

InteGRiD Software

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About This Book

This is a reference manual for InteGRiD software users. InteGRiD is an operating environment that runs under MS-DOS® and allows MS-DOS users to use GRiD™ software. Under InteGRiD, all GRiD application and data files are stored in the MS-DOS file system.

This manual does not include any information about using MS-DOS on your computer. For MS-DOS information, refer to the MS-DOS Reference manual.

NOTE: You will understand the information in this manual more quickly and easily if you've read the *Getting Started* tutorial. The tutorial teaches you the basics of using GRiD software.

Organization of This Manual Each chapter is marked with a tab and begins with a table of contents, giving you direct access to the information you need. The manual contains the following chapters:

- The System Basics chapter contains information essential to understanding the InteGRiD operating environment and using GRiD software products.
- The Window Manager chapter describes and explains how to use the windowing functions available under InteGRiD.
- The GRiDManager chapter describes the commands and functions of GRiDManager, GRiD's file and system management program.
- The Utilities chapter describes and explains how to use a variety of useful utility programs.
- The Error Messages chapter lists the error messages you may receive while using GRiD software and explains what to do in each case.
- The Appendices contain tables and technical information referred to by other chapters in the manual, as well as troubleshooting information.

Related Publications You may want to refer to the following related publications for further information:

- *Getting Started*, a tutorial introduction to GRiD software, including information on using the computer keyboard, menus and forms of GRiD software, and on creating and handling files.
- *Analytical Tools User's Guide*, a comprehensive guide to using the following GRiD applications: GRiDFile, GRiDPlan II, and GRiDPlot.
- *GRiDWrite User's Guide*, a reference manual on GRiDWrite, GRiD's text editor.

- *GRiDMaster User's Guide*, a reference manual on GRiDMaster, GRiD's desktop organizer.
- *GRiDMail User's Guide*, a reference manual on GRiDMail, GRiD's electronic mail system for GRiD Server users.
- *MS-DOS Reference* manual, a reference manual for using MS-DOS on GRiD computers.
- *Using MS-DOS on the GRiDCase*, a guide explaining how MS-DOS for the GRiDCase differs from MS-DOS for the IBM PC or PC/XT. Also includes installation guidelines for commercial application software.
- *Owner's Guide*, a comprehensive guide describing and explaining how to set up and use your GRiD computer.
- *Read Only Memory (ROM) Installation and Use*, a booklet supplied with all ROM software explaining how to install and use ROM software.

Typographical Conventions As you read this manual, you should be aware of the following typographical conventions regarding keycaps and the use of the keyboard.

Keycaps

Keycap labels appear in a special typeface. Thus, when you see the symbol Shift, you should press the key labeled Shift, rather than type the word "Shift" letter by letter.

Multi-Key Operations

Throughout this manual you are instructed to perform multi-key operations, such as "press Fn-Return." When you see a hyphen between two keycap names, press the keys in the order in which they appear. Press the first key and, while holding it down, press the next key. Thus, when you read "press Fn-Return," you should press the Fn key and, while holding it down, press and release the Return key. When you see hyphens between three keycap names, press the first two keys and, while holding them down, press and release the last key.

Confirm

You are instructed both in this manual and in prompts that appear on your computer screen to "confirm" that a form is filled in correctly or that you are ready to go on to the next step of the task at hand. The proper response to a "confirm" request is to press Fn-Return.

NOTE: If you are using an IBM® PC keyboard, press Alt-Return to "confirm," and use Alt whenever a Code key is required.

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System Basics

This chapter contains both introductory information and information essential to using GRiD software products. The following topics are covered:

- Introduction to InteGRiD: description of the InteGRiD operating environment and information for former GRiD-OS users.
- System Requirements: description of requirements for running InteGRiD.
- Start-up and Exit: turning on your computer and preparing to use GRiD software under InteGRiD, and exiting InteGRiD.
- The File form: description of GRiD's form interface to your directories for creating and retrieving the applications and data files you work with.
- Initializing Diskettes: how to prepare diskettes for storing your files.
- System configuration: configuring InteGRiD for your specific application or preferences, and steps you must take before using a printer attached to your computer.
- GRiD Software common concepts: explanation of menus and forms, use of the arrow keys, and common commands used in all of GRiD's software products.
- Backup and recovery: procedures to safeguard the data and files you create using GRiDManager, GRiD's file management program.
- Communications: an introduction to the GRiD products that let your computer communicate with other local and remote devices and where you can get more information on the products.

Introduction to InteGRiD The InteGRiD operating environment is a menu and form driven interface to GRiD software. Using InteGRiD, you can run both MS-DOS and GRiD software.

GRiD provides many software products that can execute concurrently in this windowing environment. GRiD has a file manager, spreadsheet, word processor, desktop organizer, and several communications packages. In addition, users of GRiD's networking system, GRiD Server, have access to the GRiDMail Electronic Mail System.

Former users of GRiD software should note that under the MS-DOS file system, all GRiD application names have been changed to conform to the MS-DOS restriction of eight-character names. In addition, all file kinds have been changed to three characters.

If you have software or data files previously stored under the GRiD-OS file system, you can still access these files using the GBridge utility described in the Utilities chapter. See Appendix B for details on how to convert your GRiD-OS files to MS-DOS for easier access under InteGRiD. Note that the filename restrictions do not apply to previously stored GRiD-OS files accessed via the GBridge utility.

System Requirements InteGRiD is designed to run on the GRiDCase family of computers, as well as the IBM PC and compatibles. You must have at least 512K bytes of main memory (RAM) to run InteGRiD. In addition, on the IBM PC and compatibles, a graphics card and graphics monitor are required.

If you have an IBM PC or compatible with a PC-style keyboard, you can substitute certain keys in the numeric keypad area for special InteGRiD keystrokes. See Appendix G for more information.

InteGRiD requires MS-DOS version 2.0 or later.

CAUTION: You cannot run InteGRiD and any memory resident MS-DOS programs (for example, SideKick®) at the same time; the results are unpredictable.

NOTE: When using InteGRiD, we recommend that you put the FILES = 20 command in your MS-DOS CONFIG.SYS file. This will minimize the possibility of getting a "Too many files open" error message. Refer to chapter 5 in the *MS-DOS Reference* for information on the CONFIG.SYS file.

Start-Up and Exit You start up your computer by turning on the power switch. (You should first turn on any external devices—printer, plotter, or disk/permanent storage devices attached to your computer—several seconds before turning on the computer.) During the next interval, the computer loads MS-DOS into main memory (RAM, or Random Access Memory) from an external storage device. Depending on your computer, the storage device may be a floppy disk, a hard disk, or ROM (Read Only Memory). After MS-DOS is loaded, you are prompted to enter the date and time. Simply press Return to leave these items the same, or change them if you want.

The command you type to start InteGRiD differs depending on the configuration you ordered. Use the command from Table 1-1 that applies to your InteGRiD order number.

Table 1-1. *InteGRiD Start-Up*

InteGRiD Order Number	Start-Up Command	Comments
272, 276, 277	grid	No diskette required
29600-01, 02	grid	Requires InteGRiD diskette in current drive
29600-00, 278	gridram	Requires InteGRiD diskette in current drive

After you enter the proper command to start InteGRiD, the computer loads the InteGRiD operating environment into main memory. When the File form appears (Figure 1-1), the computer is ready to handle your GRiD software requests.

NOTE: If you entered **gridram** to start InteGRiD the first time, you can rename the Gridram.Exe file to Grid.Exe, since this is easier to remember for subsequent use.

NOTE: The device where the InteGRiD system files are located must be the current device when you start InteGRiD. For example, if the InteGRiD files are on drive C, then you must switch to drive C before starting InteGRiD.

Start-Up Devices

If you have more than one storage device attached, your computer looks for MS-DOS on a *primary device* first—either ROM, floppy disk, or hard disk, depending on your computer. If MS-DOS isn't on the first device your computer scans, it then looks for MS-DOS on any other storage devices attached.

When you want to use the operating system on a device other than your primary device, you can alter the order your computer searches for MS-DOS, as described below.

- To load the operating system from Hard Disk, turn on the computer while holding down the *H* (for Hard Disk) key.
- To load the operating system from Floppy Disk, turn on the computer while holding down the *F* (for Floppy Disk) key.
- To load the operating system from External Floppy Disk, turn on the computer while holding down the *E* (for External Floppy Disk) key.

See Appendix A for a detailed explanation of InteGRiD start-up and a description of the software files available under the "Programs" subject on your computer.

Required Start-Up Files

To start InteGRiD on your computer and use your GRiD applications you need the file Grid.Exe or Gridram.Exe in the root directory. In addition to this file, you also need the files listed in Table 1-2 under the "Programs" directory.

Table 1-2. Required Start-Up Files

Title ¹	Purpose
Common.Shr	Contains routines used by all GRiD application programs.
GExec.Run	Displays the File form and provides interchange services when transferring from one file to another using the Transfer command. Also provides Window Manager functions.
Emulator.Shr	This file is required for those computers using InteGRiD that don't have an 80-bit 8087 arithmetic processor chip. The processor is an option on some computers. GRiD software requires either the processor or this file, to perform processor functions.
User.Pro	Performs preset functions during InteGRiD start-up, such as identifying a start-up file and determining the current choices in the GRiDManager Options form (current modem, printer, screen font, etc.). Also saves a start-up window configuration and any user key definitions. Finally, translates the Kinds you give for data files into specific applications. GRiD supplies the User.Pro file on the system diskette with some items set to match your hardware configuration. You can change these items or add to them using the following GRiDManager commands: Select Start-Up File, Cancel Start-Up File, Update Options Form Choices and Options (Code-O). For details, see the GRiDManager chapter.

Although the other files in the "Programs" directory are optional, you should exercise extreme caution in removing or deleting them, or moving them to a directory other than "Programs." You might need the file for an auxiliary function important to you. For example, if you want to use an Epson Model FX80 printer, you must have the Fx80Par.Prn file in "Programs."

Backing Up Your Files

If you have not already done so, you should duplicate your InteGRiD diskette (and any other application diskettes). Store your original diskettes in a safe place, and only use the duplicates as "working" diskettes. If a working diskette is accidentally erased or damaged, you can make another copy from the original diskette.

The easiest method of backing up an entire diskette is to use the MS-DOS DISKCOPY command. Alternately, you can use the GRiDManager Duplicate command with wildcards for Subject, Title, and Kind.

Warm Start-Up

Once InteGRiD start-up is complete, you may on occasion find it necessary to start up your computer again as you work.

You can start up the computer in one of two ways: 1) by turning the power switch off and then on again, or 2) by pressing Ctrl-Alt-Del. The second method is often called a *warm start-up*. Some users find this method more convenient than using the power switch. Moreover, on some computers, the processing time for a warm start-up is faster than for a cold start-up.

NOTE: On some GRiD computers, you may be required to press Fn-Del to generate a Delete. In these cases, press Ctrl-Alt-Fn-Del to do a warm start-up.

Returning to MS-DOS from InteGRiD

When you are running InteGRiD and want to return to MS-DOS, you can either exit and leave InteGRiD resident (loaded into RAM) or remove it from RAM. These two ways of exiting InteGRiD are explained in the following paragraphs.

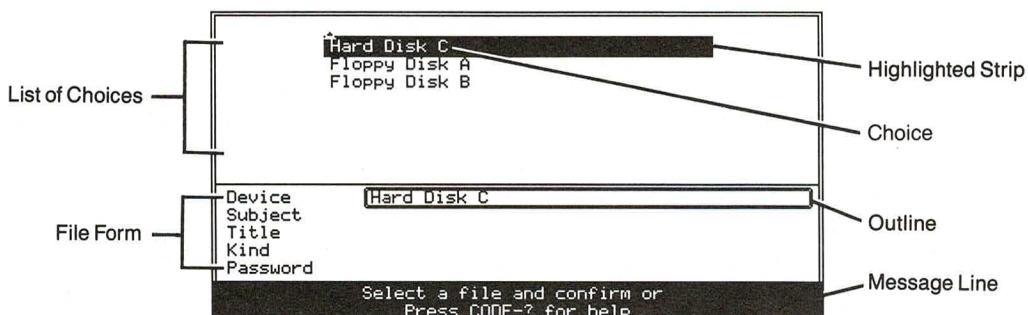
Exiting InteGRiD and Leaving it Resident To exit InteGRiD and leave it resident in RAM, you can either select and confirm any MS-DOS application from the File form or select and confirm COMMAND.COM. If you run an MS-DOS application program such as Lotus 1-2-3®, you will be returned to InteGRiD immediately after the application finishes. If you select COMMAND.COM to exit InteGRiD, you can return to InteGRiD by typing EXIT from MS-DOS.

Note that leaving InteGRiD resident will make it easier to switch between GRiD and MS-DOS applications, however, the amount of working RAM available to MS-DOS is reduced.

Exiting InteGRiD and Removing it from RAM There are two ways to exit InteGRiD and remove it from RAM. First, at the File form (described in the next section) you can press Code-Q (for Quit) or Code-Esc. Second, at any time while running InteGRiD you can press Ctrl-Alt-Shift and the minus (-) key simultaneously for one full second. This second method will cause you to immediately exit to MS-DOS without saving any files you may be working on.

The File Form After InteGRiD start-up, the first display you see on the screen of your computer is the File form (Figure 1-1).

Figure 1-1. *The File Form*



The File form is the “door” to your GRiD applications and files. Here are examples of what you can achieve by filling in and confirming the File form:

- Create a file and bring it and the corresponding GRiD application into memory to process the file. For example, you fill in and confirm a File form to start work on a new worksheet, text file, or organizer.
- Bring an existing file and its application into memory so that you can work on the file.

You fill in the File form by moving an outline and a highlighted strip, both shown in Figure 1-1. You either type in a name—the Title of the file, for example—or select a name from the list of choices displayed at the top of your screen.

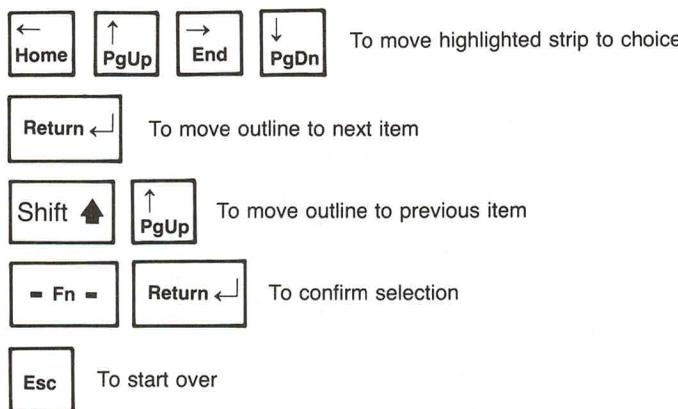
The outline surrounds the item (Device, Subject, Title, etc.) that you select or type in.

Moving About the File Form

This section describes the keys you press to move the outline about the File form on the GRiDCase computer. The keys you use when running InteGRiD on other computers may differ.

You move the outline down by pressing Return and up by pressing Shift-↑ (Figure 1-2). When the outline surrounds the Password item at the bottom of the form, pressing Return causes the outline to wrap around to the Device item at the top of the form. When the outline surrounds the Device item at the top of the form, pressing Shift-↑ causes it to wrap around to the Password item at the bottom of the form.

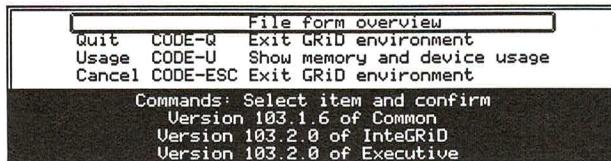
Figure 1-2. *Keys for Moving About the File Form*



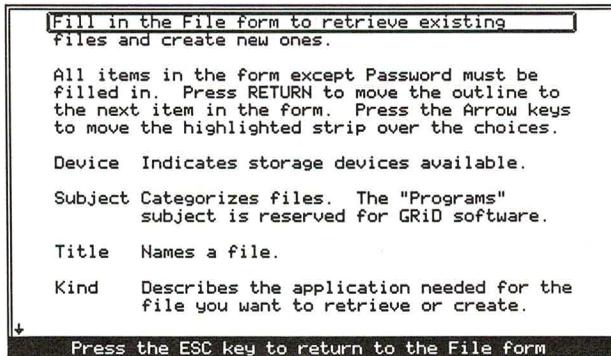
The highlighted strip highlights a choice for the item that the outline currently surrounds. You indicate your choice by moving the highlighted strip over it. Move the highlighted strip by pressing ↑ or ↓ (Figure 1-2). For step-by-step instructions on creating or retrieving a file, refer to the Getting Started tutorial.

File Form Help Menu

Pressing Code-? causes the File form help menu to appear (Figure 1-3). The items on the help menu tell you what things you can do from the File form. The help menu items are described in the following subsections.

Figure 1-3. *File Form Help Menu*

File Form Overview Selecting the File Form Overview causes a Help screen to appear (Figure 1-4), with a brief explanation of how to fill in the File form. The items in the Help screen are explained after the other items on the File form help menu.

Figure 1-4. *File Form Help Screen*

Window Overview Selecting Window Overview displays a brief overview of Window Manager. For more information on Window Manager see the Window Manager chapter.

Quit—Code-Q and Cancel—Code-Esc The Quit (Code-Q) and Cancel (Code-Esc) commands cause you to exit InteGRiD and return to MS-DOS. InteGRiD is then removed from RAM. Note that if you have other windows open, you won't be allowed to exit InteGRiD by this method until you Quit or Cancel them first.

Usage—Code-U The Usage command (Code-U) displays a report that shows the space usage both in RAM and on the permanent storage devices (such as Hard Disk C and Floppy Disk A) currently attached to your computer. See the Usage command in the GRiDManager chapter for details on the usage report.

Device

Device is the name of a permanent storage device. InteGRiD assigns a device name to each storage device attached to your computer at start-up (similar to A:, B:, etc. under MS-DOS). These names appear as choices for the Device item of the File form. Figure 1-1 shows an example of such a list. Other devices that may appear in the Device list are listed below:

Device name	Explanation
Read Only Memory	Appears if you have ROM software
Ms-Ramdrive	MS-DOS Ramdrive is installed
Remote Drive x	Letter of drive accessible by PCMaster/PCSlave

For an explanation of how InteGRiD assigns device letters to devices attached to your computer, refer to the MS-DOS Device Letter Assignment section in the Owner's Guide for your computer.

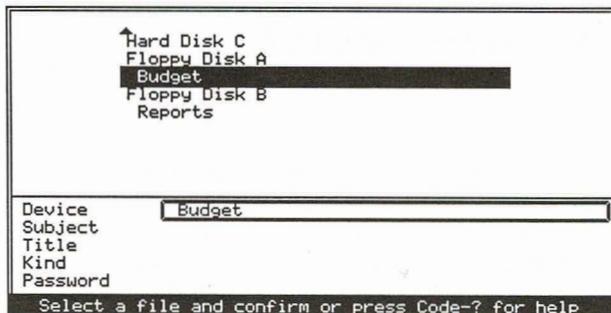
When you are connected to a file server device, you can choose among additional storage devices. See the documentation supplied with the server device for information on the devices available.

Diskette Volume Names InteGRiD assigns a name—Floppy Disk A, Floppy Disk B, etc.—to each floppy disk drive. In addition, you can assign a *volume name* to each removable diskette when you initialize it. You use the FORMAT command with the /V switch, described in the *MS-DOS Reference* manual, for this purpose. (You must run this program for each new diskette before you can use it.) You can also use the MS-DOS LABEL command to give a volume name to previously formatted but unlabeled diskettes.

The volume name is an internal label which the computer uses to identify the diskette device when exchanging data. Labeling each device ensures that only the correct device is selected during an operation. For example, if you want to erase the files on a particular diskette, but have the wrong one inserted in the drive, the system prompts you for the correct diskette.

Both the volume name and the name of the floppy drive containing the diskette appear as choices on the File form. The volume name is indented one character to the right of the device name, as shown in Figure 1-5.

Figure 1-5. Example of Volume Names as Choices in the File Form.



The volume names that appear initially represent the diskettes in the drives at start-up. You add volume names to the choices as follows:

To Add a Volume Name to the List of Device Choices

1. Move the outline to the Device item of the File form.
2. Remove any previously inserted diskette from the floppy drive you wish to use.
3. Insert the new diskette whose name you wish to add.
4. Move the outline to the device name of the floppy drive—for example, to Floppy Disk A—where the diskette resides.
5. Move the outline to any other File form item.

When you move the outline, the volume name of the new diskette is added to the rest of the device name choices in the File form.

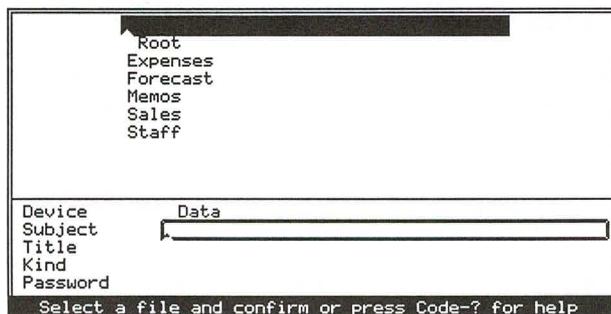
NOTE: When you have numerous floppy diskette volume names for diskettes you are no longer using, you can erase them by issuing the Update Storage Device Choice command from GRiDManager as described in the GRiDManager chapter.

Subject (Directory)

Subject is the name of a group of files that you define; it is a directory under MS-DOS. Each Subject contains one or more Titles (described below) that identify your files. Different Subject names let you divide your work into distinct, logical groups.

In the example shown in Figure 1-6, a user has created Subjects for "Expenses," "Forecast," "Memos," "Sales," and "Staff."

Figure 1-6. Sample List of Subjects in the File Form



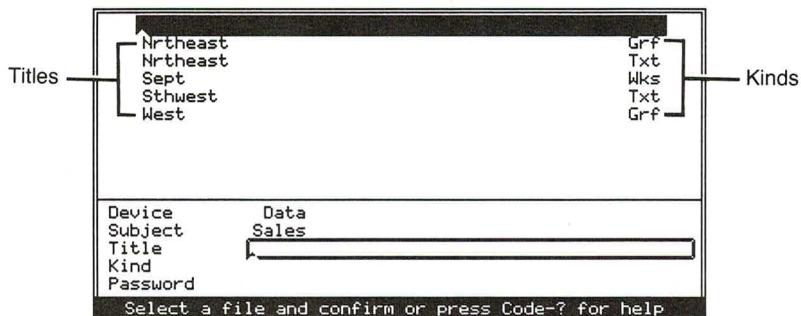
If you want to specify a new Subject, move the highlighted strip to the top of the screen and type in the name. Then press **Return** to fill in the next item on the File form.

On your InteGRiD diskette, GRiD supplies you with the "Programs" and "Root" subjects. The Programs subject contains the InteGRiD system utilities, GRiDManager, printer drivers, and several additional font files for changing your screen font. See Appendix A for a list of the files that appear in Programs as well as a brief description of each file and how it is used during start-up. The Root subject contains the InteGRiD operating environment.

Title (Filename)

Title is the name you assign to a file. If you're creating a file, move the highlighted strip to the top of the screen and type in the name. Figure 1-7 shows a sample list of titles that might appear under the Forecast subject.

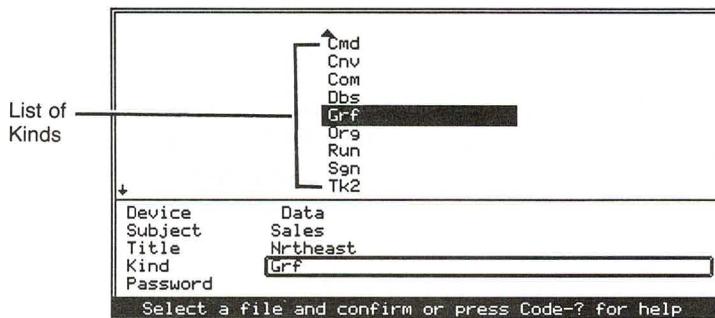
Figure 1-7. Sample List of Titles in the File Form



Kind (File Extension)

Kind associates your file with a particular GRiD application or system function; it is the same as the file extension under MS-DOS. When you move the outline to the Kind item, a list of choices appears in the upper portion of the screen. Figure 1-8 shows a portion of the list of choices available for the Kind item.

Figure 1-8. Partial List of Kind Choices in the File Form



When you add a file, the Update Options Form Choices command in GRiDManager updates the list of Kinds maintained by the system if the Kind associated with the file isn't already in the list.

If you don't see a Kind item you need in the list, simply type in the desired Kind. Table 1-3 shows some of the more commonly used Kind settings and what happens when you specify them.

You can create a file without a Kind (no file extension in MS-DOS) by entering the Kind "Untyped".

CAUTION: Make sure you have files in "Programs" that correspond to the Kind item you use, or you will receive an error message. The Kinds Dbs, Wks, Grf, and Txt, for example, require the applications named GFile, GPlan, GPlot, and GWrite, respectively.

Table 1-3. *Choices for the Kind Item of the File Form*

Choice	Action After Confirming the File Form
Bat	Identifies an MS-DOS batch file. When you confirm a File form whose Kind is set to Bat, you are switched to MS-DOS and the batch file is brought into main memory and executed. Note that the file COMMAND.COM must be on the same device as the batch file for the batch file to execute properly.
Com	Identifies an executable MS-DOS program. When you confirm a File form whose Kind is set to Com, you are switched to MS-DOS and the file is brought into main memory and executed. When the MS-DOS program is finished executing, you are returned to InteGRiD.
Cnv	Brings a canvas file and the GRiDPaint* application into memory. You can now start drawing a new image or modify an existing one on the screen. Refer to the <i>GRiDPaint User's Guide</i> for information on this product.
Dbs	Brings a database file and the GRiDFile* application into memory. You see a database table displayed on your screen. You can now start typing in or changing information in your database file. Refer to the <i>Analytical Tools User's Guide</i> for information on this product.
Dev	A file used by the system as an interface to a peripheral device. For example, Parallel.Dev is a device driver used for operations involving the parallel port.
Exe	Identifies an executable MS-DOS program. When you confirm a File form whose Kind is set to Exe, you are switched to MS-DOS and the file is brought into main memory and executed. When the MS-DOS program is finished executing, you are returned to InteGRiD.
Grf	Brings a graph file and the GRiDPlot* application into memory. You see a graph table displayed on your screen. You can now start creating a new graph or modifying an existing one. Refer to the <i>Analytical Tools User's Guide</i> for information on this product.

Choice	Action After Confirming the File Form
Org	Brings an organizer file and the GRiDMaster application into memory. You can now use the various office tools provided by GRiDMaster such as the calendar, card file, file folders, and calculator. Refer to the <i>GRiDMaster User's Guide</i> for information on this product.
Rfm	Brings a reformat file and the GRiDReformat* application into memory. You can now convert data from a host computer into a format suitable for GRiD applications such as GRiDPlan and GRiDFile. Refer to one of the terminal emulator User's Guides for information on this product.
Run	Identifies a file that has executable machine code. The code is the output of a compiler, such as the Pascal or FORTRAN compilers. When you confirm a File form whose Kind is set to Run, InteGRiD brings the file into main memory; then, the program it contains starts to execute.
Sgn	Brings a Sign-on form and GRiDManager into memory. You can now connect with an external file server device, and you have GRiDManager available for erasing, duplicating, moving, and performing other file-managing tasks. See the GRiDManager chapter in this manual for details on GRiDManager.
Tk2	Identifies a file that contains a GRiDTask II* program. When you confirm a File form whose Kind is set to Tk2, InteGRiD brings the file and the GRiDTask II application into main memory; then, the GRiDTask program starts to execute. Refer to the <i>GRiDTask User's Guide</i> for information on this product.
Tvt	Makes the facilities of the GRiDVT100* terminal emulator available and lets you connect to a remote host computer. Refer to the <i>GRiDVT100 User's Guide</i> for information on this product.
T31	Makes the facilities of the GRiD3101* terminal emulator available and lets you connect to a remote host computer. Refer to the <i>GRiD3101 User's Guide</i> for information on this product.
Tml	Makes the facilities of the GRiDTerm* terminal emulator available and lets you connect to a remote host computer. Refer to the <i>GRiDTerm User's Guide</i> for information on this product.
Txt	Brings a text file and the GRiDWrite* application into memory. You can start typing or changing text in the file. Refer to the <i>GRiDWrite User's Guide</i> for information on this product.

Choice	Action After Confirming the File Form
Wks	Brings a worksheet file and the GRiDPlan II* application into memory. You see a worksheet displayed on your screen. You can start entering or changing information in the worksheet. Refer to the <i>GRiDPlan II User's Guide</i> for information on this product.

*These applications can be purchased from GRiD.

Password

Password is an identification item used only with files on a file server device or on GRiD-OS devices you have added with the GBridge utility. It must be typed in (if previously assigned) by anyone accessing that file. It thus restricts the use of the file to only those persons who know the password. If the file is not on a file server or GRiD-OS device or if a password has not been assigned to the file, leave the Password item blank.

CAUTION: Don't assign a password to a file unless file security is essential. If you forget the password, you can't recover, duplicate, erase, or move the file. If you want to delete the file, you must reinitialize the device on which it resides. Reinitializing a device deletes all files on the device.

If you do assign a password to a file, use a word that is personally meaningful, thus easy to remember, but not easily guessed by someone else.

Preparing Diskettes for Use (Formatting) Before you can use a new diskette (or hard disk) to store information, you must *initialize* it. The initializing process formats the diskette in a certain way, providing the computer with an organized means for storing and retrieving data. To initialize a diskette or any other storage device, use the MS-DOS FORMAT command, described in the *MS-DOS Reference* manual.

Use the FORMAT program with caution because initializing a device erases all information previously stored on it. Note that you can "recycle" a previously used diskette by initializing it again; the diskette is left blank and ready for reuse.

System Configuration There are several system characteristics that you can set so that when InteGRiD starts up, it is configured the way you want it. These system characteristics include such things as a start-up file and the choices in the GRiDManager Options form (current modem, printer, screen font, etc.). For details on these configuration items, see the following commands in the GRiDManager chapter: Options and Select Start-up File.

All of the user settable items are stored in the file "User" with a Kind of "Pro." If the User file is available on the start-up device when InteGRiD starts up, your personal options are automatically set for you by InteGRiD. Additionally, the User file determines which application is retrieved when you select a data file of a particular Kind under InteGRiD.

If your User file is not available on the start-up device when InteGRiD starts up, InteGRiD sets the default system characteristics. In addition, you may not be able to translate the Kinds you give for data files into specific applications. You may need to select GRiD applications directly and use the Exchange for Another File command on the Transfer menu to access your data files. Therefore, you should always have the User file available on your start-up device before starting up InteGRiD. If your User file is accidentally erased or damaged, you can create a new one by copying the file User.Mdl to User.Pro.

Printer Set-Up

GRiD products support a variety of popular printers, and GRiD supplies software, called *printer drivers*, for driving them. Before using your printer for the first time under InteGRiD, check the GRiDManager Options form and make sure that the printer attached to your computer is correctly specified in the Current Printer item of the form. For more information about specifying your printer correctly, see Current Printer under Options—Code-O in the GRiDManager chapter. The available GRiD printer drivers are described in Appendix A.

GRiD Software Common Concepts The GRiD operating environment has a number of carefully planned conventions that make your computer and the GRiD integrated applications easy to use. These conventions include common commands, as well as other more general features. The following sections describe the more important common concepts.

Menus and Forms

With GRiD applications you don't have to commit long lists of file names, command names, choices, and options to memory. The system does all the work for you; it presents you with a list of choices whenever you need to do something. You never have to guess or memorize. Any options or choices about how to do something are all displayed in menus or forms. You simply need to select what you want to do to accomplish a task.

In addition, once you're familiar with GRiD menus and forms, you can type several keystrokes ahead while the computer is processing your current command. The computer will remember up to 40 keystrokes that you type ahead. If you make a mistake while typing ahead or are unsure that your keystrokes are correct, you can cancel all the typed ahead keystrokes by pressing Esc.

Arrow Keys

In GRiD applications, you use the Arrow keys to move around menus and forms and to move or select data in files. The Arrow keys will always get you to where you want to go. Just hold one down long enough, or press it often enough, and you'll get there. You can use the Arrow keys by themselves, or in combination with the Fn and Shift keys. The Fn and Shift keys multiply the effect of the individual Arrow keys. Table 1-4 summarizes how to use the Arrow keys alone and in combination with the Fn and Shift keys for moving around a file and for data selection.

Table 1-4. *Using the Arrow Keys*

Keystroke	Effect
→ or ←	Moves cursor right or left one character
↑ or ↓	Moves cursor up or down one line or cell
Fn-→ or Fn-←	Moves cursor right or left one word or cell
Fn-↑ or Fn-↓	Moves cursor up or down one screen
Fn-Shift-→ or Fn-Shift-←	Moves cursor to the beginning or end of the line
Fn-Shift-↑ or Fn-Shift-↓	Moves cursor to the beginning or end of the file

Common Commands

GRiD software uses a set of carefully developed common commands that make the GRiD integrated applications easy to use. The majority of GRiD common commands operate in the same way regardless of the GRiD application you are using. The common commands make it easy to learn new GRiD applications after you've learned one, because you already know the basics.

The GRiD common commands can be organized into six functional groups: editing commands, selection commands, options commands, data transfer commands, help commands, and exit commands. Most of these commands are general to all GRiD applications, however, command availability varies according to the needs of individual applications.

The common commands are summarized in Table 1-5 and each of the functional groups is described briefly following the table. For detailed command information on individual GRiD applications, refer to the appropriate User's Guide.

Table 1-5. *Common Commands Summary*

Command	Function
Code-B	Begin a selection of data
Code-C	Select a column of data
Code-D	Duplicate a selection
Code-E	Erase a selection
Code-Esc	Cancel and don't save working file
Code-F	Find data
Code-I	Insert data
Code-M	Move data
Code-O	Set application options
Code-P	Set data properties
Code-Q	Quit and save working file
Code-R	Select a row of data
Code-S	Search for and replace data
Code-T	Transfer data to disk, printer, etc.
Code-U	Display storage and memory usage

- **Editing commands** When editing a file, the following commands are available for manipulating text or other data: Duplicate (Code-D), Erase (Code-E), and Move (Code-M). Searching functions, if available, are provided by Find (Code-F), and Substitute (Code-S), which searches for and replaces the data specified. Additionally, some applications include Insert (Code-I), which allows you to insert a new column in a database, for example.

- **Selection commands** When using many commands, you are prompted to select the data you want the command to operate on. The selection commands allow you to select the relevant data. The simplest way to select data is to use the Arrow keys. To multiply the effect of the individual arrow keys, you can use them in combination with the Fn and Shift keys. Begin (Code-B) allows you to specify where you want your data selection to begin. Additionally, some applications include Column (Code-C) and Row (Code-R), which allow you to select an entire row or column of data.
- **Options commands** Two commands are available that let you define certain characteristics of the application you are working with: Options (Code-O) and Properties (Code-P). These commands cause a menu of items to be displayed that you can set to suit your needs. Options items generally pertain to global characteristics, while Properties items generally have a more specific scope, such as the format and width of a particular column in a worksheet.
- **Data Transfer Commands** Data transfer commands include any command that causes data to be transferred between files or devices. These commands are all accessed through Transfer (Code-T). Issuing the Transfer command causes a menu of transfer functions to be displayed. Typical Transfer items include: Save This File, Exchange for Another File, Include Another File, Append to Another File, Write to Another File, Erase a File, and Print.
- **Help commands** The primary help command is Code-?. Pressing Code-? at any time causes a help screen to be displayed that shows and describes each of the commands available to you at that point. (This will not affect whatever you are working on at the moment.) Usage (Code-U) provides information on the current usage of main memory (RAM) and permanent storage devices attached to your computer. Additionally, you can use the Show Characteristics of a File item under the Transfer (Code-T) command to display information about a file, including its size and date of last modification.
- **Exit commands** The exit commands allow you to exit the file you are currently working with. Quit (Code-Q) saves all changes made to your file and exits the application. Cancel (Code-Esc) exits an application without saving any changes made to your file. The Exchange for Another File item under the Transfer (Code-T) command lets you save (at your option) your current file and transfer to another file and application (at your option) that you specify.

With GRiD applications, you never have to worry about starting one command and then changing your mind. To cancel any command, just issue another command or press Esc; you then have a fresh start.

Backup and Recovery

CAUTION: For the security of your files and to save yourself needless work, you should establish good back-up and recovery procedures for your data.

Backup is the practice of periodically copying data to other storage media; the copied data is then available in the event the original data is damaged or lost. *Recovery* is the process of restoring files from a back-up device if they are lost on the primary storage device.

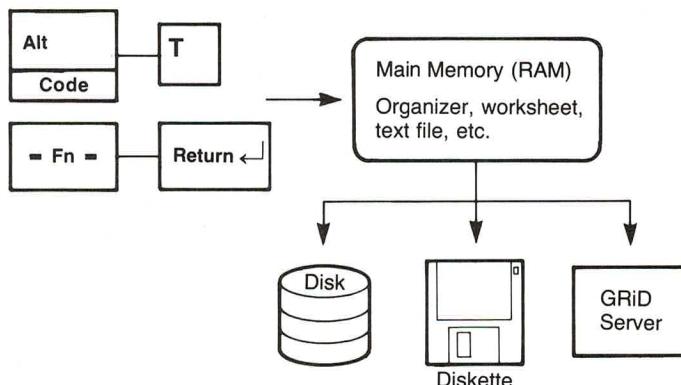
Data can be lost either as you work with it in main memory (RAM) or later, through the damage or loss of the permanent storage device where your files normally reside. The precautions you take to prevent this loss are described in the following sections.

Backing Up Data As You Work

The data file you are currently using resides in main memory (RAM). Data in main memory is subject to loss through power failures, equipment malfunction, and your own errors. Therefore, as you work, periodically (at least every 10 minutes) save your file on the permanent storage device where it normally resides when you're not using it—Hard Disk C, Floppy Disk A, etc.

You save your file by pressing Code-T and confirming. This automatically selects the Save This File item in the Transfer menu and saves your file with any changes you've made. (Figure 1-9).

Figure 1-9. Saving Data in Main Memory

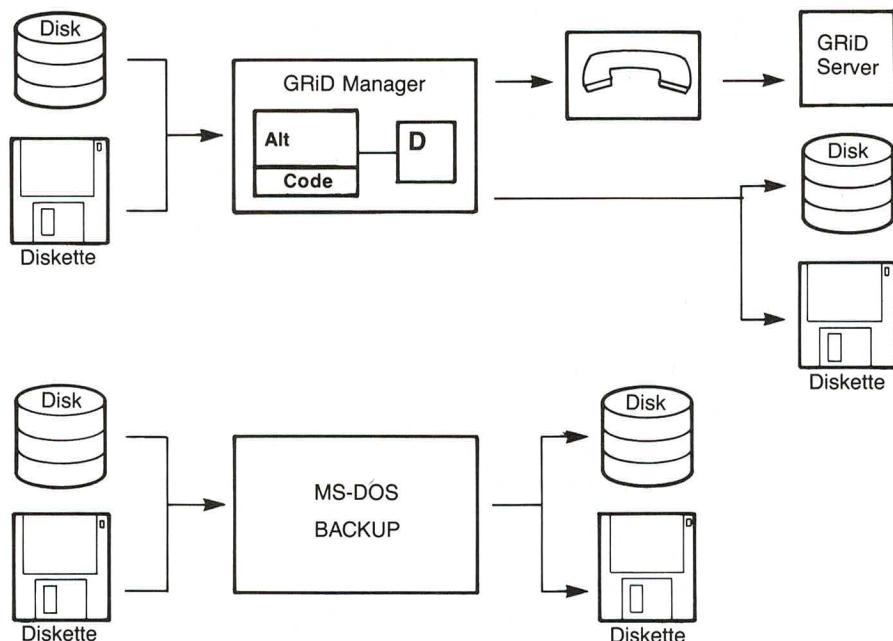


The data you are working on in main memory (RAM) is stored in the file on the device where you first retrieved it. (Note that this method isn't necessary with GRiDMaster or GRiDFile, which automatically store revised data on the device as you enter it.)

Backing Up Files in Permanent Storage

At regular intervals, make back-up copies of updated files from their external storage device to another storage device (Figure 1-10). For example, if you're using a hard disk, you might want to keep duplicate copies on a floppy diskette or on a file server device. The interval of the backup depends on how often you update the file. If you update it every day, you might want to duplicate it at the end of each workday.

Figure 1-10. *Backing Up Files in Permanent Storage*



Here are some guidelines to consider in planning your back-up and recovery procedures.

- Make back-up copies of files that would take a long time to recreate.
- Make back-up copies each time you make changes to the original file.
- When backing up sensitive data, consider the security of the back-up device. For example, if your back-up copy is on a Floppy Disk, keep the diskette in a safe place (in a locked cabinet or at home, for example).
- Keep a record of when you make back-up copies. For example, write the back-up date on the diskette label. If you lose the original file, you'll want to know the last back-up date. (You can also get this information with the Show Characteristics of a File item under the Transfer (Code-T) command.

How to Make Back-Up Copies of Files The most efficient way to back up multiple files is to use the Duplicate Files command (Code-D) and the Wildcard character (Code-W) in GRiDManager. For descriptions and examples of both the Duplicate Files command and the Wildcard character, see the GRiDManager chapter.

Alternately, you can use the MS-DOS BACKUP command to backup files which can later be retrieved, if necessary, with the RESTORE command. Refer to the *MS-DOS Reference* for information on the MS-DOS BACKUP and RESTORE commands.

Recovering Data

The following describes alternative actions you can take if you lose data while working with your files.

- Reselect the original file if you lose data while working in main memory (RAM). The data will be either in its original state or as you last saved it with Code-T. If, as you are working, you want to restore the original file and throw away any changes you have just made, press Code-Esc and confirm; then reselect the original file.
- Use the Duplicate files command (Code-D) in GRiDManager to restore back-up files into their original files. You can recover in this way data that is backed up on Hard Disk, Floppy Disk, or a file server device.
- Use the GRiDFile Repair utility (purchased separately with GRiDFile) to repair or restore damaged database files—for example, database files in which you inadvertently erase records. Refer to the *Analytical Tools User's Guide* for information on GRiDFile Repair.
- Use GRiDTerm, GRiDVT100, GRiD3101 (all purchased separately), or another terminal emulator to restore files you backed up on a host system.

Communications You can use your computer under InteGRiD to exchange data with a variety of external systems or devices. The purpose of this section is to briefly describe these systems and tell you where you can get more information about them.

GRiD Server Devices

GRiD Server is a powerful, modular file server system that allows up to 58 users to share storage, printing, and other input/output devices. In addition, GRiD Server users have access to the GRiDMail Electronic Mail System. GRiD Server may be accessed locally through a cable or remotely over telephone lines. Refer to the *GRiD Server User's Guide for MS-DOS and PC-DOS Users* or the *GRiD Server User's Guide for GRiD-OS Users* for more information on GRiD Server.

You connect with GRiD Server by creating a file whose Kind is set to Sgn, and then filling in and confirming the applicable forms. See the Sign-on section in the GRiDManager chapter for details on filling in the forms.

You fill in the forms only once. When you exit and save them, all the information you typed in (except your password) is saved. Later, when you select the same Sign-on file, the forms are available as you filled them in; you need enter only your password.

When the sign-on is completed, you have the facilities of GRiDManager available, allowing you to erase, move, and duplicate files between your computer and GRiD Server. See the introduction to the GRiDManager chapter for an overview of what you can do with GRiDManager.

When you finish your work on GRiD Server, you must use the Sign-off command in GRiDManager to disconnect.

Terminal Emulators

GRiD Systems provides terminal emulator programs that transform your computer into an intelligent terminal. Using these programs, you can access remote host systems, use their applications, retrieve data, and then use the data as source information in your worksheets, database files, and graphs.

The following terminal emulator products are available:

- GRiDTerm, which gives access to public sources such as Dow Jones, the SOURCE, and Compuserve, as well as your own firm's mainframe computer. See the *GRiDTerm User's Guide* for more information on this product.

- GRiD3101, which transforms your computer into an IBM 3101 Display terminal, and gives you the ability to communicate with a host system that supports the IBM 3101. See the *GRiD3101 User's Guide* for more information on this product.
- GRiDVT100, which transforms your computer into a DEC VT100 terminal, giving you the ability to communicate with a host system that supports DEC's VT100, VT101, and VT102 terminals. See the *GRiDVT100 User's Guide* for more information on this product.

In addition, GRiD Systems provides GRiDReformat, a program that converts the data you receive with a terminal emulator into a format suitable for one of the GRiD applications (GRiDPlan, for example). GRiDReformat is described in the user's guide provided with each terminal emulator.