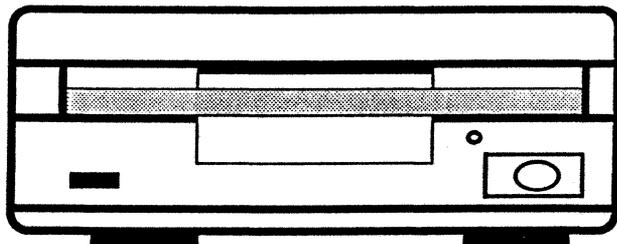
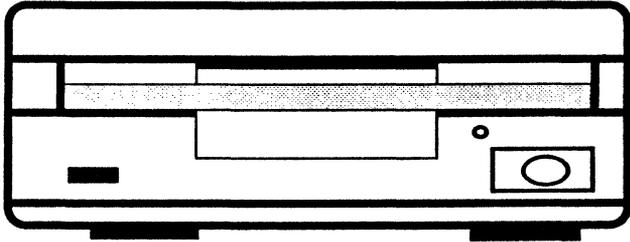


SD-340
Owner's Guide



SD-340
Owner's Guide



1.4megabyte*/800k
3 1/2" Format
Compatible with Macintosh, MS-DOS, OS/2,
and ProDOS Disks.

100%
Apple® Compatible

*Like Apple Computer, Inc.'s 1.4 meg FDHD SuperDrive the host computer must be 1.4 meg capable of that format to be used [1.4m FDHD and 1.44m MS-DOS].

Warranty

One Year(365 days) from the date of original Retail Purchase of this Product.
Proof of purchase required.

SPRITE, Inc warranties this product against defects in material and workmanship for a period of one year (365days) from the date of original retail purchase. During the warranty period SPRITE, Inc. will repair or at its option replace at no charge the SPRITE, Inc. product that proves to be defective, provided that the SPRITE, Inc. product is returned to the SPRITE, Inc authorized Service Center.

In order to obtain warranty service contact :

SPRITE, Inc.

Customer Service Dept. Rep.

1120 Stewart Court Suite G

Sunnyvale, Ca.94086

(408) 773-8888 During normal business hours, Pacific Standard Time.

FAX:(408)773-8892

for a RETURN AUTHORIZATION NUMBER.

Attach to the SPRITE, Inc. product your name, address, telephone number (to be reached during business hours), a description of the problem and proof of date of retail purchase (Dated bill of sale or cancelled check), and the RETURN AUTHORIZATION NUMBER. Return via prepaid transportation with the RETURN AUTHORIZATION NUMBER prominently posted in the lower left corner of the shipping container.

NOTE: Items sent without the RETURN AUTHORIZATION NUMBER prominently posted will be refused.

Warranty Limitations:

SPRITE, Inc. warranty does not apply if the product has been damaged by accident, abuse, misuse or misapplication, has been modified without written permission from SPRITE, Inc. or if any SPRITE, Inc. serial number has been removed or defaced.

Warning: The yellow shipping protector, that Apple, Inc. supplies with their "800K Drive", was designed to work only with their 800K drives. Its use on the SD-340 drive will cause damage that is not covered under warranty.

Warning:

This equipment has been certified to comply to the limits of Class "B" computing device, pursuant to sub part "B" of part 15 of the FCC Rules. See instructions if interference to Video or Radio reception is suspected.

Apple, , , Apple II GS, Apple IIc+, Disk II, ProDOS, GSOS, DuoDisk 5.25, 5.25 Drive, UniDrive 3.5, 3.5 Drive, FDHD Drive, and Macintosh are registered trademarks of Apple Computer, Inc.. MS-DOS is an registered trademark of Microsoft Corporation. OS/2 is a registered trademark of International Business Machines Corporation.

Performance Specification:

Formatted Data Capacity: 1.4 Megabyte,800/400Kbytes
Data Transfer Rate: 486.6 Kbits
Disk Rational Speed: 394 to 590 rpm
Number of Cylinders:160/80
Number of Tracks: 80/40
Seek Time [track to track]: 3ms
Track Density: 144TPI

Reliability Specifications:

MTBF: 12,000 POH
[under standard conditions]
Design Life: 15,000 POH or 5 years
MTTR: 30 minutes
Soft Errors: 10^{-9} bits/times
[not including 2 or less retry attempts]
Hard Errors: 10^{-12} bits/times
Seek Error Ratio: 10^{-6} seeks/times

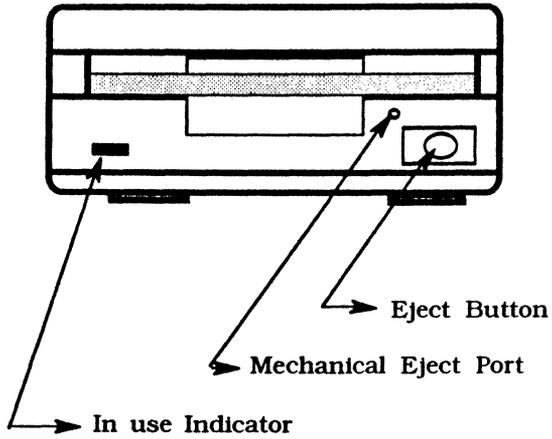
Physical Specifications:

Operating Environment Conditions
Temperature: 4-48°C
Relative Humidity: 20-80 %RH
Maximum wet-bulb Temperature: 29.0°C
[noncondensing]

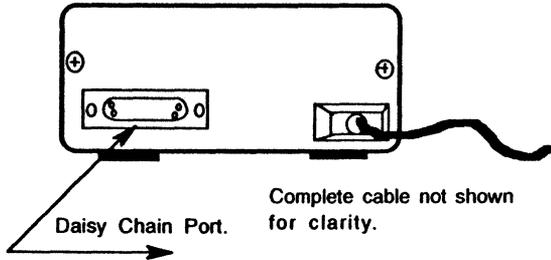
Mechanical Dimensions:

High	=52 MM
Width	=113 MM
Depth	=220 MM
Weight	=900G

DO NOT TRY TO MECHANICALLY DISASSEMBLE THE DRIVE, DOING SO WILL VOID THE WARRANTY.



Please Note: The front panel eject button is disabled in Mac operation.



Please Note: The Daisy Chain Port is disabled in Mac operation.

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Preface

Your Sprite SD-340 drive is designed as an Apple FDHD External compatible drive and is capable of multiple-formats (ProDOS, FDH, FDHD, MS-DOS, and OS/2). It will read and write to Apple 400k, 800K, and 1.4 megabyte disks, as well as MS-DOS 720K and 1.44 megabyte **when connector to a compatible computer.**

The Sprite SD-340 was tested with the following Apple Computer Systems.

- 🍏 Apple IIc+**
- 🍏 Apple IIGS**
- 🍏 Macintosh Plus**
- 🍏 Macintosh Clasic *1.4 Megabyte disk compatible*
- 🍏 Macintosh SE**
- 🍏 Macintosh SE " FDHD" *1.4 Megabyte disk compatible*
- 🍏 Macintosh SE30 *1.4 Megabyte disk compatible*
- 🍏 Macintosh SI *1.4 Megabyte disk compatible*
- 🍏 Macintosh IICx *1.4 Megabyte disk compatible*
- 🍏 Macintosh IICi *1.4 Megabyte disk compatible*
- 🍏 Portable *1.4 Megabyte disk compatible*
- 🍏 Macintosh 512K Enhanced**

Note: There are no external 3.5 disk drive ports on the Mac II,LC, IIX or IIXf.

**Note: Are not 1.4m compatible at this writing [January 2, 1991].

*Like Apple Computer, Inc.'s 1.4 meg FDHD SuperDrive the host computer must be 1.4 meg capable of that format to be used [1.4m FDHD and 1.44m MS-DOS].

Note: This manual is a supplement to not a replace for the *Apple Owner's Manual* supplied with your computer. While every precaution has been taken in the preparation of this book SPRITE, Inc. assumes no responsibility for errors in or omissions from this manual. Neither is any liability assumed for damages resulting from the use of the information contained herein.

DO NOT TRY TO MECHANICALLY DISASSEMBLE THE DRIVE, DOING SO WILL VOID THE WARRANTY.

Chapter 1

SPRITE on the GS**:

This chapter will explain how to set up your Apple GS with a SPRITE SD-340 drive as either your first or second drive. The SD-340 will only work as a 800k drive on the GS.

Setting Up

1. Insure the power is off to your computer.
2. Discharge any static electricity that may have been on your body by touching one of the metal connectors on the back of the computer.
3. Plug the SPRITE SD-340 Drive cable into the disk drive port on the back of the computer and tighten the jack screws finger tight. [SEE APPLE GS Manual if you are unsure where the Drive port is].

4. You are now ready to use your system.

If you haven't read your *Apple GS Owner's Manual*, please do so now.

Refer to the *Apple GSOS User's Manual* for copying instructions.

Warning: The yellow shipping protector, that Apple, Inc. supplies with their "800K Drive", was designed to work only with their 3.5 drive. Its use on the SD-340 drive will cause **damage that is not covered under warranty.**

****Note:** Are not 1.4m compatable at this writing [January 2, 1991].

*Like Apple Computer, Inc.'s 1.4 meg FDHD SuperDrive the host computer must be 1.4 meg capable of that format to be used [1.4m FDHD and 1.44m MS-DOS].

Adding a second Drive and Daisy-Chain Drive Combinations:

When you connect another disk drive to your GS, be it another SPRITE Drive or an APPLE Product, you connect it to the first drive in what is called DAISY-CHAIN fashion. Please refer to your *Apple GS Owner's Manual* for slot assignments on the smart port or see the *Apple GSOS User's Manual* for details.

Any of the following will work:

SPRITE SD-340 (800K)

SPRITE SD-320 (800K)

Apple 3.5 Drive (800K)

UniDisk 3.5 Drive (800K) See note 1

Apple 5.25 Drive (143K)

UniDisk 5.25 Drive (143K)

DuoDisk Drive (Two 143K Drives in one box) See Note 2

Note1: The UniDisk 3.5 will work, but will blink its drive active light while using GSOS. This is normal. It will also only format at the 4:1 ratio and is slower than the SD-340.

Note 2: The DuoDisk 5.25 Drive from Apple may need a modification to work properly on the GS Daisy-Chain port. SEE YOUR AUTHORIZED APPLE DEALER for this free modification.

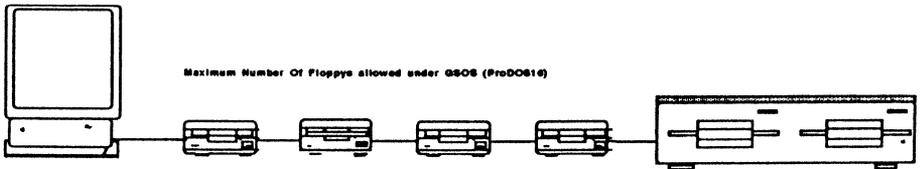
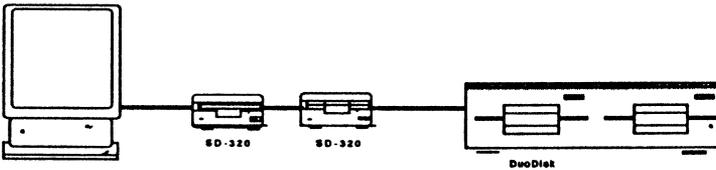
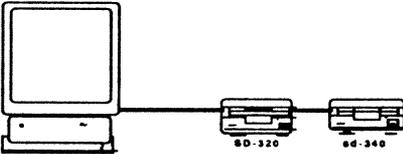
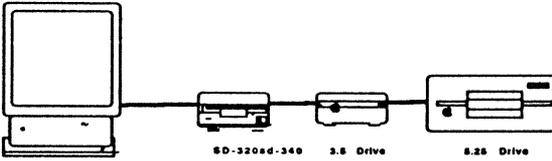
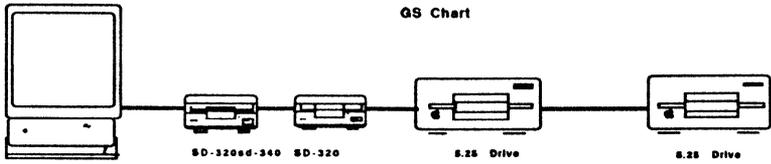
To connect a second drive follow these few steps:

1. Insure the power is off to your computer.
2. Discharge any static electricity that may have been on your body by touching one of the metal connectors on the back of the computer.
3. Plug the second drive's cable into the back of the SPRITE SD-340 Daisy-Chain port and tighten the jack screws finger tight.

Warning: The yellow shipping protector that Apple, Inc. supplies with their "800K Drive" was designed to work only with their 800K drive. Its use on the SD-340 drive will cause **damage that is not covered under warranty.**

See daisy-chain drive hookup chart next page.

GS Chart



The rule to remember is " first comes the 800k drives, then the 5.25 drives".

Daisy Chain chart.

Chapter 2

SPRITE on the APPLE IIc+**

This chapter will explain how to set up your Apple IIc+ with a SPRITE SD-340 drive as your second 800K drive. Please note that the SD-340 will only work as a 800K drive when connected to a IIc+.

Setting Up

1. Insure the power is off to your computer.
2. Discharge any static electricity that may have been on your body by touching one of the metal connectors on the back of the computer.
3. Plug the SPRITE SD-340 Drive cable into the disk drive port on the back of the computer and tighten the jack screws finger tight.
SEE your Apple Owner's Manual if you are unsure where the Drive port is.
4. You are now ready to use your system.
If you haven't read your APPLE's IIc+ manual, please do so now.

Warning: The yellow shipping protector, that Apple, Inc. supplies with their "800K Drive", was designed to work only with their 800K drive. Its use on the SD-340 drive will cause **damage that is not covered under warranty.**

Daisy-Chain Drive Combinations:

When you connect another disk drive to your IIc+, be it another SPRITE Drive or an APPLE Product, you must connect it to the disk drive port in the back of the unit [it has a disk icon above it] to what is called a DAISY-CHAIN port. Please refer to your *Apple IIc+ Owner's Manual* for drive slot assignment.

****Note:** Are not 1.4m compatible at this writing [January 2, 1991].

*Like Apple Computer, Inc.'s 1.4 meg FDHD SuperDrive the host computer must be 1.4 meg capable of that format to be used [1.4m FDHD and 1.44m MS-DOS].

Any of the following will work:

SPRITE SD-340 (800K)

SPRITE SD-320 (800K)

Apple 3.5 Drive (800K)

UniDisk 3.5 Drive (800K)

Apple 5.25 Drive (143K)

UniDisk 5.25 Drive (143K)

DuoDisk Drive (Two 143K Drives in one box) See Note

Note: DuoDisk 5.25 Drive from Apple **may** need a modification to work properly on the Daisy-Chain port **SEE YOUR AUTHORIZED APPLE DEALER** for this free modification.

To connect an additional SD-340 or a 3.5 Drive, UniDisk, UniDrive or DuoDrive follow these few steps:

1. Insure the power is off to your computer.
2. Discharge any static electricity that may have been on your body by touching one of the metal connectors on the back of the computer.
3. Plug the drive's cable into the SPRITE SD-340 Daisy-Chain port and tighten the jack screws finger tight.

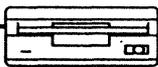
Warning: The yellow shipping protector that Apple, Inc. supplies with their "800K Drive" was designed to work only with their 800K drive. Its use on the SD-340 drive will cause **damage that is not covered under warranty.**

Note: Four additional drives may be connected to the Apple IIc+. Two external 800k 3.5 drive and two 147k 5.25 inch disk drives.

See daisy-chain drive hookup chart next page.

APPLE IIc+ Chart

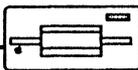
Please See The IIC+ Owners Manual For Details.



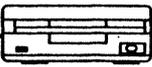
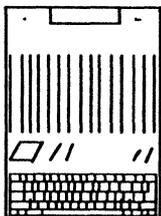
SD-340



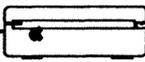
SD-340



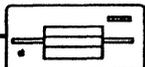
5.25 UniDisk



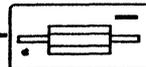
SD-340



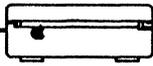
3.5 Disk



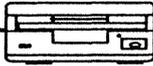
5.25 UniDisk



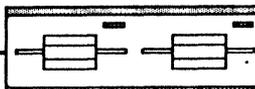
5.25 UniDisk



3.5 Disk



SD-340



DuoDisk

Rule to remember: First comes the 3.5 drives then the 5.25 drives.
Drive Chart.

Chapter 3

SPRITE on the Macintosh

This chapter will explain how to set up your Macintosh with a SPRITE SD-340 drive. Please note that the SD-340 will only work as an 800k drive if your Macintosh isn't FDHD comparable

Setting Up

1. Insure the power is off to your computer.
2. Discharge any static electricity that may have been on your body by touching one of the metal connectors on the back of the computer.
3. Plug the SPRITE SD-340 Drive cable into the disk drive port on the back of the computer and tighten the jack screws finger tight. SEE your *Macintosh Owner's Manual* if you are unsure where the Drive port is.
4. You are now ready to use your system.
If you haven't read your *Apple Macintosh Owner's Manual* do so now.

Please Note: The front panel eject button and rear Daisy Chain Port are disabled in Mac operation.

Warning: The yellow shipping protector that Apple, Inc. supplies with their "800K Drive" was designed to work only with their 800K drive. Its use on the SD-340 drive will cause **damage that is not covered under warranty.**

The SPRITE SD-340 has been tested on the following Macintosh computer systems and found to be compatible.

512ke: Connect as in chapter #3. The {Command- shift -@2} keys sequence will eject the disk. NOTE: Place drive on the right side of computer to avoid the electromagnetic field interference [EMI] of the Mac power supply.

Plus:** Connect as in chapter #3.

Classic:*1.4 Megabyte disk compatible* Connect as in chapter #3.

SE:** Note:The {Command-shift-#3} will eject the disk.

SE FDHD: *.4 Megabyte disk compatible* Connect as in chapter #3.

SE30: *1.4 Megabyte disk compatible* Connect as in chapter #3.

LC,II, IIx and IIxf: *Do not have an external disk drive port. Adapter Cable and installation kit required. See your Sprite dealer for details.*

SI: *1.4 Megabyte disk compatible* Connect as in chapter #3.

IIcx and ci:*1.4 Megabyte disk compatible* Connect as in chapter #3.

Portable: *1.4 Megabyte disk compatible* Connect as in chapter #3.

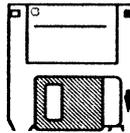
As with all Macintosh computer systems the front panel eject button and DAISY chain port are nonfunctional.

****Note:** Are not 1.4m compatible at this writing [January 2, 1991].

*Like Apple Computer, Inc.'s 1.4 meg FDHD SuperDrive the host computer must be 1.4 meg capable of that format to be used [1.4m FDHD and 1.44m MS-DOS].

Chapter 4 CARE and FEEDING:

This chapter will explain how to use your SPRITE SD-340 Drive.



Inserting a Disk:

To insert a 3.5 disk

1. Slide the disk metal end first with the label side up into the slot.
2. Gently push the disk in until the drive's mechanical locking mechanism automatically locks on to the disk [the disk will drop just below the slot but will still be visible].

Your disk is now at the mercy of your computer's operating system. Please refer to the Owner's Manual that came with the computer for details on the operating systems.

Removing a disk

Apple IIGS->

Using the operating system GSOS :

1. Highlight the disk and choose "Eject" from the file menu.
2. Drag the Highlighted disk to the trash can.

Note: Choosing "Shut Down" from the Special menu close all open files before ejecting the disk. This is the recommend method when turning off your GS.

3. Use the eject button. (some data may be lost if files are open.)

Note: Disk will not eject if the *in use indicator* is active.

Using the operating system ProDOS 8:

Use the eject button.

Note: Disk will not eject if the *in use indicator* is active.

The GS is only capable of reading and writing disks in the 400k or 800k format and not the FDHD, 1.4 or 1.44 megabyte format.

Apple IIc+ -> Use the eject button.

Note: Disk will not eject if the *in use indicator* is active.

The IIc+ is only capably of reading and writing disks in the 400k or 800k format and not the FDHD, 1.4 or 1.44 megabyte format.

Macintosh.-> Use the operating system by:

1. Highlight the disk and choose "Eject" from the file menu. or
2. Drag the Highlighted disk to the trash can.

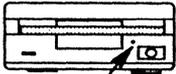
Note: Choosing "Shut Down" from the Special menu close all open files before ejecting the disk, this is the recommended method when turning off your Mac.

3. Press Command-Shift-2.or on a SE Command-Shift-3 [you could lose any unsaved data with this method]

Note: The front panel eject button is automatically deactivated when the drive is plugged into a Macintosh. The eject button works only on the Apple GS and IIc+ computers.

When the power is off:

In the event you have a disk in the drive and power is not available the disk can be manually ejected by using a straightened-out paper clip or similar object inserted in to the small hole just above the eject button. Using moderate force push on the paper clip until the mechanical eject mechanism releases the disk.



Mechanical
Eject Hole.

The SD-340 is designed to easily eject the disk. **DO NOT FORCE IT!**

The above method should never be used while the computer is on!

Trouble Shooting:

This chapter will try to cover general questions that are most asked by new users.

» Drive doesn't work?

Check:

Plugged the cable from the drive into the computer.

Is the computer turned on.

Is the drive too close to electromagnetic interference [EMI] source.

Is the disk a formatted disk, are you using appropriate program instructions to write data to or read data from the drive.

Did you insert the disk properly.

[GS only] check the control panel settings by pressing the ⌘-control-esc keys.

If your SD-340 drive still doesn't work contact your dealer.

» I get disk full message in ProDOS but when I view the file with system utilities it said there was more room left. Why?

Do you have more than 51 files in your first [root] directory, 52 is the maxim allowable under ProDOS rules.

» Drive gets errors:

Check:

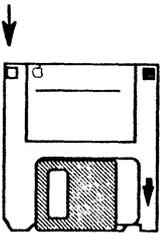
Is the drive too close to the monitor

[Some third party Monitors, power strips, and hard disk drives radiate electromagnetic interference, the left side of Mac's does too].

Are you using the wrong type disks [disks with two write protect style windows are for use on 1.4 m HIGH DENSITY and should only be used on FDHD compatible systems].

Try the same disks on a different computer.

High Density
Window



Radio And Video Interference:

This equipment generates and uses radio frequency energy and if not used properly, that is, in accordance with the manufacturer's instructions, may cause interference to radio and television reception. This equipment has been tested and complies with the limits for Class "B" computing devices in accordance with the specification in Sub part "B", Part 15, of the FCC rules. These rules are designed to provide reasonable protection agents such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If you suspect that this equipment is causing interference, it can be determined by turning your computer off. If the interference stops, it was probably caused by the computer or its peripherals. To determine if it is the SPRITE, Inc. product disconnect the peripheral and test again for interference. If your computer does cause interference you can try the following:

Turn the radio or TV antenna until the interference stops.

Move the computer farther away from the radio or TV.

Use a different power outlet [making sure that the computer and radio/TV are on different circuits].

If necessary, you should consult the dealer or an experienced radio/TV technician for additional suggestions.

The FCC offers a booklet that may be of interest:

"How to Identify and Resolve Radio-TV Interference Problems" available from the U.S. Government Printing Office, Washington, DC.

20402. ask for Stock No. 004-000-00345-4

Notes:

Notes: