Apple *///* Plus   System Data Sheet

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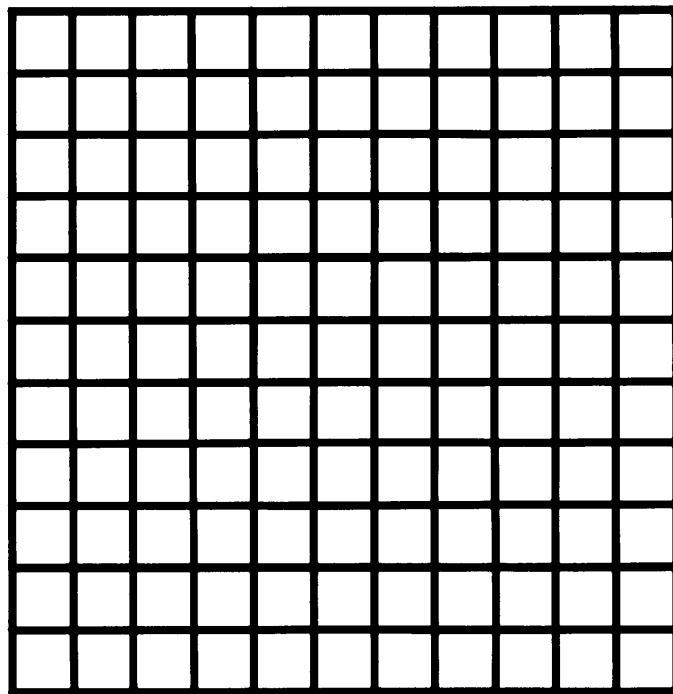
The Apple /// Plus

The Personal Computer That's All Business.

Decision makers in today's hectic business climate are faced with a myriad of facts and figures—and all too often, very little time to decipher, organize, and put this data to its best use.

The Apple /// Plus personal computer was created to meet these challenges at all levels, in every size and every kind of business. Designed to be complete from the time it comes out of the carton, the Apple /// Plus has many standard features found in minicomputers. But the system is also designed to grow with you, to keep you a step ahead as your responsibilities increase.

You can use the power of the Apple /// Plus for all your business needs: for accounting, resource management, and project scheduling; to create financial forecasts, budgets, and reports; or in electronic communications, software development, and computer-assisted training. More than 400 sophisticated business programs are available for the Apple /// Plus. The system also lets you utilize the extensive library of CP/M® business software, with the addition of Apple SoftCard™///. And what's more, its emulation mode lets you use most programs that run on the 48K Apple II Plus.

The Apple /// Plus is the personal computer that means business... from the company that means personal computing.

Designed complete. And ready to take on more.

The Apple /// Plus is ready to go as soon as you connect a monitor and plug it into an electrical outlet—no opening it up, no additional interface cards. It comes with a built-in disk drive, video outputs for color and monochromatic displays, and a numeric keypad.

Other built-in features include:

Large user memory. The Apple /// Plus has 256 kilobytes of internal memory. This means you can work with the many large business applications on the market today quickly and efficiently.

Color graphics. The 16-color graphics capability of the Apple /// Plus lets you convey the meanings of charts and graphs easily, even if you're not using a color monitor. Information can be displayed either in full color or in 16 varying shades. And the Apple /// Plus can be used with any color monitor, from phosphor green to full color.

High-resolution video. The Apple /// Plus displays 560 by 384 dots, or 80 horizontal characters and 24 lines of text on your screen. You get enhanced readability and crystal clear graphics, right down to the corners. A wide variety of character fonts are available, along with inverse video.

Accessory connectors. The most common accessories plug right into the Apple /// Plus back panel outlets: a serial printer, a Silentype® printer, additional floppy disk drives, color and monochromatic video displays (NTSC, RGB, and composite), a modem, and hand controls. The Apple /// Plus also has four inside expansion slots for additional accessories.

Clock/calendar. No more wondering which version of a report is the most recent, or when you updated your inventory. The built-in clock/calendar automatically marks your files with the date and time you last worked with them. Long-life replaceable batteries keep the clock going even when your system is unplugged or turned off.

Designed simple. So you can get fancy.

Apple /// Plus lets you insert financial models into reports, add names to form letters, and turn numbers into charts. This is because its Sophisticated Operating System (SOS) treats all your files identically. Programs written for the Apple /// Plus are all based on SOS formatting, so you can combine them on a ProFile™ mass storage system and move freely from one to another. The uniformity of SOS also provides an ideal environment for software development.

With Apple SOS, you can expand your Apple /// Plus with ease. You don't have to figure out how to make the computer work with a new printer, disk drive, or modem, because SOS controls all communications with accessories through special files known as "device drivers." Apple /// Plus programs come equipped with the most commonly used device drivers; to make programs compatible with new equipment, you simply copy a driver file for the new device onto your program disks. Your software can just as easily be revised to take advantage of SOS upgrades, and of hardware enhancements to the computer itself.
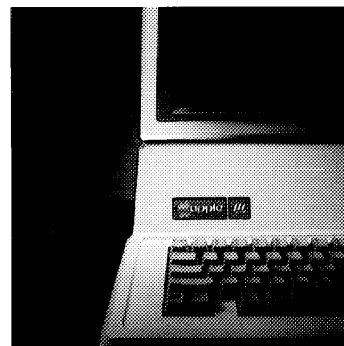
Designed for instant installation. Easy education, too.

Getting your Apple /// Plus to work is as easy as plugging it into an electrical outlet. A "Read Me First" booklet gives you all the basics without overwhelming you with unnecessary information.

Learning to use your Apple /// Plus is just as easy. The system comes with "Apple Presents ... Apple," an interactive, disk-based tutorial that teaches you how to use the special keys on the system in an easy, enjoyable fashion. A second demonstration disk introduces you to Apple's word processing, information management, electronic spreadsheet, and graphics programs. Reference manuals and SOS utilities disks are included for more advanced needs.

Designed to last. From the first.

The Apple /// Plus is dependable, inside and out. The outside is a rugged die-cast aluminum chassis. Inside, the electronics are based on advanced microprocessor circuitry to maximize reliable operation. The entire system is shielded to reduce interference to or from other electronic equipment, and has FCC, UL, and CSA approvals.

Enhancing the system's dependability is the brief, self-diagnosing routine the Apple /// Plus performs each time it's turned on. The "Confidence Program" disk included with the system lets you perform additional tests yourself, should you detect a problem. And if servicing is required, Apple has the largest authorized dealer network of any personal computer manufacturer. In fact, Apple provides service without comparison: turnaround time for Apple /// Plus servicing averages less than one day.

Standard Features

The Apple /// Plus personal computer system provides these standard features:

- 256K-byte internal memory (RAM);
- Built-in floppy-disk drive;
- Custom-designed microprocessor circuitry;
- High-resolution, 16-color graphics;
- 80-column, 24-line text display in upper and lowercase;
- Special interlace (560 x 384 dots) text mode;
- Contoured, 62-key, typewriter-style keyboard with all 128 ASCII* codes;
- Numeric 13-key keypad;
- Auto-repeat on all keys;
- Special-purpose keys: UP-ARROW, DOWN-ARROW, LEFT-ARROW, and RIGHT-ARROW; programmable OPEN-APPLE and SOLID-APPLE; TAB, DELETE, ALPHA LOCK, ESCAPE, SHIFT, CONTROL, RETURN and ENTER;
- Quick-connect plugs for disk drives, video and audio devices, serial printers, modems, and hand controls;
- Four expansion slots for accessory interface cards;
- 48K Apple II Plus emulation mode;
- High-quality sound generation;
- Radio-frequency-interference (RFI) shielding;
- Lockable case;
- Self-testing diagnostics;
- Comprehensive training kit.

*American Standard Code for Information Interchange
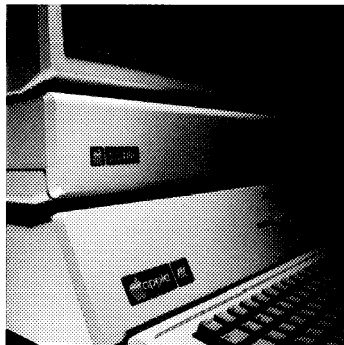
Sophisticated Operating System (SOS):

Handles all system input and output using device-independent, interrupt driver structure for maximum performance.

Can be configured by user to handle standard or custom input/output devices and peripherals by adding or deleting "device drivers."

All languages and application programs access data through the SOS file management system, which features a hierarchical file structure.

Optional Accessories

The following accessories and peripheral devices are available for your Apple /// Plus system:

- Monitor ///,
- Apple Daisy Wheel Printer,
- Apple Dot Matrix Printer,
- Apple Silentype Printer,
- Apple Color Plotter,
- Apple SoftCard /// System for CP/M capability,
- Floppy-disk drive,
- ProFile 5-megabyte hard-disk mass storage system,
- Programming languages (Business BASIC, Pascal, COBOL),
- Modem, and
- Hand controls.

Technical Specifications

■ *Video Display:*

Graphics modes:
- —280 x 192, 16 colors (with some limitations) or 280 x 192, monochromatic;
- —140 x 192, 16 colors;
- —560 x 192, monochromatic;
- —All Apple II modes (in emulation).

Text modes:
- —80-column, 24-line monochromatic;
- —40-column, 24-line, 16-color foreground and background;
- —40-column, 24-line monochromatic.

The standard 80-column, 24-line text mode is based on a resolution of 560 dots by 192 dots. A 560-dot by 384-dot monochromatic "interlace" text mode is activated with a toggle switch.

All text modes have a software-definable character set (128 characters in upper and lowercase), with normal or inverse display. Text and graphics may be displayed simultaneously.

■ *Central Processing Unit (CPU):*

Type:
Custom-designed processor based on 6502B.

Clock speed:
1.4 MHz average.

Operations per second (8-bit):
Up to 750,000.

Data bus:
Two 8-bit formats, combined for extended addressing.

Address bus:
19 bits.

Address range:
262,144 bytes (256K).

Registers:
Accumulator (A); Index Registers (X,Y); Stack Pointer (S); Program Counter (PC); Environmental Register (E); Bank (B); Zero Page (Z); Processor Status (P).

The custom-designed microprocessor circuitry of the Apple /// Plus utilizes the 6502B as one of its major components. Other circuitry provides established addressing capability, relocatable stack, zero page, and memory mapping.

■ *Memory:*
256K-byte dynamic RAM.
4K ROM (initialization and self-test diagnostics).

■ *Clock/Calendar Function:*
Automatic time and date marking of files.
Can be called from all languages.

■ *Inputs and Outputs:*

Keyboard:
- —62 keys on main keyboard;
- —13 keys on numeric keypad;
- —Full 128 characters; ASCII encoded;
- —All keys have automatic repeat;
- —Four directional arrow keys with two-speed repeat;
- —Two user-definable "Apple" keys;
- —Eight other special keys: SHIFT, CONTROL, ALPHA LOCK, TAB, ESCAPE, RETURN, ENTER, DELETE.

Storage Devices:
- —One built in, 140K 5.25-inch floppy-disk drive
- —Three additional drives can be connected by daisy-chain cable for a total of 560K bytes on-line storage.
- —Up to four ProFile hard-disk drives (5 megabytes each) may be added with plug-in interface cards.

Video Output:
- —RCA phono connector for NTSC monochromatic composite video.
- —16-shade scale on monochromatic displays.
- —15 pin connector for: NTSC color composite video; NTSC monochromatic composite video RGB color video; Composite sync signal; Power supply voltages.

Audio Output:
- —Driven by 6-bit digital/analog converter or fixed-frequency "beep" generator.
- —Built-in two-inch speaker with miniature phono jack on back panel.

Serial (Printer/Modem) Port:
- —RS-232C compatible, 25-pin connector;
- —Software-selectable baud rate and duplex mode.

Joystick/Silentype Ports:
- —Two 9-pin connectors; one port may be used for the Silentype Printer.

Expansion:
- —Four 50-pin expansion slots.

■ *Languages:*
Apple Business BASIC, Apple *///* Pascal, Apple *///* COBOL.

■ *Emulation Mode:*
Apple II, allowing most 48K Apple II programs (with the exception of Pascal and FORTRAN) to run without modification.

■ *Electrical Specifications:*
Three-wire, 110-volt or 120 volt outlet; normal household AC power.

■ *Physical Specifications:*
Height: 4.8 inches (12.20 cm)
Depth: 18.2 inches (46.22 cm)
Width: 17.5 inches (44.45 cm)
Weight: 26 lbs. (11.8 kg)
The Apple *///* Plus meets the following agency regulations for safety and electromagnetic compatibility:
FCC Part 15, Class B Computing Devices
CSA 22.2, No. 154-1979
UL 126Z—Office Machines

The Apple *///* Plus Personal Computer System Package
U.S. Order Number A3S1256
With your order for an Apple *///* Plus system, you will receive:
Apple *///* Plus;
Power cord;
Monitor cable;
Warranty and service information;
Accessory Kit Containing:
"Read Me First" guide,
"Apple Presents Apple" disk,
Business Applications Simulations disk,
System Demonstration disk,
Apple II Plus Emulation disk,
SOS Utilities Apple Training Pak (manual),
System Utilities disk,
System Utilities Data disk (contains device driver files, character sets, and keyboard layouts),
Confidence Program (disk and manual),
Owner's Guide,
Standard Device Drivers Manual.

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