

# Flexible Disc Utilities Manual

*For the HP 9835/HP 9845*



# Flexible Disc Utilities Manual

Part No. 09835-15221



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## Printing History

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### Important

The tape cartridge or disc containing the programs is very reliable, but being a mechanical device, is subject to wear over a period of time. To avoid having to purchase a replacement medium, we recommend that you immediately duplicate the contents of the tape onto a permanent backup tape or disc. You should also keep backup copies of your important programs and data on a separate medium to minimize the risk of permanent loss.

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# Table of Contents

Introduction.....	1
System Configuration.....	2
Disc Space Available "SPACEF".....	2
Media Purge "PURGEF".....	3
Spare to Main Directory Copy "SPAREF".....	4
Interactive File Copy "FCOPY".....	5
File Selection.....	7
Set 1.....	7
Set 2.....	8
Set 3.....	9
Set 4.....	9
Set 5.....	10
Special Considerations.....	10
Flexible Disc Duplication "FLXDUP".....	11





# Chapter 1

## 9885M/S and 9895A Flexible Disc Utility Manual

### Introduction

The 9885M/S and 9895A Flexible Disc Utilities, described here, are to be used with the 9845B, 9845C and 9835A Desktop Computers that use the 9885M/S or the 9895A Disc Drives as their mass storage devices. These utility programs are provided to give you a more complete solution to mass storage problems. The utility programs are contained in the software pack listed next:

	9845B/C	9835
Flexible Disc Utilities	09845-10090	09835-15220
Cartridge	09845-10017	09835-15224
Manual	09835-15221	09835-15221

The following is a list and brief description of the programs recorded on the cartridge:

Program Name	Description
SPACEF	This program returns the total amount of space available on an HP formatted disc as well as the size of the largest single available space.
PURGEF	This program erases the disc's directory leaving the disc essentially empty and initialized (HP formatted discs only).
SPAREF	This program copies an HP formatted disc's spare directory over the main directory.
FCOPY	This program lets you selectively copy, purge, protect, and rename HP formatted files.
FLXDUP	This program lets you duplicate HP formatted data.

## System Configurations

The System 35/45 Desktop Computers must contain the memory and ROMs listed to run each Flexible Disc Utility. The memory option shown is the minimum amount necessary.

The following programs require the following machine configurations.

### SPACEF, PURGEF, SPAREF, and FLXDUP

- System 45: 9845B Standard (56K Memory) Machine  
 9845C all memory options  
 Mass Storage ROM (P/N 98413A)  
 9885M/S or 9895A Flexible Disc Drive and appropriate interface cables
- System 35: 9835A Standard (49K memory) Machine  
 Mass Storage ROM (98331B)  
 9885M/S or 9895A Flexible Disc Drive and appropriate interface cables

### FCOPY

- System 45: 9845B Option 204 (187K Memory)  
 9845C Standard (186K Memory)  
 Mass Storage ROM (P/N 98413A)  
 9885M/S or 9895A Flexible Disc Drive and appropriate interface cables
- System 35: 9835A Option 201 (115K Memory)  
 Mass Storage ROM (98331B)  
 9885M/S or 9895A Flexible Disc Drive and appropriate interface cables

## Disc Space Available "SPACEF"

The SPACEF program provides you with two values pertaining to available space on HP formatted discs. These values are the total amount of unused space available (in records) on a particular disc, and the largest single space available (in records) on that disc. The values appear labeled on the CRT at the end of the program. The operation time of this program is approximately 15 seconds. This program is designed to be used with HP formatted discs only.

To load and start this program complete the following five steps.

1. Type: SCRATCH A
2. Press: EXECUTE
3. Type: LOAD "SPACEF"
4. Press: EXECUTE

Wait for the program to be loaded into your machine.

5. Press: RUN



The program asks you to identify your mass storage device. The following appears on the CRT.

ENTER THE DISC MASS STORAGE UNIT SPECIFIER:

These are the values entered: the disc type (F for the 9885M/S or H for the 9895A), the interface cable select code (card address), the device address (9895A only), and the disc drive unit (factory preset 9895A values are 0 or 1 for a master configuration and 2 or 3 for a slave device). These values must appear as the Mass Storage Specifier in the following format.

9895A — Disc Type and Select Code, Device address, Unit No.

9885M/S — Disc Type and Select Code, Unit No.

As an example, assume we have a 9895A interfaced to a 9845B. The select code is set to 7; the 9895A address on bus 7 is 0, and we want data on the disc contained in the disc drive labeled 1. Our Mass Storage Specifier would appear like the one shown next:

6. Type: H7,0,1

7. Press: CONTINUE

The word “DONE” appears on the CRT when the program is completed along with the two variables described earlier: total available space and largest available segment of that space.

## Media Purge “PURGEF”

The PURGEF program enables you to essentially re-initialize HP discs that contain unused or invalid data. This program erases the directory and clears the availability table from the disc. This process leaves the disc empty and initialized. With this program, you can initialize a disc in less than 5 seconds instead of taking 8 to 10 minutes via the INITIALIZE command; of course, discs that have never been used must be initialized (via the INITIALIZE command) before they can be used.

To load and start this program complete the following steps.

1. Type: SCRATCH A

2. Press: EXECUTE

3. Type: LOAD “PURGEF”

4. Press: EXECUTE

Wait for the program to be loaded into your machine.

5. Press: RUN

The program asks you to identify your mass storage device. The following appears on the CRT.

ENTER THE DISC MASS STORAGE UNIT SPECIFIER:

These are the values entered: the disc type (F for the 9885M/S or H for the 9895A), the interface cable select code (card address), the device address (9895A only), and the disc drive unit (factory preset 9895A values are 0 or 1 for a master configuration and 2 or 3 for a slave device). These values must appear as the Mass Storage Specifier in the following format.

9895A — Disc Type and Select Code, Device Address, Unit No.  
 9885M/S — Disc Type and Select Code, Unit No.

As an example, assume we have a 9895A interfaced to a 9845B. The select code is set to 7; the 9895A address on bus 7 is 0, and we want data on the disc contained in the disc drive labeled 1. Our Mass Storage Specifier would appear like the one shown next.

6. Type: H7,0,1
7. Press: CONTINUE

The word "DONE" appears on the CRT when the program is completed. A catalog (CAT) can be executed at this point to verify that the disc is empty and initialized.

## Spare to Main Directory Copy "SPAREF"

The SPAREF program enables you to copy an HP formatted disc's spare directory over the main directory. This program should only be used when your computer warns you of a "SPARE DIRECTORY ACCESS" when trying to access a disc. This warning is the indication of a main directory failure, and the spare directory should be written over the main directory to reestablish the main directory access to the disc's data.

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### NOTE

If "SPARE DIRECTORY ACCESS" warnings continue, create a duplicate copy of your disc and discard the bad disc.

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To load and start this program complete the following steps.

1. Type: SCRATCH A
2. Press: EXECUTE
3. Type: LOAD "SPAREF"
4. Press: EXECUTE

Wait for the program to be loaded into your machine.

5. Press: RUN

The program asks you to identify your mass storage device. The following appears on the CRT.

ENTER THE DISC MASS STORAGE UNIT SPECIFIER:

These are the values entered: the disc type (F for the 9885M/S or H for the 9895A), the interface cable select code (card address), the device address (9895A only), and the disc drive unit (factory preset 9895A values are 0 or 1 for a master configuration and 2 or 3 for a slave device). These values must appear as the Mass Storage Specifier in the following format.

9895A — Disc Type and Select Code, Device Address, Unit No.  
 9885M/S — Disk Type and Select Code, Unit Number

As an example, assume we have a 9895A interfaced to a 9845B. The bus cable is set to 7; the 9895A address on bus 7 is 0, and we want data on the disc contained in the disc drive labeled 1. Our Mass Storage Specifier would appear like the one shown next:

6. Type: H7,0,1
7. Press: CONTINUE

The word “DONE” appears on the CRT when the program is completed. The program takes about 15 seconds to run.

## Interactive File Copy “FCOPY”

The FCOPY program enables you to selectively copy, purge, protect, and rename HP formatted files. Files on your source mass storage device can be copied to a destination mass storage device or selectively copied to a number of different devices. For a file to be successfully copied, the following three conditions must be observed:

- No file on the destination media can have the same name as the file being copied.
- There must be directory space available on the destination media.
- There must be enough record space available on the destination media.
- To load and start this program complete the following steps.

1. Type: SCRATCH A
2. Press: EXECUTE
3. Type: LOAD “FCOPY”
4. Press EXECUTE

Wait for the program to be loaded into your machine.

5. Press: RUN

The program asks you to specify your source device. This can be your computer’s tape drive(s) or some external mass storage device. If you specify a tape drive (T14 or T15), follow the next two steps; otherwise, go to the next paragraph.

6. Type: T14 or Type: T15
7. Press: CONTINUE

If you are using a flexible disc drive as your source device, the program requires that you identify the device. The values entered are the disc type (F for the 9885M/S or H for the

9895A, the interface cable select code (card address), the device address (9895A only), and the disc drive unit (factory preset 9895A values are 0 or 1 for a master configuration and 2 or 3 for the slave access). These values must appear in the following format.

9895A — Disc Type and Select Code, Device Address, Unit No.

9885M/S — Disc Type and Select Code, Unit No.

Assuming that we have a 9895A interfaced to a 9845B with the bus cable set to 0, the 9895A address on bus 7 is 0, and we want data on the disc contained in the disc drive labeled 1, our Mass Storage Specifier would appear like the one shown next:

6. Type: H7,0,1
7. Press: CONTINUE

The next question to be answered concerns protected files. If you want to include protected files in the functions this program offers, perform steps 8 and 9.

8. Type: Y
9. Press: CONTINUE

If you don't want to include protected files, just press the CONTINUE key.

The next question (concerning subsets) requires you to specify a group of characters (1 to 6) that are used to identify the file or group of files this program is to operate on. The characters of the specifier must correspond directly to the first characters of the file name. See the next example.

Example:

I have the following files stored on my device and want to make a copy of the files with names that begin with "IN".

Here are the file names from my catalog.

INPUT  
INNUS  
OUTPUT  
ITEM

I assign IN as my specifier when "ENTER SUBSET: (Press Continue to access all files.)" appears on the CRT.

Type: File group specifier    IN  
Press: CONTINUE

The result is that files INPUT and INNUS are to be accessed by this program.

If you want to work on all the files in the catalog (no subset specified), just press continue.

The program now asks for the destination device and an overflow device. The format and requirements are the same as for a source device. Refer to steps 6 and 7.

## File Selection

### 9845B/C

On the 9845B/C, all the files contained on the source device are listed on the CRT in blocks of 80. The file being acted upon is the file with the inverse video cursor next to it. To position the cursor for selecting the appropriate file, use the "UP" and "DOWN" arrows. The "HOME" key positions the cursor at the first file on the screen, and pressing "CONTROL HOME" positions the cursor at the last file on the screen.

The special function keys allow you to select the desired function for the file currently designated by the cursor. The special function key definitions are displayed on the bottom of the CRT. There are five different sets of key definitions. Pressing key 7 selects the next definition set; whereas, pressing "SHIFT" and key 7 selects the previous definition set.

### 9835

On the 9835A, all files contained on the source device are listed on the CRT in blocks of 76. The file being acted upon is the file with the inverse video cursor next to it. To position the cursor for selecting a file, press a special function key labeled UP ARROW, DN ARROW, RIGHT or LEFT. These keys, when pressed, cause the cursor to move in the indicated direction.

The rest of the special function keys allow you to select the desired function for the file currently designated by the cursor. The special function key definitions are displayed in two rows in the bottom of the 9835A CRT. The upper row of key labels correspond to the top row of keys on the keyboard, the lower row to the bottom set of keys. There are 5 different definition sets for the SFK's. Pressing the key labeled NEW KEYS selects the next set.

Should the key display at the bottom of the CRT ever disappear (no prompts present), press any special function key and the display will reappear. For your convenience key definitions for each key in the 5 key sets are listed next.

## SET 1

### SELECT

This key selects the files to be copied to the destination device. The cursor is used as a pointer. Each time a file is selected, the cursor moves to the next file. Files can be skipped using the cursor control keys located in the DISPLAY key block on the keyboard (up arrow and down arrow).

### UNSELECT

This key cancels the select function. The cursor is used as the pointer. The cursor is positioned thru the use of the up arrow and down arrow keys located in the DISPLAY key block on the keyboard. Once the cursor is positioned, pressing the UNSELECT key cancels the select function.

### COPY

Pressing this key causes all the SELECTED files on the current display to be copied onto the destination device.

### COPY BLK

Pressing this key causes ALL the files that appear in the DISPLAY to be copied onto the destination device. The file selection function is ignored.

COPY ALL	This key causes ALL the files on the source device to be copied onto the destination device.
REDO DSP	Pressing this key rewrites the display. No changes are made on the items displayed, to include the selected files or cursor location.
HELP	Pressing this key initiates the help feature. For an explanation of any key currently displayed, press HELP followed by the key to be explained.
NEW KEYS	Pressing this key causes the next set of key definitions to appear at the bottom of the CRT. On the 9845B/C, pressing the SHIFT key and this key causes the previous set of definitions to be displayed.

## SET 2

P SELECT	The PURGE SELECT key selects the files that are to be purged from the source device. The cursor is used as the pointer and is positioned via the up arrow and down arrow keys located within the DISPLAY block on the keyboard. Once the cursor is positioned by the file to be purged, pressing the P SELECT key underlines the file that is purged later in the routine.
P UNSLCT	The PURGE UNSELECT key cancels the function performed by the PURGE SELECT (the underline indicator is removed). The cursor is used as a pointer and is positioned via the up arrow and down arrow keys located within the DISPLAY block on the keyboard. Pressing this key, once the cursor is located by the file to be unselected, cancels the purge function of that file.
PURGE	Pressing this key causes the selected files to be purged from the device addressed as the source device.
P BLOCK	The PURGE BLOCK key causes ALL the files located in the current DISPLAY block to be purged from the source device.
INIT TO	The INITIALIZE DESTINATION key causes the destination device to be initialized. This initialization routine takes approximately 9 minutes; after which, control is returned to the Special Function Keys and display.
REDO DSP	This key is explained in SET 1.
HELP	This key is explained in SET 1.
NEW KEYS	This key is explained in SET 1.

## SET 3

FROM DEV

Pressing this key allows you to re-specify the source device. Once this key is pressed, a prompt appears on the CRT requiring the mass storage specifier for the source. Entering the address sequence of this device and pressing the continue key, respecifies the source device.

TO DEV

Pressing this key allows you to re-specify the destination device. After the key is pressed, a prompt appears requiring you to enter the address of the new destination device (mass storage specifier). Pressing the continue key completes this function.

OFLO DEV

The OVERFLOW DEVICE key allows you to specify a mass storage device as your overflow device. This is in case the data to be copied exceeds the destination device. Entering the device's address and pressing the continue key specifies the OVERFLOW DEVICE.

NEXT BLK

The NEXT BLOCK key allows the next block of files (or portions thereof) to be accessed and displayed.

Last BLK

The LAST BLOCK key allows the last block of files to be accessed and displayed.

REDO DSP

Same as explained in SET 1.

HELP

Same as explained in SET 1.

NEW KEYS

Same as explained in SET 1.



## SET 4

F INFO

Pressing the FILE INFO key causes the file parameters (Name, Type, Size, Record Length, and Address) to be displayed. The cursor is the pointer and it indicates the file corresponding to the data presented.

IO INFO

This key causes the following operational parameters to be displayed: the source device, destination device, file block, and the status of logging and protect.

SUBSET

Pressing this key allows you to change or specify the subset characters. See the previous section explaining subsets.

RENAME

Pressing this key allows you to rename a file as it is copied from the source device to the destination device. The file appears on the destination device with the new name. The cursor is positioned with the up arrow and down arrow keys located in the DISPLAY key section of the keyboard. Incidentally, the cursor must be positioned before the "RENAME" key is pressed.

LOG ON

Pressing this key causes all the files processed by the copy and purge operations to be printed on the printer.

REDO DSP	See the explanation in SET 1.
HELP	See the explanation in SET 1.
NEW KEYS	See the explanation in SET 1.

## SET 5

PROT OFF	Pressing this key causes the copy routine to ignore protected files. Protected files can be copied to the destination device.
PROTECT	Pressing this key allows you to protect a copied file. A protect word is required as the input. Pressing the continue key leaves the copied file unprotected.
PEDO DSP	See the explanation in SET 1.
HELP	See the explanation in SET 1.
NEW KEYS	See the explanation in SET 1.

## Special Considerations

To insure data integrity, you can use the CHECK READ feature. This causes the computer to read everything that is written to a mass storage device to insure that the data is written correctly. To initiate the CHECK READ, perform the following instructions prior to running the program:

- a. Perform steps 1 through 4
- b. Type: CHECK READ
- c. Press: EXECUTE
- d. Perform step 5 and on

It is usually wise to disable CHECK READ upon completion of the program. This feature causes extra wear and tear on the tape cartridges (i.e., twice as much tape motion). The disable procedure is shown next.

- a. Type: CHECK READ OFF
- b. Press: EXECUTE

Bear in mind when the CHECK READ feature is in effect, all mass storage operations are much slower than when CHECK READ is off.



## Flexible Disc Duplication “FLXDUP”

The FLXDUP program enables you to duplicate an HP formatted disc. The program assumes that the destination disc has been initialized and that the discs are installed in the drive units and the drive doors are closed. All of these error conditions are trapped with the program branching back to the input prompt.

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### CAUTION

ANY DATA ON THE DESTINATION DISC IS LOST DURING THE  
DUPLICATION PROCESS.

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To load and start this program complete the following steps.

1. Type: SCRATCH A
2. Press: EXECUTE
3. Type: LOAD “FLXDUP”
4. Press: EXECUTE



Wait for the program to be loaded into your machine.

5. Press: RUN

The program asks you to identify your source mass storage specifier.

ENTER THE MASS STORAGE UNIT SPECIFIER FOR THE SOURCE:

These are the values entered: the disc type (F for the 9885M/S or H for the 9895A), the interface cable select code (card address), the device address (9895A only), and the disc drive unit (factory preset 9885M/S values are 0 or 1 for a master configuration and 2 or 3 for a slave device). These values must appear as the Mass Storage Specifier in the following format.

Disc Type and Select Code, Device Address, Unit No.

As an example, assume we have a 9895A interfaced to a 9845B. The bus cable is set to 7; the 9895A address on bus 7 is 0, and we want data on the disc contained in the disc drive labeled 1. Our Mass Storage Specifier would appear like the one shown next.

6. Type: H7,0,1
7. Press: CONTINUE

The program then asks for the destination device or the address of the disc that is to receive the data. The values follow the same format as those specified for the source device. Assuming here that our destination is disc drive labeled 0 in the 9895A. The Mass Storage Specifier would appear like the one shown next.

7. Type: H7,0,0
8. Press: CONTINUE

“COPY IN PROGRESS” is displayed on the CRT along with the record being copied and the total number of records to be copied. When the duplication process is completed “DONE” is displayed on the CRT.

