

# **DiskCopy**

## **Apple 3.5" Disk Duplication Program**

### **User's Guide**

*Version 4.1 (27-Feb-90)*

*by*

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#### **Introduction**

This is a description of the program entitled *DiskCopy*. It is based on a previous program entitled *AppleCopy*, but has been completely re-written in order to add new features and to make it more machine-independent. *DiskCopy* is used for duplication of Sony 3.5" floppy disks from a single master disk. It does data checksumming of the master disk in order to assure a reliable duplication.

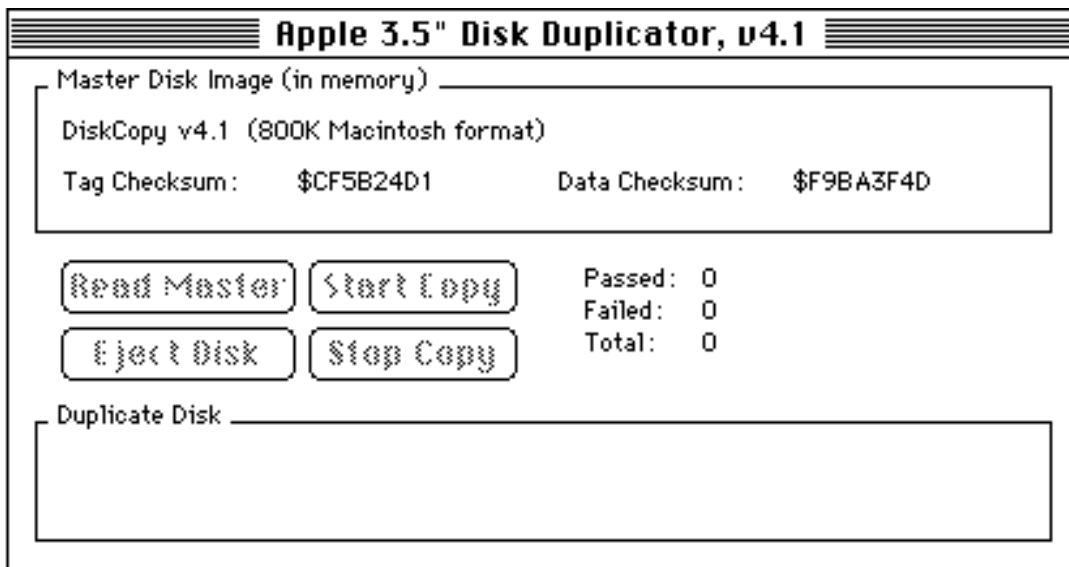
#### **System Requirements**

*DiskCopy* will run on any current Macintosh computer which has one or more Sony 3.5" *double-sided* floppy disk drives and enough memory to copy a disk.

#### **Program Operation**

Insert the *DiskCopy* program disk into one of the drives and power up the Macintosh. The program will load and execute automatically. After initializing itself, it will show the copy

window:



The window is divided into three sections. The *Master Disk* section shows the master disk's name and format (or, alternately, an error message), and the tag and data checksums for the disk.

The *Duplicate Disk* section displays status and error messages related to the duplicate disks.

The middle section is unbounded by a box and contains buttons and such related to the actual duplication process. The *Read Master* button reads an entire disk image into the Macintosh's memory, checksums the user [and tag] data, and displays the disk's name and other relevant information as described above.

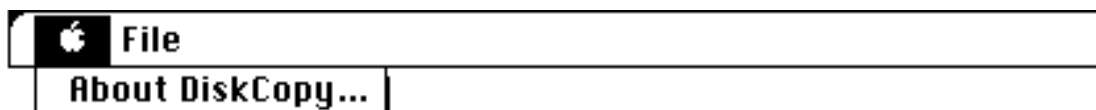
**NOTE:** When this button is enabled, the program assumes that any disk you insert will be a potential master disk. If there is an error mounting the disk, it will be ejected without comment since the program would not be able to read it either.

The *Start Copy* button puts the program in copy mode. The user will then be prompted to "Please insert a disk..." Once a disk is inserted, the program will copy and verify the master disk image to/with the duplicate disk. After the copy/verify operation is completed (successfully or not), the duplicate disk will be ejected; the pass, fail and total disk counts will be updated; and the cycle will begin again. You may insert the same diskette over again for this process.

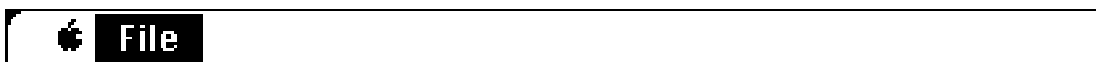
The *Stop Copy* button stops the copy process and resumes waiting for a master disk to be inserted.

The *Eject Disk* button does exactly what it says it does. End of discussion.

## Menus



This lonely item displays a window telling about the program, its name, its version, who wrote it, who has the copyright, and lastly, how much free memory is available for duplicating disks.

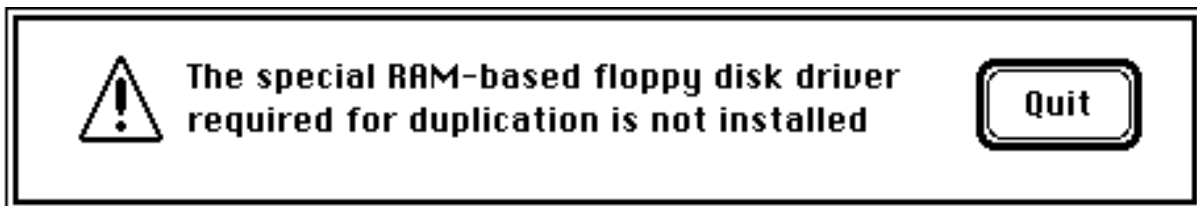


The *File* menu mostly contains file-oriented items.

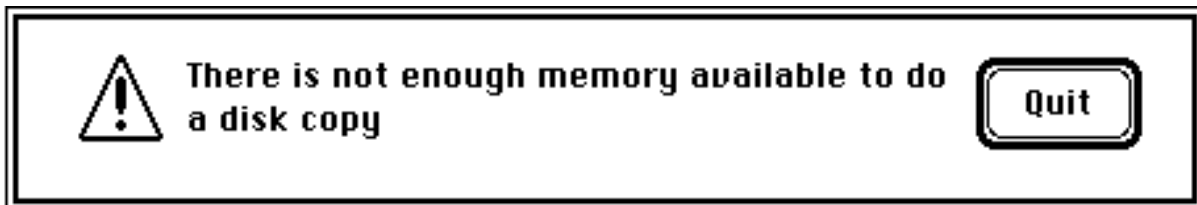
<i>Load Disk Image</i>	prompts the user for a disk image file name, then reads the image of a master disk into memory as if the <i>Read Master</i> button were pressed with a master disk in a disk drive.
<i>Save Disk Image</i>	prompts the user for a disk image file name, then saves the current master disk image in memory to a disk file (most likely on a hard disk).
<i>Clear Image In Memory</i>	erases the current master disk image in memory.
<i>Quit</i>	ejects any floppy disks that are in the drives and then exits to the Finder.

## **Fatal Error Messages**

These errors are displayed at program startup time because something crucial to program operation is not available. The only available option is "Quit."



A modified version of the Sony floppy disk driver is required to work with the disk duplication software. It is included within the program, and is loaded into the Macintosh's memory when DiskCopy is run. You'll get the above message if the driver is not successfully loaded. This could be caused if there is not enough memory in your Macintosh.



Basically, if you get this message, there's not even enough memory to copy a 400K (single-sided) disk. You're probably either running DiskCopy under MultiFinder with a wimpy amount of memory, or on a 128K or 512K Macintosh. In either case you should be shot. **Non-Fatal Errors**

## **Duplication Errors**

### **This format requires a different drive and/or media**

Since we now support high-density disks (the ones with the extra hole and **HD** printed on them), the duplicate disks need to be the same kind as the master disks. Therefore, if you're making copies of a 1440K HD disk, you need 1440K HD disks for the duplicate disks. All others require the usual kind.

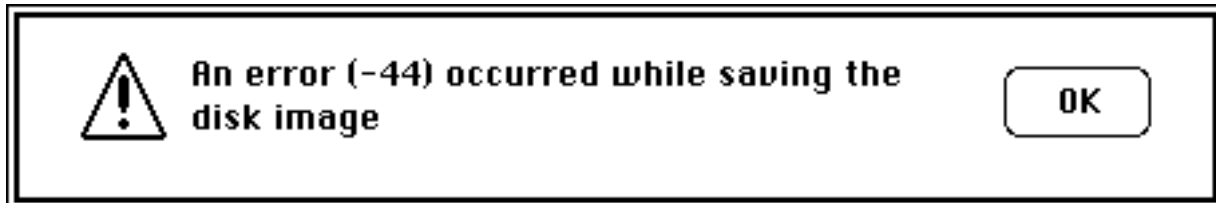
### **An error (-xx) occurred while reading the disk image**

This message pops up in the *Master Disk* box if some kind of error occurs while reading a master disk or loading in a disk image file from a hard disk. The error codes below describe some of the most likely errors.

### **An error (-xx) occurred while copying/verifying the disk**

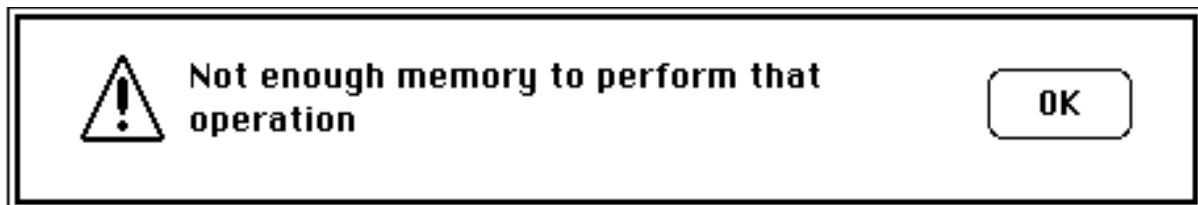
This message pops up in the *Duplicate Disk* box if some kind of error occurs while copying and/or verifying a duplicate disk. Again, the error codes below describe some of the most likely errors.

### File Saving Errors



This dialog is displayed if an error occurs while saving a master disk image to a hard disk. It usually occurs if the boot disk is write-protected (-44), or is ejected and you hit command-period to cancel the **Please insert the disk...** dialog (-53), although other errors are possible.

### Low Memory Errors



This message will be displayed if there is not enough available memory left to perform a particular operation, such as loading or saving a disk image, etc. The only real way to get around this is to run on a Macintosh with more memory.

### “Selected Macintosh Error Codes That May Be Displayed By DiskCopy”

- 44 disk is write-protected by hardware
- 45 file is locked by software (see the Finder's *Get Info* window)
- 46 volume is locked by software (see the Finder's *Get Info* window)
- 53 user hit command-period to cancel the "Please insert the disk..." dialog
- 65 read/write request made to an ejected disk
- 66 couldn't find 5 nibbles in 200 tries (400K, 800K disks) or byte timeout (720K, 1440K disks)
- 67 couldn't find a valid address mark
- 68 read verify compare failed
- 69 address mark checksum was incorrect
- 70 one of the address mark bit slip nibbles was incorrect (400K, 800K disks only)
- 71 couldn't find a data mark header
- 72 bad data mark checksum
- 73 one of the data mark bit slip nibbles was incorrect (400K, 800K disks only)
- 74 couldn't write fast enough to keep up with the IWM
- 75 step handshake failed during seek
- 76 track 0 detect sensor doesn't change during a head recalibration
- 77 unable to initialize IWM/SWIM disk controller chip
- 78 tried to read a double-sided disk on a single-sided drive
- 79 unable to correctly adjust the drive speed (400K drives only)
- 80 wrong track number read in a sector's address field
- 81 sector number never found on a track
- 82 can't find sector 0 after track format (400K, 800K disks only)
- 83 can't get enough sync between sectors (400K, 800K disks only)
- 83 timed out waiting for drive's index pulse (720K, 1440K disks only)
- 84 track failed to verify