

# Commodore Free

COMMODORE FREE

Issue 15 January 2008

[www.commodorefree.com](http://www.commodorefree.com)

Free to download magazine dedicated to Commodore Computers  
Available as Text Html PDF and Commodore 64 D64 disk image



A vertical banner with a blue background. At the top is a Commodore keyboard. Below it are several small icons representing different Commodore products and software. The text "BINARY ZONE" is written in large, stylized, colorful letters. Below that, "Interactivel" is written in a script font. At the bottom, the website "www.binaryzone.org" is listed, followed by a list of items: "C64 CDs, Retro Prints, Commodore Zone, Retro CD-ROMs + more!".



VintageComputer.net

## Editor

Christmas over and a welcome to the New Year, although all our family suffered various sickness and flu symptoms over the New Year. We did have great enjoyment watching our young son opening his presents.

I made various resolutions and broken them all the next day, exactly the same as thousands of other people would have done on New Year's Day. I am looking forward to 2008 as it should be another great year for Commodore more new hardware, more excellent software and more issues of Commodore Free magazine.

Although the magazine took a 1 month break I still cant believe where the time went, December flew by and January quickly followed, I am told this is old age, the older you get the faster time passes you by.

### HOW CAN I HELP COMMODORE FREE

Ok the best way to help would be "write something about Commodore" (yes for the observant I spelled the company correctly this time) \_grin seriously though articles are always welcome,

### WHAT ARTICLES DO YOU NEED

Well they vary contact me if you have an idea but I am looking for  
Tutorials – (beginners and Expert)  
Experiences with Commodore  
Why I love Commodore machines  
Interviews – maybe you have access to a power user

Thanks Nigel

[www.commodorefree](http://www.commodorefree)

[commodorefree@commodorefree.com](mailto:commodorefree@commodorefree.com)

## Contents

Editor and Contents	Page 2
NEWS	
News stories	Page 3
Individual Computers	Page 7
Readers comments	Page 6
INTERVIEWS	
Zens (binary zone)	Page 8
Bill (Vintage computers)	Page 11
Rick (Commie Zazeez BBS)	Page 17
STORIES	
Rose tinted Glasses	Page 14
Here at CHM by Robert Bernardo	Page 27
PROJECTS	
Cad Pad project	Page 16
TUTORIALS	
Beginners guide to the 64 Part 2	Page 20
Commodore Reference guide	Page 24

## News

### 8 bit designs gets a new website

<http://www.8bitdesigns.ath.cx/>

The site should be more accessible to Commodore users due to its design. This is still a work in progress but the design is looking good (well it looks good to me)

### HOXS 64 v1.0.5.10 15:24

Hey folks,  
the newest Version of the HOXS64 is out. Check it at: <http://www.btinternet.com/~hoxs64/>

So what's new?

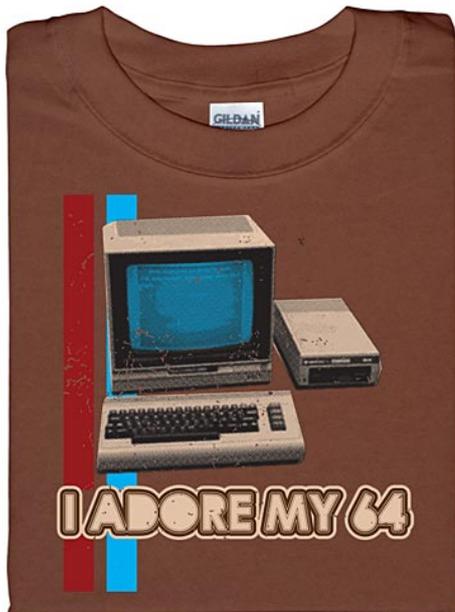
- 1) Fixed SounDemon's sid emulation compatibility that was broken in the previous release.
- 2) Adjusted memory-reset pattern. An optional memory pattern file called c64.ram has been added. The file was sampled and extrapolated from the memory-reset pattern of a C64C. If the c64.ram file is missing then a default pattern is generated.

### Cevi-aktuell 11/07 released 21:59

Come and grab the last issue for this year of the German papermag Cevi-aktuell!  
[www.webgestalter.com/ceviaktuell1107.pdf](http://www.webgestalter.com/ceviaktuell1107.pdf)

### I Adore my 64

Think geek are selling a rather nice Commodore t-shirt with the words I adore my 64 and a picture of the machine disk drive and monitor



<http://www.thinkgeek.com/tshirts/generic/8113/>

### Ultimate 1541 Update Dec 14<sup>th</sup> 2007

I knew about it for some days now, but Gideon now announced it officially: The 1541 Ultimate will also be available with a 32MB SDRAM chip that is used to emulate a Commodore REU with 16MB RAM!

The features of the cartridge are very impressive:

- 512kB SRAM
- 4MB Flash Rom
- 32MB SDRAM (only on the Ultimate Plus)
- SD card Interface
- AR and FC3 cartridge emulation
- file browser to select disk images +DMA-load PRGs
- fully compatible 1541 emulation
- fully compatible REU emulation with up to 16MB (only Ultimate Plus)
- file browser also works in C128 mode for disk image selection!

The price is Euro 99 plus shipping for the 1541 Ultimate, and Euro 119 plus shipping for the 1541 Ultimate plus. You are encouraged to send your preorder now, so Gideon can order components appropriately. some more info:

[http://commodore-gg.hobby.nl/innovatie\\_1541kaart\\_eng.htm](http://commodore-gg.hobby.nl/innovatie_1541kaart_eng.htm)

### The construction + future of the 1541 "Ultimate" Update December 14, 2007

A lot of work has been done to integrate exciting new features and improve ease of use of the "1541 Ultimate". The following text describes the current status.

#### User Menu

When used as a cartridge on your C64, the "1541 Ultimate" now has a nice user interface, which can be started by pressing the middle button on the board. The current program that the C64 is running is frozen and a black screen with a nifty blue bar appears, showing the files and directories that are on the SD-card. The "1541 Ultimate" supports FAT, FAT16 and FAT32 formats and also supports long filenames (truncated to 22 characters to be able to show it on a 40 column screen). By using the cursor keys on the Commodore keyboard, the user can travel quite smoothly through the directories of the SD-card.

#### The 1541 "Ultimate"

This screen allows the user to select a floppy image to mount (i.e. to change floppy disks) or to create new floppies or new directories. This makes it easy to manage large numbers of floppies. The menu also allows the user to change the IEC address of the 1541 drive by simply pressing 8, 9, 0 or 1. Since this also resets the 1541 drive, it can also be used for a manual reset of the drive. In addition to mounting floppies to the 1541 drive, the user can also select separate program. These can be loaded directly into the memory of the C64, using DMA. Pressing 'R' instead of SPACE or RETURN to select the file even runs the program immediately after loading. This operation is possible on separate programs, but also on files within a .d64 or .t64 files (yes you can browse .d64 and .t64 files as well!). As you will start using the 1541 Ultimate, you will notice that it is faster than you have ever seen before on any C64! The user menu can be left by pressing RUN STOP, after which the

C64 program continues to run. Because the freezer menu does not run on the processor inside the C64 but on a separate 6502 on the 1541 Ultimate itself, returning to the C64 program is smooth and safe.

#### Help! It is blocking my cartridge slot!

Yes, in order for your 1541 Ultimate to work, it has to reside in the cartridge slot. In order to minimize the frustration, the 1541 Ultimate comes with either the Final Cartridge III, or the Action Replay cartridge installed. Needless to say, the speed loaders that are available in these cartridges work together flawlessly with the emulated 1541 drive.

#### 1541 Drive Emulation

This cycle-accurate emulation (or implementation rather!) of the 1541 hardware, combined with an accurate emulation of the floppy drive mechanics offers the user a solid and easy to use replacement of a real 1541 drive. It uses an SD-card to store data; floppy data is stored in .D64 images. These images can be 'mounted' on the hardware of the "1541 ultimate", which means that they are converted to GCR format, which the 1541 "drive" can read from and write to. Data written by the drive is converted back from GCR to binary in parallel to the operation of the drive and written back to the .D64 file.

#### The 1541 "Ultimate"

Currently, I am investigating whether it is useful to support .G41 files as well, or any other format to store floppies with custom format on the SD-card. The drive emulation does not put any restriction to the actual format used (aside from it using the GCR syncs, since that is something that the 1541 hardware implements). If you are using custom floppy formats, or would like to use these with the 1541 Ultimate, please let me know.

#### IEC support

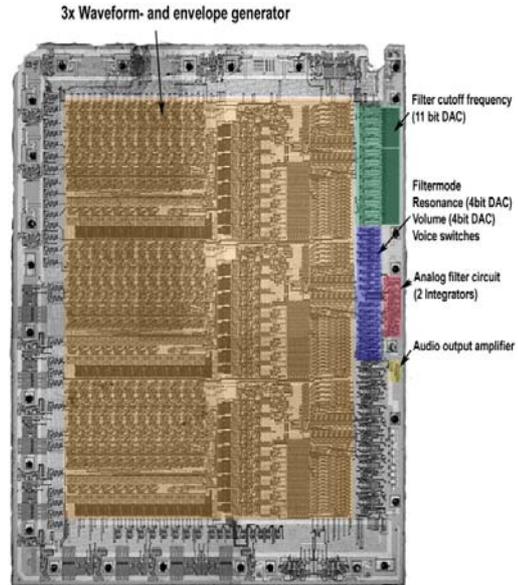
To serve other Commodore users as well, other than C-64 users, the plan exists to have this cartridge operate as stand-alone unit, too. Since the on-screen menu will not be available in this case, the user needs another method to select the floppy image. This will be done by controlling the 1541 Ultimate through IEC; Commodore's serial port. Through IEC, the directories on the SD-card can be selected, after which the buttons on the board can be used to switch between floppies within the same directory. This allows swapping disks within a program that doesn't allow you to send IEC commands. Note that this feature has not yet been implemented.

#### Updates

New versions of the software and FPGA for the "1541 Ultimate" can be easily distributed as one file, which is to be put on the SD-card. Upon power-on, the Boot-ROM of the "1541 Ultimate" searches for this file, and when present, it will load and execute it. If not, it falls back to the flashed version.

#### Commodore Microphotographs

microphotographs of various Commodore ICs new place and a few details have been added:  
<http://www.digital-circuits.org/sid/CSG%20Micrographs/>



#### PC Commodore Keyboard overlay



[http://www.4keyboard.com/index.php?main\\_page=product\\_info&cPath=68&products\\_id=141&zenid=d2af917694c880444da7a11430c79ae1](http://www.4keyboard.com/index.php?main_page=product_info&cPath=68&products_id=141&zenid=d2af917694c880444da7a11430c79ae1)

High-quality stickers for Commodore 64

The symbols for Commodore 64 is spread onto non-transparent black - matt sticker. Stickers are made of high-quality black non-transparent - matt vinyl, thickness - 80mkn, typographical method. Applying stickers on you keyboard properly once, and you can be aware that letters will stay for ever.

#### Impact of the Commodore 64: A 25th Anniversary Celebration

A Video of the event is available to download for anyone who couldn't attend Adam Chowanec, Chairman of the Board, Liquid Computing, William C. Lowe, Chief Executive Officer and President, NEPS, Jack Tramiel, Founder and CEO, Commodore International, Steve Wozniak, Co-Founder, Apple Computer, and Moderator, John Markoff, New York Times Journalist

<http://www.computerhistory.org/events/index.php?id=1193702785>



There are 2 web pages concerning the Ultimate Expander I make and sell for the VIC-20. You can find them here: [www.8bitcentral.com](http://www.8bitcentral.com)

I can easily be reached through my MSN Messenger address: [eslapion\\_fl@hotmail.com](mailto:eslapion_fl@hotmail.com)

I also make OTP/PROM based substitutes for the C64 PLA part no. 906114-01 as well GAL technology based replacements for Amiga 3000 chips U202, U203, U701 and U714.

I have just begun accepting preorders for the Behr-Bonz multicart for the VIC-20, a cartridge that contains 127 games for the VIC.

#### Pricing:

VIC-20 Ultimate Expander:

- Base with 32k RAM and read-only switch -> 30\$
- 8k size ROM option -> 5\$ extra
- 2 x 4k size ROM options(in the same 8k region) -> 7\$ extra

Substitute PLA: (906114-01 for the 64, 251641-02 for the Plus/4, 251641-03 for the 1551, 324745-01 or 324744-01 for the 8296)

- Normal -> 10\$ each -> 10 or more: 8.50\$ each
- Thick pins -> 12\$ -> 10 or more: 10\$ each

Logic chips for Amiga Computers:

- U202 (390526-02), U203 (390527-02), U701 (390528-03) or U714 (390529-03) for Amiga 3000 -> 8\$ per chip

VIC-20 Behr Bonz cart with 127 games:

- 30\$ per cart (no case)

ALL IN CANADIAN DOLLARS.

Best regards,

Francois

#### eBay news

The CMD Super Cpu accelerators are now almost a rarity on ebay but recently one came up for sale and not surprising the bidding went a bit over the top see the link

<http://cgi.ebay.co.uk/ws/ebayISAPI.dll?ViewItem&item=280190054672&indexURL=0&photoDisplayType=2#ebayphotohosting>

Sold for US \$999.99 + post



#### CMD SpuerCPU 128 with MMU and 16MB of RAM!!!!

This auction is for a CMD SuperCPU 128 with MMU!!! This is a CPU accelerator (20Mhz) for use with the Commodore 64 and 128 computers. The installation of the MMU into the 128 allows this accelerator to be used with the 128 in 128 mode. Plug in a RAMLink and have a CMD HD connected to that with a Parallel cable and you get some blazing fast IO!! This auction includes the CMD SuperCPU, 16MB of RAM, MMU unit, Instruction Manual, and SuperCPU Diskette!!! Due to the age and nature of this item, it is being sold "as is".

#### PRESS PLAY ON TAPE

is proud to announce an upcoming concert:---

On Saturday April 19th we'll be playing another concert in Copenhagen at "The Rock". The last two concerts there went really well so The Rock wanted us to come and play again :) Hope to see YOU there! Tickets are available at

<http://www.billetlugen.dk>

(search for "PRESS PLAY ON TAPE"). You might think that we tell you this a tad early but we want you to be able to plan ahead, especially those of you not living in Denmark. At the previous concerts the doors closed during the evening because the place was crammed (that's more than 550 people), so be prepared and buy your tickets in advance :) Keep an eye on our event page for up-to-date info about support band and more:

[http://www.pressplayontape.com/?pid=concerts\\_the\\_rock2008](http://www.pressplayontape.com/?pid=concerts_the_rock2008)

#### Music video:---

On top on that we can tell you that we are working on a music video which is going to be recorded (the video part, that is, as the tune is recorded already) next weekend. The video will feature all the members of PPOT and more with lots of computer graphics and post processing. For now we don't know when the video will be out but rest assured that we'll post info about it on the web site and perhaps also send you another mail on this list when it comes out. The tune, you ask? That's a secret!

ROC=K ON!

PRESS PLAY ON TAPE

<http://www.pressplayontape.com/>



## Readers Comments



*Hey man,*

*Let me just say nice job on the publication.*

### **Commodore Free Magazine**

**John Many thanks for the Email**  
Thanks for the Comments about the magazine I am glad so many people still enjoy reading my publication

*I was looking and I do not see a date on any of the publications. I think this could be useful to your readers to better understand the age of the material being presented.*

### **Commodore Free Magazine**

I am presuming you mean on the website there is no date listed next to each issue, just the issue number, If so this can easily be rectified and I will ensure I include this information thank you for drawing my attention to this.

*And though I agree most of the information contained in your mag may be timeless, updates on available hardware and the efforts of the scene could be better served if the public knew of their timely existence, as well as the ability*

*to join in/help out/pre order any of the current projects or materials.*

### **Commodore Free Magazine**

I fully agree with your comments, the question is how does one keep up-to-date, I can only give information I know about, so if I don't know about a project or update I cant print anything, this leads me neatly on to volunteers for the Magazine and developers to email me and update me about projects. Although I fully understand all projects are "labours of love" conducted in the developers own time as and when and emailing various people about small updates would take more time from actual developments. I hope I have drawn attention to some users of projects they would otherwise been unaware of, and if you feel excited about a project feel free to tell me of updates so I can inform others.

*Which brings me to my last suggestion. A nice hardware section with the current dev efforts, availability schedule, hardware vendors, reviews, and contact information would definitely be welcomed in the scene. If fact, I do not know of a publication where all that information is listed,*

### **Commodore Free Magazine**

Excellent idea as I don't have the time to compile this I again ask for volunteers to maintain this item

*as well as maybe a for sale or classified section.*

### **Commodore Free Magazine**

I have a section for this but as no one has ever sent me anything for sale or trade I have been unable to print anything, also most people now use eBay to maximise there sales potential especially with CMD products

*John*

### **Commodore Free Magazine**

John Many thanks for the Email

## Season's greetings from individual Computers

Team individual Computers is sending "merry Christmas" to all our customers and business partners! In the past year, we have been working hard on the giant project "Clone-A", we finished our work on the hardware design of a router that can bundle several internet lines, and we continued the development of drivers for existing products.

For 2008, there will be a number of improvements. First of all, we're happy to announce that Helmut Schöttner will join our team in 2008. He will be in charge of Amiga driver maintenance and software programming of new microcontroller-based products. Welcome to our team!

We are already working on bringing sold-out products back into the shops: Catweasel MK4, Indivision and Kickflash OS4 will experience small changes for the next production runs.

A few months ago, we have bought the "Micromys" design from Marko Herold. We have continued development of the C64 mouse adapter, and we'll release it under the name "**Micromys V3**" during the first quarter of 2008. High compatibility with PS2 mice will remain, and USB-mice that support PS2 protocol are automatically switched to that mode. The new adapter can be configured for different target systems by DIP switches:

- C64: 1351 proportional mouse emulation with wheel-extension
- C64: Joystick emulation
- Amiga: 3-button mouse without drivers
- Amiga: 3-button wheelmouse with Freewheel-driver
- Atari ST: 2-button mouse

Micromys V3 can of course be used on other retro-systems that use a 9-pin Sub-D connector for game controllers, such as Atari 8-bit machines, Schneider, Amstrad and MSX.

### Competition PRO Retro still available

Although the USB-version of this successful joystick is sold out at the moment, the retro-version that we produced together with Speedlink is still in stock. Starting January 1st, 2008, the price will be raised to 14,99 EUR. If you want to secure the old price for your order, please place your order before the end of the year!

### New product: MMC Replay

The demand for MMC64 continues to be strong. With the Commodore Scene Award that we got for the Retro Replay, the demand for this product was also boosted. We have to say thank you for the trust in these products, which are completely sold out now. We took the chance to merge the two products into one new, powerful cartridge, the **MMC Replay**. Many

requests for changes and improvements have been collected over the past six years, which have all been implemented in MMC Replay. A complete description of the features would go beyond the scope of this news item, so we're only listing the most important data here:

- 512KB Ram
- 512KB Flash Rom
- clockport for RR-Net
- SD/MMC card Interface (MMC64 compatible)
- Freezer (Retro Replay compatible)
- extended freezer-mode
- support for native C128 cartridge software
- freeze/activity LEDs

Existing software that was written for MMC64, Retro Replay or the combination of the two can be used without changes. The new hardware features are activated by the completely re-written file browser of MMC Replay. You can now create and mount \*.d64 archives. Flashing of cartridge software (for example Action Replay, Retro Replay, Nordic Power or Final Replay) is made a lot easier with the built-in flash utility. The extended freezer mode allows memory configurations that make development of new software a lot easier, but also eases adapting existing software (for example FC3) to this hardware.

Many customers reported difficulties with special models of the C64 or the C128. Up to this point, proper function on these special machines was either only possible after a long warm-up-time, or it was not possible at all because the C128 is not 100% compatible to the C64. We have made the necessary changes and completed extensive tests with more than 40 variants of the C64 and C128 - even native C128 cartridge software is supported by MMC Replay!

We have already changed the design of RR-Net a few months ago. The new shape might have looked strange to some customers, but with the release of MMC Replay, our plan should become obvious now: You can now fit MMC64, Retro Replay and RR-Net into one standard cartridge case. Cartridge cases are available separately. Holes for buttons, LEDs, SD card and a networking cable must be made by the user.

MMC Replay will be available from our trade partners shortly. The price is 79,- EUR(\*).

\* recommended retail price incl. 19% VAT

## Interview with Kenz www.binaryzone.org



Q - Please introduce yourself?

Greetings Programs! My name is Jason 'Kenz' Mackenzie and I'm the founder of Binary Zone PD - the UK's biggest dedicated C64 PD library which has been running since 1990 (good lord!) I've also been a member of various C64 demo groups including Computer World (which was just me and a few schoolmates), Xenatrix (the first proper group I joined) and Cosine (which I'm still happy to be a member of!) I'm now a crusty 36 year-old retro-twonk living up on



the beautiful Malvern Hills in the UK with my lovely wife Natasha, a small hairy bunny-type beastie called Phoenix and lots of retro computers (far too many in fact!)

Q - When was www.binaryzone.org setup?

The Binary Zone website was uploaded onto the 'Net on November 28th 1998. Binary Zone had relied on sending its paper-based PD catalogues and mailshots to its 4000+ members via Snailmail until that time so I decided to give BZ a web-presence as that was where everyone else seemed to be heading. This made it a lot easier to tell people about new Binary Zone releases and reach a wider audience.

Q - For readers who are not aware can you give a brief history about Binary Zone, when you started to the present day?

Blimey, where do I start?!

Right from the beginning I guess ... I had the idea for a PD library back in 1989 after I had bought a few PD disks from 'Wicked PD' which was a PD library run by famed Compunet duo Ian & Mic. Unfortunately they

stopped their PD service in order to concentrate on commercial game productions so I decided to carry

on where they left off. I had amassed quite a big collection of demos and other C64 PD releases by this time so I set about compiling a catalogue. It took me about a year to set up Binary Zone PD from the initial idea and the PD library was officially launched in 1990. I placed small adverts in a couple of computer mags and the orders literally came flooding in! Over the next few years the PD catalogue expanded to include hundreds of disks and I also branched out in different directions. I also took over the running of 'The Guild Adventure Software' for a while, released a few C64 games (produced by Jon Wells, Alf Yngve & Jason Kelk) on the 'Psytronik' software label and I also produced and edited the C64 magazine 'Commodore Zone' (with the help of a LOT of contributors!)

This ran for 16 issues in total from September 1995 until the winter of 2001. I also joined forces with www.c64audio.com and helped work on various commercial CD releases featuring C64 music and remixes. Nowadays I produce retro-related products for the

Binary Zone Interactive website (www.binaryzone.org) along with various other internet related shenanigans. A recent project of mine is 'One Man & His Mic'. This is a series of retrocomputer music podcast shows that feature classic tunes from various computer systems. For more details check out

[www.binaryzone.org/podcast/](http://www.binaryzone.org/podcast/)

Q - Why was the Commodore Zone magazine stopped?

By the 16th issue my life had changed direction somewhat and I wanted to concentrate on other projects. I had become involved with the UK Channel 4 computer game show 'Bits' working behind-the-scenes as their retro-researcher. When the idiots at Channel 4 decided to kill the show I produced the official website for Emily Booth, one of the girls who presented the show

[www.bouff.tv](http://www.bouff.tv),

and then spent a few years in Soho larking around with Emily. All these 'distractions' meant I had less

time to work on the Commodore Zone mag so decided to end it with the 16th issue (which featured Emily Booth on the cover and an interview with her, funnily enough!)

Q - How long have you supported and owned Commodore machines?

I bought my first C64 in 1987 I think - although I'd been a huge fan of the C64 a good few years before then! When I was still at school I used to go round to my chum Matt Waltons house and play C64 games with him (I was a Speccy user at the time!) I was always blown away by the amazing music in C64 games (Matt even used to record C64 music tapes for me!) -



along with the smooth scrolling and sprites etc. This made me really, REALLY want a C64 but I was then unexpectedly bought an Amstrad CPC 464 as a present. I dabbled with the Amstrad for a good few years but still wanted a C64 so in the end I sold my Amstrad and, after a lot of saving, finally bought myself a C64 (which cost me about £250!) I still have that C64 although it looks a bit different nowadays - check out

<http://www.binaryzone.org/specadore64.php>

to see why! I also got into the Amiga scene and even expanded the Binary Zone PD range to include Amiga disks. The Binary Zone Amiga PD range wasn't as popular as the C64 PD range - probably because there were a lot of very good Amiga PD libraries but only a few who catered for C64 users.

Q - How did you set up the website?

The Binary Zone website was originally produced by my mate Mat Recardo who runs

[www.preferredimage.co.uk](http://www.preferredimage.co.uk)

He designed the site and came up with the original look. I then built on what Mat had started and over time the site has evolved into what it is today. The most recent addition was the retro store. I wanted to present the Binary Zone product range in a more professional way and cater for other retro systems so, with the help of my wife Natasha, produced the new feature-packed Binary Zone Interactive store:

<http://www.binaryzone.org/retrostore/>

Q - Do you still provide PD to Commodore users and if so is this still available on disk or is there another delivery method now?

There isn't really much call for C64 software on disk any more - probably due to the popularity of emulators. It's much easier to download a .D64 disk image and run it in an emulator rather than muck around with floppy disks I guess! Funnily enough, I actually did get asked to supply over 200 Binary Zone disks on 5.25" floppy disks recently - and the guy even supplied the blank disks too! I still have all the original Binary Zone PD floppy disks so it wasn't a problem to copy them for him (although it took a while!) I can't actually get any stocks of 5.25" blank disks any more so I don't offer the PD on C64 disks. Instead I've started giving away the Binary Zone PD range as free downloads on the BZ website. You can currently freely download over 200 BZ disks as .D64 disk images for free from

[www.binaryzone.org](http://www.binaryzone.org)

and more will be added over time.



Q - Is there still a demand for PD?

Not on the original 5.25" disks - I only very rarely get asked for C64 PD on floppy disks, like the guy I mentioned above. I'm not sure how many people have been downloading the free BZ disks as I have no way of keeping count of those. I've had some great feedback from people who have enjoyed the free BZ disks however so as long as there's still interest in the C64 I'll keep the disks online!

Q - Can you tell our readers about some of the other products you supply?

The Binary Zone audio music CDs have proved to be very popular - these CDs feature music digitally recorded from real C64s (which sounds much better than emulated SID music!) I've also been lucky enough to receive the blessing from a lot of the original composers to use their work along with

[www.c64audio.com](http://www.c64audio.com)

who look after the works of musicians like Rob Hubbard & Martin Galway etc. You can also buy retro-related CD-ROMs from the BZ shop (including a set that contains the entire Binary Zone C64 PD range!), retro DVDs, retro computer glossy photos and posters and I've even started offering retro

games on the site! It's early days for these though as I have literally hundreds more to add but it will take me a while to add them all into the store.

Q - The website lists some superb posters are these still readily available for purchase, if so what machines are covered?

You can buy glossy prints featuring photos of retro computers like the C64, Amiga, Atari ST, ZX spectrum, ZX81 and many more from the BZ retro store. These look great when framed. In fact, I originally produced these just for myself but as they looked so nice thought other people may be interested in purchasing them - and I was right! You can also buy larger posters that were produced to promote various retro events. There's even some specially restored versions of classic retro gaming adverts and magazine covers!

Q - How many people are involved in Binary zone?

Just little old me is in charge of the day-to-day running of Binary Zone and the processing of orders + website updates etc. Countless other people and demo crews have contributed to the Zone over the years - in fact I've made many great friendships with people all over the world thanks to running BZ!

Q - Do you see any value in using real Commodore hardware over emulation?

For listening to C64 music, DEFINITELY! I much prefer the sound of real C64 music over emulated music - hence the popularity of the Binary Zone

CDs I guess! Also, emulated C64 games just don't look right to me! The graphics are too crispy clear when emulated and lot of games just end up looking like a blocky mess. My PC never quite gets the scrolling as smooth as a real C64 either. If I want to play a C64 game as it was MEANT to be played I will always power up my C64 (which is always kept set up) you just can't beat the original machine!

Q - Do you see any value of upgrading the C64/128 beyond it's original spec?

I've never really seen the point of increasing the speed of the C64's processor or adding extra RAM - but then again, I've never really used software that would take advantage of it (like GEOS for example). Adding things like Flash memory card readers are a good idea though as it makes porting disk images from the PC back to the C64 really easy and increases the loading times considerably!

Q - What was the last piece of Hardware for your Commodore you purchased?

My most recent Commodore purchase was a replacement mouse for my Amiga as my old mouse packed up. I haven't bought any C64 hardware for ages though as I still have all my original hardware and it still all works!

Q - Do you remember MegaTronix PD?

Hehe, I certainly do! I remember being a tad miffed at them for launching a PD library that was almost an exact copy of Binary Zone - right down

to the catalogue layout, logo and even the contents of the disks! This annoyed me as I'd put a lot of time and effort into compiling the unique range of Binary Zone disks and producing the catalogues - and then for someone to come along and basically copy everything I'd done ... Well, I wasn't impressed!

Q - What are your top 10 commercial Commodore games?

From the top of my head and in no particular order:  
Uridium,  
Paradroid,  
Wizball,  
Last Ninja,  
Ghosts 'n' Goblins,  
Creatures II,  
Armalyte,  
Exploding Fist,  
Stunt Car Racer  
and Myth.

Q - What are your 5 favourite PD games and 5 favourite demos?

#### From the Binary Zone range:

C64 PD Games  
GameBoy Tetris  
Flubble & Squij  
Chaos (Kernal)  
Twin Tigers  
Terminal City

#### C64 PD Demos

Mathematica (Reflex)  
Top Priority (Contex)  
Deus Ex Machina (Crest)  
Graphixmania 2 (MDA)  
Dutch Breeze (Blackmail)

Q - Did you ever get into those freescape games?

Nope, too slow and boring for my liking - good music though (especially Driller!)

Q - Have you read Commodore Free magazine?

I must admit I hadn't read it until you contacted me. I've since had a look through issue #13 and enjoyed reading through it. Seeing your C64 mag reminded me of the good times I had producing Commodore Zone - keep up the good work!



## Interview with Bill Degnan vintage computer .net

# VintageComputer.net

Q- Can you introduce yourself to our readers?

Yes I can. My lovely wife Kelcey and I have two kids, Lloyd (4) and Alice (1.5). I am very fortunate to have a happy healthy family. I own my own ISP /programming business

<http://degnanco.net>

and when I am not spending time with my family I can be found tinkering in the basement with old computers, practicing the guitar, or doing something outside. I teach computer history at the University of Delaware to computer engineering seniors. I run a web site,

<http://www.vintagecomputer.net>

that documents my classic computer exploits. I am also an active participant of the Mid Atlantic (U.S.) Retro Computing Hobbyists (MARCH). Their web site is

<http://www.midatlanticretro.org>

This is where the Vintage Computer Festival East has been held for the past two years. I am a V.P of the club.

Q- Where do you live?

Landenberg, Pennsylvania USA. It's about half-way between Baltimore and Philadelphia.

Q- Why do you think it is important to preserve old >machines like the Commodore computers?

It's not just computers alone to need to be preserved - it's the software, the monitor, drives, cables, power supplies, documentation, manuals, and the box...the whole picture. Otherwise the computer is just a thing to be displayed on a table like a stuffed Dodo. If one's goal is to preserve the entire systems it quickly becomes clear that magnetic media is the weak point of any antique computer system. In 20 years it'll be too late to start backing up tapes and diskettes, It's a way to contribute to future historians

Q-Why Commodore's specifically?

It was the late 90's and I already knew what I wanted to know about Amiga, Apple and IBM systems, and I thought I'd start exploring other platforms. At the time it was still relatively easy to find a working C64 or C128 system with software so I started with that. Over time I learned that there were also all of these weird other CBM models and evolutionary dead-ends. All told it makes for a very interesting story. What other manufacturer, except for possibly the Tandy, had so many models and variations in the 70's and 80's?

Q- What are you favourite features of the B machines?

The B's have the same SID chip as the C-64, with a separate audio port. The 256K B models give a person a lot of room to work with. I believe that the B series keyboards are nicer than any other Commodore system.

Q- Can you explain to our readers about the B series of machines?

The B series is comprised of three groups

1. The P500 (P128)
2. The low profile systems (B128-80 in the US, the 600 (610, 620) series in Europe)
3. The high profile systems (CBM 128-80 and CBM 256-80 in the US, the 700 (710, 720) series in Europe)

Note that the B128-80 was originally sold as the B500 in the US. There was never a B256-80 low profile computer sold in the US, but there are less than 5 known prototypes. Here is more info on B Series prototypes:

[http://vintagecomputer.net/cbm\\_b\\_prototypes.cfm](http://vintagecomputer.net/cbm_b_prototypes.cfm)

There is a great web site dedicated to the B series that does a great job of detailing the historical details of the B Series line, and I would only be re-hashing Mr Shockley's great work.

<http://home.comcast.net/~shockley15790/onlinestorage/b128.html>

Here is my take on the B Series story:

The B series was developed by Commodore for the home and business market in 1981-2, about the same time as the IBM PC. Originally these systems were to be fitted with both the 8-bit MOS 6509 plus optional 16-bit Intel 8088 or 8-bit Z-80 processors, but only models with 6509's made it to the market. Early user guides do describe models with both the Z-80 and 8088, but none were sold in the US. There may have been a very few "BX" models sold in Europe with 8088 daughter boards. There were probably some after-market boards as well. I do not believe any systems with Z-80 daughter boards were ever made. A few prototype 8088 boards exist, including one in my possession.

Microsoft offered MS DOS to Commodore as well as IBM. In fact, I have a copy of a early MS DOS 1.25 diskette from Commodore labs which was to be used for experimenting in-house with the models fitted with the 8088 boards. Alas, MS DOS did not find it's way to the B series. I don't know if Commodore failed to see the value in having MS DOS, preferred CP/M, or simply gave MS DOS/8088 integration a low priority. Most likely the problem was production cost. I also have a few iterations of the

original developmental copies of CP/M - 80 for B series systems with the 8088 boards. So, for you trivia buffs, the first CP/M disks made for the Commodore was not for the C-128...Yes I have archived these disks!

The total number of machines produced and sold did not exceed 20,000 worldwide, a greater proportion were sold in Europe. The introduction of the IBM PC in 1982 and the subsequent launch of the C-64 squeezed the B series into oblivion. Although Commodore abandoned the B series, a dedicated group of B series enthusiasts called the Chicago B128 Users Group (CBUG) was formed by Norman Deletzke and Protecto, the company hired by Commodore to liquidate the remaining B series computers. In fact Commodore officially gave the B128 PM trademark and memory map and full usage rights to Normal Deletzke and CBUG. This group of dedicated B series enthusiasts engineered software and hardware for the B series into the early 90's. After Deletzke's death in 1990, the leadership mantle was passed to Bruce Faierson. Bruce and the remaining CBUG'ers published a news letter called the Northwest Computer News "Dedicated to Orphaned Computers". Unfortunately Bruce died earlier this year. One last thing - the B series computers used the IEEE interface which was faster than the C64/128 serial interface by a large margin. Disk drives and printers must have an IEEE port to be compatible with the B's. See my tricks and tips page for more details on using a B series computer with a 8050, SFD-1001, or other IEEE drive: (ED = attached at the end of the interview)

[http://vintagecomputer.net/browse\\_thread.cfm?id=1](http://vintagecomputer.net/browse_thread.cfm?id=1)

NOTE: The only real successful thing to come out of the B series line was the SFD-1001 disk drive. These drives were very popular with c64-based BBS's. A C64 needs an adapter to use the IEEE interface of the SFD-1001 or any IEEE drive.

Q- What is the rarest item in your collection?

Commodore: The prototypes: P500, BX700 (American prototype that became the CBM 128-80), B520 (a B256-80 prototype)

Q- What Commodore items would you love to own, if money was no object?

Commodore VIC 20 docking station.

Q- How regularly do you use your Commodores?

I have one attached to my computer network. Here's how I did it:

[http://vintagecomputer.net/browse\\_thread.cfm?id=85](http://vintagecomputer.net/browse_thread.cfm?id=85)

I'd say I mess around with some vintage system daily, and of those the Commodore systems are high on the list. My go-to system is a C-128 with Jiffy DOS. My Commodore system set up consists of C-128, 1802 monitor, 1571, 1581, 1541, 8050 drives.

Q- Are you a reader of Commodore Free

I have been since the summer.

Q- Tell our readers about the history of Commodore poster how many were printed, what it is and how long did this project take to research

These are all my systems. Originally I wanted to make a sort of periodic table of the Commodores or something like that, but I settled on the current design for style reasons. I wanted to have every system turned on while photographed. That meant complete darkness in the room and a whole lot of experimenting to get a good picture where you can see the little system lights. The drives were especially difficult because you had to time the flash to match the initialization lights when the drive powers on. Because I was paying the photographer by the hour, I had to have it all choreographed, with one system after another staged and ready to go after another. There were a total of 138 different computer systems set up, photographed and torn down in a 19 hour period.

Q- I have a link of the Commodore Free website Directly to the poster purchase page, but can you tell our reader how to purchase this piece of history?

Here is a link: I ship them myself, just click on the link and place your order through



Paypal. Posters are shipped in a hard tube within 48 hours. The paper and print quality is "professional grade"

Q- Can you tell our reader about "best in show" you won at VCF East for my B Series exhibit

[http://vintagecomputer.net/vcf3/commodore\\_B\\_Series\\_a.JPG](http://vintagecomputer.net/vcf3/commodore_B_Series_a.JPG)

Picture shown above

(this is not a picture of me by the way, I don't know who that is)Here is a picture of me:

[http://vintagecomputer.net/pictures/bd\\_cbm\\_pet2001.jpg](http://vintagecomputer.net/pictures/bd_cbm_pet2001.jpg)

Picture on next page

The exhibit told the story of the B series computer, as I have described above. I demonstrated MS DOS and CP/M on a system with an 8088 processor installed, I had a lot of IEEE drives including the D9090 hard drive, there was a CBM 8300 IEEE printer, and I programmed a demo of the SID chip. I also had a little keyboard program that allowed persons to play music in a B-128.



Q- You also wrote some repair and documentation about the B series where can our reader find this information?

see above

Q- Do you have any other hobbies or interests

I am a musician, my claim to fame is my band the Space Vipers, which had some success a while back. spacevipers.com if you're interested. I built and play the Theremin. I am also pretty good at the bass and guitar. Until recently I was playing in some band, doing some show someplace between New York City and Washington, DC weekly. I gave a lot of that up to switch to teaching computer history, and it keeps me closer to home now that I have kids.

Q- You said you "preserving historical microcomputers" can you tell our readers about this is it a full time job?

No, I teach just the one class. It's a 3 credit course. There's a Commodore unit by the way, it's vital to include Commodore if you're going to be teaching computer history.

Q- Are many people interested in "preserving historical microcomputers"

There are 17 students. 12 are Computer Engineering majors, the rest are Computer Science. They like the hands-on opportunity. I assign each student or group their own vintage computer, including Commodore's.

Q- What is the course and how many people attend?

see above

Q- Is there some sort of qualification at the end?

There's a presentation - the students must demonstrate their assigned classic computer to the class. They're supposed to write a program or do some hardware maintenance and then show how they did it.

Q - Why would people attend, What use is such a course with the advent of emulation?

There is no substitute for the real thing. At first the students were resistant, but each class I bring in a system to demo. To reiterate my earlier statement, if you can witness the entire system and actually experience the use of the system for yourself, you get so much more out of

it. Also, those students who started with emulators, all have switched to the real thing eventually. Emulators are not always compatible.

Q- What machines are you interested in, apart from Commodore?

At present I am working on a Cromemco System Three, an IMSAI 8080, and Synertec VIM-1. I also have an Apple III with a bad power supply that I am working to restore. I like to spread it around. My workshop consists of a Commodore workbench, a S-100 system workbench, and a "general" workbench. I believe I have 200-300 systems, most of which work. I have a pretty big house and an understanding wife!

## Commodore with Rose Tinted Glasses

Everyone looks back fondly and remembers the Commodore years; it's like when you remember being young and how everything was better, cheaper and more exciting back then. I don't really recall finding anyone who said something like "I purchased a Commodore 64 and the machine was rubbish I only used it once and sold it" also the fact everyone has some form of favourite game, from their childhood be it Tetris pacman or another title. I do still play Commodore games although I tend to stick to well known titles.

Too many the Commodore is something they remember with great affection, also something worth fight about, many see their favoured machines as superior, however we know Commodore machines were the best machines ever created so I don't want to debate about that "fact". Nothing in the design of any Commodore machine can be faulted, the design and build of the machines was superb all the games release were brilliant titles and well worth the money we paid for them. Remember in the school yard people would chant My Commodore is better than your "insert other 8 bit system here"

Was it all good; have I remembered my childhood correctly or am I "wearing rose tinted glasses" as they say has my memory been clouded with age and the nostalgia of our youth? Was the Commodore 64 the best machine of all time and were all the games so good, was the hardware build quality and design so good that no faults can be found even after all this time?

How many Cassettes did you purchase only to wait 20 mins for an error to appear on screen with the dreaded words "syntax error" or worse the machine just reset back to the Commodore "boot up screen" How many disks were mangled by your 1541 drive while trying to read the vast amounts of copy protection on the new game you personally paid good money for, only to load it 3 times and have your drive die. Did Commodore always get it right?

I remember waiting eagerly for the Amiga 4000 with Custom DSP new AAA mode graphics only to find I had purchased a slightly faster Amiga 1200 in a big box. .

Don't get me wrong I have a great time with the Amiga finding out I can't draw and my music skills really weren't that good after all. So yes I am afraid even Commodore had its faults, rushing products

and producing half finished machines. Some things were right though. The Commodore 64 design seemed to be perfect at the time, 16 colours on screen hires displays and the custom Sid music chip. Then the Commodore 128, 3 machines for the price of one with CPM and commodore 64 compatibility, maybe this was more of a marketing ploy but it was a really useful machine. The fact we still use these machines today must mean something was right with them.

With the surge of "Retro" enthusiast many of who are little more than avid collectors do they actually use the machines or are the machines just trophies or

collectors items gathering dust, sat on shelves in someone's personal museum, a fad we must collect every one ever made. I prefer to use my machine, I have gone mad and purchased some items I couldn't afford in my youth for example my sx64, and 128CDR are more items to have rather than something I needed.

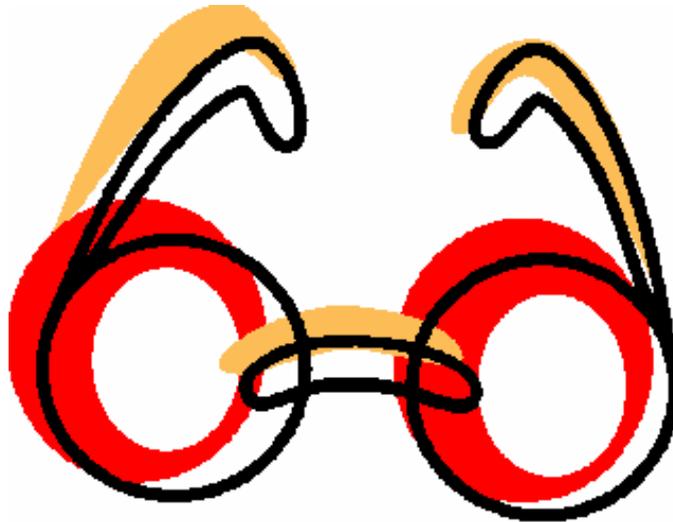
I do own a number of other commodore systems an Amiga 500 and a 600 and also an Amiga 1200 I also own a number

of Commodore 64's and a few Commodore 128's, and my commodore 4000 Although the machines are regularly used, I confess the Amiga's don't see much in the way of gaming action as the Commodore 64 handles these needs well enough for me.

I was a big fan of Doom when it arrived on the Pc but apart from the odd adventure never really played anything else on the Pc. or even the newer consoles, I owned a play station 2 for a couple of weeks, purchased via eBay, but soon sold it, I purchased it mainly for the "retro" games collections I always go back to the Commodore 64 and some classic games.

I am not claiming every Commodore 64 game was superb, I do have a large collection of let's just say purchases I regret, but I also have some superb games that really get you hooked and have a "one more time" effect, I still get into trouble for sitting there thinking, if I just have another go I could get to level 5, although this time instead of late for school I am late for a meal or theatre night out, and its my wife rather than my father shouting.

Everyone I would suspect looks back to their childhood with fond memories, childhood I am sure for the majority of people was a happy time, a time when everything was new and the whole world was just there to be explored. Commodore was a large part of that childhood for me but the machine is just



as good now as it was back then! And the great games I played are still that; "great games" and the games that were rubbish are still just as rubbish.

I could load Tetris or its many clones and play it all day if I had the time, likewise I spent many a day locked in my room playing "hover bovver" and don't regret a single moment of wasted childhood. I still load games like "defender" and am I just amazed that such a game could be created, the time that must have been spent designing the sound and graphics and then getting the "game play" to work, maybe I am just as sad an boring now as I was when I was a young child, small things still amuse me,

I still now sit through tape loading screens and listen to the music waiting for the game, even now with emulation and hard disks and the IDE interface, I still love loading games from tape, watching the loading screen and then the music appearing is great, and takes me back to the first time I played the game. Maybe all games are some form of drug, an addiction woven into my small brain.

Of course the games could be played in "different context" a tetris speed trial who can gain the most points in X amount of time, this goes with Jason's comments about retro

Rose tinted Glasses  
Comments from Jason Kelk

*Of course games weren't all that good; it's like anything "retro" Because everything gets filtered; in the same way that most of the songs released in the 1970s or 1980s weren't classics and a lot of the design decisions made were, looking back now, absolutely hideous (talk about beige overload... it's fine on a computer case but an entire room?!) the majority of 8-bit games were at best average and quite a few were appalling.*

*That said however, an average game can also be entertaining and even bad titles have some enjoyment value, first from realising just how low they're stooping and then trying to*

*play them in ways that aren't in the instructions like hammering around the course of*

*a driving game backwards and trying to cause pile-ups!*

*Packs like Midway Arcade Treasures or the Taito collections are a bit like the 80s compilation CDs, "Now That's What I Call Midway Volume Whatever", mostly crowded with the titles that went well and the odd one that has a "cult" status, but the simple fact of their existence proves a point; these games, selected from the overall pool of average-ness, do stand the test of time very well indeed. The same can be said of a lot of 8-bit computer titles, the C64DTV went on sale with twenty C64 games and, whilst a few like Sword Of Fargoal were questionable choices for a direct-to-TV device without a save option or mains power.*

*Action-oriented games like Uridium, Head The Ball or Zynaps and the sports titles stood up very well indeed. Stories abound of younger children discovering their parent's DTV and enjoying the game and kids are probably the greatest barometer as regards the quality of a game because they don't sugar coat their opinions.*

*..:[ Jason Kelk ]:.*

*web developer / game coder / IT bod / very confused!*

# Commodore CAD Pad Project

## By Rick Youngman

### Intro:

Anyone who has ever tried to do any precise artwork on a C=64 can relate to this project. To put it simply, is nearly impossible, to draw a straight line with a joystick, and making a true 45 degree line, IS impossible. This project actually was completed 15 years ago and used not only for a drawing tool, but also as a game controller. It is simple, inexpensive, and someone with minimal soldering skills should be able to complete it, with a little effort.

### Materials: You will need:

- 9 - momentary (normally open) switches
- 1 - 9 pin DB9 plug (or a chopped off cord from an old joystick)
- some wire and solder and stuff like that.
- 8 - Diodes \*
- Silicon switching diodes. Radio Shack # 276-1620 (pack of 50 for \$ 2.98)
- (also known as "signal" diodes)
- 1 - Controller case

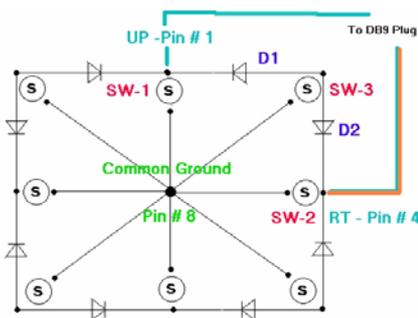
What kind of switches you use, and how you set this project up in a case is up to you.

### How it works:

The position of the cursor at the joystick port is read by simply grounding pins 1-4 and pin 6 (fire button). I.e. grounding pin 1 makes the cursor (or sprite) move up, and grounding pin 4 makes it move to the right. That is great, in theory, but not precise in practice, because one slip of your hand will trigger another direction, and all you have is a crooked line. Trying to hold a joystick handle to draw a 45 degree line is even worse. So the solution is to mechanically close the contacts by push-buttons, allowing precise control of the cursor's movement. This project goes one step further, by allowing you to use ONE button to push TWO!! This is explained better by considering this. If you wanted to move the cursor at 45 degrees to the right, you would have to hold both the right, and up button at the same time. That works, ONLY - I MEAN ONLY --- you can push both buttons EXACTLY at the same time! That's impossible! Not any longer ..... Because we are going to "add" that button!

Look at the picture below and you will understand.

The concept is so stupidly simple, I won't go into the all the nitty gritty here. For this explanation, we will only look at making a 45 degree angle to the upper right area of the picture.



Because of the diode's inline on switch # 3, they prevent "feedback" between SW 1 and SW 2, so pressing either of those switches allows them to act

normally, BUT, by pressing SW 3, the ground is now latched to the output of BOTH of those switches AT THE SAME TIME, resulting in a perfect 45 degree line !!!

### Some Suggestions:

How you use this project, and or construct it is entirely up to you. It is simple enough to be able to just mount some cheap switches in a box and wire the diode's point-to-point, or you can make a PC board, if you have the skills.

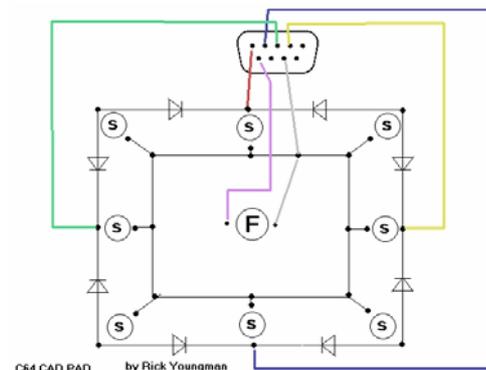


If you want to use this project as a game controller (it works very well for that too) keep in mind what kind of switches you will use, and how much abuse they will handle.

How you locate the switches is up to you.

or you could even setup the switches like a Playstation pad too.

### Full Layout



### Closing Note:

I have started to make a template for you that want to etch your own PC board, but any help there would be welcome, as my time is limited (and the software I use for making etch patterns really suck, and takes boo-koo time !). In the mean time, here is a simple hardware hack, that will be very useful, and can supply a missing link, to something that was never produced.

Rick Youngman

<http://users.commspeed.net/wlbb/CAD-PAD.html>

### COMMODORE FREE

Would like to thank Rick for permission to reprint this project in the magazine

## Interview with Rick Youngman

<http://users.commspeed.net/wlbbbs/>

Q - Please introduce yourself to our Reader

My name is Rick Youngman. I live in Prescott Valley, Arizona, and I'm happy to say, I have made it to the age of 55 years old for some reason that is beyond my control.

Q - Where do you work and what do you do

I assume you mean to make a weekly pay check, if so, I have been a "repair man" all my life. I have spent some 30 years in the RV field, and have bounced back and forth from repairing motor home's and fixing boats for as long as I can remember. Presently, I run the Service Desk at a motor home dealer in town. I also have technical training in electronics' and assorted programming languages.

Q - What introduced you to Computing and Commodore?

It was either devil or an angel, but what ever it was, I've been consumed by computing ever since. Sometime in the late 80's, I got a C64 and monitor at a yard sale that didn't work, but a simple fix to the power supply cord of the C64 got it working. It was my first computer, and from there, my life did indeed change forever. It's been a love hate relationship, that why I refer to the angel and devil.

Q- What Commodore related items do you own presently

Honestly ??

One 1541 disk drive, one C64 breadbox, and a 1702 monitor, but I hardly ever use them with emulator's like VICE available. The VICE team has done such a good job of making that emulator, that is is very rare that I fire up the real C= emulator.

On the other hand, when I shut the BBs down and sold the equipment on Ebay there was 78 lbs of floppy's, over 400 lbs of hardware, and over 60 lbs of books and dox in the BBs library, so what I own today is just a lot easier to move if I have to.



Q. Why do you think Commodore is still important

I don't know if I would consider it important now in the age of the PAC

Crowd (point-and-click), but for serious computer user's, the C= is something they need to learn about. The C64 was the best selling computer in the world for good reasons, and much of what it can do, was discovered by third party programmers like the late Jim Butterfield. Those concepts and BASIC program's, are still used as building blocks for many modern days programs. The C64 is, and will always be an important part of the development of modern day computer's.

Q - Why do you still Support Commodore?

When my first BBs went online in the late 80's, on a C64, it was all about support for the machine. I never charged a membership fee in the 10 years it was online, or required user's to upload stuff, in order to download the BB's file's, like many other BBS did at the time. There is an old metifore that says "once it's in your blood" , or something like that, is the reason I still support the C= machine. Anyone who has been a SysOp, of a working BBs, can understand what that dedication means. I was lucky enough, to have had some foresight, to archive the BBS files, before I shut down, so I'm still in a position to offer support. I now offer those programs to people again on CD's

Q - Can you tell our reader about your website  
<http://users.commspeed.net/wlbbbs>

The web site for the most part is about offering a CD collection of C= related software on CD's. It is NOT A BUSINESS, by any means ! It is about support and preservation, of C= software. It is something I started about 6 years ago because a friend of mine talked me into it, and it has helped a lot of people smile again offer the CD's for support, and there are links on the page, that will let visitor's request programs, that can be sent to them via email for free ( which I gladly do ). The web page has been # 1 for a Google search for Commodore Software, for over FIVE years, for only one reason, and that is support for the C= machine. What started out as one CD of the archive's of the Commie Kazeez BBs, has now grown into a set of three CD's, full of software for the Commodore computer. That would have never happened without the contribution's of to the many individual's from around the globe, who have uploaded program's to me to include on the CD's. At present there is three CD's offered, and two more in the works, thanks to contributions from people around the world.

Q - What is the Cad-pad project ?  
<http://users.commspeed.net/wlbbbs/CAD-PAD.html>

This ended up being one of the most useful hardware hack's I ever tried. I built the first one using a keypad from an old telephone, to use for drawing the screens for the BBs. For about 10 dollars, and minimal soldering skills, you can make a whole new controller that will draw straight lines and that includes a 45 degree angle, which is nearly impossible to do with a joystick. It also double's as a replacement for the joystick for gaming too. When I first posted it, years ago on the BBs circuit, no-one really paid attention, because no-one in their right mind was using "push-buttons" to control game's. Today, most "gamers"

don't know what a joystick does, let alone what it is, so I think it's a useful project again, and I'm sure someone could adapt something like a Playstation controller, to use on the Commodore, with a little ingenuity.

Q - You also pointed me to <http://users.commspeed.net/wlbbs/vice-keys.html> do you think emulation plays a vital point in the support of Commodore machines ?

There is no question in my mind, that it is because of the perfection of emulators like VICE, that keeps the Commodore alive. Original hardware is getting harder to find, but because of these emulators, new users can experience what a real C64 was like, and for the old timers, we can still enjoy our C64 roots, on a modern day PC. The CD collection I offer is archived in all D64 format to use with the emulator's, so finding software is not a problem any longer.

Q - Do you have any other machines other than Commodore ?

I have more computer's around here than wall outlets, but here is one of my favourite's. I call it my X1541 tower.  
<http://users.commspeed.net/wlbbs/1541tower.jpg>

Q- Can you tell our reader about the Commodore Cd's you sell, what is included and how to order ?

I have tried to include everything and not just games. There are lots of productivity software, including graphic's drawing programs, word processor's, BB's programs, and tons of other utilities for music file's and BASIC programmer's. There is also a lot of stuff for advanced user's, like assembler's and compiler's, and schematic's for a lot of Commodore hardware, as well as an extensive library of documentation for various games and utilities, and the C64 itself.

Q - Some users don't have access to the internet can they contact you via snail mail ?

Yes, but I see no reason to publish it here, because they would need internet access, to read this magazine.

Q - How do you purchase the Cd's and what would be the cost, also can you deliver internationally and what payment methods can you take ?

I ship world wide, but there is an extra charge for orders to be sent outside of the USA mainland. The CD's only cost \$ 10.00 each, shipping is \$5.00 for one or all three. in the USA. I used to use Papal for credit cards, until EBay bought them out, so now it is strictly personal checks or money orders.

Q - You were saying "I'm most proud of, is I have been # 1 on a Google search for "Commodore Software" for over 5 years" how was this achieved

I have never paid a Penney to anyone for my position on the search engine. The "crown" come's from consistency, and honesty. The page itself, is very primitive, and was set up when I first started learning HTML ( and it shows ), but it does what it is meant to do, and people soon learn that's for real, when they email me questions and get a personal response in a few hours. How to actually achieve a number one position, without paying anyone for it, involves many thing's. I would be more than happy to

give you more detail's in a future interview if you would like.

Q - Why did you put all the software onto cdrom and how was this archived ?

After years online, I knew the dial up BBs had come to an end, and also knew, it was a matter of time before I sold off all the equipment the BBs used, but I did not want to let the software the BBs had amassed, to be lost entirely, so I started archiving it onto a hard drive on a PC. That PC was a 286 running DOS 5.0, that I tweaked the bios on, to let it use a 850 meg hard drive. I used a X1541 cord, and a program called Trans64, to archive the entire software library into D64 disk images. The process took uncountable hours to complete, because Trans64 is very slow, but the good part was, it archived many disks that no other similar program could, so those are also preserved now.

Honestly, I never intended to make a CD, because back then, a CDrom drive was just hitting the market, and I didn't have one. I did intend on using that hard drive on a future PC based BBs, to offer Commodore downloads, but at the time the emulator's out there, for lack of a better word were , crap. They had so many bugs, and were DOS based also, that it made them uncomfortable to use for most people wanting to explore the C64 on a PC. I eventually got a new PC that had a "CD burner" in it, and burned a few CD's off that hard drive, and gave one to an old BB's user that was a close friend. He alone was responsible for talking me into offering it to the public, so I started indexing the CD and released the first one in 1999.

Q - Why bother putting the files onto CD ?

Blank 360 K floppy's are hard to come by these day's, so I choose the CD format LOL. Actually, when folks order the collection, they have an option of getting all three CD's on one of those USB flash drive sticks if they want for a few extra coins. I think that is really cool, and if current hardware hacker's succeed with interfacing a USB flash drive to a C64, I can predict a whole new user base of the C64. Try to imagine having a 1 gig 1541 drive to use with an original C64 breadbox, that isn't even the size of a pack of cigarettes.

Q - Has anyone contacted you with regards to copyright on the applications?

No, and I think that is simply because they don't care anymore ( if they still exist at all ). Many of the company's that produced software for the C64 have dissolved years ago, and those that survived like Electronic Arts, and Borderbud, have long since abandoned support for the Commodore software they marketed 20 years ago. My entire file list is viewable on the web page, and if anyone object's to me including a program on the CD's, all they need to do is email, and it will go away.

Q - Do you read Commodore Free magazine ?

No, I devour it. Keep up the great work

Q- Can you tell our reader about the Cross referencing you are doing on Transactor magazine

I am putting together a database of the "Bit's and Piece's" column, in the magazine, that will be searchable and indexed, that I will post on my web page soon. There was a lot of great stuff in that

column for programmer's and hardware hacker's, and unlike Craig Bruce who has archived the whole publication, I am focusing on just that section so users can quickly find the tips and tricks presented there.

Once that is done, I plan to do the same for ALL the article's in the magazine, so a user's inquiry for say "SID", will list a result of the article's and which issue they were in, so they can view them. Transactor was an important part of the C=ommodore scene, it cut through the bullshit and hype of other rags like Gazzette, and simply got down to the business at hand.

Q - What other projects do you have lined up ?

At present, myself and a few other's are writing a new multi-disk adventure game for the C64 called "The Commodore Crook". It's a text adventure, where you can get hired by C=ommodore, as a office boy, but if you know C=ommodore computer's, you can advance in the game and the company. The ultimate goal, is to be able to be a top level programmer, and then steal the plans for C=ommodore's new Super Computer, and sell them to Steve Jobs at Apple for a cool 5 million bucks. It's really quite fun.

Q- Any other logs in the fire ?

Besides the new CD's in beta testing, the Transactor project, and the Commodore Crook game, I have also started to create a HTML Bbs that will emulate the BB's generated by a C64. The BB's project has actually consumed most of my time lately, but I thought it would be nice to release a package that anyone can use with basic HTML coding abilities, and become a SysOp, without all the advanced skill's to run a telnet site and stuff.

Q- Would you class yourself as a programmer or a hardware expert or just an expert user and can you explain why you categorise yourself ?

That's a tuff question to answer. I'm by no mean's an expert in anything, and I don't think anyone can claim that title, because someone always will know more than you do. I am a very good BASIC programmer, and electronic tech, but I am not an expert. I learn new things everyday about computer's, and if I was an expert, I would have already known them.

Q - Can you tell our Reader about your BBs system, and what was used to run the system and why you closed down ?

The Commie Kazeez BBs was online for about 10 years on a C64 running C\*base with four 1581 drives. Eventually, as more and more user's switched to IBM machine's the user base dropped off, so I reluctantly switch to a DOS based BBs on a 286 PC called Wildcat, and renamed it to The Wasteland BBs. The Wasteland still had a Commodore section on it, so I didn't lose all my user's, but as the internet became more and more popular, I finally pulled the plug about three years latter.

Q- Do you think the BBs scene will ever be reborn, or is it a thing of the past ?

Contrary to what is believed, there are many dial-up BBs still, but they have gone underground, and are very secure. They have thing's on them that they

don't want to chance being accessed to on the internet, so I would say it is alive and well, just harder to get to.

Q - Do you regret being a SysOp ?

For the most part no, but I did sacrifice thousands of hours maintaining the BBs of my life, and I wouldn't dare to guess how many dollars in equipment and phone bills. I'm sure it was a lot, and I look back now, and question my sanity for not charging user's to access the BBs. On the flip side, I learned a lot about computers and maintaining "a network", and that has helped me a lot in other endeavours I dabble in now.

---

## CD F.A.Q's

### What is a .D64 File ?

A .D64 file is a "disk Image" of a C= floppy disk that can be used on you PC with any of the popular emulators to run the programs in the image file. A single "image" file may contain several individual programs because it is a full copy of the original disk, and that disk may have contained many different programs. Today's emulators come with good documentation as to how to access all the files in the D64 format.

---

### How do I use the D64 files ?

Very easy, by making use of one of the C= Emulators included on the CD. You simply use your mouse and point and click on the program you want to run. You can also return a D64 file back to its original format by using one of the copy programs included on the CD, and a simple interface cord that goes between your PC and a C=ommodore Disk Drive. Details for construction of the interface cord are included on the CD.

---

### What are the System Requirements for the CD ?

A CD Player ( 4x or faster recommended )  
Dos 5.0 or better OR Windows 3.1 or better  
8 megs of memory  
66 mgz processor or faster

---

### How many programs are on the CD ?

That's a good question, I haven't even attempted to count them all !! There was over 2000 disks archived into D64 format, and a lot of those disks contained 20 or 30 programs each. When I run a word count on the full file list, Word reports there is 14,783 lines, so it's safe to say there is at least 10,000 files on the disk. One thing for sure, there is enough files and programs on the disk to keep you occupied for a long time to come.

---

### Can I use the D64 files on my Commodore ?

No, not in the format they are in now. You must use a copy program to return them to "native" C=ommodore format.

---

### Can I copy the CD ?

Well I sure can't stop you !! Just do me a favor and don't try to sell your copies.... give them away. OF COURSE ! I'd rather have you steer your friends towards this web page and have them purchase one, but I have no control over what you do with the CD after you get it. Use it for a mini frisbee if you want to.

## Beginners guide to the 64 Part 2

By now you should have a working Commodore machine with the following on screen and ready for some user input

```
**** commodore 64 basic v2 ****  
  
64k ram system 38911 basic bytes free  
  
ready.
```

What we really need is to load an application and run it, maybe a game and use our joysticks to ensure the machine is fully working. With the machine facing towards you on the right hand side near the power you will notice 2 joystick ports, I suggest you purchase 2 joysticks these are cheap and easily available on eBay look for Commodore 64 compatible or Atari D style joystick

### Cartridge

The easiest option is to load a game from a cartridge, all you need to do is power of the machine insert the cartridge with the cover picture facing up and then turn on the machine, the game or utility will load instantly from the cartridge with virtually no waiting time. Now you have two joysticks if the game needs a joystick in port 1 or 2 you will already have them set up and won't have to power off and change joystick ports, also you can use the machine for two player games.

### Attached Devices

Every device connected to the Commodore 64 has a

default number  
Disk drive = 8  
Tape drive = 1  
Printer = 4

These are perhaps the main ones you will use with a basic setup, so to access the device we use the device number.

### Tape

To load a game or application from tape you need to Power off the Commodore 64 connect the tape drive, the connector will only fit one way then turn on the Commodore 64, the tape gets its power from the Commodore 64 so you don't need any other connectors or power. If you know the name of the application you can type load"applicationname" and press return or press runstop/restore this will load the first application from tape, You could also issue the command load"filename",1 and press return this would load the filename of the device on 1 which is the tape drive; cant say I have seen anyone use this.

### Disk

To load applications from disk power off the Commodore 64 connect the disk drive and then power on the drive then power on the Commodore 64 if you know the files name of the application you can then type load"application",8 or load "\*",8 this will load the 1<sup>st</sup> application from tape then type run and press return of course a disk needs formatting before use.

### COMMODORE 64 BASIC DISK COMMANDS

#### Format a new disk

```
OPEN1,8,15,"NO":DISKNAME,ID":CLOSE 1  
Load a file LOAD "FILENAME",8  
Load 1st disk file LOAD "*",8  
Load and run file LOAD "FILENAME",8,1  
Save a file SAVE "FILENAME",8  
Save and replace SAVE "@0:"FILENAME",8  
Verify disk file VERIFY "FILENAME",8
```

```
Directory listing LOAD "$",8 press return  
LIST Press return
```

### COMMODORE FILE TYPES AND USES

```
DEL Deleted file  
PRG Program file  
SEQ Sequence file (usually a text file)  
REL Relative file (data file)
```

I have written a guide to help users available from here

<http://www.commodorefree.com/magazine/information/Usrguide.txt>

When you delete a file from a disk the file is still viewable in the directory but listed as DEL or deleted, you may find it useful to type load"\$",8 then press return then issue the command LIST these two commands will load a disk directory from device number 8 then list the files on screen; I would advise you to try various disks and look at the files.

### Printers

Printers are issued by default the id number 4 Most software will print to these devices with out further configuration again have the Commodore 64 powered off Connect the machine to the Serial port or the the Disk drive as the devices can be chained together like Usb devices. Although Commodore Dot-matrix printers and pen printers were considered state of the art when launched things have changed in the computing world and dot-matrix is no longer an acceptable output. Various additional boxes were launched to allow a standard parallel printer to connect to the Commodore machines look for devices that are commodore to centronics or just look on eBay for "commodore printer interface" you should find something like The super Graphics card

these allow the conversion of ASCII from PETASCII commodore used a variation the on standard ASCII format all printers use called PETASCII these devices convert on the fly permitting the printing to none commodore printers, I have mine connected to a laser printer and an inkjet printer and both machines output text fine from commodore. A nice tip is to use the CMD command; this permits the changing of the default output device so if you wanted a directory listing printed instead of being listed on the screen you could issue the commands

```
OPEN 1,4 open device 4, the printer  
CMD 1 output now goes to printer  
LIST the output will go to the printer  
CLOSE 1 cancels the redirection command
```

Don't worry about the OPEN 1,4 command at this moment in time just use it for redirecting text and ignore



what it does, we will cover this and other commands in a later tutorials

Time marches on and machines especially 8 bit machines get left behind or forgotten. Fortunately because of the Commodore 64's design and the ingenuity of developers and the love user have for the machine; various add-ons have been developed for the Commodore 64 over the years. Some of the most sought after products were produced by CMD the company inventory was later purchased by Maurice Randel <http://cmdkey.com/>

#### Warning

However a word of warning: before you order anything I would advise you that there is a long wait for products measured in Years rather than months, some customers have been waiting multiple years for products to arrive. Obviously this is a side line for Maurice. The link shows Maurice hard at work creating the products by himself The website may say 3 months wait but you need to interpret this as 3 years minimum wait (if it ever shows up at all)

<http://www.geocities.com/profdredd/maurice/cmdkey.html>

For a comprehensive look at the Cmd Hardware products have a look here

<http://www.cmdweb.de/>

#### HARDWARE

CMD produced many items of hardware including

#### SCPU



A 20Mhz accelerator for the Commodore 64 and Commodore 128 the device can also accommodate upto 16mb of memory to my knowledge only the game metal dust takes advantage of the extra processing power along with a handful of demos and Geos and Wheels operating systems, however other applications can benefit for example complex 3d style games greatly benefit from the extra speed. The device is switch able from 20mhz back to 1mhz for compatibility also includes an on/off switch for extra compatibility also has jiffy dos included on the device

#### FD-2000



The device is a 3.5 1581 clone however it adds the bonus of being able to use high density disks, making this device very useful for the casual Commodore user. Has jiffy dos on the device. Also can Swap device numbers with attached disk drives

#### HD Drives



Can contain upto a 4gb harddisk includes jiffydos and an external scsi connector can be set with upto 255 partitions each can be 16mb in size features a device swap button you can also create 1541 and 1581 partitions for compatibility.

#### RAMlink



Can feature upto 16mb of memory is super cpu compatible ie they can work together allows the user to set up partitions to have disks instantly accessed, also features a battery backup to save the partitions when the device is powered off

#### JIFFYDOS



Jiffy dos is a floppy drive speed up system the chip needs fitting in the Commodore machine and also in your drives for the device to function to its potential, but as the ram link SCPU and FD drive have jiffy dos already installed, you could add a SCPU and a FD200 disk and be jiffy dos enabled, although other disk drives will need the chip fitted to take advantage

like the 1541 and 1581 disk drives, Jiffy dos has a powerful set of control features to cut down typing and generally benefit the user

#### 1581



The 1581 is a floppy disk drive but uses 3.5 inch single density disks these are more readily available than the 1541 5inch disks

#### IDE64

<http://www.ide64.org/>



The ide 64 is a cartridge that allows standard pc IDE disk and cd rom drives to be connected to your Commodore, although it seems everyone is sold out there is a new version in the making see this link for more details <http://www.ide64.org/ide64v4.html> There is a patch for Geos to work with the device to my knowledge Wheels doesn't support the system. If you are a games fan you can copy most single file games on the device and load them very quickly

#### MMC

Similar to the IDE interface is the MMC card allowing your commodore to utilise the now standard Multimedia Sd cards upto 4gb in size



#### Cables

Not much use until you need one, but you should look to invest in something like an X1541 Cable PC this cable can connect a PC to a commodore 1541 floppy disk or 1581 disk and copy file to and from it also useful with the HDD64 if you own an old pc you should look to investing in these two items

<http://www.protovision-online.de/>  
[http://www.vesalia.de/e\\_products.htm](http://www.vesalia.de/e_products.htm)

#### Operating systems

Geos was the first graphic operating system I saw and requirements are low a 1541 disk drive a commodore machine and a joystick you can download a limited version for free here <http://cbmfiles.com/geos/index.html>

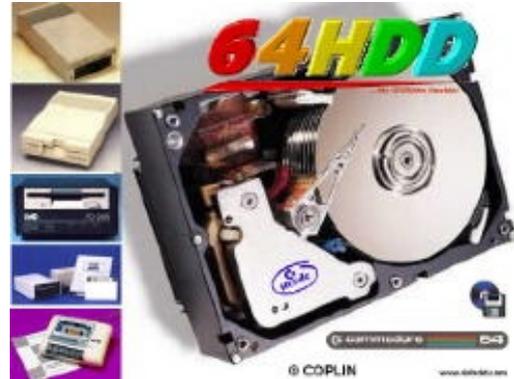
Wheels made various improvements on the Geos system but requirements are higher you need some form of memory expansion and ideally a hard drive

Various other systems have emerged like Contiki check here for the contiki webserver <http://www.sics.se/contiki/platforms/contiki-commodore-64-web-server.html>

And the main os here

<http://www.sics.se/contiki/>  
the operating system has been developed for various machines

#### Software



HDD64 turn an old pc into an enormous storage medium for you Commodore system, the HDD64 system turns an old pc or laptop into a storage system allowing almost unlimited number of games and files to be added.

[http://www.64hdd.com/index\\_en.html](http://www.64hdd.com/index_en.html)

the software will work with your registered version of GEOS.

The author also sells a speed up cartridge for user with HDD64 speeding up access to the files stored on pc, check the website for full details.

The website also sells various connectors and can transfer floppy disks to disk images.

Also of note to CMD Hard disk owners is drive ghost Allowing users to backup there Hard disk

### DRIVEGHOST

Here is information taken from the website on both HDD64 and Ghostdrive (as I promised Nick many times I would promote his software sorry its taken so long Nick) DRIVEGHOST is the only disk imaging software for your CMD drives.

#### Overview

DRIVEGHOST is a tool for "imaging" or "ghosting" the contents and structure of CMD drives. Drive ghosting is far more than a backup - it is a complete track and sector accurate method of copying data and ensuring that systems, not just files, can be restored at a later date. Programs, databases, GEOS, Wheels, anything and everything is captured! DRIVEGHOST images the contents and structure of your CMD HD, FD or RAMLINK to special files on a PC configured to run 64HDD. These image files can be kept on this PC or burnt to CDROM for a more permanent backup. DRIVEGHOST offers the flexibility of a complete backup/restore, user selected partitions, or the ability to import individual partitions to new drives or locations. It even lets you import D64 files downloaded from the internet or from archives onto you CMD drive.

#### Features

- Complete backup solution for CMD drive users - HD, FD or RAMLINK
  - Uses imaging so as to capture all disk data - not just the files
  - Simple, intuitive point and click user interface
  - Runs unsupervised once started
  - Works with freeware and Professional versions of 64HDD using the popular X1541 cable, or use it in combination with IDE64
  - Image files stored in PC format and can be transferred to CDROM
  - Ideal for:
    - o Backups
    - o Restoration
    - o Drive mechanism upgrades
    - o Data exchange
    - o Installing D64 files
    - o Shuffling partitions around
    - o and more...
  - Version 1.06 includes:
    - o Standard serial mode
    - o Fast-Serial restore mode
    - o PwrLoad cable support for the fastest backup/restore
    - o IDE64 file system mode to backup/restore your CMD system
- Introduction  
DRIVEGHOST is a unique backup tool available to the Commodore 64 user. It's powerful, yet easy to use. A graphical user interface allows easy selection of 64HDD and CMD drives, tagging of partitions to backup or restore, and navigation of your 64HDD archives.

DRIVEGHOST will work with 64HDD core version v0.7b5 (or better) - freeware or Professional versions. 64HDD is a MSDOS PC based emulation program that allows 8-bit Commodore computers to access the power of PC drives via the popular X1541 compatible cable. To find out more about 64HDD, refer to the separate user manual or the website. A copy of the current freeware version of 64HDD is included with your distribution of DRIVEGHOST. Of course there is no need for 64HDD if you intend to use DRIVEGHOST with your IDE64.

### 64HDD Details

64HDD is a low-cost alternative to purchasing a Hard Drive for your Commodore™ (C64, C128, Plus4/C16 or Vic20). 64HDD works with "images" of real Commodore disks and tapes. These images are created by transferring the data from a real disk/tape to a standard file format. Typical disk images are known as D64 files. Typical tape images are known as T64 files. There are many programs available that will let you transfer your data, and many websites that host archived D64 files.

The 64HDD software lets you connect your Commodore computer to the LPT port of a PC using a standard X1541 or XE1541 transfer cable. For a faster connection a special PwrLoader parallel cable can be used to speed things up by as much as 30-50times.

Once configured, your Commodore can have access your data which is safely stored and backed-up on the PC without having to fiddle about with dozens of floppies and old floppy disk drives.

In addition to using your PC's hard disk, you can access its CDROMs, USB drive, Real-Time-Clock, etc. The PC system can be any standard 386/486/Pentium etc. 64HDD runs under MSDOS (or a DOS-Box on some Win9x systems) but may not run under Windows 2000, NT or XP unless they have an alternate DOS boot configured or a Direct-IO driver. If you are stuck using a non-DOS system such as Win2k/XP/NT or Linux, 64HDD is also available on bootable CD-ROM.

64HDD supports D64, D71, D81, T64, LNX images and also the Native MSDOS file system. The MSDOS mode even supports Commodore 16-character filenames in Win95 LongFileName format if the LFNFILES plug-in (v1.55 upgrade) (125kb) has been installed. You can even command the PC's 3.5" floppy drive to read/write 1581 disks using Womo's 1581COPY.

The full freeware download includes utilities and test software, as well as 64Xplor (a cross-platform file Explorer for C64/C128/C16/Plus4/Vic20 machines and works with real and 64HDD drives).

GEOS64 is supported via a custom kernal disk driver. Utilities are included in the driver download to provide time and date support as well as a disk ShortCuts tool for jumping between D64's containing your GEOS collection.

Not forgetting the thousands of other hardware and software that is available for various commodore machines, check other issues so you don't miss out

# Downloaded from www.commodorefree.com Commodore 64 Reference Guide

Originally compiled by:

-----  
Nigel Parker (commodore free) www.commodorefree.com  
Alan Bairstow (Commodore Scene) www.commodorescene.org.uk  
-----

## COMMODORE FILE TYPES AND USES

-----  
DEL Deleted file  
PRG Program file  
SEQ Sequence file (usually a text file)  
REL Relative file (data file)

## COMMODORE 64 BASIC DISK COMMANDS

-----  
Format a new disk OPEN1,8,15,"N0:"DISKNAME,ID":CLOSE 1  
Load a file LOAD "FILENAME",8  
Load 1st disk file LOAD "\*",8  
Load and run file LOAD "FILENAME",8,1  
Save a file SAVE "FILENAME",8  
Save and replace SAVE "@0:"FILENAME",8  
Verify disk file VERIFY "FILENAME",8  
Directory listing LOAD "\$",8  
LIST

Redirection CMD

### EXAMPLE:

Redirect directory listing to a serial printer  
OPEN 1,4:CMD 1:LIST:CLOSE 1

-----  

## COMMODORE 128 BASIC DISK COMMANDS

-----  
Formatting a disk HEADER "diskname",LID,Ddrivenumber,ON,Udevicenumber  
Load a file DLOAD "filename",8  
Saving a file DSAVE "filename",8  
Verifying a file DVERIFY "filename",8  
Disk Directory DIRECTORY

## COMMODORE DOS WEDGE DISK COMMANDS

-----  
Wildcards ? Match any character E.G DO? could match DOG or DOC  
\* Match the rest of the name E.G D\* could match DOG or DUG  
Format a new disk @NEW0:"diskname",ID  
Save a file <"filename"  
Load a file /"filename"  
Load and run file ^"filename"  
Load MC file %"filename"  
Scratch file @S:"filename"  
Rename @R:"newname=oldname"  
Check disk @  
Validate @V  
Directory @\$

-----  

## DATTEL ACTION REPLAY DISK COMMANDS

-----  
Load a file F1  
Load + run file F2  
Load Directory F3  
  
List Directory F5

Run	F7
Load a file	/filename
Load +run a file	^filename
Verify file	&filename
Save a file	&Filename
Save File warp	&Filename,w
Read Disk error	@ or @8 or @9
Initialize disk	@I
Validate disk	@V
Rename a file	@R:NEWNAME=OLDNAME
Clear directory	@N:NAME
Format a disk	@N:NAME,ID
Display directory	@\$ or \$
(Scratch) a file	@S:filename
Change disk id + name	@H:NAME,ID

-----

#### JIFFY DOS DISK COMMANDS

##### FUNCTION KEYS:

F1 =	@\$:* Display the directory of the currently selected device
F2 =	@D List a BASIC program
F3 =	/ Load a BASIC Program
F4 =	@T List an ASCII text file
F5 =	^ Load a BASIC program
F6 =	< Save a BASIC program
F7 =	% Load a Machine Language program
F8 =	@ "S: Scratch a file

##### STANDARD JiffyDOS COMMANDS:

Set device	@#8 Selects current drive as device #8
Display directory:	@\$
Display directory in BASIC	@\$:name (Display all files with "name" in their filename) @\$:N* Display all files with "N" in their filename
Read error channel:	@ Returns error code from currently selected device
RAMLink	@CP"number" Temporarily change the default partition number
Load file:	@^ Load and run first file on disk
Load + run first file on disk	Runstop + SHIFT
	/ "filename" Loads "file"
	^ "filename" Load and run "file"
	% "filename" Load a machine language file
	£ "filename" Load and run machine language file
Saving BASIC file:	< "filename"
List program on disk:	@D:filename)
List ASCII file:	@T:filename
Un-New program:	@O
Initializing drive:	@I
Reset Disk Drive:	@UJ
Validate Disk:	@V
Format Disk:	@N:name,ID
Fast format disk	@N0:
Format 2 sided disk	@N2:name,i
Copy file on same disk	@C:newfile=file
Disable head bump	@B
Copy file:	@C:n=o Copy file "o" to new file "n", will only work on same disk
Combine text file	@C:n=o,p Create new file "n" by combining files "o" & "p"
Rename file	@R:n=o Rename file "o" with filename "n" on current drive
Scratch files	@S:file Deletes "file" on currently selected drive
Lock Files	@L:file Locks "file" so that it cannot be "scratched"
	~ Repeat the command to "unlock" a file
Output to printer	@P Repeat command to return output to screen
	@P,d,a Send to printer at "d" device, and "a" secondary address)
	a=0 (uppercase/ graphics printing)
	a=7 (uppercase / lowercase printing)
Print text screen	CONTROL & P
Change default drive	CONTROL & D Toggles available drives

Toggle all file copy	CONTROL A
Default drive toggle	CONTROL D
single file for copy	CONTROL W
Load and run	
1st prog on disk	SHIFT RUN/STOP
Re-enable JiffyDOS	SYS58451
Re-enable function keys	SYS58551
Re-enable (128 mode)	SYS65137
Short new	@N:diskname
Disable Jiffydos	@Q
Rename a file	@R:newname=oldname
Display disk Directory	@\$
Enable Function Keys	@F
Set Interleave gap size	@G
Lock / Unlock	@L:filename
Set Destination Device	@X
Verify Filename	' filename

-----

#### IDE64 DISK COMMANDS

##### FILE MANAGER

File manager	MAN
Directory	1
View file	3
Copy file	5
Rename a file	6
Make directory	7
Delete file	8
Swap windows	CONTROL
Page up	F1 or CRSR <
Home	F2 or HOME
Page down	F7 or CRSR >
End	F8 or CLR
Move Cursor	CRSR up or down
Select all	+
Unselect all	-
Select some files	INS/DEL
Load and run file	RETURN
Change directory	
View file with plugin	
Load a program	SHIFT+RETURN
LOAD volume root	/
Open or close CD	^
Quit application	<

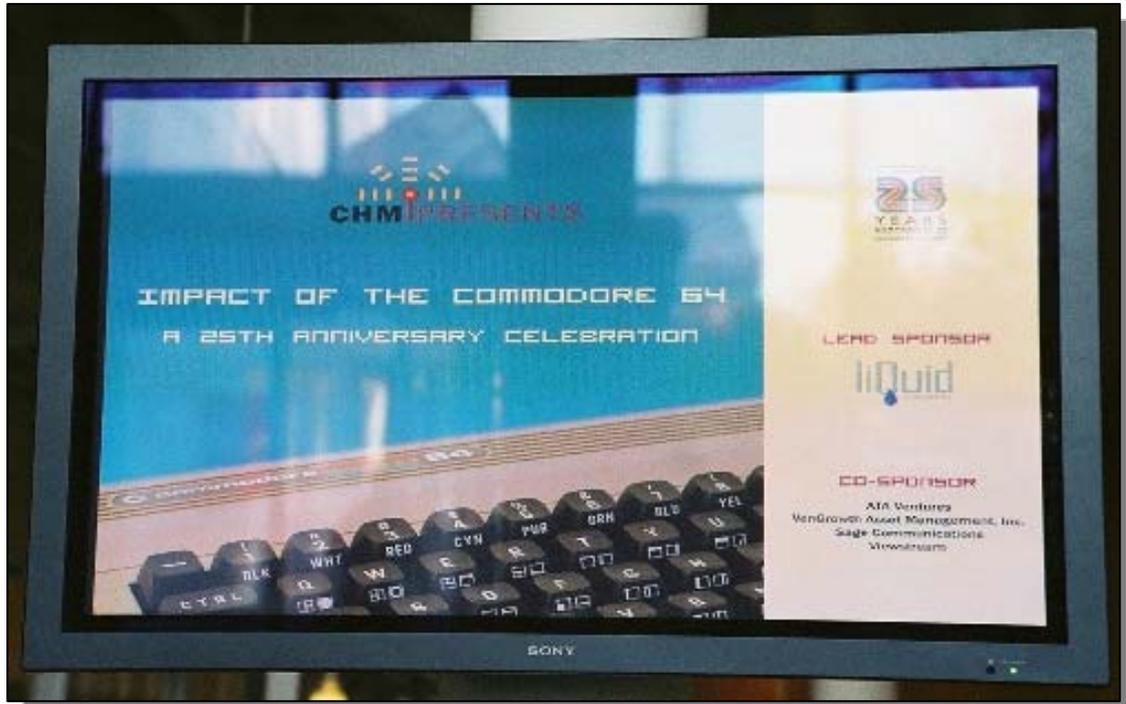
#### IDE64 COMMODORE BASIC COMMAND EXTENSIONS

Initialize one device	INIT
Initialize two devices	INIT2
Change directory	CD "directorypath",DN
Directory Unix style	LL "path",DN
Directory c64 style	DIR"',DN
Make directory	MKDIR "pathname",DN
Delete file	RM "name",DN
Delete empty directory	
Print time and date	DATE
Swap device numbers	CHANGE (floppy now device 10 ide64 device now 8)
Open cd tray	CDOPEN
Close Cd tray	CDCLOSE
Deactivate IDE 64	KILL

-----

# Here at CHM for the Impact of the C64 with Jack Tramiel

By Robert Bernardo Reprinted with Permission from Author



[Robert Bernardo, an invited guest, was at the December 10, 2007, Computer History Museum event, "The Impact of the Commodore 64: a 25th Year Anniversary". Below is his first-hand, minute-by-minute account of the event as it unfolded. His account is only interrupted during the actual talk itself, because he was busy videotaping and taking still photos.]

## Dec 10 2007, 3:31 pm

Because the #c64friends chat is locked out here, I'm posting on the newsgroups. I arrived early, hours before any of the other guests and attendees. Bil Herd, Jeri Ellsworth, and others have gone off to lunch (but I came in after that and so, I missed out). The event room is still being set up by the CHM staff, the room being the same second floor room used by exhibitors and vendors at the Vintage Computer Festival. The members' reception room is on the first floor to the right of the entrance.

I finally finished unpacking the car and setting up the FCUG informational table. Just a bit of confusion as to where to place the table, but it was finally decided to place it on the second floor, opposite to the stairs and to the side of the refreshments area.

FCUG newsletters and applications are spread out on the table as are framed photos of Jim Butterfield and Jeri Ellsworth.

Here at the refreshments area, the 400 attendees can gather for coffee and cake. I've prepped all my cameras, i.e., loaded the film and videotape. I've also



borrowed another Digital 8 camcorder from our treasurer. At the back of the event room, I spy a more professional camcorder on tripod; perhaps that is the one that will broadcast the live feed to the Net. Will report back in a little while. Still awaiting people to show.

## Dec 10 2007, 4:16 pm

Things are starting to perk up around here now. Steve Wozniak is wandering around; he went to our FCUG table, looked at the photos, and remarked that he'd like to hear what Jeri Ellsworth is up to. News reporters are slowly but surely wandering in, picking up their presspasses, and then heading off to the press room. Here is a list of the news people to come:

Investors Business Daily, San Jose Mercury News, Financial Times, ComputerWorld, Information Week, ANG Newspapers/Tribune Tower, Bloomberg

News, Red Herring, Bay Area News Group, Info World, Salon.com, Gadget Games, IDG News Service, CBS, KPIX-TV, IDC, Associated Press, PC Gamer, eWeek, Mac World, Mac Life, San Jose Business Journal, and the all-encompassing, Media  
I may have missed one or two above.



My mistake -- the food for the members' reception is to the center and left on the first floor. As the scents of the fine food wafts around...

**Dec 10 2007, 4:34 pm**

Jack Tramiel has entered the building! He greeted the CHM people, sat down at a table, and is signing autographs while photos are being taken. Shorter than I thought, wearing a dark sport coat, gray slacks, and dress shirt unbuttoned at the top...

**Dec 10 2007, 4:53 pm**

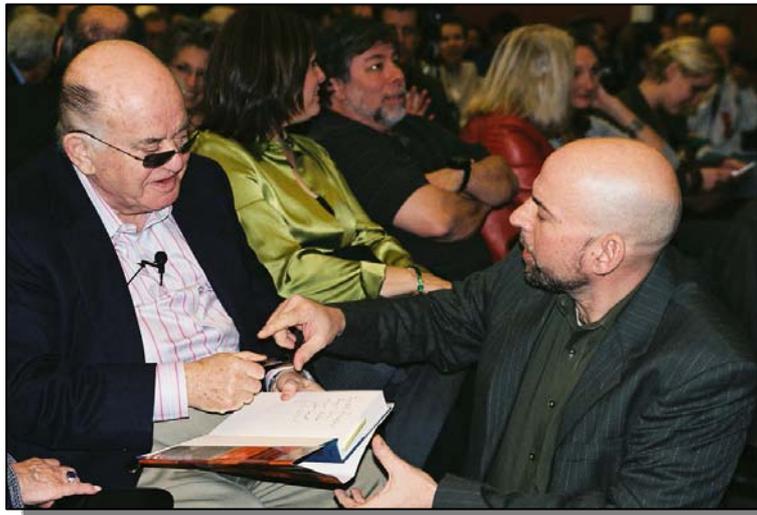
Darn! Only the large group of press is being let in to talk to Jack. I still have to wait until 6 for the members' reception. Steve Wozniak and Jack are both at the same table, happily talking to each other. Flashes are being fired off the press cameras. I thought flash photography would not be allowed. Zooming in with my videocamera...

**On Dec 10, 5:06 pm**

Everybody's still in the reception room, where no videocasting is set up. Brian Hurley of Liquid Computing asked Lowe, Wozniak, and Tramiel to say some words to the press gathered there. Because I was not allowed in, I videotaped from the balcony railing overlooking the reception room. Some shaky camera work but at least it's recorded. Still waiting until the 6 p.m. magic hour.

**Dec 10 2007, 6:30 pm**

The members' reception is in full force! Scads of people are wolfing down the tasty treats (my dinner!). Bil Herd, Brad Templeton, Cameron Kaiser, Jeri Ellsworth, and TOGA member Gordon Collins have



arrived. I ate plenty of coconut shrimp and then under the advise of Cameron, staked out a spot for videotaping the event (front row to the left). Lots of pro video cameras here, but Valerie Alston of CHM confirmed there is no live web-casting. :( With Cameron's video gear behind me... [The event ran from approximately 7 p.m. to 8:35 p.m..]

**Dec 11 2007, 1:05 am**

After the event, Valerie Alston of CHM confirmed that a few days from now, the video should be able to be seen at their website. Of course, I was taping furiously before (hey, I didn't get enough to eat at the reception... I was so busy taping) and after (hey, everybody ate the 25th anniversary C64 cake... I was so busy taping). Oh, well... the life of a videographer.

The panel discussion began a few minutes late, but that gave everyone time to crowd the room. It was packed! Family, news media, and VIPs were in front; the rest were to the sides or in the middle and back. I was surprised that Steve Wozniak and Jack Tramiel were taking friendly jabs at each other... you know, the Commodore vs. Apple rivalry. William Lowe admitted that the PCjr was a mistake. Adam Chowaniec ("sho wan nee eh" as Bil Herd told me) was proud that the Amiga was still ahead of PC for 10 years after the Amiga's introduction.

The panel discussion ended after questions were fielded from the audience -- about 8:35 p.m.. Then Adam and Jack cut the anniversary cake, and then it was a free-for-all as everyone crowded around Jack, Steve, William, and Adam. So much noise... so many people talking. Everyone seemed very happy.

Next to the newsletters, photos, and application forms, I had a brown C64 on display at the FCUG informational table. When the talk ended, Jack Tramiel started leaving, and I had to drop all equipment, rush to the table, grab the C64, run back (excuse me... excuse me... coming through... coming through...) to the conference room.

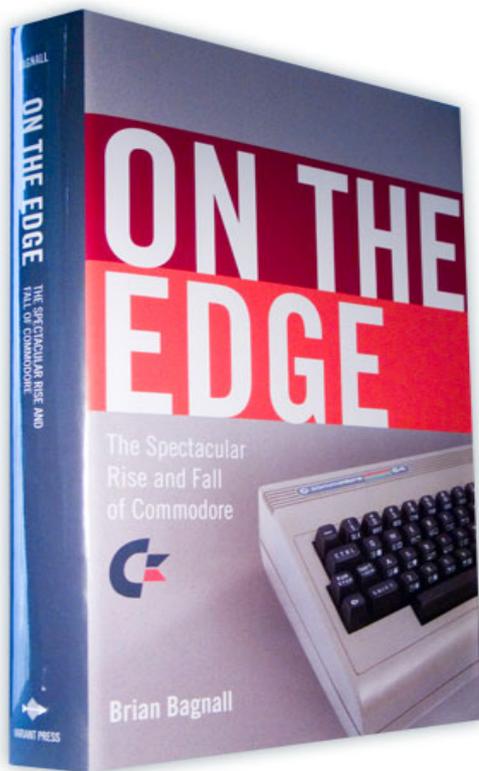
I had that brown C64 breadbox autographed by Jack -- "It's an honor to meet you, Mr.

Tramiel. Would you autograph my C64?" Then I ran back to the FCUG table to pick up the books Jack Rubin wanted autographed by Tramiel. Unfortunately, I was delayed by curious onlookers who asked me about the club, the Jim Butterfield and Jeri Ellsworth photos, and the Commodores we had in storage. By the time, I got back to where Jack Tramiel was, he had left!

Bil advised to have Lenard Tramiel autograph the books. However, when I pulled the books out (On the Edge and the Home Computer Wars), Lenard and Bil became very outspoken, saying that the latter book was full of falsehoods, that the author did not really have the information, that there were errors in the book. Lenard grudgingly autographed the book, but both of them were more at ease signing Bagnall's book.

Right there in front of Lenard, Bil teased me, "What's the proper way to say the last name?" I said, "Tramiel".

I found Amiga engineer, Dale Luck; FCUG member, Bill Ward; FCUG/TOGA member, Mitch Zollinger; and Vintage Computer Festival organizer, Sellam Ismail. I tried to tape Dale and Bil Herd's conversation, but with so much noise, I didn't think my results were very good. Brian Bagnall was there; he thanked me for my efforts, and we talked about a second edition of his book, On the Edge: the Spectacular Rise and Fall of Commodore.



If he could get a first-person account from Jack in the next few days while he's in town, perhaps that second edition would come to light. Bil Herd asked how many copies were sold of the book, and Brian replied 8,000. Dale met up with Adam for the first time in years and talked a bit.

Bil talked with Jack (well... before the panel discussion), and at Bil's urging, I took several still

shots of him with Jack. Free posters of the 25th anniversary of the Commodore 64 were handed out, and many of those were autographed by the guest speakers. Cameron Kaiser had a PET book autographed by Jack.

About an hour later, the CHM people were telling us they'd have to shut the doors. I started packing up my equipment and closing down the FCUG table. Meanwhile, Bil Herd, Lenard Tramiel, Jeri Ellsworth, and others snuck over to the Visible Storage Area (of computers) and closed the door. What secrets were they discussing? Were they starting up some kind of party? Valerie assured me that they wouldn't stay long, because the museum was closing. I put everything into the car and went back to drop off the cart the museum loaned to me. The secretive group were just coming out of the Storage Area, and several departed, just leaving me,

Bil, Jeri, and Jeri's friend, Ken Summeril (sp?). Though Bil wanted to crash because of severe jet lag, he still had enough energy for what Ken, a CHM person, wanted to show us. Ken brought us into the other half of the museum, the areas not seen by the public. Plenty of catalogued and uncatalogued computer and gaming gear sitting on shelves! Analog computers, mainframe boxes, computers like the Coleco Adam (with box) and Apples, game systems like the Colecovision (and a Vectrex hiding Somewhere Ken informed me). He showed us the C= area, and I saw shiny PETs Sitting there.

"Don't touch," he warned. Bil asked whether there were ram expanders in the museum storage, and Ken said no. I said, "Ram Expansion Units"; Bil corrected me, "That name was used after I had left." Bil half-seriously (half-jokingly?) asked whether the museum would want a loan of the Commodore LCD computer he had. Jeri remarked that Commodore nerds would come far and wide to see that machine. I said that it should be protected by bulletproof glass and guarded by a laser beam alarm system. Bil said the price of such an item was now \$30K. I said, "Bil, I thought at VCF East you said it was \$20K". He said that after everyone found out about it, the price had gone up. ;-) And on we joked.

Finally, at about 10:30 we left the museum, Bil shaking my hand, Jeri leaving with her Christmas gifts, and everybody going back to their place for the night. Now I'm here at the Econo Lodge in Gilroy for a few hours of sleep before I have to hit the road for the 3-hour drive directly back to school.

#### On Dec 11, 9:07 am

I was surprised at how Jack enjoyed the limelight; he was relaxed, engaging, and confident. He was surrounded by family, friends, industry types, admirers, and fans. He was greeted by so many people... some he hadn't seen in a long time. In that event room of 400 attendees, the feeling was that of a great class reunion.

A side note... when the panel discussion ended, there was Resounding applause for Tramiel, Wozniak, Lowe, Chowanec, and host Markoff. As Bil Herd mentioned to me, only some of the stories were scratched; there were many more not told. If only the guests could have gone on... :-)

Truly  
Robert Bernardo.

The End

Commodore Free Magazine  
[www.commodorefree.com](http://www.commodorefree.com)