Tech Info Library

Apple IIGS: Differences with other Apple II models

```
Revised:        10/23/86
Security:       Everyone
```

Apple IIGS: Differences with other Apple II models

==

Some of the features found only on the Apple IIGS:

FEATURE	SPECIFICATION	DESCRIPTION
More powerful microprocessor	65C816	16-bit microprocessor has 24 bit address and 6502 compatibility
Faster Operation	CPU clock speeds of 1 MHz and 2.8 MHz	User can select either of two speeds: 1 MHz speed of 6502 or fast 2.8 MHz.
Memory Expansion	24-bit address bus	Expansion card can expand RAM up to as much as 8 megabytes
Detached Keyboard	78 keys	Separate keyboard includes cursor keys and numeric pad.
Apple DeskTop Bus	Low cost serial I/O	Supports detached keyboard, mouse, and other I/O devices.
RGB Video	R, G, B and sync	Provides both RGB and NTSC video outputs.
40 and 80 column text in color	Text, background, and border colors (RGB only)	Text, background, and border can be any of sixteen colors.
Super Hi-Res color	True 320x200 or 640x200	Improved graphics with up to 16 graphics colors per scan line-up to 256 colors on screen out of 4096.
Desktop user interface	Uses Hi-Res color graphics and mouse	Tool box supports desktop interface with mouse, menus, and windows

```
Improved Sound      Ensoniq digital sound IC   Supports 15 independent
                    with 32 oscillators        voices (GS retains Apple II
                                               type sound)


Control Panel       Built-in desk accessory    User may set machine
                                               parameters for display,
                                               operating speed,
                                               serial ports, disk drives,
                                               etc.


Enhanced Monitor    Monitor in ROM             Handles 16-bit and 24-bit
                                               addresses, assembles and
                                               disassembles 65C816 and 6502
                                               instructions, performs 32-bit
                                               arithmetic, Low level I/O
                                               included


Built-in Clock      Time and Date provided     Has battery back up

Built-in Serial     Two standard serial ports  Support modems, printers, and
ports                                          AppleTalk. (User can still
                                               use serial card in slot)


Built-in AppleTalk  Uses one serial port       No card required. User can
                                               select either serial port to
                                               use for AppleTalk.


Built-in Disk port  Disk I/O port using custom User can select built-in
                    chip                       driveport,disk interface
                                               cards, or both.


Apple II type features found on the Apple IIGS:

FEATURE             DESCRIPTION                OTHER MODELS
-------             -----------                ------------
6502 Instruction    65816 has emulation mode   All Apple II
set                 for running 6502 programs


128k RAM            Main and aux banks, with   IIc, 128 IIe
                    language-card & I/O spaces


AppleSoft in ROM    Applesoft Basic with lower All Apple II
                    case and 80-column features


Monitor in ROM      Supports low level I/O and  All Apple II
                    program development


40 and 80 column    Black & White text displays IIc, IIe with 128k or 80
text                (color text on GS only)     column card


Lo-Res Color        48x40, 16 colors           All Apple II
graphics
```

Hi-Res Color graphics	280x192, 6 colors	All Apple II
Double Hi-Res Color graphics	560x192, 16 colors	IIc, 128k IIe
Built-in serial ports	Two RS232 compatible ports, for modem, printer, etc.	IIc (similar)
Built-in disk port	Using IWM chip, supports both 5.25", 3.5" drives	IIc
Expansion slots (7)	Slots for peripheral I/O and expansion cards, in addition to built-in ports	II, II Plus, IIe
Game I/O	9-pin and 16-pin connectors for paddles and joysticks	All Apple II (9 pin IIe, IIc)

Apple Technical Communications

Tech Info Library Article Number:2065