



# MCCC News



Fort Worth

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Dallas

## A Look Back at Game Hardware

It may have taken some time, but it seems like the weather has finally made up its mind about whether to give up on the cold or not, and leapt into summertime instead.

Our meeting takes place at the usual time and date, back in the usual “group study” room. I will bring back the Vampire-fied Amiga 600. I managed to find my way around the problem I was having at the meeting last month, where games loaded via WHDload used a key to cancel to Workbench which was not available on the short-form A600 keyboard. I’ll go into how that issue was fixed at the meeting. I’ll also show off classic Amiga DOOM-clone GLOOM, (actually Gloom Deluxe) which runs nicely on the Vampire.

As I gain more experience with the system, I’ve learned to moderate my hype a bit. The Vampire definitely runs significantly faster than a 68060 or slower system, but it’s still a bit much to expect silky-smooth high-res 3D gaming that a PPC or Intel system might give you. I might get better performance out of the faster core versions, but with my past experience, I’m playing it safe for now.

Digressing a bit, I’ve been thinking about gaming history, and how consoles and computers evolve beyond their abilities in one way or another. Many are familiar with the

first successful cartridge-based game console, and the Amiga’s grand-ancestor: the Atari 2600 VCS. When the hardware was being designed, it was made to recreate early-to-mid-1970s arcade games at home, from Atari and others, like the many variations of Pong, or Tank (AKA Combat), usually simple two-player events with few moving objects. Also, ROM game cartridge sizes were limited to 4K for all program, graphics, and sound data, or 4096 text characters, or one multi-part Trump tweet. This all appears very limited now, but it could do lots, and was more versatile than it first appeared. Bear in mind that the system was released at least a year before Space Invaders first appeared in arcades.

Similar to the Atari in many ways was the next big game system of the following generation, the Nintendo Entertainment System, or NES. The NES didn’t come to our shores until 1985/6 for a number of reasons (about the same time the first Amiga 1000s were released), but before that it was the Nintendo Famicom (Family Computer) in Japan, released in 1983 while the video game market was caving in on itself in the US. Not unlike the Atari, the Famicom was designed around playing an excellent home version of arcade games of that time, specifically Nintendo’s own Donkey Kong, among others. The Famicom and NES had its own set of limitations. I found it interesting to discover that the original Super Mario Bros game that came with many of the first western NES

systems was actually a game that was made to push the limits of a stock system and ROM cartridge, a swan-song for what Nintendo thought to be a console on its last legs in Japan, even as it was just starting in the USA and elsewhere.

One thing to distinguish the NES from preceding game consoles was its lockout chip, which didn’t allow the machine to play unofficial carts. You could say they learned this lesson from Atari and the uncontrolled game cartridge speculative market which led to a glut, then crash (more so than Atari’s E.T. or Pac-Man games, contrary to snarky journalists), but perhaps more from their own home market, which had the same lack of control, with third parties producing Famicom games of any possible level of quality. The lock-out enabled Nintendo to exert control on the cartridge production and market, (perhaps draconian control) and game producers had to play ball if they wanted to get on the system at all (or circumvent the lockout somehow, and probably get sued).

No matter what others thought about it, Nintendo’s approach became the model for nearly everyone’s game console markets since then. In Japan, Nintendo was moving to the “Disk System” a proprietary floppy disk-based expansion for their Famicom, which boosted the memory and specs of the base unit somewhat, running games from the disks, and allowing game data to be saved to the disk as well. Several NES games we know today

got their start as disk games in Japan, adapted because the disk expansion never made it to the US. I don't know exactly why, but in any case the technology of the cartridge games themselves were growing, to the point where the disk system wasn't a big advantage, with hardware included to enable new capabilities, larger games, or battery-backed saving. This is much like Atari and some third parties had already done for the 2600. Additions to the cartridges and clever programming made it possible to circumvent the console's 4K limit thru "bank switching," bringing us games at sizes of 8K, 16K, 32K, and even beyond. Other carts or expansions offered enhancements to the minimal system RAM, or added new sound channels. (the later Atari 7800 console offered some games with extra audio hardware inside the carts, for example.)

What makes this stuff special to me is how a piece of hardware can go beyond its apparent limits when game designers and programmers get innovative. When the Atari VCS came out in 1977, it was designed to play games like Combat or Pong, and probably no one at the

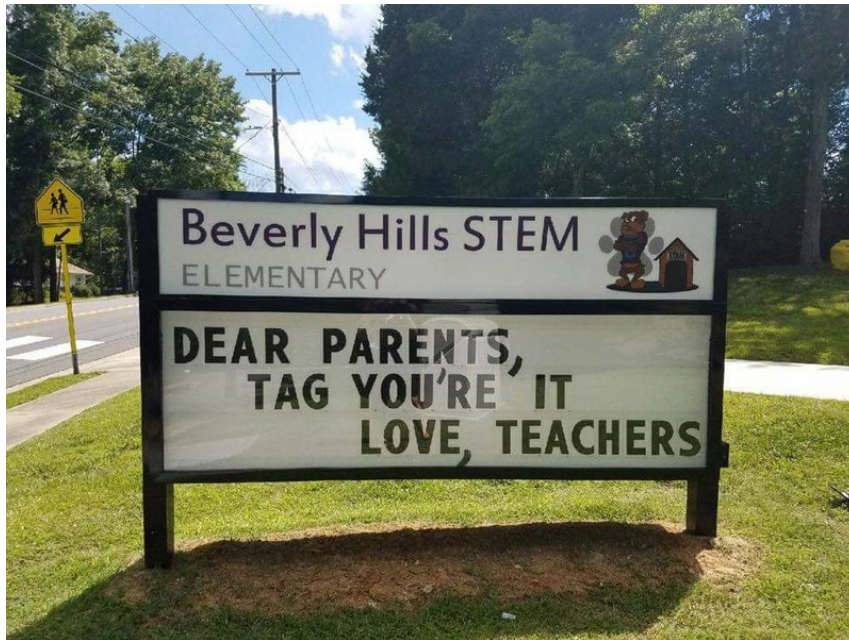
time would have expected it to be remotely capable of recreating later arcade games like Ms. Pac-Man or Dig-Dug or Stargate, even poorly, much less some of the things the homebrew community would come up with later, such as "Princess Rescue" an unofficial 2600 clone of Super Mario Bros. The Nintendo Famicom/NES was designed to play Donkey Kong games and the first Super Mario was once thought to be the very top end of its ability, yet the NES had years of games to go, with expansive adventures and vast shooters, not to mention two more Super Mario games which make the original look tiny an simplistic by comparison.

The world of computers is not quite the same as that of game consoles, as the base hardware is not as much of a closed system, but you

can see a lot of the same over the life of the Amiga and its games. Early Amiga games were often unimpressive in the light of later ones (and many were direct ports of Atari ST or PC games with little enhancement), but motivated Amiga programmers proved nearly anything was possible when they tried, even on a humble Amiga 500 with 1 meg of RAM and a floppy drive (which was practically a game console unto itself back in the day). It was magical to see what some could squeeze out of those simple specs, as well as expanded AGA systems, hard drive or CD storage, video or sound expansions, and more.

The demo scene still creates new works for classic Amiga 500 systems, as well as heavily expanded machines. One would never expect a stock 500 to rival a modern PC, just like you wouldn't expect an Atari 2600 to play Super Mario, or the NES to play sprawling multi-world adventures, so when they come close, it's something pretty special.

...by Eric Schwartz from the AmiTech Gazette, May 2018



## June Calendar

June 10 — MCCC Meeting  
2:30 PM — Grand Prairie Airport  
3116 S. Great Southwest Parkway, Grand Prairie

June 10 — Board of Director's Meeting  
Approximately 4:30 PM — Location TBD

July 2 — Newsletter Deadline — 8:00 AM

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