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# Juiced.GS

A quarterly Apple II journal

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🍏 Best of Juiced.GS

Sample Issue

## KansasFest 2009



*Late nights, pizza parties, wandering from room to room, and hacking away —  
It's KansasFest, where the Apple II is alive and well. Read our coverage on pages 8–12.*

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## My Home Page

# Welcome Home

Welcome to the sample issue of *Juiced.GS*!

This publication was founded by Max Jones in 1996. With other storied publications such as *Nibble* having ended their production runs, and other attempts to fill that gap not realizing their potential, Max determined a need within the Apple II community for a regular publication that would bring its members the latest news, reviews, interviews, and how-to's.

What you are holding is evidence that that need still exists, and that *Juiced.GS* is still filling it. More than a decade later, it is the longest-running Apple II publication ever, and the only one still in print.



Despite the small number of people in this community, it is still big in its diversity and geography. Members hail from the United States, the United Kingdom, Australia, Germany, Japan, and elsewhere. So it's unsurprising that sometimes news travels slowly.

The existence and value of a publication like *Juiced.GS* is something that's yet to be discovered by all those members. This sample issue is intended to rectify that, with three articles from our 2008 and 2009 volumes. The interview with Bob Bishop has been cut in half to fit here, while the MicroDrive/Turbo review appears in full, though some pictures and tables were cut. The KansasFest article covers the entire event but without two sidebars that summarized announcements made at the event.

These articles represent a small portion of what we publish in each 20-page issue every three months. A growing staff of writers and programmers diligently

work each issue to bring you news of upcoming software and hardware releases, and in-depth, critical reviews of same once they are available. Some programmers provide tutorial series to help you learn the ins and outs of Apple programming; others give you an inside perspective on how your favorite programs came to be. Interviews with Apple II luminaries, past and present—Mike Harvey of *Nibble Magazine*, Jeff Fink of *Silvern Castle*, Jason Scott of *BBS: The Documentary*—give you the answers to the questions you've always wanted to ask your favorite programmers, publishers, documentarians, and more. And first-hand coverage from every summer's KansasFest lets those of you unable to attend the world's only Apple II convention vicariously experience this unique affair.



*Juiced.GS* is a one-of-a-kind publication in the modern Apple II community. Those who support it find that it brings an essential focal point to their retro-computing hobby, while reminding them that the Apple II is alive and well.

"I am just delighted with [*Juiced.GS*]-each issue just has a ton of content," said Carrington Vanston in an episode of *1 MHz!*, his Apple II podcast. "It's exciting just to get an Apple II publication in 2006."

I hope that this sample issue will provide you with a hint of the value that other Apple II enthusiasts have found in *Juiced.GS*. Subscription and contact information is found on the facing page.

**Ken Gagne**  
*Editor-in-Chief*



# Review: MicroDrive/Turbo

## **MicroDrive/Turbo**

**\$185 + shipping & handling**

**Developed by ///SHH Systeme  
and available from:**

**ReactiveMicro.com**

**<http://www.reactivemicro.com/>**

**By Mike Maginnis**

It is a testament to the genius of Woz's design that the Apple II's architecture continues to be expanded more than thirty years after its initial introduction. Enterprising hackers have created hardware to adapt technologies such as Ethernet and CPU acceleration, and now, as prices on solid-state media such as CompactFlash continue to fall and reliability improves, just such a homebrew device finds new life in the Enhanced IIfx and IIGS.

## **Meet the MicroDrive**

The MicroDrive/Turbo controller, developed by Joachim Lange in the mid-1990's, is available now from ReactiveMicro.com for \$185 + shipping & handling. While the MicroDrive/Turbo was initially designed to handle IDE hard drives—and handle them it still does—today's Apple II technology trends in mass storage lean toward CompactFlash, which the MD/T also accommodates. The MD/T now comes retrofitted with everything you need to take advantage of CompactFlash in your Apple IIGS (ROM 01 or later) or Enhanced IIfx. Included in the package are a 3.5" ProDOS-formatted 800K floppy containing the Setup Utility, Driver, and Hard Disk Utilities for the Apple IIfx and IIGS; a CD-ROM with both PDF manuals and a Quick CF Card Setup guide; a Butterfly Media Hi-Speed USB 2.0

CompactFlash Reader/Writer for use with your PC or Mac; a 128MB preloaded CompactFlash card; and the MD/T itself.

The MicroDrive/Turbo comes ready to run out of the box. Its documentation suggests using slots 2 or 7 on a IIGS, but any slot will do; for the IIfx, no suggestions are offered. A dual-slot CF-IDE converter comes plugged into the 40-pin IDE connector on the main circuit board and can be removed to connect other IDE devices to the MD/T. A 128MB CompactFlash card is plugged into the converter's primary CF slot and is pre-partitioned and formatted with four 32MB ProDOS partitions. System 6.0.1 is already loaded on the first partition, so you can simply plug the MicroDrive/Turbo into your Apple. The 17-page PDF manual boasts that the card can boot into GS/OS in twelve seconds on a standard IIGS, and nine seconds with an accelerator present. My testing proved these numbers to be accurate, as represented in Table 1 (page 4). The MicroDrive/Turbo booted a Kodak 128MB CompactFlash card with four 32MB ProDOS partitions. A default GS/OS installation was loaded on the first partition of the card.

Table 2 (page 5) represents my test of file-copy speed. Three files were transferred 10 times each from an 800K floppy to a partition on a CF card on the MD/T.

The MicroDrive/Turbo can boot into any partition on the attached device via a simple keypress combination (Open-Apple + partition number you want to boot from) during start



## **Best of Juiced.GS**

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**<http://www.juiced.gs/>**



# Review: MicroDrive/Turbo

up. This handy feature allows you to load each partition with a different OS or configuration and boot right into which ever one you choose.

The CompactFlash card that ReactiveMicro.com includes with the device is loaded with useful software. System 6.0.1 is loaded on the first partition, and the second partition contains ShrinkIt v3.4, a set of SCSI card utilities, Dsk2File v5.8, Diskmaker.8, Block Warden, CVTech's MemTest, and Copy II Plus 9.1, as well as drivers and documentation for not only the MD/T, but several other of ReactiveMicro.com's product line.

The MicroDrive/Turbo partition scheme is incompatible with Rich Dreher's competing CompactFlash For Apple II (CFFA) controller; a CF card set up on one device will not work in the other.

## Set up

Following the included instructions to install a new CF card for use with the MD/T is a multi-step process. The card must be partitioned and formatted on the MD/T using the included INSTALL.SYSTEM utility. Then, the card must be moved to a PC and the volume images on the CD transferred to the card using CiderPress (reviewed in *Juiced.GS* Volume 12, Issue 4). There are four 32-megabyte volumes on the CD: one contains a default GS/OS installation, another various GS/OS patches, drivers and utilities. (These are the same files included on the preformatted CompactFlash disk that comes with the MD/T.) If you are intending to use GS/OS with the device, a system driver for the MD/T must also be installed to ensure you get the best possible performance from the controller. The MD/T will still work without

Machine Speed	GS/OS load time
2.8 MHz	11.6 seconds
10 MHz	9.0 seconds
13.75 MHz	8.1 seconds

*Table 1. Times are the average over ten trials of booting a CF volume.*

the driver, but there is a noticeable difference in speed when operating without it. The two images for the IIe contain a similar setup: ProDOS and various utilities in the first volume and DOS MASTER, a system for putting DOS 3.3 partitions on ProDOS volumes such as a hard disk or a 3.5" disk, on the second.

This is the documented process for installing a new CF card, but you can install whatever images or operating systems you like. The documentation briefly mentions HFS partitions, but after noting the limitations and unreliability of such partitions on the IIGS, recommends against this file system. But HFS was nonetheless easy enough to set up: using the included setup utility, a partition was created and then formatted in GS/OS.

The MD/T supports two partition schemes depending on the number of devices you have attached to the card. With the default schema, a single volume of sixteen partitions is created; with the other, two volumes of eight partitions each are made. Again, any of these can be booted (assuming you install an operating system) with the Open-Apple key press combination during start up.

## Documentation

The included CD contains not

only the MicroDrive/Turbo Manual in PDF format, but manuals and documentation for everything ReactiveMicro currently sells, as well as an extensive library of scanned Apple II manuals, books, reference files and even hardware schematics. Most of these files are unrelated to the MicroDrive/Turbo. Also on the CD is a library of disk images containing software and drivers for ReactiveMicro's product line. Several of these are MicroDrive/Turbo volume images, 32MB in size and in ProDOS-order format, and are designed to aid in creating partitions on your physical device; they are accompanied by a Microsoft Word file outlining instructions for quickly setting up a new CompactFlash device, and an animated .GIF containing screen captures of the actual creation process in CiderPress.

It should be noted that following these instructions requires the use of CiderPress, a Windows-only application. Instructions for setting up a CF card under Mac OS for use with the MD/T are not included. CiderPress and the image files included on the CD are not required for successful setup, however, and are simply included for the sake of convenience. GS/OS can be installed using the standard 3.5" installation diskettes, once the CF card is properly partitioned with the utility.



# Review: MicroDrive/Turbo

Machine Speed	File Size	File Transfer Time
2.8 MHz	25K	4 seconds
10 MHz	25K	3.2 seconds
13.75 MHz	25K	2.9 seconds
2.8 MHz	40K	4.5 seconds
10 MHz	40K	3.9 seconds
13.75 MHz	40K	3.5 seconds
2.8 MHz	90K	6 seconds
10 MHz	90K	4.8 seconds
13.75 MHz	90K	4.1 seconds

Table 2. Times are the average of ten trials when accessing a CF card.

Also on the CD is a copy of Andy McFadden's excellent open-source program, CiderPress. This is handy, as CiderPress is the premiere disk image management program on the Windows platform, and can be used to transfer data directly to and from your ProDOS or HFS-formatted CompactFlash card in a Microsoft Windows environment.

It's clear that the documentation and supporting utilities were designed with hard disks in mind, not solid state storage. The User Manual makes no mention of CompactFlash cards, and in fact they are only mentioned in the Quick Setup instructions. The MD/T and its utilities, however, have no problem with the newer storage medium.

## DMA

The MicroDrive/Turbo's incredible speed on the IIGS is derived from its DMA capability, which distinguishes it from the basic Mi-

croDrive controller, sans turbo. DMA, or Direct Memory Access, is a technology found in all modern, and many vintage computers, including the Apple IIGS. DMA provides true 1:1 interleave by allowing the computer's peripherals to interact directly with the system's memory, bypassing the CPU entirely. This technique eliminates CPU overhead, resulting in a significant speed increase when accessing volumes. But the correct DMA setting must be chosen for the controller, as an incorrect DMA setting can lead to data corruption. The MD/T setup application allows you to choose whether DMA is active and if so, which type to use (ROM 01 or ROM 03). Other options—"enable" and "undefined"—are not so clear; the manual, while addressing DMA in depth, does not cover what these options mean.

## MD/T and the IIGS

As shipped, the MicroDrive/Turbo is not compatible with any

model of the Apple IIe. When ordering, you can specify that the card will be used in a IIe, and for no extra charge, ReactiveMicro will replace the card's firmware with a version for the IIe. This firmware essentially turns the MD/T into the slower standard MicroDrive controller, at \$50 more than the actual basic MicroDrive. So if you're looking for a mass storage device for the IIe, stick with the basic version of the MicroDrive, or check out Rich Dreher's CFFA controller. The MD/T is incompatible with the other models of the Apple II (II, II Plus, unenhanced IIe and IIc).

## In conclusion

The MD/T's ability to transparently handle CompactFlash cards is a plus; as the medium has matured, card capacity and reliability have increased roughly in sync with Moore's Law. Additionally, as Serial ATA becomes the standard hard drive interface, IDE drives will become less common and finding replacements, more difficult and expensive. Add the ever-decreasing price-per-gigabyte factor and the fact that CompactFlash cards have no moving parts to fail, and it makes little sense not to go this route.

Overall, the MicroDrive/Turbo was easy to set up and use out of the box. Joachim Lange's installation utility made preparing new CompactFlash cards simple, and with CiderPress, transferring data to and from my PC was a snap. At \$185 + s/h, the MD/T is not cheap—nearly double the price of the competing CFFA, and \$50 more than the standard MicroDrive controller—but its extra features and especially the speed boost gained through DMA support, are worth the additional cost.



# R&D on the Apple Frontier

## *For Bishop, "Everything I needed was in the Apple II"*

**Bob Bishop, along with Steve Wozniak, co-founded Apple Computer, Inc.'s R&D lab. Mr. Bishop wrote the first video games for the nascent Apple II computer, and went on to develop groundbreaking graphics routines that were utilized in such diverse places as CBS Television's popular Tic Tac Dough game show. He recently took time to talk with Juiced.GS writer Mike Maginnis about those heady days and to fill us in on what he's been up to lately.**

*Mike Maginnis:* How were you first introduced to Apple and their computers?

*Bob Bishop:* I saw an ad in a magazine back around 1975 for the Apple-1 computer. They only made about a hundred of them or so, and I got interested in it, so I went up to Palo Alto and I knocked on Steve Jobs' door. He wasn't home at the time, but his mother and stepfather were there and they expected him back any minute, so they had me come in and sit down. About five minutes later, Steve came walking up and we got introduced, he took me out to the garage in the back and showed me the Apple-1. He had some trouble getting it to work—he had a keyboard and a monitor and he would type some stuff in but he couldn't quite remember how he was supposed to do stuff because Woz hadn't quite showed him everything. But I saw enough to be interested because I saw a lot of potential, so I ended up buying one—not from him, but from another computer store that was being started in Southern California. That's where I was living at the time, and one of my friends was starting up a new computer store with a couple of his associates. So I became their first customer and bought an Apple-1 from them.

*Maginnis:* What drew you to the Apple as opposed to the other hobbyist computers available back then, like the Altair and the IMSAI?

*Bishop:* Well, the other machines had a minor flaw: you had to put them together. You had to have a soldering iron and all kinds of stuff. Not that I was adverse to that, because I used to do soldering and stuff when I was at the University of Wisconsin. I worked in the physics department as an undergraduate, and I built amplifiers and things, but I just didn't feel like going through all that trouble to make a computer. I wanted one that was already put together, and the

Apple-1 was the first one that came close. You wouldn't call it put together by today's standards, though; it was really just what you would call a motherboard today. You still had to get a power supply, case, keyboard, monitor, and all the other stuff, but it was still more put together than the Altairs and the IMSAIs of those days.

*Maginnis:* According to your Web site, you created the first four graphics games for the Apple II in about six months. That's a pretty amazing feat, especially considering how new the machines were at the time. Surely there weren't a whole lot of resources or documentation available. What kind of challenges did that present for you?

*Bishop:* Those were the fun days. I wish that could be the way it is today. I wish they made the iPhone with the same philosophy with which they made the Apple II. The Apple II was a completely self-contained computer: it had everything built in. You didn't have to go out and buy a software development kit and another computer to program it, like you do with the iPhone. Everything you needed was in the Apple II, so it was a fun thing to play around with. Plus it had a very limited amount of memory and limited capabilities; it wasn't too hard to experiment and find out how to make it do things. That's what I did. I got Apple II serial number 13, so I didn't have too many predecessors competing with me. One of the things I started playing with was hi-res graphics. There was absolutely zero documentation about hi-res graphics, so I played with it and found out what pixels turned on when I stored what hexadecimal numbers at what locations, and I was able to put together a map of the graphics screen, which was kind of bizarre. It wasn't linear; it was really screwed up, but I somehow figured it all out and I started working on a game. By the time the sun came up the next day, I'd made the very first game, which I called Rocket Pilot.

*Maginnis:* You designed APPLE-TALKER and APPLE-LISTENER specifically to bring human speech generation and recognition capabilities to the Apple II. What was your motivation for doing so, and what obstacles did you encounter?

*Bishop:* Well, that opens up another whole topic: the cassette ports. The cassette ports were originally designed to store programs, so you could save and load



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# MusinGS: Bob Bishop

programs that you or somebody else wrote. The only way you could load software into the computer was through a cassette tape. That was the original philosophy behind the cassette ports, but I experimented with them and found that they could do other things. They worked by detecting zero crossings of a sound wave. If you took a tape recorder, and you put in anything—not just a program, but music—you could play the music into the cassette port, and if you sampled the cassette port and toggled the built-in speaker in phase with what was being seen on the cassette port, you could actually hear the music coming through the speaker. And that, of course, worked for human speech as well. But instead of just merely reproducing it through the speaker, since it's a computer, you could store that information in memory and play it back later. So that was the birth of APPLE-TALKER. You could record your voice into the computer then play it back later through the built-in speaker.

*Maginnis:* *Tic-Tac-Dough* was a famous game show in the 1980s that used nine Apple II computers during production. What was your involvement with that?

*Bishop:* CBS Television contacted me because they needed someone who knew how to write computer programs for the Apple II. They had bought nine Apple II computers that were supposed to run the monitors for this new *Tic-Tac-Dough* game, and they had a master (non-Apple) computer that was going to send communication signals to each of the Apples to tell them what to display on the screens. They needed to put up a giant 'X', a giant 'O', a dragon, the names of the categories, whatever it is they wanted—somebody had to do that. And so they elected me! It was a fun little thing. I'd never done anything in television before, so it was my first chance to actually go behind the scenes and see what goes on in a TV station.

*Maginnis:* How long did you work on that show?

*Bishop:* It was kind of a one-shot deal that lasted a few months. There wasn't that much to do—it was just a matter of programming the computer to do what they wanted. But it was fun because, as you know, when you first write a program, it never quite works right the first time, and even when you think you've got it debugged, it doesn't quite work. I remember we were doing the prototype and the emcee, Wink Martindale, would say, "Now, we'll look at the categories," and nothing would happen. Who's to blame? Everybody's pointing the finger at somebody else. Usually, it turned out it wasn't my fault, though!

*Maginnis:* It looks like you continued to use the

Apple II family all the way through the Apple IIGS.

*Bishop:* Yeah, I worked on the IIGS. I never got a IIC, but I've done things on the IIC. I stayed with the Apple II and then into the III slightly. In fact, I was there when the Apple III was being designed, which was frustrating because they kept changing the design. I was trying to write software, and they changed the design so my software wouldn't work; I'd redo the software, and they'd change it again. Fortunately, the Apple III never really caught on anyway, so it never went anywhere. It was about that time the Apple Macintosh group was starting to design their new Macintosh computer.

*Maginnis:* Were you involved with the Macintosh development at all?

*Bishop:* I refused to get involved. It wasn't my kind of computer. See, the Macintosh computer was like the iPhone of today, except it didn't have any of the whiz-bang features. The original Macintosh was a black and white machine, compared to the Apple II, which had color. The Apple II had six colors, at least. The Macintosh was black and white. The Apple II, you could program; the Macintosh, you couldn't program. It had no built-in programming capabilities. You had to buy all the software from the company. It was totally, totally the antithesis of what I wanted to work on. I don't want to work on a computer if I can't program it—and the Macintosh was not user-programmable. So I never got involved in the Macintosh and I never have since.

*Maginnis:* What are you doing these days?

*Bishop:* Well, I've done a lot of Internet games. You may have heard of Internet riddles, online riddles. I did the very first one of those. I created a game about six years ago called Cybertrek. It was an online adventure game where you had to solve puzzles to get from one Web page to the other, and that idea has since caught on. Probably the most famous riddle wasn't one I developed, but that came after mine. It was a game called "This Is Not Pr0n", and that's what's always cited as an example of an online riddle. But it came after mine. I've done about fifteen or so online riddle games. I've created a new programming language called SIMPLE, which is based on the original Apple philosophy of having an easy to use programming language. I've been teaching SIMPLE at several of the schools in the area. I've written books, magazine articles, I've been a science and technology radio talk-show host.

**Visit Bob Bishop's homepage at**

**<http://bob-bishop.awardspace.com/>**



# KansasFest 2009

## *Twentieth annual convention "a part of history"*

By Ken Gagne and Ivan Drucker

For more than thirty years, the Apple II has consistently demonstrated a computer's potential, defying public perception and redefining expectations.

For two of those three decades, the community it has attracted has gathered in Kansas City to celebrate the machine that changed their lives and to reconnect with others who are proud of their devotion to Steve Wozniak's brainchild.

KansasFest 2009, the twentieth annual Apple II convention, was held July 21–26 at Rockhurst University in Kansas City, Missouri. Roughly three dozen enthusiasts made up this year's roster. Whereas last year was attended solely by domestic regulars, a fifth of this year's KFesters had never attended the conference before, and two from Germany served as its international representatives.

### Tuesday

Historically, Tuesday was an optional early check-in day that proved so popular, it was made an official part of KansasFest. There were no sessions or workshops scheduled for this first day, allowing attendees to arrive, unpack, and meet and greet at their leisure.

Carl Knoblock again organized his annual Peikop Endropov service, in which those flying to Kansas City volunteer to share their rides to and from the airport, while others made their own way by car, train, or bicycle. Attendees who wandered into Rockhurst's Xavier-Loyola residence hall before noon had plenty of time to unpack before the masses started showing up later, with some folks not showing up until late in the evening or even later in the week.

Once a critical mass was achieved, the geeks caravanned to Sweet Tomatoes, an all-you-can-eat restaurant that always accommodates the group's diverse appetites. Afterward, some groups went shopping for groceries or forgotten computer parts, while others returned to Rockhurst to finish setting up their hardware in anticipation of the week to come.

### Wednesday

The first half of Wednesday was open, allowing KFesters to have breakfast, wander the campus, and get to know each other. Lunchtime quickly arrived, and with it, the keynote speaker, Jason Scott, webmaster of textfiles.com and creator of *BBS: The Documentary*. A self-described archivist/historian who has charged himself with preserving the stories of early computer users, Scott didn't need to wait for his keynote session before finding an audience; as Kirk Mitchell and Ryan Suenaga offered burgers and hot dogs from the KFest Kookout, Scott lounged in the residence hall's common area, sharing his experiences with a rapt audience.

It seemed a mere formality to move to the Student Activities Center and officially turn the floor over to Scott, who spoke for nearly an hour about the relationships between people and computers and how the two are changing, both separately and together. Scott noted that computers, in becoming an affordable consumer product, have also become disposable. "Buying an Apple II was like buying a car," he reflected on the investment a personal computer once represented. Parents would tell their kids, "You're going to learn to use this thing because we can't go to Disneyland." But instead of offering escape to a fantasy world, computers and modems opened up real worlds of possibilities. "Families who may have never communicated with people outside the state could now have their kids communicate nightly."

It is those communications, not the hardware on which it occurred, that Scott is aiming to preserve. "Computers don't get faster by themselves," he pointed out. Instead, technological development can best be captured in human stories: "It helps you understand why choices were made" and why things are the way they are.

Scott also described his next project, a documentary about text adventures—an inconceivable pastime in this age of 3D graphics. He described interactive fiction, "You type something in and it tells you what happened... We're in the period where there are people who don't believe this happened." And changes continue to occur: with the Internet making software



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# Cover Story: KansasFest 2009

available for download to even the Nintendo Wii and Xbox 360 game consoles, it will someday be seen as quaint that we used to go to the store and buy a game in a box that couldn't be put near a magnet. Downloaded software sometimes come with a digital depiction of box art, but packaging will be a lost art, leaving digital artifacts that need to be explained.

KansasFest attendees were familiar with this history but did not necessarily realize their continuing place in it. "You are a part of history," Scott declared; "Things you do here reverberate. History is not in the data or printouts, but the friendships and phone calls or emails ... Every time you boot up an Apple II, Woz smiles." Scott ended his speech by offering his audience some advice: "Keep doing what you're doing—it's important."

Scott was a tough act to follow, so the next session kept it light as Ken Gagne demonstrated the link between classic Apple II games and modern Mac ones. Many 8-bit entertainment titles, despite being decades old, have been remade or have received sequels in recent years, such as *Lode Runner*, *Qix*, and *Choplifter*, which can now be played under the names *Android*, *11neum*, and *Chopper*. In other cases, today's programmers are subtly influenced by the games they played as children, as seen in games like *Midnight Mansion* and *Maelstrum's Mansion*, which are reminiscent of *Montezuma's Revenge* and *Shadowgate*, respectively.

The group adjourned for their first dinner at Rockhurst's cafeteria before returning to the presentation hall to hear Rob Walch of the *Today in iPhone* podcast. A Kansas City resident, Walch graciously presents at KFest each year on the state of Apple's iPhone, marking its progress from its launch in 2007 to the iPhone 3G model in 2008 and the iPhone 3GS, just a month old at the time of KFest 2009. Walch reviewed the predictions he'd made last year and which of them came true, though not always on the timetable he'd estimated. Despite its name, the iPhone 3GS offers no emulation of the Apple IIGS; Walch nonetheless dubbed the hardware of 3GS an improvement over its predecessor, but since the third revision of the firmware is available to both models, it may not be worth an upgrade for existing users.

The first day of official sessions complete, KFesters retired to the dorms, where they caught up with old friends and made new ones. Syndicomm and Gamebits sponsored a pizza party which reminded the hosts how ravenous a herd of geeks can be. Knowing that KFest had just begun, everyone was hungry for more.

## Thursday

Due to a planned power outage, breakfast on Thursday was delayed, offering KFesters some much-needed extra sleep. As a result, most attendees were able to roll out of bed in time for the first presentation. Ryan Suenaga demonstrated how a GPS device can be used to enjoy the pastime of geocaching. By logging onto a Web site and downloading geographic coordinates, players can find hidden trinkets and treasure in their own backyard. "Not all caches are in woods and off hiking trails," Suenaga emphasized, proving his point by challenging his audience to find the urban cache nearest to Rockhurst University. (Upon hearing this, Tony Diaz left the session early to pinpoint the cache, returning in time to collect his prize from Suenaga.)

Next up was Ivan Drucker, a first-time attendee and former Apple employee, who showed off his favorite Apple II: a Macintosh equipped with a IIE card. Though the card and the models of Macintosh with which it is compatible are no longer being made, Drucker presented them as an attractive choice for hobbyists looking to bridge the gap between the Apple II and the Mac. (For more details in Drucker's own words, see pages 15–16.)

The following session was by another first-time KFester, Ferdinand Meyer-Hermann, who showed off a card that wasn't vintage but was instead making its debut at that very moment. After reviewing how and why the Apple II outputs video, Meyer-Hermann demonstrated adapters for Apple IIE and IIC computers to connect to VGA monitors, which are more common than the RGB monitors for which the Apple II line was designed. The difference such a display boost gave to Apple II games like *Pac-Man* and *Airheart* was evident. The audience was wowed by the depth and breadth of technical knowledge this newcomer brought to KansasFest and was eager for his hardware to be finalized and mass produced.

After lunch, Ken Gagne took the stage with a session that practically presented itself. Steve "Woz" Wozniak, the inventor of the Apple II, had competed on the television show *Dancing With the Stars* earlier in 2009. His appearances had spanned several weeks, but Gagne, with some help from YouTube, had compiled all the various episodes into a continuous 45-minute reel. As most of the KFest audience had not followed the show when it first aired, they enjoyed seeing their hero challenge himself in this unusual arena.



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# Cover Story: KansasFest 2009

Next, Eric "Sheppy" Shepherd's hijacked his own session on toolbox programming to debut Sweet16 v2.0, the Apple IIGS emulator that has been in open beta for the last several years. v2.0 (which has since been updated to v2.1.3) introduced improved TCP/IP networking, CD-ROM support, analog and digital game input devices, clipboard integration, and more. Afterward, Shepherd returned to his scheduled topic, reviewing the various tools available to Apple IIGS programmers.

The sessions continued after dinner, starting with a return appearance by Ryan Suenaga, who this time reviewed various application programming interfaces, or APIs, available to developers who want to write software that talks to different Web sites. Suenaga's hope was that Apple II programs could be created that retrieve and display requested data in real time, such as weather or stock reports. To demonstrate that possibility, Suenaga released both his own software that interfaces with Web sites such as Twitter, as well as the Pascal source code that other programmers can use as templates for their own utilities.

Although most of the crowd adjourned for the evening, Paul Zaleski attracted a devoted few who watched as he cracked open a desktop Mac mini and upgraded the hard drive and RAM, offering the adventurous hardware hacker an affordable alternative to paying a qualified technician to do the same job.

With another full day of sessions looming, KFesters knew they would need their sleep—but the conversations, games, and fun continued well into the night, with one group organizing a 3 AM caravan to a Steak 'n Shake restaurant that was delayed en route by a faulty trunk and a flat tire. While waiting for roadside repairs, the hungry KFesters posed a mock accident photo shoot. It was all fun and games—until police responded to an erroneous report of a three-car pile-up with two dead bodies.

## Friday

After Friday breakfast, the first session was a *Juiced.GS* focus group. Editor and publisher Ken Gagne briefly reviewed the magazine's history and content before asking the audience for their opinion about possible layout, format, and content changes. Scheduling an audience-participatory event for first thing in the morning was perhaps not the best idea, but those who attended had some valuable ideas that Gagne would evaluate for *Juiced.GS*'s 2010 volume, which he announced during this time slot.

For the next session, Martin Haye employed the week's most impressive presentation technique. Instead of relying on Microsoft PowerPoint, as many presenters do, Haye instead used what he dubbed "WeaknessPoint": using the Apple II's 40-column text, he quickly and accurately typed his prepared notes onto the screen, in effect making slides on the fly. It was an effective pairing with the session's topic, which was how to use the 8-bit equivalent of the programming tools normally found in the IIGS system monitor.

Eric Shepherd continued the programming theme with his own session. After announcing several new products available from Syndicomm to aide the aspiring programmer, Shepherd then took programming-related questions from the audience, providing thorough answers with which to inspire tomorrow's developers.

After lunch, Bruce Baker maintained his annual tradition of inviting KFesters to join him in reviewing and playing his favorite Softdisk games. The most time was spent with Saxe Palatin, a Hammurabi-type game found on Softdisk issue #163.

In contrast to Baker's leisurely session, Geoff Weiss next gave a technical presentation. Since many Apple II users are familiar with emulators, Weiss expanded that concept by reviewing VirtualBox, virtualization software that lets users run one operating system, such as Windows, inside another OS, such as Linux.

Stavros Karatsoridis' next session was a fun example of a decades-old feature of the Apple II that most people still don't know about. Apple's SuperPILOT language was designed to give teachers an easy way to teach students about programming concepts more complex than those available in LOGO. As the audience watched, Stavros wrote some simple programs in SuperPILOT, which is available as a stand-alone product from Syndicomm.

Although the next session was the week's briefest, it was also perhaps the most profound. Vince Briel, creator of the Apple-1 replica, had arrived at KansasFest that morning with a working prototype of a new hardware product; unsure if there would be enough commercial interest to warrant finalizing the card, he used his session to demonstrate its potential and gauge the audience's reaction. Judging from the attendee's stunned looks and impressed expletives, Briel seems to have gotten his answer. By year's end, he hopes to make available a hardware-based MP3 player for the Apple II. Using this expansion card, an Apple II can



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play MP3 music files stored on a separate USB storage device. Any software, from a dedicated MP3 player to the soundtrack of a new game, could take advantage of this card if designed to do so. After answering many questions from intrigued witnesses, he took one final question that summed up the audience's response: "How are you so awesome?"

Finally it was time for a KansasFest tradition: the banquet. Dressed in their finest and geekiest apparel, KFesters sat down to a formal dinner, followed by the results of the annual tie contest. Vince Briel was again an audience favorite, this time with a tie equipped with a working LED '[' symbol.

Master of ceremonies Ken Gagne then presented the annual roast. Historically a well-intentioned lampoon of an Apple II celebrity, this event has in recent years adopted a broader, but no less humorous, focus. This year's roast was a slideshow that adopted the Internet meme known as lolcats, but with a KansasFest twist: pictures of past and present attendees, enhanced with amusing and poorly spelled captions. Although some of the jokes were a bit hard to decipher, attendees laughed to see themselves and their friends on the big screen, all set to a soundtrack of Weird Al Yankovic.

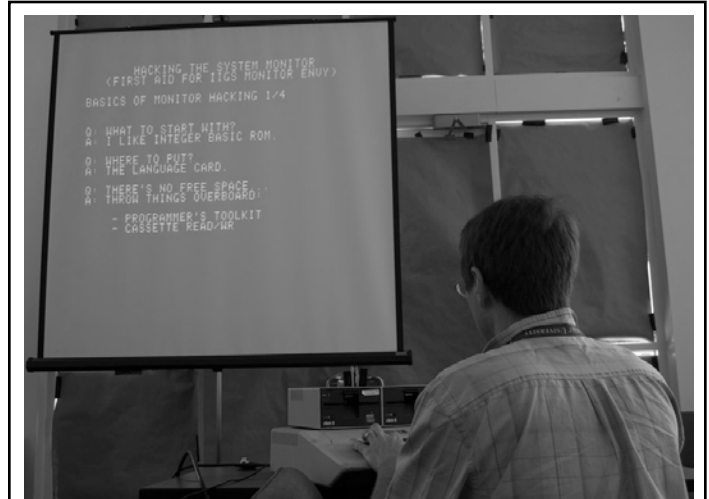
After posing for a group photo outside the residence hall, the group was free to enjoy the evening. Several geeks made the requisite pilgrimage to the Apple Store, which entertained the KansasFest delegation by having them pose for pictures with a giant prop iPhone.

Later that night, a videoconference session was attempted with KansasFest's Australian counterparts (see pages 11–14), who were midway through their Saturday sessions. Unfortunately, a slow network on the American side resulted in many aborted attempts before a working but brief connection was established.

Overall, it was a good day to be a KFester... and there was still more to come.

## Saturday

For the first time in roughly a dozen years, KansasFest attendees had to choose between two tracks of concurrent sessions. In the residence hall, Vince Briel conducted a workshop in which five KFesters assembled their own working Apple-1 replica machines. Sold as a kit of 88 component parts, the group had the help of the kit's creator in soldering and testing a machine that they could then call their own.



***Fast typer:** Martin Hays presents his session, one character at a time. Photo courtesy Ryan Suenaga.*

Meanwhile, three sessions were held in the Student Activities Center. For the second day in a row, KansasFest opened with an audience-participatory session. Ryan Suenaga put *A2Unplugged* back on the airwaves with a live recording of his podcast. Interviewing audience members Andy Molloy, Eric Shepherd, and Kirk Mitchell, the episode's cast reviewed the week's happenings, discussed favorite presentations, and agreed that the number and diversity of sessions, even those not directly related to the Apple II, made for an enjoyable week.

Following Ryan, Ivan Drucker demonstrated his enhancement to an early epic computer adventure, *Time Zone*, which, when released in 1982, used a single disk drive, despite coming on six double-sided disks. Drucker modified *Time Zone* to run without swapping disks or sides by using a 13-drive Apple II, real or emulated. It was a clever hack, but Tony Diaz good-naturedly one-upped Ivan by showing off his own solution: a copy of the *Time Zone* disks loaded into an obscure, vintage floppy cartridge/changer system.

After Ivan, Jon Lipp talked about the GPS products made by his employer, Garmin, briefly reviewing the history of the company and their ease-of-use design philosophy. Lipp also demonstrated one of their latest models of handheld GPS navigation computers.

After lunch, Geoff Weiss offered his reasons for using OpenSolaris, an open source operating system for modern PCs. Geoff enthusiastically demonstrated its features, such as support for the ZFS format,



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**For a song:** Vince Briel shows off his MP3 card, promising new levels of audio capabilities for all Apple II users. Photo courtesy Ryan Suenaga.

explaining, "I like to evangelize this like Mac users evangelize the Macintosh."

Next was Eric Shepherd's third session—another which he took on a slight detour by briefly revisiting Sweet16 v2.0 to show off some features he'd overlooked the previous day. He then announced the release of two freeware New Desk Accessories for the IIGS that offer online functionality similar to what Ryan Suenaga proposed in his Thursday session.

Though the official schedule indicated the next session would be a demonstration of the Carte Blanche expansion card, the prototype at KansasFest proved unready for prime time. Tony Diaz filled the slot by showing the methods he's used to restore Apple II hardware, now yellowed with age, to its original gray.

A last lunch at Rockhurst preceded the vendor fair, at which merchants and attendees offered their merchandise, new and old, for sale or trade. Anyone who bought a *Juiced.GS* 2010 product was entered into a drawing to win the GS RAM card reviewed in the last issue; Vince Briel, the card's developer, randomly chose Stavros Karatsoridis as the winner. That's when the event committee belatedly realized that the previous night's banquet had not given away a prize for best door sign. Mark Frischknecht, a first-time attendee, won for

reproducing an Arkanoid theme using floppy disks in colored sleeves. His prize was a copy of the documentary *Welcome to Macintosh*, autographed by Briel, who is featured on the DVD.

HackFest, a programming contest that challenges contestants to write cool Apple II programs while at KansasFest, was then judged. Margaret Anderson came in third with a HyperCard-based disk cataloging utility, with second place to Martin Haye and a low-res paint program. The winner was Peter Neubauer, who implemented Conway's Game of Life (see page 10).

After all the wares were put away, KansasFest assembled for one last group outing: dinner at Jack Stack. This barbecue chain unique to Kansas City was chosen over the usual venue of K.C. Masterpiece after the latter offered several years of declining service. But nobody realized the impact KansasFest's business could have: a few days after they snubbed the traditional restaurant, K.C. Masterpiece announced they were going out of business.

From Jack Stack, the group split into three groups: some returned to Rockhurst, a few went contra dancing, and the majority went to see the new *Star Trek* film. As geeky a film as has ever been shown at KansasFest, *Star Trek* attracted more KFesters than usual, including Ryan Suenaga, who almost never opts for the movie outing; Eric Shepherd, who'd already seen the film twice in theaters; and Ken Gagne, the only moviegoer in the theater to be wearing a Starfleet uniform.

Hailing frequencies closed well after midnight, leaving a tired party to return to Rockhurst—either to get one last night's sleep, or to stay up all night and catch an early flight home.

## Sunday

The last day of KansasFest was as always a melancholy one. Computers were packed, solder stored, and hands shaken as friends new and old departed each hour. Rides to the airport were coordinated by Carl Knoblock, with some late flights giving carpoolers time enough to enjoy another restaurant outing.

Though nobody wanted to leave, most KFesters knew they'd be back. As Martin Haye, a first-time attendee, said later, "KansasFest was a blast—they'd have to lock me up to keep me away from next year's KFest!"

***KansasFest 2010 will be held July 20–25 at Rockhurst University. Learn more at***

**<http://www.kansasfest.org/>**