the interface simply plug into the back of the computer or disk drive like any regular printer cable would, with one exception.

Some interfaces (CARDCO, in particular) have a power line that plugs into the cassette port of the C64. The PLUS 4 cassette and joystick ports are different from the C64, so how do you get power to your interface from the PLUS 4? If your interface gets its power from the cassette port, we sell an adapter cable for \$4.95. These adapters have connectors at two ends -- one end plugs into interface power line and the other end plugs into the cassette port on the PLUS 4.

If your power comes from the joystick port and your interface didn't come with a PLUS 4 adapter, you can purchase the interface adapter and the PLUS 4 technical notes for \$4.95 each. The technical notes have the Plus 4's schematic diagram. A qualified computer repairman can use the wiring schematics to solder the interface power line to the power line on the adapter that comes from the joystick port. Remember, the round end of the adapter fits into the joystick port and the flat end is what you will be soldering. Any competent computer repairperson should be able to figure out what you want and have it done in five minutes.

Please note: Interfaces that use the joystick port are pretty rare. Most that do already come with PLUS 4 adapters, so make sure you read the package before buying to find out if you will have to adapt your power line to the joystick port.

Most printers and printer interfaces have "dip-switches" on them. These are little switches that modify how the printer or interface works. Depending on the printer or interface, the switches may be inside the case or they may be visible externally. (See also the ASCII code article in this newsletter for additional information).

These switch settings seem to give people a lot of trouble. Some of the switches on the interface are used to adapt the interface to the brand of printer you are using. The switches are set one way for an Epson, another for a Gemini, etc. Just read the instructions carefully and set the switches according to whatever printer you are using.

PRINTERS / INTERFACES Cont.

Other switches on the printer and interface are used for selecting different options, things like paper width, line-feed, 1525 emulation mode, and so one. You should have the switches on both printer and interface set to the same status, i.e., if you have chosen no auto-line feed on the interface, also turn off the auto line feed on the printer. If you are using an aftermarket printer, you will usually want to select the no-line feed option. Otherwise, you may get double spacing when you don't want it. In order to use the printer's own special features, you need to have 1525 emulation mode disabled. When you are in true 1525 emulation mode, the printer thinks that it is a 1525 and will not do things like bold print and underlining even if it does support those features. Therefore, you must choose non-1525 mode, sometimes called "transparent" mode in order to utilize each printer's individual features. Further discussion of this can be found in the article on ASCII codes in this same issue.

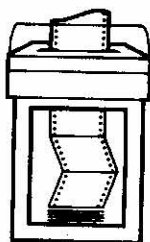
If you have any problems, go back and make sure that everything is plugged in properly and snugly and that the switches have their proper settings. This will usually solve your problems.

IN REVIEW:

All Commodore printers made for the 64 will also work on the PLUS 4.

When selecting an interface for non-Commodore printers look for:

1. 100% compatibility with the C64.
2. An interface that does not plug into the back of the computer, but plugs into the printer or is in-between the cables running to the computer and the printer.
3. If the interface has a power line, that the line plugs into either the cassette port or the joystick port and **NOWHERE ELSE!**
4. Make sure that the interface you wish to buy is compatible with the type of printer you have. Beware! Some interfaces only work on specific name brand printers, like Epson or Panasonic, and not with others. So if the printer you want to use is not listed on the



interface box and sales representatives cannot verify that the printer and interface are compatible, we don't recommend that you purchase it.

5. If you are spending good money on a printer, don't skimp on an interface. Remember that the printer will perform only as well as the interface will allow. So paying more for a better interface will reward you with a much better and more error-proof system. Look for features like a built-in buffer, selectable device number, complete Commodore character set, and true 1525 emulate mode. We don't recommend any interface with less than this.

When buying a printer, remember to:

1. Make sure that a compatible interface is available.
2. Select a printer with the print functions you require most. Whether you need a dot-matrix printer for graphics or a letter-quality printer, make sure that you buy a good name brand quality printer. Can you find printer ribbons in your area? Is there a service center readily available?

We hope you will now feel a little more confident in searching out and purchasing the printer and interface which most fulfills your personal needs. ■■■●

THE ULTIMATE GAME SHOW

Experience the thrill of being a contestant while playing 5 of the most popular TV game shows!

An exciting game for parties or for the entire family!

MasterCard VISA

SS Superior Micro Systems, Inc.

SOFTWARE REVIEWS Cont.

Graphically **MERCENARY** has to be one of the most impressive games this year. Using true three dimensional graphics, rather than the pseudo type used on games such as **Skyfox**. **PLUS/4** friends this is the game of 1986. This has got to be the outstanding conversion to the **PLUS/4**. True, **MERCENARY** lends itself ideally to the sprite-free atmosphere of the **PLUS/4**. Not only have they created a legend but they've done a marvelous conversion that stands up to any comparison. Eat your heart out, 64 owners, someone's going to have the pleasure of playing **MERCENARY** for the first time. Can one game get two **AWESOMES**? You can bet your Targan Megacredits it can!

RATINGS:

Graphics: * * * * *
Sound: * * *
Playability: * * * * *
CCI Rating: **AWESOME**

SABOTEUR

(reprinted by permission of Commodore Computing Intl.)

Here's another Spectrum conversion, and as with most conversions, doesn't really try to take advantage of the 64's facilities.

You've been hired to steal a data disk that contains the names of all the rebel leaders in the country (where we ask?), and you have to get it before its information is transmitted to all the outlying security posts. You've also only got a limited time in which to make your escape.

As you've been trained in the martial arts, you should have no problems getting passed the guard dogs, armed guards and the like, if it weren't for the numbers of them. This is an exceedingly difficult game!

You start at the end of a jetty, after climbing out of your rubber dinghy. Then you have to avoid dogs, guards and automatic weapons guided by wall-mounted cameras. Some doors are locked, but you can use the computer terminals that are strewn about to open them.

Once you've successfully obtained the disk, and blown up the computer center

with a time bomb picked up along the way, you've got a journey upwards to the roof where a helicopter is waiting to whisk you away to safety.

A sort of game, with rather few sound effects and difficult to play. Quite fun, though, because of its challenge and the skill needed to complete it.

RATINGS:

Graphics: * * *
Sound: * *
Playability: * * *
CCI Rating: **CRISP**

JACK ATTACK

(reprinted by permission of Commodore Computing Intl.)

I'd heard some very ugly rumors about this game and looked at the prospect of reviewing it with some trepidation. But I am glad to say that it isn't as bad as I expected it to be, though it is far from excellent.

The general idea of the game is to squash nine balloons which float down from the top of the screen. You can do this by jumping on them or by squashing them between blocks. Unfortunately they can do the same to you and can also jump higher than you.

The first screen is easy-just made up of blocks-but on further screens there are platforms, and pods of water in which you drown.

There is a time limit to complete each screen and when you do, the remainder of time is turned into a bonus. If you don't complete the screen in time though you aren't penalized. When you run out of time, the platforms on your screen dissolve and you must watch out for falling blocks.

The graphics on this game are nothing special, but I found them cute and colorful, the sound is-to coin a phrase-"rubbish" and not really worth a mention.

Overall this game is fun to play but gets too frustrating at times. It is not one I'd recommend unless you are buying it for younger gamers.

RATINGS:

Graphics: * * *
Sound: *
Playability: * * *
CCI Rating: **Dodgy**

(reprinted ^{DIAGON} by permission of Commodore Computing Intl.)

Diagon is a very fast and furious arcade-action game. The blurb on the box tells us that the "Krellis IV and the Di-Planium wars rage on. Control the Diagon network through 10 levels of defense. M-Droids cause havoc. Its death in the fast lane and sounds your Mother will love." Death certainly is in the fast lane, and is very difficult to avoid! Luckily, Bug-Byte have very kindly supplied 5 ships instead of the normal 3, which to a certain extent makes up for the high death rate.

The sound effects are great, somewhat reminiscent of those found in earlier C64 games. The character set has been redesigned into a chunky, rounded font, together with lots of colour.

You control a small ship on a grid, which contains 18 solid obstacles. These can be used to hide behind from enemy fire, and from nasties zipping around the grid. If you get hit, then your ship explodes in a rather pretty, if unimaginative display of multi-coloured streamers.

Around the outside of the grid, circle four enemy ships, which fire at you through gaps in the outside grid walls.

This game is a definite must for any games player. With its excellent sound effects, fast moving action, and addictive game play, it deserves to be a number one on the charts. One of the best C16 games I have played yet, and likely to remain a favourite of mine for some time to come.

RATINGS:

Graphics: * * * *
Sound: * * * *
Playability: * * *
CCI Rating: AWESOME

XMAS DEADLINE -- DEC 15

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

SALAMONE SAYS

(Reviews by T. Salamone whose articles have appeared in Commodore Microcomputer, Power Play, RUN, Compute's Gazette, and who is a regular contributing editor to INFO 64).

RUG RIDER

Rug Rider, by Tri Micro, for the Plus 4, can best be described as Joust Visits 1,001 Arabian Nights. Up to four rug jockeys use a joystick to guide electronic personas through freestyle, floating terrain or slightly more structured mazes within Middle Eastern castles and palaces.

The object of the game is to acquire enough experience and magic talismans to defeat the (inevitable) evil genie. Complete each round by gathering the keys and special items (diamonds, magic bolts, drills, irons, to name a few). Avoid hitting the surroundings and dodge the falling objects, both knock you for a loop and cost you a rug, i.e., a life, in the process.

As the game starts, an overhead view of castles and terrain appears. Moving the cursor with the joystick, you select the particular aread to "rug" around in. Rug Rider features 24 different scenes per game; each can be entered only once. Departing completed scenes is easy, fly straight up without hitting anything on the way.

The scenery is varied, if somewhat blocky. Animation, on the other hand, is relatively fluid, the play action superb. Once you get used to the controls, turbocharge the carpet. This feature adds new meaning to the phrase, "Cutting a rug."

Function keys are used to change the momentum of the rider, change the number of players, and run the demo version. Check this out, it should help as Rug Rider is very challenging). One real gripe, the user manual forgot one thing, loading instructions. I found that "Load "*" ,8" works just fine. Despite this oversight, Rug Rider is a first class action offering.

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Continued from prior page

RATINGS:

Graphics: ****
Sound: ***
Playability: *****
Overall: Superb, first class.

(editor's note: we have corrected the manual.)

GHOST TOWN

First impressions can be very deceiving. My initial thoughts about Ghost Town were not complementary. As a matter of fact, they probably weren't fit for print. That has changed.

After spending a number of hours with it, Ghost Town comes across as an addictive, entertaining, visual adventure game with an educational bent. GT's charm and wit help overcome its less than state of the art animation.

GT can be likened to Ghostbusters a la Plus 4. As a parapsychology student, you are investigating alleged hauntings in the nearly deserted town of Rosedale. Armed with coin of the realm, a spirit scanner, and a chest for ghost containment, you pursue different spirits. Appease them by solving puzzles (logic, math, and English) or giving them the items for which they have been searching. Until their troubles are over, you cannot hope to capture them.

Would be Bill Murrays have to keep their physical strength and mental activity levels high. Feebleness leads to death, and ignorance to a dull, frustrating existence, just as in real life. Can't afford any food? Pick berries or shake the apple trees for sustenance. Some activities drain physical strength and others, mental. You restore these attributes in various ways, some of which are not entirely self-evident.

Booty comes in 50 different shapes and sizes ranging from badges to birdseed and picks to oars. Use some items, trade others away. You'll learn what pieces must be used where through trial and error. There is no vocabulary parser as in most text adventure games. Instead, place your alter ego on the object to be

inspected, handled, etc. Press RETURN and you're in business. Cryptic clues and information stored in the newspaper morgue must be combined to solve Ghost Town's puzzles and secure the spirits for a restful afterlife.

Animated sequences liven up the action, further separating this game from the norm. Six tunes play throughout, F1 toggles the music on or off. Other function keys make it easy to save and reload games in progress.

A joystick is not required, reading ability is however. Youngsters can move the video figure about, though the very young ones may need some help with the text. This arrangement works just fine as Ghost Town is at its very best when entertaining the entire family.

RATINGS:

Graphics: ****
Sound: ***
Playability: *****
Overall: Witty, addictive,
Entertaining



ZORK III

"It all comes down to this". There couldn't be a more fitting phrase to describe the final installment of the classic ZORK trilogy. Translated from a mainframe program created before the advent of popular micros, this fantasy prose adventure induces armchair freebooters to let their imaginations run amok.

Continued next page

Continued from prior page

Unencumbered by less than perfect pixel portrayals, Zork III permits a player to paint mental images via the purple prose encountered throughout this fabulous tale. Whether deep in the dungeons, lost in the misty surface world, or face to face with the dreaded Dungeon Master himself, you'll find plenty of excitement in Zork III. There are logical puzzles to solve, magical spells to cast, and murderous creatures to battle. Are you up to the challenge?

Unlike other text adventure games, the entire Zork series features Infocom's unique Interlogic parser which understands quite a large vocabulary in plain English. Removing the two word command limitation opens up an expansive world of lifelike interaction. Commands like, "Put the gold and jewels in the trophy case", or "Throw the newspaper, the red book, and the magazine in the chasm", are ideal examples of the incredible flexibility of this parser. Compugamers may also ask questions of "speak out loud" by following the simple instructions in the concise yet very informative manual.

Though this is the final part of the series, gamers need not have played the other Zorks to journey through this one. Zork III is similar in many ways to its predecessors, still it does offer some unique challenges.

A lot of logic is needed to deal with the plot twists and complexities. Mapping locations is a prerequisite for success. Since many hours can be spent unravelling the adventure, a save game to disk option is provided. All you have to provide is blank floppy disks, and you're in business.

Half the thrill is just traveling through the areas, reading the descriptions of them and visualizing the scenery as you interpret it. Of course, that's the magic behind the all text adventure, something no one does better than Infocom. This Commodore licensed version for the Plus 4 is exactly the same as the original by Infocom, but it costs about half as much. That's what I call a cheap thrill!

An involving, top-notch brain teaser, Zork III provides the best adventuring there is. ■

SALAMONE SAYS:

SCRIPT PLUS

Commodore distributes Script Plus, a C16 / Plus 4 word processor that goes far beyond the capabilities of their well received Easy Script program for the C64.

Script Plus is more than an upgrade, it's a complete rewrite with additional functions and capabilities.

Script Plus is, without a doubt, one of the most extensively documented Commodore word processors. The user's manual gets high marks for its tutorial and reference section, but falls short in one area. Its lack of a quick reference card, considering the complexity of its commands, is my only documentation gripe.

While the printer driver section is not as diverse as those found in other heavyweights, Script Plus accomodates every industry standard -- Commodore, Epson, Nec, Diablo, Qume are all pre-set. Unusual printers can be used by redefining the existing drivers. Instructions are included!

Script Plus provides headers and footers, permits file linking, and mail merge. Flexible search and replace and exchange functions are included along with a veritable host of cursor movement and text erasure commands. Area commands allow fast and foolproof block (range) moves, copies, deletions, repetitions, and case changes. Print commands are diverse, allowing you to designate starting point, pauses, output of odd or even pages, etc. Layout instructions include all the basics plus complete header and footer manipulation. Spacing, print preview mode, and complete 1541 disk operations are possible.

An internal calculator handles addition, subtraction, multiplication, and division within tables, line or columns. Percentages become a snap. Super and subscripts, underlining, boldfacing, shadow, enhanced and condensed printing are integral parts of the program if the printer you are using supports these functions. If all this seems overwhelming, in-depth, on-screen help is available with just a few keystrokes. ■



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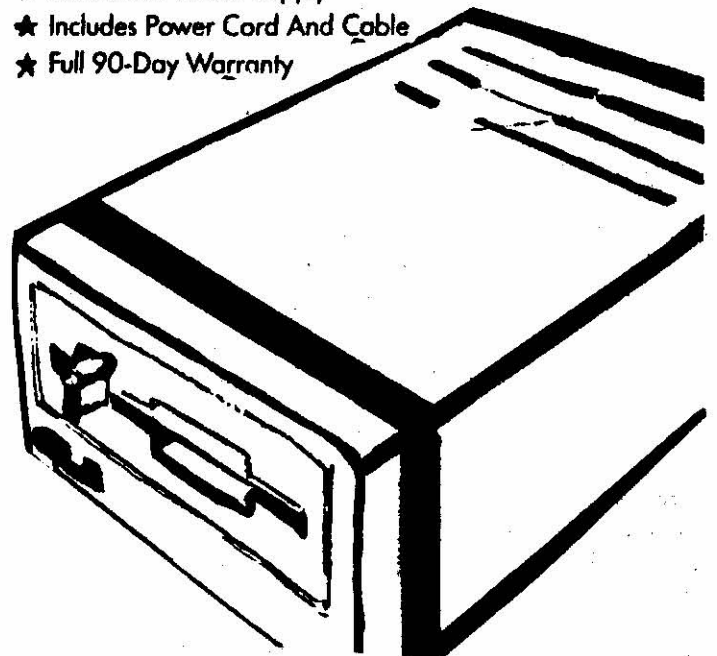
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This special number is to be used on all orders and technical support queries. Unfortunately one of the negative side effects of our groups' growth is that we will gradually have to concentrate our technical assistance time for members only. At this point we are providing extensive support for everyone who calls, but as the members who've only gotten busy signals know it's getting more and more difficult to carry on in Commodore's place. This numbering system is just the beginning of these necessary changes.

When you receive your card, please verify your name and address for spelling errors, etc. This address should be the mailing address you wish to have all correspondence and newsletters. We would also like to have phone numbers, as sometimes it's easier to give you a call than write. Please return the card with your corrections and we will issue you another. Please keep this card handy for future reference.

IN OUR NEXT ISSUE:

Interface Reviews
Memory Map Cont'd
More Software Reviews
Input/Output Column
More New Software
Using the Integration
C-16 Column

ACE

(reprinted by permission of Commodore Microcomputers)

ACE (Air Combat Emulator) lets you experience the challenge, thrills and danger of modern warfare at twice the speed of sound in a Mark 2.1 combat jet. And believe me, after you've dueled with a skillful foe at 30,000 feet, you'll be glad it was only that—a simulation.

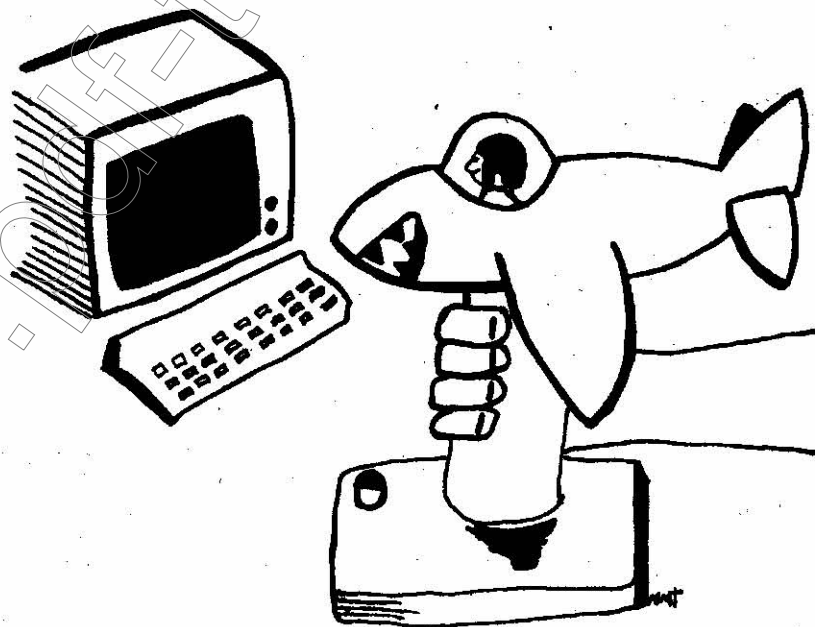
An enemy fleet has deposited troops, tanks and helicopter gunships on England's southern coast. When the invasion began, the enemy destroyed all but three allied Mark 2.1 combat jets, and you are the sole surviving fighter pilot. Your job is to stop the invasion.

You must destroy the land forces while attacking enemy fighter pilots. Then you must find and sink the invading fleet. Luckily, the Mark 2.1 is the right plane for the mission: It has a top speed of 1,590 knots, can reach an altitude of 70,000 feet, and can carry an impressive array of weapons. Its forward cannon can spit 6,000 rounds per minute and can carry air-to-air, air-to-ground and air-to-ship missiles, as well as protective decoy flares. The unanswered question is, 'Are you the right pilot for the job?'

ACE gives options like skill levels, targets (aircraft, land forces), weather conditions and choice of daylight or night. These options let you try a different scenario each time you fly, which guarantees the game will never become stale, and lets you match your skills against enemy pilots. The last option will especially be appreciated by novice fliers, because it lets each pilot move on to more dangerous challenges as abilities increase.

ACE's realism earns this simulator high marks. Half of the game's cockpit display is a forward view outside the plane, but a rear-mounted camera displays enemy planes or missiles approaching from behind. Beneath the forward view is the instrument cluster: compass, radar, speed indicator, ammunition status, landing gear indicator, and on-board computer readout. Each gauge is updated in real time, so when you flip a switch or move the joystick, the response is instantaneous.

During combat, enemy fire may knock out some or all of the gauges, presenting a true-to-life challenge that is every fighter pilot's nightmare. If the rear-view camera is damaged, it will show only static.



The same is true of the AWAT (All Weather All Terrain) radar display. Without information from those two displays, your best bet is to turn on the jet's afterburners and head for a friendly airstrip, because unless you are very lucky, your ticket is about to be punched.



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The program lets you know when enemy missiles are headed your way, when you are approaching stall speed, or when you are running short of altitude. This audio is especially appreciated during a combat situation, since things can get pretty confusing. A voice warning you that you have lost altitude can make all the difference in the world. Unfortunately, the voice doesn't advise you when you have done something stupid, like trying to land with your landing gear up.

Before you attempt your flight, you should become familiar with each display on the control panel. Remember, you are flying a super fast attack fighter-it can get you into trouble just as fast as it can get you out. So to survive, you must know the craft so well that reactions are second nature.

Control of the plane is relatively simple. To take off, just throw the throttle wide open, wait until you reach a land speed of 150 knots or so, and ease back on your joystick. As soon as you clear the airstrip, you should retract your landing gear and prepare for your mission. It is critical that you get the landing gear up as quickly as possible, because the drag it creates may cause the jet to somersault and crash.

Next you should activate the map display to identify enemy forces and their locations. Now you can activate the weapon to match the mission. For instance, if you spot enemy planes closing fast, you should activate your air-to-air missiles. This is done by tapping the F1 key until the correct weapon is displayed on the weapon's panel.

I have few complaints with the program except for the weapons selection scheme. Because only one weapon can be active at a time, the delay caused by switching between air-to-air missiles and decoy flares can be fatally slow. One way to minimize this is to fly with a weapons man aboard. The program lets the pilot use one joystick to control the plane, while another player can use another joystick to aim and fire missiles and decoys.

SEE "ACE HINTS" PG. 24

The forward cannons are all-purpose weapons. They are effective against any target, but require multiple hits to destroy it. On the other hand, missiles are deadly accurate and hits always destroy the target.

The simulator's screen display is fast, accurate and believable. The Mark 2.1 can reach a top speed of 1,590 knots, climb nearly 14,000 feet in a minute, and snuff out your life in a wink. And the updating screen display accurately simulates these dizzying speeds, so be on your toes. This jet is super fast and unforgiving.

ACE is a realistic air combat simulator. If you want to do battle at head-swimming heights and stomach-turning speed, ACE is your ticket. The program delivers all it promises: great graphics, good sound effects, amazing speed and plenty of options to make it a simulator to enjoy long into the future. The program successfully mixes arcade action with strategic challenge. If you are a fan of flight simulators, war games or great arcade action, ACE is your cup of tea.



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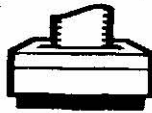
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ASCII CODES: What Kind of Animal Is This?

Special Printer Control Codes



The purpose of this section is to show you how to interpret the charts and tables in your printer manuals. This will allow you to use all the capabilities built into your particular printer. Almost all printers have the ability to do more than just print upper and lower case letters of the alphabet. These additional functions are all accessible through control codes which tell the printer what to do. The printer must be told what to do in a very special way or it won't understand you. It may do nothing at all or it may do some wild and crazy things. It's a little like the game of "Simon Says". If you tell someone to "take one step forward" without first saying "Simon Says" the person is not permitted to "take one step forward".

In the world of printers and printer interfaces the phrase "Simon Says" is replaced by CHR\$(27) or asc27 or some similar code, depending on your particular printer and printer interface. We'll get into this in more detail shortly. First you must learn how to read the charts and tables which correspond to "take one step forward", "pat your head", or any other instruction.

Figure 1 and Figure 2 are the two most common ways of showing control codes and describing what they do. These codes are commonly referred to as ESCAPE codes and are designated by the first three letters of the word (ESC). As you can see by looking down the first column in both fig.1 and fig.2, each letter or number is preceded by ESC. There are additional codes that control the printer but do not have ESC in front. These are referred to as control codes or ASCII codes. Actually, both codes are ASCII (pronounced as 'key') codes.

The best way to explain the use of these charts is to go through an example or two. Figure 1 and Figure 3 are from the Gemini-10 printer manual. Figure 2 and Figure 4 are from the Commodore DPS-1101 printer. Let's assume that you have a Gemini-10 printer and would like to print the phrase "This is a test" in the EMPHASIZE mode.

Look at the 5th line up from the bottom in fig. 1. The right hand column listed under the heading of function says "Selects EMPHASIZE print mode". Therefore, you will use the information in the columns to the left to put the printer in this mode of operation.

FIG. 1

| Control Code | Decimal | Hex. | Function |
|------------------|-------------|--------------|--|
| ESC 9 | 57 | 39 | Cancel "ESC 8" mode. |
| ESC # | 35 | 23 | This code sets the data as it is. |
| ESC - | 61 | 3D | This code sets 8th bit to 0. |
| ESC > | 62 | 3E | This code sets 8th bit to 1. |
| ESC e | 64 | 40 | Software "Reset" command, re-initialize all parameters to the power on condition. |
| ESC A n | 65 n | 41 n | This code changes line feed length to n/72. Value of n is acceptable 1 to 127. |
| ESC B 1 | 66 1 | 42 01 | Sets 10 CPI. 80 columns. |
| ESC B 2 | 66 2 | 42 02 | Sets 12 CPI. 96 columns. |
| ESC B 3 | 66 3 | 42 03 | Sets 17 CPI. 132 columns. |
| ESC C n | 67 n | 43 n | Sets form length to n lines. Value of n acceptable 1 to 127. |
| ESC C 0 n | 67 0 n | 43 30 n | Sets form length to n inches. Value of n acceptable 1 to 32. |
| ESC D n n BEL | 68 n n 0 | 44 n n 00 | Clear current TAB set, and set new TABS. Value of n is acceptable 1 to 255. (In case of 7bit interface, 1 to 127.) |
| ESC E | 69 | 45 | Selects EMPHASIZE print mode. |
| ESC F | 70 | 46 | Cancels EMPHASIZE print mode. |
| ESC G | 71 | 47 | Selects DOUBLE STRIKE print mode. |
| ESC H | 72 | 48 | Cancels DOUBLE STRIKE print mode. |
| ESC J n | 74 n | 4A n | One time line feed of n/144". |

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ASCII CODES Cont.

You will notice that the first column, under the heading of Control Code, lists the sequence "ESC E". This is the code you must send to the printer. After it is received by the printer, all the following characters received by the printer will be printed in EMPHASIZED characters. The question now is how to send this "ESC E" sequence.

This is actually quite simple using the Plus/4 built in word processor. First you must enter the reverse video mode of the word processor by holding down the CTRL key while momentarily pressing the 9 key. After this is done all the following characters typed on your keyboard will be in reverse video. This is necessary so that the printer will know it is receiving a COMMAND and not a character to be printed.

Now the printer is ready to accept commands and you must send it the code for ESC. This is done by typing asc27;. Whenever a printer sees the phrase asc27; in reverse video it will always interpret this as ESC. Now that you have sent the printer the ESC part of the sequence, how do you send it the E part? This is also quite easy to do.

Look at the second column in fig.1 under the heading of Decimal. This column is actually the decimal value of the symbol used in the control code.

Therefore, the decimal value of E is 69. If you add the number 69 (still in reverse video) to the sequence asc27;, you will have told the printer to enter the EMPHASIZE mode. All subsequent characters which are NOT in inverse video will be printed in EMPHASIZED characters. To leave the reverse video mode hold down the CTRL key while momentarily pressing the 0 key.

Since you don't want everything printed this way, how do you turn off this mode? Just below the ESC E row is another row which begins with ESC F. Under the

| Code | Chr\$(27)+ Chr\$(n) | Function |
|----------|--------------------------------|---|
| ESC LF | Chr\$(27)+ Chr\$(10) | Causes a negative line feed (the printer feeds in the opposite direction of normal line feed so that it prints on the line above the line just printed). |
| ESC D | Chr\$(27)+ Chr\$(68) | Causes a negative half-line feed (1/2 VMI). If the VMI (see next section) is set by some odd number in terms of multiples of 1/48 inch, the amount of movement is determined on a round-off basis. |
| ESC U | Chr\$(27)+ Chr\$(85) | Causes a half-line feed. If the VMI is set by some odd number in terms of multiples of 1/48 inch, the amount of movement determined on a round-off basis. |
| ESC US n | Chr\$(27)+ Chr\$(31)+ Chr\$(n) | Alters the standard HMI, which determines how the carriage spaces after printing a character. The "n" in the code corresponds to the "decimal data in the following: HMI = (decimal data - 1) x 1/120" (the maximum decimal data is 127). |
| ESC RS n | Chr\$(27)+ Chr\$(30)+ Chr\$(n) | Alters the standard VMI, which determines the paper feed amount. The "n" in the code corresponds to the "decimal data in the following: VMI = (decimal data - 1) x 1/48" The maximum decimal data is 127). |
| ESC FF n | Chr\$(27)+ Chr\$(12)+ Chr\$(n) | Sets the number of lines per page by using decimal data, which corresponds to the number of lines per page. The minimum number of lines per page is 1, the maximum is 126. Length = decimal data x VMI inches |

FIG. 2

Function heading this is described as "Cancels EMPHASIZE print mode". Well, folks, send the printer the phrase ESC F and everything will be back to normal. You already know how to send the ESC part by sending asc27; in reverse video. If you look at the Decimal column you will see that the value of F is 70. Therefore, sending asc27;70; will turn off the EMPHASIZE mode.

To print out the example above, your word processor should look like this. [asc27;69;] This is a test [asc27;70;]. The characters enclosed by brackets, [xxx], are in inverse video on your screen.

ASCII CODES Cont.

There are other sequences in your manual which may still seem a little strange. Look at the 6th row from the top in fig.1. You know what ESC A means, but what's that little n mean and how do you use it? If you read the function description it might make a little more sense. Notice that you are telling the printer TWO things to do. Simon says, "1) change the line feed length and, 2) make it an amount equal to n/72 inches".

Just as you did before, you must send the appropriate sequence in reverse video. Looking in the decimal column, you can see that the value of A is 65 so the first part of the sequence must be (in reverse video) asc27;65;. The instruction is incomplete, however. It's like saying Simon says "step forward", but you don't know how far forward to move. Therefore, add the value of n to the escape sequence to complete the instruction. For example, by sending the printer asc27;65;36; you have told the printer to space each line 1/2 inch apart (36/72=1/2).

If you have understood everything so far, you have mastered the hard part. Everything else is an extension of the format above. Let's look at fig.2 to see how another manufacturer presents similar information.

In the column under the heading of Code, you will see the familiar ESC codes (at least they should be familiar by now). However, instead of the Decimal and Hex. columns of fig.1, there is a column called Chr\$(?) Value.

Quickly scan this column and you'll notice that each line begins with Chr\$(27). Is the number 27 beginning to look familiar to you? Remember asc27; from the discussion above? Yes, that's right, ESC, Chr\$(27), and asc27; are different forms of the same thing. It's the same as Simon says in three different languages.

The Chr\$(?) is used in the BASIC language built into your machine. When using the Plus/4 built in word processor you do not use the Chr\$(?) expression. However, you do use the value in parentheses. For instance, the second code down in fig.2 is ESC D. This will cause the printer to do a negative half line feed (move up 1/2 line instead of down). To do this in BASIC, you would type Chr\$(27)+Chr\$(68). To do the same thing from the word processor you would type (in reverse video) asc27;68;. I'm sure you're getting the idea now so let's go on to some other tables to see what else your printer can do.

| DEC | 0 | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 |
|-----|---|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 0 | NUL | SP | 0 | P | - | | | | | | | | | | |
| 1 | 1 | | DC1 | ! | A | Q | a | q | | DC1 | / | T | X | Y | SP | r |
| 2 | 2 | | DC2 | " | B | R | b | r | | DC2 | \ | A | a | A | | - |
| 3 | 3 | | DC3 | # | C | S | c | s | | DC3 | ^ | C | c | O | | ~ |
| 4 | 4 | | DC4 | \$ | D | T | d | t | | DC4 | ^ | C | a | e | | + |
| 5 | 5 | | % | 5 | E | U | e | u | | | ^ | F | a | n | | |
| 6 | 6 | | & | 6 | F | V | f | v | | | ^ | o | | | | - |
| 7 | 7 | BEL | | 7 | G | W | g | w | BEL | | ^ | U | | | | ~ |
| 8 | 8 | BS | | (| H | X | h | x | BS | | ^ | o | Σ | † | u | ± |
| 9 | 9 | HT | |) | I | Y | i | y | HT | | ^ | o | Σ | † | u | ± |
| 10 | A | LF | | * | J | Z | j | z | LF | | ^ | o | Σ | † | u | ± |
| 11 | B | VT | ESC | + | K | [| k | [| VT | ESC | ^ | o | Σ | † | u | ± |
| 12 | C | FF | | , | L | \ | l | \ | FF | | ^ | o | Σ | † | u | ± |
| 13 | D | CR | | - | M |] | m |] | CR | | ^ | o | Σ | † | u | ± |
| 14 | E | SO | | . | N | ^ | n | ^ | SO | | ^ | o | Σ | † | u | ± |
| 15 | F | SI | | / | O | _ | o | _ | DEL | SI | ^ | o | Σ | † | u | ± |

| DEC | 0 | 16 | 32 | 48 | 64 | 80 | 96 | 112 |
|-----|---|-----|-----|----|----|----|----|-----|
| 0 | 0 | NUL | SP | 0 | P | - | | |
| 1 | 1 | | DC1 | ! | A | Q | a | q |
| 2 | 2 | | DC2 | " | B | R | b | r |
| 3 | 3 | | DC3 | # | C | S | c | s |
| 4 | 4 | | DC4 | \$ | D | T | d | t |
| 5 | 5 | | % | 5 | E | U | e | u |
| 6 | 6 | | & | 6 | F | V | f | v |
| 7 | 7 | BEL | | 7 | G | W | g | w |
| 8 | 8 | BS | | (| H | X | h | x |
| 9 | 9 | HT | |) | I | Y | i | y |
| 10 | A | LF | | * | J | Z | j | z |
| 11 | B | VT | ESC | + | K | [| k | [|
| 12 | C | FF | | , | L | \ | l | \ |
| 13 | D | CR | | - | M |] | m |] |
| 14 | E | SO | | . | N | ^ | n | ^ |
| 15 | F | SI | | / | O | _ | o | _ |

FIG. 3

Fig.3 and fig.4 are two forms of ascii code tables. They present the same information slightly different ways. In the upper left corner of fig.3 you will see the letters DEC. This stands for decimal. Notice that it refers to both a horizontal sequence of numbers (0, 16, 32, etc.) and a vertical sequence of numbers (0, 1, 2, etc.). Starting at the square with DEC in it in the upper left corner, move to the right two squares to the one marked 16. Now move downward to where this column intersects the row marked 11. In this square are the letters ESC. Now adding column 16 to row 11 gives you 27! Is this Deja Vu or is it simple computereze?

Now look for the square containing the letter upper case E. Notice that it lies at the intersection of column 64 and row 5. Add these together and

ASCII CODES Cont.

you get 69. Remember what you did to implement EMPHASIZE mode above? Look back and check out the letters and numbers which you used. Things are getting more apparent aren't they?

Looking at fig.3, you see a lot of symbols and character which you do not have on your keyboard. You may be wondering how to print those items. This is actually easier than using escape sequences. Suppose you want to print the solid black square shown in the lower right corner of fig.3. The square lies at the intersection of column 224 and row 15. Add these together and you get 239. To print this square, type (in reverse video) asc239;. The ESC sequence is not required here. If you want to print an upper case E you can do this by typing (in reverse video) asc69;. Any character in the table can be printed directly in this way.

Remember, the ESC is only required to access only SOME printer special functions. When and where to use the ESC sequence is a function of YOUR PARTICULAR PRINTER and YOUR PARTICULAR INTERFACE.

Now let's look at fig.4. It appears rather cluttered and complicated because of all the characters and numbers scattered throughout the diagram. Most of these numbers are the row and column numbers already added together for you. Notice that the top row of numbers goes from 0 through F. Below each number is another number in small rectangles going from 0 through 240. The top row is a hex sequence and the second row is a decimal sequence. This is exactly the same sequence as in fig.3, but the first and second rows have changed places. The first and second columns on the left side also represent decimal and hex sequences.



ASCII Code Table

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|-----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 0 | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 |
| 1 | MUL | SP | 0 | @ | P | SP | SP | | | | SP | SP | | P | SP | SP |
| 2 | 1 | 17 | 33 | 49 | 65 | 81 | 97 | 113 | 129 | 145 | 161 | 177 | 193 | 209 | 225 | 241 |
| 3 | CD | ! | 1 | A | Q | SP | SP | | | CU | SP | SP | | q | SP | SP |
| 4 | 2 | 18 | 34 | 50 | 66 | 82 | 98 | 114 | 130 | 146 | 162 | 178 | 194 | 210 | 226 | 242 |
| 5 | DC2 | " | 2 | B | R | SP | SP | | | | SP | SP | | r | SP | SP |
| 6 | 3 | 19 | 35 | 51 | 67 | 83 | 99 | 115 | 131 | 147 | 163 | 179 | 195 | 211 | 227 | 243 |
| 7 | | # | 3 | C | S | SP | SP | | | | SP | SP | | s | SP | SP |
| 8 | 4 | 20 | 36 | 52 | 68 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| 9 | DC4 | \$ | 4 | D | T | SP | SP | | | | SP | SP | | t | SP | SP |
| A | 5 | 21 | 37 | 53 | 69 | 85 | 101 | 117 | 133 | 149 | 165 | 181 | 197 | 213 | 229 | 245 |
| B | | % | 5 | E | U | SP | SP | | | | SP | SP | | u | SP | SP |
| C | 6 | 22 | 38 | 54 | 70 | 86 | 102 | 118 | 134 | 150 | 166 | 182 | 198 | 214 | 230 | 246 |
| D | | & | 6 | F | V | SP | SP | | | | SP | SP | | v | SP | SP |
| E | 7 | 23 | 39 | 55 | 71 | 87 | 103 | 119 | 135 | 151 | 167 | 183 | 199 | 215 | 231 | 247 |
| F | | ' | 7 | G | W | SP | SP | | | | SP | SP | | w | SP | SP |
| 0 | 8 | 24 | 40 | 56 | 72 | 88 | 104 | 120 | 136 | 152 | 168 | 184 | 200 | 216 | 232 | 248 |
| 1 | BS | (| 8 | H | X | SP | SP | | | | SP | SP | | x | SP | SP |
| 2 | 9 | 25 | 41 | 57 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 |
| 3 | HT |) | 9 | I | Y | SP | SP | | | | SP | SP | | y | SP | SP |
| 4 | 10 | 26 | 42 | 58 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 | 250 |
| 5 | LF | * | : | J | Z | SP | SP | | | | SP | SP | | z | SP | SP |
| 6 | 11 | 27 | 43 | 59 | 75 | 91 | 107 | 123 | 139 | 155 | 171 | 187 | 203 | 219 | 235 | 251 |
| 7 | VT | ESC | + | ; | K | I | SP | SP | | | SP | SP | | { | SP | SP |
| 8 | 12 | 28 | 44 | 60 | 76 | 92 | 108 | 124 | 140 | 156 | 172 | 188 | 204 | 220 | 236 | 252 |
| 9 | FF | , | < | L | E | SP | SP | | | | SP | SP | | | SP | SP |
| A | 13 | 29 | 45 | 61 | 77 | 93 | 109 | 125 | 141 | 157 | 173 | 189 | 205 | 221 | 237 | 253 |
| B | CR | - | = | N | I | SP | SP | CS | | | SP | SP | | } | SP | SP |
| C | 14 | 30 | 46 | 62 | 78 | 94 | 110 | 126 | 142 | 158 | 174 | 190 | 206 | 222 | 238 | 254 |
| D | 50 | BS | . | > | M | - | SP | SP | | | SP | SP | | ~ | SP | SP |
| E | 15 | 31 | 47 | 63 | 79 | 95 | 111 | 127 | 143 | 159 | 175 | 191 | 207 | 223 | 239 | 255 |
| F | | / | ? | O | _ | SP | SP | | | | SP | SP | | o | SP | SP |

| | | |
|-----|---|----|
| ESC | T | c |
| ESC | Z | - |
| ESC | H | 5 |
| ESC | T | E |
| ESC | J | .. |
| ESC | K | c |

FIG. 4

ASCII CODES Cont.



In fig.4, move along the top row to the square containing the number 1 (this is a hex. number). Just below it is a rectangle containing the number 16 (this is a decimal number). Now move down this column to where it intersects row B. You should now be in a little square containing the letters ESC with a small rectangle above it containing the number 27.

Are things beginning to look familiar again? Now go to the intersection of row 5 and column 4. You should be in a square containing the letter E with the number 69 above it. I think you have it now. Any other tables or figures you might run across will be variations of the ones described here. Just look for similarities and the format will become clear to you. HAPPY PRINTING!

BUILT-IN WORD PROCESSOR and SPECIAL PRINTER CODES

The command structure of the built-in word processor of the Plus 4 computer utilizes a consistent convention. This convention is that everytime you want to send the printer a command, you do so by typing the commands in Print Formatting Mode.

Commands typed in Print Formatting Mode affect only the final appearance of your copy and are only executed when a document is printed. They are typed in lower case and will not show up in your printed copy. Since these commands are entered as text, there must be a way to distinguish the format commands from the actual body of text itself. This is done by typing the commands in reverse video, as described in the previous section.

These commands may be embedded anywhere in your text. Sometimes you may want to vary your margins to accomplish a block indent, or you may want to set bold type, or center lines at different places in your document, or go from justified to unjustified text. By "embedding", I mean that you simply type the commands in reverse video before the text you wish to affect. The commands are visible on the screen and are part of your saved document.

Printer commands insert ASCII (American Standard Code for Information Interchange) characters in your text. For example, to cause enhanced printing on the Commodore 801, 802, 803, and 1526 printers, you would:

1. Press **CTRL 9** to enter Print Formatting mode.
2. Type **asl4;** to turn on enhanced printing.
3. Press **CTRL 0** to exit Print Formatting mode.
4. Type **"this will be enhanced"**
5. Press **CTRL 9** to enter Print Formatting mode.
6. Type **asl5;** to turn off enhanced printing.
7. Press **CTRL 0** to exit Print Formatting mode.
8. Type **"and this will not"**

Continued next page

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9 - 5 P.S.T.



Continued from prior page

Your screen should look something like this:

[asc14;] This will be enhanced [asc15;] and this will not.

Remember to turn the print command ON before the text you want to affect, and to turn the print command OFF when you want the text to return to normal.

The word processor can process only six ASCII commands for every 77 character line. With PLUS EXTRA, you are able to send up to sixteen ASCII commands for every 77 character line. Multiple ASCII commands may be necessary with both Commodore and non-Commodore printers.

As described in the previous section, the asc27; is the escape (ESC) print. With some interfaces, you need two escape sequences, for instance, "asc27;27;53;". The interface manual will instruct you if two escape sequences are necessary. When utilizing more than one ASCII code which needs an ESCAPE, you must string together the reverse video ASCII commands with COLONS to separate each command. The system needs to know that an escape is being sent with each code. Therefore, the proper format is

[asc27;66;:asc27;87;]

Notice the COLON as a separator between the two ESCAPE codes. Between the ESCAPE code and the ASCII CODE, you need to use a SEMI-COLON as a separator. If you forget to use a SEMI-COLON or COLON as separators, you will not obtain the proper results. Be sure also that you do not add any other punctuation as may appear in this article or your documentation, for instance a period at the end of a sentence ending with an ASCII example. Many of the problems in printing result from improper use of separators and punctuation.

Some printers, such as the Epson, use the same code to begin and end a special printing feature. The ASCII code is followed by a 0 or 1 to indicate turn off or on. If this is the case, type "asc27;xx;:asc27;48;" 48 being the ASCII value of the number 0. Type "asc27;xx;:asc27;49;" 49 being the ASCII value of the number 1. In these examples, the "xx" refers to the actual

ASCII code for the feature as indicated in the printer manual.

Due to the variety in printers, some will underline blank spaces, others will not. If you indicate an underline and obtain no underlining or scattered underlining in your hard copy, use the following procedure to compensate for the blank spaces. To make a blank underline, such as after a name, type NAME. Then turn on reverse video. Type the ASCII code for underlining. Turn off reverse video. Type a period to mark the beginning of the underlining. Type some spaces for the length of the desired underline, then type a period (or any other printable character). This last character is needed to end the underline when preceded by blanks. To end underlining, turn on reverse video, and enter the ASCII code for ending the underlining. With the Commodore DPS 1101, for example, (R = reverse on, 0 = reverse off).

NAMEasc27;69;0. .Rasc27;82;0

801, 802, 803 and 1526 Printers

asc14; Turns on enhanced print

asc15; Turns off enhanced print

DPS 1101 Printer

asc27;79; Turns on bold print

asc27;87; Turns on shadow print

asc27;38; Turns off bold/shadow print

asc27;69; Turns on underlining

asc27;82; Turns off underlining

NON-COMMODORE PRINTERS

If you are working with a non-Commodore printer, you may have either a "plug-compatible" printer or utilize a variety of hardware interfaces. In either case, software in the interface or plug enables your computer and printer to work together. One reason people purchase a non-Commodore printer is to be able to do bold or shadow print, italics, etc.

Depending on the interface, you may need to be in either transparent or Commodore

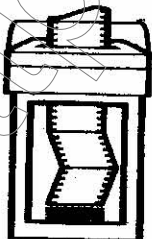
Continued from prior page

/ 1525 emulation mode. The interface manual will instruct you on which switch you need to turn on or off. With most interfaces, the conversion of Commodore ASCII to standard ASCII is not performed when working with the word processor in transparent or non-emulation mode. Yet you must be in non-emulation mode in order to access the printer features which Commodore printers do not have. Most plug-compatible printers do perform the conversion from Commodore ASCII to standard ASCII.

The ASCII codes for a particular function will be detailed in your printer manual. For instance, with Epson-type printers, the code for turning on EMPHASIZE print is 69, 70 to turn it off. If you attempt to access these codes, and get no results or get funny results, you should perform the ASCII conversion yourself.

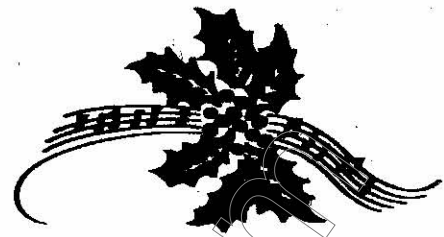
As a quick rule of thumb, if the ASCII code is between 64 and 95, add 32 to the code indicated in the printer manual. If the ASCII code is greater than 95, subtract 32 from the code indicated in the manual. ASCII codes less than 64 do not need to be converted. In the prior example, for instance, you would use, "asc27;101;" instead of "asc27;69;" to turn on emphasize print.

A quick, though not all inclusive summary of printer features which may require special ASCII commands, include bold, underline, shadow print, italics, compressed or expanded print, superscripts, and subscripts. The built-in software has been tested with Epson and Epson format type printers (such as the Star Gemini, Panasonic, Seikosha, etc.), with the Okimate 10 printers, with Smith-Corona printers and with the CARDCO, Microworld, XETEC, and PPI interfaces with success. If you are having problems, please call our customer support line, indicate that you are having a non-Commodore printer/interface problem, and we will help you troubleshoot over the phone. >>>



TECHNICAL ASSISTANCE
(714) 549-1312

9-5 P.S.T.



ACE TIPS

How to Fly and Survive

Spend plenty of time learning how to land, refuel, re-arm and take off. Approach the airfield low (under 500 feet) and at a slow speed (200 knots or less) with your landing gear down. As soon as the ground crew says your wheels have touched, cut your engines.

When landing, be sure to leave room to take off. It's better to abort a landing than land without enough room to take off again. The plane will not taxi back to the beginning of the runway to begin the take-off.

Force the enemy planes to fly over ally-controlled territory. That way, if you have to eject, you'll come down on friendly soil and be able to fly again. If your next target is going to be enemy aircraft, grab lots of altitude before engaging them. This serves two purposes: It insures plenty of maneuvering space and a descending plane can fly faster than an ascending plane.

When possible, fly with a weapons man aboard. The second pair of hands and eyes makes it easier to find enemy forces, avoid enemy missiles, and maintain altitude.

When attacking group troops, you'll be tempted to fly slow and low—but don't just give up. If you really fight the controls, you can sometimes make it back to allied territory. If you succeed, you can eject and fly again. Remember, friendly forces are always northwest, so try to glide in that direction.

You can also refuel in the air if you wish, but I recommend you use this option only when you are caught far from one of the three allied airbases. Refueling in flight only increases your fuel, but if you land at an airfield, the ground crew will not only refuel your jet, but re-arm and repair it, too.



INPUT / OUTPUT

XNAS DEADLINE -- DEC 15



(Reverse Video Commands Enclosed in Brackets)

Q. Since Okidata maintains there is not problem with their Okimate 10 or 20 printers, is there any way I can avoid the page creep?

A. Place the [pagepause] command at the top of your document. This forces the paper to pause before resuming printing. Manually turn the paten back one line, press RETURN, and continue printing the next page. Do this at every page until printing of the entire document is completed. **NOT RECOMMENDED FOR VERY LONG DOCUMENTS**, since it is rather cumbersome.

Q. Even after reading your explanation of linkfile, it is still not working. What am I doing wrong?

A. Many of you called in after the last newsletter saying you were still having problems with linkfile. The Commodore documentation is unclear, so here we go again.

The [linkfile] command must be the only command on a line. Therefore, if your text runs over to line 99, you cannot put the [linkfile] command on that line. If you are using the [linkfile] command, you should stop your text at line 98. Then on line 99, with nothing else on the line, type [linkfile'filename']. Of course, you can use [linkfile] on any other line, as long as it is the last line in the file.

The filename is the name of the file you want to link or chain, i.e., the next file you want printed. For example, let's say you prepare a document "docs1". You still have more to type when you reach the 98th line. On line 99, type the command, [linkfile'docs2']. Save the file as docs1. Then clear memory and continue typing. Save this file as docs2. Continue in this manner until you have finished a document.

If you attempt to print a linked document, and get only a partial result,

you are probably using the wrong print command. You cannot use the "p" command and print linked files. The "p" command prints only the contents of your computer's memory, i.e., what is visible in the 99 lines on your screen. The "pr" command prints from the disk drive to the printer, however. This command sequentially loads and prints all the files in a linked document, one by one. As the document is printing, the name of the file currently being printed is displayed at the bottom of the screen.

Therefore, to print a linked document, enter command mode, and type pr. The system will ask you for file name. At this point, type the name of the first file in the document, in our example, docs1. The procedure will begin and the linking will be done by the computer thereafter, with no manual interference from you unless you have a document spread over several disks and need to change disks. Hope this clarifies matters -- if not, keep calling and writing. We'll get it right, yet!

Q. I have only entered information in less than half of the spreadsheet and I am out of memory. HELP -- how can I get more capacity?

A. It is unlikely that you could be out of memory if you have utilized only half the cells in the spreadsheet. When we tested the spreadsheet at the extreme, filling each cell with 38 characters in text mode, we ran out of memory 2/3 of the way through the spreadsheet. If you are out of memory, check each of your cells in both numeric and text mode. Perhaps you are retaining things in text mode which shouldn't be there. If most of your cells are numeric input, with formulas or text sprinkled throughout, you should have no problems. I prepare a full year cash flow pro-forma, including cost of goods and accounts receivable analysis, size of 15 columns and 44 rows, and have not run out of memory. **CAUTION:** If you enter numbers as text, regardless of the size of the number, a full 38 characters will be reserved in memory.

Continued next page



**CALIF & ALASKA RESIDENTS
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Continued from prior page

Q. I have entered columns and rows of various numbers in the spreadsheet. Now when I go to perform formulas using them, I get no results. What's wrong with the my computer?

A. In all likelihood, nothing is wrong with your computer. Remember, that in order for the spreadsheet to recognize numbers as numbers, they must be entered in numeric mode. If you follow the examples in the user's manual, it is not always clear. Having gone into text mode to enter descriptions, you must return to numeric mode to enter the numbers. If you do so, the formulas and logical expressions will recognize the numbers as numeric data, rather than as alphanumeric data. Alphanumeric data, i.e., numbers you have entered in text mode, are recognized as text and cannot be processed in formulas or logical expressions.

If you are having problems, verify the nature of your input. To do so, cursor to the first cell in which you have entered a number. Press the Commodore LOGO key and the letter key N, and press RETURN. If the display changes to 0, your numbers are most likely in text mode. Press the Commodore LOGO key and the letter key T, and press RETURN. If the display changes to show your number, you have entered your numbers in text mode and must re-enter them in numeric mode. The status line at the bottom of the spreadsheet will tell you what mode is your current entry mode when you first cursor to a cell. As you change modes, the display changes. Remember to press RETURN to save the mode as well as the data.

Q. I cannot get any files to load or save with the disks I am using. Am I doing something wrong?

A. You might have left a write-protect tab on the disk. Each disk has a notch in the right hand side of the disk. Sometimes, little squares of tape are placed over the notch to protect the disk from inadvertent erasure. This square of tape will also keep you from saving anything to the disk. Another possibility is that your disk has no notches (we mailed some production disks like this out in error, sorry!). You can

make your own notches in the disk or return the disk to where you purchased them and replace them with new ones.

The last possibility is that you have not formatted the raw blank disk. You can do this either from BASIC, using the instructions provided in the user's guide, or in the built-in spreadsheet. Use the command mode to enter the spreadsheet. Type Commodore LOGO key and the letter C key, type format. The system asks for a disk name and an id number. Type a name, up to sixteen characters long, followed by a comma, and a two-digit id number, and press RETURN. Your disk is now ready to receive data. You do not lose any document you may have in memory if you format from the spreadsheet, so if you have not formatted a disk beforehand, all is not lost.

Difficulties with loading may be caused by a bad drive, a corrupt disk, a file on the disk followed by an asterisk, or a printer holding the drive down. Try turning off the printer first. Then begin looking at the other elements.



DELIVERY DATES

Due to the volume of orders we are processing now, along with our other duties, please allow 3-4 weeks for delivery. Back order notices will be sent if your item is not in stock. If you do not notify us after the back order notice is sent, we will maintain your order as an open order and fill it accordingly. If you need an item to have special handling to meet a particular project deadline, birthday, etc., let the order person know and it will be hand - processed through the system. An additional \$1.00 handling fee will be charged for RUSH ORDERS.

MODEM UPDATE



Since the last newsletter it has come to our attention that the Commodore Model 1670 Modem will work on the Plus/4 Computer if the Higgyterm software is used with it. With this modem NO hardware modifications are necessary. Instead, a switch is provided for compatability with various machines. This modem is more expensive than the Model 1660, but it does provide 1200 baud communication speed which is 4 times the speed of the Model 1660.



ORDERS ONLY 1-800-826-4859

SUPER DISKDOC

Tri Micro is proud to introduce to all Commodore owners, SUPER DISKDOC, the only toolkit you'll ever need to keep your Commodore disk system in top shape. SUPER DISKDOC is a power tool and a precision instrument all in one, and it's a joy to use. You just load it up, pop a disk in your drive, and SUPER DISKDOC gives you total control.

You are now able to:

Locate disk errors

Edit the individual bytes on your disk

Recover deleted files

Interpret any data in English, ASC II or hexadecimal

Search entire disks for specific characters

Edit and sort disk directories

Trace and verify file points and chains

Copy or modify files and blocks of data

Lock and unlock files for extra security

Produce detailed printouts of disk contents

SUPER DISKDOC can't wipe coffee off your disk, but it can correct just about any kind of software error.

If your data has value to you-you need SUPER DISKDOC. It's the best insurance you can buy!

This highly recommended program disk from Precision Software Ltd. has clear and concise documentation which should aid even the novice PLUS 4 owner. Those of you who own other Commodore systems will also benefit as this program works with Commodore 4000, 8000, 700/B28, 64 and 128 and the following disk drives: 2031, 4040, 8050, 8250, 1451, 1551, 1570, 1571, 9060, 9090, ST10C, SFD10 and compatibles.

**XMAS DEADLINE
DEC. 15**

C - 16 QUERY

Q. What is the difference between my C-16 and the Plus 4? Will things designed for the Plus 4 work on my C-16?

A. The main difference between the C-16 and the Plus 4 is the memory. The memory of the C-16 is only 16K, while the Plus 4 has 64K. The C-16 has no modem connection so you cannot do telecommunications with it.

Because of the memory differences, certain programs written for the Plus 4 will not work on the C-16, since the C-16 does not have enough room for the program to run. Therefore, some programs, like Saboteur and ACE, have two versions, one for the C-16 and one for the Plus 4. The Plus 4 version of the program will always be a more complex version because the programmer was able to take advantage of the additional memory.

With the exception of the modem, hardware requirements for the Plus 4 should be the same as the C-16. Our books apply equally to the Plus 4 and the C-16, except that you must remember that programs must be scaled down to the smaller memory of the C-16.

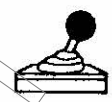
Q. Is there much software available for the C-16?

A. All the software which has an asterisk following its name in the price sheet works on the C-16. Software which is in Cartridge form (C) does not require the use of any other peripheral. Of course, if you wish to save files with either Script Plus or Calc Plus, you will need a device for storage. The devices available are a datasette or a disk drive.

➤➤➤➤➤ READER EXCHANGE ◀◀◀◀◀

Have software or hardware to offer for sale? Any other accessories of interest to our readers? Submit description and details, no more than 50 words, for publication. Fee: \$.50 per 10 words, Call for advertising rates for larger sizes, pages, or fractional pages.

TRI MICRO PLUS/4 SOFTWARE TITLES



PLUS EXTRA DISK

A MUST for serious users of the Plus 4! IF YOU HAVE MORE THAN 255 RECORDS, THIS DISK CONTAINS THE FIX WHICH ALLOWS YOU TO PRINT YOUR RECORDS WITHOUT GOING INTO A LOOP. Sort file manager files up to 60 times faster. A 3-field sort on a full disk takes a maximum of 12-15 minutes instead of 36 hours. With the word processing enhancements, you can now double or triple space word processing text files, and preview your text before you print it. Print preview allows you to see page breaks, special printing formats, and justification, even with linked files so you can edit whole documents. Disk utilities provide the ability to rename a file, format disks, and back-up your data or program disks. File manager enhancements include the ability to delete records, the ability to do search and replace editing on fields throughout all records or a range of records for repetitive data input, ability to create key-field indexing for faster searches as well as sorts, ability to change length of fields or number of records, ability to create new data bases and transfer any range of records from one data base to another.

PLUS GRAPH DISK

Because PLUS GRAPH is integrated with the Plus 4 software, data already prepared using the spreadsheet can be used with this program. You can graphically display this information without having to re-type or re-format the data. These graphs can then be incorporated anywhere in a report or letter prepared with the word processor. Line graphs and bar graphs can display up to three variables in one chart. Both positive and negative values can be displayed. In the bar chart, each of the 3 variables can have up to 12 horizontal increments. The line graph can display up to 50 horizontal increments for each of the 3 variables. You can create pie charts with up to nine values. All pie chart sections are labeled and both absolute values and relative percentages are shown on the chart. Text mode is incorporated with each graphic screen. You can enter text to title a graph, or to type in a full description of each variable. A surprise! -- the graph editing mode can be used to do free form drawing and dump the screen to the printer. (No color though, just black and white).

I BEFORE E DISK

An electronic spelling checker to work with the word processing files created by the built-in Plus 4 software. The dictionary contains 20,000 words and there is an additional 5,000-word user definable dictionary for entering your own special jargon or industry specific words. As a document is scanned, each word not found in the dictionary is highlighted. You can choose to ignore the word, correct it, or add it to the user dictionary. Linked 99-line files are treated as a single document, with automatic loading of chained files.

SCREEN DUMP DISK

For those of you who are programming in BASIC and do not know how to write a graphics screen dump. This disk contains a screen dump program, written in machine language which will work with Commodore printers. A demo program comes on the disk, showing an example of how to incorporate the routine into your BASIC program. Will also work with Micro Illustrator files to allow you to print their pictures.

~~~~~  
**MAKE CHECKS PAYABLE  
 TO PLUS EXCHANGE**

Allow 4 to 6 weeks for delivery  
 Sorry - No C.O.D. Orders

### RUG RIDER DISK

Armed with a magic carpet, Ahmed leaves his homeland to seek his fortune. Traveling through forests, caves, and castles, he gathers keys to gain experience and power. These are necessary for his final conflict with the Evil Genie. With map in hand, you accompany him as he seeks adventure through stange and wonderful lands. At each site are a series of keys which you must pick up in order to penetrate the walls surrounding the treasure. Within the caves, you encounter falling boulders, bats, and evil birds. The forests contain rabbits and snakes, as well as deadly arrows shot by wandering thieves. Inside the castles are frogs and ghosts armed with magic bolts trying to defeat your quest for power. The Evil Genie dwells within one of these castles, and will defend himself at all costs. Using the experience and magic gained from various adventures, you will go one day to encounter the Genie ... for such is the way of a Rug Rider. 24 rounds of play provide constant challenge for players of all ages. Joystick Required.

### GHOST TOWN DISK

Ghost Town is a single player graphic adventure game written especially for the Plus 4 computer to take advantage of its special graphic and color abilities. The game blends story line and clues to challenge thinkers with a sense of humor. As a parapsychology student, your assignment is to quiet the spirits who haunt the town of Rosedale. Maintain your strength and your mental alertness as you search the town and its immediate surroundings to locate the hauntings. Each personality tests your wits, and can engage you in exchange for barter and tools. Over 50 objects and people, in multiple encounters, enable you to discover what actions will calm the restless spirits, causing them to finally shed all earthly bonds.

### EASY TUTOR DISK

10 lesson plans in the language BASIC. Each lesson begins with a review of the last lesson's assignment, followed by a lesson assignment. Both beginning BASIC and some intermediate concepts such as nesting, and looping are covered. Easy Tutor is converted from the C-64 and does not cover the additional BASIC graphics command particular to the Plus 4. The program is not protected in any way, so you can examine the BASIC code to see how certain techniques are done. Program lesson plans are printed in the documentation for reference while you are completing them. Recommended for Beginners.

### MATH GAMES AND WORD PROBLEMS DISK

Do you need review in word problems and simple math operations? Use this program to polish up your arithmetic skills. The 8 programs contained on the disk provide practice in addition, subtraction, multiplication, and division. Personalized story problems are included to challenge your problem solving abilities. The Programs are intended for one player but can be changed to include partners or small groups. On screen directions make operating the programs simple. (AGES 7 & UP)

### MAZE MANIA DISK

Provides practice in the very important concept of DIRECTION. Learn north/south, east/west, up/down, and right/left in various, challenging ways. Pretend you are a mouse, snake, or even a rocket. Escape from mazes created by you or the computer. Complete on screen directions are provided with each program. (AGES 9 & UP)

PLEASE INCLUDE PHONE # ON ALL CORRESPONDENCE

**SUPER SPELL                      DISK**

As you learn to read and write, you must also learn to spell and identify words. Super Spell helps you do both, giving you the needed practice in word recognition and spelling. Game type format makes using the programs enjoyable as well as educational. Look at words divided into syllables - Form words from sets of scrambled letters - Read words as they flash quickly by or work with them longer if you choose. Includes 7 separate programs to make learning fun. (AGES 7-14)

**HIGGYTERM                      DISK**

A terminal program to be used in conjunction with the 300 or 1660 Commodore modem. Originally written for the Plus4, it is no longer shipped with the modem. Only terminal software we have found for the Plus 4, it is also available from Commodore Customer Support.

**OIL MAGNATE                      DISK**

You receive a \$1,000,000 credit line from the bank -- can you strike it rich? Geologists of varying reputations evaluate sites for you. Decide whether to drill or not, and how much to spend on drilling equipment. Time oil extraction and manage sale of reserve wells and used equipment to achieve cash flows to finance other sites.

**10 PIN                              DISK**

An actual bowling alley appears on your screen. Depending on the position of your player, you can use the cursor keys to make shots at various angles. Watch out for that gutter ball! Each frame is scored so that you can play against others.

**TOUCHDOWN                      DISK**

Coach your team to victory or defeat in this football simulation. You direct both offensive and defensive plays throughout a game of play, with the computer taking the opposing side. Strategy and knowledge of plays is important in winning the game.

**DOMINOES                        DISK**

Both the standard version of dominoes and the advanced version of dominoes are included. The computer executes tactical plays against you, but you can triumph using your own wits and strategy. This game classic is absorbing and ever-challenging.

**SHIPS AT WAR                      DISK**

Drill and practice addition, subtraction, multiplication, and division while playing a simulation of the popular game BATTLESHIP. Your responses are timed, and you will receive more bombs for the speedier response. Bombs accumulate throughout the game. Varying levels of difficulty. Play against the computer or against another player.

**DIAGON                              DISK**

Di-Planium is essential to the maintenance of the energy systems used for the last 200 years. The major source is the fourth planet in the krellis system. Security is intense and central to its success is the DIAGON NETWORK. Ten layers of defense, each getting more severe. Aliens attack with control M-Droids which zig-zag all over the grid. You have at your control a fast fighter craft which can gain points in the deadly duels for control of the Diagon Network. 20 difficulty levels. Joystick Required.

**SOLO                                DISK**

Man-eating nasties are out to get you in SOLO. The Solo fighter has the latest fire power and maximum maneuverability to attack the vicious aliens. Beware the trackers and mutants and watch out for the mines -- which ones are harmless dummies?. 10 difficulty levels. Joystick Required.

**PLUS CASINO                      DISK**

The excitement of gambling is reproduced in this combination of three favorites: horse racing, roulette, and craps. Minimum bets and a starting amount of capital. You can switch from one event to the other through the menu. Realistic conditions provide an evening's entertainment for several players.

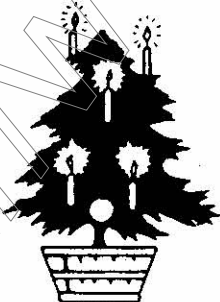
**LEMONADE STAND                      DISK**

Introduce your children to free enterprise and other money planning principles in this unique lemonade stand simulation. Decide how many lemons, sugar, lemonade mix, and serving glasses to buy. That day's weather will be a tip--you can ask to view a graph of sales and expenses for days with similar weather.



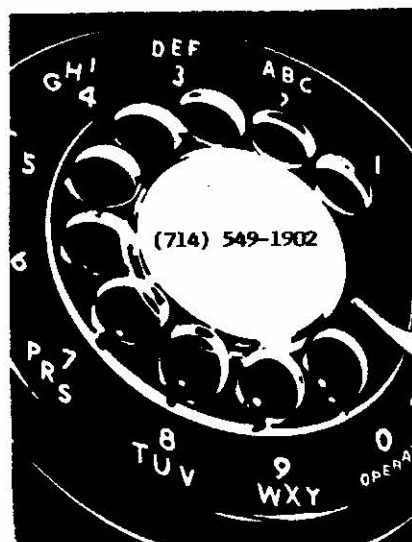
See "HEERE'S SOFTWARE" for other software.

**XMAS DEADLINE  
DEC. 15**



**OFFICE HOURS**

We are available to answer your questions and take your orders from 9:00 AM Pacific Standard Time to 5:00 PM Pacific Standard Time. East Coast people, we are three hours behind you. Central part of the country, we are two hours behind you. Mountain Standard Time, we are one hour behind you.



## COMMODORE PLUS/4 SOFTWARE TITLES

### SCRIPT/PLUS

CART

This word processor program provides comprehensive printer controls including: variable margins, complete header and footer control, underlining and bold print. Tables can be produced from 40 to 240 columns with horizontal and vertical tabs, decimal tabs, right and left margin justification. Update facilities such as: automatic update and replace, text transfer, column move, insert, delete, word wrap. You can place two separate documents in memory at the same time. Each can up to 500 lines long. Convenient calculation mode even allows row and column arithmetic like a spreadsheet. Script/Plus comes complete with training exercises.

### GENERAL LEDGER

DISK

A convenient financial system that develops key reports including Income Statements, Balance Sheets, and P & L Statements. Automatically interfaces with other Commodore accounting systems, to generate automatic posting of G/L transactions. Capacity of program includes 300 accounts.

### GL CHART OF ACCOUNTS OVERLAYS

*The program packages listed below provide a standard Chart of Accounts based on how your computers successfully control and measure their companies. Each disk has a file capacity of 300 accounts*

#### CONSTRUCTION INDUSTRY

DISK

Sample of accounts are: Construction in progress, Leasehold Improvements, Electrical Fixtures, Carpentry (Rough materials, etc.)

#### MAINTENANCE AND SERVICE

DISK

Sample of accounts are: Merchandise Inventory, Receivables - Unbilled, Contract Sales, Subcontractors, and Equipment Rental.

#### MANUFACTURING INDUSTRY

DISK

Sample of accounts are: Work in Progress Inventory, Raw Material, Finished Goods Inventory, Sale of Retired Equipment, and Production Supplies.

#### PROFESSIONAL SERVICES

DISK

Sample of accounts are: Office Equipment, Client Retainers, Unbilled Time Charges, Disbursements, and Professional Salaries.

#### RETAIL INDUSTRY

DISK

Sample of accounts are: Receivable by Store, Merchandise Inventory, Sales Returns and Discounts, Leasehold Improvements, and Advertising/Promotion

#### WHOLESALE INDUSTRY

DISK

Sample of accounts are: Merchandise Cost of Sales, Dealer Sales, Freight Charges, Sales Returns and Allowances, and Warehouse Expenses.

#### PERSONAL FINANCE

DISK

Set up your accounting system with special accounts for your personal finances. An enclosed data disk provides a standard Chart of Accounts. You can change the accounts on the disk with your Commodore General Ledger System by adding or deleting specific G/L accounts. Sample of accounts are: Household Improvements and Repairs, Life Insurance, Checking Account- Cash, Investments, Vacations.

### PAYROLL

DISK

A system that maintains an employee master file, generates reports for control and tax purposes, and calculates and prints computerized payroll checks with full deduction detail. Reports include: Individual Payroll Journal, W2 Form and 941 report, Summary Payroll Journal, and Payroll Checks. There can be a maximum of 75 employees per disk, and 9 deductions per employee.

### ACCOUNTS PAYABLE

DISK

A system that keeps track of vendor purchases and unpaid invoices. Features include maintaining vendor master file, automatic aging of open invoices, and open item aging report by 30, 60, and 90 day categories. Interfaces with the G/L System for automatic posting. Capacity of program includes 100 vendors per disk, 375 open and closed invoices per disk, 40 transactions per batch, and 13 invoices per check.

### ACCOUNTS RECEIVABLE

DISK

A system that provides customer billing, maintains open invoice items, produces a series of management reports including an aged receivables and provides for automatic statement preparation. Features efficient billing, item descriptions, unit pricing and extensions. Automatically posts billings to customer receivable records. Interfaces with the General Ledger System (available separately) for automated posting. Provides a customer master list (150 customers per disk) with 375 open and closed invoices per disk. A simple "fill-in-the-blanks" screen makes entry easy.

### INVENTORY MANAGEMENT

DISK

A comprehensive system that maintains perpetual inventory records for 1,800 items per disk. Provides automatic stock ordering, processes stock receipt, issues orders and adjustments with full audit trail, and produces a series of management reports. Reports include: Stock Status, Recommended Re-Order Report, Shortage Report, and Inventory Summary.

### BUSINESS MGMT AND STATISTICS

DISK

Help increase your management skills while forecasting upcoming trends. Evaluate past performance and probabilities of occurrence with 9 statistical and forecasting functions. Use 21 calculation functions for your business management needs such as: lease/purchase analysis, breakeven analysis, and much more.

### FINANCIAL ADVISOR

CART

Help develop and improve your investment portfolio. Enter in your particular questions about loans or investments and receive quick, accurate answers. Store calculation results on up to 100 "memories". In addition, each financial strategy is divided into several financial calculations. This allows you to learn about every facet of the loan or investment in which you are interested.

### LOANS & INVESTMENTS

DISK

Reduce the risks associated with borrowing or investing money. This comprehensive program contains 12 loan functions, 16 basic investment functions, and 16 advanced investment functions. Loan functions include amortization and mortgage comparisons. Use the basic investment functions to calculate current value of stocks, bonds, and annuities. Additional advanced investment functions include weighted cost of capital, and accrued interest on bonds.



**MICRO ILLUSTRATOR****DISK**

Turns your computer into an easel. This easy-to-use drawing tool lets you create all types of drawing creations. Learn to create imaginative graphics. Draw-use different colors and different brush sizes and strokes. Copy-save time by copying parts of your drawing that you want to repeat. Magnify-make "close-up" adjustments to perfect your work. Mirror-create reflections or kaleidoscope effects. Requires joystick.

**ATOMIC MISSION****CART**

The countdown has begun...a saboteur is loose in the nuclear reactor. Travel through the corridors and encounter obstacle as you look for clues to his whereabouts before time runs out. Requires joystick.

**PIRATE ADVENTURE****CART**

Travel from your London home to Treasure Island in this exciting high seas adventure. Can you recover Long John Silver's lost treasures while avoiding the perils that are lurking?

**STRANGE ODYSSEY****CART**

Now that you have landed safely, what perils await you on this dead planet? Your power supply crystal is expired, and you must obtain another to safely return home.

**INFOCON ADVENTURE PACKAGES****CUTTHROATS****DISK**

You're a backwater island's top diver and foremost expert on local shipwrecks. You are offered a business proposition to locate and salvage a fortune in sunken treasure. You

**WHAT'S NEXT LETTERS/NUMBERS****D/T**

Develop your child's skills of putting letters and numbers in their proper sequence. This package contains four reading and four math lessons. Some of the program features include: Child tested menus for easy access to lesson, and an easy-to-follow parent/teacher guide. (AGES 4-6)

**LETTER SEQUENCES/LONG & SHORT****D/T**

Teach your child to identify and remember three letter sequences and learn to identify which objects are longest and which are shortest. This package contains four reading and four math lessons. Some of the program features include: Child tested menus for easy access to lessons, and an easy-to-follow parent/teacher guide. (AGES 4-6)

**SHAPES & PATTERNS/GROUP IT****D/T**

Develop your child's skills in recognizing various shapes and patterns and tell the differences between each. Learn the basics of addition and subtraction. This package contains four reading and math lessons. The program features also include: Child tested menus for easy access to lessons, and an easy-to-follow parent/teacher guide. (AGES 4-6)

**LOGO****DISK**

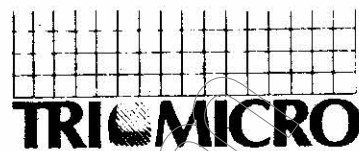
Logo is a powerful computer language. It helps people of all ages develop clear thinking skills. It also teaches the fundamentals of programming that are used in any structured language. A pre-schooler can draw shapes using one letter commands and an older child or adult can use Logo graphics to draw simple shapes and complex pictures.

**READING PROFESSOR****DISK**

Ten twenty-minute lessons give information and practice which increases reading speed and comprehension. There is a choice of reading passages

# PLUS EXCHANGE

Fall/Winter 1986



## NEWSBRIEFS AND UPDATES

### SOFTWARE ARRIVES

In the last issue, we were hopeful but uncertain about the availability of Commodore Plus 4 / C-16 software and about the licensing of British software for our orphan group. **GREAT NEWS!!!** We have Commodore software in stock and we have much new product to crow about. The hours involved in the great hunt have paid off. We have lots of goodies for you for Christmas.

Some of the products on the endangered species list are in the warehouse, as well as some discontinued titles. These are limited quantity, but we will continue the quest until we dig up every liquidator's warehouse in the country. See the article,

HEEERE'S SOFTWARE:

COMMODORE TREASURE HUNT SUCCESSFUL

We also have new offerings under license from Britain. Richard Ollins made the trip over in early September with fantastic results. More software is being negotiated right now, so we will update you on all new product before Christmas. Some of these titles are "Mega-Hits" in Britain and the C-64 versions are topping some of the charts here. See the article,

THE BRITISH ARE COMING!  
THE BRITISH ARE COMING!

Additional new offerings are detailed in  
MORE NEW PRODUCTS

We have dropped PLUS EXTRA ELITE. All orders have either been refunded or re-processed into something else, Plus Extra, Script Plus, or Calc Plus. We did not have enough interest to justify Mr. Johnson's time, especially given the new availability of Script Plus and Calc Plus. Those of you who really wanted the additional power but did not want to pay the premium price for either Script Plus or Calc Plus, check out the SAVINGS COUPON FOR MEMBERS ONLY. You might be able to pick up Script Plus or Calc Plus for \$15.75!!

We have had little response yet from people here in the U.S. who have developed product for the Plus 4. Are you out there? Let us hear from you, please.

You may notice that the prices on the licensed product really varies. Some companies sincerely believe that their product should not be sold for anything less than \$29.95. Their licensing fees reflect this pricing structure and there is little we can do about it besides offering you the MEMBER DISCOUNT.

**YES, HARDWARE TOO!**

**SAVE \$60.00 ON DISK DRIVE**

We were doing so well with the Enhancer Disk Drives, that when CARDCO closed its doors recently, we bit the bullet to acquire 700 drives at very reasonable prices. Of course, we did have to pay shipment and customs from the Far East. Nevertheless, these drives are being offered at an outstanding member price of \$129.99! This price includes two game disks, Rainy Day Games I and Diagon, reviewed in this issue. Total value based on our old pricing is \$189.99, a savings of \$60.00!