
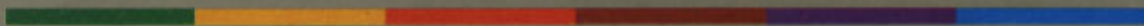


# Add to your Apple *Introduction*

Effective May 1984 



# Introduction



## The World of Apple



Before you read on, please note that most of the products in this booklet are for use with the Apple II and Apple III product range, although our Apple Imagewriter Printers, Daisy Wheel Printers and Profile can all be used with Lisa. Simply refer to the right hand column of text for product compatibility.

There are more people in more places doing more things with Apple personal computers than with any other computer in the world. Today more than 2,000,000 people own Apple computers and are using them in business, education, science, industry, and at home. They've discovered that an Apple personal computer can make their working time more productive, their learning time more exciting, and their leisure time more entertaining and creative.

### Better Still

With an Apple personal computer you'll soon find that one thing leads to another. You'll be surprised how easy it is to master new programs and expand your horizons. And you can achieve all this and more without any special training or any knowledge of programming.

An Apple system will also grow as your needs grow, thanks to the built-in expansion capabilities, and to the wide range of peripherals and accessories available.

### Service and Support

Apple's worldwide network of authorised service centres numbers over 2,000, and it's still growing. There are over 350 Apple dealers throughout Great Britain and your local dealer is in the best position to solve your individual requirements.

Remember Apple Computer are the only company who produce a full range of personal computer products, all of which are covered by a full, one year warranty.

### Accessories & Peripherals

Use this catalogue to expand your options with Apple accessories. Whether you're a master of games or a top industrial scientist Apple has a full range to offer.

Ask your dealer for supplies of Monitors, Printer Interface Cards, Dot Matrix Printers, Daisy Wheel Printers, Joysticks, Numeric Keypads, Hand Controllers, Apple Colour Plotters, and 80 Column Cards. In addition, there are over 400 accessory products produced by independent manufacturers. Phone our Product Support Department for further details (0442) 60244.

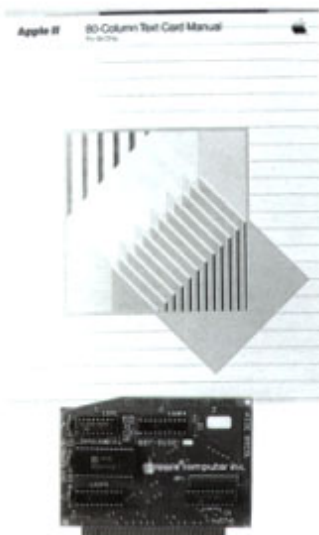
Throughout this catalogue the following symbols are used:  
Apple II - meaning any Apple II, II+ or IIe system.  
Apple IIe - meaning Apple IIe computers only



# Apple II

## Accessories and Peripherals

### Apple IIe 80-column Text Card



The Apple IIe 80-column Text Card doubles the standard display of your Apple IIe to 80 characters per screen line. With a video monitor connected to the computer, you can view 24 lines of either 40 or 80 characters each. And from the keyboard, you can easily switch between these modes.

Designed for easy installation, the 80-column Text Card plugs directly into the Auxiliary Connector slot inside the computer, requiring no cables or additional connectors.

#### The Apple IIe 80-column Text Card

- doubles the number of characters which can be displayed on the screen from 40 to 80 per line, so you can view more of the text you're working with...
- utilises the standard Apple IIe video output, so you don't have to change cables to switch between 40- and 80-column displays...
- provides different cursors for different modes, so you know immediately whether the Card is activated, and in what mode...
- activates several special, control functions for screen display and cursor movement, which are built into the Apple IIe.

**Product Name**  
Apple IIe 80-column Text Card  
**Product Number**  
A2B2022  
**Compatible With**  
Apple IIe  
**Equipment Required**  
Apple IIe 64K  
Available Auxiliary Connector slot  
Apple Monitor II

### Apple IIe Extended 80-column Text Card

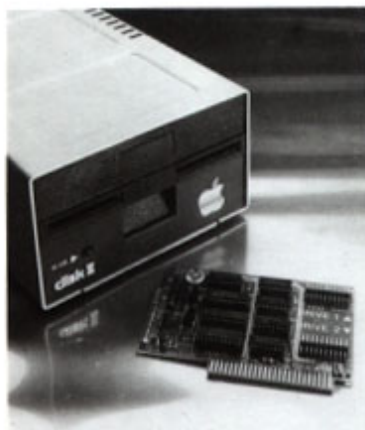
The Apple IIe Extended 80-column Text Card adds an additional bank of 64K bytes to your Apple IIe's memory (for software designed to utilise it), and lets you double the computer's display capability to 80 characters per screen line.

By "extending" the memory capability of the Apple IIe, the Text Card takes maximum advantage of several features of the computer. These features and extra memory are particularly useful for software developers or anyone needing extra program and data space in such applications as financial modelling and data base management.

The Extended 80-column Text Card installs easily in your Apple IIe. It simply plugs into the Auxiliary Connector slot inside the computer, requiring no cables or additional connectors.

**Product Name**  
Apple IIe Extended 80-column Text Card  
**Product Number**  
A2B2023  
**Compatible With**  
Apple IIe  
**Equipment Required**  
Apple IIe 64K  
Available Auxiliary Connector slot  
Apple Monitor II

### Disk II Floppy Disk Subsystem



The Apple Disk II Floppy Disk Subsystem increases the capability of your Apple Computer System through the use of flexible, or "floppy", disks for data storage. Expanded memory capacity, greater data retrieval speed, and random access to your stored data — all of these, and more, are made available through the Disk II Subsystem. Whether you use your Apple with a Disk II in business to control inventory, or at home for household management, you'll find that it's the superior answer to your data storage needs.

#### The Apple Disk II Floppy Disk Subsystem

- optimises efficiency by offering one of the highest storage capacities available with any personal computer...
- increases productivity by allowing you to access data much more quickly than is possible with cassette tape...
- makes possible a wide range of computer applications by allowing software to access data...
- provides for greater system expansion than is possible with any other personal computer, supports up to three interface cards and six disk drives.

**Product Name**  
Disk II Floppy Disk Subsystem  
**Product Number**  
A2M0044 (with controller)  
A2M0003 (without controller)  
**Compatible With**  
Apple II or Apple II +  
Apple IIe  
**Format**  
Sectoring: soft (hard-sectored disks may be used)  
Recording Surfaces: one  
Tracks per Surface: 35  
**Capacity**  
Formatted data capacity per surface, bytes: 140K, 16 sector (with Pascal, DOS 3.3 and ProDOS).

### DuoDisk



DuoDisk is a twin 143K, two-thirds height disk drive system designed for the Apple II family of computers.

Its case is designed to the same width, colour and styling as the Apple II and Monitor II combination and is purpose built to fit between the two units.

DuoDisk replaces the need to purchase two separate Disk II drive units, although single Disk II drive units are available. DuoDisk is supplied with a new interface card and cable to suit the Apple IIe connector system.

#### Additional Features

- Easy to connect single cable. ■ High speed seek, track to track.
- Band drive head positioning system.

DuoDisk is suitable for all dual floppy disk applications such as Pascal and is compatible to existing Disk II systems.

DuoDisk connects to the Apple IIe via a single screened multicore cable with 'D' connector cables at each end. The interface card connects to the backplane with a single 'D' connector socket.

**Product Name**  
DuoDisk  
**Product Number**  
A9M0108  
Includes: A2T0108Z Accessory Kit for IIe.  
**Compatible With**  
Apple IIe

# Apple II



## Accessories and Peripherals

### Monitor II



Apple's portable, 12-inch (30.5 cm) (diagonal), black & green monitor displays 80-character by 24-line text and high resolution graphics with precision and high readability. Designed for use with Apple II computer systems.

Connects easily to your Apple computer via a standard cable, supplied with every Apple II system. Front panel controls include power on/off and contrast. Back panel controls include vertical hold, height, and brightness.

The monitor's case colour matches the colours of the Apple II computer, giving the whole system an appearance as professional as its performance. Whether you're performing word processing or preparing sales forecasts, this dependable monitor gives you the "big picture" you need to produce effective communications.

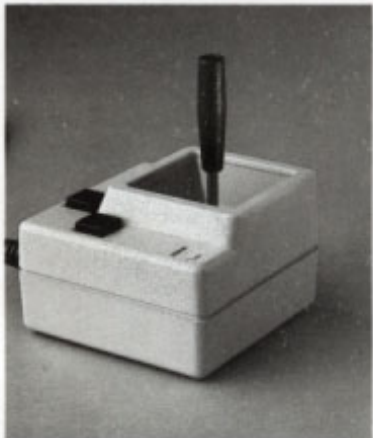
**Product Name**  
Monitor II

**Product Number**  
A2M2010P

**Compatible With**  
Any Apple II computer

**Equipment Required**  
High-frequency video cable (supplied with Apple IIe)

### Apple Joystick IIe



The Apple Joystick is a true X-Y paddle control interface that's fun to use and simple to integrate into all kinds of programs. Easy to hold, it features a control shaft that moves a full 360 degrees, a push-button fire switch, and a three-position, mode selecting, toggle switch.

The joystick was designed for use with Apple IIe systems and simply plugs into the game I/O socket on the machine.

A uniquely-designed mechanical interface converts the Joystick's shaft motion to two analog signals (one for the X axis, the other for the Y axis). The result is a superbly professional feel and sensitivity that makes other paddles seem cumbersome.

Whether you employ it in applications requiring advanced hand input capabilities, or just use it to play stimulating games, the Apple Joystick gives you an unbeatable degree of responsive, reliable control for your Apple computer system.

**Product Name**  
Apple Joystick IIe

**Product Number**  
A2M2002

**Compatible With**  
Any Apple IIe computer

Can be used with Apple II + computer via Joystick adaptor cable (A2M0082)

### Numeric Keypad IIe



The Numeric Keypad IIe is specifically designed for use on the Apple IIe Personal Computer in business application environments. This flexible input device includes a full numeric keypad and twelve function oriented keys. The Apple IIe Keypad includes a four function (add, subtract, multiply, and divide) calculator section.

The Numeric Keypad IIe's target audience is in the business and professional environment. The Numeric Keypad IIe has been designed for use with the powerful, business oriented VisiCalc® software and is essential in accounting oriented numeric data entry environments.

**Product Name**  
Numeric Keypad IIe

**Product Number**  
A2M2003

**Compatible With**  
Apple IIe Personal Computer

**Equipment Required**  
Apple IIe Personal Computer  
Disk with controller  
Apple Monitor II

### Hand Controllers IIe



The Apple Hand Controllers IIe are reliable, precision built game paddles which offer a new level of enjoyment to action oriented computer games. The dual diameter control knob allows control of the paddle from either diameter and the precision fire button with tactile feedback has been designed for long life and reliable operation. With the Apple Hand Controller IIe you can just plug and play.

The Hand Controllers IIe are designed for the home computer game enthusiast who demands sturdy, precision game paddles to take total advantage of highly action oriented game software.

**Product Name**  
Hand Controllers IIe

**Product Number**  
A2M2001

**Compatible With**  
Apple IIe Personal Computer

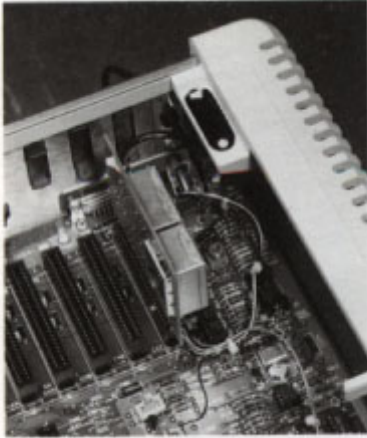
**Equipment Required**  
Apple IIe Personal Computer  
Disk drive with controller  
Apple Monitor II  
Applicable games software  
Can be used with Apple II + computer via Joystick adaptor cable (A2M0082)



# Apple II

## Accessories and Peripherals

### TV & Sound Modulator IIe



The modulator accepts video and audio signals from the Apple IIe and produces a modulated UHF TV signal in colour with sound through the television speaker and/or the Apple IIe speaker.

#### TV & Sound Modulator IIe

- Displays high quality PAL colour characters and graphics.
- High quality sound through the television.
- Sturdy single point fixing.
- Quick and easy to fit.

Power Requirement:	+ 12V at approximately 25MA
Video: Input Level	2V Sync-White
Polarity	White Positive, Sync Negative
DC Component	Sync tips clamped at 0V
Input Impedance	Approximately 1K OHM
Bandwidth	Within – 1DB to 4MHZ, – 4DB to ,5MHZ
Audio: Input Level	0.5V peak gives 25KHZ deviation
Input Impedance	47K OHM AC Coupled
Subcarrier Frequency	6MHZ +/- 20KHZ
Subcarrier Level	12DB below peak vision envelope
RF: Output Frequency	Channel E36 set at factory adjustable by user by up to +/- 3 Channels
Output level	+ 14DBMV nominal peak vision envelope across 75 OHMS (+ 10DBMV minimum)

**Product Name**  
TV & Sound Modulator IIe

**Product Number**  
D2M2UKO

**Compatible With**  
Any Apple IIe System  
Any domestic UHF black & white or  
colour television

Colour TV sets are linear systems in contrast to many black and white monitors. Thus they are more sensitive to improper tuning and interfering signals. The ferrite toroid cores supplied will help in keeping interference, generated by most computers, from leaking into your or your neighbour's set. Caution and courtesy are necessary. Check with a spare TV for interfering signals and ask your neighbours if interference exists. Consult your local dealer.

### Sup' R Mod II TV Interface Unit

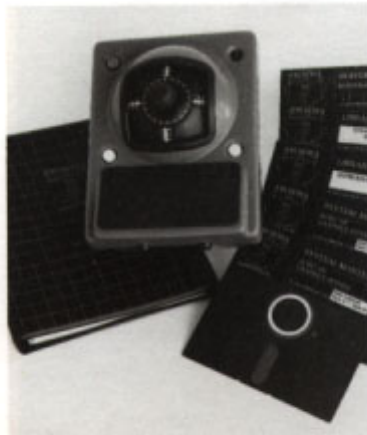
The SUP' R MOD II is a wide band black and white or colour compatible interface system intended to convert the home TV to a full video display for home computers, CCTV cameras and similar systems which output NTSC compatible composite video. The SUP' R MOD II is pre-tuned to U.S. Channel 33 (UHF), includes a coaxial cable and antenna transformer, and in conjunction with a standard home TV set, insures safe isolation and high performance.

**Product Name**  
Sup' R Mod II  
**Product Number**  
D2M0014

**Compatible With**  
Any Apple II + systems  
Any domestic UHF black and white  
or colour television.  
For colour with Apple II + systems  
use the Apple Eurocolour Card  
A2B0017

Colour TV sets are linear systems in contrast to many black and white monitors. Thus they are more sensitive to improper tuning and interfering signals. The ferrite toroid cores supplied will help in keeping interference, generated by most computers, from leaking into your or your neighbour's set. Caution and courtesy are necessary. Check with a spare TV for interfering signals and ask your neighbours if interference exists. Consult your local dealer.

### Bitstik 500 (Computer Aided Drawing Pack)



This combined Hardware/Software package turns your Apple II/IIe computer system into a sophisticated graphics processor – allowing you to Draw, File, Copy and Edit graphic material of all types quickly and inexpensively.

All drawings are held on your own graphic library for easy identification.

Hard copy of complete or part drawings can be made at any time using the Apple Imagewriter printer or Apple Colour plotter for high quality output.

#### The Bitstik 500

- Easy to learn and use.
- Saves time and effort.
- Versatile – the master software has all the functions you need to generate, combine, save, edit and display drawings and graphics.
- Inexpensive enough for each draftsman, designer or any individual with a graphic requirement.
- Text can be entered as part of your drawings at any time.
- Library disk filing system allows storage of an unlimited total number of drawings.

**Product Name**  
Bitstik 500  
**Product Number**  
D2H0500

**Compatible With**  
Apple II or IIe with 64K memory

**Equipment Required**  
Apple II Personal Computer  
Two Disk Drives or one DuoDisk  
Monitor II  
Apple Imagewriter or  
Apple Graphics Tablet  
or Apple Colour Plotter 410



## Accessories and Peripherals

### Mouse II



The AppleMouse II is a hand-held device, connected to your Apple computer by a flexible cable. As you roll your mouse about on the table next to your computer, it makes a cursor move in exactly the same way on your monitor screen. By moving the cursor to different symbols on the screen, you can tell your Apple what you want it to do. The AppleMouse II represents one of the simplest and most versatile computer input devices available today.

Your mouse requires special software. It works only when you have loaded your computer with a program that has been written for it. One such program, MousePaint, is on the disk that came with your mouse. Other AppleMouse II programs are being developed, check with your Apple dealer for details on availability. If you understand programming, you can even write your own mouse programs.

**Caution:** When you buy programs to use with your mouse, make sure that they are designed to be compatible with the AppleMouse II.

The AppleMouse II gives you an entirely new way to control your Apple II, II Plus, or IIe computer.

Here are a few examples of what you can do with the mouse:

- You can create pictures directly on the screen, as if your hand were holding an artist's pencil.
- You can select menu options simply by moving the screen cursor to them, instead of having to type identifying codes.
- You can move text or graphic elements around on the screen.

All these techniques (and more) are illustrated in MousePaint, the graphics program that comes with your mouse.

**Product Name**  
AppleMouse II  
**Product Number**  
A2M2050  
**Compatible With**  
Apple II family

### ProFile II



Your new ProFile disk storage system is a highly reliable mass storage system that will increase the overall capabilities of your computer.

The ProFile disk storage system consists of a fixed-media, random-access, 5¼ inch disk drive packaged in a lightweight, compact cabinet, an interface card that you must install in your computer, an interface cable, and a power cable. ProFile is a Winchester-type device, meaning that the read/write heads, the disks, and the actuator mechanism are all enclosed in a sealed, protective, non-removable housing.

ProFile differs from a flexible ("floppy") disk drive in that the ProFile media consists of rigid disks rather than floppy disks. Since the ProFile disks are protected by a sealed housing, they cannot be removed or interchanged and therefore cannot be damaged or lost as floppy disks can.

The main advantages ProFile has over a floppy disk drive are:

- Much greater data storage capacity (It takes about 35 floppy disks to store the same amount of data as a 5 megabyte rigid disk, and proportionally more if your rigid disk has a larger storage capacity).
- Higher reliability.
- Improved performance.

In addition to your computer and ProFile drive, you should have at least one Apple flexible disk drive such as a Disk II. It is used to load disks containing application programs and data that the computer needs to use a specific language and to communicate with an attached peripheral device such as the ProFile.

You may connect your ProFile to any of the computers in the Apple II family. However, the installation procedure will differ slightly depending on whether your computer is an Apple IIe, an Apple II, or an Apple II Plus.

#### Operating System

Your ProFile is designed to operate with the Professional Disk Operating System (ProDOS). ProDOS is a computer program that allows you to store information on your ProFile, rearrange the information already on your ProFile, and retrieve information from your ProFile.

See page 13 for further details.

**Product Name**  
ProFile II  
**Product Number**  
A9M1005  
**Accessory Kit for Apple II**  
A2T1005B  
**Compatible With**  
Apple II Family  
**Equipment & Accessories  
needed to connect Apple IIe to  
ProFile**  
Interface cable  
Interface card  
Internal cable  
Flat blade screwdriver (not supplied)  
Wrench  
Jack screws  
**Equipment & Accessories  
needed to connect Apple II or  
Apple II+ to ProFile**  
Interface cable  
Philips screwdriver (not supplied)  
Philips screws  
Interface card  
Two part retaining clamp  
Flat blade screwdriver (not supplied)  
Internal cable  
Wrench  
Jack screws

## Interface Cards and Expansion Options

### The Apple II Super Serial Interface Card



The Apple II Super Serial Card allows Apple II computer systems to exchange data with other computers, modems, printers, terminals, and accessories, employing a bi-directional RS-232C interface in serial format (one bit at a time).

The Super Serial Card features an on-board switch that lets you operate either a printer or modem port. This switch also eliminates the need for special connection cables such as modem eliminators.

The Super Serial Card's advanced circuitry and extensive resident software make it the single-card solution for all your serial communication needs.

#### The Apple II Super Serial Card...

- expands your system's usefulness by providing an industry standard (RS-232) interface to most computer accessories...
- is easily controlled from BASIC or Pascal by simple commands...
- provides access to a wide range of local and remote computer equipment, as it rapidly transfers data either by telephone (through a modem), or directly, at speeds from 50 to 19.2K baud...

**Product Name**

Super Serial Interface Card

**Product Number**

A2B0044

**Compatible With**

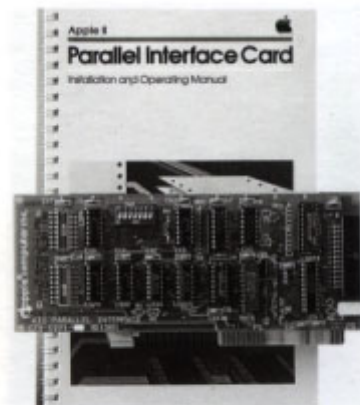
Any Apple II Computer

**Equipment Required**

A Printer Modem or other serial device

External cable (A2M0052)

### Parallel Interface Card



The Parallel Interface Card allows you to generate reports, listings, labels and letters with your Apple computer using a variety of parallel-interfaced printers.

Designed for user convenience, the Parallel Printer Interface Card consists of two sets of firmware, identical to the Centronics and Parallel Printer Interface cards previously made by Apple. The user can select interface characteristics via seven card-resident switches — which eliminates the need to wire configuration blocks. Switch selection includes strobe and acknowledge polarities, strobe length and firmware code.

The Parallel Interface Card can also function as a general-purpose input/output port, passing 8-bit parallel information to and from the Apple II without the intervention of firmware.

**Product Name**

Parallel Interface Card

**Product Number**

A2B0021

**Equipment Required**Any Apple II Computer  
Printer with parallel interface requirements

An external cable (A2M0052)

### Hobby/Prototyping Card

Create your own Apple interface boards with this wire-wrap card. The 2 3/4" x 7", double-sided circuit board includes a hole pattern (on 100-mil centres) that accepts all conventional ICs and passive components. It plugs directly into any Apple expansion connector, and fits entirely within the computer case.

**Product Name**

Hobby/Prototyping Card

**Product Number**

A2B0001

**Compatible With**

Any Apple II Computer

### Apple IEEE-488 Interface Card

With the Apple IEEE-488 Interface Card installed, Apple computer systems can be used to program and operate virtually any test, measurement, or control instrument that is bus-compatible with the IEEE-488 interface standard. The interface card plugs into any expansion slot in the Apple II. Its cable comes with a standard IEEE-488 bus plug for quick connection to IEEE-488 instruments.

The IEEE-488 interface card simplifies design and implementation of complex instrument systems — including frequency generators, digital multimeters, programmable power sources, and other equipment. Powerful resident software allows you to program instrument control in BASIC and assembly language using straightforward macro commands (FORTRAN and Pascal users can access the card through assembly language routines). And there's no need to worry about signal protocol on the bus, because the card's resident software handles it all for you.

**Product Name**

Apple IEEE-488 Interface Card

**Product Number**

A2B0015

**Compatible With**Any Apple III, or  
Apple II, each with a minimum  
32K of memory  
Apple Disk II with controller  
Apple Monitor II



## Accessories and Peripherals

### Disk III



Apple Disk III for the Apple III Professional Computer System is a floppy disk drive subsystem that allows you to increase the data storage capacity of your Apple III as your needs expand.

The Apple III Computer System accepts up to three external disk drives, in addition to its one built-in drive, for a total on-line storage capacity of 560K bytes. And because the Apple III was designed for easy, inexpensive system expansion, no extra control hardware or software are required as you add second, third, and fourth drives.

As storage requirements increase, expand your system's capacity with Disk III — Apple's professional, reliable disk storage subsystem.

#### Disk III...

- increases your system's capabilities by offering you up to 560K bytes of on-line storage capacity...
- maximises your system's flexibility, because it allows you to expand disk storage in step with your needs, in convenient 140K-byte increments...
- simplifies interfacing, because it quickly plugs in, and doesn't require any additional control hardware or software.

#### Product Name

Disk III

#### Product Number

A3M0004

#### Compatible With

Any Apple III

### Monitor III



Apple's portable, 12-inch (30.5 cm) (diagonal), black and green monitor displays 80-character by 24-line text and high resolution graphics with precision and high readability. Designed for use with Apple III computer systems, it will also display 40 characters per line when used with Apple II Plus computers, or when the Apple III is operating in Apple II emulation mode.

The Monitor III connects easily to your Apple computer via a standard cable, supplied with every Apple III system. Front panel controls include power on/off and contrast. Back panel controls include vertical hold, height, and brightness.

The monitor's case colour match the colours of the Apple III computer, giving the whole system an appearance as professional as its performance. Whether you're performing word processing or preparing sales forecasts, this dependable monitor gives you the "big picture" you need to produce effective communications.

#### Product Name

Monitor III

#### Product Number

A3M0039

#### Compatible With

Any Apple III system  
RCA phono-type connector cable  
(supplied with the Apple III)

### Cursor III



The Apple Cursor III is a true X-Y paddle control interface that's fun to use and simple to integrate into all kinds of programs. Easy to hold, it features a control shaft that moves a full 360 degrees, a push-button fire switch, and a three-position, mode selecting, toggle switch.

The Joystick was designed for use with Apple III systems. With the Apple III, up to two Joysticks can be used, both of which plug into existing sockets in the back of the system.

A uniquely-designed mechanical interface converts the Joystick's shaft motion to two analog signals (one for the X axis, the other for the Y axis). The result is a superbly professional feel and sensitivity that makes other paddles seem cumbersome.

Whether you employ it in applications requiring advanced hand input capabilities, or just use it to play stimulating games, the Apple Joystick gives you an unbeatable degree of responsive, reliable control for your Apple computer system.

#### Product Name

Cursor III for Apple III

#### Product Number

A3M0010

#### Compatible With

Any Apple III system

### MicroSci A143 Floppy Disk Drive



The MicroSci floppy disk sub-system supplied by Apple Computer is designed for truly professional microcomputer applications built around Apple III.

The Apple III will accept up to three of these high capacity disk drives giving a total on line storage capacity of over 1.7M bytes.

As your storage requirements increase, expand your system's capacity with A143 — MicroSci's professional, reliable disk storage sub-system.

#### MicroSci A143

- Increases your systems capabilities by offering you up to 1.7M bytes of on-line storage capacity.
- Maximises your system's flexibility, because it allows you to grow your storage in step with your needs.
- Simplifies interfacing — no extra hardware required and does not consume any of Apple III's four expansion slots.
- You can 'mix and match' any combination of Disk III's and A143's.

#### Product Name

MicroSci A143

#### Product Number

D3MA143

#### Compatible With

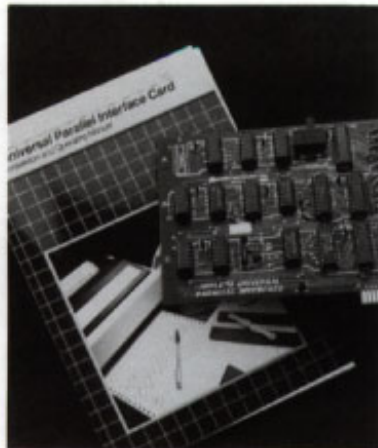
Any Apple III system





## Interface Cards and Expansion Options

### Apple III Universal Parallel Interface Card



The Apple III Universal Parallel Interface (UPI) Card lets users attach a variety of parallel-mode printers – including most dot matrix models, plus some thermal and daisy wheel units – to Apple III computer systems. Included with the Card is a disk containing an operating system driver, which lets you custom configure the card to work with the printer you are using.

Because the UPI Card also emulates two Apple II interface cards – the Centronics Interface Card and the Parallel Interface Card – it's able to control your printer directly from Apple III software, or from Apple II software running in emulation mode. And it spares you from having to juggle different cards for different jobs.

The Apple III UPI Card can also be used with equipment other than printers, functioning as a general-purpose, parallel input/output interface.

Because it's three cards in one, the Apple III Universal Parallel Interface Card gives you the convenience of printer plug-compatibility, the economy of Apple II printer emulation, and the flexibility of a fully-featured parallel interface.

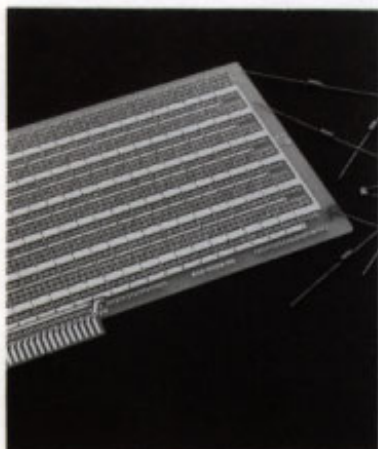
**Product Name**

Apple III Universal Parallel Interface Card

**Product Number**  
A3B0002**Compatible With**

Any Apple III system with an available expansion slot

### Apple III OEM Prototyping Card



Apple's OEM Prototyping Card is a convenient, modular printed circuit card on which to build custom interfaces for the Apple III Computer System. The card offers ample space to handle the majority of interface designs. It accommodates most integrated circuits and components, and has built-in facilities for attaching a variety of edge connectors and switches to your circuits. Also included are decoupling networks and shields to ensure maximum immunity from RF noise.

Equally important, the OEM Prototyping Card assures you of Apple product quality and compatibility. The card is double-sided, with plated-through holes for positive connection. And its 50-pin, gold-plated edge connector plugs right into any unused expansion slot in your Apple III, giving you complete access to all the signals on the bus.

**Product Name**

Apple III OEM Prototyping Card

**Product Number**  
A3B0001**Compatible With**

Any Apple III system with an available expansion slot

### IEEE-488 Standard Interface Card

With the Apple IEEE-488 Interface Card installed, Apple computer systems can be used to program and operate virtually any test, measurement, or control instrument that is bus-compatible with the IEEE-488 interface standard. The interface card plugs into any expansion slot in the Apple III. Its cable comes with a standard IEEE-488 bus plug for quick connection to IEEE-488 instruments.

The IEEE-488 interface card simplifies design and implementation of complex instrument systems – including frequency generators, digital multimeters, programmable power sources, and other equipment. Powerful resident software allows you to program instrument control in BASIC and assembly language using straightforward macro commands (FORTRAN and Pascal users can access the card through assembly language routines). And there's no need to worry about signal protocol on the bus, because the card's resident software handles it all for you.

**Product Name**

IEEE-488 Standard for Instrument Control

**Product Number**  
A2B0015**Compatible With**

Any Apple III

# Apple II and III



## Operating Systems

### DOS 3.3

DOS 3.3 is the handy housekeeper developed by Apple to help you take full advantage of your Disk II Floppy Disk Subsystem. DOS automatically keeps track of files, saves and retrieves information on a diskette, and performs a variety of other "housekeeping" chores. It dynamically allocates diskette space, maximizing diskette capacity. DOS stands for Disk Operating System; 3.3 is the version update number. When you purchase an Apple Disk II with controller, you are buying an Apple floppy disk drive and DOS 3.3.

NOTE: DOS 3.2.1 has been superceded by DOS 3.3. Programs which operate under DOS 3.2.1 cannot be read by DOS 3.3 (unless converted by "Muffin", a DOS 3.3 utility program). Conversely, DOS 3.2.1 cannot read DOS 3.3 programs.

For those Apple III/III Plus owners who wish to use, or are currently using, programmes running under the previous operating system, Apple will continue to offer and support DOS 3.2.1 (Apple Product A2D0010).

**Product Name**

DOS 3.3

**Product Number**

Not Applicable

**Compatible With**

Apple II family with minimum of 32K memory

### ProDOS

ProDOS provides increased compatibility between Apple II and Apple III environments and the higher performance required for more sophisticated applications.

ProDOS' design frees the Apple II from the physical limitations of the 143 kilobyte Apple Disk II drives. Using ProDOS, the Apple II can handle larger files, such as those often required by word processing and data base applications, and can recognise any storage device, either floppy or hard disk, that used Apple's protocols.

ProDOS presently supports Applesoft BASIC and 6502 Assembler languages, but its SOS-like design will enable other languages to be added easily, all using the same data formats as SOS.

ProDOS-based applications do not require hardware changes to the Apple II, Apple II plus or Apple IIe. The current Disk II interface card will work with DOS 3.3, Apple Pascal and ProDOS applications on all Apple II's.

**Product Name**

ProDOS

**Product Number**

A2D2010

**Compatible With**

Apple II family with minimum 64K memory

### Apple III Sophisticated Operating System (SOS)

The Apple III Sophisticated Operating System (SOS) is a powerful software interface that helps you exploit Apple III's advanced system capabilities. With SOS, you don't need to worry about most internal system functions, such as which disk drive contains a file, which bank of memory is being used, or which slot a peripheral interface card occupies. These and other functions are all controlled automatically.

Designed for easy expandability as well as operational convenience, SOS enhances and ensures Apple III system flexibility. A simple-to-use SYSTEM CONFIGURATION PROGRAM (supplied on diskette) allows even inexperienced users to custom-configure SOS to meet their specific needs.

**Product Name**

Apple III Sophisticated Operating System (SOS)

**Product Number**

A3D0009

**Compatible With**

Any Apple III system

### Apple SoftCard III System (CP/M)

The Apple SoftCard III System, designed by Microsoft Corporation, is a complete hardware/software system that enables you to run software developed for the Z80<sup>®</sup> microprocessor and CP/M<sup>®</sup> Operating System on your Apple III computer. You'll immediately expand your program operations with access to most CP/M-supported software and languages, and be ready for future programs being developed for both the Apple III and Z80-based computers. In addition to expanding your repertoire of programs, the Apple SoftCard III System provides compatibility of interface between Z80 processor and Apple III features such as device drivers, utilities, and peripheral operations. You can take advantage of these features, to transfer SOS data files to CP/M diskettes, to store data on the 5-megabyte ProFile hard-disk mass storage system, and much more.

The Apple SoftCard III circuit board actually contains a Z80 microprocessor which lets you switch between the Apple's 6502 and the Z80 by simply rebooting; so you can use software written for either processor.

**Product Name**

Apple SoftCard III System (CP/M)

**Product Number**

D3D0098

**Compatible With**An Apple III personal computer system  
A compatible printer and interface card (optional)  
An optional external disk drive, Disk III or ProFile

## Accessories and Peripherals

### The Apple Daisy Wheel Printer



The Daisy Wheel Printer is a fully-formed character, impact printer which produces documents of professional correspondence quality at an average speed of 40 characters per second. Highly reliable and simple to operate, it works with any Apple computer system. The Apple Daisy Wheel Printer handles all kinds of documents, from form letters printed on letterhead to financial statements up to 198 characters per line in length.

The Apple Daisy Wheel Printer improves the quality and impact of your letters and documents, because its fully-formed, highly readable characters give all your printed communications a professional look.

Interfaces quickly with your system by plugging directly into the back panel of the Apple III, or into a connector on the Super Serial Interface Card for the Apple IIe or Apple II Plus.

#### Technical Specifications

Parameter	Description
Print Speed:	40 characters per second (average)
Interface:	Asynchronous Serial (RS-232C) CCITT-V-24 Connector — 25 pin miniature
Forms:	Single sheet or continuous forms; 38.1 cm (15 inches) maximum width
Fonts:	130-character "daisy" printwheels in various alphanumeric type styles
Character Spacing:	10, 12, and 15 characters per inch, plus proportional spacing
Command Set:	ASCII; space, backspace, carriage return, line feed, horizontal tab, form feed, end-of-text, acknowledge, X-on, X-off
Special Mode Commands:	Graphics mode; forward and backward print mode; Program mode for hammer intensity and ribbon movement
Physical Parameters:	Weight — 16.8 kg (37 lbs) Width — 59.0 cm (23.22") Height — 17.5 cm (6.87") Depth — 37.7 cm (14.84")

#### Product Name

The Apple Daisy Wheel Printer

#### Product Number

A3M0027

#### Compatible With

Any Apple III system  
Any Apple IIe or Apple II Plus system with a Super Serial Interface Card installed  
Lisa Personal Office System

### The Apple Imagewriter Dot Matrix Printer



The Apple Imagewriter is a NEW dot matrix printer providing SUPERIOR levels of performance. The Imagewriter has been designed by Apple software experts and delivers unmatched system compatibility. Printing is accomplished via a 9-wire printhead producing characters within a 7 by 9 matrix for near letter quality text and graphics at densities from 72 to 160 dots per inch. The life of this printhead is rated in excess of 100 million characters. Both a friction feed platen and a pair of pin feed tractors are incorporated to allow printing on individual cut sheets, continuous fan-fold forms and roll stock.

#### Benefits and features of the Apple Imagewriter

- 60% faster than other comparable Dot Matrix Printers. Print speed of 180 cps intelligent print routines delivers throughput... up to 72 lines per minute. For a higher density text it prints 120 characters per second.
- Custom designed case to complement Apple products AND control audible noise to less than 53 dB(A).
- Graphic images printed at dot densities up to 160 dots per inch. Graphics and text can be mixed in the same line of print. Provides image definition and clarity previously unavailable.
- Eight user selectable font sizes plus up to 175 user programmable characters; multiple character sizes (9, 10, 12, 13.4, 15 and 17 CPI) and proportional printing; eight user selectable graphic dot densities; subscript and superscript.
- All switches conveniently located, snap-on ribbon cassette, simple forms loading and quiet operation.
- Easily accessible interior, modular construction, socketed components and convenient test points.

#### Product Name

Apple Imagewriter Dot Matrix Printer

#### Product Number

A9M0303

#### Compatible With

Any Apple III System  
Any Apple IIe or Apple II Plus system with a Super Serial Interface Card installed  
Lisa Personal Office System



## Accessories and Peripherals

### Printwheels



Apple printwheels are designed for high print quality and durability. Unlike manufacturers who place two characters on one spoke, Apple's printwheels have one spoke for each character. This eliminates shifting the carriage up and down, a major cause of wear and character misalignment. Apple has a complete line of plastic daisywheels, from Prestige Elite to Boldface in English, French, German, and many other languages, as well as offering proportional spacing.

Type style examples are listed below:

#### DEMONSTRATION

This is a demonstration of the Apple Daisy Wheel Printer using the Apple Prestige Elite 12, A2M0078 wheel. There are several wheels available to enable you to produce perfect letter quality every time.

0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

This is a demonstration of the Apple Daisy Wheel Printer using the Apple Courier 10, A2M0079 wheel. There are several wheels available to enable you to produce perfect letter quality every time.

0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

This is a demonstration of the Apple Daisy Wheel Printer using the Apple Gothic 15, A2M0080 wheel. There are several wheels available to enable you to produce perfect letter quality every time.

0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

This is a demonstration of the Apple Daisy Wheel Printer using the Apple Bold Face/Executive PS, A2M0081 wheel. There are several wheels available to enable you to produce perfect letter quality every time.

0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

#### **Product Names**

Apple Prestige Elite 12  
Apple Courier 10  
Apple Gothic 15  
Apple Bold Face/Executive PS

#### **Product Numbers**

A2M0078  
A2M0079  
A2M0080  
A2M0081

#### **For Use With**

Apple Daisy Wheel  
Printers operating  
with Apple II and III  
systems



### Print Ribbons

Apple printer ribbons are manufactured from the highest quality materials available to produce an end product which combines maximum resistance to distortion, with the highest level of inking. In packs of six, there are two types of black ribbons available - cloth for the Apple Dot Matrix Printer and plastic for the Apple Daisy Wheel Printer. With both types cassetted, installation is very easy, quick and clean.

#### **Product Name**

D.W.P. Pack of 6 Print Ribbons  
D.M.P. Pack of 6 Cloth Print Ribbons

#### **Product Numbers**

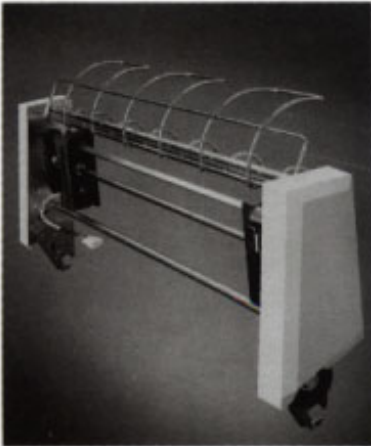
A2M0074  
A2M0077

#### **For Use With**

Apple Daisy Wheel and Dot Matrix  
Printers respectively

## Accessories and Peripherals

### Apple DWP Tractor Feed



This is a labour saving device which clips onto your Apple DWP and is used for printing large amounts of continuous stationery (numerous sheets of paper all joined together). If you produce lengthy reports, lots of the same word processed letter, mailing lists, and addressed envelopes, by attaching the Tractor Feed, and with the use of continuously prepared stationery, the speed in which you can handle large volumes of paper work will be increased dramatically. Generally, the Tractor Feed will accommodate the following types of continuously prepared stationery:

- Plain Paper
- A variety of envelopes
- Company letterheadings
- Mail shot material-personalised
- Mailing list labels
- Listing paper
- Invoices/statements etc.

Installation of the Tractor does not inhibit the use of single fed documents; quickly and easily the Tractor maybe removed for the user to return to preparing single page documentation.

**Note:** Before purchasing any of the above items, it is always very wise to ensure that the Tractor Feed will accommodate variations in paper size, sprocket hole positions and size, and paper thickness. It's always best to ensure that good quality materials are used and prepared properly from reputable suppliers.

### ProFile



ProFile is the Personal Mass Storage System for Apple computers. ProFile is a complete storage system; it includes a 5¼-inch, Winchester technology hard disk housed in a compact, sealed environment; device driver software; and the ProFile interface card.

The Personal Mass Storage System dramatically increases the Apple's maximum on-line storage capacity to 5 million bytes, allowing you to store safely in one location information that would fill 35 floppy disks.

Designed for professionals with large-scale, low-cost-per-byte data storage and programming needs, the ProFile is an ideal tool for software and computer graphic developers, accountants, financial planners, doctors, educators, and engineers. Its Winchester technology provides rapid data access (approximately 10 times faster than the conventional floppy disk drive), letting you tackle complex projects on the Apple more efficiently than ever before.

#### ProFile

- simplifies large data processing and programming tasks by allowing you to centralise 5 megabytes of storage in a single, compact unit.
- Increases productivity, because it accesses data 10 times faster than the conventional floppy disk drive.
- Assures data integrity; because its intelligent controller automatically scans for error conditions, and relocates marginal data blocks elsewhere on the disk, if necessary.
- Is usable in any work environment because it is compact, light, simple to install, and extremely quiet.
- Offers cost-effective data storage.
- Is highly reliable, designed to offer better than 10,000 in-use hours of mean time between time failures.

#### With your ProFile order, you will receive:

- Apple ProFile hard disk drive
- Apple II or Apple III ProFile interface card (state type)
- AC power supply cable
- ProFile driver disk
- ProFile demonstration disk
- ProFile Owner's Manual

**Product Name**  
ProFile

**Product Number**  
A9M1005 (for Apple II and III)  
BDL60005 (For Lisa)  
Apple II ProFile  
Interface Kit  
A2T1005B  
Apple III ProFile  
Interface Kit  
A3T1005

**Compatible With**  
Apple II family  
Any Apple III system  
Lisa Office system

### Box of 10 Apple Blank Diskettes

Apple blank diskettes are manufactured to the highest standard to protect all your information. These single sided, 5¼ inch floppies are ideal for storing mailing lists, word processed reports, budgets, and large data files.

Whenever you use your Apple II or Apple III you will always need to create back-up disks for security — ask your local dealer for supplies.

**Product Name**  
Box-10 Apple Blank Diskettes

**Product Number**  
A2D0000

**Compatible With**  
Disk II and Disk III

## Accessories and Peripherals

### Multi-User Hardware (Networking)



#### PC-Link

Now, a combination of 8 Apple II, IIe and III series microcomputers can access one I.C.E. Microcube hard disk as a result of the development of this unique resource sharing scheme.

I.C.E. software supplied with PC-Link segments the Microcube. With PC-Link each computer may run a separate applications program. Alternatively, fully multi-user software may be used, allowing different machines to read and update the same information, as long as the authors of the software have designed it for use with the PC-Link.

I.C.E. supports the most popular Apple II operating systems: DOS 3.3, Pascal, CP/M and ProDOS (see page 10). These may all be installed simultaneously on an I.C.E. Hard Disk. Different data storage volumes can be allocated to each operating system as required.

With the Apple III series I.C.E. supports SOS and CP/M. If SOS is used, up to four information holding volumes may be accessed at once, while with CP/M one large volume may be accessed at once.

Fully multi-user applications software can be used with the I.C.E. PC-Link. I.C.E. supply, on request, software tools that can be used by the authors of multi-user software to generate programs that share read-write access to information.

All I.C.E. support software has been completely rewritten and extensively tested during 1983. The I.C.E. utility software for the Apple II, IIe, and Apple III has been written to be fully user-interface compatible with the very popular Apple III Systems Utility Program distributed by Apple. Special care has been given to ensure that the I.C.E. utility software is robust and easy to use.

#### Technical Specifications

The PC-Link is built around an I.C.E.-designed computer board and contains:

- Z80 microprocessor running at 4 Megahertz.
- 4 Kbytes EPROM program memory. ■ 64 Kbytes RAM memory.
- Dual DMA controllers for input and output.
- One channel board driving the cables to the linked microcomputers.

I.C.E. interface cards, plugged into the microcomputers' expansion connectors, attach each computer to PC-Link cables.

Cables up to 100 feet long may be used to link microcomputers.

#### Microcube

The I.C.E. Microcube represents the latest developments in hard disk technology, based on a Rodime 3 1/2" Winchester Drive. This unit is one of three types of I.C.E. Microcube.

Microcube is fully compatible with the Apple II, IIe and III series microcomputers, and is supplied with interface card, installation and operating manual and full support software.

For larger data storage requirements, Microcube is also available in formatted capacities of 21 and 42 megabytes.

These units use the Rodime 5 1/4" Drive.

#### Technical Specifications

The typical seek time is 90 milliseconds, with a maximum of 215 milliseconds.

Transfer rates:

- From Drive to Controller, 5 Megabits per second
- From Controller to host, 600 Kilobytes per second maximum.

(Subject to host computer and operating system limitations.)  
Method of connection is via a 26-way flat cable to the I.C.E. PC-Link, Datavault or Apple computer interface.

#### Datavault

Datavault completes the I.C.E. - Apple family link-up. Datavault will prove to be very popular very quickly, providing as it does the ideal solution to hard disk back-up by utilising the latest in low cost streamer technology.

Datavault is controlled by the host Apple microcomputer. Software provided controls either a complete back-up of your Microcube, or a selective volume-by-volume back-up.

The supplied utility software will also format Datavault cartridge tapes. And the back-up software includes a built-in error checking capability to ensure data integrity.

Datavault will work with all sizes of I.C.E. Microcube. The 42 Megabyte Microcube requires two Datavault tapes per back-up; all other types of Microcube require just one tape per back-up.

#### Technical Specifications

Drive type and capacity:

- 5 1/4 inch Cipher 525CT, 22.5 Megabytes formatted capacity.
- Tape: DC600A industry-standard cartridge.
- Transfer rate: (disk-tape, or tape-disk).
- 2.5 Megabytes per minute (and equal time for verification).

Controller type:

- Z80A running at 4 Megahertz. ■ 4K EPROM program memory.
- 64K RAM data memory. ■ Two Z80 DMA's for data transfers.
- Western Digital Z793 controller.

Note: Datavault Tape Streamer cannot be used to back-up ProFile Hard Disks.

#### Product Names

- \*ICE 10MB Hard Disk
- \*ICE 21MB Hard Disk
- \*8 Channel Multiplexor
- \*\*Data Vault' Tape Streamer
- Apple II/III Multi-user Interface with 10 metres of cable.

\*Available separately from ICE Ltd is a 12 month on-site service contract for each of these products.

#### Compatible With

- Any Apple II Computer
- Any Apple III system

#### Please Note

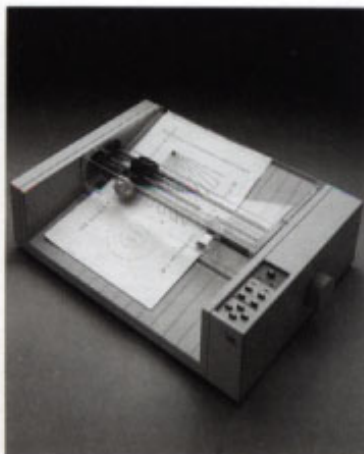
These are not Apple products, but they are available from your local, authorised Apple dealer. For further details please contact:

ICE  
Littleton House,  
Littleton Road,  
Ashford, Middlesex  
TW15 1UU  
Tel: (07842) 47271



## Accessories & Peripherals

### The Apple 410 Colour Plotter



If you want to display graphics and data in an easy-to-read, colourful format – whether on paper or on overhead transparency – the Apple Colour Plotter is the ideal visual partner for your Apple personal computer.

This device will give you either paper print-outs or transparencies for overheads quickly, easily, and cost effectively.

As you know, your Apple computer is adept at accepting data, storing it, and giving it back to you in countless ways. The Apple Colour Plotter simply helps you to visualise that data in an easy-to-understand graphics format.

The Apple Colour Plotter lets you create presentation-quality printouts of charts, graphs, and other X-Y data for any type of business situation. Or it can help you to display complicated scientific or engineering data in a concise manner. It can also act as a training or teaching aid.

Since the results are in vivid colour, your charts and graphs will be the centre of attention, and the data you display will be easy to understand.

#### Apple Colour Plotter

- Lets you create low-cost, effective graphics in up to eight brilliant colours.
- Helps you to get started quickly with a comprehensive choice of supplies – transparencies, several sizes of paper, and four different types of pens in eight different colours.
- Gives you four active pens, so you can do other work while your Apple Colour Plotter creates full-colour graphics.
- Takes up little room, thanks to its small, tabletop configuration.
- Provides multi-language capability with seven alternate language font sets, including English, French, German, Italian, Swedish and Spanish.

#### With your Apple Colour Plotter you will receive:

- the Apple Colour Plotter
- a Multi-pen Capper Kit
- a power cord
- an extra fuse

#### Product Name

The Apple 410 Colour Plotter

#### Product Number

A9M0302P for Colour Plotter Accessories ask for the Apple Recommended Retail Price List

#### Compatible With

Any Apple IIe system  
Any Apple III system

#### You will also need one of the following:

Apple II Accessory Kit  
Order No. A3C0302U

or  
Apple III Accessory Kit  
Order No. A3C0302U

#### With your Accessory Kit you will receive:

- a user's operating manual
- an installation manual
- cable
- limited warranty and product registration
- one package of A4 plotter paper
- one package of four 0.3mm pens (red, green, blue, and black) for paper printouts
- one package of four 0.3mm pens (violet, brown, gold, and burnt orange) for paper printouts

### Colour Plotter Supplies

With your Apple Colour Plotter you can buy numerous plotting supplies, depending on your requirements.

For hard-copy printouts you can order the following paper packages:

- One box of 50 A4 sheets (Order No. A9C0305)
- One box of 50 A3 sheets (Order No. A9C0306)

To generate overhead presentation graphics, you can order Apple Plotter Transparency film:

- One box of 50 8.5" x 11" paper-backed transparencies (Order No. A9C0300)

To eliminate the need to change pens when moving from paper to transparencies, you can order an additional Multi-pen Capper Kit (Order No. A9C0304)

For paper applications, you can order additional pens. Each order contains four pens in a resealable envelope.

Colour	Narrow (0.3mm) Order No.	Wide (0.7mm) Order No.
Black	A9G0300	A9G0301
Red	A9G0304	A9G0305
Green	A9G0308	A9G0309
Blue	A9G0312	A9G0313
Combo-1*	A9G0316	A9G0317
Combo-2**	A9G0320	A9G0321

For overhead transparency applications, you can also order additional pens. Each order contains four pens in a resealable envelope.

Colour	Narrow (0.3mm) Order No.	Wide (0.7mm) Order No.
Black	A9G0302	A9G0303
Red	A9G0306	A9G0307
Green	A9G0310	A9G0311
Blue	A9G0314	A9G0315
Combo-1*	A9G0318	A9G0319
Combo-2**	A9G0322	A9G0323

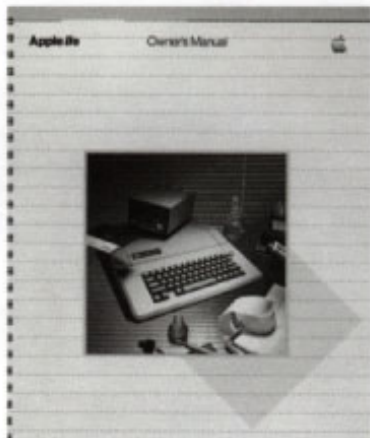
\*One pen each of black, red, green, and blue

\*\*One pen each of violet, burnt orange, gold, and brown



## Manuals and Tutorials

### Apple IIe Owner's Manual



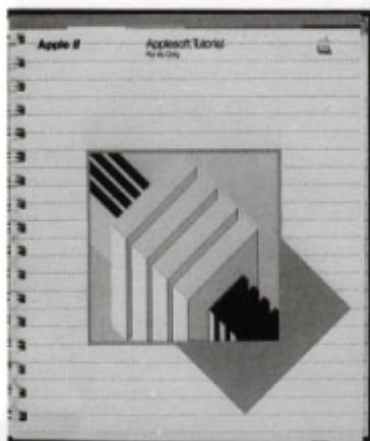
This manual is the first book you should read when you open the Apple IIe. All other manuals for the Apple IIe assume that you have read this book.

This manual is arranged so you can find the information you want quickly and easily, without having to read things you aren't interested in just yet. Here is an overview of what this manual contains.

Chapter 1, "Assembling the System," explains how to unpack, set up, and connect your computer to a disk drive and either a television set or a video monitor. Chapter 2, "Getting Acquainted," gives a few pointers on system and disk care. Chapter 3, "How the System Works." Chapter 4, "Using an Operating System." Chapter 5, "Getting Down to Business and Pleasure," outlines the kinds of ready-made programs available to use with your Apple IIe computer. Chapter 6, "Programming: the Ultimate Computer Skill." Chapter 7, "Adding More Pieces to the System," is a supplement to Chapter 1. Chapter 8, "Help," tells you what you can do to identify and correct problems with your system.

**Product Name**  
Apple IIe Owners Manual  
**Product Number**  
A2L2001  
**For Use With**  
Apple IIe only

### Applesoft Tutorial



This is the manual for you if you want to learn to program or want to familiarise yourself with programming. Either way, it is designed so you can have fun while you learn.

You will learn, for example, how to tell your computer to say hello to your friends; how to get your computer to act like a calculator; and how to program your computer to draw horses all over the screen.

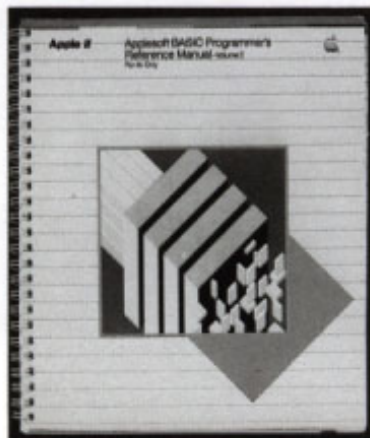
If you start at the beginning, try everything as it comes along, and make up your mind to take your time.

The Applesoft Tutorial is organised so each skill you learn is a stepping stone to the next. It is also organised to help you pace yourself; "pause" marks are noted at convenient stopping points.

Chapters in this manual include: Learning to Program, Introducing Applesoft, Elementary Programming, Making Changes, Lots of Graphics, Strings and Arrays, Error Messages, Help, and More Programs to Play With.

**Product Name**  
Applesoft Tutorial  
**Product Number**  
A2L2003  
**For Use With**  
Apple IIe only

### Applesoft BASIC Programmers Ref. Manuals Vols. 1 + 2



This is a reference manual for the Applesoft BASIC programming language as implemented on the Apple IIe computer. It is intended for readers who have had some previous experience with programming, either in BASIC or in some other programming language. It assumes that you are familiar with the material in the *Apple IIe Owner's Manual*, and if you are a novice programmer, that you have read the *Apple IIe Applesoft Tutorial*.

To make using this manual easier for you, we have divided it into two volumes. The complete table of contents, chapters one through eight, and the complete index appear in volume one. Volume two holds the appendices and the glossary; the index is also included in this volume for your convenience.

#### How The Manual is Organised

The manual has 8 chapters, 14 appendices, a glossary of terms, an index, and a quick reference card. All of it is designed to help you get the most out of Applesoft. Here's a description of what each chapter and appendix is about:

Chapter 1, "General Information," it discusses the programming environment in which Applesoft operates and tells how to create, modify, execute, and store Applesoft programs. Chapter 2, "Variables and Arithmetic." Chapter 3, "Control," covers the various statements available to direct the flow of program execution. Chapter 4, "Arrays and Strings," completes the material on variables begun in Chapter 2. Chapter 5, "Input/Output," describes Applesoft's facilities for getting information into and out of programs. Chapter 6, "Graphics," tells how to create, change, display, and store low- and high-resolution graphic designs. Chapter 7, "Utility Statements," contains information on a variety of miscellaneous Applesoft facilities for low-level control of the programming environment. Chapter 8, "Bringing It All Together," is more tutorial than any other chapter in the manual.

Appendix A, "Summary of Applesoft Statements and Functions." Appendix B, "Syntax Definitions," defines terms used in the formal syntactic definitions of Applesoft statements given in Appendix A. Appendix C, "ASCII Character Codes." Appendix D, "Reserved Words," is a list of words (some of them rather odd-looking) that cannot be used in variable names. Appendix E, "Error Messages." Appendix F, "Peeks, Pokes, and Calls." Appendix G, "Hints for Program Efficiency." Appendix H, "Implementation Details."

**Product Name**  
Applesoft Ref. Manual  
**Product Code**  
A2L2004  
**For Use With**  
Apple IIe only



## Manuals and Tutorials

### Applesoft BASIC Programmers Ref. Manuals Vols. 1 + 2 (continued)

Appendix I, "Display Formats for Numbers;" Appendix J, "On-Screen Editing and Cursor Control;" Appendix K, "40/80-Column Differences;" Appendix L, "Comparison with Integer BASIC;" Appendix M, "If You Have a Cassette Recorder;" Appendix N, "Complete Listing of the Postage Rates Program."

A tear-out Quick Reference Card, designed to act as a "memory jog," gives an extremely brief description of each statement, function, operator, and variable type.

### Apple IIe Reference Manual and Addendum



This manual contains detailed descriptions of all of the hardware and firmware that make up the Apple IIe and provides the technical information that peripheral-card designers and programmers need. There is an Addendum, bound separately, that contains source listings of the built-in firmware.

This manual is designed to answer the question, What's inside the Apple IIe. It describes the internal operation of the Apple IIe as completely as possible in a single volume. The criterion for deciding to include an item of information was whether it would help an assembly-language programmer or peripheral designer.

#### Contents Of The Manual

The material in the manual is presented roughly in order of increasing intimacy with the hardware; the further you go in the manual, the more technical the material becomes. The main subject areas are:

Introduction: Foreword and Chapter 1. Use of built-in features: Chapters 2 and 3. How the memory is organized: Chapter 4. Information for programmers: Chapters 5 and 6. Hardware implementation: Chapter 7. Additional information: Appendices and Addendum.

The Addendum to this manual contains the source listing of the Monitor firmware. You can refer to it to find out more about the operation of the Monitor subroutines listed in Appendix C.

**Product Name**  
Apple IIe Ref. Manual  
**Product Number**  
A2L2005  
**For Use With**  
Apple IIe only

### DOS User's Manual



The *DOS User's Manual* will guide you step by step through the basics of using DOS. If you are learning to program or want to run ready-made programs or games, this manual will give you the information you need.

After you've read the material that came with your Apple IIe computer, you are ready for this manual.

#### How This Manual is Organized

The DOS User's manual is for a person who is beginning to use a computer: the user who will be running programs that are on disks or writing a simple BASIC program.

Chapter 1, "A Tutorial For New DOS Users," is designed for you if you are a new computer user. Chapter 2, "An Overview of DOS," tells what you need to know to use DOS. Chapter 3, "Using Disks," deals with disks as a whole. Chapter 4, "Using Files," goes into managing individual files. Chapter 5, "Using Programs Already on Disks," discusses using application programs.

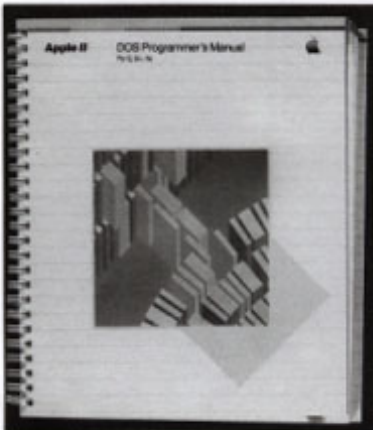
**Product Name**  
DOS User's Manual  
**Product Number**  
A2L2002  
**For Use With**  
Apple II, II+ and IIe

## Manuals and Tutorials

### DOS User's Manual (continued)

Appendix A, "Dealing With 13-Sector Disks," guides a user who has 13-sector equipment. Appendix B, "Warnings and Error Messages," discusses several sources of warnings and error messages. Appendix C, "Programs on the DOS Disks," Appendix D, "Summary of DOS Operating Concepts and Commands."

### DOS Programmer's Manual



The *DOS Programmer's Manual* is written for people who want to store programs and other information on disks. It describes DOS 3.3, a disk operating system that allows you to place information on disks, change information already on disks, and retrieve information from disks. DOS runs on *Apple II*, *Apple II Plus*, and *Apple IIe* computers.

**Product Name**  
DOS Programmers Manual  
**Product Number**  
A2L2012  
**For Use With**  
*Apple II*, *II+* and *IIe*

#### Organisation Of This Manual

This manual is designed as a reference. The topics covered become increasingly complex as you progress.

Each chapter begins with an introduction to the topics it contains and concludes with a summary of the commands that are discussed.

Chapter 1 describes the DOS environment and the DOS commands that are used primarily from the keyboard. Chapter 2 explains several ways of using DOS commands. Chapter 3 tells you about disk access for text files and compares sequential and random access. Chapter 4 explains random-access files and how to write programs that use them. Chapter 5 tells you how to use DOS to write a program that runs other programs. Chapter 6 describes binary files and commands.

Appendix A describes how to run a program on a 13-sector disk and how to convert 13-sector disks to 16-sector format. Appendix B explains disk storage. Appendix C discusses DOS error messages. Appendix D describes each program on the SYSTEM MASTER and the SAMPLE PROGRAMS disks. Appendix E is a summary of the DOS commands.

### Applesoft Manual Set



A more favourable retail price is past on to customers if they decide to purchase the A2P2001 Applesoft Manual Set.

This set of manuals comprises of A2L2003 Applesoft Tutorial, A2L2004 Applesoft Reference Manual and a free Applesoft Sampler Disk. The Disk features a collection of programs which should be studied in conjunction with the Applesoft Tutorial.

The Applesoft Sampler menu consists of Example Programs from the Applesoft Tutorial, Tutorial Appendix E – More programs to play with, and "Postage Rates" – from the Applesoft Manual.

**Product Name**  
Applesoft Manual Set  
**Product Number**  
A2P2001  
**For Use With**  
*Apple IIe* only

## Software Development Tools

### The Apple Workbench



The Apple Workbench is a series of technical software products from Apple Computer designed to help software developers create high quality applications for Apple systems. Apple has always encouraged independent programmers to develop applications software. Now, through the Workbench, Apple is further opening up its systems with development tools, information, and support needed by successful software developers.

#### Who would be interested in the Apple Workbench?

Any developer interested in developing hardware or software for Apple systems would benefit from these software development tools.

#### What distinguishes Apple Workbench products from other software?

The Workbench products are specifically designed for technically orientated people. With a few exceptions, such as the DOS Programmer's Tool Kit, little or no tutorial information is provided with the Workbench software – just informative, well organised reference materials. These reference materials are packaged in simple loose-leaf format, with separate binders available so you can organise the reference materials according to your own needs.

#### What software products are in the Apple Workbench series?

The first group of Apple Workbench products consists of six software packages. Each of these packages is purchased individually, and comes with software, complete documentation, and a registration card (used for notification of software updates).

These are the first six workbench products:

#### 1. DOS Programmer's Tool Kit

This software package consists of the 6502 Assembler Tool Kit and the Applesoft Programmer's Tool Kit.

The **6502 Assembler Tool Kit** contains all the assembly-language programming tools you will need to program your Apple II system in its native language under DOS 3.3.

The **Applesoft Programmer's Tool Kit** is designed to help you use the full programming capabilities of the Apple II family of computers. Intended for programmers familiar with Applesoft BASIC and DOS 3.3.

#### 2. ProDOS Technical Reference Manual

The diskette in this package contains ProDOS, Apple's new operating system for the Apple II, and the Exerciser, an interactive program that allows programmers to try out ProDOS calls from the keyboard running on ProDOS or SOS, such as those you will find in the ProDOS Assembler Tools package.

#### 3. ProDOS Assembler Tools

The ProDOS Assembler Tools package contains all you will need to program your Apple II system in assembly language under ProDOS. It includes the same pieces as the 6502 Assembler Tool Kit portion of the DOS Programmer's Tool Kit (EDSAM, BUG BYTER, and RLOAD).

#### 4. Apple Pascal Numerics

Now you can use double-precision real numbers and 64-bit integers in Apple Pascal for the Apple II and III with SANE (Standard Apple Numeric Environment). This package incorporates full IEEE-standard numerics, including single- double- and extended-precision types (32, 64, and 80 Bit), as well as functions (arithmetic, conversion, comparison, control, logarithmic, exponential, financial, and trigonometric).

#### 5. Apple III Pascal Tool Kit

This software package, for use in developing Pascal programs on the Apple III system, includes the following powerful tools to enhance your productivity:

- Apple III Pascal Compiler, enhanced version\*
- Compare III\*
- Xref\*
- ProcNames\*
- PasMat\*
- SortDir\*
- DirStuff
- Paging

Apple III Pascal Tool Kit requires Apple III Pascal, version 1.1.

\*These tools are useful for developing Apple Pascal programs for the Apple II family on the Apple III.

#### 6. Pronto: Apple III Pascal Debugger

With Pronto, you can now walk through your Pascal programs and find out what's going on inside. It's fully interactive, with help capabilities and macros. It also displays values of variables. Pronto gives you complete control over execution. You may break from the keyboard at any point, review the execution path, and insert break points in various parts of the program. Nonintrusive, it allows you to debug while executing the program at full speed, with no recompilation necessary; and it produces no effects on the application screens.

Pronto requires Apple III Pascal (version 1.1). The Apple III Pascal Technical Reference Manual is recommended.

#### Product Names

Workbench Binder  
DOS Programmer's Tool Kit  
ProDOS Technical Reference Manual  
ProDOS Assembler Tools

#### Product Numbers

A7P0001  
A2W0010  
A2W0013

#### For Use With

Apple II family  
Apple III

**Apple**



Your nearest Apple Dealer



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The specifications of products may change without notice.