

# Commodore Free

Issue Number 5



## Editor

I must admit I never know what to write in this section. If you are like me you probably haven't even read any editor comments from any magazine, instead wanting to rush in and look at the contents page.

So here is some more text then no one will read, seriously we have some more reviews and interviews. The amazing commodore DTV hack from Jason Winters, who seems to be a reader of the magazine, great you must read this item if nothing else, it goes to show the skill from some of these hardware hackers.

Jasons machine says buy me and if you are in a position to mass produce such an item then do so, I would imagine quite a large market on such a device. I have been proved wrong before on many occasions.

Again I plee for anyone reading to write a page or two about a Commodore related item, maybe its about why you love Commodore or why you think it al went wrong for the company.

Could it be that you left the "commodore Scene" and returned later to find an explosion of products and software had been released, with more hardware on offer now than ever before, Commodore dead, you must be joking mate its more alive than you think.

Maybe you just have a link to a website with some Commodore related item fine sent that, and I will write something for you, Are you a hardware or software designer wishing to promote you wares, fine let me know, as ever "Do something rather than nothing"

Best regards  
Commodore Free



The logo features the text "Commodore Free" in a large, blue, 3D-style font with a white outline. Below it, the text "CFW-aktuell" is written in a smaller, multi-colored font with a white outline, where each letter has a different color (C: green, F: red, W: blue, -: yellow, a: purple, k: orange, t: pink, u: light blue, e: light green, l: light purple, l: light blue).

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## Readers Comments

### Jason Winters

Hello,

Great magazine! I just stumble upon your site today, I'm definitely bookmarking this page

#### Commodore Free

More nice comments I like to receive positive feedback, in fact any feedback is good.

### Boris Kretzinger

Hi Nigel, just recently found your mag on the web, very nice one with good articles I have to admit. We do a monthly c64-pdf-mag in German language since 05/2005, which is quite hard because our staff is not that big ... well, guess you know the problem, too :) So I'd like to suggest a cooperation: We do Interviews with several guys on current projects or news around the commie on a pretty regular basis. Since most sceners live outside Germany, I have to interview them in English, anyway, and could send you this interviews, so they will be released in our mag in German language, and in yours for the rest of the world :) For that, we would be very happy if you could send us one or two texts out of your coming or older issues every two months or so (and I will translate and publish them in our mag). Also, other articles could be exchanged. That's pretty much it. What do you think of this idea? Are you interested? Some very old interviews are to be found on [www.cevi-aktuell.de.vu](http://www.cevi-aktuell.de.vu) but there are several newer ones I could send to you, latest one with aleksi eeben about his sid-project (emulation of sid-sound on vic-20 and 6 voices on c64 ...) Kind regards,

#### Commodore Free

Boris Great to here from you yes I am interested in articles and doing a trade, I replied personally with some articles to Boris on this email I also pointed out that Commodore free is edited and run by just myself, its difficult to find information for the magazine and every issue I plea for links or potential magazine material, I also would like to cover all Commodore machines but my c64 is now my dominant machine.

### jeff

Hello, i read your latest magazine and thought maybe you could help me. I want to buy an injet for my commodore 64, but i rarely use geos. what is the bestinkjet for me to buy to use with a parallel interfaceand be able to print from normal commodore programs in native mode without geos?

#### Commodore Free

Jeff the only thing I have used with a native Commodore 64 and a standard printer is something like *Super Graphix* these connect to the expansion port of the Commodore and have jumpers to set various things, one is to convert PETSCII to ASCII (commodore text formatting to standard text ) I have used the device from many applications on the Commodore 64 and to a variety of printers. The printers usually have to support Epsom standard most do and have tested such a device with Hewlett Packard 640c 850c Laserjet 5 and laserjet 5si all worked without problems, even printing out disk listings.

Anyone else like to comment?

### Cincinnati Commodore Computer Club

From: Cincinnati Commodore Computer Club  
Subject: Cincinnati Commodore Computer Club  
Spring Expo 2007 May 5&6, 2007  
Date: Sun, 28 Jan 2007 10:37:13 -0500

Spring Expo 2007 Ft. Mitchell, KY Across the Ohio River from Cincinnati, OH USA General Expo Information C=4 is planning a super weekend for your expo activities! The Expo will be held on Saturday, May 5th; from 9:00 am until we decide to call it quits on Sunday afternoon! We understand some of you are early birds; some of you are night owls.

We will let the demo folks tell us when they want to present their demo! Over 30 hours of official Commodore activity the entire weekend! With a room the size of 2352 square feet, we are able to have demos and shops in the same room, nobody will miss a thing. Even though the C=4 Expo is in Kentucky, it is just across the river from Cincinnati, Ohio. The C=4 expo will be held at the Drawbridge Inn located at 2477 Royal Drive in Ft. Mitchell, Kentucky. The Greater Cincinnati Airport is a short distance from the hotel. Airport shuttle service is available courtesy of the hotel. Demonstrations and Speakers Commitments from guests will be posted when they are confirmed: Local tourist sites are also nearby: <http://www.drawbridgeinn.com/directions.asp> It is hoped that every Commodore Club can send a representative to experience the fun that expos create on a regular basis. The community welcomes like-minded hobbyists, and it is your best opportunity to meet folks you have yet to meet in person, or meet again friends you have met in the past.

Spring Commodore Expo 2007 Reservation Information We hope you decide to spend the entire weekend with us and make it a great weekend starting on Friday night with your Commodore friends who decide to show up early. Hotel Information The Drawbridge Inn is located off I-75 and I-71 in Ft Mitchell Kentucky. The cost of the single rooms in the main building is only \$69 plus taxes. The hotel is setting aside 10 rooms for our group until April 4th. After that date, any remaining rooms in that block are released for general sale. Reservations will continue to be accepted for our group at the quoted group rate, on a room available basis.

To make reservations for the C=4 Expo: Name of the Event: Cincinnati Commodore EXPO Toll Free: (800) 354-9793 In Kentucky: (800) 352-9866 (859) 341-2800 There is an International Airport located nearby, with shuttle service provided by the hotel.

Expo Pricing Door Charge: \$10.00/person or \$15.00/family Selling Tables: \$15/ table or \$35/ 3 tables (The hotel charges \$10 in addition per table for power usage) Tables are 6' in length. All sellers and demonstrators need to set up before 9:00 on Saturday morning, the doors (for these only) will open at 7:00am.

Contact Roger Hoyer by phone, email, or in writing. Email: [thunderbird@iglou.com](mailto:thunderbird@iglou.com) C=4 Expo c/o 31 Potowatomie Trail Milford, OH 45150

# News

## Star Commander

A new beta of Star Commander is out. For the changelog see below. Probably the most interesting improvement is that SC can now access cbm4win under Windows NT4/2000/XP/2003. So there is no more need for GivelO and alike. Simply select "OpenCBM" as cable type at the transfer options dialog. OpenCBM needs to be installed for this of course.

Since this is a beta release, there still might be bugs. Please send bug reports to the Star Commander Mailing List at [sclist@yahoogroups.com](mailto:sclist@yahoogroups.com).

As usual, the new beta is available at <http://sta.c64.org/scbeta.html>.

Changes in SC 0.83.21 beta since SC 0.82:

Fix: During file rename, already existing target files are now detected correctly under operating systems other than real DOS, as well.

Fix: The number of sides is not detected for disks in 1570 drives anymore.

Fix: The progress indicator counted blocks incorrectly while copying a file from a Commodore drive in normal transfer mode.

New: Introducing support for accessing Commodore drives via the OpenCBM driver (cbm4win 0.4.0 or above) under Windows NT4/2000/XP/2003 - use the "OpenCBM" value for the "Serial cable" option in the "Transfer options" configuration screen.

<http://sta.c64.org/scbeta.html>.

## DiskImagery64 0.6 released 23:17

DiskImagery64 is a portable (Qt 4.2.x-based), open-source D64 disk image editor for Mac, Linux and Windows. It offers a nice GUI with drag-and-drop support between disk images and the local file system. Runs programs or mounts images directly in your favorite emulator.

Release 0.6 added network support: Download programs or share disk images as NetDrives with a single click to a real C64 with RRNet and The Final Replay ROM 0.6. Check it out:

<http://www.lallafa.de/blog>

## BalSys v3.0

BalSys v3.0 - Valentino Zenari released a new version of BalSys.

BalSys is a language, and development system package designed for C= Plus/4 (or expanded C= 16). Based on the B.A.L. (Business Assembler Language), an existing standard for business machines, the environment has been improved with many high-level new commands and features. The package is a complete all-in-one tool: Editor / Debugger / Executer

<http://www.cbm264.com/svs/svsindex.html>

## Win UAE Amiga Emulator

WinUAE 1.3.4 (30.12.2006)

=====  
Bugs fixed:

- Improved bsdsocket emulation stability
  - Winuaeclipboard crash fix
  - Windows Vista compatibility problems fixed
  - Filesystem flag handling on FAT volumes
  - Page Down-key Input panel remapping works properly
  - Sound system improved
  - ECS Denise/AGA borderblank feature works properly
  - Dualcore/SMP random freezes properly fixed
- and more minor fixes..

Bugs introduced in 1.3.3 fixed:

- AVIOOutput out of sync fix
- CPU emulation condition code fix
- Fixed handle leak in bsdsocket and AHI
- Sound pitch shifting in VSync-mode and more..
- Catweasel MK4 mouse support

New features:

- Improved emulation of AGA sprites outside display window
  - uaeserial.device introduced. Multi-port serial device, unit numbers are directly mapped to PC serial ports (unit 0 = COM0, 1 = COM1 etc..)
  - Improved serial port detection, virtual devices also supported
  - Improved Catweasel MK3/4 support without Windows driver installed (requires TVicPort, <http://www.entechtaiwan.com/dev/port/index.shtml>)
  - Improved debugger features
  - Sound system is not anymore reinitialized when losing/gaining focus
  - 1M (1024KB) ROM image support
  - Sound volume configuration setting also sets AHI audio volume (previously was Paula audio only)
  - Custom chipset interrupt timing improved
- And more..

<http://www.winuae.net/>



## AmigaAMP

a powerful realtime MPEG audio player for Amiga computers. It is based on the amp decoding engine by Tomislav Uzelac and can do realtime decoding on 50 MHz processors and up. AmigaAMP is a completely free and non-commercial project. Fraunhofer IIS and THOMSON multimedia grant a free license to use their MPEG Layer-3 audio compression technology for this kind of software.

GadTools rules!

The player comes with a fully fontsensitive, style guide conformous Amiga GadTools user interface and features multithreaded non-blocking windows for main interface, stream information and playlist.

WinAMP looks nice, too!

Too dull? Well, the same executable can be made look and behave like WinAMP just by ticking a checkbox in the configuration window. It can load all the WinAMP skins and can display a realtime spectrum analyzer.

680x0 Realtime Decoding

AmigaAMP can do realtime decoding even on slower 680x0 processors using Stephane Tavenard's highly optimized mpeg4.library. On a 68040-40 you can play Layer3 at half the sampling rate and with reduced quality. Full quality and sampling rate can be achieved with a 68060-50.

PowerUP and WarpUP Compatible

In addition to the 68k decoder AmigaAMP comes with two PPC native decoding engines one for PowerUP and one for WarpUP. Both engines feature high quality realtime decoding of Layer2 and Layer3 streams, graphic equalizer settings and full visualisation.

On a PPC604e-200 you can play two 128kbps Layer3 streams with equalizer switched on and crossfade between the two without taking much CPU load! The realtime analyzers will continue to run smoothly without any latency problems at all.

AHI Compatible

AmigaAMP uses the widespread AHI Audio System at device access level. You can use it with any AHI compatible soundcard as well as with the original Amiga audio chipset.

Current Features (v2.18)

MPEG Layer-2, Layer-3, AIFF, and WAV playback  
MPEGit and MAS-PLAYER hardware accelerator

support Visualisation plugin system

GadTools based font sensitive user interface  
Alternatively WinAMP compatible user interface  
Workbench application (Drop icons on window)  
AHI device-level access (uses default audio mode automatically)

PPC (PowerUP and WarpUP) support  
AmigaOS 4 support

ID3 tag editor (artist, title, album, etc.) and ID3v2

Playlists and Repeat mode  
Volume, panning and crossfading  
Editable playlists and shuffle mode with skin support

Graphic equalizer  
Shoutcast/Icecast internet radio support  
Planned features MPEG decode-to-file

## Cottonwood BBS

I've recently acquired a CMD HD-200 hard drive (thanks, Al!), as well as a couple 1581's (thanks, Marco!), and with this, I've vastly improved the setup for my BBS. Until I get the update for AA BBS from its author, I'm only able to have one 16 MB partition of the 245 MB hard drive on the BBS, but even so, this is a VAST improvement over what I was running. And now, I can officially announce quite happily that I have DIVORCED my C=64c from the PC it was connected to. Everything is now 100% original!

I've updated the photo of my setup on the Cottonwood BBS website at

<http://hometown.aol.com/cottonwoodbbs>

Here's what the BBS is now running on:

- 1 Commodore 64c Computer
- 1 Commodore 1084S Monitor
- 2 Commodore 1541 Disk Drives
- 1 Commodore 1541c Disk Drive
- 1 FSD-2 Excellerator+ Disk Drive
- 2 Commodore 1581 Disk Drives
- 1 CMD HD-200 Hard Drive (245 MB)
- 1 MultiTech MultiModem224 (2400 baud)
- 1 Black Rotary-Dial Desk Phone
- 1 All American BBS by Nick Smith

Check it out now at (951)242-3593. Call and experience the world's last remaining Commodore 64 dial-up BBS!

-Andrew(aka Balzabaar - SysOp)  
<http://hometown.aol.com/cottonwoodbbs/>

Information from the WEBSITE  
+1 (951)242-3593

Located in Moreno Valley, California, USA.

Operating 24 hours a day, at 300/1200/2400 baud.  
Running on a Commodore 64 with All American BBS  
Possibly the only remaining Commodore dial-up BBS in the world!

For the best experience, call from a Commodore computer with a Color Graphics terminal program. To download CCGMS 5.5 (my personal favorite), For the best Commodore graphic experience on a PC, call using C64Term by Greg Pfountz. To download C64Term,

NOTE: This terminal runs in DOS using a standard Hayes Compatible modem. This will not run in Windows, nor will it work with a "WinModem".

For the least desirable experience, you can connect in ASCII mode using HyperTerminal in Windows. Please note that "modern" modems take longer to connect than a modem on a Commodore computer. Because of this, the BBS may not appear to be doing anything when you connect with HyperTerminal. Once you've connected, just press enter, and the BBS should "see" you. If you get garbled characters, the BBS may have detected you as connecting at the wrong baud speed. In this case, just disconnect and try calling again. The default settings in HyperTerminal should work fine.

[drewbrasil@yahoo.com.br](mailto:drewbrasil@yahoo.com.br)

### Cottonwood BBS

Well... I did it... I've toyed around in the past with switching to Color 64 software on my BBS. But, I've held off in hopes that the "updated version" of All American BBS would have support for my CMD hard drive. After much waiting, I've finally received that update. However, much to my dismay, I discovered that it has full support for Lt. Kernal and ICT Data Chief hard drives, but NO support whatsoever for CMD hard drives. Well, that discovery spelled the end of my association with All American BBS.

I will still be releasing the final versions of AA BBS for the 64 and 128, as well as the source code for each, to the Public Domain on Nick Smith's behalf, for anyone who is interested in these programs. More to come on this...

So it's happened, and Cottonwood BBS is now running on Color 64 v7.37. This was the final version written by Greg Pfountz, Color 64's original author. I've got a very basic setup right now, but I have \*full\* hard drive support, and all 240 MB are now online, with 26 directories of Commodore goodness. :-)

I'll be working in the coming weeks at transferring much of my software collection to these directories, as well as contributions from former Commodore BBS SysOps that are on their way to me. I'll also be adding some online games, and basically doing some general "sprucing up" of the BBS.

So check out Cottonwood BBS today at (951)242-3593, and enjoy the "new look". :-)

-Andrew (aka Balzabaar)

\_|\_| Cottonwood BBS  
// |\_/ +1 (951) 242-3593  
\\\_|\_| Open 24/7 at 300/1200/2400 baud  
\_|\_| <http://hometown.aol.com/cottonwoodbbs>

### IDE 64

**Happy New Year from the IDE64 staff.**  
Hopefully we will release IDE64 V4 later this year!

Thanks for the patience to all who asked us about the IDE64 availability and did not get answer yet.



### The Innercircle BBS

After several months of preparation, The Innercircle BBS is online!!!

[Telnet://innercirclebbs.com](http://Telnet://innercirclebbs.com)

today!! ANSI, C/G Mode, etc...

Running on  
a C= 128D,  
SCPU (20Mhz),  
RAM Link,  
CMD 4GB HD,  
115,200 baud.  
Modified Centipede BBS.

I've put a lot of work into this and hope it becomes a favorite amongst everyone.

Lots of files and message bases!!

Spread the word!  
Thanks!

[telnet://innercirclebbs.com](http://telnet://innercirclebbs.com)

### Retro Vision

#### Retro Vision 2007

International LLamasoft Jolly

Retro vision is a PRIVATE event for members of YAKYAK and selected guests from other forums. No General Public

The event is pub based and will use 3 areas aiming to run 20 machines at least 1 cab and a large projector screen.

11<sup>th</sup> -13<sup>th</sup> May 2007  
Port Mahon  
St. Clements  
Oxford

Friday Opening times 12 midday to 1am  
Saturday Opening times 12 midday to 1am  
Sunday 12 midday – Handhelds only

Ticket booking <http://www.retrovision.org.uk/>

## LOADSTAR ANNOUNCES DOTBASIC PLUS

DotBASIC Plus (DB+) is a new software development system that makes mouse controlled programming on the C-64 a snap -- even for those who only know BASIC 2.0. Over 90 commands are available in the DotBASIC Library -- from Print At to Multi-Select Scrolling Menus to worry-free bitmap graphics and SIDPlayer music.

The mouse, and all the information the mouse can generate, is built-in. And Do-Loops makes using the mouse extremely easy. Add pull-down menus, roll-over buttons, and dialog boxes to make your C-64 act like a brand new computer.

Most BASIC Enhancements require loading and running a system program which reconfigures the machine. Only then can you load your own program and use the extended commands. DB+ loads and runs on a default C-64. And when the program is finished, a simple command returns all pointers to BASIC 2.0.

Moreover, DB+ includes only the commands you need for your project. Like "big-time" languages, each command is a stand-alone programming object linked to your DB+ code as you develop your project. If you want bitmap graphics or SIDPlayer music, memory is automatically set aside. If such are not necessary for your work, the memory is open for other uses.

The powerful Rack command turns a text file, bloated under ROM, into a virtual array. And .PUTSTR allows string data to be tucked under ROM or even I/O and quickly indexed for use in your program. Sprites are fully "objectified," with full control and reporting from one multi-function DB+ command.

The project-creating program, B.DOTBASIC, puts everything you will need on your work disk using the name of your project -- then loads and runs the "template" program. Add commands in the same way you "include" files in C or C++, linking them to your DB+ code with B.DEV, which collects the needed program objects, saves the file to your work disk, then loads and runs your program. And, at any time, you can list all the commands currently available in your DB+ program. Every command is "self-documented" with syntax information that's just a SYS away.

Since DB+ uses program objects, the list of commands in our library (now at 90) is limited only by the imagination of ML coders. Each command but be fully relocatable, but one object can "call" another. Several commands can share data. And local data is easy to use -- even in relocatable code, thanks to the DB+ system.

DB+ will premiere on LOADSTAR 248 (probably available the first week in March), with a "beginner's library" of commands. In subsequent issues, other program objects and utilities will be published to give the full power of the C-64 to BASIC programmers.

Those interested can get a D81 download of the current library and system from just \$8 (US). PayPal to revdave6@aol.com, and put "DB+" in the description area.

**Dave Moorman**

## HOBBYIST PROGRAMMING: THE JOY OF C-64 by Dave Moorman

For some, the C-64 is a badge of independence from the every new commercial consumer computer market. For others, it is a marvelous excursion back to a simpler time of computing. For me, the C-64 is my domain, where I can create anything I can imagine.

I am a hobbyist programmer and have been since July 3, 1979. I enjoy telling bits and bytes exactly what to do. And there is no better place to do it than on a C-64.

First of all, BASIC 2.0 is an easy language to grasp. Anyone with a mind for logic can make great things happen in BASIC. True, BASIC 2.0 lacks some commands that would more fully exploit the potential of the C-64. But then again, such a limitation can be overcome by advancing to a BASIC Extension (like DotBASIC Plus), or learning some simple POKEs, PEEKs, and SYSES. BASIC 2.0 does not trap the programmer -- it taps the programmer's understanding of the incredible resources available in the stock machine.

Then, one can advance into the world of "modules," 4-7K chunks of ML that put boxes on the screen, do menus, play music and sound effects, display and draw bitmap graphics, and even perform split-screen effects. LOADSTAR has published a great number of such toolboxes and other modules, and all that is needed is some understanding of memory management and a willingness to read and experiment.

The final frontier is machine language programming - writing in DNA! The simplicity of the instructions forces very careful logic. But with ML, I have Absolute Power over my computer. No one stands between me and the machine! But, my experience is that Absolute Power comes with Absolute Responsibility. When the machine does exactly what I told it to -- as opposed to what I wanted it to do -- I have no one to blame but myself.

And it is this essential Responsibility that is so needed in the world today. Our public schools teach the mechanics of keyboarding, word-processing, spread-sheeting, and other "useful" tasks. And as preparation for work out in the real world, this is quite right and proper. But there is a creative magic in programming that seems to be missing in our kids' environment -- a lack of imaginative exploration and, as Bill Gates called it, the joy of unequivocal success.

For nothing one can do alone feels as good as grinding through dozens of really pissy logic problems until the code works exactly as desired. And when that happens, the programmer knows real JOY!

And while this is true for programming on any computer, the C-64 is the perfect place for the devoted hobbyist. It is big enough to do (or at least model) anything computational, yet is blessed with a tidy finitude. Programming on the C-64 is like writing a sonnet or haiku. The limitations demand greater skill and thought. And the results are, at the very least, loaded with the joy of unequivocal success!

# DirMaster v1.0a/Style by The Wiz

## Introduction

In the 21st century much of the Commodore 64 has been ported over to the MS-DOS and Windows world. Disks are represented in single files using D64, D71, D81 formats, among others. One could boot up a C64 emulator, load a directory editor or file copier, and edit these disk representations or move/copy files between them. But, unfortunately, the Commodore 64 has many drawbacks that don't exist in the Windows world. Wouldn't it be easier to manage your disk collection in a windowed environment?

Of course, DirMaster is not the first Windows-based GUI tool for CBM disk image manipulation. But we feel it stands among the very best, pushing the capabilities again into the future with features like: full D64, D71, and D81 support!

integrated with Explorer via file associations/icons open literally \*hundreds\* of images at the same time fully working drag and drop between disk images: copy or move a file from one image to another copy between different image formats (e.g. d64 to d81)

move/reorder files on the same disk by dragging them drag and drop classic 'separator' entries onto your disk image

drag files from Explorer onto disk images to import user friendly BAM view with track/sector view/edit; BAM view fully supports standard error-track extensions

### all the usual directory editing capabilities...

most functions activated by keyboard equivalents, including file reordering and filename editing a multi-level undo capability

### working just fine under WINE for Linux/FreeBSD/Solaris freaks

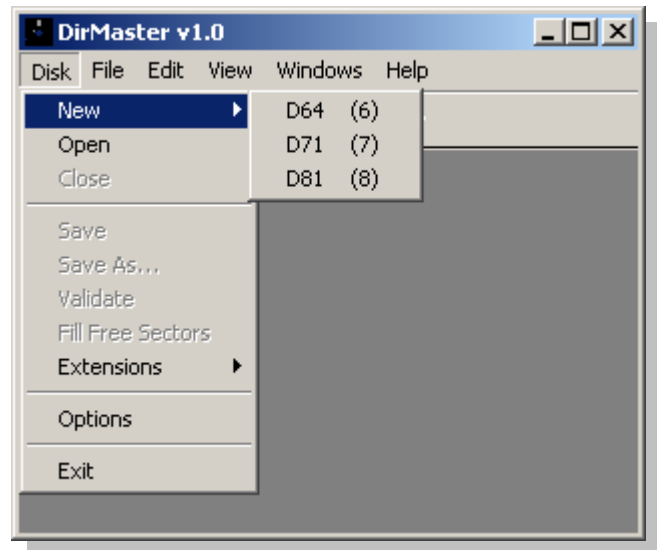
As a first version, DirMaster already surpasses... as a tool we aim to fully improve according to user feedback, the limits are oblivious.  
Installation

Install DirMaster using the setup.exe; after installation you can locate a DirMaster shortcut on your desktop or in your your "..\Program Files\Style\DirMaster" directory. An updated, improved CBM font file is also included in the installation and placed in your system fonts folder. File associations will be made automagically, mapping all .d64, .d71, .d81, and .seq files to DirMaster.

### Making a new disk...

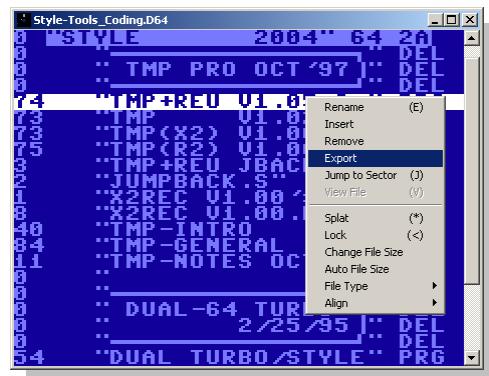
Functionality: New Disks  
To create new blank disks (either D64, D71, or D81) use the sub menu: "Disk->New". Keyboard equivalents are 6, 7, and 8 respectively. The new disk function only open a new disk image inside DirMaster itself - at this point the image has not been saved to disk.

### Functionality: Open/Save



To open existing disk images, use the "Disk->Open" menu item. Alternatively, drag and drop disk images from your file manager onto the DirMaster window. You can drag and drop multiple images of any type (D64, D71, D81) to open them all at once. You should be able to have literally several hundred disk images opened at once, although memory usage will rise accordingly. Finally, double clicking a disk image in your file manager should open that image in a new instance of DirMaster.

As soon as you make any change to a disk image, the image window title bar will update with an asterisk to indicate an edited but unsaved image. You can save the image using either the "Disk->Save" or "Disk->Save As" menu items.  
Functionality: Directory Editing  
Directory editing operates as a WYSIWYG mode, allowing you to type in a full range of CBM characters including special graphics symbols, although most unprintable control codes (such as color codes) wont actually alter the displayed the directory (i.e. actual colors and cursor movements). Use of the cursor keys (up/down) allows selection of different files in



the directory listing.

The right-click menu over the directory display...



## Commodore Free

Most operations regarding manipulation of single files can be found under the main "File" menu. To edit a filename, select "File->Rename" or simply press 'e' to enter edit mode for the currently selected file. In the edit mode, cursor keys (left/right) allow selection of individual characters. The 'insert' key toggles character over-strike or insert modes, and the cursor updates to reflect the current mode. The filename can be left or right aligned (using the 'l' and 'r' keys), centered ('c'), and expanded ('x', which pads the current filename with spaces out to 16 characters). While in edit mode, 'backspace' and 'delete' keys also operate as you would expect.

Aside from filename editing, the file type may be altered using the sub menu "File->File Type"; valid types being PRG (also set with the 'p' key), SEQ ('s'), USR ('u'), REL ('r'), DEL ('d') and CBM. Finally, files can be locked (the '<' key) and splatted ("\*") and the file size can be altered or auto-sized (DirMaster will trace the file links and set the filesize to the actual size, if different).

File positions can also be altered by using the mouse to drag and drop file entries above or below other files. For keyboard fans, files can also be moved by holding the shift key down on the file you wish to select, and then using the cursor up/down keys to move that file.

An entire file entry can be deleted by using the "File->Remove" menu item or by hitting 'delete'. Note: DirMaster will reset the BAM to reflect the deleted file entry, but it leaves the actual sector data intact! To wipe all free blocks on the disk, use the "Disk->Fill Free Sectors" item. Disk related data including disk name and disk id can also be edited by using the "Edit->Rename Disk" and "Edit->Edit Disk ID" menu items respectively.

Please note that almost all functions related to file and disk editing, as well as exporting files, can also be accessed by clicking the right mouse button over a file entry.

**Functionality: File copy/move/import/export**  
With DirMaster, copying and moving files between disk images is as easy as dragging and dropping the file between any two opened images. You may copy/move files between different image types, like from a D64 to a D81. When a file is copied, the file is written to the destination disk using a standard sector interleave and the destination BAM is updated accordingly. When a file is moved, after the copy is written to the destination as described earlier, the source disk is updated as if the file had been deleted: directory entry is removed, BAM is updated, but file data remains intact.

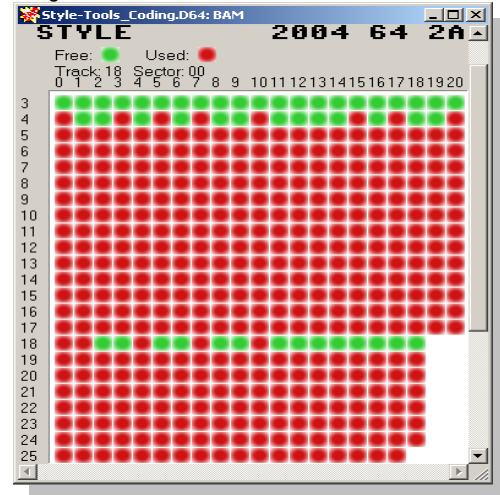
To export a file from a disk image to the host file system, use the "File->Export" menu item. When exporting a PRG file, the exported copy retains the two-byte load address. When exporting a SEQ file, the exported copy will be written using a PETSCII character set unless the "Convert to ASCII" checkbox in the file save dialog is checked, in which case, obviously, the file is translated into a standard DOS ASCII format.

Importing a file, oddly enough, can be accomplished with the "File->Import" menu item. When importing a text file, check the "Convert to PETSCII" checkbox to perform an ASCII to PETSCII translation. Finally, files can be dragged from your file manager and dropped

onto an open disk image in DirMaster. This accomplishes the same outcome as importing.

**Functionality: Undo**

DirMaster keeps track of multiple undo points for each open disk image. Use 'CTRL+z' to invoke the undo function (or invoke it using the "Edit->Undo" menu item). Since undo tracks changes on a per image basis, be aware that invoking undo immediately after a file move, for example, will only roll back the change to the current disk image. To fully reverse the move operation, you would invoke undo once each on both the source and destination images.



BAM Editor from a .d64...

### **Functionality: BAM Editor**

The DirMaster BAM editor can be invoked using the "View->BAM Editor" menu item. You may open one BAM editor per disk image, and you may have multiple BAM editors open at the same time. To avoid confusion, check the title bar of the BAM editor window - it will reflect the same filename as the disk image it corresponds with. Furthermore, the BAM editor displays the actual disk image name and id at the top of the window.

The BAM editor displays a track/sector map where green represents unallocated sectors and red represents allocated sectors. Sector errors, if this option is enabled (see "Disk->Extensions->Sector Errors"), will be displayed as an overlaid number corresponding to the CBM error code (e.g. 23 for checksum error). The BAM editor will look slightly different for each different image type, varying by both the number of tracks (represented as rows) and sectors (represented by tracks). Otherwise all BAM editor operations work identically across image types. In the BAM editor, right clicking will ordinarily toggle the status of the sector in the BAM between allocated and unallocated. The exception to this is when the Sector Errors option is turned on.

Then, right clicking brings up a context menu that allows you to toggle an individual sector as well as allow you to set a disk error (one of 20, 21, 22, 23, 25, 26, 27, 29) on the selected sector. Note: Disk images with sector error information can have two possible formats: one in which error is represented as a byte whose value corresponds to the actual error number (e.g. 23) and one in which the error is represented by some other format specific code value. DirMaster will support reading of either version. To write disk images in the former mode,

turn on the "Disk->Extensions->Write Error Numbers" feature. To write disk images in the latter mode, turn that feature off.

The BAM editor may also be invoked by using the "Edit BAM" icon in the toolbar immediately below the main menu.

**Functionality: Sector Editor**

To invoke the sector editor, simply click a BAM entry (a green or red disk corresponding with a given track/row and sector/column). A sector editor opens up, which like the BAM editor will reflect the disk image file name in it's title bar. The operation of the sector editor is fairly straightforward... use the cursor keys to navigate and select individual bytes; then change the value or the byte. Editing can be done on either the left hand side hex representation (which accepts valid hex input) or on the right hand side PETSCII representation, which allows any PETSCII value.

Note: changes are taken immediately - there is no "save" option in the sector editor. However you may use the undo function to rollback multiple consecutive changes.

Press the 'j' key (or 'Alt-Down') to follow the current sector's 'next track/sector' link, if it is valid; 'Ctrl-Right'/'Page Up' and 'Ctrl-Left'/'Page Down' increment and decrement the sector; 'Ctrl-Down' and 'Ctrl-Up' increment and decrement the track; 'Page Up' and 'Page Down' will move to the previous or next sector; finally, 'Alt-Left' and 'Alt-Right' will swap the cursor between the current hex and PETSCII byte.

CBM Tool...

**Functionality: CBM Tool**

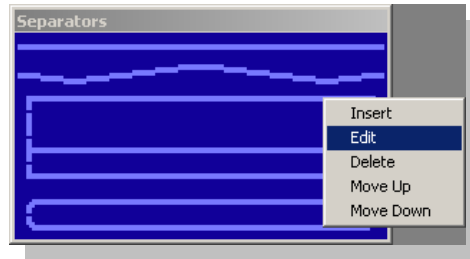
The CBM Tool, invoked using "View->Show CBM Tool", displays an entire set of CBM characters. Use the CBM tool when editing a filename, disk name, disk id, or sector to insert/over-strike characters: while editing, click a character in the CBM tool and this has the same effect as if you typed it using the keyboard.



The CBM Tool may also be toggled on/off by using the "Show/Hide CBM Tool" icon in the toolbar immediately below the main menu.

Functionality: Separator Tool

The Separator Tool, invoked using "View->Show Separator Tool", provides a collection of common directory file names which provide the typical 'separator' style directory entries that became so ubiquitous among scene releases. While the Separator Tool is open, you may drag entries from it onto disk images to place separators in the directory.



You may also edit entries on the Separator Tool by right clicking the mouse over any entry. You can move entries up and down to reorder the list; you can edit individual entries in place, you can delete entries, and you can add new entries. All changes you make will be saved for the next time you use DirMaster.

The right-click menu over the Separator Tool...

The Separator Tool may also be toggled on/off by using the "Show/Hide Separator Tool" icon in the toolbar immediately below the main menu.

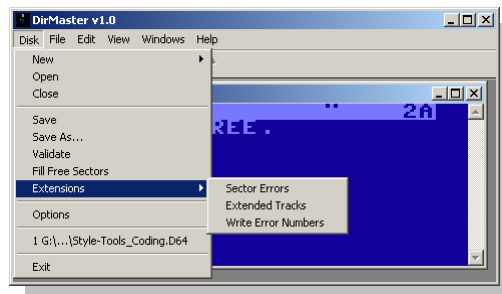
Functionality: Miscellaneous

SEQ files can be viewed by selecting a SEQ file and pressing the 'v' key, by selecting the "File->View File" menu item, or by invoking the same item from the right click context menu.

On most windows including disk images, SEQ files, and the sector editor, the CBM character set case can be toggled using "View->Toggle Case" or by clicking the "Toggle Case" icon in the toolbar immediately below the main menu.

While selecting a file on a disk image, press the 'j' key or select the "Jump to Sector" item in the right click context menu to immediately open the sector editor and jump to the first sector of the selected file.

**Extensions menu...**



Extended track disk images can be loaded and saved when the "Disk->Extensions->Extended Tracks" feature is enabled. With extended tracks, a D64 image with tracks 36 to 40 can be manipulated and saved. However, other than direct sector and BAM editing, the extra tracks are not currently supported when copying/writing files.

**Credits and Contact**

DirMaster was coded by The Wiz/Style with testing by the entire Style crew. Please find contact information on the About panel inside the app, or leave us feedback We would greatly value your input as to future versions of this tool - let us know what you want!

<http://www.style64.org/index.php?cid=rele.dirmaster>

**Tried to email the website in order to be able to print this information but received no reply**



# COMMODORE GEBRUIKERSGROEP

## Commodore Free Interview with Ron van Schaik from the Dutch Commodore club

### >who are you and what do you do?

My name is Ron van Schaik and I am chairman of the Dutch Commodore Club  
If you wanna know who I am, you can find a picture on the page  
<http://commodore-gg.hobby.nl/okt2006col7.htm>

I am the one who's being interviewed by television and this link you can find here:

<http://video.google.nl/videoplay?docid=-4814625904960876672&q=retro+computers>

### >I came across the site by accident, is this normally how people find your website?

I don't hope so.....I lot of well known sites have a link to our website. Also for example our calendar is on the C64 portal and the biggest Amiga sites. Also I post often news on the different news portals about what we are doing.

### >HCC - Commodore GG what does this stand for?

HCC= Hobby Computer Club (It's the biggest computer club of the Benelux with 170,000 members) There are a lot of groups in this HCC, like DOS, Multimedia, Flightsimulator and we!!! GG stands for: Gebruikers Groep, this is in English: user group

### >>how did the club start

Our club started in the mid eighties when the Commodore computers were like a virus in Holland Now we organize 6 times a year a C= Show in the Trefpunt, Maarsse, Holland. Most C= Shows we have a theme, like in february Innovation. We demonstrate than the MiniMig, The 1541-III and the 1541 ultimate. Also we had themes like Retro Game and Computer Party with all other retro computers, Tinker workshop, SID music etc.

Also we participate with some members at other Retro Game and Computer expos and we organize sometimes a C= Show in an other part of Holland or Belgium. You can find a lot of photo's about this on our report pages and for coming C= shows you can look at our calendar. All this is a lot of work and we are now leading our club with around eight guys.

### >do you pay to be a member

Yes, you pay 10 euro per year. You are allowed than to participate (active) on our clubmeetings (it's no problem to come and see for the first time for free). Also you can go to the HCC Computer Beurs (the biggest computer Expo in the Benelux) for half prize. We are participating there every year as

well. You can use our "helpdesk" and more.

### >what is the clubs function

To have contact with other Commodore and Amiga users, collectors, gamers etcetera. To help each other with problems, repairs, programming and hardware. We have every C= Show a table with stuff for free and you can buy for little prizes more usefull things (this is for our



club)

### >the clubs website has lots of information can you tell readers about what is on offer?

We started a few years ago with an English part because we had more and more vistors from abroad on our C= Shows. Now we have every week new news, articles, information about the C= computers

## Commodore Free

and devices, manuals, scans from magazines and books etc.

Very interesting are for example the pages about Vice, CCS64, Innovation and C= computers and devices for foreign visitors. We have a lot of plans to make our website better and better in the near future.

### >what machines does the club support?

All Commodore and Amiga computers

### >can you tell us a little of your personal history

I started in 1986 with a C128D (always in C64 mode...) and I sold it and for that money (and a little bit more) I bought an Amiga 500. Later on I bought a PC (486) and in the mid nineties I saw on a fleemarket a C64 and that was the start of a flood of C= computers

### >>what Commodore machines do you own

VIC20, C16, PLUS4, 232, a lot of different kinds of the C64, C64SX, C128, C128D, A500, A1000 1400 original C64 games, 150 original C16 and VIC20 games, hundreds of books and magazines, all kinds of devices (a few boxed)

### >the website has both english and Dutch primarily Dutch, are there plans to convert all the website to english

The website is English and Dutch.....  
Mainly it will have to stay in Dutch because we're the only one, and that's I think important for our members (800) But it is our plan to convert the most in English!

### >>I see you have links to Commodore free magazine that's a good thing, do you have any comments on my work?

I am very pleased about your work. It's great that there are still guys who are working at the popularity of Commodore!

### >the links to commodore free magazine have generated quite a lot of traffic, do you think

### people miss commercial commodore magazines?

It's difficult to say because we have also a magazine and that was not a big success (as a paper magazine) Now we are distributing our magazine as a PDF file, and that's going a lot better

### >what plans does the website and club have?

We will try to have a leading role in Holland about everything what's about Commodore and Amiga Also we work hard at our innovation plans, a new guy is coordinating this now We are very proud that our clubmembers have build the MiniMig, the 1541-III and the 1541 Ultimate

### >commodore free has been plagued by copyright problems has anyone asked you to remove pictures or news from the website?

No, we had no problems about this

### >how is the website funded?

With the money from our members we pay the club building, the website, the printer, viewer and all that sort of things. We are part from a big Dutch Computer Club called HCC and those are supporting us too.

### >>thanks you for your time and efforts

Also thanks and I wish you a lot of success with your work! Best regards Ron van Schaik

On our webpage

<http://commodore-gg.hobby.nl/persber.htm>

you can see all press reports of our club: newspapers, magazines and TV.

You May also interesting is a peek at our magazine:

<http://commodore-gg.hobby.nl/download/IB1006.pdf>

Website and further information available from <http://commodore-gg.hobby.nl/>

The screenshot shows the website for the Commodore Gebruikersgroep (Commodore Users Group). At the top, there is a logo for HCC (Hobby Computer Club) and the text 'COMMODORE GEBRUIKERSGROEP'. Below this is a navigation menu with links in Dutch and English. The central part of the page features a banner for 'Innovation' magazine, which is a C= Show. The banner includes the text 'C= Show February 17th Treffpunt, Kerkweg 21 Maarssen, Holland'. Below the banner, there is a red text box that says '\* Aktie: Wordt nu clublid! \*' and a link for 'Nieuws - News'. The sidebar on the right contains links for 'News', 'Calendar', 'Upcoming Event', 'Newsletter (Dutch)', 'Press (Dutch)', 'Forum', 'C= Show reports', 'Our Magazine (Dutch)', 'Links', 'Innovation', 'C= Computers', 'C= Devices', 'Manuals', and 'User guides'. The footer of the page mentions 'Webmasters: Ron van Schaik en Richard Legendijk © 2000 Commodore-gg'.



# DTV Hacking



Here are a few pics of my own DTV Hummer project. I had an old PSONe LCD screen lying around and I thought I'd make a C64 laptop. Actually, it's more like a C64 PDA! It measures 6.5 x 6 x 1.5 inches (15.5 x 16.5 x 4 cm) when closed. It can run from an AC wall adapter or 6 NiMH AA batteries.

The keyboard is hacked from a portable folding keyboard for a Jornada PDA which outputs RS-232. I'm using a PIC 16F88 to decode the signals and re-encode them to PS/2 (that was an ordeal to figure out).

The PIC checks to see if an external PS/2 keyboard is connected on power up. If one is hooked up, it will route data from that instead. There is an internal amplified speaker as well as connections for audio and video output on the back.

There's a serial connection for a disk drive and an SD card slot in the side for a 1541-III but I haven't been able to get that to work yet. I also have a connection for a userport/joystick. The joystick in the picture is a hacked Atari keychain joystick. The mini joystick wasn't in the original plan but after I accidentally discovered it on ebay, it seemed perfect.

Here's a how-to post regarding the RS232 to PS/2 keyboard hack:

<http://jledger.proboards19.com/index.cgi?board=dtvhacking&action=display&thread=1167783024>

The Micro Folding Keyboard (Model#: TKB420HP) made by Micro Innovations is a small portable keyboard for attaching to a Jornada PDA. It basically

has all keys needed for adapting to a DTV but unfortunately outputs RS-232 instead of PS/2. The

following information describes how to interface this keyboard to DTV Hummer and possible the rest of the DTV versions.

### Out of the box:

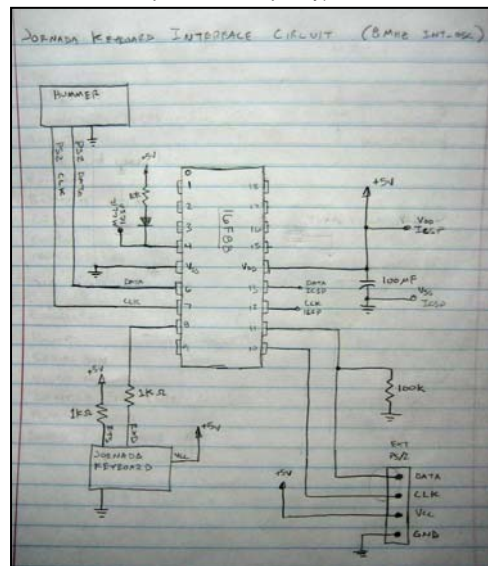
Disassembling the keyboard, you'll see 5 labeled connections: VCC, RTS, RXD, DCD, and GND. VCC is +5V for this unit. RXD is the line on which data is actually sent, although the keyboard won't send anything until RTS is pulled high.

I do this right on the board by soldering a 1k resistor between the RTS pad and the onboard microcontroller's Vcc pad (see picture). By doing this, you only need to run three wires from the keyboard (VCC, RXD and Ground).

As far as what mechanical modifications... I chose to cut away a lot of extra plastic from

the two folding halves and superglue the sides together. This effectively created one solid piece. I also glued the flexi-ribbon flat against itself to take up less space.

Since this keyboard outputs RS-232 (9600 baud, 8 data bits, 1 stop bit and no-parity), a PIC 16F88



microcontroller is used to convert the data to PS/2 for the DTV. PS/2 keyboards use "make" and "break" codes

One or more "make" codes is sent when a key is pressed and several "break" codes and are sent on key release. The Jornada keyboard kind of works the same way in that it uses make and break codes, unfortunately the codes are not a one for one match and must be re-mapped by the PIC.



## Commodore Free

On power up, the PIC will check to see if a regular external PS/2 is attached. If so, it will just go into "repeater" mode and pass along any signals from the PS/2 keyboard to the DTV. The PIC adds a one second delay to get rid of the pesky "V".

### Here's the circuit:

The diode and resistor on pin 4 are for in-circuit serial programming (ICSP) and can be left out as well as any other connections labeled ICSP. The 100k resistor on pin 11 is needed even if you decide not to mess with the external PS/2 connector, so don't leave it out. The rest is fairly straight forward.

The 100uF cap may need to be larger depending on your setup. 100uF worked initially for me until I added an LCD screen to my design. The power surge on start up was too much and the keyboard would not initialize properly until I increased it to 470uF.

For timing, the internal 8 MHz oscillator is used. It seems to work just fine.

Here's the HEX file:

[www.picobay.com/picodore64/JornadaKB\\_16F88.hex](http://www.picobay.com/picodore64/JornadaKB_16F88.hex)

And the source code:

[www.picobay.com/picodore64/JornadaKB\\_16F88.txt](http://www.picobay.com/picodore64/JornadaKB_16F88.txt)

Again, this is for a 16F88 and any \$15 JDM PIC programmer will work just fine. The source code is written in PicBasic Pro. The code could probably be reduced to half the size by constructing the send codes on the fly instead of hard coding them.

The start, stop parity bit could be added automatically and each make/break code would only take up a byte instead of a word. But the 16F88 has 4K of space and I wasn't tight on space. Maybe as I add more features, I'll recode that section. And while I'm at it, I'll switch to using interrupts to get the data from the Jornada keyboard instead of just waiting for data. Obviously this is an adapted keyboard and I had to switch some of the key assignments:

Today = ESC (RUNSTOP)  
Space = INSERT  
Windows key = Commodore Key  
FN + Right Arrow = HOME  
FN + CTRL + Right Arrow = CLR SCN

The 4 keys in the top left are the F1 thru F4 keys, F5 thru F8 with the FN pressed.

I didn't bother to implement the Numlock keypad, there didn't seem to be much point to doing so.

Just for the heck of it I'm posting the PS/2 waveform of a make code for the "A" key. Channel 1 is the clock and Channel 2 is data.

This is from a real PS/2 keyboard.

### Here are the specs:

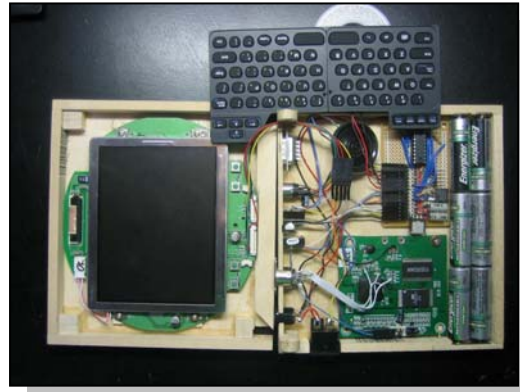
Mainboard: Hummer DTV

Construction: Hobby plywood covered in faux

stainless steel contact paper

Size: 6.5" x 6" x 1.5" (closed)

Power: 7.5v wall adapter or 6 rechargeable AA NiMH batteries



Screen: 5" LCD Keyboard: 69-key QWERTY Sound:

Amplified 1.5" 0.4W internal speaker

Connections: power, userport/joystick, serial disk drive, audio/video output, headphone jack, external PS/2 keyboard, SD card slot.

Addition peripherals: 1.75" x 1.5" mini Atari joystick.

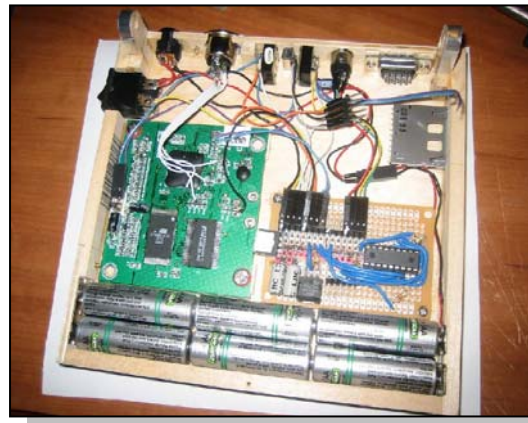
### Features:

on screen display for volume and brightness control, auto sensing of external keyboard connection, programmable function keys, video selector switch.

Although I plan on posting a more length write-up, for now, I'll give you just the important details:

The LCD screen is from a PSOne. I'm also using on LCD's board audio amp to drive the speaker.

The LCD is what ultimately drove my power requirements. Almost the entire circuit for the LCD uses 5v except for one IC which needs between 7v and 8v to generate H-Sync.



The keyboard was a bitch to figure out and will be the subject of a post of it's own. It's from a Jornada foldaway keyboard made by Micro Innovations. In terms of construction, I had cut away a lot of extra plastic and superglue the two halves together making a single solid keyboard.

The keyboard normally interfaces with a HP Jornada via a RS-232 link and special driver. I was able to capture all the output codes and program a 16F88 PIC microcontroller to re-map and output with the appropriate PS/2 protocol. On power up, the PIC checks if there is an external keyboard attached. If so, it ignores data from the onboard keyboard.

# Interview with Piccadore 64 creator

Jason Winters

**In a reverse of efforts Jason caught up with Commodore Free magazine, firstly to Commend my efforts, and also to tell me about his project. I then persuaded Jason to a small interview for the readers. Here is the interview.**

**CF**

please tell the readers what is a Picodore 64

**JW**

The Picodore 64 is a custom built C64 laptop based on the main circuit board from a DTV Hummer Off-Road Racing game (many thanks to Jeri Ellsworth). The Hummer game was one of those joystick games that you connect directly to a TV. The game wasn't very good but it didn't take long for the DTV hackers to discover its secrets. As far as laptops go the Picodore is a tiny one. It's a little smaller than those portable DVD players. It includes connections for a disk drive, external keyboard, audio/video output, headphones, joystick/userport, external power adapter and SD card. Buttons below the LCD screen allow for brightness and volume adjustment. There is even a speaker tucked into the enclosure.

**CS**

how did you come up with such a great name for the machine?

**JW**

I wanted the name to emphasize the smallness of it and the prefix "pico" means one-trillionth. Since I already own the domain "picobay.com", it seemed like an easy decision. "Picobay" doesn't mean anything in particular. I registered it way back in 1996. With the success of Ebay, I thought the "-bay" suffix was really going to catch on. Nanotech was just starting to get its roots and I figured picotech wasn't far behind. I was wrong on both counts.

**CS**

Tell the reads a little about yourself

**JW**

My father was in the mining business and a jack of all trades. I learned a lot from watching him patch together broken machinery with whatever was on hand. I, on the other hand, was always tearing things apart when I was a kid to see how they worked (actually I still do). I loved anything related to computers, electronics and Lego blocks. I wanted a career in robotics and I eventually went to school for mechanical engineering. My last year in college, I placed in a national robotic design competition and I landed a cool job designing gizmos for the U.S. military and space program. Over the course of five years, I moved up in the ranks and, unfortunately, became less and less involved in the technical side of things. Consequently, interfacing with the human mind and body was another area of interest for me. So much to the bewilderment of my parents (and jealousy of my friends), I decided to quit my job and return to school again. I'm happy to say that I just received my master's degree in biomedical engineering last month and now I'm working on my PhD. My area of research involves implanting electrodes into the brain for both data acquisition and stimulation. It's a dream job for a hacker since so much is still unknown about the central nervous system and how the various areas communicate with each other.

**CS**

Please tell us about Commodore and yourself, what machines do you own, your first machine, do you still use Commodore Machines?

**JW**

I'm 29 years old, so I grew up during the middle to end of the Commodore's golden era. I received a C64, which was my first computer, when I was about 12. I loved programming and the Commodore was great for that. I was also fascinated with controlling things with a

computer. I felt like I discovered cold fusion the first time I hooked up an LED to the userport and made it blink. Needless to say, it wasn't long before I fried the CIA chips in that first machine. A few years later I got a C128 but I used it in 64 mode 99% of the time anyway. I lost touch with the Commodore scene during college since everything seemed to be PC based in the world of engineering. To tell the truth, I really didn't get back into Commodores until a few months ago when I was designing a custom video card that relied on control via RS-232 input and output composite video. My initial attempt with a microcontroller yielded poor results. Then I thought about my old Commodore and wondered if I could use the VIC-II chip and RF modulator. I bought a C64 on Ebay with the intension of gutting it for the components that I needed but once I got it in the mail and booted it up to that familiar blue on light blue screen, I didn't have the heart to destroy it. During the next week I ordered a disk drive and the parts to make a XM1541 cable. I learned about the DTV while researching the VIC-II. It was by accident that I saw a DTV-Hummer game at a local Radio Shack. I didn't know what I was going to do with it, but I knew they were getting scarce so I bought it on a whim.

**CS**

Tell us a little more about the project, also how many other people would you estimate enjoy DTV and Hummer hacking?

**JW**

I can't stress enough how this project is a combination of a lot of effort by the entire DTV hacking community. I was just the first person to put it all in a nice little laptop-ish package. I, too, would like to know how many DTV hackers are out there. There are about ten very active members who are blazing the trail for the rest of us. I really didn't join the forum discussions until I was almost done with my project and I would think there are many others reading those message boards and working on their own projects.

**CS**

I see the machine is battery powered, are these recyclable and is the machine able to run from mains power ?

**JW**

The LCD screen is very power hungry because of the type of backlight it uses. That component basically sets the power requirements for the entire unit. I knew I wanted to use rechargeable batteries and thankfully the discharge curve of NiMH AA's fit within the voltage requirements of the LCD. The Picodore 64 can also run from an AC wall adapter. When the external power plug is inserted, the batteries are removed from the circuit via a mechanical contact switch in the receptacle. I wanted to make it as useful as possible, but I stopped short of actually charging the batteries while they are in the unit.

## Commodore Free

### CS

I have included the specifications of the machine at the end of this question and answer session but, please can you give us (in as much detail as possible) how you came to design the machine and the thought process, and problems you had along the way.

### JW

My initial tinkering with the Hummer involved hooking up a PS/2 keyboard, disk drive and fixing some problems with the video and audio circuits. It wasn't until I connected the video output to a little LCD screen that I decided a tiny laptop was in order. I read through the entire PETSCII forum (THE resource for DTV hacking information) to make sure that this would be the first of its kind. I then started looking for a small keyboard with the LCD as a guide for the approximate dimensions I needed. I took a chance and ordered a few different types. It turned out that a portable folding keyboard meant for a Jornada PDA was the perfect size and had all the necessary keys.

The only problem was that it couldn't be directly connected to the DTV board because it didn't use the required PS/2 protocol. I borrowed an oscilloscope from my lab at school and used it to decode the signals. Knowing very little about how keyboards work, it took me a few days to get a microcontroller to decode the Jornada keyboard signals and re-encode them to PS/2. Figuring out the power circuit turned out to be easy since the various components used standard voltages. The SD card slot interface was adapted from a design by Jan Derogee and Pyrofer.

I started looking for a case to modify as soon as I got the keyboard working. I found a bunch of little enclosures that were almost the right size but it would have been a lot of work to make it look right. I ended up just making the entire case out of wood and superglue. It turned out to be a great decision. The materials were cheap and readily available. I was able to build the entire thing with a minimal set of tools. All I really needed was a saw, drill, sandpaper, dremel tool, micrometer and razor-knife. Covering it with faux stainless steel contact paper worked out great and really gave the project a professional look. I don't think it would have received the same amount of attention if I left it looking like wood.

The joystick was one of the last things I did for this project. Realistically I knew the Picodore 64 was going to be primarily a machine for playing classic games and a full sized joystick wasn't going to look right. I found a miniature Atari keychain joystick that I managed to convert into a device that was compatible with the Commodore joystick port.

### CS

Would you consider selling the machine if someone was interested?

### JW

I've been debating this, but yeah, I probably will eventually. I've got a few other projects that I'd like to pursue and as a poor college student my funds are limited.

### CS

do you think the machine is a commercially viable product for the Commodore community, if it could be mass produced?

### JW

This particular design wouldn't be great for mass production since it seemed to take forever to get the case done. But if you're asking me if a C64 laptop would sell? I would say "Absolutely!" Granted, a C64 laptop doesn't have the market potential of a Sony Playstation III, but it definitely fills a niche.

Not only would this be a great creative outlet for all those young programmers out there, but the enormous library of existing software is a resource just waiting to be tapped into. I think this would be a no-brainer for some company out there. Though, I do have a laundry list of things I'd like to see on a mass produced unit. Some sort of memory card slot would be a must to get software on and off of it. A million new C64 laptop owners scouring Ebay for 1541 drives and 5.25" floppies isn't very realistic. Also, I'd like to see an enhanced version of BASIC and a JiffyDOS-like utility included. This might be upsetting to the Commodore purists out there but my own C64 become a lot more entertaining once I plugged in a Super Expander 64 cartridge. I think better access to music and graphics from within BASIC could be added without sacrificing compatibility. And let's face it, if you're that nuts about the C64, you're probably coding in assembly language anyway.

### CS

what problems would mass production cause

### JW

The obvious problem involves all the old software that was written off as unprofitable and abandoned by software companies years ago. As certain titles become popular again, software companies may attempt to enforce old copyrights and cause trouble for sharing sites. Hopefully, these companies would choose to develop new software instead. The thought of EA Games writing new software for a C64 may sound far fetched, but mobile phone gaming has demonstrated that there is still money to be made from relatively low tech 2D games. Another problem that is happening right now is the legal entanglement of the several parties involved in making the current batch of DTV gaming devices. Each party owns a piece of the technology puzzle and I'm not sure they are all on the same page these days.

### CS

do you have any other projects in the pipe line?

### JW

Haha, I'm assuming you only want to know about the Commodore related projects. I have another, larger, C64 laptop in the works with a 3.5" floppy drive in it. Although the Picodore 64 wins the prize for being little, it's really too small for coding without an external keyboard attached. The Commodore 64 has been around so long that it's difficult to come up with an original hack for it. Though I do think my future projects will focus on demonstrating that there is still a place for this classic machine in today's world of ultra-fast and ultra-complex computer systems.

### CS

I am sure all readers, would like one of these, have you had many comments?

### JW

I thought I might get some feedback, but I really didn't anticipate the overwhelming amount of positive comments left on various message boards. And yes, many of them do express the desire to own one.

I would build more of these but DTV Hummer parts are getting hard to find. Besides, my apartment is tiny and I need my kitchen table for other things sometimes.

Finally, I would like to thank all those who have contributed to the DTV hacking effort on the PETSCII forum. I also need to thank my girlfriend for not complaining during the week that I converted our kitchen into a workshop. She was more than tolerant of the layer of sawdust that was deposited on everything in our apartment and the frequent trips to the hardware store.

### CS

thanks for your time and efforts

# Tape Transfer

## Introduction

Almost all of the Commodore 8 bit computers have a Datassette connection. The only exceptions I can think of are the C64 Games System and it's successor the C64 DTV. The Datassette was a cheap alternative to the diskdrive and was sold by the millions. Most (budget) games for the C64 were sold on tape.

So you have a great collection of original tapes or made programs yourself on tape and want to use them on an emulator. This page will describe how it is possible to read the tapes into your modern PC. You need to build (or buy) a interface that connects an original Datassette to your PC.

## Specifications

This are the specifications I personally use to transfer my tape's. Any PC will do that can run MS-DOS and has parallel port and a floppy.

PC: Pentium III, 256 MByte, 4 GB HD  
OS: MS-DOS 6.2 + Windows 2000 SP4

## Software:

MTAP + PTAP: Markus Brenner  
<http://markus.brenner.de/>

FinalTap: Subchrist

<http://www.coder.pwp.blueyonder.co.uk/>

## Hardware:

C64S interface  
1530 Datassette

## Disclaimer:

Every thing you will do is on your own risk. I have made a great effort to get the info on this page right but there could be a mistake on this page that I am not aware of. If you find an error please let me know

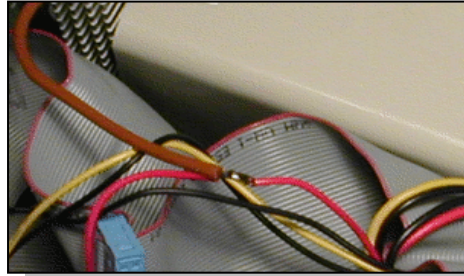
## The interface

First you will have to build yourself a C64S interface. It's not very difficult to build. This interface will give you a Datassette and a IEC (diskdrive) connection.

You can see the schematics bellow.

The interface needs a regulated powersupply of

exactly 5 volts DC to power the Datassette. There



are a few ways to connect a power supply, choose one of the following.

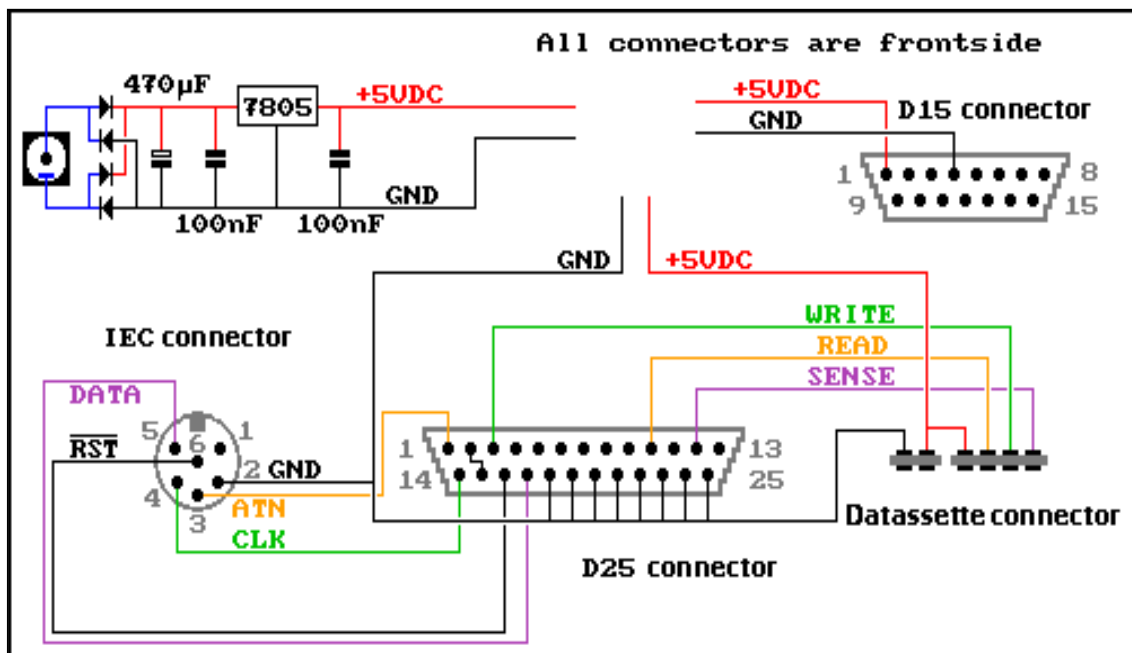
It can be done by a external power adapter and a voltage regulator as is shown in the top left corner of the schematic. The external powersupply can be anything from about 9 volts to about 24 volts AC or DC. The regulator will make a perfect 5 VDC voltage. Another way of getting the 5 VDC is by connecting the interface to the gameport of the PC this is shown at the top

right corner of the schematic.

The way I did it is to make a connection to the PC powersupply directly. I did this because my PC didn't have a gameport. You can see the connection bellow. After soldering the wire be sure to isolate the connection with isolation tape.

In a PC the red wire is the 5 volt DC, but to be sure test the voltage. Use a rubber grommit where the wire leaves the PC housing to prevent damage to the wire. On the photo bellow you can see my first version of the C64S interface.

Instead of a connector were you can plug in a IEC cable I connected a IEC connector that plugs into the diskdrive (top). From a piece of PCB I made a



## Commodore Free

Datassette connector. I made cuts with a junior saw in the copper layer. And made the notch in the PCB. Use a PCB with only copper on the top side. After that I soldered all the wires to the connectors. Put some insulation tape on the PCB for the Datassette where the wires are soldered. Don't forget the connection in the D25 connector between 2 and 15.

If you can't make the interface yourself take a look at the website of Markus Brenner. There is a link to order a complete interface.

### The PC.

The software that is used for the transfer is written for MS-DOS so you won't need a state of the art PC to do this. I had an spare Pentium III 600 MHz, a couple of 2 GB HD, a CD-ROM and this is perfect for the job. I installed Windows 2000 on the second hardisk (D:).

So you have access to an emulator like VICE os CCS64, zip, internet and much more. But Windows 2000 can't do MS-DOS. After installing everything I installed MS-DOS 6.2 on the first harddisk (C:). After doing this the PC will boot to MS-DOS.

Don't panic about the Windows 2000 part. Put in the installation CD of Windows 2000 and perform a repair of the system. When you now boot the PC it will ask which operating system to start (Double boot). Don't forget to format your harddisk(s) with FAT. If you use NTSF you can't use MS-DOS.

Go to the website of Markus Brenner and download MTAP (Read tape's) and PTAP (Write tape's) unzip the programs on the MS-DOS part of the harddisk. After this you have to get hold of a little program called CSDPMI.EXE and put this in the same directory as MTAP and PTAP. If you don't have CSDPMI.EXE try Google.

Shut down your PC and connect the C64S interface and a Dattassette to the interface. Boot the PC to MS-DOS and go to the directory with MTAP. Start the program MTAP.EXE. The program will list all possibilities. If you use the C64S interface connected to the LPT1 port the command is very simple:

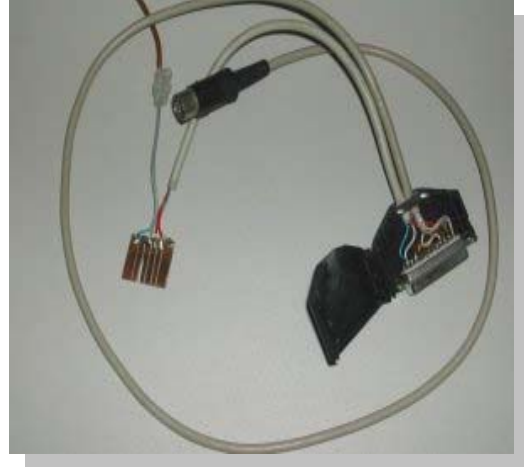


mtap.exe game.tap [ENTER]

The program will check if the interface is connected and ask to PRESS PLAY ON TAPE. If you press play on tape the program will record the data from the

Datassette to a .tap file named game in the same directory as MTAP.EXE. With very big tape's such as

compilations you need to increase the buffersize. On the photo above you can see the program in



action. The border of the screen will show lots of colors while recording the data. After all the data is recorded to the harddisk reboot the PC to Windows. And start your emulator and load the game.tap file.

On the photo's above you can see the emulator in action. The very cool wallpaper is from Ingo Ruhnke aka [Grumbel](http://pingus.seul.org/~grumbel/). <http://pingus.seul.org/~grumbel/> The program FinalTap from [Subchrist](#)



<http://www.coder.pwp.blueyonder.co.uk/>

software can be used to scan the imported .tap file. It will identify the speedloader and can export the program to a .prg file. Also it can be used to repair a .tap file.

If you want to write a .tap file back to a tape you can use the PTAP program.

For the users of the 264 series of Commodore computers there is a special interface available.

Source Taken with permission from <http://commodoregg.hobby.nl/CommodoreHandleiding/Pagina/INFO-TapeTransfer-GB.htm>



## Interview with Brian Bagnall

Interview Printed with permission from ?

Brian Bagnall may be a name that the Commodore-community will remember: He is the author of a book named "The Spectacular Rise and Fall of Commodore", which seems pretty much the thing all "Commodorians" have waited for so long: a history of Commodore.

### Question

1) Brian, this is not the first book on computers you wrote. Your last one is about "Lego Mindstorms programming". Well, that's quite a difference: from a programming book to a historic view of a company. Can you tell us when (and why) did you get the idea to write this book?

### Brian

I first had the idea in 2002, near the end of my last book. I started noticing there was far more Commodore nostalgia on the web than Apple, which seemed to conflict with the popular perception that Apple was the big dog back then. In the seventies, when the personal computer market kicked off, the TRS-80 (and even the Commodore PET) far outsold the Apple II, so Apple did not establish the personal computer market as Apple revisionists want you to believe.

The thing that really got me into it was realizing that Commodore sold about 20 million C64s, yet for some reason Apple receives all the credit even though they only sold 5 million Apple IIs. That just didn't make sense to me. Why was Commodore being ignored? It wasn't until late 2003 that I really got into the research and writing. Once I got into it, I knew there was an exciting story.

### Question

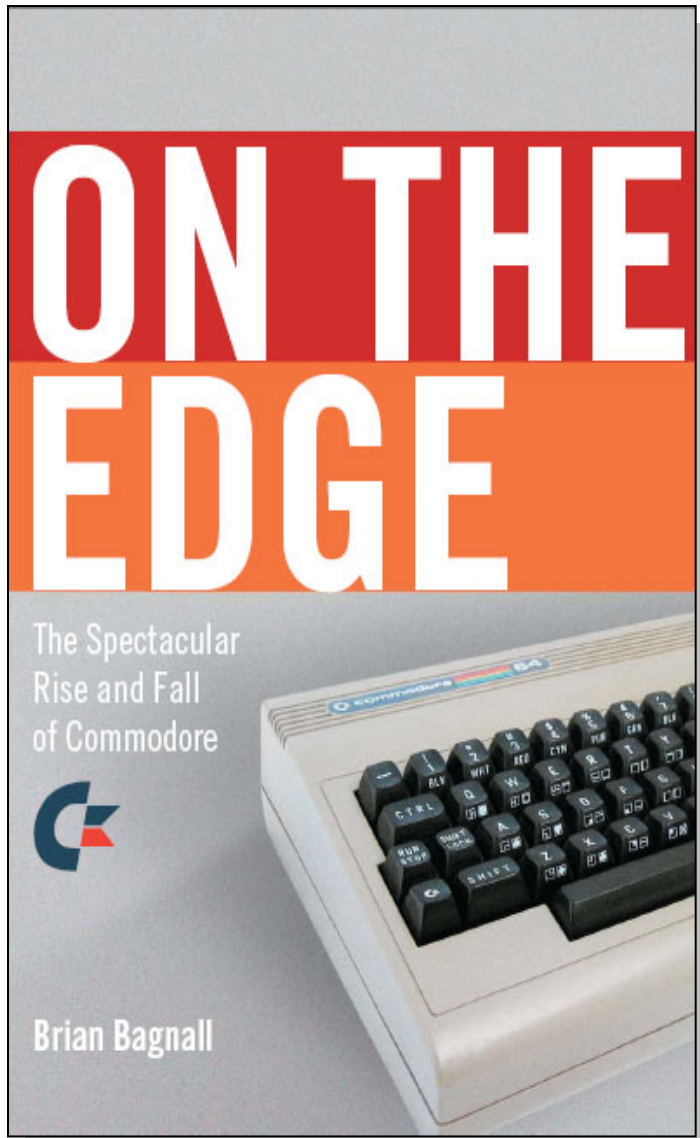
2) It was essential for you to interview people who were involved in those days - that's why the subtitle is "The Inside Story". What can the reader expect as a result of this and how close is the result to Michael Tomczyk's book (referring to the time he covered in his book)?

### Brian

People who have read through the chapters say the interviews give a deeper picture of what was going on in the company.

For me, the interviews really personalize the story. You get to know these people and what they went through to deliver some of these wonderful old machines.

There were a lot of struggles. With due respect to Michael Tomczyk, this book will present a larger overview of Commodore than "The Home Computer Wars", which I have read. His book ends in early 1984 and mostly dealt with things at a managerial level. In my mind, the



engineering story is at least as important as the marketing and business people. Also, he didn't use interviews or firsthand quotes very much, if at all. It

was kind of Commodore as seen by Michael Tomczyk.

### Question

3) When does the book start, as your homepage lets us know that several chapters (that come to the readers mind first, like the Commodore typewriters and the calculators) were "Bonus Materials" not yet

## Commodore Free

to be read? The book starts with MOS Technology, before Commodore purchased them. MOS Technology developed the 6502 microprocessor, which revolutionized

the personal computer industry and led to the Atari 2600 VCS, the Apple II, the Atari 400 and 800, and of course Commodore's computers. The typewriter and calculator chapters are complete but I didn't get any real interviews for those chapters. Maybe after the book is out, some of these people will approach me and I can land some interviews before I make them available.

### Question

4) The people you interviewed are mainly from Commodore US, so would you say that this is more or less the story of this part of "Commodore World"?

### Brian

Yes. The story is told mainly from the real corporate headquarters' view of Commodore Business Machines. Really there was a thing called Commodore International Limited with "headquarters" in the Bahamas (a small rented office space with some desks), but that was set up for tax purposes. Jack Tramiel worked at Commodore Business Machines in the US, and that was really where the action took place as far as engineering the machines and making decisions.

Europe, Australia, and Japan are mentioned a lot throughout the book, since they were always central to the survival of Commodore, but the international side of Commodore is probably a whole other story.

You'll read about Bob Gleadow, the GM of Commodore UK, Harold Speyer of Commodore Germany, Kit Spencer, the marketing director of Commodore UK who later came to the US, Nigel Shepherd of Commodore Australia, and Tony Tokai of Commodore Japan, plus a few Japanese engineers.

### Question

5) How would you, with having an overview of Commodore now, evaluate the AMIGA-Computer? Premature baby, far beyond its time, a waste of money or something else?

### Brian

Waste of money. Just kidding! It was definitely far ahead of its time. I don't think it was a perfect computer but it was revolutionary. It was the first truly multimedia personal computer and I don't think anyone would argue with that today. Unfortunately Commodore did not know how to communicate that to their potential customers and the machine did not survive as the (then) inferior Macintosh did.

### Question

6) Tramiel denied to get interviewed on Commodore - on the webpage [commodorebook.com](http://www.commodorebook.com) we can read "Jack has a strict no-Commodore interview policy." Could you dig out why so?

### Brian

Chuck Peddle, one of the early Commodore engineers, says he got burned by a Baron's article that was very harsh on him. I think he cooperated

with the article and they turned around and demolished him. He has given interviews about Commodore to German magazines from time to time, though, so maybe he just doesn't trust the North American media.

He left on bad terms in 1984 and Commodore is probably not a happy memory for him or Sam Tramiel, his son. Leonard Tramiel seems a little more objective and he sounded frustrated that his father would not come out and set the record straight.

### Question

7) Co-Editors of your book are well-known Commodore experts like Jim Butterfield or Robert Bernardo. But had the interviewed people like Leonard Tramiel no interest in reading it before it gets released?

### Brian

That's an excellent question. I thought long and hard about showing the finished chapters to Commodore people but decided against it. There is personal information about them in this book, and not all of it is

flattering. I think it would take away from the objectiveness of the story to have those people involved in the editing process.

For example, if I showed it to Leonard, he would do everything in his power to protect his father, even though Leonard seems like an honest person. I would have this pressure to remove the best parts and it would end up dulling the Commodore story rather than enhancing it.

Instead, I decided to pull people who know a lot about the Commodore period. Guys like Martin Goldberg from Classic gaming, Gareth Knight from the Amiga History Guide, Ian from [Commdore.ca](http://Commdore.ca), and Jim Butterfield (who was there when a lot of this stuff happened).

These guys all have a love of the Commodore story as you can see from their web sites, and they have the knowledge to make sure the story is told accurately.

### Question

8) Finally, is there a chance that this book will be translated into German language, for example?

### Brian

I think there is a very good chance. I've been contacted by at least three German publishers so far and the book isn't even out yet, so I'm going to try to pick the best one (which could be difficult considering I know nothing of the German publishing industry) and make a deal for the translation rights.

Thanks for the interview!

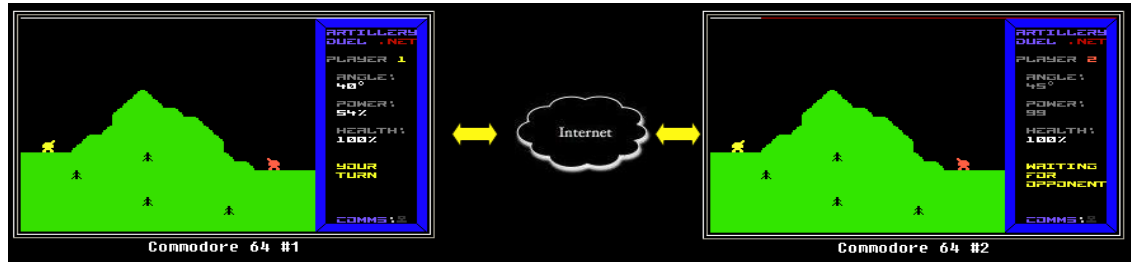
### Brian

Pleasure. Great questions!

Book available from <http://www.commodorebook.com/>



# Artillery Duel



## Overview:

This is an "online" version of Artillery Duel written to demonstrate the potential of multiplayer games over the Internet with the Commodore 64. It's believed to be the very first Internet-enabled game for the good old C64!

## Features:

Two players over the Internet or LAN (turn-based)  
Chat (F7)

Mediocre graphics  
Sound effects  
Joystick control (Port 2)

## Technical Details:

UDP-based communication (don't forget to forward port 3000 in your router/firewall)  
Written in DASM assembler  
Uses netlib64, which in turn supports the RR-Net or ETH64 cartridges.

## Download:

It's Beta 0.004, so contain your expectations.  
The network configuration file follows the proposed standard set out by Per Olofsson. Run the CONFIGURE program to choose your network settings. Please note that VICE isn't yet supported, as its RR-Net emulation is a bit buggy.

## Future Plans:

Once Artillery Duel is finished, we plan to re-use many of the game ideas and protocol into a rewrite of Weather War, another C64/PET classic. From there, a more sophisticated platformer/scroller shoot-em-up might be fun. Eventually, we could even implement a server-based MMORPG, possibly modeled loosely on the Ultima series of games.

## Links:

Discuss the game's development on the C64

Network Game Development forum.

<http://jledger.proboards19.com/index.cgi?board=c64nqd>

Look for opponents on the C64friends IRC chat.

<http://www.c64friends.com/>

## Games homepage.

<http://home.ica.net/~leifb/commodore/duel/index.html>

## Ethernet...on the Commodore 64?

### Introduction

One of the offbeat things I'm interested in is the possibility of connecting a Commodore 64 to an Ethernet network, and ultimately to the Internet. Why? Well, because it's there as a fun embedded- systems type project. There's lots of untapped potential for online network games, and games were one of the C64's strengths. It also appeals to me in a

Chindogu kind of way – it's un-useless! ;-) This page is a brief summary of the "state of the art" of Ethernet on the C64 as of November 2006. It only looks at "true" Ethernet solutions – other approaches such as dialup, PC gateways, the Lantronix 10/100/1100 and the Palm Ethernet Cradle are covered in the given links.

### Hardware Available now:

There are currently two commercially available Ethernet devices for the Commodore 64. Unfortunately, they aren't standalone – they both need to be combined with another

(usually expensive) cartridge to work. They also use different chips (see associated pages for details), so software for one isn't necessarily usable on the other.

**The RR-Net.** Requires one of: Retro Replay, MMC64, IDE64 V4 (in development) or Super Snapshot V6 (in development) because it plugs into the Amiga-style clock port on those cartridges. Has become the defacto standard, as most of the software listed below only works with it. Available from Individual Computers, Protovision, Vesalia, and C64Reloaded.

**The ETH64** – Requires an IDE64. Available from the IDE64 team.

### In development:

**Enhanced TFE** – Very promising project with adaptors for using it in different configurations (standalone, clock port, IDE64 bus). Updated version of the original TFE cartridge prototype. Next version may be RR-Net compatible. Availability unknown.

**Net64** by Till Harbaum – abandoned? Compatible with the original TFE. Compatibility with RR-Net unknown.

## Software

**Contiki** – Full-blown networking operating system for the unexpanded Commodore 64. Includes web browser, web server, telnet client, IRC client, and much more. Drivers are available for any of the hardware listed above. Uses the uIP stack. Very cool!

**GuruTerm** – "Telnet" terminal client for calling Commodore-oriented Telnet BBSes. Not a full telnet client (Doesn't support the IAC protocol), but that is in the works. Uses the uIP stack but only works with the RR-Net.

**Singular Browser** – Standalone Web browser.

**WarpCopy64** – Ultra-fast file and disk image copier that works between the C64 and a Windows PC over Ethernet. Also RR-Net only.

## Libraries / Stacks

**uIP** – The core of Contiki. Written in C. Not tied to any particular hardware.

**netlib64** – A very lightweight all-ML library. Written in DASM assembler. Supports RR-Net and ETH64.

**ip65** – Written in ca65 assembler. Supports RR-Net only.

## VICE Support

The VICE Emulator can also emulate the original TFE prototype or the RR-Net. Setup instructions are here. Interestingly, VICE allows you to have an emulated RR-Net essentially connected directly to the C64, a configuration that cannot exist yet with real hardware. There is apparently a bug with the RR-Net emulation. On the real hardware, you do not "see" the Ethernet-layer packets that you send, whereas in VICE you do.

## Artillery Duel .net

The first Internet game for the Commodore 64

Leif Bloomquist  
Toronto PET Users Group

World of Commodore 2006

### Simplifying Assumptions for First Attempt

- Turn-based game, not timing critical
- No central server – peer-to-peer
- Only one packet "in flight" on network at any one time
- Minimal game "world" and play

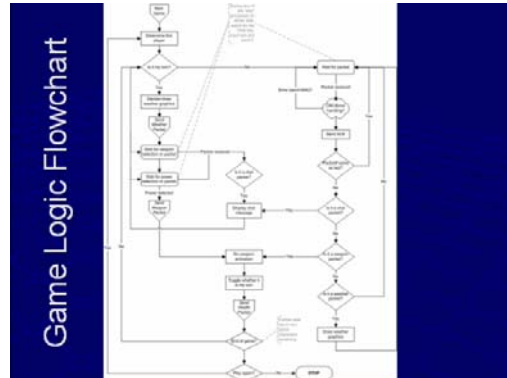
### TCP/IP Stacks for the C64 in Machine Language

Services	TCP	DNS	DHCP	Echo
Transport	TCP	UDP	ICMP	ICMP
Network	IP			
Addressing	ARP			
Ethernet driver	CS8900A / LAN91C96			
Ethernet interface	RR-Net / TFE / ETH64			

Green: Working Yellow: Partial Red: Unimplemented

- IP65 – ca65 cross-assembler
- Netlib64 – DASM cross-assembler

*Image courtesy Per Olofsson*



### Internet Protocols

- Transport Control Protocol (TCP)
  - Guaranteed delivery of data + packet ordering
  - Not implemented in ML yet, high overhead
  - A lot of work for a poor 1Mhz computer
- User Datagram Protocol (UDP)
  - Much simpler protocol than TCP
  - No guarantees – you do all the confirmation
  - Working implementations in 6502 ML
  - Used extensively in PC Internet gaming

### Very Simple Protocol

Dis-assembly	Accession event	Weapon	Health	Weapon	Chat	ACK
Byte 0	data received (255)	Packet #	Packet #	Packet #	Packet #	128
Byte 1	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 1 of message	128
Byte 2	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 2 of message	128
Byte 3	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 3 of message	128
Byte 4	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 4 of message	128
Byte 5	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 5 of message	128
Byte 6	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 6 of message	128
Byte 7	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 7 of message	128
Byte 8	data received (255)	Weapon (0-1, 2, 3, 4)	Health remaining (0-100)	Weapon (0-4)	number 8 of message	128

Comments: PETSCE v1.0 - Shows would be by's complement or ? PETSCE v1.0  
Could do simple CRC or checksum in future

### Network Apps for the C64

- Network apps so far have focused on utilities:
  - Web Browsing / Telnet etc. (Contiki)
  - Disk/Program Transfer (Warpcopy64)
  - Terminal Software (GuruTerm)
  - Remote debugging (CodeNet, UDPSlave)
- Where are the games?

### Where to get the Game

- Grab a copy on disk from me today
- Download latest version from [www.petscii.com](http://www.petscii.com) forums (Network Game Development section)
- Look for opponents on the #c64friends IRC channel ([www.c64friends.com](http://www.c64friends.com))

**Credits**  
 Leif Bloomquist – Game code  
 Oliver VieBrooks – Network library code  
 Thurstan Johnston – Testing

Raik Picheta – Music  
 Also thanks to Dustin Chambers, Robin Harbron for ideas and assistance



# Interview with Leif Bloomquist

By Commodore Free

> Please can you introduce yourself

My name's Leif Bloomquist. I live in Toronto, Canada with my wife and 13-month old son.

> Please tell us a little about your job and hobbies

I work as a contractor to the Canadian Space Agency, developing software and systems for the Phoenix Mars Lander project, among other things. My hobbies are composing music, canoeing and camping. I also play with old computers sometimes too ;-)

> How did you start using Commodore computers

When I was 13 years old, my parents encouraged me to join the computer club at the local library. We had a TRS-80, Cocom3 and VIC20 in the club. The VIC20 was my favorite though!

> What is the worst thing in your opinion Commodore did

Didn't provide a sensible (or affordable) upgrade path from the C64/128.

> Why do people still use Commodore machines and why such a large love for the Commodore 64

Nostalgia, and the fact that you can tinker with them in ways that you can't with a PC. Plus there are a lot of fun games for the C64, most of which have stood up to the test of time.

> What machines do you own currently and out of those machines which do you use

I have a modern laptop that I use for work and most things. I have a C64 with IDE64 that I use to program with, a VIC20 for playing games, and a PET 8296 that my wife uses to track what's in our freezer.

> your main webpage  
<http://home.ica.net/~leifb/commodore/> has some very

useful information on Commodore machines what is the website's primary idea

Just to showcase various hobby projects I've done, hopefully others can learn from them too.

> I like the "The Blue Commodore 64C" and the website's detailed information on how to spray your own, did you experience any real problems, anything our reader should watch out for if attempting the process himself

Yes, make sure the tape you're using to cover the "Commodore 64" logo when painting isn't too sticky.

> theme here BBS and the internet is this your real love for the Commodore machines

I just love the concept of having a C64 hooked to the Internet. It's so silly, and challenging at the same time.

> Your presentation from "World of Commodore

2006" goes some detail into the workings of the game and how

> TCP/IP protocol works with the game how far is the game to completion

The Artillery Duel game is about 75% done. I just need to add some more graphics (i.e. explosions) and make the game more fun by adding wind and random playing fields. Then do lots of testing.

> Do you think More Commodore games will emerge using multiplayer internet access

I hope so!

> Can you take our reader through game development

That's a huuuuuge topic, but basically you follow these steps:

1. Come up with the concept.
2. If you're doing something that's never been done before, do some tests. Is your idea possible?
3. Design your program's architecture and requirements. How exactly should it work, what parts are needed, and how should they fit together?

How will the screen look?

4. Get the basic gameplay working, and try it out. If necessary, go back to step 3 and refine your design.

5. Add graphics and documentation, etc.

6. Do lots of testing.

> You play down the game because of the Graphics I see nothing wrong with them

You're the first one to comment on that ;-). I'm not a graphics designer so the graphics were left simple. I like how they turned out, but they're not as slick as some of the newer C64 games.

Regards,  
Leif





# How to Quik menu

How to "Quikmenu" by Commodore Free

Loadstars quick menu system featuring "mini presenter" Allows users to quickly and easily create a disk based magazine or menu system to launch applications and text files. Ok then Creating "commodore Free" issue number 4

## Layout and art work

We need a title for the magazine this would be a text "title" obviously we are going to use "commodore free", this can be a Doodle, Advanced art studio, Art studio, Loadstar SHP format or a Kola Picture, If you can draw draw a logo in 2 colours black and white and go to the **Everyone who can draw section.**

I am assuming little drawing ability and we are going to use a PC to design our Screen. This is a 320 x 200 screen with the words Commodore Free. The conversion will create a mirror image of the screen and we need only draw in black and white 2 colour design. Just create a text picture. Right artwork created but, this is a PC bitmap we need to convert the image to Doodle format and I have used Congo for the process. Start Congo and search for the picture, Congo opens a familiar Windows browser to look for the files

Now press the convert button (this is the icon of 3 floppy disks stacked on top of each other) This will walk through a Conversion process. Select the output format of "doodle uncompressed" Select a location to save the file here just to the root of drive c:\ Click NEXT

You can now adjust brightness and Gamma correction, the screen will update live so you can see the effects. Pressing next moves you to the Dither settings I find here you need to go forward and backwards through these screens as changing one setting will affect others, so it's a little trial and error I selected Everything on Zero except the Gamma correction of 2.55 normally works ok .Dither percent of Zero and dither kind of nearest click Next select 2 nearest colours and then click Save the file will be saved in our case to the root of our C:\ drive

## Getting the File to Disk

Various utilities exist for getting files to commodore disk images just picking one from random then and for no reason I am using Copy 64 Start the application press F9 to get the menu system Scroll through the list and select "create disk image" I am going to make a D81 disk So select D81 and press enter Give the file a name here I am using free4.d81 and the file will be created in the current directory. Select the file and press enter to see the images contents Pressing TAB moved between the spit screen window display, now look for the Doodle image it should end .dd remember we saved it in the

Root of drive c:\ select the file and press F5 to copy it into our disk image, a message will appear about renaming or copying now the image has been copied to our D81 file

## GODOT

For some reason the file wont load properly in the quick menu so we need to run it through Godot, I think all Godot does is rename it to ddfree.dd I.e. prefix the file with dd otherwise our software cant tell

it's a Doodle file, anyway it gives an excuse to run Godot

Select LOAD as Doodle and Select SAVE as Doodle Then click LOAD on the Right and search for your file from disk Find the file on your disk or disk image

Set the "screen Controls"

HIRES  
Colours 2  
Exec Area Clip

Click display to look at the image, ensure its all ok Then Click anywhere to return to the menu Screen, now we are going to select a region to work on

Image operators Click on Execute and the Clip works should already be loaded then select CLIP and draw around the area you want then select Accept to confirm this as the working area , redisplay then save the image with a new name I called mine free2.dd save the file uncompressed

## Everyone who can draw

Ok doodle experts and arty types can stop laughing now and continue with the tutorial. Ok so we have a logo now to convert the logo to the loadstar SHP format for further manipulation.

Start Qmenu application and from the list on the right select STB PRINT Run the application, Now select the Source disk "where the image file is" and then select the Target "where the file will be saved by pressing T"

Select the file free2.dd notice Godot added the dd prefix once selected press RETURN to view the file, if it looks ok select C to convert the file and then select the output format of SHAPE give the file a name I am using "SHPfree" now Quit by pressing Q to return to Qmenu main screen

Select from the menu SCRNFONT to convert the Screen to a font option 1 changes disks so select the drive with the file to convert on it then select option 2 GET SHP Select Make block and drag around the image, you may need several attempts but once a block is drawn you see the preview if it looks ok then you can go on otherwise select make block again and continue with the process until you are happy.

Select Make FTS and select 128 characters to convert, ours is a big logo, if you select to little fonts the screen wont look right as all our letters won't be converted save the file and Exit to main menu.

## MR MICK

Now to the screen layout start MR Mick application Select File then DISK/DIR to select the drive and or directory to load the SHP file from Select the file from the list and load the file, remember the image will be reversed Black is now white and whit black, but as we created a mirror image, you still with me ?

Press F4 to bring back the menu bar, the text will look strange cos we have converted it, but don't worry, Press F3 this will show the characters that have been used to convert our Screen logo to Text characters. Press F5 with is the Colour menu and will show the available colours and on the left a

## Commodore Free

representation of the screen border and page colour, I am going for Light blue page and black border. Select the colour and move to the border or page and click to change Press F5 then F3 to return to the main menu SAVE the file, we don't want to be home to Mr Cockup as well as MR MICK Save the file as an FTS file Press F3 then F5 select white for the colour of our TEXT logo and then press F5 and F3 now colour the Logo, play around reselecting colour or whatever you want.

Press Shift and Enter to go to Free text mode should be able to type now if it doesn't work press F5 and F3 and you can select the Text click on the text and click where on the page you want it to appear. A little tidying up and the footer added and we have our title screen, basic you can play around more if you like, Time is running out and we have lots to look at. the items on the footer are optional, and self explanatory, the page is already set with hotspots for the mouse so all you do is add the text in the rough location. The shortcut keys are built in the application

E for exit  
H for Help etc

### TEXT Processing

We need text files, so if you are using some other system save the text as plain ASCII standard, and then import them to the disk image we created or you can enter them free hand if you like typing directly in to the editor, the editor loads plain PETASCII files. save the files give them names and then copied the plain PC text files into my disk image. Now start the TEXT to T application from our Qmenu main screen

Selecting the files menu allows you to select the disk you use for input, the output files are saved to the same disk, ensure you have space on the disk, once you have selected the right disk select DO IT and the application looks for the Text files and converts them to Commodore format, then renames them with the prefix of t. More about why this is later on, once the process is done (supercpu users hit turbo) otherwise go and make a cup of tea.) Now press SCREW it to return to the main menu (Dave this is shocking slang language >>Grin<<)

### MR EDSTAR

Now select Mr edstar from the main Qmenu menu system this runs the text editor, the editor can load plain ASCII (pc text files and convert them on the fly) if you want these remember to save them with the t. prefix so editor.txt becomes just t.editor the file extension isn't needed! Load the file and click through the menus, options exist for centred, indented, adding a new line etc. This isn't a normal word processor it may take time to get used to it, Once all your files are edited, save them back with the same filename, or rename pc text files as described above.

### DISK and options

Nearly there now I suggest you make a copy of the Qmenu disk, once done remove all the text files and files beginning with B

Basically everything except for

2	"!"	prg
4	"star"	prg
71	"quikmenu.pkd"	prg
2	"quik.ini"	prg
17	"quik.fts"	prg
1	"quiklist"	prg
4	"hello connect"	prg
0	"*****"	del

These will be needed for our disk, the quick.fts is our layout design screen this can be

deleted and our splendid effort copied in its place, Also the quick list is a list of all the files on the disk, you can edit it by hand or do the lazy way delete it and once the disk is started it will be generated automatically with the correct files added, do this at the end though after adding all your files!

Now start Mr edstar and load the file quick.ini This is the screen options menu, load the file as a c= file and not a pc text file You should see these options

```

QuikMenu Disk
center menu
0 background
0 border
1 text
7 menu highlight
8 frame
0 reader text color
00 RRF X coordinate
16 RRF Y coordinate
xx not used
02 Menu Top
15 reader background
+++++
center menu
right menu
# menu (column of left edge of menu)
    
```

**Center menu**  
Yep you guessed it this centers our list menu on screen other options are left and right

### Backg

#### round + border

Sets screen and border colours, although these have been already set in MR MICK so are ignored for our setup

#### text

Text colour

#### Menu Highlight

Selects the highlight used for the menu

#### frame

Sets the frame colour of the menu

#### Reader text colour

Colour of the text when viewing text files

#### RRF X coordinate + RRF Y coordinate

Coordinates for the mini menu layout

#### Menu Top

Sets the location of the menu on the screen

#### reader background

Colour of the paper when viewing text files Play around and get a feel of the options does or leave them and see what happens. Save converted Text files back to your copy of the disk in the order you want them to appear on the menu, Run the disk

### Things to note are

All text files must start with a t. prefix, if you have an application this needs to start with a B. prefix, Each Application needs a text file otherwise it won't work. Then menu system handles displaying text or an application with the mini menu, you get the

```

Read It
Run It
Forget It
    
```

Read the text files about how you can get your applications to run then quit back to the menu system

Read the documentation!

# Interview with Loadstar's Dave Moorman

By Commodore Free



Picture used with permission from <http://www.dickstel.com/expo2005.htm> photograph taken by Robert Bernardo

>Q. Please introduce yourself to our Reader

A. My name is Dave Moorman. I am 57 years old, and have been a hobbyist programmer since 1979. I am married, have one grown son, and live in southeastern Colorado.

>Q. Tell us a little about what you do for a living

A. My real vocation is an ordained clergy with the United Methodist Church. I serve three small churches, preaching twice every Sunday morning. I am theologically "progressive," yet revel in the power of the Spirit that changes lives.

>Q. For anyone who doesn't know what is your commitment to Commodore

A. My first Commodore computer was a C-128, bought in 1986 when I needed a real computer for my work. Thanks to a flakey power switch and a marvelous book (The Complete Commodore Inner Space Anthology by Karl J.H. Hildon), I "graduated" to the C-64 in 1988. In 1992, I saw a railroading game on my sister's PC and had to try to do something like it on the C-64.

One of the greatest thrills of my life was getting that game -- Sea to Sea -- published on LOADSTAR #107. I wrote quite a number of other programs for LOADSTAR during the next several years, along with some articles.

In 1999, I discovered PC emulation, and suggested to Editor Fender Tucker that we make a LOADSTAR for PC people. He said "Go for it," and I did. During 2000, I published eLOADSTAR to a growing number of subscribers. At the end of 2000, Fender was ready to end the magazine at issue 199 and move on to other things, so I offered to continue LOADSTAR as long as possible. We just shipped #247, and will continue through issue 256.

>Q. What Commodore equipment do you own

A. I have several C-64s and 1541s around the house and church. But my main set-up is a C-64 II, a 1541 II, and two CMD FD2000 drives. I am ashamed to admit that these are not even JiffyDOSed. I do most

of my work on VICE 1.07, since it gives me fast access to the harddrive and a couple of great MS-DOS utilities: 64Copy and 1581Copy.

>Q. Tell our reader a little about the Loadstar history and how you came to be working on the magazine

A. Back in 1982, a couple in Shreveport, LA, decided to put together a disk software magazine for the Apple II called Softdisk. Jim and Judi Mangham began their enterprise on their dining room table, but soon grew to office space in downtown Shreveport. In 1984, the C-64 was fast becoming the leading home computer, and Softdisk, Inc., decided to branch

in that direction. The name LOADSTAR is from the command to start the disk

- LOAD"\*\*,8,1.



In 1984, Fender Tucker, a guitarist for a bar band in New Mexico, came to Shreveport to become the new managing editor of LOADSTAR. Fender brought a unique "off-kilter" attitude and a quest for something he called (but never quite defined as) LOADSTAR Quality.

Two things about LOADSTAR impressed me from the first issue I ever read: First, the magazine -- both in text and programs -- was a continuous environment. One of the Qualities of a LOADSTAR program was that exiting it took the user back to the main menu. I thought it must be like being on QLink, but I was wrong. LOADSTAR was better!

The other thing -- and this was back in 1988-89 -- was that unlike the numerous paper mags, LOADSTAR respected the reader's intelligence. Many of the paper publications were kind of stuck at "here's how you get started." LOADSTAR had tutorials on using custom fonts, getting bitmaps to work, and compression algorithms. It also had utilities and ML toolboxes that opened whole new possibilities to programmers.

At some point, Softdisk, Inc., decided to discontinue the original Apple II Softdisk publication -- at around issue 163. In a couple of years, LOADSTAR sailed past that milestone and became the longest running disk magazine in history. As I said, after getting Sea to Sea published, I became a regular contributor. During rough times, I imagined moving to Shreveport and sitting by Fender and Jeff Jones all day long whacking out code. I kind of got my wish, except no Fender or Jeff.

## Commodore Free

>Q. Why is loadstar to finish

A. Two factors (maybe three) caused us (my wife is the bookkeeper and "stuff it lady") to decide to bring LOADSTAR to an end. The first is that our subscription base has dwindled. This has always been a semi-commercial venture, mostly a source of "mad money." Putting together an issue takes a certain amount of time -- and waning subscriptions no longer covered the time spent.

The second reason is that our supply of new programs has dried up. We still get a few -- Ricky Derocher, Jane Voskap Jones, John Kaputa, Dennis Hildreth, Andrew Roberts, and a few others have sent material. But it is harder to find new software. Finally, I will probably move in a couple of years. Methodist pastors move around a lot. It would be best to wind up this section of my life before we are sent to Last Chance, Colorado.



>Q. You have started a Secret Society of commodorecoders can you explain this

A. Back at the LUCKI Expo -- was it 2004? -- I got talking with Bo Zimmerman and others, sharing secrets and ideas about coding. I wanted such discussions to continue, so I came up with the idea of the Secret Society. The idea was to stick to just programming on the unenhanced C-64, but both in BASIC and ML. About a year ago, I got extremely busy with my pastorate and lost touch with the SSOCC. I am glad Robin Harbron and Jeff Ledger have continued the discussions. I hope to get back to it soon.

>Q. Loadstar to me seemed all about getting people quality technical information was this the goal

A. I hope we are! I like to offer a range of interactive entertainment -- games, puzzles, multi-media, plus tools, utilities, and information.

>Q. If someone wanted to start programming where would they start

A. With a C-64! And a book on BASIC 2.0. The BASIC command list in the user's guide would be a start. I would strongly suggest sitting down with the book and writing out a program with pen and paper, then checking it by hand. The secret to programming is learning to think exactly like the machine.

Our NICKEL GAMES CD-ROM includes a good beginners tutorial and BASIC bible (which I would like to publish in CommodoreFree, if you would be agreeable). And LOADSTAR's CompleatProgrammer

has 2-1581s full of stuff -- from basic BASIC to courses on ML. Learning how to use ARRAYS is the heart of all programming.

>Q. Do you believe modern systems are too complex?

A. Right in One! I realize they must have such complexity because of their size. They need the size in order to handle huge amounts of data (like wave files, photos or movies). And while the internet is great, it would not be possible without advertising -- which needs photos, etc. So the modern home computer is way too big and complex for most users, and yet must be so in order to do what most users want done.

Back in 1997, I was assigned to a church that had a 486 PC, and had to spend a lot of time working on it - newsletters and such. I also got on the internet on the PC. In fact, for a year or so, I barely used my C-64. So, even with the SuperCPU, I never got into GEOS or Wheels or Wings. I became, instead, a "cross-platformer." PC for work. C-64 for fun. Today, I use PhotoDeluxe to massage images, then transfer them to the C-64 with GoDot. I also do video editing and CD and DVD burning on my Pentium 400 Mhz machine. And of course, newsletters and databases.

>Q. What's your favourite program/game from Loadstar's long history?

A. Recently, I have become addicted to Shamrock -- a solitaire by Maurice Jones. Blockhead's Revenge, by Kate and Ron Slaminko, keeps me up all night. Sea to Sea is still a favorite, as I try to get 6 trains in and out of Chicago without a fatal crash. I would say that the greatest piece of code ever published on LOADSTAR was/is Mr. Mouse, by Lee Novak. It came out in 1997, and made the C-64 totally point-and-click. Plus, it has a marvelous toolbox of useful commands such as Print At and Scrolling Menu.

>Q. What's your favourite bit of Commodore equipment?

A. The SuperCPU kicks the C-64 into high gear. If Maurice Randall ever gets mine fixed, I will be ready to go back to my old "brown Betty."

>Q. Do you prefer using an emulator or the real thing?

A. I use VICE 1.07 -- which works well on my 400 Mhz PC very well. I like having the whole harddisk at my disposal. And, I can flip between 64Copy (where I move files to and from disk images), Photo Deluxe, GoDot, WinZip, and VICE. I'm spoiled, I guess. For me, it is not the machine. It is the platform -- the memory map and ML and BASIC, the VIC II and SID. I have learned a lot about all this, and still have miles to go before I have fully explored this amazing computer.

>Q. Will you still be a regular Commodore user once Loadstar finishes?

A. I certainly will! Until my mind fails, I will certainly get ideas for projects. And the place for me to sit down and make them real is the C-64. Here I am god (little "g") of 65536 bytes -- who never talk back and usually do what I want. And if worse comes to worst, I can always press <Alt-R>, and the machine happily says READY.

**THE END**