

The powerful new generation Apple II

The Apple IIGS™ personal computer takes the Apple II family to a new level of remarkable performance and expandability.

The video and audio abilities are nothing short of amazing, with its high resolution graphics, over four thousand colours, and 15-voice sound generator which can produce natural-sounding music and speech.

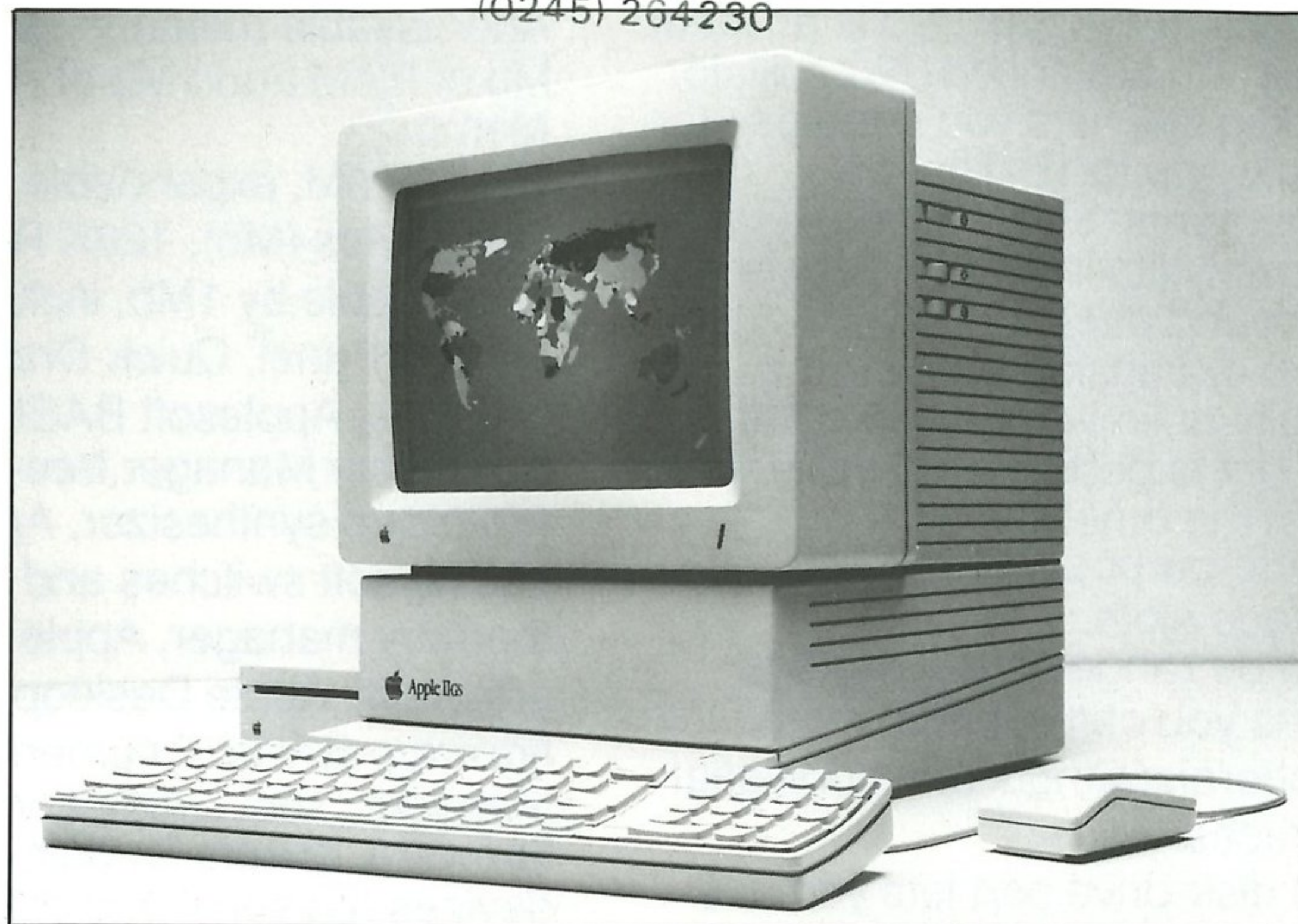
Using an advanced 16-bit micro-processor, the Apple IIGS runs most existing Apple IIe™ and IIc™ software almost three times faster; when using new software it can take advantage of the mouse/pull down menu/window style of the Macintosh™ for maximum ease of use and consistency between applications. Its huge memory potential and fast speed give outstanding performance.

With all the expandability of the Apple IIe and the simple-to plug-in approach of the IIc, it has the best of all possible combinations. And with a heritage of three million Apple II's behind it combined with the most advanced technology, the Apple IIGS offers the strength of the past with the power of the future.

Benefits

The Apple IIGS...

- runs thousands of Apple IIe and IIc programs - 2.8 times faster.
- runs new software that uses the mouse (included), and other Macintosh features for speed, ease and productivity increases.
- includes 256 kilobytes (K) of user memory (RAM), expandable to over 8 megabytes (Mb).
- has 128K of read-only memory (ROM) expandable to 1Mb.
- provides 7 general purpose expansion slots for peripherals, plus a dedicated RAM/ROM slot.
- provides access to the AppleTalk™ Personal Network without an interface card.
- has 2 built-in serial ports for easy connection to a printer, modem, AppleTalk or other serial device.
- lets you connect as many as four



3.5 inch and 5.25 inch disk drives.

- features a palette of 4,096 colours, with as many as 256 on the screen at once.
- produces crisp 80-column text and vivid, vibrant colours with the Apple RGB Colour Monitor, and no adaptor card is needed.
- uses the Apple DeskTop Bus™ standard for easy connection of up to 16 input devices (eg mouse, keyboards, graphics tablet).
- generates up to 15 separate audio channels or voices simultaneously, for realistic music, speech or sound effects.
- is compatible with most Apple II peripherals.
- includes a battery-backed up clock for continuous time and date measurement even when the power is switched off.
- handles eight international character sets and features a detached keyboard with 14-key numeric pad.
- includes an easily accessible Control Panel for setting screen colours, feel of the keyboard etc.

Apple IIGS - a closer look

Its 16-bit 65C816 processor is compatible with the 65C02 used in the Apple IIc and enhanced Apple IIe, so most of the thousands of existing Apple II applications will run on it without modification. Furthermore, since the 65C816 has a clock speed of 2.8 instead of 1 megahertz, these programs will run up to 2.8 times faster on the IIGS.

This new processor, combined with the computer's 256K of built-in RAM and memory expansion capability, let the Apple IIGS run more sophisticated applications, including ones with a Macintosh style of user interface. And you can work with much larger files, such as extensive text documents, spreadsheets, and data bases. ROM memory in the Apple IIGS has also been enhanced. It contains an extensive Control Panel, as well as QuickDraw II graphics routines, Applesoft BASIC, and numerous other items. And just like its RAM, the ROM of the Apple IIGS is expandable via the memory expansion slot - up to a full 1Mb. The Control Panel lets you change the screen colours (text, background and border), keyboard layout, displayed character set, speaker volume, system speed, key-repeat speed and delay, and so on.

The processor also enables the IIGS to handle complex graphics and sound. It offers two new super-high-resolution modes designed to work with the vibrant Apple RGB Colour Monitor. You can choose from 4,096 different colours to create rich, highly detailed graphics for business, education or home. The RGB monitor also allows the IIGS to display 80-column coloured text with the same crisp resolution usually possible only in monochrome.

If high-quality sound is as important to you as high-quality



graphics, the Apple IIGS is an ideal choice. An advanced 32-oscillator Ensoniq chip lets you compose for and play up to 15 different "instruments" simultaneously, for extremely life like music, speech, and sound effects.

The 8 expansion slots offer a virtually unlimited growth path. One slot is dedicated to RAM/ROM cards; the other 7 are general-purpose peripheral-interface slots.

Its wide range of built-in ports means you can connect most peripherals without any additional interfaces.

The disk-drive port lets you use the new 800K Apple 3.5 Drive and 143K 5.25 Drive. Both complement the platinum coloured Apple IIGS. Use them individually, in combination, or with your Uni-Disk™ 3.5 drives; you can daisy-chain up to four drives from the drive port. And with the Apple SCSI Card, the Apple IIGS works with the 20Mb Apple Hard Disk 20SC for higher performance.

AppleTalk Personal Network capability is built in, so you will be able to print your files in publication quality on an Apple Laser-Writer printer, or to access a remote Apple ImageWriter™ II.

The keyboard of the IIGS is detached for maximum flexibility. It contains two Apple Desktop Bus (ADB) ports; one for connecting to the computer, and the second for adding other ADB devices like the mouse on either side of the keyboard, for use with either hand. Up to 16 devices can be on-line.

Technical Specifications

Central Processing Unit (CPU)

Microprocessor: 65C816

Clock speed: 2.8 or 1.0 megahertz; user- or software-selectable.

Address bus: 24 bits.

Data bus: 8 bits.

Address range: 16,777,216 bytes.

16-bit registers: accumulator, two index registers, direct register, stack pointer, program counter.

8-bit registers: data bank, program bank, and status.

Addressable memory up to 8.25 Mb of RAM and 1Mb of ROM.

Memory

256K RAM, expandable by 8 megabytes (Mb). 128K ROM, expandable by 1Mb, includes: Control Panel, Quick-Draw II graphics, Applesoft BASIC, Desk Accessory Manager, free-form waveform synthesizer, Apple IIe and IIc soft switches and code, memory manager, AppleTalk protocols, Apple Desktop Bus firmware, SANE™ numerics, Event Manager, Tool Locator, video firmware, drivers for built-in devices (eg serial and disk drive ports), extensions to system monitor for 65C816 support, diagnostic routines.

Display Modes

Graphics: Super-high-resolution: 320 dots horizontally by 200, 16 colours / line max., 256 colours / screen from 4096 colour palette. 640 by 200, in 4 or more colours / line and 128 colours / screen from 4,096 colour palette.

Double-high-resolution (560 by 192; 16 colours)

Double-low resolution (80 by 48; 16 colours)

High resolution (280 by 192; 6 colours)

Low-resolution (40 by 48; 16 colours)

Text: 40-column text mode (40 columns by 24 lines)

80 column text mode (80 by 24)

Character sets

32 uppercase / lowercase letters, 32 special and 32 Mouse-Text characters, 12 unique characters for each international set: U.K., U.S., French, Danish, Spanish, Italian, German, Swedish.

Keyboard

Standard typewriter style:

80 keys plus 14-key numeric keypad.

2 Apple Desktop Bus connectors.

Keyboard layouts: QWERTY (Sholes), Dvorak, 9 international (as above, plus French Canadian)

Interfaces

Expansion slots: 1 multipurpose RAM/ROM memory expansion slot, 7 general-purpose input/output slots for peripheral cards, all fully buffered, with interrupt and DMA priority. Serial ports: two 8-

pin mini-circular connectors; either one can be used for AppleTalk; utilize SCC communication chip.

Disk Drive port: one 19-pin D-style connector; allows daisy-chain of up to four Apple 3.5, Apple 5.25, and Unidisk 3.5 drives.

Video output: Analog RGB, via 15-pin D-style connector.

Composite via RCA photo connector.

Apple Desktop Bus port: one 4-pin mini-circular connector on back of computer; two on keyboard.

Game I/O: 9-pin D-style connector for joystick, graphics tablet, etc.

Audio: RCA mini headphone/speaker output jack with programmable volume control.

Input/output connector on main logic board.

Sound capability

Ensoniq 32-oscillator digital synthesizer chip with dedicated 64K RAM, produces up to 15 voices simultaneously. Uses internal speaker, or external speaker or headphones via audio output jack (volume is controllable)

Operating systems

ProDOS 8 and ProDOS 16, DOS 3.3, Pascal, CP/M (with appropriate co-processor card)

Other features

Real-time clock; Battery backup for Control Panel settings and clock.

Electrical

Line voltage: 240V ± 10% volts AC; 50 to 60 hertz. Power consumption: Typical: 11 watts.

Maximum: 60 watts.

Supply voltages: +5 volts (±3%), +12 volts (±6%), -5 volts (±10%), -12 volts (±10%).

Maximum supply currents:

+5 volts (2.5 amps), +12 volts (1.5 amps), -5 volts (250 milliamps), -12 volts (250 milliamps).

Environmental

Ambient operating temp. 32° to 113° F (0° to 45° C). Max. temp. on power supply case: 130° F (55° C). Relative humidity: 5% to 85%

Physical (main unit)

Width: 11.2 in. (284 mm), Depth: 13.7 in. (348 mm), Height: 4.6 in. (117 mm), Wt: 8.72 lbs. (3.96 kg).

Apple Computer

Apple Computer U.K. Limited, Eastman Way, Hemel Hempstead, Herts. HP2 7HQ Tel: (0442) 60244
Apple, the Apple Logo, IIGS, Macintosh, IIe, IIc AppleTalk, AppleDrive and ImageWriter are trademarks of Apple Computer Inc.