

CF7+ MANAGER

(CFMGR)

User's Manual

CFMGR is an adaptation of B.Caron and R.Roman's
Disk Manager 1000 v3.5

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Introduction

CFMGR is a disk manager utility program adapted from B.Caron and R.Roman's Disk Manager 1000, V3.5 program. It is designed to work with CF7+ and CF7A+. The program and the source code is available at members.cox.net/cfdisksupport.

How to Load

CFMGR comes in two formats. CFMGR is EA5 and CFMGR/O is a tagged object file.

Main Screen

The main screen is illustrated below:

```
--== C F 7 +   M A N A G E R ==--  
  
Select Option: n  
  
    1. File Utilities  
    2. Volume Utilities  
    3. Misc Utilities  
  
Adapted from B. Caron & R. Roman's  
Disk Manager 1000 3.5
```

- Option 1 manipulates files.
- Option 2 manipulates volumes.
- Option 3 changes screen colors and display CF information.
- Pressing QUIT [FCTN=] will terminate CFMGR

File Utilities

File Utilities provides the following functions:

- Copy file from volume to volume
- Move file from volume to volume
- Delete file from a volume
- Type or display file on screen (if file is not binary)
- Print file through PIO port
- Set or clear file protection
- Rename a file
- Recover or “undelete” a file

File Utilities Screen Menu

```
  - = F I L E U T I L I T I E S = -  
  
Select Option: n  
  
  1. Copy/Move/Delete/Type/Print  
    Prot/Unprot/Rename  
  2. Recover File  
  3. RUN IMAGE PROGRAM..XB VDP  
  4. RUN IMAGE PROGRAM . E/A VDP
```

Option 1 opens a screen that allows spreadsheet style access to a page of files

Option 2 allows the recovery of a deleted file

Option 3 & 4 are non-functional and will be deleted in the next version.

Copy/Move/Delete/Type/Print/Prot/Unprot/Rename

This option requires a volume number to be entered. The volume number must be 1 to maximum number of volumes (see Misc. Utilities – CF Geometry). In the example below, volume 1 is entered. Pressing ENTER causes the volume information to load.

```
  - = F I L E U T I L I T I E S = -  
  
  Select Option: n  
  
    1. Copy/Move/Delete/Type/Print  
       Prot/Unprot/Rename  
  
  Volume# : 1  
  Vol. Name:  
  Free      Used
```

The subsequent action will display all files found in the volume as shown on the next page in the file-listing screen.

File Listing Screen

The listing is presented as pages. An indicator (<n/n>) shows the current page number. All actions are preformed on the current page. The following is an example:

Name:	VOL1	-	Free 1244	Used 356	
CMD	Filename	Size	Type/No.	10 P	<1/1>
N	CATALOG	4	PROGRAM	U	COPY
N	CATALOG2	4	PROGRAM	U	MOVE
N	CFINFO/0	10	DIS/FIX	80 U	0
N	CFMGR	33	PROGRAM	P	
N	CFMGR/0	244	DIS/FIX	80 P	
N	CMGRS	32	PROGRAM	P	DELETE
N	EXAMPLE	3	PROGRAM	U	0
N	LOAD	6	PROGRAM	U	
N	SLOAD	14	DIS/FIX	80 U	
N	VCATALOG	4	PROGRAM	U	

CTRL- E: Page- Up CTRL- X: Page Down

- “Name:” is the name of the volume.
- “-“ (dash) indicates the volume is not protected. If it were a “+” plus sign would show.
- “Free” is the number of sectors left on the volume
- “Used” is the number of sectors used by the volume and by the files
- “CMD” is the column where the following actions can be invoked:
 - C – copy
 - D – delete
 - M – move
 - T – type (display on screen)
 - P – print (only displayable files)
- “Filename” is the column where each file name is shown. Changing the filename in this column causes the file to be renamed to the new name.
- “Size” is the number of sectors the file occupies in the volume
- “Type/No.” indicates the type of file and the record length (if appropriate). The values are:
 - PROGRAM
 - DIS/FIX (display/fixed length)
 - DIS/VAR (display/variable length)
 - INT/FIX (internal/fixed length)
 - INT/VAR (internal/variable length)

- “P” in the column where the protection status of the file is displayed. The value can be changed here to change the file’s protection status. Valid values are:
 - P – protected
 - U – unprotected
- “<1/1>” is a field that indicates the page number and the total number of pages. In a volume with many files only about twenty entries can be operated on at one time. Using Ctrl-E (pressing CTRL and the E key simultaneously) causes the previous page to display. CTRL-X causes the next page to display.
- “COPY/MOVE” field is count of sectors being moved or copied.
- “DELETE” field is the count of sectors that will be released.

Specifying Actions

Name:	VOL1	-	Free	1244	Used	356
CMD	Filename	Size	Type/No.	10	P	<1/1>
D	CATALOG	4	PROGRAM		U	COPY
T	CATALOG2	4	PROGRAM		U	MOVE
P	CFINFO/O	10	DIS/FIX	80	P	277
C	CFMGR	33	PROGRAM		P	
M	CFMGR/O	244	DIS/FIX	80	P	
N	CMGRS	32	PROGRAM		P	DELETE
N	EXAMPLE	3	PROGRAM		U	4
N	LOAD	6	PROGRAM		U	
N	SLOAD	14	DIS/FIX	80	U	
N	VCATALOG	4	PROGRAM		U	

Execute File Commands? (Y/N)? N

In the above example, CATALOG will be deleted, CFMGR will be copied and CFMGR/O will be moved. Note that CFINFO/O will print immediately and that CATALOG2 would have displayed immediately but will incur a DEVICE ERROR instead since PROGRAM files are not displayable.

Except for printing and displaying, the actions will not be performed until “Y” is pressed as a response to “Execute File Commands? (Y/N)?”.

The move and copy commands will prompt for a destination volume. Once selected, the option to format the destination volume is displayed. Once formatted (or if declined) the file copy-and-move operations will commence. Note that when a file is moved it is deleted from the original volume.

The arrow keys (FCTN-E, FCTN-S, FCTN-D and FCTN-X) are used to navigate the fields on the screen. The execute option does not display until the last line is navigated through. Press the “PROCEED” key (FCTN-6) will cause the execute option to display immediately.

Pressing “REDO” (FCTN-8) allows the entering of a new volume number.

Pressing “BEGIN” (FCTN-5) redisplay the main menu.

Pressing “BACK” (FCTN-9) redisplay the File Utilities menu.

Recover File

Files that have been accidentally deleted can be recovered using this option. Please note that a truly successful recovery depends on how soon the recovery is attempted. If many files have created or modified on the volume containing the file since its deletion recovery will probably fail.

```
  -= F I L E U T I L I T I E S =-
Select Option: n

      2. Recover File

Recover File on Volume: _
Enter Name of File: _____
```

CFMGR will attempt to find and recover the specified.

```
  -= F I L E U T I L I T I E S =-
Select Option: n

      2. Recover File

Recover File on Volume: 1
Enter Name of File: ZZZZ/B

      Searching Volume
```

In the above example CFMGR is attempting to restore ZZZZ/B on volume 1.

```
  -= F I L E U T I L I T I E S =-  
Select Option: n  
  
  2. Recover File  
  
Recover File on Volume: 1  
Enter Name of File: ZZZZ/B  
  
      FILE RECOVERED
```

If CFMGR is successful the message FILE RECOVERED will display.

```
  -= F I L E U T I L I T I E S =-  
Select Option: n  
  
  2. Recover File  
  
Recover File on Volume: 1  
Enter Name of File: ZZZZ/B  
  
      FILE NOT FOUND
```

If CFMGR is unsuccessful then the message FILE NOT FOUND is displayed.

Volume Utilities

The next set of CFMGR commands operate on volumes on the compact flash. The following functions are provided:

- Cataloging files on a volume
- Backup one volume to another
- Erase a volume
- Rename a volume
- Format a volume
- List all volumes

Volume Utilities Screen Menu

```
  -= V O L U M E    U T I L I T I E S =-
      Select Option: n
          1. Catalog          4. Rename
          2. Backup           5. Format
          3. Erase            6. List
```

- Option 1 displays a list of files on a specified volume. This listing is printable.
- Option 2 allows backup of a volume.
- Option 3 allows the complete erasure of a volume.
- Option 4 allows the renaming of a volume
- Option 5 allows the formatting of one or more volumes.
- Option 6 lists all volumes by volume number.

Option 1 – Catalog

When selected CFMGR prompts for a volume number. Once entered CFMGR will scan for all files and display the volume name and sector usage.

```
- = V O L U M E   U T I L I T I E S =-
      CATALOG VOLUME

Volume# : 1
Vol. Name:
Free      Used
```

Catalog Screen

The catalog screen is nearly identical to the [File Listing Screen](#). A print-out through the PIO port is done by pressing the AID [FCTN-7] key.

```
Name:  VOL1      - Free 1244 Used  356
CMD Filename  Size Type/No. 10 P  <1/1>
-----
CATALOG       4 PROGRAM    U
CATALOG2      4 PROGRAM    U
CFINFO/0     10 DIS/FIX   80 U
CFMGR         33 PROGRAM    P
CFMGR/0      244 DIS/FIX   80 P
CMGRS        32 PROGRAM    P
EXAMPLE       3 PROGRAM    U
LOAD          6 PROGRAM    U
SLOAD        14 DIS/FIX   80 U
VCATALOG      4 PROGRAM    U

CTRL- E: Page- Up  CTRL- X: Page Down
```

Option 2 – Backup

The initial screen for backup prompts for the way backup is to be done.

- Option 1 – scans the bit map marking which sectors are used on the source volume and copies only those sectors to the destination volume.
- Option 2 – copies every sector from the source volume to the destination volume.

```
  -= V O L U M E   U T I L I T I E S  =-  
      BACKUP VOLUME  
  
Select Option: _  
      1. Backup using bit-map  
      2. Backup sector-by-sector
```

Once the option is selected the master and backup volume are specified. The progress is displayed in the sector number field.

```
  -= V O L U M E   U T I L I T I E S  =-  
      Backup using bit-map  
  
Master  
Volume# :  
Sector  
  
Backup  
Volume# :  
Sector  
  
WARNING: Backup vol. Will be erased.
```

Once completed, any errors are displayed.

```
- = V O L U M E   U T I L I T I E S =-
      Backup using bit-map

Master
Volume# :
Sector

Backup
Volume# :
Sector

      0 Read Errors
      0 Write Errors

      PRESS ANY KEY TO CONTINUE
```

Option 3 – Erase

A volume can be completely erased using this option. CFMGR prompts for the volume number. Once entered CFMGR will display the volume name and sector usage. CFMGR also prompts for confirmation. Enter “Y” causes the volume to be erased.

```
- = V O L U M E   U T I L I T I E S =-

      Select Option: 3

      1. Catalog           4. Rename
      2. Backup            5. Format
      3. Erase             6. List

Volume# : ____
Vol. Name:
Free      Used

      Erase Vol. (Y/N)? _
```

Option 4 – Rename

This option allows the changing of a volume name. CFMGR prompts for the volume number. Once entered CFMGR will display the current volume name and then accepts a new volume name.

```
- = V O L U M E    U T I L I T I E S =-
Select Option: 4
      1. Catalog           4. Rename
      2. Backup            5. Format
      3. Erase             6. List

Volume# : 380
Vol. Name: VOL380
Free 1242 Used 358

New Vol. Name : MYVOL380
```

In the above example, VOL380 is renamed to MYVOL380. Unformatted volumes cannot be renamed.

```
- = V O L U M E    U T I L I T I E S =-
Select Option: n
      1. Catalog           4. Rename
      2. Backup            5. Format
      3. Erase             6. List

Volume# : 379
Vol. Name:
Free      Used

      V O L U M E    E R R O R
      Volume Not Initialized
      PRESS ANY KEY TO CONTINUE.
```

Option 5 – Format

Volumes must be formatted before usage. Option 5 provides this function. The volume number to be formatted is entered at the prompt. Once entered CFMGR will ask for confirmation. Pressing “Y” starts the formatting.

```
- = V O L U M E   U T I L I T I E S =-
Select Option: 5
    1. Catalog           4. Rename
    2. Backup            5. Format
    3. Erase             6. List
Volume# : 381
Vol. Name:
Free      Used
Format Volume (Y/N)? Y
```

CFMGR will prompt for the volume name and once entered asks if verification is desired. Verification is a quick test of all sectors in the volume. Usually verification is not required and takes about 20 seconds to complete. Non-verification takes no time. The progress is shown in “< >” field.

```
- = V O L U M E   U T I L I T I E S =-
Select Option: 5
    1. Catalog           4. Rename
    2. Backup            5. Format
    3. Erase             6. List
Volume# : 381
Vol. Name: MYNEWOL
Free      Used
Verify Y/N : N <   >
```


Once format is complete CFMGR will ask if another volume is to be formatted. Using this feature allows the quick formatting of a large compact flash.

```
- = V O L U M E    U T I L I T I E S = -  
  
Select Option: 5  
  
    1. Catalog          4. Rename  
    2. Backup           5. Format  
    3. Erase            6. List  
  
Volume# : 381  
Vol. Name: MYNEWOL  
Free 1598 Used    2  
  
Format another (Y/N)? Y
```

Option 6 – List

CFMGR provides this option to list a summary all volumes on a compact flash. Pressing the AID (FCTN-7) key prints the listing through the PIO port.

-- LIST VOLUMES --				
VOL#	VOL NAME	FREE	USED	P
1	VOL1	1242	358	
2	A	556	1044	
3	E/A*PARTB	722	878	P
4	VOL4	514	1086	
5				
6				
7	CF7+	1263	337	
8	VOL8	1598	2	
9	VOL9	1011	589	
10		1282	318	
11		1343	257	
12		1271	329	
13		1158	442	
14	VOL14	1598	2	
15	VOL15	1598	2	
16	VOL16	1598	2	
17	VOL17	1598	2	
18	VOL18	1598	2	
19	VOL19	1598	2	
20	E/A- ONDISK	1224	376	P

CTRL- E: Page- Up CTRL- X: Page Down

The display consists of:

- **VOL#** - this column is the volume number; CF7+ and CF7A+ always enumerates the volume on a compact flash from 1 to maximum-number-of-volumes (see CF Geometry).
- **VOL NAME** – this column is the name of the volume. Volumes names can be blank. However, if a volume is unformatted the FREE and USED columns will also be blank. For example, in the screen above volume 5 is unformatted whereas volume 10 is not.
- **FREE** – this column indicates the count of sectors available for new files.
- **USED** – this column indicates the count of sectors used by files on the volume. Note that the volume itself uses two sectors after formatting.
- **P** – this column indicates if the volume is protected. “P” indicates it is.

CTRL-E and CTRL-X allows paging through the list. If a print-out is generated the entire list is printed.

Miscellaneous Utilities

The following functions are provided:

- Setting and clearing volume protection
- Remove Extended Basic Protection
- Change foreground and background color
- Display compact flash information and geometry

```
- = M I S C      U T I L I T I E S  = -
```

```
Select Option:
```

1. Install Vol. Protection
2. Remove Vol. Protection
3. Remove XB Protection
4. Change Foregnd Color
5. Change Backgnd Color
6. CF Info/geometry

Options 1 – 3 set or clear volume protection.

Options 4 and 5 allows the changing of foreground and background colors. Use this to improve display.

Option 6 causes the compact flash to identify itself.

CF Info/geometry

The compact flash contains a tiny microcontroller that contains useful information about itself. Relevant bits of that information are displayed in this screen.

```
- = M I S C      U T I L I T I E S =-
CYLS:           754
HEADS:          15
SECTS:          56
SERIAL#         STI   0E301205200309
FIRMWARE:      Rev 1. 01
MODEL#         Hi tachi CVM1. 1. 1
MAX VOLS:      391
```

- **CYLS** – is the number of cylinders that the compact flash emulates. This unit of measure is a left-over from disk storage medium handling.
- **HEADS** – the number of heads that the compact flash emulates. It is also left-over from disk storage medium handling.
- **SECTS** – is the number of sectors per cylinder. (Also a left-over)
- **SERIAL#** – is manufacturer’s identification for the compact flash device
- **FIRMWARE** – is the manufacturer’s firmware level used by the compact flash microcontroller
- **MODEL#** – is the manufacturer’s model identification
- **MAX VOLS** – is the computed number of volumes the compact flash device can hold. In the above example a 320mb compact flash can hold 391 400kb volumes. Considering that the original TI-99/4a diskette could only hold 90kb this is a tremendous amount of storage!

Disclaimer

CFMGR is offered as-is. Great effort has been made to test it but any loss of data is beyond the control of the developer. The user is encouraged to back-up any valuable data or programs before using.