

Deep Dark Castle Magazine

Volume 4, issue 1

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For your Apple II only!

More about Dark Castle Magazine...

Dark Castle is an independant Magazine for the Apple II computer. The goal is to inform the reader about the latest available products, and to support and stimulate the Apple user, also by using a BBS as helpdesk system.

Advertisements...

If you have something for sale, or if you are looking for something specific, you can send your advertisement to Dark Castle. It will be published in the next issue. Non-subscribers pay \$5 per advertisement.

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- Diskette US\$ 25.-- per year.

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You can send your subscription money in the following ways:

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- A signed EuroCheck, with the amount in Dutch Guilders.

Unfortunately Dark Castle cannot charge credit cards, or accept non-EuroChecks, simply because of their high charge-costs.

- Dutch subscribers can also send their money by bank, to account number 31.43.97.175 t.n.v. Doede Boomsma (bankgiro: P918266)

Address...

The address for articles, subscription info, money, etc. is:

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From the publisher...

Hi there! Here is a new and fresh issue of Dark Castle Magazine. Unfortunately it took way more time to finish it than expected. Reasons are a coming move, and lack of time and interest. No-one contributed articles so far, except for Pim Blokland (with GUS) and Rob Goedknecht (as usual).

Several subscribers have mailed to ask where their next issue was. We're sorry for the delay, but if Dark Castle isn't published four times per year, you will still get four issues for the money you paid. Don't worry about that - we keep a very specific database of who paid when, and how many issues are left.

Maybe thinking of new topics is one of the hardest things to start a new issue with. If you have any ideas about an article, please let it know. Only with a bit help from you side, it is possible to continue. Our mailbox always welcomes new mail, both e-mail and snail-mail.

Since we're going to move, it might be handy to give you the new address. It will be our address as of 15 July 1997. Please don't send anything to that address before that date, please.

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The Netherlands

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Coming period will be a busy time. We hope to get the next issue ready around June or so. Maybe it will be finished earlier, but we can't promise anything. For items in the next issue, see page 30 of this issue.

A last note for this editorial: so far subscribers have only sent their normal mail address. If you have an internet e-mail address, please let us know.

Doede

Fax-compatible modems

Compiled by Doede Boomsma

Before buying PMP-Fax, Faxination or a faxmodem, please read this article first. It contains a list of compatible and incompatible faxmodems. They may be compatible with Dos, Windows or MacOS, but they may not with the current versions of Faxination and PMP-Fax.

Many thanks go to the people on internet and in the Netherlands who helped me to compile this list. They have been credited in this list too. After this publication, the list will be put on the Dark Castle disk with each issue, and will hopefully contain more and more brand names each time. If you have an (in)compatible modem, please report this to me. Any tricks, hints and tips towards getting a modem to fax are welcome too.

The list starts here. It only contains brand names of the modems. See the FAQ (frequently asked questions) file on the disk for more information).

FAXination (by Vitesse, Inc.)

Compatible:

- SupraFaxModem 144LC [Thanks to Robert Rivkin]
- SupraExpress 288
- SupraFaxModem 288 [Thanks to Robert Rivkin]
- SupraFaxModem 336
- SupraFaxModem 288 VFC [Thanks to Norman Dodge]
- LineLink 144
- ZyXEL U-1496 series, firmware version 6.15 [Thanks to David Empson]
- 14.4 Bocamodem [Thanks to Mark Wade]
- US Robotics Sportster 14.4K - 1992 model - [Thanks to Mitchell Spector]
- US Robotics Sportster 33.6 [Thanks to Mitchell Spector]

Incompatible:

- Escom 1414V
- Applied Engineering DataLink
- Practical Peripherals PM14400FXMT [Thanks to N. Clayton]
- Motorola Power 28.8 [Thanks to N. Clayton]

- Worldport 2496 [Thanks to Darren Johnson]
- Zoom 9624 [Thanks to Darren Johnson]
- Generic 96-48 [Thanks to Darren Johnson]
- Abaton Interfax 12/48

PMP-Fax (By Parhurst Micro Products)

Compatible:

- SupraFAXModem 144LC
- SupraFAXModem 144 [Thanks to Robert Rivkin]
- SupraExpress 288
- SupraFAXModem 288 [Thanks to Robert Rivkin]
- SupraFAXModem 336
- SupraFAXModem 288 VFC [Thanks to Norman Dodge]
- Practical Peripherals PM9600FXMT [Thanks to Mark Hass]
- Zoom 14.4 [Thanks to P. Bauer]
- 14.4 Bocamodem [Thanks to Mark Wade]
- GVC X-Link 144E [Thanks to David Empson]
- USRobotics 14.4 [Thanks to Sam]
- US Robotics Sportster 14.4K - 1992 model - [Thanks to Mitchell Spector]
- US Robotics Sportster 33.6 [Thanks to Mitchell Spector]

Incompatible:

- Applied Engineering DataLink
- Practical Peripherals PM14400FXMT [Thanks to N. Clayton]
- Motorola Power 28.8 [Thanks to N. Clayton]
- ZyXEL U-1496 series, firmware version 6.15 [Thanks to David Empson]
- Abaton Interfax 12/48

The making of the Ninjaforce MegaDemo

Have you ever wondered what goes behind the scenes of a program? Well, here is a small interview that Dark Castle did with Ninjaforce from Germany - the guys who wrote the MegaDemo back in 1993-1994.

Q: How often did you come together?

A: In the beginning, there were only the two of us, Jesse Blue and Clue. Since we are living only 50km away from each other, we met about two times a month, exchanging ideas, graphics and code. In other words, we weren't really "working" during our meetings - most of the time we spend together we were fine-tuning things (for example, timing effects with music) or were just putting together what each of us had created so far.

In addition, we phoned each other quite often (which our parents were not very excited of because of the phone bills) to chat about several aspects of the demo, weather and life in general... :)

When we later met Dreamer (who was known as Dakkar back then), things didn't change that much. Dreamer only showed up to get an impression of exactly what he was going to do music for. He also attended when we were finishing the parts containing his music (BBS Demo, Dotland, Intro) to optimize sample sizes or rearrange some parts of the music.

Q: Was it nice work (although the demo says it isn't always)?

A: Yep, it was just as we wrote. Most of the time, it was a lot of fun. When you see the whole thing is taking shape, and your ideas, whether it's coding, graphics or music, turn out to work, there's always sunshine in your mind. But there were also moments of darkness: When the hard disk crashed with all the code on it, when an effect taking hours to code didn't look good, when an idea couldn't be implemented because of technical problems, and when those always annoying bugs showed up.

For example, Jesse thought he had a bug in the program where a picture did not decompress properly. Later it turned out that the cause of the problem was just a loose RAM chip! Finding that "bug" took me three

entire days! Other parts where very nice to do, for example the Dotland part.

Q: Was it hard to write the demo?

A: The hard part about creating a demo is having decent ideas, and transforming these ideas into bits and bytes. Keep in mind that a demo is more of a piece of digital art that has to be entertaining and (traditionally) show off the capabilities of the machine. That means that coding a nice routine/effect is one thing - presenting this effect to an audience is another story. Perhaps the best example of this is the 'Dotland' part which most people who wrote us liked best. The effect itself is pretty boring. The difficult thing now is to make it look (and sound) interesting, i.e. include variations, a theme, etc...

Regarding the technical side, it can be a real challenge to create a demo on the GS. For example, on the "demo machine" Amiga, you have much more creative freedom because you don't have as much limitations as on the GS, where you "just can't create a phong-shaded torus consisting of 500 polygons rotating at 30 fps in real-time". You are very restricted in all areas on the GS, and you have to ultra-optimize your assembler code to get the job done. Yet, maybe the hardest thing for our coder Jesse Blue was to keep himself going during the two years. :)

Q: Were the used pictures the one-and-only pictures? Or did Clue create others too (I saw a couple in an SHK archive that he or you had uploaded to caltech - nice pictures)?

A: Most of the pictures Clue created were used in the MegaDemo. But yes, there were indeed some exceptions. For example, the first design of the MegaDemo logo - it looked totally different from what was later used in the demo. Think of the German Sega MegaDrive logo, with Sega replaced by NFC, and MegaDrive replaced by you may guess what... :)

Later on, when we were working on the Dotland part, things got worse for poor Clue. He had painted the Dotland logo you may know from the 'Gimme A Clue' graphics collection, along with a big 'Dot-Bye' graphic. He liked the result very much - the only problem was that dear Jesse didn't! Since in most cases our coder has the final word, Clue had to create new pictures.

Q: Did you have any other parts of the demo in mind, did you leave any out, did you include a few things at last?

A: Yes, because the demo was not planned from beginning to end (in fact, we started with the credits, and ended with the intro!!). There were several parts we wanted to include, but didn't make it in the final demo. One of these was called 'Vertigo'. The big thing about it was that you'd have had to turn your monitor 90 degrees to get most of it. It should have featured geometrical shapes morphing into another. This was popular in many Amiga demos at that time. Jesse even had coded some lines, but we decided to cancel this one due to disk space limitations.

Q: This is what wonders me most, and I'll quote from an issue of Dark Castle Magazine: "In this great demo you see a Wolfenstein 3-D look-alike game. These guys from Germany 'just' program it, and Vitesse can't even complete the game!" Would it ever be possible to use your routines to create/ write a new 3-D demo program? The 3-D effects are real nice, and a somewhat smaller screen might speed up the display (like you can make your screen larger or smaller too in Duke Nukem 3-D on MS-Dos)... People would LOVE it!

A: Well (laughter), to be honest, for writing a game we would have to completely re-write the 3D "engine". For making a new demo, it wouldn't take too much efforts to build a new dungeon. Making the screen larger or smaller wouldn't be much of a problem, either. However, 'Vaultage' was just a show-off thing, nothing more. We wanted to have a real good looking dungeon, not just a bunch of rectangular rooms.

Yet, we'd not say such a game was impossible to do on the GS, but why do a second Wolfenstein? Also, developing a fast, optimized 3D engine takes a huge amount of time. 'Vaultage' was developed in about two months, and Jesse had never done anything like that before. Just think of how long Burger Bill needed for porting Wolfenstein 3D - the engine code was already available. Moreover, we think that texture-mapped 3D games don't make sense on the GS - if you want to play these games, get a PlayStation or a decent PC.

That's one of the reasons why we are working on a 2D, multi-player arcade game based on the infamous Bomberman series. This type of game hasn't been done before on the GS, it is completely new terrain (and what's more important, it's tremendous fun to play!).

Check out our WWW home page to find out more about it! :)

The location is:

»»» <http://www.igd.fhg.de/~girschik/nfc/> «««

Castle Wolfenstein 3-D

Yet another game you won't forget!

Castle Wolfenstein is a three dimensional (3D for short) game in which you are a prisoner and have to escape from. You are prisoner somewhere in Germany, in Adolf Hitler's bunkers. On your way to freedom you have to kill German soldiers and dogs, find secret areas, ammo, weapons, and treasures. This all will give you a score, and except for escaping, the goal is to get a high-score.

This game has been available for other platforms for a long time. The 2D version did exist for the Apple II, although there never was a GS specific version. Back in 1994 Vitesse, Inc. announced that they would "soon" release Wolfenstein 3D for the IIGs. This never happened, and the man behind the project, Bill "Burger Bill" Heineman finally put out a freeware demo version of the game. Several things have to be fixed, and a complete version is to be expected soon.

The game requires an Apple IIGs with 4MB RAM, and a hard disk. The demo version, however, will work with less RAM and run from a floppy. This will be rather slow, but it will work.

An accellerator is highly recommended, and even with a ZIP or Transwarp you can't play in fullscreen mode - the animation will not be real smooth.

The keyboard or mouse can be used to navigate. One nice feature when using the keyboard, is that you don't have to repress the forward key when you have pressed another key. This problem does happen in other popular games, like TestDrive II - the Duel. Using the mouse will give you more speed in fast movements, like turning around. Especially in the harder modes (like "Bring 'm on" or "I'm death-reincarnate") this can be an advantage.

The demo version only includes the first episode, with three levels. There also is no sound in the game, except for some simple beeping. The demo does have intro music, and victory music (by Tony Morales, the man who also did the music for Ultima I for the GS).

The full version however, does require 4 MB and a hard disk. The total amount of disk space the game needs, is around 2.4 MB. This includes all the sounds and 7 episodes. The first episode contains thirty levels. It will take alot more time to complete the real game than the demo...

Wolfenstein GS 3D can be found on the popular ftp sites on internet. The three big ones are:

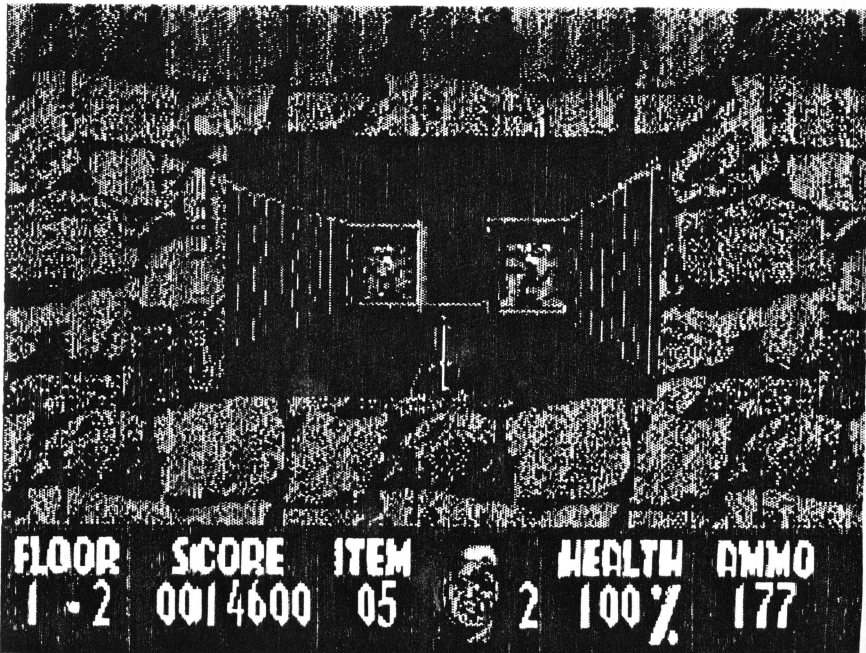
ground.isca.uiowa.edu

apple2.caltech.edu

ftp.uni-kl.de

But it can also be downloaded from Dark Castle BBS in the Games volume (Area 1 - Volume 4). See a couple of screenshots on the disk that comes with this issue.

[Editors note: Older European people, who survived World War II, or have memories to World War II, may not like this game. It contains nazi's and Hitler pictures. Beware of this]



Video Grabber, Part V

By Rob Goedknecht

Unfortunately, little has happened since the last issue of DDC.

What has been done:

I have been working on the proto-type; the chips I used for A/D conversion are no longer available, and I'm working now with 2 or 3 other types, trying to find out which are best suitable. Since I found out about the chips, I decided to go for a piggy-back option which will hold the converter chips, so when I know which converter works best, I only have to redesign the piggy-back. Furthermore Doede asked me if it's possible to make a TV-tuner with the grabber; I'm checking this now and will, if possible, incorporate it on the piggy-back. Hopefully the next issue of this magazine will feature video images grabbed by the board.

Rob

Conversions FAQ

A few issues ago, we published a newly written FAQ (Frequently Asked Questions). This FAQ went about conversions, and listed all kinds of (foreign) formats, and which Apple II or Apple IIs programs could handle it.

This was still in the time that Dark Castle Magazine was being published in Dutch, so the FAQ was also in Dutch. However, quite a lot of people have been bugging us for an English version. Well, here it is! Check out the disk issue in the FAQ's folder. It is listed as "Conversions.FAQ", but does not contain significant updates.

If you have any suggestions, or updates to the FAQ, we would appreciate it very much if you mailed us about them. See page 1 for contact information.

Modem Starters' disk

If you have recently bought a modem for your Apple II, or are planning to buy one, *and* you don't have any software for it yet, you might consider buying the *Modem Starters' Disk* from Steve Cavanaugh, publisher of *The Apple Blossom*. However, you can now also order it from *Dark Castle Magazine!*

Modem Disk Available for Apple II Users

Dear Apple II user,

As a service to the Apple II community, Apple Blossom Publishing and Dark Castle Magazine are offering a disk (5.25" or 3.5") with all of the software you need to get started in the world of Apple II "modeming". You get a choice of whom to order from, to make it easier to send payment with smaller conversion charges and hopefully quicker turn around time.

This double sided 5.25" disk contains:

Sneeze 2.1: Freeware by Karl Bunker - program launcher, txt & awp viewer/printer, graphics viewer, utility set.

Shrinkit 3.4: Freeware by Andy Nicholas - Apple II standard archiving/dearchiving program, utility set.

BinSCII 1.0.3: Freeware by David Whitney - Binary/Text conversion utility (Apple II standard).

UU 1.1: Freeware by Andy Tefft - Binary/Text conversion utility (Unix standard).

Comm.System 2.5: Freeware by Jim Ferr - Simply, easy to use communications program that supports Xmodem transfer and ASCII capture.

Unshrink 2.1: Freeware by Andy Nicholas - Shrinkit for II+'s, unenhanced and/or 64k IIe's.

In archived format (Shrinkit archive, of course) Zlink - Shareware by David Whitney - is included. Zlink is a more advanced communications program that offers X & Ymodem transfer capability and VT-100 emulation.

Also in archived format, is ASCII Helper - Shareware by Clayburn Juniel III, this IIGS utility helps convert text files between different online systems by adding or removing linefeeds, carriage returns, etc...

To take full advantage of these programs, Iie users should ensure their machines are enhanced, with at least 128k of RAM. Iic users should determine their ROM version by typing the following and pressing return at the Applesoft basic (I) prompt:

```
] Print Peek(64447) <press return>
```

If a value other than 255 is returned, then your Iic has the necessary ROM version to take full advantage of your machines telecommunication abilities.

All original documentation files are included. Docs for BinSCII, UU and Comm.System are in archived format due to space considerations. Archiving them allowed me to include ASCII Helper.

For unenhanced Iie's and II+'s, a DOS 3.3 version of Kermit are also available by request.

InTrec Software, authors of ProTerm A2 and ProTerm Mac, sells properly wired modem cables for Apple Iic, Iic+ and Iigs computers. They are selling them at very reasonable prices...

Modem Cables - \$10.00 (add \$3 S/H for cable)

- Macintosh & Apple Iigs Universal Hi-speed Handshake cable for speeds 300 thru 57,600 bps.
- Apple Iic to modem cable.

This disk also contain ProDOS and Basic.System, so that you can boot the disk with a minimum of fuss and bother. Both ProDOS and Basic.System are licensed Apple system software and are distributed under license from Apple Computer, Inc. If you would like the complete Apple II System Utilities, you can contact a local user group or The Byteworks.

You can order the Modem Starter Disk by sending your mailing address, the size disk you would like, and \$3 US currency to:

Steve Cavanaugh
8 Ardsley St.
Brockton, MA 02402
USA

or, by sending the same info with the equivalent of \$3.00 US in Eurocheck or Dutch Guilders (Fl) to:

Doede Boomsma
Dark Castle Magazine
Wolborgenmate 72
7006 DK Doetinchem
The Netherlands

If you have any questions, please email Steve Cavanaugh of Apple Blossom Publishing at:

stevec1021@aol.com or **appleblossom@delphi.com**

or Doede Boomsma at:

dboomsma@sci.kun.nl or **root@darkcastle.ecore.fnet.org**

BBS: +31-314-365145

*The 3.5" disk also has copies of GSCII (an NDA version of Binscii), GSHK (Shrinkit GS), YoYoDuck (general ProDOS utilities) and demos of Proterm 3 and ANSITerm 2.0.

The address of The Byte Works is on page 22, and the address of Intrec, Inc. is on page 17.

Using a modem on your Apple II

By Doede Boomsma

Have you ever used a modem on your computer?

Many people hesitate to buy a modem. Person A is afraid that his phonebill will raise up too much. Person B thinks it is too difficult to learn, while person C person thinks that the Apple II(gs) cannot handle a modem faster than 2400 baud.

All three persons are right and wrong, in a certain way. In this article I shall try to shade some light on using modems.

Phonebill

It is true that your phonebill can raise more than you would like to, but you can control the amount of time you spend online. Some good tips when calling a Bulletin Board are:

- On your first few calls, take your time to explore the BBS so that you globally know how if functions, and what the possibilities are.
- Save your scrollbar, and re-read everything you have done so far after you have been disconnected. This will help you to know a BBS better, and next time you login you won't need much time to find something again.
- If you have questions, just e-mail the system operator. Most operators are friendly enough to help. And if they are not, then that BBS may not be worth calling. A sysop is the one who makes and creates a BBS for its users, so a good sysop is always 'around'.
- Prepare most of your messages offline, i.e. before you connect to a BBS. Copy & Paste them into the BBS's editor when you are online.

Learn to use a modem

Using a modem is not difficult at all. If you buy a commercial communications package, an extensive manual will be included. Any questions you might have are covered therein.

On the other hand, when you have setup your modem, and you have managed to dial a BBS, it is the BBS software you have to get used to. As soon as you are online, your communications program will only

send and receive data. When you press a key, a command will be executed at the remote end. [There still are local commands: refer to your communications manual for more information about them].

And of course, there are many other modem users who can help you. Just dare to post a message on any BBS you call, and you'll get all the help you need. The only thing you have to do to get help, is call back the BBS every other day or so, and check for new mail and messages.

Fast or slow modems?

There are rumors that an Apple II cannot support high-speed modems. Slow modems (less than 9600 baud, like the 1200 and 2400 baud models) cause longer online sessions because data is transmitted at a low rate. However, an Apple II can certainly use high speed modems!

There are a few side-notes, though. First, an Apple II, II+, or IIe needs a Super Serial Card to use a modem. This card supports a maximum of 19.200 baud. However, there is hardware modification available that will allow up to 230.400 baud thruput [I don't have the specific information at hand right now]. Second, an unaccelerated computer may loose characters when scrolling messages.

The Apple IIc is not a good machine to use a modem with. Some models have a fault in the motherboard, which cannot support modems faster than 2400 baud. Another point is that it has a 5 pin connector, which is hard to configure for high speed modems (which use hardware handshaking cables).

The Apple IIc+ is okay, but they are hard to come by.

The Apple IIgs is far the best computer to communicate with. It has built-in serial ports (like the Mac), which can support up to 57.600 baud. If you buy a modem that works with the Macintosh computer, it will work with your Apple IIgs. And if you want to be 100% certain sure that you have as few errors as possible, order a hardware handshaking modem cable from Intrec Software, Inc. They are \$10 each, but really worth the price! I'm using one too!

Since the Apple IIgs can handle a maximum of 57.600 baud, it can support fast modems too. The fastest model currently available, is a 33.600 baud modem. An accellerator is highly recommended to keep up with the speed, but it works. Especially the ZIP cards seem to be a good accellerator. On a 28.800 baud connection, my Apple IIgs won't loose characters on the screen. However, my other GS (with a Transwarp) does

some.

Dark Castle BBS runs on an Apple IIgs with a ZIP and Ramfast, and uses a SupraFaxModem at 33.600 baud. This works flawlessly.

Not only does the Apple IIgs support all telecommunications programs that are available for the Apple II series, it will also support TCP connections in the future. Derek Taubert has written a TCP protocol, and has also developed a webbrowser for the GS. [In Volume 3, issue 1 we published more about GS Web]. And the Apple IIgs can even fax! Programs like Faxination (Vitesse) and PMP-Fax (PMP) allow you to send and receive faxes. PMP-Fax tends to be the better one of the two, and even supports 14.400 baud faxing.

After reading above, I hope you have gotten another look upon modems. It may have been interesting to advanced modem users as well...

Terms

- BBS - Bulletin Board System [An electronic system you can login to, and read & write messages, e-mail other persons (on internet), and up- & download the latest non-commercial programs]
- Online - on the line [A connection between your modem and the remote modem exists over the telephone or ISDN line]
- Offline - off the line [No connection exists. You are still in the telecommunications program, preparing messages, or about to go online]

Good Communications Programs

Proterm 3.1

For use with any Apple II computer that has Mousetext characters.

Proterm is ProDos-8 based, and is very fast.

Contact addresses:

Intrec Software, Inc.
3035 East Topaz Circle
Phoenix, AZ 85028-4423
USA

Support: +1-602-992-1345
BBS: +1-602-992-9789
Fax: +1-602-992-0232
E-mail: proterm@inctrec.com

ANSI-Term

Specifically designed for the Apple IIgs, though ProDos-8 based. As the name says, it does ANSI emulation. However, it also does VT100 and Proterm Special Emulation (PTSE).

It is available from Parkhurst Micro Products (PMP).

Contact addresses:

**Parkhurst Micro Products
2491 San Ramon Valley Blvd
Suite 1-317
San Ramon, California, 94583**

E-mail: pmp@genie.com

Spectrum 2.1

Another Apple IIgs program. It is ProDos-16 based, i.e. GS/OS compatible. It has many great features, and supports scripts. It is, for example, possible to download a ShrinkIt archive, and unpack it at the same time using a script. You need Balloon from EGO-Systems, though. Available from Seven Hills Software.

Contact addresses:

**SevenHills Software
2310 Oxford Road
Tallahassee, FL 32304-3930
USA**

Phone: +1-904-575-0561

Fax: +1-904-575-2015

Email: sevenhills@aol.com

Notes

- All 3 commercial products above have excellent technical support!
- Elsewhere in this issue of this Magazine you will find information on the Modem Starter's Disk from Steve Cavanaugh (also available via Dark Castle Magazine). It contains share- and freeware communications programs, and also handy utilities for modem users.

Programming in C...

By Rob Goedknecht

Intro C-programming editorial.

After a discussion I had with Doede, the idea was born to start a sort of 'C-programming on the Apple // GS' course. I liked the idea and started out by writing this introduction, and gathering my old notes on C-courses I followed. After a while I remembered how bored I was with the apparently standard C-programming examples and exercises. Since the space I have in this magazine is limited, I suggest the following: I will not start off by explaining all C-instructions and how to write a program which will do no more than print 'hello world' on a display, but I will try to explain C's inner workings together with the usage of C on the GS by making some sample, and hopefully usefull, programs. However this will require some input from YOU, the reader:

Firstly, I would like to hear from anyone who has suggestions on a program, or questions on how to... But keep in mind, we'll start on a level, comprehensive for C-newbies who have some programming insight, be it in basic or assembler.

Secondly I'd like to hear from any experienced C-programmer who would like to help me with this 'course'.

So this is the main idea: every issue of DDC there will be a small C-program or a part of a larger program (depending on the space available) together with a short explanation of the how's and why's. The code, and if possible compiled programs will be included on the disc, together with a more detailed explanation. The following issue, questions about the sources will be answered, so you can actually set the pace in this course.

What do you need:

- some book on C, maybe "Variations in C", or "Illustrated C programming"
- a C compiler/editor, like ORCA/C.
- my e-mail address: rob@darkcastle.ecore.fnet.org

Hope to hear from you !

LemminGS

A review by Doede Boomsma

Some games you will never forget. You keep playing them forever, and you will never forget their names. One of these games is Lemmings. Lemmings has been available for the Amiga, Atari, Dos, Windows and Macintosh for years. However, there was no Apple II(gs) version. But...

Around Christmas 1996, Brutal DeLuxe from France had completed their Apple IIs version of LemminGS! It had taken them roughly eight months to complete it. And the result is great! Another hit in a row from Brutal DeLuxe.

The Game

Lemmings are tiny creatures who "just walk". When they reach a wall, they bounce and walk back. When they walk over the edge, they fall on the ground, in water, in fire, etcetera.

Your job is to guide all Lemmings safely to their home. This home usually is at the other end of the screen. On their journey, the Lemmings have to pass objects, dig holes, grab tunnels, use umbrellas to fall down slowly, climb walls, and so on.

But, as said before: Lemmings "just walk". And it is your job to bring them to their home by assigning functions to them. You have limited functions available, so you must think carefully, and plan how to finish your job.

Levels

Each level has a different number of Lemmings, and each time a different number (percentage) of them has to be saved. Until you have completed to bring the required amount of Lemmings home, you will proceed to the next level.

You will also be given a code that will allow you to start at that specific level next time you play Lemmings. This is interesting, since you then don't have to play all levels again. There is a total of 92 levels.

Music

Thirteen different songs will play during the game, of course one at a time. The songs are real fun to listen to, and they sound very good. The musicians must have spent alot time making them sound this good!

Availability and pricing

The game is freeware, however, you can only get the game if you own or buy Brutal DeLuxe's *Convert 3200*. This is a program that can convert GIF, BMP, TIF and more formats to SuperHires (SHR) and PrintShop GS formats that can be used on the Apple IIGs. They can converted to 16 greyscale, and 16, 256 or 3200 colours.

Convert 3200 costs \$15, and if you want Lemmings too, the total amount will be \$20. (So if you already own *Convert 3200*, you can buy LemminGS for only \$5!). This includes shipping to anywhere in the world, including disks with printed labels.

Send your money to:

**Joe Kohn
Shareware Solutions II
166 Alpine Street
San Rafael, CA 94901-1008
USA**

For more information on Shareware Solutions II, see the folder "FAQs" on the disk that comes with the disk-issue of this Magazine.

LemminGS Demo can be found at the following ftp sites:

**ground.isca.uiowa.edu
ftp.uni-kl.de**

But can also be downloaded from Dark Castle BBS from the Games volume (area 1 - volume 4).



All sorts of information

AppleWorks GS

Quality Computers claimed that AppleWorks GS v 2.0 was undoable. The original source code was claimed to be a "big mess". The final v 1.1 was created after quite a lot of handpatches.

This is not true. Bill Heineman was hired to work on the project. He started rewriting parts of the original source code, and completed about 30% of what should have become v 2.0. This had taken him three months work, but then he quit because Quality Computers wasn't going to pay him at all.

Up till today he still has the source code for the 30% version 2.0, but it cannot be distributed due to the legal status of AppleWorks GS.

Spectrum

The GS/OS telecommunications program Spectrum v 2.1 (by Seven Hills) now almost includes a new ANSI driver. It uses the firmware of the Second Sight card to display true ANSI colour. Since it does not use the SuperHires (SHR) mode on the Apple IIgs, but the Second Sight card firmware, scrolling won't be slow anymore! This driver is not yet available, but the beta-tests are almost over now.

Basic

The Byte Works is working on a new basic language. It will be much like Applesoft Basic, but will be more advanced. It can also be used in cooperation with ORCA/M.

The Byte Works also sells the three Toolbox References for the Apple IIgs, as well as a lot of other manuals that were out of print.

The Byte Works
8000 Wagon Mound Dr. NW
Albuquerque, NM 87120
USA

Phone: +1-505-898-8193
E-mail: mikew50@aol.com

LemminGS Codes!

The following is a list of the first 46 levels of Lemmings for the Apple IIs. Only use these if you can't complete a level...

Level	Code	Level	Code
1	none...	36	HLDOCMOEEJ
2	IJLDNCCCN	37	LDOCAJNFEP
3	NJLDNCADCK	38	DOCIJLLGEW
4	HNLJCIOECY	39	OCEOLLDHEY
5	DNCAJNFCEM	40	CMNLLDOIEQ
6	DNCIJNLGCV	41	CEJHMDOJES
7	CANNNLHCY	42	IKHMDOCKEY
8	CINNLONICL	43	NHMDOCALEU
9	CEKHMDNJJCQ	44	HMDOCEJNMER
10	IJHMDNCUCU	45	MDOCEJLNEK
11	OHOLJCALCY	46	LOBIJNODEK
12	HMDNCIOMCL		
13	MDNCEJLNCX		
14	DNCIJNMOCO		
15	NCANNMDPCL		
16	CMNLMDNQCW		
17	CAKJLNJBOM		
18	IKHLFJCCDL		
19	OHNFJCEDDO		
20	HNFJCINEDS		
21	LFJCAKNFDM		
22	FNCIKLLGDX		
23	NCEOLLFHDY		
24	CIONLNJIDT		
25	CEJHOFJJDQ		
26	JKJMFJCKDW		
27	JNMFNCALDW		
28	HMFNCINMDN		
29	ONJCAJLNDM		
30	FNCMKLMODU		
31	NCANLMFPDM		
32	CINNMFNQDX		
33	CAJJLDOBEX		
34	IJHLDOCCEO		
35	OHLDOCEDEQ		



Lost-Gonzo BBS

An Apple II BBS on internet

A long time ago, a man called Mr. Brad emailed me, and he had an interesting signature below his email. It stated that he had an Apple II BBS with multiple lines. He was using the same BBS software as I was doing at that time (and still am now). After asking about it, he pointed out that he has setup several machines, that together form one large BBS.

It's too difficult to go into details right now (but maybe Mr. Brad will write a more detailed article for the next issue?). But in short it comes all down to the following:

Mr. Brad uses an IBM compatible machine that runs a Major BBS which is permanently connected to internet. When you reach the BBS via telnet, you will get connected to this Major BBS. In its main menu there are multiple "door" options. Several of them are Apple II BBS's. What he did, was connect them via a serial cable to his IBM compatible machine. When someone chooses to run a door, the Major BBS will connect to the Apple II. The Apple II BBS will then answer like it would receive a normal modem call. In the mean time anyone else can connect to any other door on the Major BBS, or do anything within the Major BBS itself (e.g. IRC, Telnet, E-Mail, Usenet, etc.).

His motivation to do this all, is based on the fact that he wants to have all his BBS's online that he has run since 1983. And I must say he has done a great job!

Connect to your local ISP (Internet provider), startup telnet, and open the location "lost-gonzo.com" (without quotes). Once you are on one of the Apple II BBS's, you can switch your Terminal Emulation to Proterm Special (PTSE), and get real cool PTSE screens. Most of what is in there was written by Terry R. Olsen (he gets most of the credits), but Mr. Brad has also done quite alot. For example, if you wonder where all the Classic BBS Online Games have gone to... check out Lost-Gonzo BBS! Almost 40 games are online to play, all working thanks to Mr. Brad.

On the disk that comes with this issue of Dark Castle Magazine, you will find an online session. It may contain some personal information of me, but the goal is to show you the global BBS with its Apple II doors.

More about... GUS

By Pim Blokland

Experiences of an Apple IIGs emulator user

Gus v1.0 is a program which runs on a PowerMac and simulates an Apple IIGs. Apparently it was written by some Apple employees as a project primarily intended to improve their working knowledge of the PowerPC processor. It's not commercially available yet; it might not even ever be available, as it never was meant as a retailable product. The version I have says DO NOT DISTRIBUTE in its About box, so if you don't mind I won't tell you how I came by it...

When you start it up, it shows a big window which looks almost exactly like a real IIGs. Obviously, a Mac cannot display full screen at 640x200 resolution, so this window is 640x400. This leads to a somewhat distorted picture, as the height to width ratio of the pixels is now no longer 5/12 but 1/2. For most applications however, this is not much of a problem. Just don't go and design graphics for a IIGs on this emulator. If you want to, you can choose to display in a smaller window: 320x200. I would not recommend that though, as this small window experiences problems in nearly all screen modes except 40-column text.

The title of the window is "Apple IIGs", except when the Mac screen is in anything other than 256-color mode, in which case the title reads "Apple IIGs (Slow Video)".

I'm a bit puzzled by this, as I haven't been able to detect any speed differences.

When the Mac is equipped with a Superdrive, it is possible, in theory at least, to read all floppy formats you have FSTs for: ProDOS, HFS and MS-DOS at 720K, 800K and 1440K. However, it doesn't seem possible to write to those disks: the emulator always thinks the disks are write-protected. The Superdrive also is notably slower than the real IIGs drive. And a Mac disk drive does not have a eject button, which is a problem, since IIGs software always assumes that the user can eject the disk at any time. The only program that has a software command for ejecting a disk is the Finder, and even that does not always work: sometimes the disk disappears off the desktop but is not physically ejected (or the reverse happens: the disk is ejected but its image remains on the desktop). So you better have a paperclip at hand.

The speed of the emulator varies somewhat. On this machine (with a 117 MHz 603e processor) SDE reports speeds between 14 and 19 MHz. What exactly is the cause of these variations is unclear. I have ruled out most background activity such as disk drive polling, AppleTalk polling, etc. It's possible to tell Gus to run at original IIGs speed, but then the speed varies between 4 and 6 MHz (according to SDE). This means that either Gus, or SDE, isn't calibrated very well... OK, Gus itself admits that it can only control the speed of the IIGs "sort of".

Not all applications will run without problems. A lot of programs report that shadowing doesn't function properly. Arkanoid starts up but refuses to go beyond the first screen; MD-BASIC and Term II won't run at all; and even software from Apple itself exhibits problems: AppleTalk/Share [test] hangs the machine when activated.

Sound, of course, is another problem. Gus does not emulate the Ensoniq chip. So the only sounds you can get to hear are the old Apple II style 1-bit sounds.

Interchange of files. As I said earlier, Gus does not write to floppy disks. Neither can it directly access the Mac hard disk. It does see, however, any CD-ROMs attached to the system.

[printer? Modem?]

What does work, are disk images. You can create a image of any size, up to 32M, and read and write to that. A disk image is a file that resides on the Mac harddisk and acts just like a real disk, only much faster. Other than through those disk images, it's impossible to access the Mac harddisk. And since the disk image format is unknown to the MacOS, you cannot change its contents using the Mac. All this means that the IIGs emulator and the rest of the Mac are very isolated from each other. Apart from this problem, the interface between the emulator and the Mac it inhabits is very good. At startup, Gus mounts all the disk images that are in the same directory as the Gus program itself. If you want to make a floppy (or a CD) on the Mac desktop available to Gus, just drag it onto Gus's main window and it appears on the IIGs desktop. Or when you want to activate one of the disk images on the Mac harddisk, just double click it while Gus is running.

When you really need to change a file that's on a floppy, you must first make a disk image of that disk, then make the changes to the disk image and finally copy the disk image back to disk. The IIGs emulator itself cannot perform the first and third steps; you'll have to run a separate program for that.

(To be honest, there are Mac utilities that let you use a disk image as a disk. They let you drag files from a floppy to a disk image and back, and

make life a lot easier. But we're talking about Gus here, not discussing those utilities.)

And now for some real bugs.

- The keyboard is not accessed directly, but uses the underlying Mac toolbox routines. This means that key combinations the Mac uses for itself, cannot be seen by Gus. So for example, key combinations like option-u u (for ü) do not work: the option-u is swallowed by the Mac, passing only the u to the IIGS emulator. Fortunately, pressing option-u twice will work, but for touch typists this will require a lot of re-learning. Another problem are the range of command-key combinations the Mac uses internally, OA-shift-1 to OA-shift-9. This means that commands like OA-! or OA-# cannot be given, and there is no workaround for that (except for hoping that there are pull-down menu items which do the same). To be totally honest (yes, we are being very honest, aren't we?), the combination OA-! is the Mac command for ejecting the floppy. It works so well that you never have any need for the paperclip mentioned above. In fact, it works even better than a paperclip, because (unlike the GS) when you use a paperclip the Mac doesn't realize that the disk is ejected. But anyway, this is not the place to mention Mac hardware deficiencies...
- Since the "disk" Gus writes to is really a disk image on the Mac harddisk, there is no guarantee that whenever you write to disk, it performs a physical disk access. It updates the disk image, but the disk image resides partially in memory and remains open for the duration of the Gus session. So even if you save regularly, the only time you can be sure that your work is secured, is when you shut down the emulator program altogether. Writing to a real disk, a floppy, would circumvent this problem, but as Gus cannot write to floppies, this is impossible.
- Gus has a rudimentary possibility to get text from the Mac to the IIGS and vice versa: you can have the contents of the Mac clipboard "pasted" into the IIGS by presenting it one letter at the time, as if you typed it on the keyboard. And there are two special menu items called Import Macintosh Clipboard and Export Apple IIGS Clipboard, respectively. But the paste facility cannot handle high-ASCII characters, Import Macintosh Clipboard is not implemented yet and Export Apple IIGS Clipboard does not seem to function, most of the time.

- Obviously, the disk interface is still under construction, resulting in numerous errors. Apart from the fact that Gus cannot write to floppies, these include:
 - Inserting an MS-DOS disk causes an error message
 - floppy icons sometimes look like hard disks, or vice versa
 - info on floppies sometimes display erroneous data like "31.2 MB used, 785 K free"
 - disks are not always ejected when they should be
 - unformatted disks are not recognized properly

These are some disadvantages of Gus. Are there no advantages then, you might ask, for you might think that this whole article is nothing more than a long list of incompatibilities and inconsistencies. And you might be right.

But let's put it like this. An emulator should do what the original does, and anything it does different is a deviation from the concept, and as such not acceptable. In other words, it is principally not possible to make an emulator better than the original. It would have been easy, for example, to give this machine a 640x480 screen, or 256-color capabilities, but then it would not be the same thing.

Of course, the higher speed is nice, but only for programs which do not rely on the speed being 2.8 MHz, or the speed being a constant...

The thing I like about Gus is that it not only emulates the IIgs hardware, but also the original Apple II hardware. You can start Applesoft BASIC and give commands like GR, HGR or FLASH, and these all work as they should.

And of course, the fact that it's there. Knowing that there are Apple employees who still love the Apple II so much that they made this. And this gave me the opportunity to buy a new computer (not just another second hand one, but a brand new one) and still continue my work, without giving up everything I love and cherish.

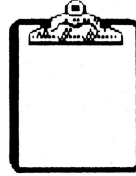
New functionality too: this machine can read CDs and high density floppies. Plus it's a portable computer, meaning that I can take it with me and work everywhere I want: on trains and boats and planes. Try that with an real IIgs!

Truly IIgs on the road. All things considered, I think I love it.

And then there's Fast Eddie...

...to be continued in the next issue

The Clipboard



The clipboard is a place for your little advertisements. If you are looking for something, or have something for sale, your message will be placed in this corner.

Of course you cannot ask for a copy of a commercial (software) product, or offer an illegal deal.

Subscribers do not pay for their ads. Non-subscribers pay \$5 per advertisement.

For sale: GS Ram+ with 6 MB Ram. Tom Prins. Phone: +31-182-21392 or e-mail: tom_prins@spidernet.nl

Wanted: brand new Apple Iigs. Never used! Contact: Pim Blokland. E-mail: nipp@darkcastle.ecore.fnet.org

Wanted: 4 MB Ram card for the Apple Iigs. Please write me at:

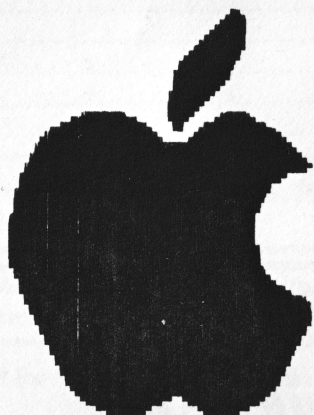
Jan Pel
van 't Hoffstraat 9
2014 RA Haarlem
The Netherlands

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Expected in issue 4-2:

- Video Grabber, Part VI
- Programming in C, course 1
- GUS (continued)
- Interview with Tony Gonzales
- Detailed information about the Buggie-powersupply



// Infinitum!