UTILITIES--CONTENTS

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UTILITIES

This chapter describes the following GRiD-OS utility programs:

- Disable ROM Files, which disables a file in ROM (Read Only Memory) if you have a newer version on a disk storage device.
- Duplicate Media, which copies a diskette to another diskette on the same device and changes the volume name of a device.
- Initialize Media, which formats new floppy disks and other media so that files can be stored on them.
- MediaRepair, which lets you repair and recover files on damaged storage media.
- Scancase, which supplies information on your computer configuration.
- ScreenWatch, which takes a picture of the screen that you can later print.
- Temporary Disk, which creates a temporary "electronic disk" in main memory (RAM).

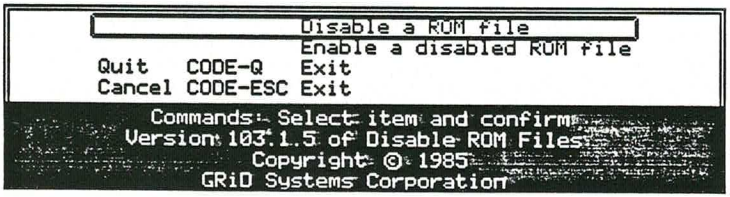
Disable ROM Files

The Disable ROM Files utility lets you disable a file that you have in ROM if you have a newer version of the file on a disk storage device. This is necessary because when searching for a system or application file, the computer searches for it in ROM first, and doesn't see the newer version. Disable ROM Files protects your investment in GRiD ROM software.

You can also use this utility to enable a ROM file that you previously disabled. The list of which ROM files are disabled is stored in the User file and is read by GRiD-OS when it starts up.

When you select Disable ROM Files from the File form and confirm, the menu shown in Figure 4-1 is displayed.

Figure 4-1. *Disable ROM Files Menu*



Selecting either Disable a ROM File or Enable a Disabled ROM File causes a menu of applicable ROM files to be displayed. Select the file you want to disable or enable and confirm. If you don't have a hard disk, be sure that the diskette with your User file is in the disk drive so that this information is recorded in the User file.

Duplicate Media

The Duplicate Media utility performs the following functions:

- Copies the contents of one diskette to another diskette on the same device. If you have a hard disk connected, you can make multiple copies of the source diskette without having to reread the source diskette each time.

- Changes the volume name of devices. You can also change volume names using the Change Volume Name command under GRiDManager.

CAUTION: While running Duplicate Media, do not use any Window Manager functions that could change the size of the Duplicate Media window (such as splitting or zooming a window); the results are unpredictable.

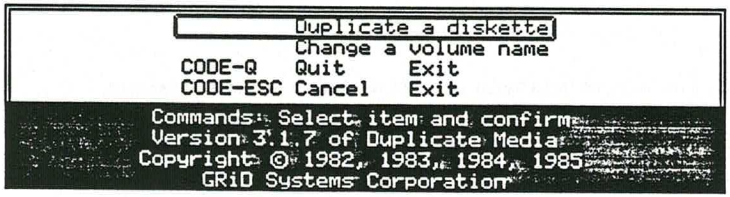
The steps you follow to duplicate a diskette are listed below.

To Duplicate a Diskette

1. Fill in the File form, specifying Duplicate Media in the Programs subject, and confirm.

   After confirming the File form, the Duplicate Media Commands menu (Figure 4-2) appears.

Figure 4-2. *Duplicate Media Commands Menu*



2. Confirm the item Duplicate a Diskette.

3. You must now select the floppy diskette you want duplicated.

   If there are currently floppy diskette volume names appearing in the Device list in the File form, a menu is displayed (Figure 4-3) asking you to select one of these volume names.

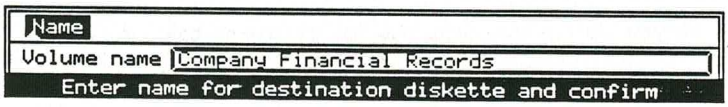
   Figure 4-3. *Floppy Diskette Choices*

   Insert the source diskette, if it is not already in the diskette drive, and confirm the source diskette choice.

   NOTE: To duplicate a diskette whose volume name does not appear on the list, insert the diskette in the diskette drive and select the name of the diskette device which is to be used for duplicating.

4. After the source diskette is inserted, the program displays a form (Figure 4-4) asking for the name of the destination diskette.

   Figure 4-4. *Destination Diskette Form*



   The default volume name of the destination diskette is the same volume name as the source diskette. You can keep this title or erase it and type in your own.

5. Confirm the destination diskette name. The following message appears:

   Reading source diskette

   The above message is followed by this message:

   Insert destination diskette and confirm

   You can insert an unformatted diskette, or a diskette formatted for GRiD-OS or any other system. Any existing files on the destination diskette will be erased.

6. Insert the diskette that is to contain the copy and confirm. The following message appears:

   Writing destination diskette

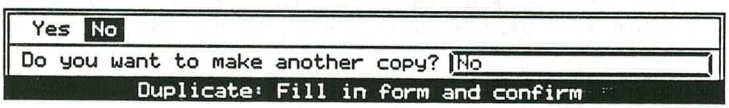
   If the destination diskette is unformatted, or formatted for a different operating system, the program formats it for GRiD-OS, displaying the following message:

   Formatting diskette

   NOTE: If you have a hard disk connected to your computer, the entire contents of the source diskette are copied to a temporary file on the hard disk. The program then reads from this temporary file when writing to the destination diskette. If you don't have a hard disk, you may be prompted to insert the source and destination diskette several times to complete the duplication process.

   If you have a hard disk connected to your computer, the form shown in Figure 4-5 is displayed when the duplication process is finished.

Figure 4-5. *Duplicate Menu*



If you select No, the system displays the following message:

Please wait: Erasing temporary file

The program then displays the Duplicate Media commands again. If you select Yes, the duplicating process begins again, and the program asks for the name of the next destination diskette.

The steps you follow to change a volume name are listed below.

To Change a Volume Name

1. With the Duplicate Media commands menu (see Figure 4-2) displayed on the screen, select and confirm the item Change a Volume Name. A menu appears containing the current device volume names.

2. Select the volume name you want to change and confirm.

3. The program then displays a form where you specify the new name.

4. Type in the new volume name in the space provided and confirm.

   After you confirm, the new volume name appears as a choice in the device list.

Initialize Media

You must format a new diskette before you can create a file on it. You may, under certain circumstances, also need to initialize a hard disk. The Initialize Media utility performs this function.

CAUTION: Formatting any medium erases all information on it. For this reason, when you format a hard disk containing data, use extreme caution. Once the medium is formatted, any data stored previously is lost and irrecoverable.

NOTE: You should always initialize floppy diskettes on the machine that you intend to use them on. For example, if you initialize a diskette on the GRiDCase, you should only use that diskette on the GRiDCase and not another model computer. If you have several models of computers, label each diskette with the model name after it is initialized to ensure you use the correct one. Diskettes initialized under GRiD-OS on another model computer can be interchanged if necessary, however, the speed of disk operations may be significantly slower if this is done.

The following procedure shows you how to format a diskette. You can also use the same procedure to format a hard disk.

Before initializing a hard disk that was previously formatted exclusively for MS-DOS, you must first run the MediaPartition utility. Refer to the GRiD-OS/MS-DOS Utility Programs User's Guide for more information on MediaPartition.

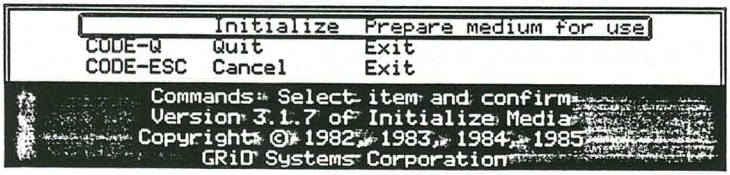
If Initialize Media is on the device you intend to format, move it to a different device before starting.

CAUTION: While running Initialize Media, do not use any Window Manager functions that could change the size of the Initialize Media window (such as splitting or zooming a window); the results are unpredictable.

To Format a Diskette

1. Fill in the File form, specifying Initialize Media in the "Programs" subject, and confirm. The Initialize Media menu (Figure 4-6) appears.

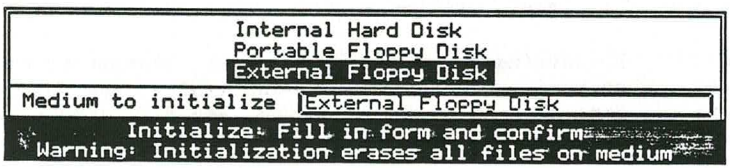
   Figure 4-6. *Initialize Media Menu*



2. Confirm to begin the formatting process. You can also exit at this point if you desire by pressing *Code-Esc* or *Code-Q*.

   After you confirm, the Media Selection menu appears (Figure 4-7).

   Figure 4-7. *Media Selection Menu*



3. In the Media Selection menu, you specify the media (Floppy Disk, External Floppy Disk, Hard Disk, etc.) to be formatted.

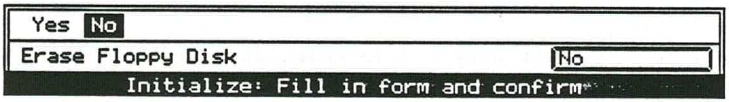
   Confirm the Media Selection menu after making your choice.

4. If you selected media that is removable (floppy disk), the program then prompts you for a volume name for the media to be initialized.

   NOTE: If you try to initialize a non-removable storage device, such as a Hard Disk, a prompt asking you to use extreme caution appears. Once the hard disk is formatted, any data stored previously is lost and irrecoverable.

5. After specifying the volume name and confirming, the Initialize Confirmation form appears (Figure 4-8). It serves as a warning that, if you choose to continue formatting, all files present on the medium are erased. If you select No, the formatting process stops and you return to the initial menu; if you select Yes, the formatting process begins.

Figure 4-8. *Initialize Confirmation Form*



6. If you are formatting a diskette, the program prompts you to put it in the floppy disk drive. You can insert an unformatted or a previously formatted diskette, if you don't mind having its data erased by the formatting process.

   The total formatting process takes roughly three minutes (for a diskette). The other media take quite a bit more time because of their greater storage capacities.

   When formatting is complete, the drive will stop spinning and a message will appear at the bottom of the screen:

   Initialization Completed

   To return to the Initialize Media menu, press *Esc*.

Media Repair

A variety of incidents can corrupt a medium's data format and thereby lose or harm files. Examples are:

- A power failure during a file access.
- A physical flaw on a storage medium.
- Errors corresponding to error message numbers 102-105, 200, 201, or 232. (See the Error Messages chapter for the corresponding error messages.)
- Stopping the compiling process.

Additionally, some of the above items can create unlisted "trash" that takes up valuable storage space. Run the MediaRepair program in response to any of the phenomena listed above, or if you suspect any other trouble with a permanent storage medium.

The MediaRepair program searches out compromised storage areas, repairs them when possible, and writes a report describing its activities. MediaRepair provides the following services:

- Subject level repairs.
- Title level repairs.

- Collection of related, but lost, data into a file you can edit.

- Identification of physically defective areas to prevent the computer from attempting to store data in them.

NOTE: MediaRepair provides information useful to the GRiD Resource Center in analyzing storage-related difficulties. You should run MediaRepair before contacting the center about such difficulties.

Repairing a Medium

Make sure that the device containing the MediaRepair program is different from the device you plan to repair.

If necessary, duplicate (Code-D) the MediaRepair program to another medium. Be sure to store the duplicate under the subject Programs.

CAUTION: Once MediaRepair begins the repair process, all Window Manager functions are locked out; that is, you can no longer access any other windows you may have open. Therefore, be sure to save any files open in other windows before starting MediaRepair. Furthermore, MediaRepair reboots your system when it finishes the repair process.

To Run MediaRepair

1. Fill in the File form specifying MediaRepair. MediaRepair is under the "Programs" subject.

2. Confirm the Repair medium item. After confirming, the Repair form appears.

3. Choose the medium you want to repair.

4. If you want the report sent to a device in addition to the screen, move the outline to the Report item and select File or Printer.

   NOTE: Longer reports cause text to scroll off the screen as the program adds new information to the report. Once a line scrolls off the screen, you cannot retrieve it. If you choose either of the other media, the report is sent both to the screen and the chosen medium.

   If you decide to send the report to a File, the File form appears, where you specify a destination file. Choosing Printer causes the report to go to the printer attached to your computer. Once you have selected a report device, confirm the Repair form.

   Once you have made your repair and output selections, the following message appears at the bottom of the screen:

   Repair: Confirm to start

Press *Code-Return* and the program displays another message throughout the repair process:

Repair: In progress

5. The program displays its name, the date, and the time. It then begins to repair the medium, issuing a report to the screen (and the printer or a file, if you so specified) during the process. The following message appears at the bottom of the screen when the repair is completed:

Repair completed: Confirm to reboot system.

Media Repair Report Messages

The following paragraphs explain the messages displayed by the MediaRepair utility.

MediaRepair <date> <time>

This header identifies the MediaRepair program. The date and time follow this message on the same line.

n physical error(s)

This message counts the number of physical errors (where n is a number). Media can suffer from either of two kinds of physical error. The first is a material problem with the medium, usually caused by wear or misuse, and sometimes by an innate flaw. You may also encounter flaws in the medium's controller device.

The second kind is a logical problem--a disruption in the "walls" that divide the medium into logical storage areas. MediaRepair cannot discern which problem (material or logical) it has encountered.

Cannot start operating system from this medium

This means that the portion of the medium that contains the start-up or "boot" code has been damaged, so that the computer cannot use the code.

Unrecoverable error condition
Repair process terminated

This message represents a defect in the medium that prevents MediaRepair from reading anything from that medium. Further repair is impossible. This error also produces the message:

Repair terminated: Confirm to reboot system

Once you have confirmed, choose from among three alternatives given in the section titled Responding to Media Defects.

Verifying subjects or
Verifying subject: <subject name>

MediaRepair checks whether the titles in the subject correctly correspond to the files stored on the medium.

Removed subject: <subject name> or
Removed title: <title> kind: <kind>

If a file's header (its access record) has an incorrect format, MediaRepair removes the title and corresponding entry from the subject. An entry is a unit of information about a file. It includes the file's name and address and other data. This name and its address are saved just in case the file is found later.

Added subject: <subject name> or
Added title: <title> kind: <kind>

MediaRepair found a file that belongs in this subject. MediaRepair names the file, according to one of two naming procedures.

- If a match occurs between a removed title and this file, MediaRepair gives the file the removed title's name.

- If no match occurs, MediaRepair names the file "?Unknown" and follows the name with a number indicating the serial order in which it was found. Thus, typical names are "?Unknown2" and "?Unknown3". MediaRepair assigns these titles the kind Text so that you can read and edit them with GRiDWrite.

Rebuilding subjects or
Rebuilding subject

MediaRepair detected an error in the subject(s). Media Repair searches the medium to find every title that belongs in this subject and then rebuilds the subject from the names it located.

Everything is OK

The subject structure is okay. Every title entry in the subject has a corresponding file on the medium.

Recreating lost subject
Named: <new subject name>
Added title: <title> kind: <kind>

MediaRepair found some files that were complete, but not entered in any subject (possibly the subject was lost or destroyed). Therefore, MediaRepair recreates the subject and places the found titles in it. "Named:" means that MediaRepair gives a name to the subject directory. "Added title:" means that MediaRepair added a title to the new subject.

Added title: <title> kind: work

MediaRepair searched the medium and found a work file with no corresponding title in the subject. (A work file is a file created by a language translator or other system program.) In this special case, the work file was left over from a Pascal or PL/M compilation, or from another application that used work files.

Interrupting or resetting the computer during a compilation causes the abandonment of these work files. Though the computer does not display the names of these files, the files themselves occupy disk space. Run MediaRepair whenever you've interrupted a compiler several times.

Repaired title: <title> kind: <kind>
[Missing n page(s)]

If the file has pages missing, the "Missing n page(s)" message (where n is the number of pages) appears. MediaRepair concatenates the remaining pages into their correct sequence. When you see this message, you should check the repaired file by following the steps given in the Examining Repaired Files section, below.

If the "Missing n page(s)" message does not appear, the file header pointed to a wrong page for its file. MediaRepair found the correct page somewhere else on the medium and replaced the improper page with the correct one.

Rebuilding orphan title
[Missing n page(s)]
Added title: <title> kind: <kind>

MediaRepair found a file of related data that lacks a name (technically, a file access record). MediaRepair reordered the remaining pages into a correct and complete sequence. If MediaRepair finds an orphan title, it creates a subject called "OrphanFiles" and stores this title under it. MediaRepair names the file, according to one of two naming procedures.

- If a match occurs between a removed title and an orphan title, MediaRepair gives the orphan file the removed title's name.
- If no match occurs, MediaRepair names the file "?Unknown" and follows the name with a number indicating the serial order in which it was found. Thus, typical names are "?Unknown2" and "?Unknown3". MediaRepair assigns these titles the kind Text so that you can read and edit them with GRiDWrite.

These files contain "lost" data or garbage data. You should examine them to decide whether to keep or delete them. When you see this message, you should check the repaired title by following the steps in Examining Repaired Files section, below.

Note that the "Missing n page(s)" message is optional in the sense that the message won't appear if no pages are missing.

Repair process completed

This message signals that MediaRepair has finished its work. If you interrupt the program before seeing this message, you should run MediaRepair again--all the way to completion. Also, if this message does not appear, the medium remains in an unrepaired condition; run MediaRepair again.

A medium partially repaired can still be cluttered with files that don't appear in any subject. Storing any new files on the disk can produce undesirable results.

Examining Repaired Files

Using GRiDWrite, always examine the repaired files listed below. Some pages may have been previously destroyed, leaving gaps in the file. Once you have studied a file, determine how to dispose of it. For example, you could append, include, rename, or erase it.

You should examine the following repaired files:

- Any files in subjects named "?Unknown[n]" or "OrphanFiles"
- Any files named "?Unknown[n]" and/or "Orphanfiles"
- Any files with missing pages

Responding to Media Defects

If you get the "Unrecoverable error condition" message, try the following steps.

To Respond to Media Defects

1. Wait until MediaRepair finishes its work and do the following:
   - If the error message refers to a diskette, remove the diskette from the drive and recenter it inside its jacket to fix the problem of a possible incorrect mounting.
   - Run MediaRepair again. If the error recurs, follow steps 2 or 3.
2. If step 1 fails, you have irrecoverably lost data. Transfer any usable title(s) to another medium with GRiDManager's Duplicate Files (Code-D) or Move Files (Code-M) commands.

   If a diskette is not physically flawed, you can reuse it. However, you must first reformat it. See the Initialize Media utility in this chapter. Reformatting a medium will completely erase it. If the diskette is physically flawed, discard it.

3. If you have an unrecoverable error problem with a hard disk, notify the GRiD Resource Center before formatting it. Note that the Initialize Media utility can format a hard disk as well as diskettes.

The ScanCase Program

The ScanCase program shows the status of input/output devices attached to your GRiD computer and lists the factory-installed hardware options. The utility is useful in the following instances:

- To find out if your computer has the built-in options your applications require.
- To provide information to GRiD personnel responsible for analyzing possible malfunctions in your system.

Select ScanCase from the Programs subject to run this utility.

The following summarizes the information displayed by ScanCase:

ROM BIOS Date. (Read Only Memory Basic Input Output System). ROM BIOS is the basic operating system component installed in the computer when it is manufactured. The date discloses when the BIOS code for your computer was released.

8087. States whether the internal number processor is installed or not installed in your computer. The processor is designed for faster calculations in graph, worksheet, and other arithmetic applications.

Available RAM. (Random Access Memory) The number of bytes of main memory available in your computer. If your computer contains 640 Kbytes of RAM, only 512 Kbytes is displayed, since under GRiD-OS, the extra 128 Kbytes is used for ROM software or Temporary Disk (see the Temporary Disk section in this chapter for more information on Temporary Disk).

Internal Storage Device. Indicates whether you have an internal hard disk or floppy disk.

Pocket Floppy Disk or **Second Floppy Disk.** The notation present indicates that this device is attached and operating properly; not present indicates a possible malfunction if this device is attached.

Active External Bus Device(s). Lists the devices attached to the external bus connector of your computer, and the date the version of the code for the internal ROM of each GRiD device was written; the notation attached peripheral appears for each non-GRiD device attached.

Parallel Interface. States whether a printer or other device is attached to the parallel connector.

Modem. States whether a GRiD-installed internal modem is present in your computer and gives the checksum of the modem PROM.

ScreenWatch

The ScreenWatch program lets you print the screen in front of you or duplicate it in a file for printing later. The following procedure describes how this is done.

To Print a Screen Image or Save It in a File

1. Select ScreenWatch from the "Programs" subject in the File form and confirm.

   CAUTION: Once you select the ScreenWatch program you shouldn't select it again until you've removed the first version from memory (Step 4).

2. Display the data or graphics image you want to save and/or print.

3. Press *Code-Shift--* and the Filename form appears. To print the screen, enter the following as the Filename:

   ```
   'printer
   ```

   and confirm. To make the back quote, press *Code-'*. When the printing ends, you may want to press the ON LINE button and then the FF button to bring the paper into alignment. Press the ON LINE button again after the paper stops moving so you'll be ready to print again.

   To save the screen image in a file, enter a pathname as the filename; for example,

   ```
   'Hard Disk'memos'1stQuarterResults
   ```

   and confirm. (The format for a pathname is described in Appendix B.) The program then stores the screen in the file you designate; it sets the Kind of the file to ScreenImage.

   You can print the screen image file using the Transfer (Print) command in GRiDPaint or using the Include Screen Image (^si) command in GRiDWrite. The Include Screen Image command lets you include a screen image in a document as you print it out. Refer to the GRiDPaint User's Guide or the GRiDWrite User's Guide, respectively, for details.

4. When you finish using the ScreenWatch utility program, press *Code-Shift--* and then *Code-Esc*. This removes ScreenWatch from main memory, providing you more space to work with other files and applications.

Temporary Disk

The Temporary Disk utility creates an extra logical disk drive using a portion of main memory (RAM). The Temporary Disk is not actually a disk drive, but you can use it as if it were. It appears on the list of device choices like any other attached storage device, and you can store files on it as if it were a floppy disk.

You can use the disk as a fast floppy drive, or as a temporary storage area for scratch data files. Working with data on the Temporary Disk is much faster than working with data on a permanent disk, since the computer can access RAM much faster than a permanent disk. You will see the most speed improvement when doing operations that require frequent disk accessing.

If your computer has 640K of RAM, Temporary Disk allows you to make use of the entire 640K of RAM. The 128K portion of RAM above the normally addressable 512K is allocated for the Temporary Disk. If your computer has less than 640K of RAM, then the Temporary Disk is allocated 64K of RAM.

When you select Temporary Disk from the File form and confirm, a 128K (or 64K) portion of main memory is set aside for the Temporary Disk and it is added to the list of device choices. It is important to remember that any data stored on the Temporary Disk is lost when you turn off the power to your computer. Before turning off your computer, Duplicate (Code-D) or Move (Code-M) any files that you want to save to a permanent storage device such as a floppy disk or hard disk.

If you have allocated a Temporary Disk and you don't want it any more, select Temporary Disk from the File form again and the following message is displayed:

Confirm to remove Temporary Disk from memory

Confirm to remove the Temporary Disk from RAM. Note that when you remove it, all files in the Temporary Disk are erased.