



gsplus

Modern cross-platform Apple IIgs emulator and tools based on KEGS

Manual Version: Initial Draft

Date: 2016/04/30

Overview & Purpose

This is an early release of an experimental project to modernize the KEGS/GSport emulator platform and eventually extend it.

The first steps are represented here. This release features a new SDL2 driver. SDL or "Simple DirectMedia Layer" allows me to write one driver to handle input and output (video, mouse, keyboard, audio, joystick). The hope is that I can leverage the multi-platform nature of SDL to provide first-class support for the major platforms supported by SDL, which includes Mac OSX, Windows and Linux.

Currently, five builds are being supported:

- OSX (SDL2 driver)
- Ubuntu (SDL2 driver)
- Ubuntu (SDL driver)
- Ubuntu (X11 driver)
- Window (Win32 driver)

There are more platforms still in the codebase, and some, like Raspberry Pi will probably be added to official support. But I may drop some of the older platforms like OS/2.

Getting started

1. Download the emulator and put it in a folder
2. Download the Apple IIgs Firmware ROMs, for either a ROM01 or ROM03 machine. (If you have a real IIgs, there are ways to save it from your machine as well.)
3. Download some Apple IIgs software. (I recommend the excellent Apple IIgs dedicated site, <http://www.whatisthe2gs.apple2.org.za/>) (If you have a real IIgs, you can transfer your disks using ADTPro <http://adtpro.sourceforge.net/>)
4. Edit your config:
 - a. By hand... edit the config file (config.txt, config.gsplus, or .gsplus)
 - b. While the emulator is running... hit F4 to enter config menu.
5. Boot the Apple IIgs by running the emulator
 - a. Windows: `gsplus.exe`
 - b. Mac/Ubuntu: `./gsplus`

Emulator Hot-Keys

There are several keys used to interact with the emulator while it is running. Here's a quick list of the main hot-keys and what they do.

- F4** - Config menu.
- F6** - Toggle System Speed (1, 2.8, 8, ∞ MHz)
- F7** - Toggle Fast Disk Emulation
- F9** - Invert Paddles
- F10** - Toggle a2vid_palette (?)
- F11** - Toggle Fullscreen Mode
- F12** - RESET Key (i.e. - "Ctrl-F12" = "Ctrl-Reset" on an Apple II)

Mouse/Joystick

1. Mouse support is transparent
2. Joystick with SDL2 driver is known working. Better info forthcoming.

Debugger Commands

Enter from the debugger prompt (Shift-F6)

GSport Debugger help (courtesy Fredric Devernay)

General command syntax: [bank]/[address][command]

e.g. 'e1/0010B' to set a breakpoint at the interrupt jump pt

Enter all addresses using lower-case. As with the lls monitor, you can omit the bank number after having set it: 'e1/0010B' followed by '14B' will set breakpoints at e1/0010 and e1/0014

| | |
|------------------------|--|
| g | Go |
| [bank]/[addr]g | Go from [bank]/[address] |
| s | Step one instruction |
| [bank]/[addr]s | Step one instr at [bank]/[address] |
| [bank]/[addr]B | Set breakpoint at [bank]/[address] |
| B | Show all breakpoints |
| [bank]/[addr]D | Delete breakpoint at [bank]/[address] |
| [bank]/[addr1].[addr2] | View memory |
| [bank]/[addr]L | Disassemble memory |
| P | Dump the trace to 'pc_log_out' |
| Z | Dump SCC state |
| I | Dump IWM state |
| [drive].[track]I | Dump IWM state |
| E | Dump Ensoniq state |
| [osc]E | Dump oscillator [osc] state |
| R | Dump dtime array and events |
| T | Show toolbox log |
| [bank]/[addr]T | Dump tools using ptr [bank]/[addr] as 'tool_set_info' |
| [mode]V | XOR verbose with 1=DISK, 2=IRQ,4=CLK,8=SHADOW,10=IWM,20=DOC, 40=ABD,80=SCC, 100=TEST, 200=VIDEO |
| [mode]H | XOR halt_on with 1=SCAN_INT,2=IRQ, 4=SHADOW_REG, 8=C70D_WRITES |
| r | Reset |
| [0/1]=m | Changes m bit for I listings |
| [0/1]=x | Changes x bit for I listings |
| [t]=z | Stops at absolute time t (obsolete) |

| | |
|--------------------------------|-------------------------------------|
| S | show_bankptr_bank0 & smartport errs |
| P | show_pmh |
| A | show_a2_line_stuff show_adb_log |
| Ctrl-e | Dump registers |
| [bank]/[addr1].[addr2]us[file] | Save mem area to [file] |
| [bank]/[addr1].[addr2]ul[file] | Load mem area from [file] |
| v | Show video information |
| q | Exit Debugger (and GSport) |

Project Info

Developers inquire within :P

Main page and full source code repository: <https://github.com/digarok/gsplus>

This project has an ugly unmaintained homedpage at <http://apple2.gs/plus/>

